EXHIBIT A

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 · (217) 782-3397
JB PRITZKER, GOVERNOR JOHN J. KIM, DIRECTOR

217/524-3301

MAR 1 3 2024

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
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Mr. William J. Sawitz
RCH Newco II, LLC
27501 Bella Vista Parkway
Warrenville, IL 60555

Re: 1978030005 – Will County
RCH Newco II, LLC – New Ave. & Ceco Rd.
ILD990785453
Log No. C-68 (Notification)
RCRA Closure
Permit Correspondence

Dear Mr. Sawitz:

The purpose of this letter is to inform RCH Newco II, LLC (RCH Newco), located at New Avenue and Ceco Road in Lemont, Illinois, that the Illinois EPA has conducted a review of the post-closure status of the subject hazardous waste management unit and has determined that the post-closure care period for the two-acre hazardous waste landfill must be extended to address current and future environmental concerns identified in this letter in accordance with 35 Ill. Adm. Code 725.218(g)(2) and the USEPA's "Guidelines for Evaluating the Post-Closure Care Period for Hazardous Waste Disposal Facilities under Subtitle C of RCRA", dated December 15, 2016 (2016 USEPA Guidance).

This letter constitutes the Illinois EPA's final determination to extend the RCRA post-closure care period at the above-referenced site for at least an additional thirty (30) years beyond January 1, 2023, pursuant to 35 Ill. Adm. Code 725.217(a)(1) and 725.218(g)(2), and to require RCH Newco to maintain its post-closure care financial assurance for the above-referenced site, based on the Illinois EPA's determination and basis for decision included herein.

1. SITE AND PROCEDURAL HISTORY

a. On February 7, 1996, the Illinois EPA determined that post-closure care for the two-acre hazardous waste landfill began on January 1, 1993, under the facility's approved Interim Status Post-Closure Plan (Log No. C-68), requiring that post-closure care be maintained for a minimum of thirty (30) years or until at least January 1, 2023. Post-closure care included requirements for monitoring, maintaining, and repairing the cover system of the hazardous waste landfill as well as monitoring of the groundwater.

b. On August 29, 1996, the Illinois EPA issued a decision approving a modification to the closure/post-closure plan (Log No. C-68-M-5). Included in that modification, Condition 1(b) stated that, pursuant to 35 Ill. Adm. Code 703.121(b), the facility must also eventually obtain a RCRA post-closure permit.

c. The Illinois EPA stated again, "the facility must also eventually obtain a RCRA post-closure permit," in the following correspondence:

June 24, 1998, (C-68-M-7), Condition 3 and Condition 6.b;
December 20, 1999, (C-68-M-8), Condition 11.

d. On June 2, 2009, Illinois EPA issued a letter to RCH Newco (Log No. C-68-M-12) approving modifications to the approved interim status closure/post-closure plan, subject to various conditions including the following:

- Condition 1(b): The integrity and effectiveness of the landfill's final cover must be adequately monitored and maintained.

- Condition 1(b)(2): Corrective action shall be taken if: (a) ponding is observed on the final cover; (b) cracks or erosion channels greater than one inch form for whatever reason; (c) the vegetative cover is distressed; (d) vector problems arise; or (e) vegetation with tap roots are found to be growing on the final cover.

e. On July 12, 2022, RCH Newco submitted a request to modify its post-closure care plan and cost estimate.

f. On September 21, 2022, the Illinois EPA responded to RCH Newco's request, determining the need for additional information, but also noting that certain post-closure care plan conditions, notably Condition 1(b) and its subsections, were not being met.

g. On November 15, 2022, the Illinois EPA notified RCH Newco of its tentative decision to extend the post-closure care period for the two-acre hazardous waste landfill at the above-referenced facility.

h. On November 18, 2022, the Illinois EPA's tentative decision was publicly noticed through The Herald News and made available for public comment, as required by 35 Ill. Adm. Code 725.218(g)(2)(A).

i. During the 30-day public comment period, the Illinois EPA received comments from Nijman Franzetti LLP, on behalf of RCH Newco, dated December 19, 2022. These comments were the only comments received and were reviewed and considered before the Illinois EPA made its final determination.

j. At the request of RCH Newco, a public hearing to discuss the extension of the post-closure care period at the site was held on April 19, 2023, via the WebEx online platform. No one representing RCH Newco attended the public hearing. No comments were received during the public hearing.

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2. ILLINOIS EPA DETERMINATION AND BASIS FOR DECISION

The Illinois EPA has reviewed RCH Newco's December 19, 2022, comments, and provides its responses in Attachment 1 to this document. Having considered all comments submitted, the Illinois EPA's final decision to extend the post-closure care period for the two-acre landfill at the above-referenced facility is based on the following determinations:

a. Nature of waste in the landfill: The waste in the landfill includes approximately 2,500 cubic yards of electric arc furnace dust (EAF Dust) which is a listed hazardous waste (K061), and approximately 29,500 cubic yards of non-hazardous slag. The EAF Dust is also characteristically hazardous for lead (D008) and cadmium (D006). Pursuant to 35 Ill. Adm. Code 721.103(a)(2)(D), when a listed hazardous waste (EAF Dust) is mixed with a nonhazardous waste (the slag), the entire mixture becomes a listed hazardous waste.

   The Illinois EPA therefore has determined that, by definition, the entire 32,000 cubic yard of waste in the landfill is considered a listed hazardous waste. The waste was not pre-treated to meet the Land Disposal Restrictions (LDRs) for hazardous waste prior to disposal in the hazardous waste landfill.

b. Unit Type/Design: The bottom liner consists of compacted clay. The final cover consists of 2-feet of compacted clay, 18 inches of select fill and 6 inches of topsoil with vegetation. A viable cover is one of the most important mechanisms in preventing leachate generation and, ultimately, a release of contaminants from a landfill. The integrity and effectiveness of the landfill's final cover must be adequately monitored and maintained. Vegetation with well-established tap roots was found to have been growing on the landfill cover and is growing adjacent to the landfill.

   This lack of cover maintenance is in violation of RCRA post-closure care requirements as well as Condition 1(b), and specifically, 1(b)(2), of Illinois EPA's June 2, 2009 letter (Log No. C-68-M-12). The Illinois EPA issued Violation Notice (VN) L-2023-00075 on March 27, 2023 to RCH Newco due to lack of cover maintenance at the site. On August 17, 2023, a Notice of Compliance commitment Agreement Non-Issuance was issued to the facility by Illinois EPA regarding the violations. This letter indicated that the resolution would involve the Office of the Attorney General or other appropriate prosecutorial authority.

c. Leachate: According to the 2016 US EPA Guidance, monitoring for leachate generation serves as the most effective way of examining the integrity of the waste management unit (e.g., it can suggest a cover or liner failure when leachate is detected late in the post-closure care period). The hazardous waste landfill does not have a leachate collection or monitoring system.

   The Illinois EPA therefore determines that it cannot be known if leachate is present within the landfill. Without a working leachate collection/monitoring system, the extent of liquids that may have penetrated the compromised cover system during the post-closure period cannot be determined as required by 35 Ill. Adm. Code 725.410(a)(l) & (5), 725.410(b), and 725.217(a)(l).

d. Long Term Care: The establishment and maintenance of physical and legal controls at the site are necessary to prevent unacceptable exposure to the hazardous waste and hazardous constituents abandoned within the landfill. The Illinois EPA has determined that long-term monitoring including maintenance of the cover systems and groundwater monitoring systems, control of any liquids (leachate) in landfills, and restrictions of future land uses must be placed on hazardous waste landfills to minimize future exposures and potential hazardous waste release.

   Pursuant to 35 Ill. Adm. Code 703.121, the site must obtain a RCRA post-closure permit to achieve the required long-term care of the landfill. The permit will be the mechanism the Illinois EPA uses to verify the facility is maintaining the landfill.

   The landfill is currently regulated under the RCRA Interim Status Standards at 35 Ill. Adm. Code Part 725; however, this site is required to obtain a RCRA post-closure permit pursuant to 35 Ill. Adm. Code 703.121, as specified in several previous decision documents from the Illinois EPA. Therefore, Section 39(g) of the Environmental Protection Act (Act) is applicable and states: "*The Agency shall include as conditions upon all permits issued for hazardous waste disposal sites such restrictions upon the future use of such sites as are reasonably necessary to protect public health and the environment, including permanent prohibition of the use of such sites for purposes which may create an unreasonable risk of injury to human health or to the environment.*"

This final determination to extend the post-closure care period for the hazardous waste landfill at this facility is based upon the requirements at 35 Ill. Adm. Code 703.121, 725.218, 725.131, Sections 12(a), 21(n), and 39(g) of the Act, Illinois EPA's November 15, 2022 letter, and the responses to comments attached to this letter.

The facility must provide an application for a RCRA post-closure permit to the Illinois EPA Bureau of Land Permit Section within 180 days of the date of this letter. 35 Ill. Adm. Code 703.214 describes the information that must be submitted by an owner/operator for a RCRA Post-Closure Care Permit. Attached to this letter are two (2) documents to assist in preparing your application, *Information Which Must be Provided in an Application for a RCRA Post-Closure Permit (May 2021)* and *RCRA Post-Closure Permit Application Completeness and Technical Review Checklist (May 2021)*.

This final determination action shall constitute the Illinois EPA's final action on the subject identified in this letter. The applicant may appeal this final decision to the Illinois Pollution Control Board pursuant to Section 40 of the Act by filing a petition for a hearing within thirty-five (35) days after the date of issuance of the final decision. However, the 35-day period may be extended for a period of time not to exceed ninety (90) days by written notice from the applicant and the Illinois EPA within the initial 35-day appeal period. If the owner or operator wishes to receive a 90-day extension, a written request that includes a statement of the date the final decision was received, along with a copy of this decision, must be sent to the Illinois EPA as soon as possible.

For information regarding the request for an extension, please contact:

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Illinois Environmental Protection Agency
Division of Legal Counsel
Attn: Land Enforcement Unit Manager
1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794-9276
217/782 5544

For information regarding the filing of an appeal, please contact:

Illinois Pollution Control Board, Clerk
State of Illinois Center
100 West Randolph Street, Suite 11 500
Chicago, IL 60601
312/814 3620

Work required by this letter, the associated submittal, or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. This letter does not relieve anyone from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

Any questions regarding the groundwater related aspects of this project, please contact Amy Butler at 217/558-4716. Questions regarding other aspects of this project should be directed to Kelly Huser at 217/524-3867.

Sincerely,

Jacqueline M Cooperider

Jacqueline M. Cooperider, P.E.
Permit Section Manager
Bureau of Land

JMC: KDH:1978030005-RCRA-C68-Corr(3).docx
KDH TNH AMB dlr

Attachments:
1. Illinois EPA's Responses to RCH Newco's December 19, 2022, Comments
2. Information Which Must be Provided in an Application for a RCRA Post-Closure Permit (May 2021)
3. RCRA Post-Closure Permit Application Completeness and Technical Review Checklist (May 2021)

CC: Kristin Pelizza, RCH Newco
Bruce Shabino, P.G., Carlson Environmental, Inc.
Emily Keener, Norberto Gonzalez, USEPA Region V

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ATTACHMENT 1

ILLINOIS EPA'S RESPONSE TO COMMENTS
RCH Newco II, LLC
1978030005 – Will County

The responses below address comments received from Jennifer Nijman, counsel for RCH Newco II, LLC (RCH Newco), dated December 19, 2022, and received by the Illinois EPA on December 19, 2022 (via email) pertaining to the Illinois EPA's Intent to Extend the Post-Closure Care for RCH Newco's interim status landfill issued November 18, 2022.

Section A of this attachment includes the Illinois EPA's general response to RCH Newco's Comments regarding extending post-closure care, followed by more detailed responses to the specific comments provided in their letter in Section B.

A. Illinois EPA General Response to Comments

Landfills are man-made structures and need to be consistently monitored and maintained to ensure they continue to function as designed and to prevent failure of the structure and negative effects on human health and the environment. Unaddressed small problems can result in bigger, potentially catastrophic, and expensive problems.

Current hazardous waste landfills are designed to contain hazardous wastes and prevent hazardous constituents from entering the environment. The design standard for RCH Newco's landfill do not meet these current standards. Buried hazardous constituents continue to pose a threat to human health and the environment as long as they remain in place. Therefore, permits and post-closure care plans for landfills must restrict the types of activities that can occur on a closed landfill. Additionally, they must include, monitoring of any leachate in the landfill, monitoring and maintenance of the cover system, and monitoring of the groundwater. The permits and plans must also provide remediation strategies and contingency plans for an accidental release of hazardous constituents.

Federal and state RCRA regulations allow for the Illinois EPA to extend the post-closure care period at these facilities because removing all regulatory control over a hazardous waste landfill would be a significant threat to human health and the environment.

Termination of permits and/or post-closure plans would eliminate requirements to monitor and maintain the hazardous waste disposal units and undermine any enforceable land use restrictions on the property. Future property owners, unaware of the environmental hazard, could constructing a building, bury utility lines, or conduct other activities on the landfill that could compromise the integrity of the cover or base liner system. These activities would allow water to enter the landfill and create pathways for hazardous constituents to enter the surrounding environment. The USEPA's December 15, 2016, guidance memo on post-closure care states; "*An overarching consideration in determining whether to extend the post-closure care period, or allow it to end, is the inherent uncertainty associated with the long-term presence of hazardous waste in the unit.*" (2016 USEPA Guidance p. 4.)

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There are unpredictable concerns regarding future population, land use, groundwater, surface water, drinking water, or flood conditions in the area around the hazardous waste landfill. Hence, the risks posed by an uncontrolled hazardous waste landfill could be considerably higher in the future.

Removing regulatory oversight from a hazardous waste landfill (i.e., terminating a closure plan or permitting requirements), is not protective of human health and the environment. If neglected, the soil cover system on a landfill will erode and eventually no longer keep water out of the landfill and hazardous constituents will be released from the landfill. This is an unacceptable risk to the public and the environment.

B. Illinois EPA's Detailed Response to RCH Newco's Comments

COMMENT 1

I. Post Closure care should cease because the fill area poses no threat to human health or the environment.

IEPA alleges because the Fill Area contains* [Electric Arc Furnace Dust (K061)], *a listed hazardous substance, and because the EAF was not treated, post-closure care should be extended. However, IEPA's conclusion does not address the lack of any risk for migration and does not account for the unique characteristics of waste and the Fill Area itself. USEPA Guidance clarifies that the purpose of knowing whether waste was treated is because treatment reduces the "mobility or leachability of hazardous constituents" and is another "means of achieving LDR's groundwater protection goal." USEPA Guidance, p. 4. Here, no such mobility concern exists.

The only reason for the Fill Area was to contain a small amount of EAF dust that could not be separated from non-hazardous steel waste. Only 8.5% of the Fill Area consists of the EAF dust – the remainder being non-hazardous materials. The Fill Area contents have not changed since the Fill Area was finished almost three decades ago. The Fill Area is covered with two feet of compacted clay, 18 inches of select fill and six inches of topsoil with vegetation to prevent infiltration. The Fill Area is lined with compacted clay to protect from migration. IEPA approved of the Fill Area design as appropriate for the waste at issue.

***Without referencing the fact that thirty years of monitoring has shown no risk of harm, IEPA seems to be arguing that simply because a small amount of a listed hazardous waste exists, it must be assumed to be a threat to human health or the environment. That is not the standard set out by Illinois regulations or USEPA Guidance.* (RCH Newco Comment p. 2-3).**

Illinois EPA Response to Comment 1:

Electric Arc Furnace Dust (K061) is a listed hazardous waste due to toxicity from hexavalent chromium, lead, and cadmium (35 Ill. Adm. Code 721.132, Part 721, Appendix G). In addition, EP Toxicity testing indicated that the EAF dust at this site is a characteristically hazardous waste due to lead and cadmium (See Section 2.2.1 of Carlson

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RFI Phase I Report: May 1996). Approximately 2,500 cubic yards of EAF dust was disposed of in the on-site landfill.

The RCRA regulations at 35 Ill. Adm. Code 721.103(a)(2)(D) are clear that a mixture of a solid waste and a listed hazardous waste (in this case electric arc furnace dust – K061) is a hazardous waste. Hence, the entire contents of the landfill (32,000 cubic yards) are considered a listed hazardous waste.

As noted on page 3 of the December 19, 2022 letter, the contents of the landfill (Fill Area) have not changed since the landfill was closed almost three decades ago. The contents continue to be hazardous waste (32,000 cy) and as such, there is continued concern about the mobility of hazardous constituents and potential for contamination of the soil and groundwater if the appropriate monitoring, maintenance, and land use restrictions are not continued at the landfill in the future. As stated in 2016 USEPA Guidance, "an overarching consideration in determining whether to extend the post-closure care period, or allow it to end, is the inherent uncertainty associated with the long-term presence of hazardous waste in the unit."

COMMENT 2

I.A. Thirty Years of Groundwater Monitoring at the Fill Area Demonstrates No Risk to Human Health and the Environment

IEPA does not appear to evaluate almost three decades of groundwater sampling that shows there is no risk to human health and the environment. According to USEPA Guidance, "[g]roundwater monitoring serves as the primary means of detecting leachate releases and groundwater contamination." USEPA Guidance, p. 6. "Groundwater should not exceed risk-based concentrations for a reasonable exposure scenario (or point of exposure) using currently acceptable risk assessment methods and up-to-date risk-based levels and scenarios." Id. The objective of the groundwater sampling is to collect data that would determine whether the Fill Area is impacting the groundwater. **(RCH Newco Comment p. 3).**

Illinois EPA Response to Comment 2:
Illinois EPA acknowledges that hazardous constituents have not currently been detected in the groundwater. However, this does not indicate that there will be no risk to human health and the environment in the future. As stated in 2016 USEPA Guidance, "there are often uncertainties in whether controls will continue to function as planned or whether future activities will lead to unplanned exposures to human and environmental receptors. Even if there is not current evidence of actual releases from the facility, significant factors can change over time." As long as hazardous waste remains in the landfill, there is an inherent risk that hazardous waste and hazardous constituents could find potential pathways into the groundwater and soil. Without continued monitoring, the public would be at risk of being unaware if hazardous constituents were released from the landfill.

COMMENT 3

Sample results from 2021 continue to show no impact to groundwater from the Fill Area. Based on the analytical data for both sampling events in 2021, groundwater did not exceed the drinking water standards as referenced in 35 IAC 725, Appendix C, USEPA Interim Primary Drinking Water Standards. RCRA 2021 Annual Groundwater Monitoring Report, April 8, 2022, p. 6. In fact, the groundwater sampling every year since monitoring started revealed similar results. See e.g., Groundwater and Hazardous Waste Reports 1993 to 2021. Further, inspection of the wells in 2021 shows the wells were in good condition and locked securely -- as they have been every year since 1993. Id. p. 2. In other words, the wells have been maintained to provide valid data. Consequently, the extensive history of groundwater monitoring indicates there is no threat to human health or the environment. **(RCH Newco Comment p. 4).**

Illinois EPA Response to Comment 3:
See Illinois EPA's General Response to Comments and Illinois EPA's Response to Comment 2.

COMMENT 4

I.B Groundwater Monitoring is Equally Relevant to Leachate in Assessing Impact

IEPA alleges because there is no leachate collection or monitoring system, it cannot be determined if leachate is present or if the integrity of the cover has been maintained. IEPA ignores USEPA guidance that states that groundwater monitoring is "the primary means of detecting leachate releases and groundwater contamination." USEPA Guidance, p. 6. In fact, Illinois regulations allow for IEPA to consider either leachate OR groundwater monitoring results in determining whether there is the potential for migration of hazardous wastes at levels that may be harmful to human health and the environment (725.218 (g)(1)(A)(i)). Here, IEPA fails to consider the thirty years of groundwater monitoring that shows no potential for harm to human health or the environment. **(RCH Newco Comment p. 4).**

Illinois EPA Response to Comment 4:
In addition to below, see Illinois EPA's General Response to Comments as well as Illinois EPA's Response to Comment 6.

The Illinois EPA acknowledges that hazardous constituents have not currently been detected in the groundwater. However, this does not indicate that there is no potential risk to human health and the environment in the future. If hazardous waste remains in place, there is and always will be a risk that hazardous waste and hazardous constituents could migrate given many different factors including, but not limited to, unknown future environment and climate factors resulting in erosion or flooding and potential for human error.

COMMENT 5

As to integrity of the Fill Area cover, inspections conducted for the last twenty years indicate the landfill cover is in good condition. The Company is currently in the process of general cover maintenance and is removing some vegetation that has grown in the area. As described in Section II below, ongoing maintenance of the cover can be established in a land use restriction if necessary. **(RCH Newco Comment p. 4).**

Illinois EPA Response to Comment 5:
On November 22, 2022, an inspection by the Illinois EPA documented that there has been a lack of maintenance of the vegetative cover. The inspection found that there were multiple bare spots, erosion issues, growth of woody shrubs, and multiple ruts present in the cover. An 8-inch tree stump was found in the middle of the final cover. The root system from a tree this size likely penetrated the final cover of the landfill and as a result created a conduit for water (precipitation & run-off) to enter the landfill. The Illinois EPA also observed trees growing adjacent to the landfill. Therefore, it is likely that tree root systems are encroaching and could potentially penetrate the final cover or liner of the landfill. The approved closure plan required the facility to monitor and maintain the effectiveness of the landfill's cover. The results of the November 22, 2022, Illinois EPA inspection indicate that the final cover of the landfill has been neglected. The facility's maintenance records and compliance history of the post-closure plan must also be taken into consideration as relevant information when considering extending or shortening the post-closure care period in accordance with 2016 USEPA's guidance. The historic negligence demonstrates that it is appropriate to regulate the facility under a RCRA permit for future post-closure care of the landfill at this facility.

COMMENT 6

I.C. The Fill Area Poses No Risk Because it is located in a Secured Industrial Area

USEPA Guidance looks to "relevant facility location characteristics" such as "proximity to vulnerable areas" like residential areas and surface and drinking water sources, surrounding land use, areas prone to flooding and whether facility conditions minimize the potential for adverse impacts on local populations if there is a release from the unit. USEPA Guidance, p. 7 IEPA's notice letter does not evaluate the Fill Area's location characteristics.

The Fill Area occupies two-acres surrounded by a ten-foot-high, locked chain link fence that is located in the center of 25 acres of industrial property formerly used by Ceco, and now owned by RCH Newco. Access to the Property is by an unnamed paved road from New Avenue. The entire Property, including the Fill Area, is surrounded by a heavily industrialized area.

The Fill Area is almost entirely in Zone C, which is characterized by minimal flooding. Phase I, p. 3. "There are no significant surface water bodies, streams or wetland areas located at the Property". Id. at p. 11. No drinking water sources exist downstream of the Fill Area that take water from the I & M Canal. Id. at 12. Similarly, no drinking water sources using ground water are located hydraulically down-gradient from the Property. Id. The location

characteristics of the Fill Area support a finding of no risk to human health or the environment. **(RCH Newco Comment p. 4-5).**

Illinois EPA Response to Comment 6:

As noted in 2016 USEPA guidance, there are considerable unknowns, and no guarantees, regarding future population, land use, groundwater, surface water, drinking water, flood conditions, or any other factors associated with potential climate change around the hazardous waste landfill. The hazardous waste in the landfill should not change over time, but the factors surrounding the landfill will continue to fluctuate, therefore the waste presents a continued threat to human health and the environment.

COMMENT 7

II. Reasonable Alternatives Should be Utilized in Lieu of Indefinite Post-Closure Care

In its November 15th letter, IEPA states the "establishment and maintenance of physical and legal controls are necessary to prevent unacceptable exposure to hazardous waste left in place. Long-term restrictions of future land use must be placed on the Site to minimize future exposure." However, IEPA fails to consider the fact that the Fill Area is surrounded by a locked fence, and a deed restriction already exists on the Property to preclude access. The deed restriction, already recorded against the title of the Property, limits the Property to industrial use unless permission is granted by IEPA, restricts worker contact with the co-disposed material, and requires that any of the co-disposed material removed must be managed in accordance with the provisions of 35 Ill. Adm. Code, Subtitle G. Ex. C., Deed Restriction. In the event IEPA determines that additional property restrictions are necessary, they can be easily added without extending post closure care. The Deed Restriction could be converted to an environmental land use control (ELUC) to permanently restrict property use (at least until IEPA agrees to remove the restriction). ELUCS are enforceable documents (35 Ill. Admin. Code 742.1010(c)(3)). Examples of land use limitations or requirements that IEPA generally imposes include a prohibition of use of groundwater for potable purposes, an industrial/commercial property use restriction, and maintenance of an engineered barrier. "Environmental Land Use Control," IEPA Website; 35 Ill. Adm. Code 742 subpart J. In this case, the Deed Restriction already in place could include maintenance of the landfill cover if necessary. This would eliminate any potential argument IEPA has that there could be a risk to human health and the environment without ongoing maintenance.

Assuming IEPA can establish a threat of harm that is not addressed by the existing (or amended) Deed Restriction, Illinois regulations allow for more reasonable methods of including long term controls – rather than an indefinite RCRA permit. Specifically, 35 Ill. Adm. Code 703.121(b) (citing to 703.161) provides for an alternative Agency plan or other enforceable document (such as an administrative order on consent, or ELUC) to establish any long-term controls that might be necessary. **(RCH Newco Comment p. 4-5).**

Illinois EPA Response to Comment 7:

In addition to below, see Illinois EPA's Response to Comment 5.

An environmental land use control (ELUC) is not applicable in this case because the Tiered Approach to Corrective Action Objectives (TACO) regulations at 35 Ill. Adm. Code Part 742 are only applicable when waste is removed from a site. Landfills by design leave waste in place and are therefore excluded per 35 Ill. Adm. Code 742.105(h). RCH Newco is leaving waste in place and therefore, the remediation standards of 35 Ill. Adm. Code Part 742 do not apply.

A Deed Restriction is not considered an enforceable document. Therefore, it cannot be relied upon to ensure a hazardous waste landfill is properly monitored and maintained, or that future land use of the landfill is adequately limited and protective of human health and the environment. Also, refer to Illinois EPA's Response to Comment 5.

An environmental covenant (EC) under the Uniform Environmental Covenant Act could potentially be an enforceable document that could be applied to the landfill. However, this legal document could take several years to establish. Therefore, to ensure that long term controls are maintained at the facility, the site needs to continue post-closure care and obtain a RCRA Post-Closure permit subject to 35 IAC Part 724.

COMMENT 8

Before a post-closure care period can be extended, IEPA must show cause – and must be able to show that there is a need to prevent threats to human health and the environment. 725.218(g). IEPA cannot make such a showing in this case as there is no such threat. The Fill Area on the Property contains only 8.5% of EAF dust mixed with non-hazardous materials, is in the center of 25-acres of land used for industrial purposes, has almost three decades of groundwater samples that are within acceptable limits, and can be adequately maintained with appropriate environmental land use controls. For these reasons, IEPA should withdraw its notice for the extension of post-closure care.

Illinois EPA Response to Comment 8:

Hazardous waste remains in place at the landfill which presents an inherent uncertainty and potential threat to human health and the environment. A landfill is a man-made structure built to contain hazardous waste and keep hazardous constituents from entering the environment. Regulations requiring that a landfill be properly designed, constructed, operated, closed, and maintained, are in place to provide protection of human health and the environment. Unless the hazardous waste is completely remediated from the subject property, continued maintenance and oversite is required.

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ATTACHMENT 2

Information Which Must be Provided in an Application for a RCRA Post-Closure Permit (May 2021)

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 · (217) 782-3397
JB PRITZKER, GOVERNOR JOHN J. KIM, DIRECTOR

Information Which Must be Provided in an Application for a RCRA Post-Closure Permit
May 2021

Introduction/Purpose

35 Ill. Admin. Code 702.121 requires facilities that have closed a hazardous waste management unit as a landfill to obtain a RCRA post-closure permit. This permit will set forth the requirements which must be met in providing the closed unit at least thirty years of post-closure care: it will also contain requirements regarding corrective action efforts for the solid waste management units of concern at the facility. This document sets forth in an organized and logical form, the information which must be provided in an application for a RCRA post-closure permit; it was developed in general accordance with 35 Ill. Admin. Code 703.214

Hazardous waste management units closed as landfills (and thus must be covered by a RCRA post-closure permit) typically fall into one of four categories:

- Hazardous waste surface impoundments that could not achieve "clean closure" and thus were closed as landfills;
- Hazardous waste surface impoundments that were operated as disposal units and closed as a landfill;
- Landfills which co-disposed of hazardous waste with municipal and non-hazardous special waste; and
- Landfills which received hazardous waste as well as non-hazardous special waste.

The key components of post-closure care of a unit closed as a landfill includes: maintenance of the final cover; operation of any leachate/gas collection system(s); and implementation of a groundwater monitoring and, as necessary, remediation system. In addition, as noted above, another other key item that must be addressed under a RCRA post-closure permit is the implementation of an appropriate corrective action program on the solid waste manage units of concern at the facility.

This document is comprised of the following six sections which identify in outline form the information which should be contained in an application for a RCRA post-closure permit:

A. Forms, Certifications, Confidentiality, and Public Involvement
B. Facility Description
C. Groundwater Monitoring
D. Procedures to Prevent Hazards
E. Post-Closure Requirements
F. Corrective Action

The forms mentioned in this document can be found on Illinois EPA's internet site (https://www2.illinois.gov/epa/Pages/default.aspx). Illinois EPA will follow the procedures set forth in 35 Ill. Admin. Code 702, 703, and 705, as well as the Illinois Environmental Protection Act, in reviewing and processing this application.

The Illinois EPA's Bureau of Land Permit Section is responsible for reviewing RCRA post-closure permit applications; these applications should be submitted to Illinois EPA at the address above. Questions regarding the development of the groundwater-related aspects of an application should be directed to the Groundwater Unit of the Permit Section while questions related to other aspects of the application should be directed to the RCRA Unit of the Permit Section. The general telephone number for both the Groundwater Unit and the RCRA Unit is 217/524-3300.

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Table of Contents

In addition to identifying the sections, tables, figures and attachments, the Table of Contents for the application should include a list of acronyms used in the application. This information will aid both the Illinois EPA and anyone from the general public who reads the permit application.

SECTION A--FORMS, CERTIFICATIONS, CONFIDENTIALITY, and PUBLIC INVOLVEMENT

A.1 RCRA Part A Application Form: 702.121, 702.123, 702.126(a) and (d),703.181

The Part A application must be complete and consistent with the Part B application. 703.181 specifies the contents of a Part A application. Signatures must be provided for both the owner and operator of the facility as described in Item A.2.1 below (of special concern is when the landowner(s) of a site are different from the company operating the hazardous waste facility).

A.2 Certification Using the LPC-PA23 Form: (703.182)

A completed LPC-PA23 form must be included in the application (this form is available on Illinois EPA's internet site). Completion of this form should ensure the requirements of A.2.1 and A.2.2 below are met.

A.2.1. Facility Certification: **702.121, 703.182, 702.126**

Applications must be accompanied by a certification as specified in 702.126(d) signed by authorized representatives of both the owner and operator of the facility (of special concern is when the landowner(s) of a site are different from the company operating the hazardous waste facility). Authorized representatives of an owner or operator which must complete and sign this certification are as follows: (1) for a corporation, a principal executive officer (at least at the level of vice-president); (2) for a partnership or sole proprietorship, a general partner or the proprietor, respectively; (3) for a municipal, state, Federal, or other public Agency, either a principal executive officer or ranking elected official. If the application is not signed by representatives other than those just described, information must be provided indicating that the person is authorized to sign RCRA permit applications for the owner or operator.

A.2.2. Technical Information Certification: **703.182, Illinois Professional Engineering Act**

Technical data, such as design drawings, specifications and engineering studies, must be certified (sealed) by a qualified Professional Engineer licensed to practice in the State of Illinois in accordance with Ill. Rev. Stat., par. 5101, Sec. 1 and par. 5119, Sec. 13.1. Work required to be conducted in developing an application or work required to be conducted for compliance with the RCRA regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

A.2.3. 39i Certification: Section 39 (i) of Environmental Protection Act

Section 39, Paragraph (i) of the Illinois Environmental Protection Act requires that Illinois EPA conduct an evaluation of prospective owner's or operator's prior experience in waste management operations

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before it issues a RCRA permit. This paragraph goes on to state that the Illinois EPA may deny such a permit if the prospective owner or operator or any employee or officer of the prospective owner or operator has a history of:

1. Repeated violations of federal, State, local laws, regulations, standards, or ordinances in the operation of waste management facilities; or
2. Conviction in this or another State of any crime which is a felony under the laws of this State, or conviction of a felony in a federal court, or conviction in this or another state or federal court of any of the following crimes: forgery, official misconduct, bribery, perjury, or knowingly submitting false information under any environmental law, regulation, or permit term or condition; or
3. Proof of gross carelessness or incompetence in handling, storing, processing, transporting, or disposing of waste.

Illinois EPA has created a form (available on its internet site) which applicants (the owner and the operator) must use to provide it with the information necessary to make the evaluation described above.

A.3 Public Disclosure Exemption Claims and Trade Secret Claims:
Section 7 of the Act; 2 Ill. Adm. Code Part 1828; **35 Ill. Adm. Code Part 130**

Note: A.3.2 thru A.3.5 below are only applicable if an applicant desires to request a public disclosure exemption claim or trade secret claim. Any documents submitted that are not properly marked and justified will not be regarded as exempt and will be released to the public upon request.

A.3.1. No Information Claimed Exempt from Public Disclosure

If no information in the application is claimed exempt from public disclosure, the applicant should clearly state this in the cover letter and this subsection of the application. This will release any disclaimers on drawings, plans etc. that are included in the application.

A.3.2. Trade Secrets Claims

This claim should be asserted if any portion of the application is regarded as trade secret pursuant to 35 Ill. Adm. Code 130. To assert this claim

1. Provide a claim and justification letter;
2. Stamp each page in red ink "TRADE SECRET" that is to be exempt.
3. Provide a version for public review which does not include the trade secret information.

A.3.3. Exempt or Exempt In-Part Data Claims: **2 Ill. Adm. Code 1828.401**

This claim should be asserted if any portion of the application is regarded as exempt or exempt in part pursuant to 2 Ill. Adm. Code 1828.401. To assert this claim:

1. Provide a claim and justification letter;
2. Appropriately mark those portions of the application for which the exemption is requested.
3. Provide a version of the application for public review which does not contain the information for which the exemption is requested.

A.3.4. Privileged Information: **2 Ill. Adm. Code 1828.401**

This claim should be asserted if any portion of the submittal is regarded as privileged and meets the definition of privileged information pursuant to 1828.401. To assert this claim:

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1. Provide a claim and justification letter;
2. Appropriately mark those portions of the application for which the claim is requested.
3. Provide a version of the application for public review which does not contain the information for which the exemption is requested.

A.4 Public Participation: Facility Mailing List & Information Repositories:
Environmental Protection Act, Section 39(d), 35 Ill.Amin. Code 703.193, 703.248, 705.163

A.4.1. Facility Mailing List:

The Facility Mailing List required to be established and maintained in 35 Ill. Adm. Code 705.163(a) is a list of all entities who must be notified of any permit-related activities at a RCRA permitted facility. The application must include the most-recent list the facility has; this list must identify its last revision date and be provided as an attachment to the application. A printed copy and an electronic copy in MS Word format must be provided.

The list must be updated and resubmitted to the IEPA as needed to include individuals who have interacted with the facility such as: those attending the pre-application meeting, respondents to mailings, and those attending the public meeting when a permit modification is requested. IEPA will review and approve all updates prior to using the mailing list. Mailing lists originally developed by IEPA are available from IEPA's RCRA community involvement coordinator.

A.4.2. Identification of Repositories:

It is important that information regarding a RCRA permitted hazardous waste management facility be available to the local citizens for review. Thus, all information submitted to IEPA in furtherance of a RCRA permit application, (with the exception of trade secrets), must be made available to the public at the office of the County Board or governing body of the municipality and also in another location in the host community (or nearest community to the facility) no later than the date the permit application is submitted to IEPA. Provide the name, address, contact person, phone number, and business hours for each repository.

Note: The community repository may not be located at the facility and must be available to the community for review and copying of application documents after regular office hours. Public libraries are recommended repository locations.

A.4.3. Contents of Repository:

The repository contents must include all information submitted to IEPA in furtherance of a RCRA permit application (with the exception of trade secrets). The applicant is required to maintain, verify and update the contents of the repositories throughout the application process. Each time information is submitted to Illinois EPA, a copy must also be placed in the repository. Placement of a given submittal in the repository should be documented in the cover letter transmitting the submittal to Illinois EPA.

Repositories must be well-organized and kept up to date. A comprehensive inventory of all documents in the repository should be maintained, as well as a brief description of each document listed in the inventory. The applicant should visit each repository on a regular basis to ensure its organization is maintained.

A.4.4. Public Notice of Repository Availability:

The applicant must provide written notice of the repositories' availability for public review to everyone on the facility mailing list; this notice must include all of the following information:

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1. Identification and address or map of the facility and the hazardous waste management operations that the permit application addresses;
2. A statement that permit application materials have been prepared and are available for community members to review and copy at the repository.
3. The location and business hours of the repository.
4. A statement that the applicant will update the repository materials periodically during the Illinois EPA's review of the permit application.
5. The name, address and telephone number of the applicant's contact person to address questions regarding the application or to be added to the facility's mailing list for future permit activities.
6. The following statement "For general information on the hazardous waste management permit program in Illinois, please contact" then provide the address of the Illinois EPA RCRA Community Involvement Coordinator.

This notice must be made no later than the date the permit application is submitted to the Illinois EPA. Documentation that the public notices were made must be included in the application. Specifically provide a copy of the letter sent to individuals on the approved facility mailing list. Indicate the date the letter was sent, and the revision date of the mailing list used for the mailings.

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SECTION B--FACILITY DESCRIPTION

B.1 General Facility Description: 702.123, 703.183(a), 703.183(n), 703.183(s)

B.1.1. Operation of Facility:

Provide the following information about the facility:

1. Identify the owner and operator of the facility as well as the address and size of the facility;
2. Describe the facility in general, its operations, and the specific activities conducted by the applicant that require a permit under RCRA, including the nature of the business.
   a. Commercial facilities should identify the types of industry served;
   b. On-site facilities should briefly describe the process(es) involved in the generation of hazardous waste.
3. A legal description of the facility developed and certified by a professional land surveyor licensed to practice in Illinois.
4. The Tax Property Identification Number(s) of the land which comprises the facility. If more than one Property Identification Numbers are associated with the facility, a scaled drawing showing the boundaries of each parcel within the facility must be provided.

B.1.2. Hazardous Waste Management Units at the Facility

Identify and briefly describe the hazardous waste management units at the facility.
Note: More information about these units will be provided in Section E of the application.

B.1.3. Solid Waste Management Units at the Facility

Identify and briefly describe the solid waste management units at the facility which are the focus of the RCRA corrective action program at the facility.
Note: More information about these units will be provided in Section F of the application.

B.2 Topographic Map: 702.123(g), 703.183(s), 703.184, 703.185(c), 703.185(d), 724.195, 724.197

B.2.1. Facility + 1 mile:

Provide a topographic map (or Quadrangle map) that extends at least 1 mile beyond the property boundaries. This map must depict the legal boundaries of the facility and surrounding land uses.

B.2.2. Facility + 1000 feet:

Provide a topographic map that shows the layout of the facility and the surrounding area a distance of 1,000 feet outside the facility's property line. This map must be at a scale of 1 inch equal to not more than 200 feet. Ground surface contours must be shown on the map; the contour interval must be sufficient to clearly show the pattern of surface water flow in the vicinity of and from each hazardous waste management unit at the facility (a two foot interval should be used if the ground surface relief at the facility is less than 20' and a five foot interval should be used if the relief is greater than 20').

Multiple maps may be submitted to meet this requirement if necessary. The map(s) should contain/identify the following:

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Map Requirements: Facility + 1,000 ft	
Map Orientation (north arrow)	Areas in the 100-year flood plain
Map Date	Flood control or drainage barriers
Scale	Run-on/run-off control systems
Legal boundaries of the facility	Fire control facilities
Surrounding land uses	A wind rose
Access controls	Hazardous waste management units
Buildings and Structures	Solid waste management units
Storm drains	Equipment required by Item D.2 below
Sewers: storm, sanitary and process	Surface waters including intermittent streams
Any waste injection or groundwater withdrawal wells (both on-site and off-site)	

If multiple maps are used, a discussion of how the various maps meet the above requirements must be provided. In addition, if an applicant feels that some of these requirements cannot be met for some reason or are not applicable, then sufficient information must be provided in the application to support this position. Finally, with appropriate supporting justification/discussion in the application, the applicant may vary from the above requirements if what is provided meets the general intent of these requirements.

B.3 Location Standards: 703.184, 724.118

B.3.1 Seismic Standard:

Identify any hazardous waste management units within 200 feet (61 meters) of a fault which has had displacement during Holocene time.

B.3.2. Floodplain Standard:

Document whether or not the facility is located within a 100-year floodplain. Provide the source of this data as well as a copy of the relevant flood map produced by the National Flood Insurance Program (NFIP). Appropriate calculations/maps must be provided when NFIP maps are not available.

B.3.3. Facilities in the 100-year Floodplain

Facilities within the 100-year floodplain must provide the following information regarding procedures in place to prevent its flooding:

B.3.3.1. Engineering Analysis and Structural/Engineering Study.

Provide the following regarding information to demonstrate that flooding of the hazardous waste management units will not occur:

1. An engineering analysis that identifies and evaluates the various hydrodynamic and hydrostatic forces expected to result at the site as a consequence of a 100-year flood;
2. A structural or other engineering study that shows how the design of the hazardous waste management units and flood protection devices at the facility will prevent flooding of the units.

B.3.3.2. Procedures to Remove Waste

In lieu of B.3.3.1, provide a detailed description of the procedures to be followed to remove hazardous waste to safety before the facility is flooded. This information must include:

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1. Timing of movement relative to flood levels, including estimated time to move the waste, to show that such movement can be completed before floodwaters reach the facility.
2. The location(s) to which the waste will be moved, and a demonstration that those facilities are eligible to receive hazardous waste in accordance with 35 Ill. Admin. Code 702, 703, 724 and 725;
3. The planned procedures, equipment, and personnel to be used, and the means to ensure that such resources will be available in time for such use;
4. The potential for accidental discharge of waste during movement.

B.3.4. Existing Facilities Not in Compliance with 35 Ill. Admin. Code 724.118(b)

Provide a plan showing how the facility will be brought in compliance and a schedule for compliance with 35 Ill. Admin. Code 724.118(b). A variance petition regarding this plan/schedule to come into compliance with 35 Ill. Admin. Code 724.118(b) must be filed concurrently with the Illinois Pollution Control Board.

B.4 Operating Record: 724.173

The Permittee must keep and maintain a written operating record that includes all the records, reports, notifications, and data required by 35 Ill. Admin. Code 724.173 and the conditions in this permit for the entirety of the post-closure care period. Identify the location where the Operating Record is maintained at the facility. Describe the procedures used to record the following information described in 724.173 in the facility's operating record (as such information becomes available) during the post-closure period:

1. Records of inspections, and repairs
2. Monitoring, testing, analytical data, and corrective action data when required,
3. All closure and post-closure cost estimates,
4. Annual certification that a program is in place to reduce the volume/toxicity of hazardous waste generated at the facility.

Separate documents may be used to compile this information, provided the requirements of 724.173 are met. A description of where the operating record will be maintained must also be provided.

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SECTION C—GROUNDWATER MONITORING

C.1 Exemption from Groundwater Protection Requirements: 703.185, 724.190(b)

If a waiver from the 35 Ill. Admin. Code 724, Subpart F groundwater monitoring requirements is requested, the applicant must demonstrate one of the following conditions applies to the facility or exempted under 724.101.

C.1.1. Waste Piles: **724.190(b)(2) and (5)**

The waste pile has been designed and operated to meet conditions specified in 724.350(c).

C.1.2. Landfill: **724.190(b)(2)**

The landfill has been designed and operated to meet conditions specified herein.

C.1.3. No Migration: **724.190(b)(4)**

No potential for migration of liquid from a regulated unit to the uppermost aquifer exists during the active life of the regulated unit (including the closure period) and the post closure period. Predictions must be based on assumptions maximizing the rate of liquid migration.

C.2 Interim Status Groundwater Monitoring Data: 703.185(a)

The applicant must provide, by reference, the location of a summary of the groundwater monitoring data obtained during the interim status period.

C.3 Historical Hydrogeological Summary: 703.185(b), 620.210

The applicant must provide an identification of the uppermost aquifer and aquifers hydraulically interconnected beneath the facility property. Include groundwater classification, flow direction and rate, and the basis for such identification (i.e., the information obtained from hydrogeologic investigations of the facility area). A table of hydraulic properties must be submitted which includes at a minimum permeability, sieve analysis, porosity, hydraulic conductivities, etc.

C.4 Topographic Map Requirements: 703.183(s), 703.185(c)

The applicant must provide on the map required in 703.183(s) a complete legal description of the property boundary along with the following additional information:

The waste management area, the property boundary, the proposed point of compliance, the proposed groundwater monitoring zone (if applicable), the proposed location of groundwater monitoring wells and the information required in 703.185(b)

C.5 Contaminant Plume Description: 703.185(d), 721-Appendix I

The applicant must provide a description of any plume of contamination detected in the groundwater originating from a regulated unit. Identify the concentrations of Part 721, Appendix I constituents (throughout the plume or the maximum concentration of each Appendix I constituent) for the plume of contamination delineated on the topographic map.

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Note: The monitoring program for a given unit must be established based on the monitoring data from the facility and be appropriate for the groundwater conditions beneath the regulated unit.

Only complete the monitoring program section which is currently appropriate for the facility.
C.6: Detection, C.7: Compliance, C.8: Corrective action

C.6 Detection Monitoring Program: 703.185(f), 724.198

If the presence of hazardous constituents has not been detected in the groundwater at the time of permit application, the applicant must provide sufficient information, supporting data and analyses to establish a detection monitoring program which meets the requirements of 724.198.

A detection monitoring program must include at a minimum the ability to monitor for specific indicator parameters based upon the type and characteristics of waste(s) managed at the facility and to maintain a complete and accurate record and statistical evaluation of all groundwater monitoring data.

C.6.1. Indicator Parameters, Waste Constituents, Reaction Products to be Monitored: 703.185(f)(1), 724.198(a)

The applicant must provide a list of indicator parameters, waste constituents or reaction products to be used in providing a reliable indication of the presence of hazardous constituents in the groundwater.

C.6.2. General Monitoring Program Requirements: 703.185(e), 724.197

The applicant must provide detailed plans and an engineering report describing the proposed groundwater monitoring program to be implemented to meet the requirements of 724.197.

Groundwater monitoring systems must be developed to provide a sufficient number of wells for the regulated unit(s), constructed in a manner to provide representative samples from the uppermost aquifer. The program must include appropriate procedures for sampling, analyzing and evaluating groundwater quality.

C.6.3. Groundwater Monitoring System: 703.185(f)(2), 724.197(a) & (b), 724.198(b)

The detection monitoring system must be installed at the established compliance point and comply with 724.197(a) & (b). All groundwater monitoring wells must be installed at appropriate locations and depths to yield representative groundwater samples and be cased in a manner capable of maintaining the integrity of the monitoring well bore hole.

The applicant must reference, by location, boring logs and well completion reports (including a cross reference if necessary). A table of wells must be submitted identifying the well ID# and measurements for the following in both mean sea level (MSL) and feet below ground surface (ft. bgs): well depth, screen interval, ground surface, and stick-up.

C.6.4. Description of Sampling and Analysis Procedures: 703.185(f)(4), 724.197(d) & (e)

The applicant must provide a description of sampling and analysis procedures including at a minimum procedures and techniques for sample collection, sample preservation and shipment, and analytical procedures and chain of custody control. The sampling and analytical methods must be appropriate for groundwater sampling and accurately measure hazardous constituents in groundwater samples. Alternative methods must be included for contingency basis.

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C.6.5. Evaluation of Groundwater Surface: 724.197(f), 724.198(e)

The applicant must provide procedures for the evaluation of the groundwater surface at the facility. A determination of the groundwater surface elevation each time the groundwater is sampled. The applicant must determine the groundwater flow rate and direction in the uppermost aquifer at least annually.

C.6.6. Background Quality: 703.185(f)(3), 724.197(g), 724.198(c)

The applicant must provide an evaluation of background groundwater quality and if necessary, reestablish background based on the historical data gathered over the active life of the permit using a trend analysis.

C.6.7. Statistical Evaluations: 703.185(f)(4), 724.197(h), 724.198(d)

The applicant must provide a demonstration that the current statistical method remains appropriate or justify a new method to be used for statistical evaluation of data.

C.6.8. Statistically Significant Increases: 724.198(f) & (g)

Using methods required in item C.6.7, the applicant must evaluate the existence of statistically significant evidence of contamination in the groundwater. If such evidence exists, specific measures of retesting and Illinois EPA notification must be provided.

C.7 Compliance Monitoring Program: 703.185(g), 724.199

If the presence of hazardous constituents has been detected in the groundwater at the point of compliance at the time of permit application, The applicant must submit sufficient information, supporting data and analyses to establish a compliance monitoring program which meets the requirements of 724.199.

C.7.1. Description of the Monitoring Program: 724.199(a)

The program will be used to determine if compliance standards have been achieved by a regulated unit.

C.7.1.1. Waste Description: 703.185(g)(1), 724.193(a), 724.199(a)(1)

The applicant must provide a list of hazardous constituents for groundwater that are reasonably expected to be in or derived from waste(s) in the regulated unit.

C.7.1.2. Concentration Limits: 703.185(g)(4), 724.194(a), 724.199(a)(2)

The applicant must provide a discussion addressing the appropriate concentration limits for the hazardous constituents in groundwater.

C.7.1.3. Compliance Point: 724.195, 724.199(a)(3)

The applicant must provide a discussion addressing the compliance point including rationale for location of groundwater monitoring wells utilized to delineate the compliance point.

C.7.1.4. Compliance Period: 724.196, 724.199(a)(4)

The applicant must provide a discussion addressing the compliance period.

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C.7.2. Alternate Concentration Limits: 703.185(g)(4), 724.194(b)

In situations where the Illinois EPA determines, based on information and supporting data provided by the applicant, a constituent will not pose a substantial hazard an alternate concentration limit can be established.

C.7.2.1. Adverse Effects on Groundwater Quality: 724.193(b)(1), 724.194(b)(1)

The applicant must provide information and supporting data addressing any proposed alternate concentration limit and adverse effects on groundwater quality.

C.7.2.2. Potential Adverse Effects on Hydraulically Connected Surface Water Quality: 724.193(b)(2), 724.194(b)(2)

The applicant must provide information and supporting data addressing any proposed alternate concentration limit and potential adverse effects on hydraulically connected surface water quality.

C.7.3. General Monitoring Program Requirements: 703.185(g)(5), 724.197

The applicant must provide detailed plans and an engineering report describing the proposed groundwater monitoring program to be implemented to meet the requirements of 724.197. Groundwater monitoring systems must be developed to provide a sufficient number of wells for the regulated unit(s), constructed in a manner to provide representative samples from the uppermost aquifer. he program must include appropriate procedures for sampling, analyzing and evaluating groundwater quality.

C.7.4. Groundwater Monitoring System: 724.197(a), (b) & (c), 724.199(b)

The compliance monitoring system must be installed at the established compliance point as specified by 724.197(a)(2), 724.197(b) and 724.197(c). All groundwater monitoring wells must be installed at appropriate locations and depths to yield representative groundwater samples and be cased in a manner capable of maintaining the integrity of the monitoring well bore hole.

The applicant must reference, by location, boring logs and well completion reports (including a cross reference if necessary). A table of wells must be submitted identifying the well ID# and measurements for the following in both mean sea level (MSL) and feet below ground surface (ft bgs): well depth, screen interval, ground surface, and stick-up.

C.7.5. Description of Sampling and Analysis Procedures: 703.185(g)(6), 724.197(d) & (e), 724.199(c)

The applicant must provide a description of sampling and analysis procedures including at a minimum procedures and techniques for sample collection, sample preservation and shipment, and analytical procedures and chain of custody control. The sampling and analytical methods must be appropriate for groundwater sampling and accurately measure hazardous constituents in groundwater samples. Alternative methods must be included for contingency basis.

C.7.6. Background Quality: 724.197(g)

The applicant must provide an evaluation of background groundwater quality and if necessary, re-establish background based on the historical data gathered over the active life of the permit using a trend analysis.

C.7.7. Statistical Evaluations: 703.185(g)(6), 724.197(h), 724.199(d)

The applicant must provide a demonstration that the current statistical method remains appropriate or justify a new method to be used for statistical evaluation of data.

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C.7.8 Evaluation of Groundwater Surface: 724.197(f), 724.199(e)

The applicant must provide procedures for the evaluation of the groundwater surface at the facility. A determination of the groundwater surface elevation must take place each time the groundwater is sampled. The owner or operator shall determine the groundwater flow rate and direction in the uppermost aquifer at least annually.

C.7.9. Annual Appendix I: 724.199(g)

The applicant must provide procedures for the Annual Appendix I sampling event. Samples from all monitoring wells at the compliance point must be analyzed for all constituents listed in Appendix I at least annually to determine whether additional hazardous constituents are present in the uppermost aquifer.

C.7.10. Statistically Significant Increases: 724.199(h) & (i)

Using methods required in C.7.7, The applicant must evaluate the existence of statistically significant evidence of contamination in the groundwater of the point of compliance. If such evidence exists, specific measures of retesting and IEPA notification must be met.

C.8 Corrective Action Program: 703.185(h), 724.191(a)(2) & (3), 724.200

If hazardous constituents have been measured in the groundwater which exceed the concentration limits established under 724.194, Table 1, or if groundwater monitoring conducted at the waste boundary indicates the presence of hazardous constituents from the facility in groundwater over background concentrations, The applicant must submit sufficient information supporting data and analyses to establish a corrective action program which meets the requirements of 724.200.

C.8.1. Description of Corrective Action Program: 703.185(h), 724.200

The program will be used to demonstrate the effectiveness of a corrective action measure.

C.8.1.1. Characterization of Contaminated Groundwater: 703.185(h)(1), 724.200(a)(1)

The applicant must include a characterization of the contaminated groundwater, including concentrations.

C.8.1.2. Concentration Limits: 703.185(h)(2), 724.194(a), 724.200(a)(2)

The applicant must provide a discussion addressing the appropriate concentration limits for groundwater for each of the hazardous constituents.

C.8.1.3. Compliance Point: 724.195, 724.200(a)(3)

The applicant must provide a discussion addressing the compliance point.

C.8.1.4. Compliance Period: 724.196, 724.200(a)(4)

The applicant must provide a discussion addressing the compliance period.

C.8.1.5. Construction Detail: 703.185(h)(3)

The applicant must provide detailed plans and an engineering report describing the corrective action to be taken, including all aspects of any groundwater and/or product removal/treatment system.

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C.8.1.6 Effectiveness of Corrective Action: 703.185(h)(4), 724.200(d) & (g)

The applicant must describe how the groundwater monitoring program will assess the adequacy of the corrective action.

C.8.2. Alternate Concentration Limits: 724.194(b)

In situations where the Illinois EPA determines, based on information and supporting data provided by the applicant, a constituent will not pose a substantial hazard an alternate concentration limit can be established.

C.8.2.1. Adverse Effects on Groundwater Quality: 724.193(b)(1), 724.194(b)(1)

The applicant must provide information and supporting data addressing any proposed alternate concentration limit and adverse effects on groundwater.

C.8.2.2. Potential Adverse Effects on Hydraulically-Connected Surface Water Quality: 724.193(b)(2), 724.194(b)(2)

The applicant must provide information and supporting data addressing any proposed alternate concentration limit and adverse effects on hydraulically connected surface water quality.

C.8.3. Corrective Action Plan: 703.185(h), 724.200(b), 724.200(c), 724.200(e)

In addition to the other requirements of 724.200, The applicant must provide and describe a corrective action program to remove or treat in place hazardous waste constituents in groundwater between the point of compliance and the downgradient facility boundary, or beyond the facility boundary where necessary to protect human health and the environment.

The corrective action program must begin corrective action within a reasonable time period after the groundwater protection standard is exceeded considering the extent of contamination.

C.8.4. Groundwater Monitoring Program: 703.185(h), 724.192, 724.200(d)

The groundwater monitoring program must be as effective as the program required under C.7 above in determining compliance with groundwater protection standards and in determining the success of a corrective action program.

C.8.4.1. General Monitoring Program Requirements: 703.185(e), 724.197

The applicant must provide detailed plans and an engineering report describing the proposed groundwater monitoring program to be implemented to meet the requirements of 724.197.

Groundwater monitoring systems must be developed to provide a sufficient number of wells for the regulated unit(s), constructed in a manner to provide representative samples from the uppermost aquifer. The program must include appropriate procedures for sampling, analyzing and evaluating groundwater quality.

C.8.4.2. Groundwater Monitoring System: 724.197(a) & (b), 724.200(d)

The corrective action monitoring system must be installed at the established compliance point as specified by 724.197(a)(2), 724.197(b), and 724.197(c). All groundwater monitoring wells must be installed at appropriate locations and depths to yield representative groundwater samples and be cased in a manner capable of maintaining the integrity of the monitoring well bore hole.

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The applicant must reference, by location, boring logs and well completion reports (including a cross reference if necessary). A table of wells must be submitted identifying the well ID# and measurements for the following in both mean sea level (MSL) and feet below ground surface (ft. bgs): well depth, screen interval, ground surface, and stick-up.

C.8.4.3. Description of Sampling and Analysis Procedures: 724.197(d) & (e)

The applicant must provide a description of sampling and analysis procedures including at a minimum procedures and techniques for sample collection, sample preservation and shipment, and analytical procedures and chain of custody control. The sampling and analytical methods must be appropriate for groundwater sampling and accurately measure hazardous constituents in groundwater samples. Alternative methods must be included for contingency basis.

C8.4.4. Background Quality: 724.197(g), 724.199(c)

The applicant must provide an evaluation of background groundwater quality and if necessary, re-establish background based on the historical data gathered over the active life of the permit using a trend analysis.

C.8.4.5. Statistical Evaluations: 703.185(f), 724.197(h), 724.199(d)

The applicant must provide a demonstration that the current statistical method remains appropriate or justify a new method to be used for statistical evaluation of data.

C.8.4.6. Evaluation of Groundwater Surface: 724.197(f), 724.199(e)

The applicant must provide procedures for the evaluation of the groundwater surface at the facility. A determination of the groundwater surface elevation each time the groundwater is sampled. The owner or operator shall determine the groundwater flow rate and direction in the uppermost aquifer at least annually.

C.8.4.7. Extension of Compliance Period: 724.200(f)

The applicant must provide a discussion addressing the extension of the compliance period. The compliance period during which the groundwater protection standard applies shall be extended until the applicant demonstrates that the groundwater protection standard of 724.192 has not been exceeded for three consecutive years.

C.8.4.8. Effectiveness of Corrective Action: 724.200(g)

The applicant must provide a discussion addressing the evaluation and reporting of the effectiveness of the corrective action program to the Illinois EPA. The written reports must be submitted semi-annually.

C.8.4.9. Evaluation of the Corrective Action Program: 724.200(h)

The applicant must provide a discussion addressing any determination that the corrective action program no longer satisfies the requirements of 724.200.

C.9. Reporting Requirements: 724.197(j)

The applicant must provide a discussion addressing groundwater monitoring data collected and the maintenance of the data in the facility operating record.

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SECTION D--PROCEDURES TO PREVENT HAZARDS

D.1 Security: 703.183(d), 724.114

The owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the unit(s) closed as landfills. Unless a waiver is granted, the facility must have either a 24-hour surveillance systems, or a barrier and a means to control entry as set forth in Item D.1.2 below.

D.1.1. Waiver from the Security Requirements:

Facilities seeking a waiver from the security requirements must provide information demonstrating that:

1. Physical contact with the waste, structures or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility; and

2. Disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, will not cause a violation of the requirements of 724.

D.1.2. Restricting Entry to the Facility

Describe the means used to restrict entry the facility

1. 24-Hour Surveillance System. Describe the 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) at the facility that continuously monitors and controls entry onto the active portion of the facility; or

2. Barrier and Controlled Entry: Describe the artificial or natural barrier system (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and the means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance or controlled roadway access to the facility).

D.1.3. Warning Signs

Identify the locations of all warning signs on a scale drawing of the facility. A sign with the legend, "Danger - Unauthorized Personnel Keep Out", must be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The sign must be legible from a distance of at least 25 feet. Existing signs with a legend other than "Danger - Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

D.2. Equipment Requirements: 703.183, 724.132, 724.133, 724.134, 724.135

All facilities must have the equipment and procedures listed in D.2.2 thru D.2.8 below in place unless the applicant submits a waiver request as identified in D.2.1 below. The location within the facility of the equipment described in this section must be shown on the drawings required in Section B.2.2 above.

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D.2.1. Waiver

Facilities may seek a waiver from any or all of the equipment/procedure requirements below. To obtain a waiver, the applicant must demonstrate that none of the hazards posed at the facility would require the particular type of equipment/procedure at issue.

D.2.2. Internal Communications

Describe the internal communications or alarm system for providing immediate emergency instruction (voice or signal) to facility personnel.

D.2.3. External Communications

Describe the device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, state or local emergency response teams.

D.2.4. Emergency Response Equipment

Describe the following emergency response equipment present at the facility: portable fire extinguishers; fire control equipment, spill control equipment; and decontamination equipment.

D.2.5. Water for Fire Control

Provide a statement signed by an independent fire control professional, or the responsible fire department, certifying that the facility has water at adequate volume and pressure to supply water hose streams, foam producing equipment, automatic sprinklers, or water spray systems. The document must include an original signature from the fire control professional or responsible fire department.

D.2.6. Personnel Protection Equipment

Describe the procedures, structures, and clothing equipment used to protect personnel from undue exposure to hazardous waste.

D.2.7. Testing & Maintenance of Emergency Equipment

Demonstrate that all facility communications or alarm systems, fire protection equipment, spill control equipment and decontamination equipment, where required, is tested, maintained, and calibrated, as necessary to assure its proper operation in time of emergency.

D.2.7.1. Equipment Testing:

Identify all emergency equipment and describe how the equipment is tested, maintained, and calibrated.

D.2.7.2. Schedule

Provide a testing and maintenance/calibration schedule for all communications, monitoring, safety, spill control, decontamination, and emergency equipment.

D.2.8. Equipment and Power Failure

Describe the procedures, structures, and equipment used to mitigate the effects of equipment failure and power outage.

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D.3 Inspection Requirements: 703.183(e), 724.115

Describe the procedures followed to inspect/ensure the functionality of everything needed to provide adequate post-closure care of the unit closed as a landfill at the facility in accordance with the RCRA requirements.

Copies of the inspection log and repair log that are used to document inspections and repairs at the facility in accordance with the RCRA requirements must be provided as part of the permit application.

Indicate that copies of the inspection log and repair log are maintained at the facility as part of the operating record.

D.3.1. Inspection Log

An inspection log must be maintained which includes all of the items listed below. The log must also include the date and time of each inspection, the name of the inspector, notation of the observations made, and the date of any repairs or remedial actions.

D.3.1.1. Items Inspected

Identify each item to be inspected at the facility in order to comply with the RCRA requirements. these items include, all RCRA regulated units, monitoring equipment, safety and emergency equipment, security and communication devices, and operating and structural equipment that are vital to prevent, detect, or respond to environmental or human health hazards.

D.3.1.2. Types of Problems

Identify the types of problems (e.g. malfunctions or deterioration) the inspector must look for during an inspection (e.g. inoperable sump pump, leaking fitting, eroding dike).

D.3.1.3. Inspection Frequency:

Identify the inspection frequency for each item in the log. In addition, provide justification for the inspection frequency proposed for each item. (This justification should be separate from the actual inspection log.). The frequency of inspection needs to be based on the rate of possible deterioration of equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or operator error goes undetected between inspections.

D.3.2. Repair Log

The repair log must be used to schedule and record repairs (deterioration, or malfunction of equipment or structures) revealed by an inspection of the items listed in the inspection log. The repair log must include the following items:

1. The item needing repair;
2. The problem identified during the inspection that needs repair;
3. The date the inspection took place;
4. The name of the person who conducted the inspection;
5. The name of the person who makes the corrected repair;
6. The date the repair was made;
7. The efforts carried out in making the repair;
8. Any other appropriate comments.

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Most repairs should be made at the time it is determined to be necessary and all repairs should be made within 24 hours. The timeliness of the repair is dependent on the potential impact the problem needing repair may have on protecting human health, the environment, and the safe operation of the facility.

D.3.3. 24 Hour Reporting (702.152(f), 703.245(b))

Describe the procedures to be followed if an inspection reveals any noncompliance with the permit which may endanger health or the environment: 1) report the required information about the incident orally within 24 hours from the time the Permittee becomes aware of the circumstances, and 2) provide a written description of the incident within 5 days of the time the Permittee becomes aware of the circumstances.

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SECTION E--POST-CLOSURE REQUIREMENTS

See 703.183(m), 703.203(f), 703.204(h), 703.207(e), 724.218, 724.297(b) and (c), 724.328(b), 724.328(c)(1)(B), 724.380(c), 724.410(b)

E.1 Information Regarding the Unit(s) Closed as a Landfill

The foundation for developing an appropriate post-closure care program for a unit closed as a landfill is a thorough understanding of the unit, focusing on its surroundings, construction, operation and closure.

E.1.1. General Information Regarding of the Unit to Receive Post-Closure Care

Identify the unit(s) at the facility which were closed as landfills to which the post-closure requirements of 35 Ill. Admin. 724, Subpart G apply. Among other things, provide:

1. A scaled drawing showing the location and boundaries of the unit within the facility;
2. A copy of Illinois EPA's letter accepting certification of closure of the unit as a landfill;
3. The date that the post-closure care period for the unit began; and
4. A certified copy of the survey plat and post-closure notices filed in accordance with 35 Ill. Admin. Code 724, Subpart G or 725, Subpart G with the county in which the facility is located.

E.1.2. Geology and Hydrogeology Around/Beneath the Unit

Provide a detailed description of the geology and hydrogeology around/beneath the unit. Of special concern is the presence of silt, sand or other permeable zones around and beneath the unit which, if not properly addressed, could be a conduit for the migration of leachate or landfill gas away from the landfill. This description should be supplemented with boring logs, drawings and cross-sections.

E.1.3. Characterization of Waste/Contaminated Soil Present in the Landfill Unit

Provide a description of the type, quantity and characteristics of the waste and/or contaminated soil remaining in the unit.

E.1.4. Initial Closure Activities

Provide a detailed description, as appropriate, of the following initial activities carried out in closing the unit as a landfill:

1. Removal of waste and contaminated soil;
2. Stabilization of material remaining in the unit; and
3. Use of structural fill material to establish final contours.

E.1.5. Details Associated with the Closed Unit

Provide a detailed description, as-built drawings, cross-sections, and scaled drawings of the overall unit that includes/shows the following. Of special concern is the vertical elevations associated with each component of the unit. Note: the specific information regarding any leachate collection system, leak detection system and/or gas management system present in the landfill that must be described/shown is identified in Sections E.3 thru E.5 below.

1. The soils underlying the unit;

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2. The bottom liner system of the unit (if any is present);
3. A description of the base of the unit if it has no constructed liner system;
4. Any permeable zones around or beneath the landfill and a description of the procedures used to seal off these zones;
5. Any cut-off walls or slurry walls constructed outside the landfill boundaries to address migration of leachate or landfill gas from the landfill;
6. The final cover system over the unit;
7. The final contours established for the unit; and
8. The run-on and run-off control systems of the unit.

E.2 Contact Person

Provide the name, address and phone number of the person or office to contact about the unit during the post-closure care period. A copy of the post-closure permit and associated approved permit modifications must be maintained by this person/office; a copy of these documents must also be maintained at the facility subject to the permit.

E.3 Operation of the Leachate Collection System

Note: This section need only be addressed if a leachate collection system is present in the landfill unit.

E.3.1. Quality of Leachate in the Leachate Collection System

1. The leachate needs to be analyzed for the parameters listed below, and the results of annual analyses conducted on representative samples of leachate must be provided in the permit application. This will give an indication of the potential contaminants in a subsurface release from the unit to the groundwater. The leachates need to be analyzed for:
   a. Those constituents for which a public or food processing water supply standard has been established in 35 Ill. Admin. Code 302;
   b. Those constituents for which a groundwater quality standard has been established in 35 IAC 620;
   c. The 51 organic chemicals in drinking water described in 40 CFR 141.40.
   d. Any other contaminants expected to be present in the leachate, based on the characteristics of the waste and materials present in the unit.

   A list of all the above contaminants is provided as Attachment 1 to this document. This list may be reduced if information is provided indicating that certain listed contaminants are not expected to be present in the leachate.

2. If the list of analytes has been reduced, provide an analysis for all constituents listed in E.3.1.1 each time the post-closure permit is renewed. Compare the reduced list, to the full list. If no new parameters are detected, the application can propose to resume analyzing leachate for the previously approved reduced list. If any new parameters are detected, they must be added to the reduced list and the list of groundwater monitoring parameters.

3. If there is more than one leachate sump but the application does not propose to analyze the leachate from each sump, provide justification for how the leachate sample(s) are considered "representative" for a given landfill.

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4. Describe the procedures used to collect, handle, and analyze the leachate samples discussed above. All such efforts must be carried out in accordance with procedures approved/established by Illinois EPA or USEPA.

E.3.2. Leachate Collection System Within the Landfill

1. Identify the general components of the leachate collection system within the landfill (includes the filter layer, leachate collection layer, leachate collection trenches, the leachate collection pipes, leachate level monitoring locations, leachate collection sumps, leachate collection wells, leachate removal pumps or other equipment used to remove leachate, manholes, clean-outs, etc.).

2. Provide a detailed description of the procedures used to construct the leachate collection system within the landfill. Provide specifications and as-built drawings (plan view, detail and cross-sectional) of the installed system. Identify the contours of the top of the liner system including any leachate collection trenches; the elevation of the lateral leachate collection pipes; the screened interval of any leachate collection wells or monitoring points; and the elevation of the bottom of the leachate collection sumps, wells, manholes and clean-outs.

3. Provide detailed information regarding all equipment (pumps, monitoring equipment, etc.) associated with the leachate collection system within the landfill. Specifically:

   a. Provide (as appropriate) the make, model and specifications for each piece of equipment;

   b. Identify each piece of equipment on a piping and instrumentation diagram; and

   c. Describe the operational function and capabilities of each piece of equipment.

4. If the landfill was designed to meet the requirements of 35 Ill. Admin. Code 724.401, then an engineering report must be provided demonstrating that the system was constructed and will be operated in such a manner to prevent the leachate depth over the top liner from exceeding one foot. Appropriate calculations must be provided as part of this demonstration along with justification of all assumed parameters and of the numerical techniques used in making the demonstration.

5. If it was not necessary for the landfill to meet the requirements of 35 Ill. Admin. Code 724.401, then information must be provided regarding the maximum leachate levels which will be present at the leachate removal points and throughout the landfill. An engineering report/analysis of the leachate levels which will be present in the landfill must be provided as well as information from past operations of the leachate collection system which will verify the projected levels.

E.3.3. Leachate Collection System Outside the Landfill

1. Identify the general components of the leachate collection system which allow for the removal and of the leachate and its storage on-site (includes the piping from each leachate pump to the top of each leachate sump/well, the piping and associated appurtenances which transfer the leachate to a final storage tank, any pump stations needed in this transfer, and the tank where the leachate is eventually stored). In addition:

   a. Provide a detailed description of the procedures used to install the components of leachate collection system mentioned above;

   b. Provide specifications, piping and instrumentation diagram, and as-built drawings (plan view, detail, elevations and cross-sectional) of these components.

   c. Identify the sample point(s) used to collect leachate samples on the piping and instrumentation diagram.

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d. Indicate the locations of the leachate collection system sampling points on a scale drawing of each landfill. Identify the sample points by both the facility and Illinois EPA identification numbers for each sample point.

2. Provide detailed information regarding all equipment (pumps, monitoring equipment, etc.) associated with the leachate collection system outside the landfill. Specifically:

   a. Provide (as appropriate) the make, model and specifications for each piece of equipment;

   b. Identify each piece of equipment on a piping and instrumentation diagram; and

   c. Describe the operational function and capabilities of each piece of equipment.

E.3.4. Management of Leachate Collection System (LCS)

Describe how the LCS is managed. Discuss how all parts of the leachate collection system are operated.

1. Provide piping and instrumentation diagrams and other schematics which depicts the overall leachate collection system, from the pump within each leachate collection sump/well to the leachate accumulation tank. For each leachate collection sump/well, identify:

   a. The approximate elevation of the bottom of the sump or landfill at that location,

   b. The leachate elevation which activates the pump in each sump or extraction well,

   c. The leachate level which activates the pump within the sump/well,

   d. The leachate elevation when the pump shuts off, and

   e. A description of the instrumentation in place so that the amount of leachate removed from a given sump/well over a given time period can be determined.

2. Describe the procedures which will be followed to document/record all aspects of the management of the leachate collection system(s). At a minimum, the results of leachate quality analyses and the amount of leachate removed from a given sump/well each month must be documented in the operating record.

3. Describe how the collected leachate will ultimately be managed and provide copies of the permits in place to take the leachate to an off-site facility for treatment or disposal.

E.3.5. Summary of Leachate Management Program Conducted to Date

Provide information addressing the items in Section E.3.4 regarding the leachate management program implemented during the past ten years. This information should discuss the efficiency of the existing leachate management program or identify deficiencies which must be addressed to ensure leachate is adequately managed in the landfill.

E.4 Operation of the Leak Detection System: 724.402, 724.403 and 724.404

This subsection must be addressed if a Leak Detection System (LDS) is present in the landfill. The LDS must be capable of detecting, collecting and removing leaks through the upper liner system at the earliest practicable time throughout all areas of the landfill. The LDS must be constructed of a drainage layer along with sumps and pumps of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer.

1. Each landfill unit must have its own set of LDS sumps.

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2. Each LDS sump and associated removal system must be designed so that volume of liquid in the LDS sump can be measured and as well as the volume of leachate removed from the sump.

E.4.1. Description of the Leak Detection System Within the Landfill

Provide an engineering report describing how the leak detection system was constructed and will be operated to ensure the requirements of 35 Ill. Admin. Code 724.401 are met. Among other things, this report must:

1. Identify the general components of the leak detection system within the landfill (includes the drainage layer, the leachate collection trenches, the leachate collection pipes, leachate level monitoring locations, leachate collection sumps; manholes, clean-outs, etc.).

2. Provide a detailed description of the procedures used to construct the leak detection system. Provide specifications and as-built drawings (plan view, detail and cross-sectional) of the installed system. Information of special importance includes: the contours of the top of the liner system; the elevation of the leachate collection pipes; and the elevation of the bottom of the leachate collection sumps, manholes and clean-outs.

3. Provide detailed information regarding all equipment associated with the leak detection system (pumps, monitoring equipment, etc.) within the landfill. Specifically:
   a. Provide information regarding the make, model and specifications of each piece of equipment;
   b. Identify each piece of equipment on a piping and instrumentation diagram;
   c. Describe the operational functions and capabilities of each piece of equipment.

4. Provide the pump operating level for each LDS sump within each landfill unit. This is the maximum level of leachate which can accumulate in each LDS sump before the pump within the sump is activated and leachate is removed from the sump.
   a. This level can be no more than the depth of leachate that can accumulate within the LDS sump without allowing any leachate to back-up into the drainage layer.
   b. This level must also minimize the hydraulic head on the liner of the LDS sump.
   c. Development of the pump operating level for each LDS sump should also take into account the pump activation level and the sump dimensions.

5. Provide the action leakage rate (ALR) (in gallons per acre per day) for each LDS sump. The action leakage rate is the maximum design flow, modified by a factor of safety, that the LDS can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate factor of safety to allow for uncertainties in the:
   a. Design; construction; layout and operation of the system;
   b. Characteristics of the waste and leachate in the landfill;
   c. Likelihood and amounts of other sources of liquids in the LDS and
   d. Proposed response actions

Examples of uncertainties/concerns with the LDS include decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, and overburden pressure.

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E.4.2. Description of the Leak Detection System Outside the Landfill

1. Identify the general components of the leak detection system which allow for the removal of the leachate from the landfill and its storage on-site (includes the piping from each leachate pump to the top of each leachate sump/well, the piping and associated appurtenances which transfer the leachate to a final storage tank, any pump stations needed in this transfer, and the tank where the leachate is eventually stored). In addition:
   a. Provide a detailed description of the procedures used to install the components of leak detection system mentioned above.
   b. Provide specifications and as-built drawings (plan view, detail, elevations and cross-sectional) of these components.
2. Provide detailed information regarding all equipment (pumps, monitoring equipment, etc.) associated with the leachate collection system outside the landfill. Specifically:
   a. Provide (as appropriate) the make, model and specifications for each piece of equipment;
   b. Identify each piece of equipment on a piping and instrumentation diagram;
   c. Describe the operational function and capabilities of each piece of equipment.

E.4.3. Management of Leachate Accumulating in the Leak Detection System

Describe how the LDS is managed. Discuss how all parts of the leak detection system are operated.

1. Provide piping and instrumentation diagrams and other schematics which depict the overall leak detection system, from the pump within each leachate collection sump to the leachate accumulation tank. For each leak detection sump/well, identify:
   a. The approximate elevation of the bottom of the landfill at that location,
   b. The pump operating level,
   c. The leachate level which activates the pump within the sump/well, and
   d. The leachate elevation when the pump shuts off.
2. Describe the procedures which will be followed to document/record all aspects of the management of the LDS. At a minimum, the permittee needs to provide documentation of the amount of leachate removed from a given LDS sump over a set time period, and any exceedances of the action leakage rate in the operating record.
3. Describe how the leachate collected in the LDS will ultimately be managed and provide copies of the permits in place to take the leachate to an off-site facility for treatment or disposal.

E.4.4. Recent Operation of the Leak Detection System

Provide information addressing the items discussed in Section E.4.3 regarding the operation of the LDS during the past ten years. This information should discuss the efficiency of the existing LDS or identify deficiencies which must be addressed to ensure system is operating properly.

E.5 Operation of the Gas Monitoring/Collection System

This subsection must be addressed if the closed unit has a landfill gas monitoring/collection system.

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E.5.1. Detailed Description of the Landfill Gas Collection System

The following information needs to be provided regarding any landfill gas collection system at the facility (in addition to drawings, it is also important to include text describing the various aspects of this system and the chronological history of the installation of this system).

1. A map and detailed drawings showing the location of the collection points and the layout and construction details of the collection system.

2. A description and specifications for all machinery, compressors, flares, piping and appurtenances in the system.

3. A piping and instrumentation diagram as well as other schematics to depict the system's operation.

4. A description of how the landfill gas collection system operates. Describe the information which will be monitored, evaluated and recorded regarding the operation of the system. Frequent evaluation of this information will be essential in ensuring the system is operating effectively and will also give insight into any adjustments that need to be made to the operations of the system.

5. Documentation or assurance that the gas collection system meets the following standards:
   a. The system is designed and will be operated such that the limits described in 35 IAC 811.311(a)(1), (a)(2) and (a)(3) will not be exceeded;
   b. The gas collection system will transport gas to a central point or points for processing for beneficial uses or disposal in accordance with the requirements of 35 IAC 811.312;
   c. The gas collection system has been designed to function for the entire design period;
   d. All materials and equipment used in construction of the system have been rated by the manufacturer as safe for use in hazardous or explosive environments and shall be resistant to corrosion by constituents of the landfill gas;
   e. The gas collection system has been designed to withstand all landfill operating conditions, including settlement;
   f. Provisions have been made for collecting and draining gas condensate to a management system meeting the requirements of 35 IAC 811.309;
   g. The gas collection system will not compromise the integrity of the liner, leachate collection or cover systems; and
   h. The gas collection system shall be equipped with a mechanical device, such as a compressor, capable of withdrawing gas, or has been designed so that a mechanical device can be easily installed.

6. A description of the criteria that will be used to determine when operation of the gas collection system may be discontinued.

7. A description of the testing procedures that will be used to assure that the lines from the collection points to the gas processing or disposal facility are air tight.

8. Identify where condensate in the system will be collected and then stored prior to shipment off-site for treatment or disposal. Include a description of all equipment associated with collection and storage of the condensate.

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E.5.2. Landfill Gas Monitoring Plan

Provide the following information regarding the landfill gas monitoring system's ability to monitor the buildup and composition of landfill gas.

1. A narrative and plan sheets describing the most likely paths of migration for gas generated by the unit and demonstrating that the proposed gas monitoring program will detect any gas buildup and/or migration.

2. Detailed drawings and material specifications of the four types of gas monitoring devices required (i.e., devices within the waste unit, below ground devices around the unit, air ambient monitoring devices and continuous air monitoring devices within buildings) on site or near the facility if there is an indication of gas.

3. A map showing the locations of the below ground monitoring devices and the continuous air monitoring devices.

4. Documentation that the various types of below ground gas monitoring devices:
   a. Are placed at intervals and elevations within the waste to provide a representative sampling of the composition and buildup of gases within the unit.
   b. Are placed around the unit at locations and elevations capable of detecting migrating gas from the ground surface to the lowest elevation of the liner system or the top elevation of the groundwater, whichever is higher.
   c. Are constructed from materials that will not react with or be corroded by the landfill gas.
   d. Have been designed and constructed to measure pressure and allow collection of a representative sample of gas.
   e. Are constructed and maintained to minimize gas leakage.
   f. Do not interfere with the operation of the liner, leachate collection system or delay the construction of the final cover system.

5. A description of the procedures and prerequisite weather conditions for performing ambient air monitoring including the location standards for placement of the monitoring devices and maximum wind speed.

6. A description (narrative or graphic) of the location of the continuous air monitoring devices inside the buildings within the facility (and nearby buildings if applicable).

7. A schedule specifying the frequency and minimum duration of gas monitoring.

8. Identification of the parameters that samples from each type of monitoring device will be analyzed.

9. A description of the procedures which will be used to collect and analyze the various air samples to be obtained as part of the landfill gas monitoring program.

E.5.3. Landfill Gas Disposal/Processing System

The following information must be provided regarding the gas disposal system or gas processing system at this facility. These systems can be either an on-site or an off-site facility.

1. For on-site facilities (either flare systems or facilities which process the gas for beneficial use) the following information must be provided:
   a. A map showing the location of the facility;

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b. Engineered drawings showing the layout and details of landfill gas processing and disposal system, including compressors, blowers, raw gas monitoring systems, devices used to control the flow of gas from the unit, flares, gas treatment devices, air pollution control devices and monitoring equipment;

c. A copy of the approved air discharge permit or, if the permit is pending, a copy of the air discharge permit application required by 35 Ill. Admin. Code 200 through 245; and

d. A list of the parameters and constituents for which the gas shall be monitored.

2. For off-site processing facilities the following information must be provided:

a. A list of the parameters and constituents for which the gas shall be monitored;

b. A description of the means by which the gas shall be conveyed from the landfill to the off-site processing facility; and

c. Documentation that the off-site processing facility meets the following requirements:

(1) The solid waste disposal facility will contribute less than 50 percent of the total volume of gas accepted by the gas processing facility. (Otherwise, the processing facility must be considered a part of the solid waste management facility); and

(2) The gas processing facility is sized to handle the expected volume of gas.

E.5.4. Summary of the Landfill Gas Collection / Monitoring / Processing Systems

1. Describe the procedures followed to document/record information associated with the operation of the landfill gas collection, monitoring, and processing systems in the operating record.

2. Summarize the operation of the landfill gas collection, monitoring, and processing systems during the past ten years. Describe any adjustments to the design or operation of the systems since the unit was closed.

E.6 Post-Closure Inspection Plan

Describe the procedures followed to inspect/ensure the functionality of everything needed to provide adequate post-closure care of the unit closed as a landfill at the facility in accordance with the RCRA requirements.

Copies of the inspection log and repair log that are used to document inspections and repairs at the facility in accordance with the RCRA requirements must be provided as part of the permit application.

Indicate that copies of the inspection log and repair log are maintained at the facility as part of the operating record and where they are located.

E.6.1. Inspection Log

An inspection log must be maintained which includes all of the items listed below. The log must include the date and time of each inspection, the name of the inspector, notation of the observations made, and the date of any repairs or remedial actions.

E.6.1.1. Items Inspected

The plan must identify each item to be inspected in order to comply with the RCRA requirements. These include, but not necessarily limited to:

1. All RCRA regulated units;

2. Monitoring equipment;

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3. Safety and emergency equipment;
4. Security control devices;
5. Erosion damage;
6. Cover settlement, subsidence and displacement;
7. Vegetative cover condition;
8. Integrity of run-on and run-off control measures;
9. Cover drainage system functioning;
10. Leachate collection and removal system;
11. Leak detection system;
12. Gas monitoring/extraction system;
13. Condition of the groundwater monitoring wells;
14. Benchmark integrity; and
15. All operating and structural equipment that are vital to prevent, detect, or respond to environmental or human health hazards.

E.6.1.2. Types of Problems

For each item to be inspected as identified above, describe the types of problems (e.g. malfunctions or deterioration) the inspector must look for during an inspection (e.g. inoperable sump pump, leaking fitting, cracks, eroding berm, etc.).

E.6.1.3. Inspection Frequency

Identify the inspection frequency for each item in the log. In addition, provide justification for the inspection frequency proposed for each item. (This justification should be separate from the actual inspection log.). The frequency of inspection needs to be based on the rate of possible deterioration of equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or operator error goes undetected between inspections.

Indicate the facility will be inspected within 24 hours of any rain fall event of 2 or more inches in 24 hours to detect evidence of any of deterioration, malfunctions, or improper operation of run-on and run off systems. Indicate that appropriate corrective action shall be taken if problems, including erosion, blockage of the channels, slope failure, etc. are observed.

E.6.2. Repair Log:

The repair log must be used to schedule and record repairs (deterioration, or malfunction of equipment or structures) revealed by an inspection of the items listed in the inspection log. The repair log must include the following items:

1. The item needing repair;
2. The problem identified during the inspection that needs repair;
3. The date the inspection took place;
4. The name of the person who conducted the inspection;
5. The name of the person who made the corrected repair;
6. The date the repair was made;

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7. The efforts carried out in making the repair;
8. Any other appropriate comments.

Most repairs should be made at the time it is determined to be necessary and all repairs should be made within 24 hours. The timeliness of the repair is dependent on the potential impact the problem needing repair may have on protecting human health, the environment, and the safe operation of the facility.

E.6.3. 24 Hour Reporting (702.152(f), 703.245(b))

Describe the how the Permittee will take the following actions if an inspection reveals any noncompliance with the permit which may endanger health or the environment: 1) report the required information about the incident orally within 24 hours from the time the Permittee becomes aware of the circumstances, and 2) provide a written description of the incident within 5 days of the time the Permittee becomes aware of the circumstances.

E.7 Post-Closure Monitoring Plan

Describe the monitoring to be conducted during the post-closure care period, including, as applicable, the procedures for conducting and evaluating the data gathered in accordance with the RCRA requirements.

Indicate that copies of the monitoring reports and data are maintained at the facility as part of the operating record.

E.7.1. Facility Controls

Indicate that the benchmarks used to identify the location of disposal units, solid waste management units, and units/areas covered by an Environmental Land Use Controls (ELUCs) or the Uniform Environmental Covenants Act (UECA) are surveyed at least once every five (5) years.

E.7.2. Surveys and Corrective Action

Identify the units at the facility that will be surveyed every five years. The following units need to be surveyed at least once every five years:

- Units subject to post-closure requirements per 35 Ill. Admin. Code 724.210(b)
- Solid Waste Management Units (SWMUs) with cover systems and/or engineered barriers
- Units/Areas subject to an Environmental Land Use Controls (ELUCs) or the Uniform Environmental Covenants Act (UECA).

E.7.2.1. Provide the following for the units identified in Item E.7.2:

1. A copy of the survey provided to the Illinois EPA when the unit was certified closed.
2. A copy of the survey for each unit generated every five years since the unit was closed that shows the horizontal and vertical extent of the unit, drainage control structures, leachate collection wells, and groundwater monitoring wells.
3. Scale drawing(s) (1 inch = 200ft) and cross sections that identify those areas of the cover system or engineered barrier that have changed 1 foot or more in elevation since the unit was closed.
4. If corrective action was required in response to a release, damage to the cover system, settlement, erosion, stressed vegetation, or damage to a leachate well, groundwater monitoring well, or benchmark since post-closure care began, identify the date and location of the corrective action on the scale drawings required above. Also, provide copies of the inspection

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and repair logs that includes the date each incident was discovered, a description of the incident & corrective action taken, and the date corrective action was completed.

5. If corrective action occurred in the same general area 2 or more times since post-closure began, discuss the actions the permittee has implemented to prevent this from happening again.

E.7.3. Leachate Collection System

Describe how the information about the leachate collection system for each unit identified in E.7.2 is monitored, evaluated, and recorded. Frequent evaluation of this information is essential in ensuring the system is operating effectively and will also give insight into any adjustments that need to be made to the operations of the system.

E.7.3.1. Leachate Quality

Describe the procedures which are followed to monitor the quality of the leachate in the unit on a regular basis during the post-closure care period (including sample collection, sample handling and sample analysis). Discuss if the concentrations of the constituents in the leachate have changed during the post closure period and any actions taken in response.

These samples should be collected quarterly for the first two years at which time the frequency can be decreased to semi-annually. The samples must be analyzed for the constituents described in Item E.3.1 above

1. Summary of Sample Results: Provide a summary table of the leachate sampling results for each unit since post closure began for that unit. Identify the concentration for each parameter detected in each sampling event.
2. Parameter Comparison: Indicate if any of the leachate analyses detected a parameter for which the groundwater is/was not being analyzed and the actions taken if this occurred.

E.7.3.2. Leachate Quantity

1. Provide a record of the amount of liquid removed from each leachate collection sump (in gallons) at least monthly after closure of the unit identified in E.7.2 above. The following information regarding leachate generation rates needs to be provided both in table form and graphically:
   a. Monthly for each year for each sump since the unit was closed
   b. Annually for each sump since the unit was closed
   c. Annually for each unit since the unit was closed
2. If the leachate generation rates are not trending downward during the post closure period, discuss why this is not happening. Provide information regarding precipitation rates during the post-closure period, as well as groundwater elevations relative to the invert of the LCS sumps.

E.7.3.3. Leachate Reporting

Describe the procedures followed to electronically report the quality and quantity of leachate generated at the facility to the Illinois EPA.

E.7.4. Leak Detection System (LDS) 724.402, 724.403, 724.404

Describe how the information from the leak detection system for each unit identified in E.7.2 will be monitored, evaluated, and recorded. Frequent evaluation of this information will be essential in ensuring

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the system is operating effectively and will also give insight into any adjustments that need to be made to the operations of the system.

E.7.4.1. LDS Leachate Quantity

1. Describe the procedures used to determine the volume of leachate removed from each LDS sump over a given time period. This determination must initially be made monthly. If the liquid level in a LDS sump stays below the pump operating level (and thus no leachate is removed during that time period) for two consecutive months, then the amount of liquids in the LDS sump need only be recorded quarterly. Similarly, if the liquid level in a LDS sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps need only be recorded semi-annually. Finally, if the pump operating level for an LDS sump is exceeded during the quarterly or semi-annual monitoring, then monitoring of the amount of leachate removed from that LDS sump must revert back to monthly.

2. Provide a record of the amount of liquid removed from each LDS sump (in gallons) at least monthly after closure of the unit identified in E.7.2 above. The following information regarding leachate generation rates needs to be provided both in table form and graphically:

   a. Monthly for each year for each sump since the unit was closed

   b. Annually for each sump since the unit was closed

   c. Annually for each unit since the unit was closed

3. If the leachate generation rates are not trending downward during the post closure period, discuss why this is not happening. Provide information regarding precipitation rates during the post-closure period, as well as groundwater elevations relative to the invert of the LDS sumps.

E.7.4.2. Action Leakage Rate (ALR)

1. Identify the Action Leakage Rate (ALR) from Section E.4 for each LDS sump, and indicate if the action leakage rate has been exceeded during the post-closure period.

2. To determine if the ALR has been exceeded, the owner or operator must convert the monthly flow rate from the monitoring data to an average daily flow rate (gallons per acre per day) for each sump. The average daily flow rate for each LDS sump must be calculated monthly during the post-closure care period, unless Illinois EPA approves a different frequency pursuant to Section 724.403(c)(2).

3. Describe the response action(s) meeting the requirements of 35 Ill. Admin. Code 724.404 that will be implemented if the leachate removal rate exceeds the action leakage rate.

E.7.5. Groundwater Monitoring System

E.7.6. Gas Collection System

For units required to have a gas collection / monitoring system, describe how the information about the gas collection system for each unit identified in E.7.2 is monitored, evaluated, and recorded. Frequent evaluation of this information will be essential in ensuring the system is operating effectively and will also give insight into any adjustments that need to be made to the operations of the system.

E.7.6.1. Gas Quality

Describe the procedures followed to monitor the quality of the gas in the unit on a regular basis during the post-closure care period (including sample collection, sample handling and sample

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analysis). Discuss how the parameters (Methane, Pressure, Oxygen; and Carbon Dioxide) in the gas system have changed during the post closure period and any actions taken in response to those changes.

1. Summary of Sample Results: Provide a summary table of the gas sampling results for each unit since post closure began for that unit. Identify the concentration for each parameter detected in each sampling event.
2. Parameter Comparison: Describe the parameter thresholds used to adjust the gas collection system to improve overall efficiency of the system. Describe any major gas system upgrades/ overhauls since post closure began.

E.7.6.2. Gas Quantity

1. Provide a record of the amount of gas removed from each unit at least monthly after closure of the unit identified in E.7.2 above. The following information regarding gas generation rates needs to be provided both in table form and graphically:
   a. Monthly for each year for each unit since the unit was closed
   b. Annually for each unit since the unit was closed
2. If the gas generation rates are not trending downward during the post closure period, discuss why this is not happening.

E.7.6.3. Summary of Results from the Gas Collection / Monitoring System

1. Describe the procedures followed to document/record information associated with the operation of the landfill gas collection, monitoring, and processing systems in the operating record.
2. Summarize the operation of the landfill gas collection, monitoring, and processing systems since the unit was closed. Describe any adjustments to the design or operation of the systems since the unit was closed.

E.8 Post-Closure Maintenance Plan

E.8.1. Procedures, Equipment & Materials:

Describe the preventive and corrective maintenance procedures, equipment and materials that will be required to properly maintain everything needed to provide adequate post-closure care of the unit closed as a landfill. Include the following items in the maintenance plan, as applicable:

1. Repair of security control devices;
2. Erosion damage repair;
3. Correction of settlement, subsidence and displacement;
4. Mowing, fertilization and other vegetative cover maintenance;
5. Repair of run-on and run-off control structures;
6. Maintenance of any leachate removal system(s) including the flushing of the LCS and LDS;
7. Maintenance of any gas monitoring/extraction system;
8. Replacement of groundwater monitoring wells; and
9. Surveyed benchmarks

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E.8.2. Rationale

Provide the rationale which will be used to determine the need for corrective maintenance activities for each of the items mentioned above.

E.8.3. Frequency

Provide the frequency for maintaining each of the items mentioned above if it is known. This needs to include, but not be limited to:

1. The frequency for mowing, fertilization and other vegetative cover maintenance, and
2. Annual maintenance / cleaning of pumps used in the LCS, LDS, and gas collection systems.
3. The manufacturer's recommended replacement rate for the pumps used in the LCS, LDS or gas collection systems.
4. High pressure jet flushing of the LCS & LDS collection pipes and sump every 5 years.
5. Procedures and scheduling of non-routine maintenance and change-out of equipment.

E.9 Survey Plat: 724.216

The application must include documentation that a survey plat was prepared/submitted no later than the submission of the certification of closure for each disposal unit or areas where hazardous waste is left in place. The application must also describe the wording placed on the survey plat.

- The survey plat must indicate the location and dimensions of landfill cells or other disposal units/areas with respect to permanently surveyed benchmarks and the legal boundary of the facility.
- The plat must contain a note, prominently displayed that states: (1) the land has been used to manage hazardous wastes; and (2) the owner's and operator's obligations to restrict disturbance of the units containing hazardous waste in accordance with the applicable Subpart G regulations.
- The plat must be prepared and certified using the wording at 702.126(d)(1) by a professional land surveyor.
- The survey plat must be filed with any local zoning authority or authority with jurisdiction over local land use, the IEPA, and recorded with the land titles.
- If the facility includes a RCRA disposal unit that is already certified closed, provide a copy of the survey plat for that unit.

E.10 Notice in Deed and Certification: 703.183(n), 724.216, 724.217(c), 724.219

The application must include copies, as appropriate, of the notation recorded on the deed to the facility property, or on some other instrument which is normally examined during title search that will in perpetuity notify any potential purchaser of the property that:

- The land has been used to manage hazardous waste.
- Use of these areas is restricted.
- A survey plat and record of the type, location, and quantity of material in the disposal units or areas have been filed with the Illinois EPA, the County Recorder, and any local zoning authority or authority with jurisdiction over local land use.

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- For hazardous wastes disposed prior to January 12, 1981, identify the type, location and quantity of the hazardous waste to the best of the owner or operator's knowledge and in accordance with any records the owner or operator has kept.

A certification signed by the owner or operator, that the owner or operator has properly recorded the notification must be developed after this notice has been recorded and submitted to Illinois EPA. This submittal must include a copy of the document in which the notification has been placed.

For facilities which have already filed: Provide a copy of the notice for the unit and the document in which it was placed, the required notice of or the deed, the application should contain: a certified copy of the filed notice; the document that the notice was placed in, and certification by the owner or operator that it was properly filed.

E.11 Post Closure Cost Estimate: 703.183(p), 724.244

Provide an estimate of the cost of completing the required post-closure care activities, based on current year costs, including all calculations and supporting information used in developing the estimate. The following must be used in preparing this estimate:

1. Cost estimates must be based on third party costs and cannot include the salvage value form the sales of hazardous wastes, structures or equipment present at the facility.

2. The number of years for which post-closure care must still be provided must be identified.

3. Due to the fact that inflation affects the actual value of a given amount of money over time, the year in which this cost estimate is developed must be clearly identified. It must be noted that inflation will always need to be taken into account to bring estimates from previous year up to the current year.

4. The various tasks need to carry out the required post-closure care activities must be identified as well as the cost associated with each task;

5. The amount of time/materials/efforts needed to complete each task must be provided as well as their unit costs. Justification must be provided for all values used in making these calculations;

6. An estimate of the annual cost of providing all required post-closure care activities should be developed;

7. Some post-closure care activities are not carried out on an annual basis, but at some other frequency. These activities, their frequency, and their cost must be presented.

8. The estimate for providing all required post-closure care activities must be developed using the information in Items 4 and 5 above.

A copy of the most recent post-closure care cost estimate provided to the Illinois EPA must also be provided. In general, these estimates are provided in annual reports and financial assurance documents.

E.12 Financial Assurance Mechanism for Post-Closure Care: 703.183(p), 724.245

Provide a copy of the established financial assurance mechanism for post-closure care of the facility. The mechanism must be one of those described in 724.245. Contact the Illinois EPA Bureau of Land Permit Section to obtain the proper forms and instructions.

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E.13 State Mechanisms: 40 CFR 264.149, 40 CFR 264.150, 40 CFR 264.151, 40 CFR 220.14(b)(18)

If the State of Illinois assumes legal responsibility for compliance with closure, post closure, or liability requirements, or the state assures that state funds are available to cover those requirements, submit a copy of a letter from the state describing the state assumption of responsibility and including the facility EPA ID number, name, address, and amounts of liability coverage or funds for closure or post-closure care that are assured by the state, together with a letter requesting that the state's assumption of responsibility be considered acceptable.

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SECTION F—CORRECTIVE ACTION

35 Ill. Adm. Code 724.201 requires that facilities seeking a RCRA permit institute corrective action, as necessary, to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in the unit. The information identified in Items F.1 through F.3 below must be contained in the original RCRA permit application submitted by a facility to allow Illinois EPA to develop permit conditions for ensuring this requirement is met; only the information in Item F.4 below needs to be submitted by facilities seeking a renewed RCRA permit.

F.1 Identification of Solid Waste Management Units (703.187(a))

Identify the solid waste management units (SWMUs) present at the facility. A SWMU includes any unit where solid waste has been managed in the past and which is not a hazardous waste management unit. Units that are SWMUs include, but are not limited to, the following:

- Landfills
- Surface impoundments
- Waste piles
- Land treatment units
- Injection wells
- Incinerators
- Tanks (including wastewater treatment units)
- Container storage areas
- Waste transfer areas
- Waste recycling operations

F.2 Characterization of the SWMUs (703.187(a))

For each solid waste management unit identified above, submit the following information:

1. Type of unit
2. Location on the topographic map required by Item B.2 of the decision guide/checklist
3. Engineering drawings and construction details as available
4. General dimensions
5. Dates when the unit was in operation
6. Description (including physical/chemical characteristics) of the materials/wastes managed in the unit
7. Quantity or volume of waste managed in the unit, if known
8. A description of: (1) the soil types present at the unit; and (2) the geology of the area where the unit is located.
9. An indication of whether the wastes managed in the unit have been removed or still remain in it.

F.3 Characterization of Releases from SWMUs (703.187(b))

Provide all available information on whether or not any releases have occurred from each of the SWMUs identified above. Reasonable efforts to identify releases must be made, even if releases have not been verified. A release may include: spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment. If a determination is made that there has not been a release from a given SWMU, then a description of the efforts and information used to reach this conclusion must be provided.

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The information to be provided regarding any releases from a SWMU, as available, includes:

1. Date of the release
2. Type of waste or constituent released
3. Physical and chemical characteristics of the released material
4. Quantity or volume released
5. Nature of the release (such as spill, overflow, ruptured pipe or tank, etc.).
6. Groundwater monitoring or other analytical data describing the nature/extent of the release.
7. Physical evidence of distressed vegetation or soil contamination
8. Historical evidence of releases, such as tanker truck accidents
9 Any state, local or federal enforcement actions which may address releases
10. Any public citizen complaints about the facility which could indicate a release
11. Any information showing the migration of the release.
12. A detailed description of any remedial activities taken in response to the release.

F.4 Information Required for Renewal Applications (703.187(c))

Facilities seeking a renewed RCRA permit have likely completed a substantial amount of corrective action under the original permit. Illinois EPA has only been authorized to implement the corrective action program in RCRA permits since April 1990; the USEPA portion of permits issued before this date contained corrective action requirements. For permits issued before April 1990, Illinois EPA likely does not have a complete file of corrective action efforts carried out at the facility, as such efforts were overseen by USEPA. However, for permits issued after April 1990, Illinois EPA already has a complete file of all corrective action efforts carried out to date at the facility.

A summary/description of the corrective action efforts completed to date at the facility must be provided in the application. The level of detail of this summary/description will be dependent on whether Illinois EPA oversaw these corrective action efforts and thus has a complete file of these efforts already. This summary/description will create an administrative record adequate to support the corrective action requirements eventually placed in the renewed permit and will form the foundation for determining future corrective action efforts to ensure the requirements of 35 Ill. Admin. Code 724.201 are met.

F.4.1. Required Information if USEPA Oversaw Initial Corrective Action Program

Facilities applying for a renewed RCRA permit which conducted corrective action efforts in accordance with requirements of the USEPA portion of the original RCRA permit issued to the facility must provide the following information:

1. A detailed chronology of all corrective action correspondence between USEPA and the facility, starting from the issuance of the original permit;
2. Copies of all letters received from USEPA regarding corrective action efforts, starting with the issuance of the original RCRA permit;
3. Copies of all letters and documents sent to the USEPA regarding corrective action efforts conducted in accordance with the original RCRA permit;
4. A detailed discussion of each of the SWMU identified and addressed in accordance with the provision of the facility's original RCRA permit, including:
    a. A detailed description of each unit as outlined in Item F. 2 above, including layout drawings;

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b. A summary of the investigation/remediation efforts completed to date; and

c. A discussion of any investigation/remediation efforts which must still be carried out to complete corrective action responsibilities for the unit.

5. The information in the appropriate portions of Section C (Groundwater Monitoring) of this document regarding any on-going groundwater monitoring/remediation program being carried out at the facility.

F.4.2 Required Information if IEPA Oversaw the Initial Corrective Action Program

Facilities which carried out corrective action under the requirements of the Illinois EPA portion of the original permit must provide the following information regarding corrective action efforts at the facility:

1. A chronological list of all documents submitted to Illinois EPA regarding the corrective action efforts required by the original RCRA permit and Illinois EPA's response to each submittal. For each document, provide:

   a. The name of the document;

   b. A brief discussion of the contents/purpose of the document;

   c. The date the document was submitted to Illinois EPA;

   d. The person who submitted the document

   e. A discussion of Illinois EPA's response to the document (include the date of the response and the general conclusions/requirements in the response).

2. Copies of all Illinois EPA letters, in chronological order, regarding corrective action efforts at the facility (these letters serve as important decision documents and will help to verify corrective action efforts completed to date and what must still be done to complete corrective action responsibilities at the facility.

3. A detailed discussion of each of the SWMUs identified and addressed in accordance with the facility's permit. This should include:

   a. A detailed description of each unit as outlined in Item F.2 above;

   b. A summary of the investigation/remediation efforts completed to date; and

   c. A discussion of any investigation/remediation efforts which must still be carried out to complete corrective action responsibilities for the unit.

4. The information in the appropriate portions of Section C (Groundwater Monitoring) of this document regarding any on-going groundwater monitoring/remediation program being carried out at the facility.

F.5 Proposed Interim Measures to be Conducted: (703.187)

An applicant may propose to begin/continue interim measures for the purpose of preventing/mitigating releases from a SWMU before completing a formal RCRA Facility Investigation or Corrective Measures Program. Requests to begin/continue interim measures should contain detailed information about the proposed effort, including:

1. Background information about the unit and surrounding area (including, but not limited to, construction/operation of the unit, wastes managed in the unit; geology/hydrogeology of the area; and discussion/presentation of all sampling/analysis efforts conducted in/around the unit);

2. The objectives of the interim measure. Of special concern is how the measure will prevent/mitigate the release of concern and how it will be integrated into any necessary long-term corrective measures at the facility;

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3. Information regarding the design, construction, operation and maintenance of the measure;
4. Schedules for design, construction and operation of the measure.

It must be noted that it may be necessary to complete a RCRA Facility Investigation and a Corrective Measures Study for the SWMU of concern while the interim measure is being carried out. Such efforts will be necessary if the extent of contamination at the SWMU has not been completely determined or if additional remedial efforts are needed to properly address the contamination resulting from the release in the long term.

F.6 Cost Estimate for Required Corrective Action (724.201)

35 Ill. Admin. Code 724.201 requires that permitted facilities provide financial assurance for any required corrective action. As such, the application must contain an estimate of the cost of the required corrective action efforts to be carried out at the facility.

1. If a facility proposes to conduct an interim measure as set forth in Item F.5 above, then an estimate of the cost of these measures must be provided in the application.
2. Development/presentation of a cost estimate must be carried out in accordance with Item E.5 above. This cost estimate will then form the foundation for the establishment of financial assurance for corrective action in the permit. This estimate will need to be updated, as appropriate, to reflect the cost of carrying out all approved corrective action activities at this facility.
3. As each workplan/report associated with corrective action is developed, they must contain cost estimates for carrying out the activities proposed in the workplans and then financial assurance must established for these activities once they are approved.

F.7 Financial Assurance for Corrective Action (724.201)

Adequate financial assurance must be provided in the amount developed in Item F.6 above. Establishment of this financial assurance must meet the requirements of 35 Ill. Admin. Code 724, Subpart H and Item E.6 above. Financial assurance for corrective action must be updated, as appropriate, to reflect the current corrective action cost estimate.

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Instructions for RCRA Post-Closure Permit Applications

Attachment 1

Baseline List of Constituents Expected to be Present in Landfill Leachate

Parameter	Predicted Values for SW Landfill (ug/l) [1,2]	Basis for Inclusion on List					
		40 CFR 258 App. II	Expected In Leachate	35 IAC Part 620	35 IAC Part 302	40 CFR Part 141.40	40 CFR 258 App. I [3]
Butanol	15,000	X	X				
N-butylbenzene						X	
Sec-butylbenzene						X	
Butyl benzyl phthalate	150	X	X				
Cadmium (total)	100	X	X	X	X		5
Calcium	1,200,000		X				
Carbofuran				X			
Carbon disulfide	6	X	X				22
Carbon tetrachloride	400	X	X	X			23
Chemical oxygen demand (COD)	10,000,000		X				
Chlordane		X		X	X		
Chloride	3,000,000		X	X	X		
Chlorobenzene	400	X	X	X		X	24
Chloroethane	400	X	X			X	25
Bis (2-chloroethoxy) methane	25	X	X				
Chloroform	400	X	X			X	26
Chloromethane	400	X	X			X	44
Bis (chloromethyl) ether	400	X	X			X	
O-chlorotoluene						X	
P-chlorotoluene						X	
Chromium (total)	50	X	X	X	X		6
Chlorodibromomethane		X				X	27
Cobalt	130	X	X	X			7
Copper	1,000	X	X	X	X		8
P-cresol		X					
Cyanide	300	X	X	X	X		
Dalapon							
DDT		X		X	X		
Dibromomethane	10	X	X			X	45
M-dichlorobenzene		X				X	
O-dichlorobenzene		X				X	30
P-dichlorobenzene		X		X			31
Dichlorodifluoromethane	450	X	X			X	
Dichloromethane		X		X		X	46

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Baseline List of Constituents Expected to be Present in Landfill Leachate							
	Predicted Values for SW Landfill (ug/l) [1,2]	Basis for Inclusion on List					
Parameter		40 CFR 258 App. II	Expected In Leachate	35 IAC Part 620	35 IAC Part 302	40 CFR Part 141.40	40 CFR 258 App. I [3]
Dieldrin		X			X		
Diethyl phthalate	200	X	X				
Dimethyl phthalate	60	X	X				
Di-n-butyl phthalate	150		X				
Dinoseb		X		X			
1,4-dioxane			X				
Endothall		X		X			
Endrin		X	X				
Ethyl acetate	130		X				
Bis (2-ethylhexyl) phthalate	400		X				
Ethyl methacrylate		X					
Ethylbenzene	500	X	X	X		X	41
Ethylene dibromide (EDB)		X		X		X	29
Fluoride				X			
Fluorotrichloromethane						X	
gross alpha (pCi/l)				X			
Heptachlor		X		X	X		
Heptachlor epoxide		X		X	X		
Hexachlorobutadiene		X				X	
Hexachlorocyclopentadiene		X		X			
Iodomethane		X		X	X		48
Iron	500,000		X	X	X		
Isophorone	2,500	X	X				
Isopropylbenzene						X	
p-isopropyltoluene						X	
Lead	500	X	X	X	X		9
Lindane	25		X	X	X		
Magnesium	500,000		X				
Manganese	20,000		X	X	X		
Mercury	10	X	X	X			
Methoxychlor				X	X		
methylene chloride (Chloromethene)	46	X	X				
Naphthalene	75	X	X			X	
Nickel	1,000	X	X	X			10
Nitrate				X	X		
Nitrobenzene	120	X	X				
Oil (hexane-soluble or equivalent)					X		
Parathion		X			X		

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Baseline List of Constituents Expected to be Present in Landfill Leachate							
	Predicted Values for SW Landfill (ug/l) [1,2]	Basis for Inclusion on List					
Parameter		40 CFR 258 App. II	Expected In Leachate	35 IAC Part 620	35 IAC Part 302	40 CFR Part 141.40	40 CFR 258 App. I [3]
Pentachlorophenol	400	X	X	X			
pH	9-May		X	X			
Phenanthrene	3	X	X				
Phenols	5,000	X	X	X	X		
Picloram				X			
Polychlorinated biphenyls (PCBs)		X		X			
Potassium	500,000		X				
N-propylbenzene						X	
Radium				X			
Selenium	50	X	X	X	X		11
Silver	50	X	X	X			12
Simazene							
Sodium	1,500,000		X	X			
strontium - 90				X			
Styrene		X		X		X	50
Sulfate	1,000,000		X	X	X		
TDS	10,000,000		X	X	X		
TOC	6,000,000		X				
tert-butylbenzene						X	
Tetrachloroethylene	300	X	X	X		X	53
Tetrahydrofuran	1,000		X				
Thallium	500	X	X	X			13
Tin	2,000	X	X				
Toluene	2,000	X	X	X		X	54
Toxaphene	2	X	X	X	X		
Trichloroethylene (or ethene)	400	X	X	X			57
Trichlorofluoromethane	150	X	X				58
Tritium				X			
Vanadium	30	X	X				14
Vinyl chloride	60	X	X	X			61
Vinyl acetate							60
Xylenes (total)	300	X	X	X			62
m-xylene	200	X	X			X	
o-xylene						X	
p-xylene						X	
Zinc	20,000	X	X	X			15

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References

[1] Gasper, James A. and Jeff M. Harris, Management of Leachate from Sanitary Landfills (for Browning Ferris Industries).
[2] Dolan, David, Helen Keough, R.E. O'Hara and Kevin O'Leary, 1991, A Comparison of Chemical Constituents in Industrial Hazardous Waste Municipal Waste Landfill Leachates (for Waste Management of North America, Inc.).
[3] From 40 CFR Part 258 Appendix I & II numbered as presented in Federal Register, Vol. 56, No. 196, October 9, 1991 pages 51032-51038

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ATTACHMENT 3

RCRA Post-Closure Permit Application Completeness and Technical Review Checklist (May 2021)

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RCRA POST-CLOSURE PERMIT APPLICATION
COMPLETENESS AND TECHNICAL REVIEW CHECKLIST
May 2021

Facility Name : _____
Log No. : _____
State ID No. : _____
USEPA No. : _____

Date Application Received : _____
Revision No. : _____
Reviewer : _____
Review Dates : _____

	Section	Complete (Y/N)	Technical Adequacy (Y/N)	Location	Comments
A	**Forms, Certifications, Confidentiality, and Public Involvement**	**XX**	**XX**		
A.1	**RCRA Part A Application Form**				
A.2	**Certification Using the LPC-PA23 Form**				
A.2.1	Facility Certification				
A.2.2	Technical Information Certification				
A.2.3	39i Certification				
A.3	**Public Disclosure Exemption Claims and Trade Secret Claims**				
A.3.1	No information Claimed Exempt from Public Disclosure				
A.3.2	Trade Secrets Claims				
A.3.3	Exempt or Exempt In-Part Data Claims				
A.3.4	Privileged Information				
A.4	**Public Participation: Facility Mailing List & Information Repositories**				
A.4.1	Facility Mailing				
A.4.2	Identification of Repositories				
A.4.3	Contents of Repository				

Facility:
Log No.:

	Section	Complete (Y/N)	Technical Adequacy (Y/N)	Location	Comments
A.4.4	Public Notice of Repository Availability				
B	**Facility Description**	**XX**	**XX**		
B.1	**General Facility Description**				
B.1.1	Operation of Facility				
B.1.2	Hazardous Waste Management Units at the Facility				
B.1.3	Solid Waste Management Units at the Facility				
B.2	**Topographic Map**				
B.2.1	Facility + 1 mile				
B.2.2	Facility + 1000 feet				
B.3	**Location Standards**				
B.3.1	Seismic Standard				
B.3.2	Floodplain Standard				
B.3.3	Facilities in the 100-year Floodplain				
B.3.3.1	Engineering Analysis and Structural/Engineering Study				
B.3.3.2	Procedures to Remove Waste				
B.3.4	Existing Facilities not in Compliance with 35 Ill. Admin Code 724.118(b)				
B.4	**Operating Record**				

	Section	Complete (Y/N)	Technical Adequacy (Y/N)	Location	Comments
C	**Groundwater Monitoring**	**XX**	**XX**		
C.1	**Exemption from Groundwater Protection Requirements**				
C.1.1	Waste Piles				
C.1.2	Landfills				
C.1.3	No Migration				
C.2	**Interim Status Groundwater Monitoring Data**				
C.3	**Historical Hydrogeological Summary**				
C.4	**Topographic Map Requirements**				
C.5	**Contaminant Plume Description**				
C.6	**Detection Monitoring Program**				
C.6.1	Indicator Parameters, Waste Constituents, Reaction Productions to be Monitored				
C.6.2	General Monitoring Program Requirements				
C.6.3	Groundwater Monitoring System				
C.6.4	Description of Sampling and Analysis Procedures				
C.6.5	Evaluation of Groundwater Surface				
C.6.6	Background Quality				
C.6.7	Statistical Evaluations				
C.6.8	Statistically Significant Increases				
C.7	**Compliance Monitoring Program**				
C.7.1	Description of the Monitoring Program				
C.7.1.1	Waste Description				

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	Section	Complete (Y/N)	Technical Adequacy (Y/N)	Location	Comments
C.7.1.2	Concentration Limits				
C.7.1.3	Compliance Point				
C.7.1.4	Compliance Period				
C.7.2	Alternate Concentration Limits				
C.7.2.1	Adverse Effects on Groundwater Quality				
C.7.2.2	Potential Adverse Effects on Hydraulically Connected Surface Water Quality				
C.7.3	General Monitoring Program Requirements				
C.7.4	Groundwater Monitoring System				
C.7.5	Description of Sampling and Analysis Procedures				
C.7.6	Background Quality				
C.7.7	Statistical Evaluations				
C.7.8	Evaluation of Groundwater Surface				
C.7.9	Annual Appendix I				
C.7.10	Statistically Significant Increases				
C.8	**Corrective Action Program**				
C.8.1	Description of Corrective Action Program				
C.8.1.1	Characterization of Contaminated Groundwater				
C.8.1.2	Concentration Limits				
C.8.1.3	Compliance Point				
C.8.1.4	Compliance Period				
C.8.1.5	Construction Detail				
C.8.1.6	Effectiveness of Corrective Action				

	Section	Complete (Y/N)	Technical Adequacy (Y/N)	Location	Comments
C.8.2	Alternate Concentration Limits				
C.8.2.1	Adverse Effects on Groundwater Quality				
C.8.2.2	Potential Adverse Effects on Hydraulically-Connected Surface Water Quality				
C.8.3	Corrective Action Plan				
C.8.4	Groundwater Monitoring Program				
C.8.4.1	General Monitoring Program Requirements				
C.8.4.2	Groundwater Monitoring System				
C.8.4.3	Description of Sampling and Analysis Procedures				
C.8.4.4	Background Quality				
C.8.4.5	Statistical Evaluations				
C.8.4.6	Evaluation of Groundwater Surface				
C.8.4.7	Extension of Compliance Period				
C.8.4.8	Effectiveness of Corrective Action				
C.8.4.9	Evaluation of the Corrective Action Program				
C.9	**Reporting Requirements**				
D	**Procedures to Prevent Hazards**	**XX**	**XX**		
D.1	**Security**				
D.1.1	Waiver from the Security Requirements				
D.1.2	Restricting Entry to the Facility				
D.1.3	Warning Signs				
D.2	**Equipment Requirements**				

Facility:
Log No.:

	Section	Complete (Y/N)	Technical Adequacy (Y/N)	Location	Comments
D.2.1	Waiver				
D.2.2	Internal Communications				
D.2.3	External Communications				
D.2.4	Emergency Response Equipment				
D.2.5	Water for Fire Control				
D.2.6	Personnel Protection Equipment				
D.2.7	Testing & Maintenance of Emergency Equipment				
D.2.7.1	Equipment Testing				
D.2.7.2	Schedule				
D.2.8	Equipment and Power Failure				
D.3	**Inspection Requirements**				
D.3.1	Inspection Log				
D.3.1.1	Items Inspected				
D.3.1.2	Types of Problems				
D.3.1.3	Inspection Frequency				
D.3.2	Repair Log				
D.3.3	24 Hour Reporting				
E	**Post-Closure Requirements**	**XX**	**XX**		
E.1	**Information Regarding the Unit(s) Closed as a Landfill**				
E.1.1	General Information Regarding the Unit to Receive Post-Closure Care				

	Section	Complete (Y/N)	Technical Adequacy (Y/N)	Location	Comments
E.1.2	Geology and Hydrogeology Around/ Beneath the Unit				
E.1.3	Characterization of Waste/ Contaminated Soil Present in the Landfill Unit				
E.1.4	Initial Closure Activities				
E.1.5	Details Associated with the Closed Unit				
E.2	**Contact Person**				
E.3	**Operation of the Leachate Collection System**				
E.3.1	Quality of Leachate in the Leachate Collection System				
E.3.2	Leachate Collection System Within the Landfill				
E.3.3	Leachate Collection System Outside the Landfill				
E.3.4	Management of Leachate Collection System				
E.3.5	Summary of Leachate Management Program Conducted to Date				
E.4	**Operation of the Leak Detection System**				
E.4.1	Description of the Leak Detection System Within the Landfill				
E.4.2	Description of the Leak Detection System Outside the Landfill				
E.4.3	Management of Leachate Accumulating in the Leak Detection System				
E.4.4	Recent Operation of the Leak Detection System				
E.5	**Operation of the Gas Monitoring/ Collection System**				

	Section	Complete (Y/N)	Technical Adequacy (Y/N)	Location	Comments
E.5.1	Detailed Description of the Landfill Gas Collection System				
E.5.2	Landfill Gas Monitoring Plan				
E.5.3	Landfill Gas Disposal/ Processing System				
E.5.4	Summary of the Landfill Gas Collection/ Monitoring/ Processing Systems				
E.6	**Post-Closure Inspection Plan**				
E.6.1	Inspection Log				
E.6.1.1	Items Inspected				
E.6.1.2	Types of Problems				
E.6.1.3	Inspection Frequency				
E.6.2	Repair Log				
E.6.3	24-Hour Reporting				
E.7	**Post-Closure Monitoring Plan**				
E.7.1	Facility Controls				
E.7.2	Surveys and Corrective Action				
E.7.2.1	Provide the Following				
E.7.3	Leachate Collection System (LCS)				
E.7.3.1	Leachate Quality				
E.7.3.2	Leachate Quantity				
E.7.3.3	Leachate Reporting				
E.7.4	Leak Detection System (LDS)				
E.7.4.1	LDS Leachate Quantity				
E.7.4.2	Action Leakage Rate (ALR)				

	Section	Complete (Y/N)	Technical Adequacy (Y/N)	Location	Comments
E.7.5	Groundwater Monitoring System				
E.7.6	Gas Collection System				
E.7.6.1	Gas Quality				
E.7.6.2	Gas Quantity				
E.7.6.3	Summary of Results from the Gas Collection/ Monitoring System				
E.8	**Post-Closure Maintenance Plan**				
E.8.1	Procedures, Equipment & Materials				
E.8.2	Rationale				
E.8.3	Frequency				
E.9	**Survey Plat**				
E.10	**Notice in Deed and Certification**				
E.11	**Post Closure Cost Estimate**				
E.12	**Financial Assurance Mechanism for Post-Closure Care**				
E.13	**State Mechanisms**				
F	**Corrective Action (CA)**				
F.1	**Identification of Solid Waste Management Units (SWMUs)**				
F.2	**Characterization of the SWMUs**				
F.3	**Characterization of Releases from SWMUs**				
F.4	**Information Required for Renewal Applications**				

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	Section	Complete (Y/N)	Technical Adequacy (Y/N)	Location	Comments
F.4.1	Required Information if USEPA Oversaw Initial Corrective Action Program				
	(1) Chronology of all CA related correspondence between USEPA & facility				
	(2) Copies of all letters received from USEPA regarding CA				
	(3) Copies of all letters regarding CA sent to USEPA				
	(4) Detailed discussion of each SWMU				
	(5) Information in Section C regarding any on-going groundwater monitoring/remediation				
F.4.2	Required Information if IEPA Oversaw Initial Corrective Action Program				
	(1) Chronology of all corrective action efforts completed to date				
	(2) Discussion of all CA related correspondence between IEPA and facility & copies of all correspondence				
	(3) Detailed discussion of each SWMU				
	(4) Information in Section C regarding any on-going groundwater monitoring/remediation effort				
F.5	**Proposed Interim Measures to be Conducted**				
F.6	**Cost Estimate for Required Corrective Action**				
F.7	**Financial Assurance for Corrective Action**				

EXHIBIT B

11/16/2009 6:00PM L 170000174683 1978030005 RCH NEWCO II LLC 24B 09/02/2009 C068 1,518,628
L013163 L16-02346 B:78535 F:50497 I:00000143 EPA4247 11/17/2009 PERMIT CLOSURE FINAL
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Pink

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 - (217) 782-2829
JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601 - (312) 814-6026

DOUGLAS P. SCOTT, DIRECTOR

217/524-3300

September 2, 2009

Certified Mail
7002 3150 0000 1111 0721
7002 3150 0000 1111 0738

Trust No. 18303, Standard Bank and Trust Company
Attn: Mr. James D. Fiala
8421 Cessna Lane
Downers Grove, Illinois 60516

RCH Newco II LLC
Attn: Kevin Shudy
2626 Warrensville Road, Suite 400
Downers Grove, Illinois 60515

Re: 1978035011—Will County
Fiala Property
RCRA Closure

RELEASABLE
OCT 15 2009
REVIEWER MD

1978030005—Will County
RCH Newco II LLC
ILD 990785453
Log No. C-68 (Certification)
Received: January 12, 2009 (2 submittals); April 1, 2009
Permit Closure Final Action
RCRA Closure

Dear Mr. Fiala and Mr. Shudy:

This is in response to two January 9, 2009 submittals and one March 30, 2009 submittal made by Gail Artrip, P.E. regarding RCRA closure efforts at the above-referenced facilities. Prior to 2000, these facilities were owned by Ceco Corporation (and its successor Robertson-Ceco) and were both covered by the Illinois EPA Identification Number 1978030005. The Fiala Property facility was purchased from Robertson-Ceco by Mr. James Fiala in 2000; it is approximately fifty acres in size and its address is 12300 New Avenue, Lemont Illinois The RCH Newco II LLC facility consists of the remainder of the original facility; is approximately 2 acres in size, is adjacent to the Fiala property, and is located near the intersection of New Avenue and Ceco Road, Lemont, Illinois. A USGS topographic map showing the location of these two facilities is provided as Attachment 1 to this letter.

In the 1960s, 1970s and 1980s, these facilities were used by Ceco for the management of waste from a nearby steel mill; electric arc furnace dust (a listed hazardous waste under the Resource Conservation and Recovery Act) from this steel mill was at one time managed in a portion of the Fiala property facility. However, a plan to remove this waste was approved by Illinois EPA as a RCRA closure plan (Illinois EPA Log No. C-68 and associated modifications) which was then implemented by Ceco during the 1980s and 1990s. As part of this approved removal plan, some

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of the removed waste was placed in a two-acre on-site landfill which now comprises the RCH Newco II LLC facility.

During the RCRA closure efforts conducted by Ceco in accordance with the Illinois EPA approved plans, an investigation was conducted of approximately 26.6 acres within what is now the Fiala property. Slag material was found during this investigation within portions of the 26.6 acres; on December 20, 1999 Illinois EPA determined that this slag would not cause a threat to human health of the environment, provided an institutional control was established which would restrict exposure to the slag. On February 24, 2009, Illinois EPA approved draft versions of these institutional controls which would be filed with Will County and Cook County. RCRA closure efforts at these facilities also included construction of a final cover over the two-acre landfill at the RCH Newco II LLC facility.

Ms. Artrip's January 9, 2009 submittals contained a final certification of closure for the two acre landfill and the RCRA closure/corrective action activities for the Fiala Property. Ms. Artrip's other January 9, 2009 submittal contained additional information about the owner of the RCH Newco II LLC Facility. Finally, Ms. Artrip's March 30, 2009 submittal contained certified copies of ELUCs filed for the Fiala property with Cook County and Will County.

1. The subject facilities were inspected by a representative of Illinois EPA on June 24, 2009. The inspection revealed that RCRA closure activities had been carried out in accordance with plans approved by Illinois EPA. In addition, a review of the subject submittals also indicate that the RCRA closure activities had been carried out in accordance with the Illinois EPA approval plans.

2. The Fiala property facility located at 12300 New Avenue, Lemont Illinois in portions of Will County and Cook County, Illinois (PIN No. 02-25-200-019-0000 in Will County and PIN No. 22-30-100-012-000 in Cook County) is subject to ELUCs filed with: (1) the Will County Recorder on March 6, 2009 (Document No. R2009026794); and (2) the County County Recorder of Deeds on March 20, 2009 (Document 0908918048). These ELUCs shall apply in perpetuity to the facility and shall not be released until: (1) Illinois EPA determines that there is no longer a need for these ELUCs; (2) Illinois EPA, upon written request from the property owner and in accordance with 35 Ill. Adm. Code 742.1010, issues an amended certification of closure or a permit modification approving modification/elimination of the ELUC requirements; and (3) a release or modification of the ELUCs are filed on the chain of title for the Property.

3. The ELUCs referenced in Condition 2 above places the following restrictions on the Fiala property:

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a. A Site Safety Plan meeting the requirements of 29 CFR is developed and implemented during any activity whereby workers come into direct contact with slag material;

b. Any slag removed from the facility is managed in accordance with the provisions of 35 Ill. Admin. Code, Subtitle G: Waste Disposal;

c. The slag material shall remain covered by asphalt, gravel, concrete or vegetation; and

d. The use of the facility remains industrial/commercial in the future.

4. Illinois EPA's February 24, 2009 letter constituted the no further action determination instrument for addressing the "ELUC area" at the Fiala property facility as shown on Attachment 2 to this letter. The proper filing of the ELUCs as discussed above, along with compliance with the terms and conditions of this letter, bring RCRA closure and corrective action efforts to completion at the Fiala property.

5. Failure to comply with the limitations or requirements of an ELUC may result in voidance of an Agency no further remediation determination in accordance with the program under which the determination was made. The failure to comply with the limitations or requirements of an ELUC may also be grounds for an enforcement action pursuant to Title VIII of the Illinois Environmental Protection Act.

6. The limitations or requirements of an ELUC apply in perpetuity or until:

a. The Illinois EPA issues a new no further remediation determination approving modification or removal of the limitation/requirement; and

b. A release or modification of the land use limitation is filed on the chain of title for the property that is the subject of the ELUC.

7. At no time shall this site be used in a manner inconsistent with the land use limitations established in the approved ELUC, unless: (1) attainment of objectives appropriate for the new land use is achieved, and (2) a new no further action determination is obtained from Illinois EPA and subsequently recorded in accordance with 35 Ill. Adm. Code 742.

a. Requests to release or modify an ELUC must be formally requested in writing from Illinois EPA as a: (1) request to amend the certification of closure; or (2) a permit modification request. Sufficient information must be provided in these

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requests to demonstrate that the requested change meets all the requirements of 35 IAC 742.

b. Any final approval by Illinois EPA of a request to release or modify an ELUC must be filed with the chain of title for the subject facility.

8. In a February 7, 1996 letter, Illinois EPA determined that post-closure care period for the two acre landfill began on January 1, 1993. Physical post-closure care of the landfill must include the following:

a. Unless necessary to protect human health or the environment, the landfill shall not be used in any manner which will disturb: (1) the integrity of its final cover, liner or any components of its containment system; or (2) the function of the facility's monitoring systems.

b. The integrity and effectiveness of the landfill's final cover must be adequately monitored and maintained.

(1) Repairs must be made to the final cover, as necessary, to correct the effects of settling, subsidence, erosion, cracking, etc.

(2) Corrective action shall be taken if: (a) ponding is observed on the final cover; (b) cracks or erosion channels greater than one inch form for whatever reason; (c) the vegetative cover is distressed; (d) vector problems arise; or (e) vegetation with tap roots are found to be growing on the final cover.

c. Properly managing run-on and run-off so that it does not erode or otherwise damage the final cover.

9. In a February 7, 1996 letter, Illinois EPA determined that the post-closure care period for the two-acre landfill began on January 1, 1993. Physical post-closure care of the landfill must include the following:

a. Unless necessary to protect human health or the environment, the landfill shall not be used in any manner which will disturb: (1) the integrity of its final cover, liner or any components of its containment system; or (2) the function of the facility's monitoring systems.

b. The integrity and effectiveness of the landfill's final cover must be adequately monitored and maintained.

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(1) Repairs must be made to the final cover, as necessary, to correct the effects of settling, subsidence, erosion, cracking, etc.;

(2) Corrective action shall be taken if: (a) ponding is observed on the final cover; (b) cracks or erosion channels greater than one inch form for whatever reason; (c) the vegetative cover is distressed; (d) vector problems arise; of (e) vegetation with tap roots are found to be growing on the final cover.

(3) Properly managing run-on and run-off so that it does not erode or otherwise damage the final cover.

10. Groundwater monitoring for the two-acre landfill must be carried out as part of the required post-closure activities in accordance with 35 Ill. Adm. Code 725, Subpart F and with the Illinois EPA's letters dated February 7, 1996 (Log No. C-68-M-4) and other previously approved plans.

11. Groundwater monitoring wells MW-D1, MW-D2, MW-D3, MW-D4, and MW-D5 for the two-acre landfill must be monitored on a semi-annual basis in accordance with the following schedule:

Samples Collected During the Quarter Of the Calendar Year	Parameters To Be Sampled
Second Quarter	Groundwater Quality Parameters Groundwater Contamination Parameters
Fourth Quarter	Groundwater Contamination Parameters

12. Each time groundwater at the two-acre landfill is sampled; the elevation of the groundwater in each well must be determined and referenced to mean seal level (MSL) prior to the collection of any groundwater samples. The results of this effort must be documented in tabular form in the report required by Condition 13 below. A piezometric map using this data must also be developed and included in the report.

13. The results of the evaluations for the two-acre landfill required by Conditions 11 and 12 above must be included in the annual reports submitted to the Illinois EPA. The annual report must detail the groundwater monitoring program data for the subject year and include, as necessary, a statistical analysis of the groundwater data.

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14. The groundwater monitoring program for the two-acre landfill must be modified, as necessary, to ensure the requirements of 35 Ill. Adm. Code 725, Subpart F are met.

15. Post-closure care of the two-acre landfill must meet the requirements of: (1) 35 Ill. Admin. Code, Subtitle G: Waste Disposal; and (2) closure/post-closure care plan approval letters issued by Illinois EPA (Log No. C-68) and associated modifications.

This action shall constitute Illinois EPA's final action on the subject submittal. Within 35 days after the date of mailing of Illinois EPA's final decision, the applicant may petition for a hearing before the Illinois Pollution Control Board to contest the decision of Illinois EPA, however, the 35-day period for petitioning for a hearing may be extended for a period of time not to exceed 90 days by written notice provided to the Board from the applicant and the Illinois EPA within the 35-day initial appeal period.

Work required by this letter, your submittal(s) or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. This letter does not relieve anyone from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

Should you have any questions regarding this matter, please contact James K. Moore, P.E. at 217/524-3295.

Sincerely,

Stephen F. Nightingale, P.E.
Manager, Permit Section
Bureau of Land

SFN:JKM:bjh\092474s.doc
JKM

Attachments: 1 -- Site Location Map
2 -- Site Layout Map

cc: Gail Artrip, P.E., Carlson Environmental

bcc: Bureau File
Des Plaines Region
Jim Moore
Terri Blake Myers

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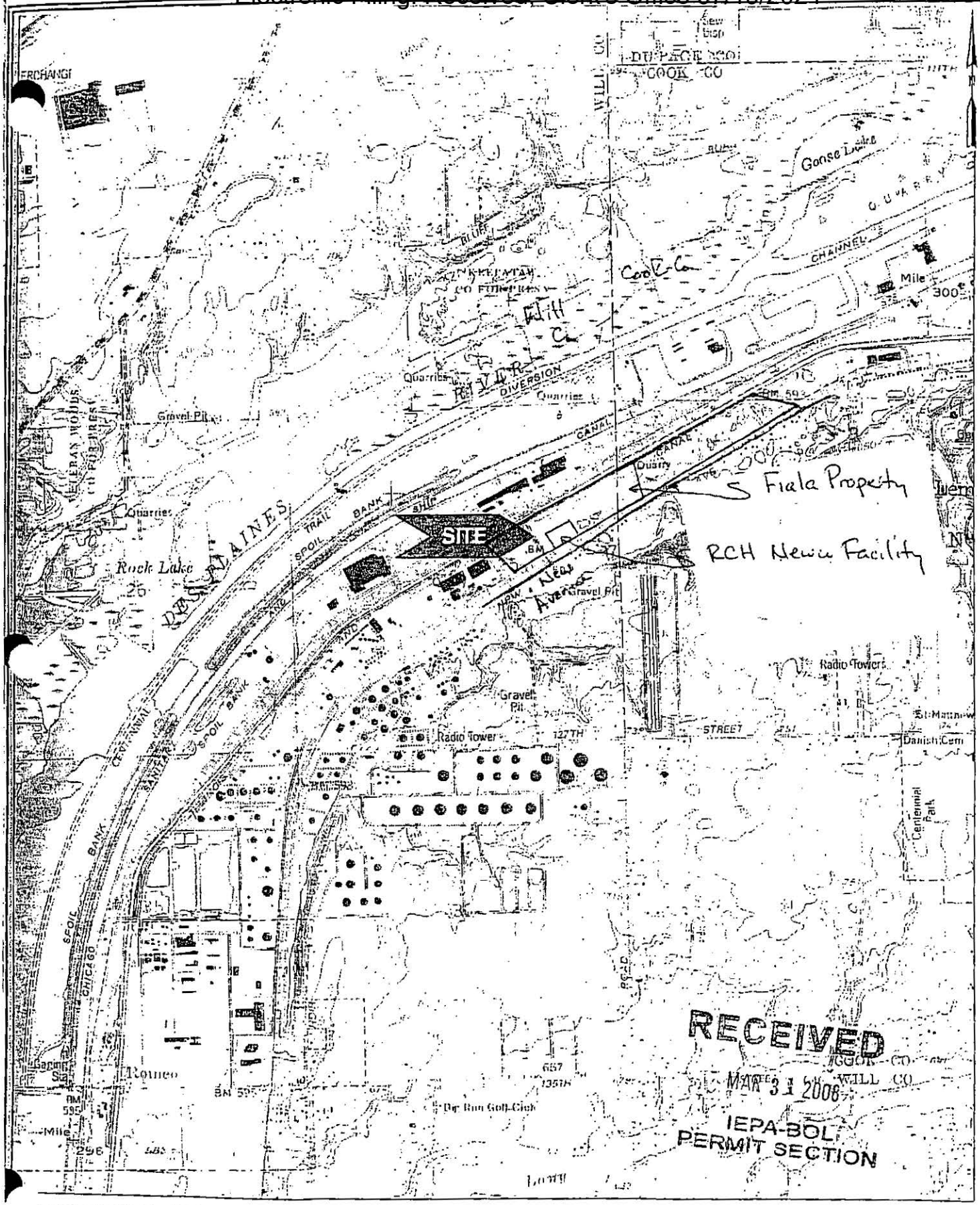
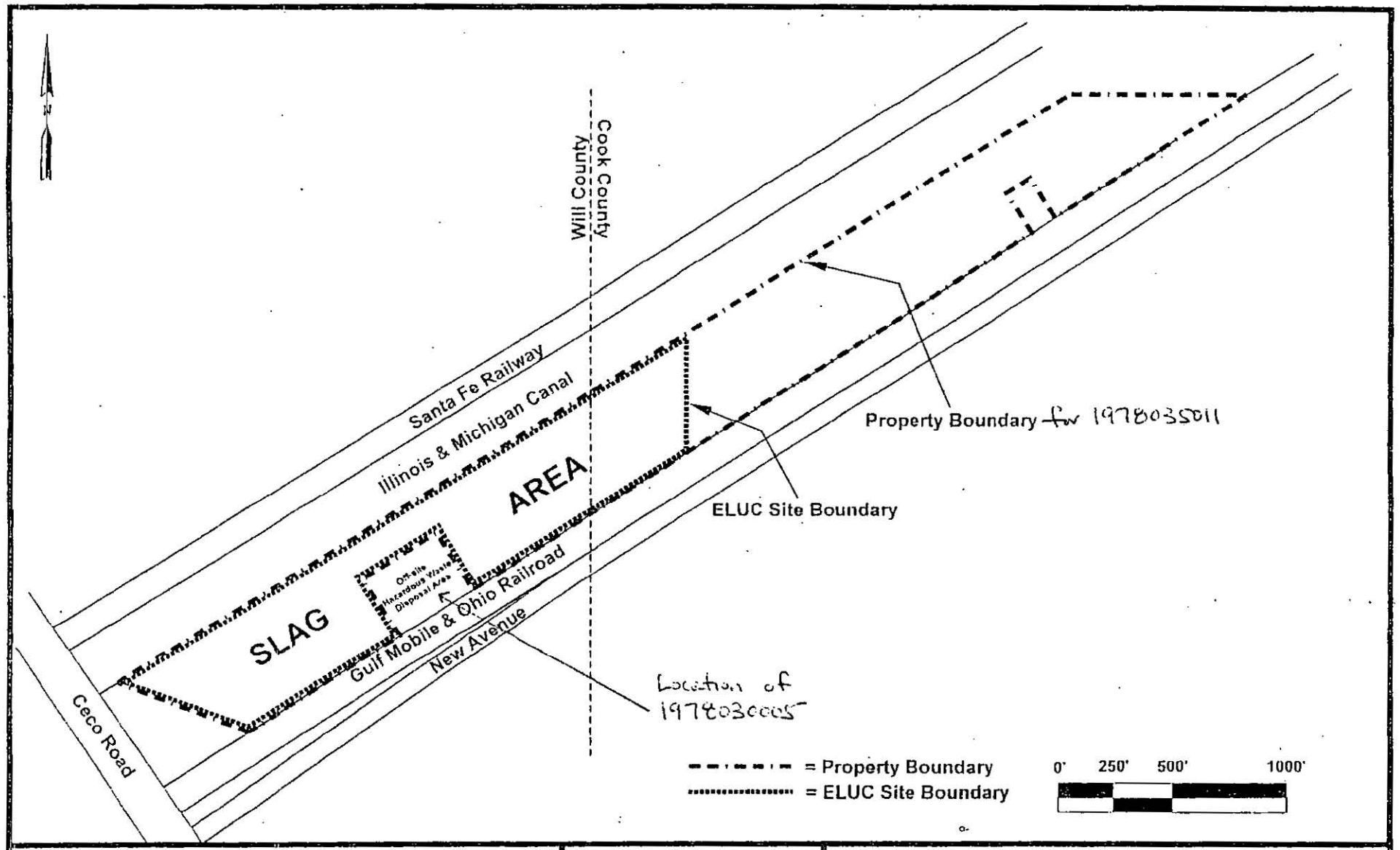


CARLSON ENVIRONMENTAL
65 EAST WACKER PLACE
CHICAGO, ILLINOIS
312-346-2140

TOPOGRAPHIC SITE LOCATION MAP

DEVELOPED FROM USGS 7.5 MINUTE
ROMEOVILLE, IL QUADRANGLE 1993

FIGURE 1
Site Location Map



CARLSON ENVIRONMENTAL, INC.
65 E. WACKER PLACE, SUITE 1500
CHICAGO, ILLINOIS 60601

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Date: 1/29/08
Drawn By: RJB
Scale: As Shown

Figure 2
Site Map
12300 New Avenue
Lemont, Illinois

EXHIBIT C

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MAY 3 1 1996
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PERMIT SECTION

RCRA FACILITY INVESTIGATION
PHASE I REPORT

Robertson-Ceco Corporation
Lemont, Illinois

Prepared by
CARLSON ENVIRONMENTAL, INC.
312 West Randolph Street
Suite 300
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(312) 346-2140

Project No. 9236A
May 1996

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Peter E. Barys
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1.0 INTRODUCTION

1.1 Purpose of the RFI

This Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Phase I Report (Report) has been prepared to fulfill corrective action requirements at a facility owned by Robertson-Ceco Corporation (Robertson-Ceco) (Figure One). The RFI Phase I activities were performed by Carlson Environmental, Inc. in accordance with the RFI Phase I Work Plan prepared by Halliburton-NUS Corporation (NUS) and approved by the Illinois Environmental Protection Agency (IEPA) on September 12, 1995.

The objectives of the Phase I RFI, were to determine if electric arc furnace (EAF) dust (RCRA listed hazardous waste K061) remained on-site outside of the RCRA Closure Unit, and to collect information to assess the impact of the entire 25-acre site on human health and the environment.

1.2 Project Background

The subject property (the "Site") was owned during the 1970's and early 1980's by The Ceco Corporation (Ceco), a corporate predecessor to Robertson-Ceco. It was used in connection with the operation of an electric arc furnace steel production plant owned by Ceco located north of the Site, for the management of steel-making by-products, including emission control dust (EAF dust) from the electric arc furnaces. In 1980, EAF dust was designated as "listed" hazardous waste K061 by the United States Environmental Protection Agency (USEPA) under RCRA. During the active life of the Site, approximately 12,500 cubic yards of EAF dust were deposited. Most of the EAF dust (10,000 cubic yards) was deposited in a large bermed storage area. The remainder was deposited at undocumented locations in the eastern part of the Site.

EAF dust deposition at the Site ceased in 1980, before the RCRA hazardous waste management regulations became effective. Following excavation and disposal by Ceco of approximately 10,000 cubic yards of EAF dust from the large bermed storage area at a RCRA-permitted off-site hazardous waste disposal facility during 1981-1982, Ceco determined that roughly 2,500 cubic yards of EAF dust remained on-site. In 1983, Ceco contracted with NUS to conduct an investigation to locate and remove the remaining EAF dust deposits. Under an IEPA-approved RCRA Closure Plan, the remaining deposits were located and excavated in 1985 together with approximately 29,500 cubic yards of miscellaneous non-hazardous steel plant by-products, primarily

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slag, which was co-excavated with the EAF dust to insure that all EAF dust was removed. These materials, altogether comprising a volume of 32,000 cubic yards, were placed in a RCRA interim-status waste pile closure unit constructed at the Site in accordance with an IEPA-approved Closure Plan.

The RCRA Closure Unit occupies approximately two acres of the Site and is surrounded by a 10-foot high chain link fence which is locked to prevent unauthorized access. RCRA post-closure ground water monitoring of the Closure Unit has disclosed no significant impact on the quality of the ground water in the uppermost aquifer. The hazardous constituents for which EAF dust is a listed hazardous waste (*i.e.*, lead, cadmium and hexavalent chromium), are either non-detectable or present in extremely low concentrations in the ground water.

In order to demonstrate that the Site does not pose a threat to human health or the environment, Robertson-Ceco, proposed on February 7, 1994, to conduct a RCRA corrective action investigation. The proposal was accepted by the IEPA in a letter dated May 10, 1994. IEPA's letter included a detailed scope of work for a Phase I RCRA RFI Work Plan and required that a Work Plan be submitted by October 1, 1994.

Robertson-Ceco's RFI Work Plan was timely submitted and approved by IEPA on September 12, 1995. IEPA's approval letter required that the RFI Documentation Report be submitted not later than May 31, 1996.

2.0 GENERAL SITE INFORMATION

2.1 Site Description

The Site is located one-mile west of the city of Lemont in Will County, Illinois. (Figure One) and occupies approximately 25 acres. Access to the Site is by an unnamed paved road from New Avenue. The Site is characterized by the presence of steel production wastes and by-products (primarily furnace slag) which cover the entire property. Several small buildings are located in the western portion of the Site. A former slag processing operation (which in the past had been used to crush and size slag prior to sale as aggregate) is located in the north-central portion of the Site (Figure Two). Most of the Site surface is not vegetated, although some small shrubs and trees are present along the southern and northern boundaries.

According to the Flood Insurance Rate Maps (FIRMs) Community Panel Numbers

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170695-0080 for Will County and Panel Numbers 170054-0165 and 170054-0190 for Cook County, the Site is located almost entirely in Zone C, which is characterized as areas of minimal flooding. A small peninsula of "Zone A" extends into the site area from the I & M Canal near the northwestern part of the Site. Zone A is characterized by areas of 100-year flooding (Figure Two).

A two-acre RCRA closure unit is located in the central portion of the Site secured with a locked chain-link fence. Five RCRA post-closure ground water monitoring wells are present and are used to perform regular post-closure ground water monitoring. The wells were sited and are sampled in accordance with applicable Illinois RCRA regulatory requirements.

The Site is within a heavily industrialized area. It occupies a portion of a former flagstone (Silurian dolomite) quarry. It is bounded to the east by Dudek, Inc., a scrap iron and metal dealer; to the south, by the Gulf, Mobile & Ohio Railroad; to the west, by an unnamed road which provides access to the Auburn Steel Plant (formerly the Ceco Steel Plant). A Union Oil Company of California oil refinery is located west of the unnamed road. To the north of the Site, is the I & M Canal, the Santa Fe Railroad and the Auburn Steel facility (Figure Two).

2.1.1 Historical Site Operations

Prior to the use of the Site as a scrap-processing and by-product management area in conjunction with the steel mill, it was a limestone quarry in which flagstone was mined for use as building stone. The mining operation left an open pit area roughly 10 feet in depth across most of the Site, with a bedrock surface as its base.

The steel plant to the north was built by Ceco and began operations in 1969. The plant consists of several electric arc scrap-melting furnaces as well as fabrication facilities for billet and other shapes, including concrete reinforcing bar. The source of the steel melted in the electric arc furnaces was and is, steel scrap.

Beginning in 1969, the Site was used in conjunction with the steel mill to process scrap metal for the furnaces, and to manage solid wastes and by-products generated by the steel mill. The principal by-product from electric arc steel-manufacturing is slag, with much lesser amounts of mill scale and EAF dust. In addition to these uses, the Site has been used for slag reclamation operations. The slag reclamation process involved the processing of slag "skulls." Slag skulls are large, slag masses that form in the furnaces where the steel is melted with fluxing material. Often the melting of scrap in the furnace is incomplete, and partially melted scrap steel becomes incorporated in the solidified slag mass. Because of its value as furnace feed stock,

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the steel scrap incorporated in the skulls was reclaimed by breaking and crushing the skulls with a wrecking ball. The separated steel scrap is then returned to the mill to be used as feed stock for the furnaces. The crushed slag was either used as fill at the Site, or further crushed, sized and sold as aggregate. The slag reclamation process is no longer active. Slag produced by Auburn Steel Company, the current owner of the steel mill, is managed elsewhere.

Over the years, the continued deposit of slag at the Site resulted in the gradual expansion of the slag fill from west to east as well as an increase in elevation of the Site. The Site surface is now at an average elevation of 10 feet above the bedrock surface (Figures Three, Six, Seven and Eight).

When steel scrap is melted, a very fine dust (EAF dust) is produced. In 1972, the State of Illinois adopted air pollution control regulations which required installation of particulate emission control equipment on the steel plant's electric arc furnaces to capture EAF dust emissions. Baghouse dust collectors were installed to comply with the new regulations. After being collected in the baghouses, EAF dust was mixed with water to form a slurry in order to facilitate handling and control fugitive emissions. The slurry was then transported in trucks from the steel mill to the Site and deposited.

From late 1972 until 1980, slurried EAF dust collected by the baghouses was deposited at the Site. During 1972 - 1973, slurried EAF dust was reportedly brought to the Site in trucks, and deposited into various low areas in the eastern portion of the Site. These deposits were subsequently covered by layers of slag as the Site surface built up.

After about 1973, the slurried EAF dust was deposited exclusively in a discreet bermed area created for that purpose. The bermed area was also located in the eastern portion of the Site.

When the RCRA hazardous waste management regulations became effective in late 1980, and EAF dust became a listed hazardous waste, Ceco applied for and received RCRA interim status to store EAF dust in a "waste pile." No EAF dust was deposited at the Site after November 19, 1980, the effective date of the RCRA regulations. After that date, all EAF dust generated at the steel plant was transported directly to a RCRA-permitted off-site hazardous waste disposal facility. During 1981-1982, approximately 10,000 cubic yards of previously deposited EAF dust was excavated from the principal bermed EAF dust storage area, and disposed of at an off-site hazardous waste disposal facility. At that time, based on steel plant operating

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records, Ceco determined that approximately 2,500 cubic yards of EAF dust remained in the subsurface at the Site.

On February 3, 1983, Ceco sold the steel mill to Thomas Steel Company. The sales agreement provided that Ceco would retain title to the Site which was then operated under lease by Dudek, Inc. Following the sale of the mill, Ceco leased the Site to Thomas Steel which in turn sub-leased the Site to Dudek. Under this arrangement, Dudek continued to provide the same scrap and slag processing services to Thomas Steel as it had previously provided to Ceco. Subsequently, following Thomas Steel's bankruptcy, the steel mill was sold to its current owner, Auburn Steel Company.

In 1991, Ceco Industries, Inc., the corporate parent of The Ceco Corporation, and H.H. Robertson & Company merged to form Robertson-Ceco Corporation.

Since the RCRA interim status waste pile closure unit construction was completed in July of 1988, no hazardous waste management activity has occurred at the Site, other than RCRA post-closure ground water monitoring and inspection, and the RFI Phase I activities described in this Report.

2.1.2 Current Site Operations

All operations at the Site have ceased with the exception of RCRA post-closure activities associated with the Closure Unit.

2.2 Previous Investigations

Following the sale of the steel mill to Thomas Steel, Ceco hired NUS as its environmental consultant to locate and develop a RCRA closure plan for the 2,500 cubic yards of EAF dust still present at the Site.

2.2.1 1983 - EAF Dust Delineation and Impact Investigations

Initial Site Characterization - In April 1983, NUS began a study to determine the location of the remaining subsurface EAF dust deposits. The study included interviews of former Ceco employees and Dudek personnel, and a thorough Site inspection. These activities were followed by a surface and subsurface investigation utilizing soil borings and other sampling techniques to delineate the locations of EAF dust deposits beneath the then-existing Site surface. Collectively, this work provided the basis for the design of a subsurface investigation.

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Subsurface Investigation and EAF Dust Deposit Delineation - NUS' EAF dust deposit delineation field investigation began in October 1983, with sampling subsurface materials using a split-barrel sampler during the advancement of 17 soil borings across the entire Site. The borings and sampling were extended to bedrock. The locations of the borings and the results of the investigation were presented in the Final Closure Plan for Waste Storage Area EPA ID No. ILD990785453, Will County, Illinois which was submitted to IEPA (January, 1985).

In general, NUS found the subsurface to consist of sand-to-boulder sized slag. Sample recovery was low, except in areas where discreet layers of fine-grained material which was believed to be EAF dust, was encountered. Conclusions drawn from research and personnel interviews concerning the probable locations of subsurface EAF dust deposits were confirmed during this phase of the investigation. Deposits of fine-grained materials, believed to be EAF dust, were found in the Site subsurface only in the eastern portion of the Site where EAF dust was expected to be encountered. Eight of the 17 borings encountered fine-grained material, all of which occurred in visually distinct subsurface layers indicative of the deposition of a fine water-slurried material. Samples of fine-grained material taken from these eight borings were subjected to EP Toxicity analyses for lead, cadmium and hexavalent chromium. One boring of the 17 contained fine-grained material which was EP toxic for lead and cadmium. Based upon these analyses, and the characteristic presentation as extremely fine-grained material in distinct subsurface layers, NUS determined that layers of fine-grained material found in the subsurface were most probably EAF dust deposits. Chemical analysis could not be used to identify EAF dust because EAF dust is a "listed" RCRA hazardous waste regardless of its chemical constituents (which vary substantially) and because metals are present at the Site from other sources. Nevertheless NUS' evaluation of all of the circumstantial evidence concluded that the fine-grained material found in distinct subsurface layers was most likely EAF dust.

Evaluation of the Ground Water Regime - Temporary ground water monitoring wells were installed in ten locations for the purpose of collecting water level/elevation data to determine the ground water flow direction and to collect ground water samples for analysis. The monitoring wells were 2-inch diameter PVC with slotted well screens throughout the saturated zone.

The temporary ground water monitoring wells were converted from the soil borings so that representative ground water samples could be obtained form across the Site, as documented in the January 1985 Closure Plan. The temporary monitoring wells were sampled twice during 1983. Measurements from these wells indicated that the ground water table was above the bedrock surface in the southern portion of the Site,

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and within the bedrock under other portions of the Site. Ground water elevations varied slightly from October to December 1983.

The analytical results from the temporary ground water monitoring wells (unfiltered samples) are presented in the January 1985 Closure Plan for lead, cadmium and chromium. In general, the unfiltered ground water samples were turbid, and showed detectable levels of lead, cadmium and chromium when analyzed under the "total metals" laboratory protocol.

During the ground water investigation, NUS also sampled four off-site wells previously installed by a prior environmental consultant (Eldridge Associates). One well was located up-gradient, south of the Site on the railroad right-of-way, and three wells were located down-gradient of the Site, on the I & M Canal right-of-way. The Eldridge monitoring wells were 4-inch PVC and were screened below the bedrock surface.

Analytical results from these wells, which reflect ground water quality in the uppermost aquifer both up-gradient and down-gradient of the Site showed non-detectable to extremely low concentrations of arsenic and chromium in both the up-gradient and down-gradient wells.

Surface Water Evaluation - Surface water was sampled twice during the 1983 field investigation. The results of the surface water analyses are provided in Ceco's responses to IEPA comments on the January 1985 Closure Plan. Surface water was sampled from three points along the I & M Canal, which is the closest surface water which receives runoff from the Site. Analysis of the I&M Canal surface water samples showed concentrations of arsenic, chromium and lead below Maximum Contaminant Level's (MCL's) or non-detectable.

Standing surface water was also sampled within the slag processing area where water was temporarily ponded on the bedrock surface. The laboratory results showed detectable levels of arsenic, cadmium, chromium, lead and selenium, however, all concentrations were below their respective MCL's.

2.2.2 <u>1984 - Further EAF Dust Deposit Location and Ground water Studies</u>

During August 1984, nine test pits were excavated with a back-hoe to provide additional information concerning the subsurface distribution of EAF dust deposits. In addition, eleven temporary ground water monitoring wells were installed into the top portion of the bedrock beneath the Site to further characterize ground water flow conditions in the saturated zone within the bedrock.

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The results of the 1984 subsurface investigation were consistent with the 1983 borings, and disclosed EAF dust deposits in distinct layers of fine-grained material in the subsurface. Temporary monitoring wells showed that the ground water flow was the same as ground water flow patterns in the unconsolidated slag material above the bedrock, indicating that these units were hydraulically interconnected. Analyses of ground water samples from these monitoring wells showed no detectable concentrations of lead, cadmium or hexavalent chromium.

2.2.3 January 1985 - RCRA Closure Plan

In January 1985, a RCRA Closure Plan for the Site was submitted for approval to IEPA. The plan summarized the Site data concerning the probable distribution of subsurface EAF dust deposits, and described the physio-chemical processes which appeared to restrict transport of metals in ground water beneath the Site.

Because for reasons discussed earlier in this report (Section 2.2.1), there is no chemical analysis capable of identifying EAF dust, Ceco's initial Closure Plan provided for visual identification of EAF dust deposits during excavation and for physical separation and off-site RCRA disposal of all excavated material less than 0.25 inches in diameter.

The Closure Plan also included information which demonstrated that because of geochemical conditions present in the Site subsurface, transport of metals in the ground water as dissolved species was not possible. The presence of large amounts of alkaline slag and the calcium-magnesium carbonate which comprises the dolomitic limestone bedrock insure that any low pH water entering the subsurface would be immediately neutralized, and any dissolved metals present in such water would precipitate as insoluble carbonate complexes. These same permanently alkaline conditions will prevent any ground water moving through the subsurface from being capable of leaching metals from the Site materials because the requisite low pH conditions required for leaching to occur, cannot exist.

A series of IEPA comments on the Closure Plan were addressed by NUS in April 1985 and on June 13, 1985, the IEPA approved the Closure Plan with several conditions. Work on the closure began during July 1985.

On September 18, 1985, a Site inspection was conducted by representatives of Ceco, IEPA and NUS. Following that inspection, a Compliance Inquiry Letter was prepared by the IEPA which identified several concerns with respect to the implementation of the approved Closure Plan. At a November 29, 1985 meeting to

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discuss these issues, IEPA advised Ceco that the hazardous waste "mixture rule" would require that the mechanical waste separation process operate to insure that all traces of EAF dust be removed from the non-hazardous (*i.e.*, greater than 0.25 inches in diameter) portion of the excavated material before the non-hazardous material could be returned to the excavation as fill. On January 20, 1986, Ceco advised IEPA that it was physically impossible for the mechanical separation process to remove all traces of EAF dust from the non-hazardous portion of the admixed excavated material, and consequently Ceco would prepare an Amended Closure Plan, which would close the Site by placement of the excavated EAF dust and admixed non-hazardous solid materials in an on-site RCRA Closure Unit.

During the course of the above discussions, excavation continued in accordance with the IEPA approved closure plan. Excavation was completed in early January 1986, and produced approximately 32,000 cubic yards of solid material comprised of EAF dust (2,500 cubic yards) and admixed non-hazardous slag/other materials (29,500 cubic yards).

2.2.4 March 1986 - Amendment to the Closure Plan

In March 1986, Ceco submitted an Amendment to Closure Plan which proposed to place the admixed EAF dust and non-hazardous co-excavated material in an on-site RCRA waste pile closure unit. The amended Closure Plan was approved by the IEPA on September 11, 1986 with certain conditions which required Ceco to perform additional investigation at the Site to insure that all EAF dust deposits had been located and excavated during the 1985 excavation. Ceco objected to that portion of the IEPA's Closure Plan approval which required a supplemental Site investigation, but did not object to any IEPA approval condition with respect to the proposed closure unit design. Accordingly, Ceco directed NUS to construct the Closure Unit. Construction of the RCRA Closure Unit was completed in accordance with the IEPA-approved design, on or about August 1, 1988.

2.2.5 1988 - 1993

Ceco pursued administrative remedies under Illinois law, to review IEPA's September 11, 1986 Closure Plan approval conditions concerning the supplemental Site investigation and certain aspects of the post-closure ground water monitoring plan. For the most part, Ceco was unsuccessful in its challenges.

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2.2.6 1993 - Installation and Sampling of Ground Water Monitoring Well Network

In April, 1993, NUS installed five RCRA post-closure ground water monitoring wells at the Site. Two wells were installed hydraulically up-gradient and three wells in down-gradient locations. As required by applicable ground water monitoring regulations, the post-closure ground water monitoring wells were installed in the uppermost aquifer, which is partly within the upper portion of the bedrock unit. Quarterly ground water sampling rounds have been conducted since the wells were installed.

The wells were sampled to establish background water quality levels in accordance with 35 ILL. ADM. Code, Part 725, Subpart F. Analyses of unfiltered ground water samples collected during successive calendar quarters since well installation demonstrate that concentrations of lead, cadmium and hexavalent chromium in the ground water are either below detection limits or detectable at extremely low concentrations. These results show that the ground water in the upper-most aquifer is not being significantly impacted by the Closure Unit.

In the fall of 1995, Robertson-Ceco hired Carlson Environmental, Inc. (CEI) to perform the RCRA post-closure ground water monitoring and the RFI activities.

2.3 Regional and Site Physiography

The present-day physiographic features in the Site area were formed approximately 20,000 years ago by glacial and fluvial actions which physically shaped the surrounding land. Glacial deposits almost completely mask the bedrock surface in the area (Willman, 1971). The Site, which is located in the Des Plaines River Valley, lies within the physiographic province known as the Central Lowlands, a broad, relatively low area that roughly outlines the glaciated area. The local relief in the Central Lowlands seldom exceeds a few hundred feet. For the most part, the Site is above the 100-year flood plain elevation of the Des Plaines River (FEMA, 1982 - Figure Two).

The Site is situated on a former flagstone quarry, which is located in the northeast portion of Will County, near the Will County/Cook County border in Lemont, Illinois.

Surface water from the Site discharges to the I&M Canal located immediately to the north. Precipitation at the Site infiltrates quickly through the highly permeable slag

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and discharges to the ground water system. A small, intermittent drainage ditch runs the length of the southern boundary of the Site. An intermittent drainage channel located on the west-central portion of the Site runs from south to north and discharges to both the I & M Canal and the drainage ditch to the south of the Site. Water that collects in the former slag processing area discharges to the I & M Canal through a drainage ditch.

There are no significant surface water bodies, streams or wetland areas located at the Site. Significant surface water features in the vicinity of the Site include the Des Plaines River, the Chicago Sanitary and Ship Canal, and the I&M Canal.

The climate is continental with cold winters and warm summers. Average daily temperature is 51.4°Fahrenheit (F). The highest average daily temperature is 81°F in August, and the lowest daily temperature is 20.3°F in December. Mean annual precipitation is 38 inches. The prevailing wind direction is easterly at a velocity of less than 13 miles per hour.

2.4 Site Geology

The geology in the vicinity of the Site is characterized by relatively flat-lying, dolomitic bedrock overlain by river alluvium within the river valley and glacial deposits which form the surficial materials outside the river.

Dolomitic (calcium magnesium carbonate) bedrock lying beneath the Site belongs to the Niagaran Series of the Silurian System, Joliet Formation and is 40 to 60 feet thick (Willman, 1971). The Site is within a former quarry where dolomite was removed for use as building stone. Approximately 10 feet of limestone was removed from the estimated original surface down to approximately an elevation of 580 feet above mean sea level (msl). The slag fill at the Site is located within the quarry pit. A bedrock sill, consisting of bedrock left in place, is present between the Site and the I & M Canal. The dolomite is characterized by a yellow-brown (buff) color, moderate fracture densities with vertical fractures ranging from one-half foot to several feet apart, and horizontal bedding fractures that produce a general flaggy nature to the near surface bedrock. Bedrock is also exposed along the I & M Canal, which forms the northern boundary of the Site. The surface of the Site is covered with a layer of fill consisting primarily of steel furnace slag, which is approximately 10 feet in thickness across the Site. A summary of the slag thickness recorded in the soil borings and depth to bedrock is included in Table 8. Geologic cross sections were constructed to show the vertical distribution of the slag deposits and the Site geology. One cross section (A-A') was constructed through the center of the Site from the

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western boundary to the eastern limit of slag (see Figure Eight). Two additional cross sections were constructed perpendicular to A-A' in order to depict the three-dimensional nature of the deposits (B-B' and C-C' Figure Eight).

2.5 Site Hydrogeology

The Des Plaines River, Chicago Sanitary and Ship Canal, and I & M Canal all flow within the dolomitic bedrock in the vicinity of the Site.

The Des Plaines River drains to the Illinois River approximately 20 miles downstream from the Lemont area, and ultimately to the Mississippi River.

Generally, the ground water beneath and in proximity to the Site flows northwest as depicted on Figure Four. This ground water flow direction agrees with the earlier findings of NUS.

Infiltration of precipitation at the Site is moderate to high given the relatively high permeability of the Site materials. The uppermost aquifer at the Site is a water table aquifer, which fluctuates seasonally from within the slag fill (*i.e.*, above the bedrock surface) to below the bedrock surface (NUS, 1994). Field data demonstrates that these units are hydraulically connected. Ground water flow in the bedrock is primarily through a fracture system. Most of the surface water that infiltrates the Site enters the ground water and discharges to the I & M Canal as base flow discharge. Ground water from beneath the Site that does not discharge to the I & M Canal discharges to the Chicago Sanitary and Ship Canal, which lies immediately north of the steel mill.

No drinking water sources exist downstream of the Site that take water from the I&M Canal. Similarly, no drinking water sources using ground water are located hydraulically down-gradient from the Site between the Site and the Chicago Sanitary and Ship Canal.

3.0 NATURE AND EXTENT OF CONTAMINATION

3.1 Identification and Description of Site Units

The approved Work Plan for the RFI Phase I activities divides the Site into three identifiable units: Existing RCRA Closure Unit, Previously Excavated Areas, and the

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Remaining Area (Figure One).

3.1.1 Existing RCRA Closure Unit -Unit 1

This unit is located in the approximate center of the Site, along the southern border, with dimensions of 300 feet by 220 feet. The Closure Unit is surrounded by a locked chain-link fence. The Closure Unit contains 32,000 cubic yards of excavated materials (approximately 29,500 cubic yards of non-hazardous slag admixed with 2,500 cubic yards of EAF dust). Five post-closure monitoring wells, two hydraulically up-gradient and three hydraulically down-gradient, surround the Closure Unit. For a detailed description of the Closure Unit see NUS's Draft Work Plan for the Phase I Facility Investigation Appendices A and B, Volume 2 of 2 (NUS, 1994).

3.1.2 Previously Excavated Areas-Unit 2

This unit includes the former 10,000 cubic yard principal EAF dust storage area as well as the remaining areas of the Site which were excavated down to the bedrock surface in 1985. The 32,000 cubic yards of excavation spoil from this unit were placed into the RCRA closure unit described in Section 3.1.1.

3.1.3 Remaining Area-Unit 3

Unit 3 is the remainder of the Site. Subsurface boring and trenching investigations conducted in 1983, 1984, 1985 and 1995/1996 did not identify any subsurface EAF dust deposits in this area. In general, the subsurface in this unit is characterized by slag deposits up to 16 feet in thickness on top of the quarried bedrock surface. For a detailed description of each of these investigations, refer to Section 2.2 and to previous NUS investigation reports (1983, 1984, 1985 and 1993).

3.2 Site Survey

In February 1996, Reiter & Associates surveyed the Site and adjacent rights of way as required under the approved RFI Work Plan.

A Plat of Survey constructed by Reiter & Associates was utilized as a base map to construct the Site maps included in this Report (Figure One and Three through Seven).

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3.3 Waste Characterization

3.3.1 EAF Dust

EAF dust is designated by USEPA as listed hazardous waste (K061). USEPA's designation was based upon the fact that EAF dust may contain the hazardous constituents lead, cadmium, and hexavalent chromium, 40 C.F.R. Part 261, App. VII. Physically, EAF dust is a very fine particulate, 70 percent of which, by weight, is less than 5 microns in diameter. Its chemical make-up is primarily iron oxide together with oxides of other metals of a degree and type dependent upon the alloying and associated non-ferrous metals present with the scrap steel which was being melted when the EAF dust was created (*e.g.*, lead may be present from a lead-acid automobile battery which was not removed from an automobile carcass before compacting).

3.3.2 Slag

Slag is a non-metallic alkaline by-product of electric arc steel making which contains residual fluxes and other materials (including some metals) fused under high temperature in a vitreous mass. Electric arc furnace slag is not a hazardous waste and in fact is commonly sized and sold for use as aggregate. Most slag present on the Site ranges in size from 100 sieve size to 1 to 2 inches in diameter with occasional pieces up to 6 inches or more in diameter. Larger masses of slag are irregularly shaped with jagged edges. The texture of even the finest slag particles is far more coarse than that of EAF dust. Assuming a uniform thickness of approximately 10 feet across the entire Site, approximately 460,000 cubic yards of slag are present at the Site.

3.3.3 Mill Scale

Mill scale is another non-hazardous by-product in the steel making process which is present at the Site. Mill scale is iron oxide (rust) which forms on and is removed from the surface of steel bars during the rolling process. Mill scale was periodically deposited at the Site. No records were maintained as to the quantity or locations of disposed mill scale.

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4.0 INVESTIGATION AND CHARACTERIZATION OF SITE FILL MATERIAL

4.1 EAF Dust Investigation

During December 1995 and January 1996, CEI retained Rock and Soil Drilling Corporation to advance 28 soil borings, 24 on-site (SB-1 through SB-24 - Figure One) and 4 off-site (SB-25 through SB-28 - Figure Two), to bedrock (depths from 3.5 to 18.5 feet below ground surface (bgs)). Samples at these locations were taken in accordance with the approved RFI Work Plan. Four surface perimeter samples (PS-01 through PS-04) and ten sediment samples (SS-01 through SS-10) were also collected. No EAF dust deposits were identified at any grid location using the EAF dust identification criteria contained in the RFI Work Plan. Attachment A includes photographs taken during the RFI field activities.

4.1.1 Sampling Grid

Soil borings were located according to the grid pattern specified in the approved RFI Work Plan (300 foot centers) and advanced to bedrock to characterize the soils at the Site as well as to collect samples for environmental analysis (Figures One and Two and Table One).

4.1.2 Soil Boring Procedures

Soil borings were advanced with a Diedrich D-120 drill rig utilizing 4.25 inch inner diameter hollow-stemmed augers. The soil borings were continuously sampled using a standard 2 inch diameter by 24-inch long split-spoon sampler which was driven into the subsurface by a 140 pound hammer free-falling 30 inches. All drilling and sampling activities were performed in accordance with the American Society for Testing Materials (ASTM) and USEPA methods. Geologic materials were visually classified and recorded on boring logs (Attachment B). Because EAF dust can only be identified visually, a CEI senior geologist was present during all soil boring operations to examine the materials collected. In addition, an Illinois Licensed Professional Engineer, Kenneth W. James, oversaw all field activities.

4.1.3 Soil Sampling and Analytical Methods

The reader should recognize that references to "soil" in the context of the Site surface and subsurface in fact describe furnace slag because nearly the entire Site is comprised of furnace slag on a quarried bedrock surface. Little, if any, true "soil" exists.

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After each sample was brought to the surface, the split-spoon sampler was opened and described by the CEI geologist. Following physical observation and description of the sample, a CEI staff scientist transferred the sample into laboratory-supplied new glass jars equipped with Teflon-lined lids. The samples were maintained at a temperature of approximately 4 degrees C in an insulated container. All samples were maintained under strict chain-of-custody procedures. This process was repeated continuously until bedrock was encountered. All samples were delivered daily to Great Lakes Analytical laboratory in Buffalo Grove, Illinois for analysis.

Samples from each soil boring were assigned alphanumeric identification numbers based on the soil boring number, and the depth of collection. The shallowest sample was given the letter "A", the next "B", *etc.* (*e.g.*, SB-1A, SB-1B).

Soil Borings - From each boring, one sample was analyzed for the "long list" of metals which consists of antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, nickel, selenium, silver, thallium, vanadium, and zinc as specified in the IEPA letter dated September 12, 1995. Two other soil samples from each boring were analyzed for the "short list" of metals consisting of lead, cadmium, and hexavalent chromium. Soil samples were chosen for laboratory analysis based on visual observations (grain size). The finest soil sample from each boring was submitted for "long list" analysis and the two next-finest samples were submitted for "short list" analysis. All metals analyses were performed using the "total metals" protocol as required by the approved RFI Work Plan. The laboratory results for these analyses are summarized on Table 2 and the complete laboratory report is included in Attachment D.

To obtain typical background soil samples, four off-site soil borings to bedrock (SB-25 through SB-28) were advanced. These borings were sampled in the same manner as the on-site soil borings. Locations of the background soil borings are shown on Figure Two. Two of the off-site soil borings were advanced on the UNOCAL petroleum refinery property to the west of the Site, and two borings were advanced on property east of the Site. The analytical results for these samples are summarized on Table 3 and the complete laboratory reports are included in Attachment D.

Perimeter Samples - The four perimeter samples were collected from the surface at the locations depicted on Figure One. At each location a stainless steel trowel was used to scoop the soil, and transfer it to a laboratory supplied new glass jar equipped with a Teflon-lined lid. The same protocols were used for these samples as for the soil boring samples. The results are summarized in Table 4 and the complete analytical report is included in Attachment D.

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Sediment Samples - The ten sediment samples were collected from the perimeter of the Site as shown on Figure One. At each location, the surface soil (or if water was present as in the case of the I & M Canal samples, the uppermost soil), was collected and placed into laboratory supplied new glass sample jars. These samples were submitted to the laboratory for analysis of the "long list" of metals. Figure One depicts the sampling locations and Tables 4 and 5 contain a summary of the laboratory results. The complete analytical report is included in Attachment D.

4.1.4 Soil Sampling Results

A summary of the analytical results for the soil boring samples collected during the RFI field activities is included in Tables 1-3. Ninety-three soil samples, including 11 duplicate quality assurance / quality control (QA/QC) samples, from the soil borings were submitted to the laboratory for metals analysis. Of these, 33 samples were submitted for the "long list" and 60 soil samples for the "short list" as shown on Table 1. Several of the soil boring samples showed slightly elevated metals concentrations.

When metals concentrations in these samples were compared to IEPA's Tiered Approach to Cleanup Objectives Guidance Document (TACO), January, 1996, only lead and in one instance, cadmium, exceeded their respective Tier I TACO values. In soil boring SB-20A, from 1 to 3 feet bgs, cadmium was detected at a concentration of 110 mg/kg. The Tier I TACO value for construction worker for ingestion is 100 mg/kg. When this value is averaged out with two other samples collected from the same boring at depths of 3 to 5 and 7 to 9 feet bgs, the average is 41.9 mg/kg, which is significantly below the Tier I TACO value. No other cadmium soil sample exceeded 100 mg/kg.

The results for total lead in several samples exceed the Tier I TACO value of 400 mg/kg. Total lead concentrations in individual soil samples ranged up to 3,800 mg/kg (SB-14B from 3-5 feet bgs). On average the total lead in all soil samples taken at the Site is 578.54 mg/kg. Figure Five depicts the total lead concentration across the entire Site, displaying the highest concentration from each boring location.

In addition to the soil samples from the 28 borings, 14 perimeter/sediment samples were collected and submitted for the "long list" of metals from various locations along the perimeter of the property as depicted on Figure One. The laboratory results for these samples are summarized in Table 4. In general, elevated total metals were detected in some of the samples collected for laboratory analysis, but only one perimeter surface sample, PS-01, exceeded the Tier I TACO value for total lead with a concentration of 510 mg/kg (Figure Five).

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Background soil samples were collected from borings SB-25 through SB-28, in areas were no slag was present (Figure Two). The highest background concentration for total lead was from SB-27A (1 to 3 feet bgs) at a concentration of 760 mg/kg. Analytical results for background soil samples are summarized on Table 3, and the complete laboratory report is included in Attachment D.

4.1.5 Equipment Decontamination Procedures

After each soil boring, all down-hole drilling equipment was thoroughly cleaned using a high-pressure steam-cleaner. Between each sample collection, the split-spoon sampler was scrubbed in a soap solution (Alconox® and water) and triple-rinsed with deionized water to prevent cross-contamination.

4.2 Ground Water Investigation

On December 11, 1995, CEI inspected all previously installed ground water monitoring wells which remain on-site. In addition to the five ground water monitoring wells installed to perform post-closure monitoring of the RCRA Closure Unit, eleven other monitoring wells exist at the Site. Of these wells, nine were in good condition, and two had been damaged, preventing their use as monitoring points. Construction details and other information concerning existing monitoring wells, are presented in Table 6.

4.2.1 Monitoring Well Development

In order to insure accurate permeability testing, CEI developed the nine existing monitoring wells between December 18 and 20, 1995, utilizing an electric pump designed specifically for purging water from 2-inch wells. At least three well volumes of ground water were evacuated from each well during development. The five post-closure monitoring wells associated with the RCRA Closure Unit were not developed since the status of those wells was known as the result of their recent use in post-closure ground water monitoring.

4.2.2 Ground Water Level Measurements

The inner casings of all ground water monitoring wells were surveyed by Reiter & Associates to determine elevations. Ground water level measurements were obtained using an electronic sounding device which is accurate to the nearest hundredth of a foot. At each well, a Solinst® model 101 water level meter was lowered into the well

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until the meter sounded. At that point, the depth to water was measured from the north side of the inner casing and recorded (Table 7). This process was performed twice for each well to ensure accurate measurements. Thirteen of the 16 ground water wells located on-site, were used to determine the ground water flow direction. Monitoring wells E and I were damaged and unusable for data collection. Old Well-3 was not used because anomalously high water levels were measured. With the information collected from the remaining 13 wells, depth to water and casing elevations, the ground water flow direction (Figure Four) and hydraulic gradient were calculated. The calculations used to determine the hydraulic gradient are included in section 4.2.3.

4.2.3 Ground Water Flow

Ground water flow directions were calculated from information collected on March 25 and April 25, 1996. Ground water elevation contour maps are shown on Figure Four. The flow direction for the shallow ground water is to the northwest, towards the I & M Canal. The average hydraulic gradient was determined by plotting water level measurements on a base map and dividing the difference in hydraulic head between the distance of two points perpendicular to the flow direction. An average horizontal ground water gradient of 0.027 foot per foot (ft/ft) was calculated for the Site.

4.2.4 Hydraulic Conductivity

On December 20, 1995 and January 16, 1996, "rising-head slug test method" permeability tests", were performed on all fourteen functional ground water monitoring wells to evaluate the hydraulic conductivity (K) in the upper-most aquifer beneath the Site. (Bouwer, H. and Rice, R.C., 1976; and Bouwer, H., 1988).

The slug test method involves the instantaneous withdraw of a volume of water from a well, which partially penetrates an unconfined aquifer, and measurement of the rate of ground water recharge into the well. To perform the test in the field, a 1.9 inch diameter, 36 inch long stainless steel bailer was lowered into each well. After allowing the water to equilibrate in the well, the bailer was quickly removed and the ground water recharge rate was recorded using a Hermit 100-C Data Logger which recorded measurements at a rate of three per second. The data logger records the height of the water column using a pressure-sensitive transducer probe. The drawdown verses time data was then interpreted using the AQTESOLV® computer software program by Geraghty & Miller, which incorporates the Bouwer and Rice method of evaluating hydraulic conductivity from slug test data. The hydraulic conductivity for each monitoring well is presented on Table 7. The range of

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determined K_h-values for the Site is 1.06 x 10^{-3} cm/sec to 6.6 x 10^{-6} cm/sec with a mean of 3.49 x 10^{-4} cm/sec. Data collected from the data logger and the time versus drawdown graphs are included in Attachment C.

4.2.5 Ground Water Sampling and Analytical Methods

Ground water samples were collected from each of the fourteen monitoring wells using a low-flow ground water sampling technique described in the RFI Work Plan. The monitoring wells were sampled on January 16 - 17, 1996. The five post-closure monitoring wells were sampled on January 18, 1996 as part of the regular post-closure quarterly ground water monitoring program. All ground water samples were submitted to Great Lakes Analytical laboratory for analysis of total and dissolved metals using USEPA method 3015/ and 6000 and 7000 series analytical protocols as specified in USEPA SW-846 Test Methods for Evaluating Solid Waste, (Third Edition).

The well sampling procedures were as follows:

1.) The Solinst® model 101 electric water level meter probe was carefully lowered into the well to minimize disturbance of the water column. When the meter sounded, the static water level was measured from the north side of the inner well casing and recorded to 0.01 feet. This process was performed twice for each monitoring well for accuracy purposes.

2.) The required length of Teflon tubing was calculated, measured and marked for attachment to a peristaltic pump, so that the intake was located at the mid-point of the saturated screen interval. A minimal length of tubing was used to minimize the temperature change from the collection point to the discharge point.

3.) Tubing was inserted slowly to the measured depth and secured to the well casing to minimize disturbance to the water column. The tubing was dedicated to each well, secured to the cap, and left inside the protective casing to minimize disturbance to the water column during subsequent sampling events.

4.) Monitoring instruments were calibrated and assembled, and the tubing was connected to a peristaltic pump and a flow-through chamber in which the instrument probes were located.

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5.) The water level was measured and recorded on a data sheet and compared to the previous static water level.

6.) The pump was started at the minimum continuous flow rate attainable by the pump, between 0.02 to 0.05 liters per minute. Start times and flow times were recorded. The flow rate was adjusted to a rate that minimized drawdown in the well. A full round of measurements were recorded every five minutes, including time, temperature, specific conductance, pH, turbidity, dissolved oxygen and water level.

7.) All data and changes were recorded on the data sheets and flow rates were adjusted to provide for minimal drawdown. If drawdown increased significantly, the wells were pumped intermittently until parameters stabilized.

8.) Once field parameters stabilize, ground water samples were collected. The stabilization was defined by readings within a range of ten percent for three consecutive five minute intervals, or until three well volumes had been purged and turbidity levels below 20 NTUs were achieved.

9.) Once stabilization was achieved, the flow-through chamber was disconnected and the samples were collected directly from the tubing.

10.) The samples were maintained at a temperature of approximately 4 degrees C in an insulated container containing ice. Upon completion of sampling, the collected samples were transferred to Great Lakes Analytical for laboratory analysis. The samples were maintained under strict standard chain-of-custody procedures/documents.

4.2.6 Ground Water Results

Analytical results from the ground water samples showed all metals concentrations below laboratory detection limits. A summary of the laboratory results is included in Table 6 and the complete laboratory report is included in Attachment D.

4.2.7 Surface Water Sampling

Surface water samples were collected at six locations (WS-2, WS-5, WS-7, WS-8, WS-9, and WS-10 - Table 5) (Figure One). The samples were collected by slowly lowering laboratory supplied new containers into the water and allowing them to fill.

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When the containers were filled, they were immediately capped, labeled and placed into a cooler. The samples were maintained at a temperature of approximately 4 degrees C until they were transferred to the laboratory for analysis. The samples were analyzed for the "long list" of metals and the results of the surface water sampling are summarized on Table 5 and the compete laboratory report is included in Attachment D.

Sample WS-2, collected from the ditch along the southern property boundary, had a total lead concentration of 0.036 mg/L. The samples collected from the I & M Canal (WS-8, WS-9, and WS-10) had detectable concentrations of total chromium (WS-9, 0.039 mg/L) and lead (WS-8 - 0.007 mg/L, WS-9 - 0.037 mg/L, and WS-10 - 0.013 mg/L). All samples were analyzed without filtration and therefore contained suspended solids. On the day the water samples were collected from the I & M Canal, the Canal water was sediment-laden as the result of winds gusting up to 45 miles per hour, and samples collected were noticeably turbid.

5.0 EVALUATION OF MONITORING WELL NETWORK

5.1 Description of Monitoring Well Network

All 14 functional ground water monitoring wells at the Site are screened within the bedrock. Three are up-gradient wells (OW-4, MW-D1, and MW-D5). Six are down-gradient wells (OW-1, OW-2, 0W-3, WELL-B, WELL-C, and WELL-D). The remaining wells (MW-D2, MW-D3, MW-D4 WELL-J, and WELL-K) are mid-gradient in respect to the entire Site (See, Table 7).

5.2 Site Hydrogeology

The Site hydrology has been thoroughly characterized. Ground water occurs at between 2 and 13 feet bgs, and for most of the season, the water table is below the bedrock surface. The ground water flow direction is northwest, towards the I & M Canal, where discharge as base flow to the Canal most likely occurs (Figure Four).

Data collected from the in-situ permeability tests establishes hydraulic conductivity ranges from 1.06×10^{-3} cm/sec to 6.6×10^{-6} cm/sec with a mean of 3.49×10^{-4} cm/sec.

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5.3 Additional Monitoring Wells

Because the ground water has been adequately characterized, CEI does not recommend installation of any additional monitoring wells.

5.4 Surface Water Bodies

Very little precipitation flows off the Site as surface runoff because of the high permeability of the Site surface materials. Two intermittent drainage courses for surface runoff exist. One is a drainage ditch that runs north / south across the western portion of the Site. Only during periods of precipitation was the drainage ditch observed to contain water. In January 1996, during RFI Phase I activities, CEI observed water flowing to the north into the I & M Canal, from the unpaved road which bisects the Site from west to east. Water south of the unpaved road, was flowing to the south, into the drainage ditch which runs between the railroad tracks and the Site. The surficial hydraulic divide was in the vicinity where the unpaved road on the Site crossed the ditch.

A second drainage ditch runs from the slag processing area to the I & M Canal (Figure One). The slag processing area is directly on the bedrock surface and receives runoff from precipitation and seepage from the surrounding elevated slag fill material.

During the RFI field activities, CEI collected water samples from run-off points shown on Figure One. A summary of the laboratory results for the surface water samples is included in Table Five. Section 4.2.7 presents the analytical results for these surface water samples.

6.0 POTENTIAL RECEPTORS

6.1 Ground Water Receptors

Existing well information was obtained by NUS from the Illinois State Water Survey. That information shows nine private ground water supply wells located within 1,500 feet of the Site. Six of these are industrial and commercial supply wells. The remaining three are domestic supply wells located to the south (hydraulically up-gradient). The industrial and commercial water supply wells are all screened at depths of more than 1000 feet bgs, and are unlikely to be impacted by ground water in the uppermost aquifer which has contacted Site materials. No municipal water

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supply wells are located within one half-mile of the Site.

6.2 Surface Water Receptors

Most precipitation falling or running onto the Site infiltrates the permeable surficial materials and exits the Site through the ground water pathway. The ground water flow for the Site is to the northwest towards the I & M Canal where it discharges as base flow. The small amount of surface water which does run-off the Site likewise drains to the I&M Canal.

6.3 Site Access

Access to the Site is limited due to a chain link fence along the western property boundary. To the north of the Site, access is limited by the I & M Canal. To the south and east of the Site, no barriers exist, but due to the topography, access to the Site is difficult. The RCRA Closure Unit is surrounded by a chain-link fence which remains locked at all times to prevent unauthorized access.

6.4 Identification of Potential Ecological Receptors

CEI contacted the Illinois Department of Natural Resources (DNR) and requested a listing of "potential endangered species" in the vicinity of the Site. According to the DNR, there were no species on the endangered species list in the immediate vicinity of the Site.

7.0 SUMMARY AND CONCLUSIONS

The Phase I RFI field activities confirm that no additional EAF dust deposits remain on-site. All EAF dust is contained within the existing RCRA Closure Unit. Ground water monitoring done during the RFI reports all metals of concern in ground water at below detection levels, despite the presence of substantial amounts of EAF dust on the Site for many years prior to RCRA, and despite very permeable subsurface conditions. These results are consistent with earlier ground water monitoring, and support NUS' conclusion that geochemical conditions in the subsurface and in ground water, primarily related to naturally alkaline pH and abundant carbonate and bicarbonate ions from the dolomite, will not allow metals to exist in solution. (See, January 1985 Final Closure Plan, §2.3.3.).

Of the metals analyzed from the soil/sediment materials, only lead was detected at

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several grid-intersect boring locations in concentrations that exceed the Tier I TACO value (400 mg/kg) for a construction worker for industrial / commercial use property. The average total lead concentrations in soils/sediments across the Site (578.54 mg/kg) is only slightly above the Tier I TACO value for commercial/industrial use. Lead in soils/sediments should also be evaluated in light of the fact that the highest background (off-site) lead concentration was 760 mg/kg, and that the Site is located in a heavily industrialized area with limited access. Further, given that the Site "soils" are in fact furnace slag, it is unlikely that the lead levels reported by the "total metals" analysis are even remotely related to the concentrations of lead which would be biologically or environmentally available from these materials. All metals present in the slag exist tightly bound in a fused vitreous substrate, and are digested (*i.e.*, become soluble) during the "total metals" analysis only under the extremely aggressive digestion conditions which that protocol employs. For these reasons CEI believes that Site "soils" pose no threat to human health or to the environment, and require no corrective action.

While the RFI results show total lead in "soils" to be elevated for the Site in reference to the Tier I TACO objectives, lead in ground water was below detection levels. Because most of the ground water monitoring wells have been emplaced since the 1980's, and have consistently reported very low or zero concentrations of metals of concern (including lead) in ground water, CEI believes that no further ground water monitoring is necessary for the entire Site. Future ground water monitoring should be limited to the RCRA Closure Unit. All ground water monitoring wells except the RCRA post-closure wells, should be removed or abandoned in accordance with applicable law.

To date, the cost for the RCRA Facility Investigation Phase I activities is approximately $ 145,000 with a projected total cost for this phase estimated at $ 155,000.

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FIGURES

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TABLE 1
SOIL BORING AND SAMPLE DATA
Robertson-Ceco
Lemont, Illinois

Soil Boring Number	Total Depth (feet)	Sample Interval	ANALYSIS	
			Long List of Metals	Short List of Metals
SB-01	12	A(1-3)	X	
		B(3-5)		X
		C(5-7)		X
SB-02	12	A(1-3)	X	
		B(3-5)		X
		D(7-9)		X
SB-03	18.5	A(1-3)		X
		B(3-5)		X
		C(5-7)	X	
SB-04	16.75	B(3-5)		X
		C(5-7)	X	
		F(11-13)		X
SB-05	15	D(7-9)		X
		F(11-13)		X
		G(13-15)	X	
SB-06	3.5	A(1-3)		X
		B(3-5)	X	
SB-07	13	A(1-3)		X
		B(3-5)	X	
		C(5-7)		X
SB-08	12.5	C(5-7)		X
		D(7-9)		X
		F(11-13)	X	
SB-09	15	C(5-7)		X
		D(7-9)		X
		E(9-11)	X	
SB-10	14.5	B(3-5)	X	
		DUP-B(3-5)	X	
		C(5-7)		X
		DUP-C(5-7)		X
		E(9-11)		X
		DUP-E(9-11)		X
SB-11	13	A(1-3)		X

TABLE 1 (continued)
SOIL BORING AND SAMPLE DATA
Robertson-Ceco
Lemont, Illinois

Soil Boring Number	Total Depth (feet)	Sample Interval	ANALYSIS	
			Long List of Metals	Short List of Metals
SB-11	13	C(5-7)	X	
		D(7-9)		X
SB-12	21	A(1-3)		X
		B(3-5)	X	
		C(5-7)		X
SB-13	12.75	B(3-5)		X
		C(5-7)	X	
		D(7-9)		X
SB-14	13	B(3-5)		X
		C(5-7)		X
		D(7-9)	X	
SB-15	12	A(1-3)		X
		DUP-A(1-3)		X
		C(5-7)	X	
		DUP-C(5-7)	X	
		D(7-9)		X
		DUP-D(7-9)		X
SB-16	13.5	A(1-3)		X
		B(3-5)	X	
		C(5-7)		X
SB-17	5	A(1-3)		X
		B(3-5)	X	
SB-18	5.75	A(1-3)	X	
		B(3-5)		X
SB-19	9	A(1-3)	X	
		B(3-5)		X
		C(5-7)		X
SB-20	12	A(1-3)	X	
		B(3-5)		X
		D(7-9)		X
SB-21	12.5	A(1-3)		X
		B(3-5)	X	

TABLE 1 (continued)
SOIL BORING AND SAMPLE DATA
Robertson-Ceco
Lemont, Illinois

Soil Boring Number	Total Depth (feet)	Sample Interval	ANALYSIS	
			Long List of Metals	Short List of Metals
SB-21	12.5	C(3-5)		X
SB-22	9.5	A(1-3)		X
		DUP-A(1-3)		X
		B(3-5)	X	
		DUP-B(3-5)	X	
		D(7-9)		X
		DUP-D(7-9)		X
SB-23	9	A(1-3)	X	
		B(3-5)		X
		C(5-7)		X
SB-24	9	A(1-3)		X
		DUP-A(1-3)		X
		B(3-5)		X
		DUP-B(3-5)		X
		C(5-7)	X	
		DUP-C(5-7)	X	
SB-25	5.5	A(1-3)	X	
		B(3-50		X
		C(5-5.5)	X	
SB-26	5.5	A(1-3)	X	
		B(3-5)		X
		C(5-5.5)		X
SB-27	16.5	A(1-3)		X
		B(3-5)	X	
		C(5-7)		X
SB-28	16.5	A(1-3)	X	
		B(3-5)		X
		D(7-9)		X

Long List of Metals: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.
Short List of Metals: Cadmium, Hexavalent Chromium, and Lead

TABLE 2
SUMMARY OF TOTAL METALS IN SOIL BORING SAMPLES
Robertson-Ceco Corporation
Lemont, Illinois

Sample No./Depth (ft)	Metals (mg/kg)														
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SB-01A (1-3)	ND	6	310	0.62	3.7	1,300	NA	220	0.16	36	ND	ND	ND	210	580
SB-01B (3-5)	NA	NA	NA	NA	2.4	NA	ND	95	NA	NA	NA	NA	NA	NA	NA
SB-01C (5-7)	NA	NA	NA	NA	14	NA	ND	330	NA	NA	NA	NA	NA	NA	NA
SB-02A (1-3)	ND	ND	390	ND	1.4	2,300	NA	48	ND	34	ND	ND	ND	330	1,400
SB-02B (3-5)	NA	NA	NA	NA	0.96	NA	ND	42	NA	NA	NA	NA	NA	NA	NA
SB-02D (7-9)	NA	NA	NA	NA	ND	NA	ND	19	NA	NA	NA	NA	NA	NA	NA
SB-03A (1-3)	NA	NA	NA	NA	36	NA	ND	1,200	NA	NA	NA	NA	NA	NA	NA
SB-03B (3-5)	NA	NA	NA	NA	11	NA	ND	340	NA	NA	NA	NA	NA	NA	NA
SB-03C (5-7)	ND	3.6	690	1	7.2	1,300	NA	200	ND	34	ND	ND	ND	190	1,400
SB-04B (3-5)	NA	NA	NA	NA	7.9	NA	ND	170	NA	NA	NA	NA	NA	NA	NA
SB-04C (5-7)	ND	4.4	300	ND	1.7	2,200	NA	84	ND	18	ND	ND	ND	94	590
SB-04F (11-13)	NA	NA	NA	NA	1.8	NA	3.8	61	NA	NA	NA	NA	NA	NA	NA
SB-05D (7-9)	NA	NA	NA	NA	53	NA	ND	2,800	NA	NA	NA	NA	NA	NA	NA
SB-05F (11-13)	NA	NA	NA	NA	17	NA	ND	990	NA	NA	NA	NA	NA	NA	NA
SB-05G (13-15)	ND	5.9	170	0.63	10	51	NA	430	0.19	27	ND	ND	ND	25	1,600
SB-06A (1-3)	NA	NA	NA	NA	4.5	NA	2.2	1,200	NA	NA	NA	NA	NA	NA	NA
SB-06B (3-5)	ND	5.7	460	ND	6.7	680	NA	950	0.29	44	ND	ND	ND	330	1,200
SB-07A (1-3)	NA	NA	NA	NA	19	NA	ND	1,100	NA	NA	NA	NA	NA	NA	NA
SB-07B (3-5)	ND	19	310	ND	9.5	110	NA	1,100	0.73	130	ND	ND	ND	26	1,700
SB-07C (5-7)	NA	NA	NA	NA	9	NA	ND	850	NA	NA	NA	NA	NA	NA	NA
SB-08C (5-7)	NA	NA	NA	NA	2.1	NA	ND	110	NA	NA	NA	NA	NA	NA	NA
SB-08D (7-9)	NA	NA	NA	NA	5	NA	ND	340	NA	NA	NA	NA	NA	NA	NA
SB-08F (11-13)	ND	17	280	ND	10	72	NA	1,200	0.75	81	ND	ND	ND	18	1,900
SB-09C (5-7)	NA	NA	NA	NA	0.89	NA	3.7	89	NA	NA	NA	NA	NA	NA	NA

TABLE 2 (continued)
SUMMARY OF TOTAL METALS IN SOIL BORING SAMPLES
Robertson-Ceco Corporation
Lemont, Illinois

Sample No./Depth (ft)	Metals (mg/kg)														
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SB-09D (7-9)	NA	NA	NA	NA	4.3	NA	ND	380	NA	NA	NA	NA	NA	NA	NA
SB-09E (9-11)	ND	9.3	600	ND	11	450	NA	2,200	1.9	81	ND	ND	ND	180	4,400
SB-10B (3-5)	ND	9.3	280	ND	80	1,100	NA	1,900	ND	43	ND	2.6	ND	180	9,200
DUP-10B (3-5)(1B)	ND	8.1	180	ND	56	1,000	NA	1,200	ND	55	ND	4	ND	250	6,600
SB-10C (5-7)	NA	NA	NA	NA	60	NA	8.1	1,900	NA	NA	NA	NA	NA	NA	NA
DUP-10C (5-7)(1C)	NA	NA	NA	NA	40	NA	5.8	1,200	NA	NA	NA	NA	NA	NA	NA
SB-10E (9-11)	NA	NA	NA	NA	13	NA	ND	320	NA	NA	NA	NA	NA	NA	NA
DUP-10E (9-11)(1E)	NA	NA	NA	NA	30	NA	ND	450	NA	NA	NA	NA	NA	NA	NA
SB-11A (1-3)	NA	NA	NA	NA	3.3	NA	ND	130	NA	NA	NA	NA	NA	NA	NA
SB-11C (5-7)	ND	19	120	ND	2.3	1,400	NA	73	ND	110	1	3.4	ND	450	260
SB-11D (7-9)	NA	NA	NA	NA	0.66	NA	ND	26	NA	NA	NA	NA	NA	NA	NA
SB-12A (1-3)	NA	NA	NA	NA	3.3	NA	ND	320	NA	NA	NA	NA	NA	NA	NA
SB-12B (3-5)	ND	7.9	140	ND	19	770	NA	730	ND	28	ND	ND	ND	170	2,500
SB-12C (5-7)	NA	NA	NA	NA	4.8	NA	ND	160	NA	NA	NA	NA	NA	NA	NA
SB-13B (3-5)	NA	NA	NA	NA	0.66	NA	6.3	13	NA	NA	NA	NA	NA	NA	NA
SB-13C (5-7)	ND	6.8	270	ND	2.1	1,400	NA	27	ND	28	ND	2.6	ND	210	200
SB-13D (7-9)	NA	NA	NA	NA	2.4	NA	4.4	81	NA	NA	NA	NA	NA	NA	NA
SB-14B (3-5)	NA	NA	NA	NA	64	NA	ND	3,800	NA	NA	NA	NA	NA	NA	NA
SB-14C (5-7)	NA	NA	NA	NA	2.4	NA	ND	140	NA	NA	NA	NA	NA	NA	NA
SB-14D (7-9)	ND	7	270	ND	47	880	NA	2,400	0.61	46	3.6	5.3	ND	150	8,700
SB-15A (1-3)	NA	NA	NA	NA	6.4	NA	4.5	230	NA	NA	NA	NA	NA	NA	NA

Table 2 (continued)
SUMMARY OF TOTAL METALS IN SOIL BORING SAMPLES
Robertson-Ceco Corporation
Lemont, Illinois

Sample/Depth (feet)	Metals (mg/kg)														
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
DUP-15A (1-3)(2A)	NA	NA	NA	NA	4.8	NA	ND	180	NA	NA	NA	NA	NA	NA	NA
SB-15C (5-7)	ND	ND	400	ND	0.65	1,900	NA	34	ND	37	6.5	ND	ND	230	210
Dup-15C (5-7)(2C)	ND	3.4	470	0.63	0.9	1,900	NA	38	ND	52	3.8	ND	ND	270	260
SB-15D (7-9)	NA	NA	NA	NA	0.97	NA	ND	45	NA	NA	NA	NA	NA	NA	NA
DUP-15D (7-9)(2D)	NA	NA	NA	NA	ND	NA	ND	28	NA	NA	NA	NA	NA	NA	NA
SB-16A (1-3)	NA	NA	NA	NA	1.8	NA	ND	97	NA	NA	NA	NA	NA	NA	NA
SB-16B (3-5)	ND	ND	330	3.4	2.7	1,000	NA	89	ND	33	ND	ND	ND	170	790
SB-16C (5-7)	NA	NA	NA	NA	0.94	NA	ND	140	NA	NA	NA	NA	NA	NA	NA
SB-17A (1-3)	NA	NA	NA	NA	6.8	NA	ND	780	NA	NA	NA	NA	NA	NA	NA
SB-17B (3-5)	ND	5.6	25	ND	ND	12	NA	30	ND	9.8	ND	ND	ND	11	57
SB-18A (1-3)	ND	ND	530	ND	3.8	230	NA	570	0.55	24	1.3	ND	ND	180	690
SB-18B (3-5)	NA	NA	NA	NA	4	NA	ND	480	NA	NA	NA	NA	NA	NA	NA
SB-19A (1-3)	ND	ND	260	ND	4.6	1,500	NA	380	ND	62	0.78	ND	ND	180	900
SB-19B (3-5)	NA	NA	NA	NA	4.4	NA	ND	390	NA	NA	NA	NA	NA	NA	NA
SB-19C (5-7)	NA	NA	NA	NA	1.4	NA	ND	110	NA	NA	NA	NA	NA	NA	NA
SB-20A (1-3)	ND	6.7	210	0.63	110	880	NA	3,000	0.56	45	2.3	ND	ND	200	13,000
SB-20B (3-5)	NA	NA	NA	NA	13	NA	ND	390	NA	NA	NA	NA	NA	NA	NA
SB-20D (7-9)	NA	NA	NA	NA	2.7	NA	ND	200	NA	NA	NA	NA	NA	NA	NA
SB-21A (1-3)	NA	NA	NA	NA	12	NA	ND	380	NA	NA	NA	NA	NA	NA	NA
SB-21B (3-5)	ND	4.4	70	ND	3.7	94	NA	160	ND	27	ND	ND	ND	35	720
SB-21C (5-7)	NA	NA	NA	NA	3.1	NA	ND	130	NA	NA	NA	NA	NA	NA	NA
SB-22A (1-3)	NA	NA	NA	NA	12	NA	ND	1,500	NA	NA	NA	NA	NA	NA	NA
DUP-22A (1-3)(3A)	NA	NA	NA	NA	13	NA	ND	1,700	NA	NA	NA	NA	NA	NA	NA

Table 2 (continued)
SUMMARY OF TOTAL METALS IN SOIL BORING SAMPLES
Robertson-Ceco Corporation
Lemont, Illinois

Sample/Depth (ft)	Metals (mg/kg)														
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SB-22B (3-5)	ND	3.3	110	0.71	1.6	61	NA	67	ND	22	ND	ND	ND	41	190
Dup-22B (3-5)(3B)	ND	17	340	ND	5.4	740	NA	440	0.16	100	0.68	ND	ND	250	1,100
SB-22D (7-9)	NA	NA	NA	NA	3.3	NA	ND	210	NA	NA	NA	NA	NA	NA	NA
DUP-22D (7-9)(3D)	NA	NA	NA	NA	0.99	NA	ND	57	NA	NA	NA	NA	NA	NA	NA
SB-23A (1-3)	ND	5.5	320	ND	7.9	440	NA	530	1.1	33	0.64	ND	ND	250	1,500
SB-23B (3-5)	NA	NA	NA	NA	39	NA	ND	1,300	NA	NA	NA	NA	NA	NA	NA
SB-23C (5-7)	NA	NA	NA	NA	37	NA	ND	1,300	NA	NA	NA	NA	NA	NA	NA
SB-24A (1-3)	NA	NA	NA	NA	3.7	NA	ND	220	NA	NA	NA	NA	NA	NA	NA
DUP-24A (1-3)(4A)	NA	NA	NA	NA	0.74	NA	ND	17	NA	NA	NA	NA	NA	NA	NA
SB-24B (3-5)	NA	NA	NA	NA	1.4	NA	ND	66	NA	NA	NA	NA	NA	NA	NA
DUP-24B (3-5)(4B)	NA	NA	NA	NA	1.5	NA	ND	84	NA	NA	NA	NA	NA	NA	NA
SB-24C (5-7)	ND	ND	290	0.94	1.2	860	NA	53	ND	22	0.68	ND	ND	300	220
Dup-24C (5-7)(4C)	ND	ND	320	0.64	0.52	440	NA	19	ND	16	0.7	ND	ND	200	94
TACO-CWIC Values	82	46	14,000	19	100	4,100	4,100	400	61	4,100	1,000	1,000	160	1,400	61,000

All concentrations are measured in parts per million (ppm) or milligrams per kilogram (mg/kg)

fbgs = feet below ground surface

ND = None Detected

Shaded areas indicate contaminant exceeding TACO values for Commercial/Industrial Properties for construction worker inhalation concentration

TACO-Values = Construction Worker Ingestion Concentrations for Industrial/Commercial Properties
from IEPA's Tiered Approach to Cleanup Objectives (TACO) Guidance Document - January 1996

Table 3
SUMMARY OF TOTAL METALS IN BACKGROUND SOIL BORINGS
Robertson-Ceco Corporation
Lemont, Illinois

Sample No./Depth (fbgs)	Metals (mg/kg)														
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Hexavalent Chromium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SB-25A (1-3)	ND	40	49	ND	ND	NA	9.3	19	0.048	9.1	ND	ND	ND	11	76
SB-25B (3-5)	NA	NA	NA	NA	ND	ND	NA	11	NA	NA	NA	NA	NA	NA	NA
SB-25C (5-5.5)	NA	NA	NA	NA	0.63	ND	NA	12	NA	NA	NA	NA	NA	NA	NA
SB-26A (1-3)	ND	36	60	1	1.3	NA	7.2	71	0.31	9.9	ND	ND	ND	9.3	270
SB-26B (3-5)	NA	NA	NA	NA	0.87	ND	NA	40	NA	NA	NA	NA	NA	NA	NA
SB-26C (5-5.5)	NA	NA	NA	NA	0.8	ND	NA	44	NA	NA	NA	NA	NA	NA	NA
SB-27A (1-3)	NA	NA	NA	NA	8.2	ND	NA	760	NA	NA	NA	NA	NA	NA	NA
SB-27B (3-5)	ND	4.2	200	0.68	2.9	NA	450	210	ND	68	ND	ND	ND	79	480
SB-27C (5-7)	NA	NA	NA	NA	2.9	ND	NA	190	NA	NA	NA	NA	NA	NA	NA
SB-28A (1-3)	ND	4.2	280	0.57	3.7	NA	410	150	ND	24	ND	ND	ND	89	820
SB-28B (3-5)	NA	NA	NA	NA	0.57	ND	NA	21	NA	NA	NA	NA	NA	NA	NA
SB-28D (7-9)	NA	NA	NA	NA	0.7	ND	NA	35	NA	NA	NA	NA	NA	NA	NA
TACO-Values	82	46	14,000	19	100	4,100	4,100	400	61	4,100	1,000	1,000	160	1,400	61,000

All concentrations are measured in parts per million (ppm) or milligrams per kilogram (mg/kg)
fbgs = feet below ground surface
ND = Compound was not detected at laboratory detection limit
NA = Not Analyzed
TACO-Values = For Construction Worker Ingestion Concentrations for Industrial/Commercial Properties
from IEPA's Tiered Approach to Cleanup (TACO) Guidance Document - January 1996

TABLE 4
SUMMARY OF TOTAL METALS IN SURFACE PERIMETER AND SEDIMENT SAMPLES
Robertson-Ceco Corporation
Lemont, Illinois

Sample Number	Metals (mg/kg)													
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
PS-01	ND	4.5	200	ND	5.1	790	510	0.18	27	ND	ND	ND	140	930
PS-02	ND	25	37	ND	2	150	160	ND	190	ND	ND	ND	35	410
PS-03	ND	4.6	160	ND	3.4	160	100	0.33	24	ND	ND	ND	57	670
PS-04	ND	ND	60	ND	1.6	56	50	ND	9.8	ND	ND	ND	28	260
SS-01	ND	5.8	47	ND	1.5	19	64	0.07	8.8	ND	ND	ND	13	260
SS-02	ND	ND	ND	ND	0.97	13	160	ND	3.3	ND	ND	ND	6.2	140
SS-03	ND	5.3	40	ND	2.5	23	150	0.17	9.7	ND	ND	ND	15	370
SS-04	ND	14	72	ND	3	22	260	4.5	13	ND	ND	ND	18	1500
SS-05	ND	9.1	35	ND	ND	12	22	0.048	14	ND	ND	ND	20	110
SS-06	ND	34	82	0.57	1.8	58	88	ND	20	ND	ND	ND	34	440
SS-07	ND	3.6	83	ND	0.53	17	26	ND	12	ND	ND	ND	22	140
SS-08	ND	3.4	ND	ND	ND	11	13	ND	8.8	ND	ND	ND	14	66
SS-09	ND	2.8	130	ND	4.6	170	170	0.3	18	ND	ND	ND	47	1,000
SS-10	ND	2.7	ND	ND	0.86	7.4	57	0.14	6.8	ND	ND	ND	5.4	95
TACO-Values	82	46	14,000	19	100	4,100	400	61	4,100	1,000	1,000	160	1,400	61,000

PS = Perimeter surface sediment sample

SS = Surface sediment sample

Total metals analysis utilizing USEPA Methods 3015/6000 or 7000

All concentrations are measured in parts per million (ppm) or milligrams per kilogram (mg/kg)

fbgs = feet below ground surface

ND = Compound was not detected at laboratory detection limit

TACO-Values =Construction Worker Ingestion Concentrations for Industrial/Commercial Properties from IEPA's Tiered Approach to Cleanup Objectives (TACO) Guidance Document - January 1996

TABLE 5
SUMMARY OF TOTAL METALS IN SURFACE WATER SAMPLES
Robertson-Ceco Corporation
Lemont, Illinois

Sample Number	Metals (mg/L)													
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
WS-2	ND	ND	ND	ND	ND	ND	0.036	ND	ND	ND	ND	ND	ND	ND
WS-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS-7	ND	ND	ND	ND	ND	ND	0.0057	ND	ND	ND	ND	ND	ND	ND
WS-8	ND	ND	ND	ND	ND	ND	0.007	ND	ND	ND	ND	ND	ND	ND
WS-9	ND	ND	ND	ND	ND	0.039	0.037	ND	ND	ND	ND	ND	0.17	ND
WS-10	ND	ND	ND	ND	ND	ND	0.013	ND	ND	ND	ND	ND	ND	ND

Total metals analysis utilizing USEPA Methods 3015/6000 or 7000
All concentrations are measured in parts per million (ppm) or milligrams per liter (mg/L)
ND = Concentration of compound was not detected at laboratory detection limit

TABLE 6
SUMMARY OF TOTAL METALS IN GROUND WATER SAMPLES
Robertson-Ceco Corporation
Lemont, Illinois

Sample Number	Metals (mg/kg)													
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
OW-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
OW-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
OW-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
OW-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WELL B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WELL C	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WELL D	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WELL J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WELL K	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-D1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-D2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-D3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-D4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-D5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
L.D.L.	0.10	0.05	0.05	0.01	0.01	0.01	0.005	0.002	0.050	0.010	0.050	0.200	0.100	0.050

PS = Perimeter surface sediment sample

SS = Surface sediment sample

Total metals analysis utilizing USEPA Methods 3015/6000 or 7000

All concentrations are measured in parts per million (ppm) or milligrams per kilogram (mg/kg)

fbgs = feet below ground surface

ND = Compound was not detected at laboratory detection limit

TACO-Values =Construction Worker Ingestion Concentrations for Industrial/Commercial Properties from IEPA's Tiered Approach to Cleanup Objectives (TACO) Guidance Document - January 1996

TABLE 7
MONITORING WELL CONSTRUCTION DETAILS
Robertson-Ceco Corporation
Lemont, Illinois

Well Number	Installed By	Date Installed	Well Material	Total Depth (feet bgs)	Screen Interval (feet bgs)	Formation Screened	Depth to Bedrock (feet bgs)	Relative Ground Water Location	Hydraulic Conductivity (cm/sec)
OW-1	Eldredge	4/4/80	4" PVC	55.3	16.8 - 55.3	Bedrock	13.8	DG	4.95×10^{-5}
OW-2	Eldredge	4/4/80	4" PVC	54.7	16.7 - 54.7	Bedrock	13.7	DG	2.55×10^{-3}
OW-3	Eldredge	4/4/80	4" PVC	55.5	8.5 - 55.5	Bedrock	5.5	DG	1.06×10^{-3}
OW-4	Eldredge	4/4/80	4" PVC	54.3	14.3 - 54.3	Bedrock	11.3	UG	1.07×10^{-3}
B	NUS	8/11/84	2" PVC	24.5	19.5 - 24.5	Bedrock	5.0	DG	5.9×10^{-6}
C	NUS	8/11/84	2" PVC	23.5	18.5 - 23.5	Bedrock	9.0	DG	1.68×10^{-5}
D	NUS	8/10/84	2" PVC	24.0	19.0 - 24.0	Bedrock	4.0	DG	6.6×10^{-6}
E	NUS	8/8/84	2" PVC	24.5	19.5-24.5	Bedrock	14.0	MG	NA
I	NUS	8/9/84	2" PVC	20.0	15.0-20.0	Bedrock	0.0	MG	NA
J	NUS	8/10/84	2" PVC	25.0	20.0 - 25.0	Bedrock	13.0	MG	5.7×10^{-6}
K	NUS	8/9/84	2" PVC	24.5	19.5 - 24.5	Bedrock	9.5	MG	8.15×10^{-5}
MW-D1	HNUS	4/7/93	2" 316 SS	30.4	24.9 - 29.9	Bedrock	20.3	UG-ISU	1.05×10^{-5}
MW-D2	HNUS	4/12/93	2" 316 SS	29.0	21.0 - 26.0	Bedrock	17.0	DG-ISU	1.15×10^{-5}
MW-D3	HNUS	4/14/93	2" 316 SS	26.5	20.5 - 25.5	Bedrock	16.0	DG-ISU	3.4×10^{-6}
MW-D4	HNUS	4/8/93	2" 316 SS	26.0	19.5 - 24.5	Bedrock	15.5	DG-ISU	4.4×10^{-6}
MW-D5	HNUS	4/6/93	2" 316 SS	29.0	19.5 - 24.5	Bedrock	15.5	UP-ISU	6.1×10^{-6}

PVC = Polyvinyl Chloride (rigid)
SS = Stainless Steel
DG = Down Gradient of the Fill
UG = Up Gradient of the Fill
MG = Mid Gradient
DG-ISU = Down Gradient inside the Interim Surface Unit
UP-ISU = Up Gradient inside the Interim Surface Unit

TABLE 8
GROUND WATER ELEVATION DATA
Robertson-Ceco Corporation
Lemont, Illinois

Well Number	TOC MPE (ft)	1/31/96		3/25/96		4/25/96	
		Depth to Water (ft btoc)	Ground Water Elevation (ft)	Depth to Water (ft btoc)	Ground Water Elevation (ft)	Depth to Water (ft btoc)	Ground Water Elevation (ft)
OW-1	596.42	12.46	583.96	12.64	583.78	12.17	584.25
OW-2	591.74	7.15	584.59	7.15	584.59	7.09	584.65
OW-3	592.01	2.64	589.37	3.05	588.96	2.62	589.39
OW-4	592.53	3.69	588.84	4.05	588.48	3.59	588.94
B	593.56	11.4	582.16	11.8	581.76	11.09	582.47
C	593.76	11.44	582.32	11.92	581.84	11.1	582.66
D	588.79	6.45	582.34	6.88	581.91	6.1	582.69
J	600.34	13.96	586.38	13.75	586.59	13.41	586.93
K	600.64	12.19	588.45	12.15	588.49	11.95	588.69
MW-D1	600.56	-	-	12.49	588.07	12.16	588.4
MW-D2	601.04	-	-	15.15	585.89	14.87	586.17
MW-D3	601.27	13.98	587.29	13.84	587.43	13.51	587.76
MW-D4	601.89	15.46	586.43	15.58	586.31	15.27	586.62
MW-D5	602.77	-	-	14.19	588.58	13.73	589.04

ft btoc = Feet Below Top Of Casing
TOC = Top Of Casing
MPE = Measuring Point Elevation
- = Water level unable to be measured

TABLE 9
SLAG FILL THICKNESS AND DEPTH TO BEDROCK DATA
Robertson-Ceco
Lemont, Illinois

Borehole Number	Surface Elevation	Depth to Bedrock (feet)	Bedrock Surface Elevation (feet)	Thickness of Slag Fill (feet)
SB-01	590.9	12.0	578.9	9.5
SB-02	590.5	12.0	578.5	8.0
SB-03	592.4	18.5	573.9	11.5
SB-04	598.2	16.75	581.5	16.75
SB-05	598.5	15.0	583.5	7.0
SB-06	587.5	3.5	584.0	3.5
SB-07	598.9	13.0	585.9	9.25
SB-08	599.3	12.5	586.8	12.5
SB-09	600.8	15.0	585.8	15.0
SB-10	594.2	14.5	579.7	10.5
SB-11	592.5	13.0	579.5	7.5
SB-12	598.6	21.0	577.6	1.0
SB-13	598.3	12.75	585.6	3.0
SB-14	600.1	13.0	587.1	7.0
SB-15	600.3	12.0	588.3	7.25
SB-16	600.9	13.5	587.4	13.5
SB-17	589.7	5.0	584.7	2.5
SB-18	588.8	5.75	583.1	1.0
SB-19	592.2	9.0	583.2	7.5
SB-20	595.7	12.0	583.7	11.0
SB-21	596.0	12.5	583.5	1.0
SB-22	596.3	9.5	586.8	1.0
SB-23	596.3	9.0	587.3	1.0
SB-24	600.7	9.0	591.7	1.0

* All elevations are in reference to actual mean sea level

ATTACHMENT A

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ATTACHMENT A

PHOTOGRAPH LOG

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Photograph 1

Photograph 2

Photograph 3

Robertson-Ceco Corporation Property, Lemont, Illinois
Site Photographs from RFI Phase I Field Activities

Photograph 1	View from south looking north. CEI personnel performing "slug test" on monitoring Well C.
Photograph 2	Rock & Soil Drilling Corp. setting up on soil boring SB-4.
Photograph 3	Rock & Soil Drilling Corp. advancing soil boring SB-6.

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Photograph 4

Photograph 5

Photograph 6

Robertson-Ceco Corporation Property, Lemont, Illinois
Site Photographs from RFI Phase I Field Activities

Photograph 4	Rock & Soil Drilling Corp. advancing off-site soil boring SB-26.
Photograph 5	View from west looking east. Rock & Soil Drilling Corp. advancing off-site soil boring SB-27.
Photograph 6	Ground water sampling equipment set up on monitoring well MW-D2.

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ATTACHMENT B

SOIL BORING LOGS

MAJOR DIVISIONS				TYPICAL NAMES	
COARSE-GRAINED SOILS More than 50% larger than No. 200 sieve size	GRAVEL AND GRAVELLY SOILS More than 50% of coarse fraction is larger than No. 4 sieve size	CLEAN GRAVELS Little or no fines		GW	Well-graded gravels, gravel-sand mixtures, little or no fines
				GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
		GRAVELS WITH FINES With over 12% fines		GM	Silty gravels, gravel-sand-silt mixtures
				GC	Clayey gravels, gravel-sand-clay mixtures
	SAND AND SANDY SOILS More than 50% of coarse fraction is smaller than No. 4 sieve size	CLEAN SAND Little or no fines		SW	Well-graded sands, gravelly sands, little or no fines
				SP	Poorly-graded sands, gravelly sands, little or no fines
		SANDS WITH FINES With over 12% fines		SM	Silty-sands, sand-silt mixtures
				SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS More than 50% smaller than No. 200 sieve size	SILTS AND CLAYS Liquid limit less than 50%			ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts, with slight plasticity
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
				OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS Liquid limit greater than 50%			MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils
				CH	Inorganic clays of high plasticity, fat clays
				OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS				PT	Peat, humus, swamp soils with high organic content

UNIFIED SOIL CLASSIFICATION SYSTEM

- ⊠ - Bulk or classification sample
- ■ - Sample preserved for possible analysis
- ▽ - First-encountered ground water level (saturation)
- ▼ - Static ground water level
- SPT - Standard Penetration Test
- P - Push sample (thin walled sampler "Shelby Tube")

- OVA - Organic Vapor Analyzer, including both the PID and FID
- PID - Photolonization Detector, (Microtip H-200) calibrated to 100 ppm isobutylene standard with a 10.2 eV lamp
- FID - Flamelonization Detector (Century 128) calibrated with 95 ppm methane
- Blow Counts - Blows required to drive a standard splitspoon sampler 6 inches with a 140 pound hammer free falling 30 inches. Blow counts for S & H samplers are converted to approximate "equivalent" SPT N valued (n = 0.5 x S & H blows per foot)
- "n" value - Number of blows required to advance the splitspoon sampler in two 6 inch increments falling 6 inches of seating

KEY TO BORING LOG

CARLSON ENVIRONMENTAL, INC.
312 West Randolph Street
Chicago, Illinois 60606
(312) 346-2140

Soil Classification Chart & Key To Test Data

Date	Drawn By	Revised Date	Sheet of
9-8-95	P. Barys		

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Log of Boring SB-01

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/11/95 0810
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/11/95 0845
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: 9.5 ft. BGS
Depth to Rock: 12 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 12 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts
SB-01A (0816)	1-3	20"	14,33 42,50/3"
SB-01B (0817)	3-5	10"	8,36 24,23
SB-01C (0820)	5-7	15"	5,11 11,50/5"
SB-01D (0825)	7-9	1"	50/3"
SB-01E (0835)	9-11	15"	3,5 5,8
SB-01F (0838)	11-13	5"	4,50/5"

Gray **SLAG**, dry, fine sand to coarse gravel size

Dark gray slag, wet, fine sand to coarse gravel size, trace soft white inclusions

Black **CLAY (CL)**, saturated, with coarse gravel

Green **SILT (OL)**, wet to saturated, some organics

Gray/white **WEATHERED DOLOMITE**, fractured

Dolomite bedrock at 12 feet bgs

Remarks: Approximate boundary between fill material and native soil

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Log of Boring SB-02

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/11/95 0905
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/11/95 1035
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: 9 ft. BGS
Depth to Rock: 12 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 12 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray **SLAG**, dry, fine sand to fine gravel size, trace soft white inclusions	
SB-02A (0911)	1-3	20"	10,42 25,20	2			
				3		Gray/black slag, moist to wet, medium sand to fine gravel size	
SB-02B (0915)	3-5	15"	8,17 50/3"	4			Auger refusal at 4.5 feet bgs. Moved borehole 3X, large pieces of metal in cuttings
				5		Some coarse gravel sized slag	
SB-02C (1000)	5-7	2"	50/3"	6			
				7		Trace wood debris	
SB-02D (1015)	7-9	12"	7,28 10,8	8		Dark gray **CLAYEY SILT (ML)**, moist, some organics	Approximate boundary between fill material and native soil
SB-02E (1020)	9-11	20"	3,3 4,4	9			
				10		Green **SILT (OL)**, saturated, trace organics	
				11			
SB-02F (1025)	11-13	3"	47,50/5"	12		Gray/white **WEATHERED DOLOMITE**, fractured	
						Dolomite bedrock at 12 feet bgs	
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

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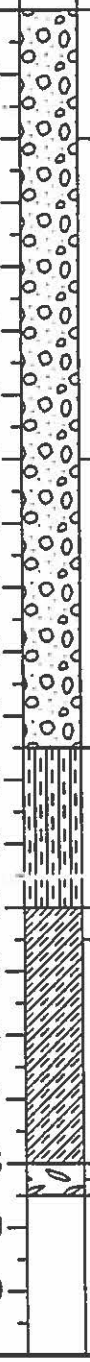
Log of Boring SB-03

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/11/95 1040
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/11/95 1215
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: 9 ft. BGS
Depth to Rock: 18.5 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 18.5 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts
SB-03A (1052)	1-3	20"	8,34 24,25
SB-03B (1100)	3-5	20"	15,19 21,25
SB-03C (1103)	5-7	18"	15,15 21,24
SB-03D (1110)	7-9	5"	10,50/4"
SB-03E (1115)	9-11	18"	15,8 2,5
SB-03F (1154)	11-13	13"	10,11 4,4
SB-03G (1159)	13-15	20"	2,4 1,1
SB-03H (1206)	15-17	24"	1,2 1,2
SB-03I (1210)	17-19	14"	1,10 50/4"



Gray **SLAG**, dry, very fine to coarse sand size

2" black slag seam, dry, shiny, silt to very fine sand size

Dark brown slag, dry, fine sand to coarse sand size

Slag becomes moist

Dark brown slag, wet, silt to coarse sand size, trace clay and wood

Black slag, wet, fine sand to coarse gravel size (mostly medium sand size)

Brown slag, wet, medium sand to coarse gravel size, trace red brick

Color change to brown/black, saturated at 9 feet bgs

1.5" piece of wood

Brown/green **CLAYEY SILT (OL)**, saturated, black streaks, organic- rich

Approximate boundary between fill material and native soil

Brown/green **SILTY CLAY (OL)**, moist, organic-rich

Color change to black at 14.5 feet bgs

Gray/white **WEATHERED DOLOMITE**, fractured

Dolomite bedrock at 18.5 feet bgs

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Log of Boring SB-04

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/11/95 1320
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/11/95 1435
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: 13 ft. BGS
Depth to Rock: 16.75 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 16.75 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray **SLAG**, dry, silt to fine gravel size (mostly fine gravel)	
SB-04A (1345)	1-3	2"	50/4"	2			
				3		Dark brown slag, moist, silt to fine gravel size	
SB-04B (1355)	3-5	8"	No Counts	4			
				5		Dark brown slag, moist, fine sand to coarse gravel size, trace clay	
SB-04C (1400)	5-7	15"	27,60 50/4"	6		trace limestone fragments	
				7			
SB-04D (1405)	7-9	4"	25,50/3"	8		Large metal fragments	
				9			
SB-04E	9-11	NR	50/2"	10			
				11		Brown slag, moist, fine sand to coarse gravel size	
SB-04F (1418)	11-13	15"	19,17 14,30	12			
				13		▼ Dark brown slag, saturated, fine sand to coarse gravel size (mostly fine gravel size)	
SB-04G (1425)	13-15	3"	17,31 18,12	14			
				15			
SB-04H (1430)	15-17	5"	10,10 12,50/2"	16		Large limestone fragments	
				17		Dolomite bedrock at 16.75 feet bgs	Approximate boundary between fill material and bedrock
				18			
				19			
				20			

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Log of Boring SB-05

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/12/95 0730
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/12/95 0849
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: 12 ft. BGS
Depth to Rock: 15 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 15 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray **SLAG**, dry, fine to coarse gravel size	
SB-05A (0746)	1-3	20"	24,24 32,50	2		Dark brown slag, moist, fine sand to fine gravel size, trace limestone and red brick	
				3		Dark brown/gray slag, moist, silt to medium sand size, trace soft white inclusions	
SB-05B (0750)	3-5	6"	48,50/1"	4		trace wood debris and large slag cobbles	
				5		Dark brown slag, moist, silt to medium sand size, trace coarse gravel size, trace wood, clay	
SB-05C (0802)	5-7	10"	31,22 24,16	6			
				7		Dark brown **CLAYEY SILT (ML)**, moist	
SB-05D (0807)	7-9	8"	9,18 14,15	8		3" of carpet fibers	
				9			
SB-05E (0815)	9-11	6"	7,11 16,12	10		Dark brown **CLAYEY SILT (ML)**, moist, trace fine to coarse gravel sized slag, carpet fibers	
				11			
SB-05F (0823)	11-13	10"	7,8 9,10	12		▼ Dark brown **GRAVELLY SAND (GM)**, saturated, coarse sand, some silt	
				13			
SB-05G (0828)	13-15	4"	4,2 50/3"	14		Dark brown/gray **SILTY CLAY (CL)**, saturated, trace copper wire	
				15		Dolomite bedrock at 15 feet bgs	Approximate boundary between fill material and bedrock
				16			
				17			
				18			
				19			
				20			

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Log of Boring SB-06

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/12/95 0915

Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/12/95 0940

Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: NA ft. BGS
Depth to Rock: 3.5 ft. BGS

Borehole Diameter: 6 in.
Total Depth: 3.5 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray **SLAG**, dry, silt to fine gravel size	
SB-06A (0920)	1-3	8"	18,32 42,50/4"	2		Dark brown slag, moist, silt to coarse gravel size	
				3			
SB-06B (0925)	3-5	5"	50/3"	4		Dolomite bedrock at 3.5 feet bgs	Approximate boundary between fill material and bedrock
				5			
				6			
				7			
				8			
				9			
				10			
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

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Log of Boring SB-07

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/12/95 0942
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/12/95 1100
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: NA ft. BGS
Depth to Rock: 13 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 13 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray **SLAG**, dry, fine to coarse gravel size	
SB-07A (1000)	1-3	12"	39,50/4"	2		Dark brown slag, moist, silt to coarse sand size	
SB-07B (1005)	3-5	20"	16,24 34,34	3 4		Black slag, moist, silt to fine gravel size, trace plastic, glass, soft white inclusions	
SB-07C (1009)	5-7	12"	18,35 50/4"	5 6		trace limestone and red brick	Auger refusal at 6.75 feet bgs. Moved borehole location 4X. Cuttings contain plastic and metal fragments
SB-07D (1035)	7-9	3"	11,11 11,6	7 8		2" of black glassy shards, very fine to coarse sand size, trace coarse gravel sized slag Large piece of slag in spoon	
SB-07E (1040)	9-11	20"	5,5 3,6	9 10		Black **CLAY (CL)**, moist, soft, trace fine to coarse limestone	Approximate boundary between fill material and native soil
SB-07F (1049)	11-13	18"	9,10 8,11	11 12			
SB-07G	13-15	1"	50/1"	13		Gray/white **WEATHERED DOLOMITE**, fractured Dolomite bedrock at 13 feet bgs	
				14 15 16 17 18 19 20			

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Log of Boring SB-08

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/12/95 1140
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/12/95 1350
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: NA ft. BGS
Depth to Rock: 12.5 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 12.5 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray **SLAG**, dry, fine to coarse gravel size Brown slag, dry to moist, silt to fine gravel size	
SB-08A (1145)	1-3	3"	50/5"	2			
SB-08B (1200)	3-5	8"	18,25 35,38	3		Gray slag, moist, coarse	
				4			
				5		Brown slag, moist, fine sand to coarse gravel size	
SB-08C (1205)	5-7	8"	3,4 13,50	6			Auger refusal at 6 feet bgs. Moved borehole location 4X. Large blocks of slag visible in open borehole.
SB-08D (1320)	7-9	8"	18,18 18,17	7		Brown slag, moist, silt to coarse gravel size, trace red brick	
				8			
				9			
SB-08E (1325)	9-11	2"	7,19 14,15	10			
				11			
SB-08F (1335)	11-13	6"	14,15 50/4"	12		trace polyethylene sheeting, clay	
				13		Dolomite bedrock at 12.5 feet bgs	Approximate boundary between fill material and bedrock
				14			
				15			
				16			
				17			
				18			
				19			
				20			

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Log of Boring SB-09

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/12/95 1355
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/12/95 1440
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: 12 ft. BGS
Depth to Rock: 15 ft. BGS
Borehole Diameter: 8 in.
Total Depth: 15 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray **SLAG**, dry, fine to coarse gravel size	
SB-09A (1400)	1-3	6"	21,25 26,19	2		Dark gray slag, dry, silt to coarse gravel size, trace wood	
SB-09B (1405)	3-5	20"	17,18 15,15	3		Dark gray/brown slag, moist, silt to coarse gravel size (mostly medium sand size), trace small soft white inclusions	
SB-09C (1411)	5-7	16"	20,29 20,19	4			
				5			
				6			
				7		trace yellow/orange brick	
SB-09D (1418)	7-9	6"	10,5 11,9	8		trace clay	
				9		Dark brown slag, moist, clay to fine gravel size (mostly fines), trace metal scraps	
SB-09E (1422)	9-11	4"	5,4 5,6	10			
				11			Cuttings contain a large amount of scrap metal
SB-09F (1427)	11-13	4"	9,9	12		▼ Fill becomes wet to saturated at approximately 12 feet bgs, trace wood and metal scraps	
				13			
SB-09G (1431)	13-15	2"	15,19 50/5"	14		1" piece of scrap metal	
				15			
				16		Dolomite bedrock at 15 feet bgs	Approximate boundary between fill material and bedrock
				17			
				18			
				19			
				20			

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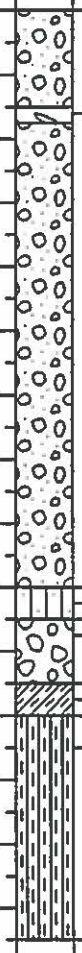
Log of Boring SB-10

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/13/95 0730
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/13/95 0855
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: 8 ft. BGS
Depth to Rock: 14.5 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 14.5 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts
SB-10A (0757)	1-3	14"	30,20 22,19
SB-10B (0802)	3-5	18"	19,27 32,50/3"
SB-10C (0806)	5-7	14"	4,18 20,22
SB-10D (0812)	7-9	4"	8,9 13,14
SB-10E (0816)	9-11	12"	2,2 6,7
SB-10F (0827)	11-13	20"	4,4 5,4
SB-10G (0831)	13-15	15"	1,2 50/4"



Depth (feet)	Materials Description	Remarks
1	Gray **SLAG**, dry, fine to coarse gravel size	
	Dark brown slag, dry to moist, silt to coarse gravel size (mostly fines), trace brick debris	
2	3" of limestone fragments at 1.5 feet bgs	
3	trace small soft white inclusions, trace clay	
4	Clay content decreases	
5		
6	trace brick debris	
7		
8	▼ Black slag, wet to saturated, coarse fragments	
9		
	Dark and light brown **SILTY SAND (SM)**, saturated, trace wood	
10	Black slag, saturated, coarse fragments	
11	Black **SILTY CLAY (OL)**, soft, wet, some organics	Approximate boundary between fill material and native soil
12	Brown/gray **CLAYEY SILT (OL)**, moist, mottled, some organics	
13	Black **CLAYEY SILT (OL)**, moist, organic-rich	
14		
15	Dolomite bedrock at 14.5 feet bgs	
16		
17		
18		
19		
20		

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Log of Boring SB-11

Robertson-Ceco Corporation
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Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/13/95 0900
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/13/95 1035
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: 9.5 ft. BGS
Depth to Rock: 13 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 13 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Grass and gray **SLAG**, dry, fine to coarse gravel size	
SB-11A (0910)	1-3	8"	20,50/5"	2		Dark brown slag, dry to moist, fine sand to fine gravel size (mostly medium sand size), trace leaves, roots, and metal scraps	
SB-11B (0913)	3-5	3"	14,18 16,17	4		Sample wet	
SB-11C (0918)	5-7	6"	7,8 50/5"	6		Slag becomes fine sand to coarse gravel size	
SB-11D (1005)	7-9	5"	9,10 8,4	8		Dark brown **SANDY SILT (SM)**, moist, very fine sand grain	Approximate boundary between fill material and native soil
SB-11E (1010)	9-11	20"	1,4 3,2	10		Green/brown **CLAYEY SILT (OH)**, wet to saturated, some organics	
SB-11F (1025)	11-13	15"	2,19 17,50/4"	12		Black **CLAYEY SILT (OL)**, wet to moist, organic-rich	
				13		Gray/white **WEATHERED DOLOMITE**, fractured	
				14		Dolomite bedrock at 13 feet bgs	
				15			
				16			
				17			
				18			
				19			
				20			

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Log of Boring SB-12

Robertson-Ceco Corporation
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Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/13/95 1120
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/13/95 1220
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: 11 ft. BGS
Depth to Rock: 21 ft. BGS
Borehole Diameter: 8 in.
Total Depth: 21 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Grass and gray **SLAG**, dry, fine to coarse gravel size	
SB-12A (1127)	1-3	20"	6,12 8,6	2		Dark brown **CLAYEY SILT (ML)**, moist, trace fine to coarse gravel, trace organics 3" of fractured limestone	
SB-12B (1131)	3-5	18"	2,8 12,12	3 4		trace limestone, fine to coarse gravel size	Moved borehole 2X
SB-12C (1135)	5-7	12"	6,10 8,8	5 6		1.5" pieces of black slag 4" of coarse fractured limestone	
SB-12D (1138)	7-9	10"	4,4 9,4	7 8		Dark brown **CLAYEY SILT**, moist, trace fine to coarse gravel sized limestone	
SB-12E (1143)	9-11	6"	4,5 8,8	9 10		Black/dark brown **CLAY (CL)**, soft, moist to wet, trace fine to coarse gravel sized limestone	Approximate boundary between fill material and native soil
SB-12F (1146)	11-13	10"	10,15 11,9	11 12		Gray/white **WEATHERED LIMESTONE**, saturated, fractured	
SB-12G (1150)	13-15	15"	9,21 31,19	13 14 15			
SB-12H (1155)	15-17	14"	4,3 3,2	16		Black **CLAYEY SILT (ML)**, medium stiff, moist, trace coarse sand	
SB-12I (1203)	17-19	24"	3,12 17,70/5"	17 18		Black **SILTY CLAY (OL)**, soft, moist, organic-rich	
SB-12J (1207)	19-21	24"	3,12 17,70/5"	19 20		Dolomite bedrock at 21 feet bgs	

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Log of Boring SB-13

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/13/95 1230
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/13/95 1320
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: NA ft. BGS
Depth to Rock: 12.75 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 12.75 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray **SLAG**, dry, fine to coarse gravel size	
SB-13A (1238)	1-3	10"	16,13 13,26	2		Dark brown/dark gray slag, moist, silt to coarse gravel size (mostly coarse)	
SB-13B (1243)	3-5	20"	30,32 41,50/4"	3		Dark brown **SILT (ML)**, moist, some fine to coarse gravel sized slag, trace clay	
				4		6" Gray/black silt sized shards, dry, shiny	
SB-13C (1250)	5-7	10"	4,6 2,4	5		Dark brown **CLAYEY SILT (ML)**, moist, trace fine gravel sized slag	
				6		Gray/black silt to coarse sand sized material, dry, shiny	
SB-13D (1254)	7-9	10"	4,6 2,4	7			
				8		Dark brown **CLAYEY SILT (ML)**, moist, trace fine to coarse gravel sized limestone	Approximate boundary between fill material and native soil
SB-13E (1259)	9-11	10"	3,4 5,6	9			
				10			
SB-13F (1304)	11-13	14"	4,7 9,50/3"	11			
				12			
				13		Black **SILTY CLAY (OL)**, moist, organic-rich	
				14		Dolomite bedrock at 12.75 feet bgs	
				15			
				16			
				17			
				18			
				19			
				20			

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Log of Boring SB-14

Robertson-Ceco Corporation
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Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/13/95 1325
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/13/95 1425
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: NA ft. BGS
Depth to Rock: 13 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 13 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray **SLAG**, dry, fine to coarse gravel size	
SB-14A (1333)	1-3	5"	8,10 12,14	2		Black slag, moist, sand to coarse gravel size, trace brick	
				3		Dark brown slag, moist, silt to coarse gravel size	
SB-14B (1336)	3-5	6"	5,19 11,8	4			
				5		Slag becomes sand to coarse gravel size	
SB-14C (1338)	5-7	12"	5,8 18,3	6			
				7		Yellow, weathered limestone fragments	
SB-14D (1341)	7-9	5"	5,50/5"	8		Dark brown **CLAYEY SILT (ML)**, moist, trace fine gravel sized slag	
				9			Moved borehole IX
SB-14E	9-11	NR	50/3"	10			
				11		Dark brown **CLAYEY GRAVEL (GC)**, saturated, fine to coarse gravel, some silt	Approximate boundary between fill material and native soil
SB-14F (1407)	11-13	12"	13,17 18,50/2"	12		Dark brown **SILTY CLAY (OL)**, moist to wet, soft, trace organics	
				13		Dolomite bedrock at 13 feet bgs	
				14			
				15			
				16			
				17			
				18			
				19			
				20			

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Log of Boring SB-15

Robertson-Ceco Corporation
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Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/14/95 0730
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/14/95 0815
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: NA ft. BGS
Depth to Rock: 12 ft. BGS
Borehole Diameter: 8 in.
Total Depth: 12 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray **SLAG**, dry, sand to coarse gravel size (mostly coarse sand size)	
SB-15A (0742)	1-3	10"	28,29 -	2			
				3		Slag is mostly fine to coarse gravel size	
SB-15B (0747)	3-5	5"	19,20 32,27	4			
				5		Dark gray/brown slag, moist, silt to coarse gravel size	
SB-15C (0752)	5-7	8"	21,27 32,21	6			
				7			
SB-15D (0758)	7-9	16"	8,8 11,12	8		Yellow/brown **WEATHERED LIMESTONE**, crushed, moist, sand to coarse gravel size	
				9		Black **CLAYEY SILT (ML)**, soft, trace fine gravel sized limestone fragments	Approximate boundary between fill material and native soil
SB-15E (0802)	9-11	10"	8,45 17,12	10		Limestone content increases	
				11		trace coarse white/gray gravel sized limestone, trace organics	
SB-15F (0809)	11-13	6"	8,50	12		Dolomite bedrock at 12 feet bgs	
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

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Log of Boring SB-16

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/14/95 0905
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/14/95 0950
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: NA ft. BGS
Depth to Rock: 13.5 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 13.5 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray **SLAG**, moist, silt to coarse gravel size	
SB-16A (0911)	1-3	20"	21,25 30,30	2		Color change to dark brown, trace metal scraps	
SB-16B (0915)	3-5	18"	31,24 24,20	4		trace soft white inclusions, metal scraps	
SB-16C (0919)	5-7	6"	11,9 4,8	6			
SB-16D (0924)	7-9	5"	8,21 24,20	8		Slag becomes mostly coarse sand to coarse gravel size	
SB-16E (0928)	9-11	4"	6,8 10,17	10			
SB-16F (0932)	11-13	5"	6,6 5,4	12			
SB-16G (0938)	13-15	3"	50/5"	14		Dolomite bedrock at 13.5 feet bgs	Approximate boundary between fill material and bedrock
				15			
				16			
				17			
				18			
				19			
				20			

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Log of Boring SB-17

Robertson-Ceco Corporation
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Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/14/95 1000
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/14/95 1015
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: NA ft. BGS
Depth to Rock: 5 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 5 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray **SLAG**, moist, silt to coarse gravel size Dark brown slag, moist, silt to coarse gravel size (mostly fines)	
SB-17A (1005)	1-3	20"	20,24 24,10	2			
				3		Light brown **CLAYEY SILT (ML)**, moist, some fine gravel	Approximate boundary between fill material and native soil
SB-17B (1010)	3-5	20"	4,16 21,20	4		Light brown **SILT (ML)**, moist, trace coarse sand, fine gravel Dark brown **SILT (ML)**, moist, trace fine gravel and clay	
				5		Dolomite bedrock at 5 feet bgs	
				6			
				7			
				8			
				9			
				10			
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

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Log of Boring SB-18

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/14/95 1025
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/14/95 1050
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: NA ft. BGS
Depth to Rock: 5.75 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 5.75 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				0		Gray **SLAG**, moist, silt to coarse gravel size	
SB-18A (1035)	1-3	18"	8,11 12,12	1		Dark brown **CLAYEY SILT (ML)**, moist, trace fine gravel, organics	Approximate boundary between fill material and native soil
				2		**WEATHERED LIMESTONE**, fractured, fine to coarse gravel size	
SB-18B (1038)	3-5	6"	10,20 16,14	3		Dark brown **CLAYEY SILT (ML)**, moist, trace fine gravel, organics	
				4		White/gray **WEATHERED DOLOMITE**, fractured, coarse gravel size	
SB-18C (1042)	5-7	4"	30,50/3"	5			
				6		Dolomite bedrock at 5.75 feet bgs	
				7			
				8			
				9			
				10			
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

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Log of Boring SB-19

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/14/95 1130
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/14/95 1205
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: NA ft. BGS
Depth to Rock: 9 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 9 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray **SLAG**, moist, silt to fine gravel size	
SB-19A (1135)	1-3	20"	19,16 16,26	2		Dark brown/gray slag, moist, silt to coarse sand size, trace coarse gravel sized slag and limestone	
SB-19B (1138)	3-5	8"	14,26 16,13	3			
				4			
SB-19C (1142)	5-7	10"	4,5 12,15	5			
				6			
				7		trace brick debris	
SB-19D (1153)	7-9	10"	32,57 27,15	8		Black **SILTY CLAY (CL)**, moist, trace limestone	Approximate boundary between fill material and native soil
				9		White/gray **WEATHERED DOLOMITE**, fractured	
						Dolomite bedrock at 9 feet bgs	
				10			
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

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Log of Boring SB-20

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/14/95 1208
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/14/95 1313
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: NA ft. BGS
Depth to Rock: 12 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 12 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray **SLAG**, moist, silt to coarse gravel size	
SB-20A (1232)	1-3	14"	24,58 48,-	2		Dark brown slag, moist, silt to fine gravel size (mostly fines)	
SB-20B (1237)	3-5	7"	13,27 28,27	3			
				4			
SB-20C (1242)	5-7	1"	18,17 50/3"	5			
				6		Large chunk of black slag	
SB-20D (1249)	7-9	10"	10,16 60,45	7		trace gray/black slag with mettalic luster, wood	
				8			
SB-20E (1255)	9-11	5"	7,9 8,20	9		Black slag, wet, fine to coarse gravel size, trace wood	
				10			
SB-20F	11-13	6"	9,9 50/2"	11			
				12		White/gray **WEATHERED DOLOMITE**, fractured, moist	Approximate boundary between fill material and bedrock
				13		Dolomite bedrock at 12 feet bgs	
				14			
				15			
				16			
				17			
				18			
				19			
				20			

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Log of Boring SB-21

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/14/95 1323
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/14/95 1415
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: 12 ft. BGS
Depth to Rock: 12.5 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 12.5 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Materials Description	Remarks
				Gray **SLAG**, moist, silt to coarse gravel size	
SB-21A (1330)	1-3	7"	13,8 10,19	Dark brown **CLAYEY SILT (ML)**, moist, trace slag and wood	Mothball-like odor detected
SB-21B (1340)	3-5	16"	4,8 8,9	Dark brown **CLAY (CL)**, moist, medium stiff, some silt, trace fine to coarse gravel sized limestone	Approximate boundary between fill material and native soil
SB-21C (1346)	5-7	15"	6,6 5,11		
SB-21D (1353)	7-9	12"	5,5 7,11	Brown **SANDY GRAVEL (GP)**, sand is poorly sorted, fine to coarse, gravel is fine to coarse, trace shale trace wood debris	
SB-21E (1355)	9-11	8"	5,10 4,19	Black **SILTY CLAY (CL)**, moist, soft, trace coarse limestone	
SB-21F (1400)	11-13	15"	10,15 50/5"	White/gray **WEATHERED DOLOMITE**, fractured	Petroleum odor detected
				Black **CLAY (OL)**, moist, stiff, green streaks, some organics	Sheen on soil water
				White/gray **WEATHERED DOLOMITE**, fractured, saturated	
				Dolomite bedrock at 12.5 feet bgs	

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Log of Boring SB-22

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/15/95 0725
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/15/95 0755
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: 9 ft. BGS
Depth to Rock: 9.5 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 9.5 ft. BGS
Logged By: PAH
Checked By: BAS

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts
SB-22A (0738)	1-3	12"	35,20 25,14
SB-22B (0743)	3-5	15"	4,5 10,14
SB-22C	5-7	NR	30/1"
SB-22D (0751)	7-9	8"	5,5 5,4
SB-22E (0755)	9-11	6"	30/1"

Gray **SLAG**, dry, silt to coarse gravel size

Brown **SILT (ML)**, moist, trace medium sand and slag material

White/gray crushed **WEATHERED LIMESTONE**, and slag

Brown **SILTY CLAY (CL)**, moist, some slag material

White/gray crushed **WEATHERED LIMESTONE**, and slag

Brown **SILTY CLAY (CL)**, moist, medium stiff, fine fill fragments

Dark brown **SILTY CLAY (CL)**, wet, soft, trace limestone fragments

Dolomite bedrock at 9.5 feet bgs

Remarks: Approximate boundary between fill material and native soil

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Log of Boring SB-23

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/15/95 0835
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/15/95 0855
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: NA ft. BGS
Depth to Rock: 9 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 9 ft. BGS
Logged By: PAH
Checked By: BAS

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray **SLAG**, dry, silt to coarse gravel size	
SB-23A (0845)	1-3	10"	15,41 32,28	2		Dark Brown **SILTY CLAY (CL)**, moist, some slag, trace limestone and broken glass	
SB-23B (0848)	3-5	6"	32,42 12,15	3 4 5		Some coarse gravel sized slag	
SB-23C (0851)	5-7	4"	8,12 13,16	6		Dark brown **SILT (ML)**, moist, some coarse gravel sized slag	
SB-23D -	7-9	NR	40/2"	7 8 9			
				10		Dolomite bedrock at 9 feet bgs	Approximate boundary between fill material and bedrock
				11 12 13 14 15 16 17 18 19 20			

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Log of Boring SB-24

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/15/95 0920
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/15/95 0950
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: NA ft. BGS
Depth to Rock: 9 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 9 ft. BGS
Logged By: PAH
Checked By: BAS

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray **SLAG**, dry, silt to coarse gravel size	
SB-24A (0925)	1-3	18"	28,25 17,16	2		Brown **SILT (ML)** with fine to coarse gravel sized slag and limestone	
SB-24B (0929)	3-5	18"	27,25 22,25	3 4 5			
SB-24C (0934)	5-7	16"	16,21 31,22	6 7			
SB-24D	7-9	NR	39,22 27,50/3"	8 9			
				10		Dolomite bedrock at 9 feet bgs	Approximate boundary between fill material and bedrock
				11 12 13 14 15 16 17 18 19 20			

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Log of Boring SB-25

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/15/95 1025
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/15/95 1040
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: NA ft. BGS
Depth to Rock: 5.5 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 5.5 ft. BGS
Logged By: PAH
Checked By: BAS

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		**GRASS/TOPSOIL**	
SB-25A (1026)	1-3	10"	8,6 8,6	2		Brown **SILTY CLAY (CL)**, moist, very stiff, trace fine gravel sized slag, limestone	
SB-25B (1029)	3-5	5"	2,5 5,4	4		White/gray **WEATHERED DOLOMITE**, fractured	Approximate boundary between fill material and native soil
SB-25C (1032)	5-7	4"	50/4"	5		Brown **SILTY CLAY (CL)** with dolomite fragments, moist	
				6		Dolomite bedrock at 5.5 feet bgs	
				7			
				8			
				9			
				10			
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

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Log of Boring SB-26

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/15/95 1035
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/15/95 1050
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: NA ft. BGS
Depth to Rock: 5.5 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 5.5 ft. BGS
Logged By: PAH
Checked By: BAS

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		**GRASS/TOPSOIL**	
SB-26A (1041)	1-3	8"	5,4 7,8	2		Brown **SILTY CLAY (CL)**, moist, med. stiff, trace fine to medium gravel sized limestone	
SB-26B (1045)	3-5	6"	6,9 7,13	3 4 5		Clay becomes soft	
SB-26C (1049)	5-7	2"	50/4"	6		Dolomite bedrock at 5.5 feet bgs	
				7 8 9 10 11 12 13 14 15 16 17 18 19 20			

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Log of Boring SB-27

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/20/95 0800
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/20/95 0850
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: NA ft. BGS
Depth to Rock: 16.5 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 16.5 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		**GRAVEL AND SLAG**, dry, sand to coarse gravel size	
SB-27A (0812)	1-3	16"	6,4 8,10	2		Dark brown **GRAVELLY SILT (GM)**, dry to moist, trace coarse sand to fine gravel sized slag, trace clay	
SB-27B (0817)	3-5	20"	9,19 25,28	3			
				4		Dark brown **CLAYEY SILT (ML)**, moist, trace fine gravel sized slag, trace organic	
SB-27C (0821)	5-7	6"	7,12 12,10	5		Dark brown **CLAY (CL)**, moist, medium stiff, some silt, trace coarse gravel sized limestone	Approximate boundary between fill material and native soil
SB-27D (0825)	7-9	20"	6,7 9,9	6			
				7		Black **CLAY (OL)**, moist, very stiff, organic-rich, trace silt, sand to coarse gravel sized limestone	
SB-27E (0828)	9-11	15"	2,4 6,6	8			
				9			
				10		Clay becomes medium stiff	
SB-27F (0833)	11-13	20"	3,4 4,5	11			
				12			
				13			
SB-27G (0835)	13-15	20"	2,2 3,4	14			
				15		Organic content decreases to trace	
SB-27H (0840)	15-17	15"	3,4 50/5"	16		White/gray **WEATHERED DOLOMITE**, fractured	
				17		Dolomite bedrock at 16.5 feet bgs	
				18			
				19			
				20			

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Log of Boring SB-28

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9236A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 12/20/95 0855
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 12/20/95 0945
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: NA ft. BGS
Depth to Rock: 16.5 ft. BGS
Borehole Diameter: 6 in.
Total Depth: 16.5 ft. BGS
Logged By: BAS
Checked By: PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		**GRAVEL AND SLAG**, dry, sand to coarse gravel size	
SB-28A (0904)	1-3	18"	21,18 16,15	2		Dark brown **SILT (ML)**, dry to moist, trace coarse sand to coarse gravel sized slag and limestone, trace clay	
SB-28B (0907)	3-5	18"	10,10 7,6	4		Dark brown **CLAY (CL)**, moist, stiff to very stiff, some silt, trace coarse gravel	
SB-28C (0910)	5-7	6"	2,3 3,5	6			
SB-28D (0918)	7-9	10"	3,5 3,3	8		trace large pieces of slag and metal	
SB-28E (0919)	9-11	12"	5,2 6,11	10		Black **CLAY (CL)**, moist to wet, stiff, trace sand to gravel sized limestone, trace organics	Approximate boundary between fill material and native soil
				11		White/gray **WEATHERED DOLOMITE**, fractured	
SB-28F (0924)	11-13	20"	6,10 10,4	12		Black **SILTY CLAY (CL)**, moist, stiff, trace limestone	
SB-28G (0927)	13-15	10"	3,3 6,18	14		**WEATHERED DOLOMITE**, fractured	
SB-28H (0931)	15-17	20"	8,15 15,50/2"	16			
				17		Dolomite bedrock at 16.5 feet bgs	
				18			
				19			
				20			

ATTACHMENT C

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ATTACHMENT C

MONITORING WELL PERMEABILITY DATA

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SLUG TEST METHOD FOR UNCONFINED AQUIFERS

REFERENCE: Bouwer, H. and R. C. Rice, 1976. A slug test method for determining hydraulic conductivity of unconfined aquifers with completely or partially penetrating wells, Water Resources Research, vol. 12, no. 3, pp. 423-428.

SOLUTION:

$$\ln s_o - \ln s_t = \frac{2 K L t}{r_c^2 \ln(r_e/r_w)}$$

where:

s_o = initial drawdown in well due to instantaneous removal of water from well [L]

s_t = drawdown in well at time t [L]

L = length of well screen [L]

r_c = radius of well casing [L]

$\ln(r_e/r_w)$ = empirical "shape factor" determined from tables provided in Bouwer and Rice (1976)

r_e = equivalent radius over which head loss occurs [L]

r_w = radius of well (including gravel pack) [L]

H = static height of water in well [L]

b = saturated thickness of aquifer

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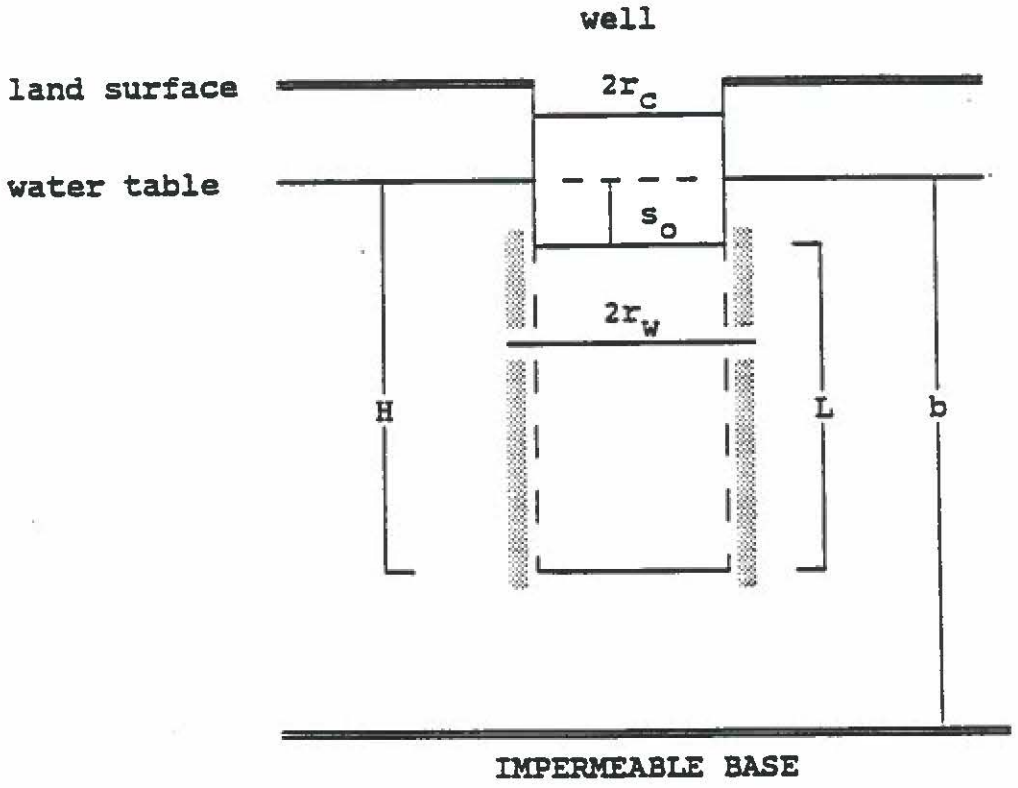
SLUG TEST METHOD FOR UNCONFINED AQUIFERS
(continued)

DEFINITION OF TERMS:



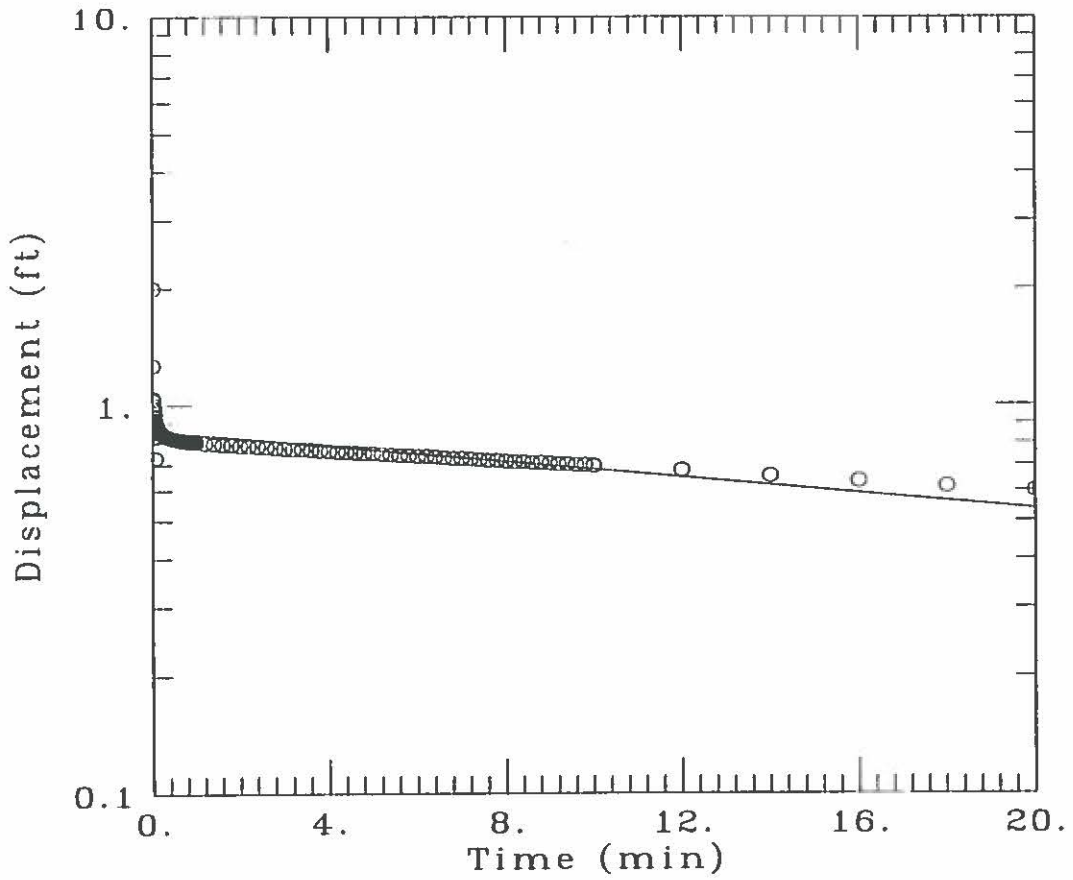
CARLSON ENVIRONMENTAL, INC.

Client: Robertson – CECO

Project No.: 9236A

Location: Lemont, Illinois

MW-D1 RISING-HEAD PERMEABILITY TEST



DATA SET:

MW-D1.AQT

12/21/95

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

12-20-95

TEST WELL:

MW-D1

ESTIMATED PARAMETERS:

K = 2.083E-05 ft/min

y0 = 0.8591 ft

TEST DATA:

H0 = 2. ft

rc = 0.083 ft

rw = 0.33 ft

L = 10. ft

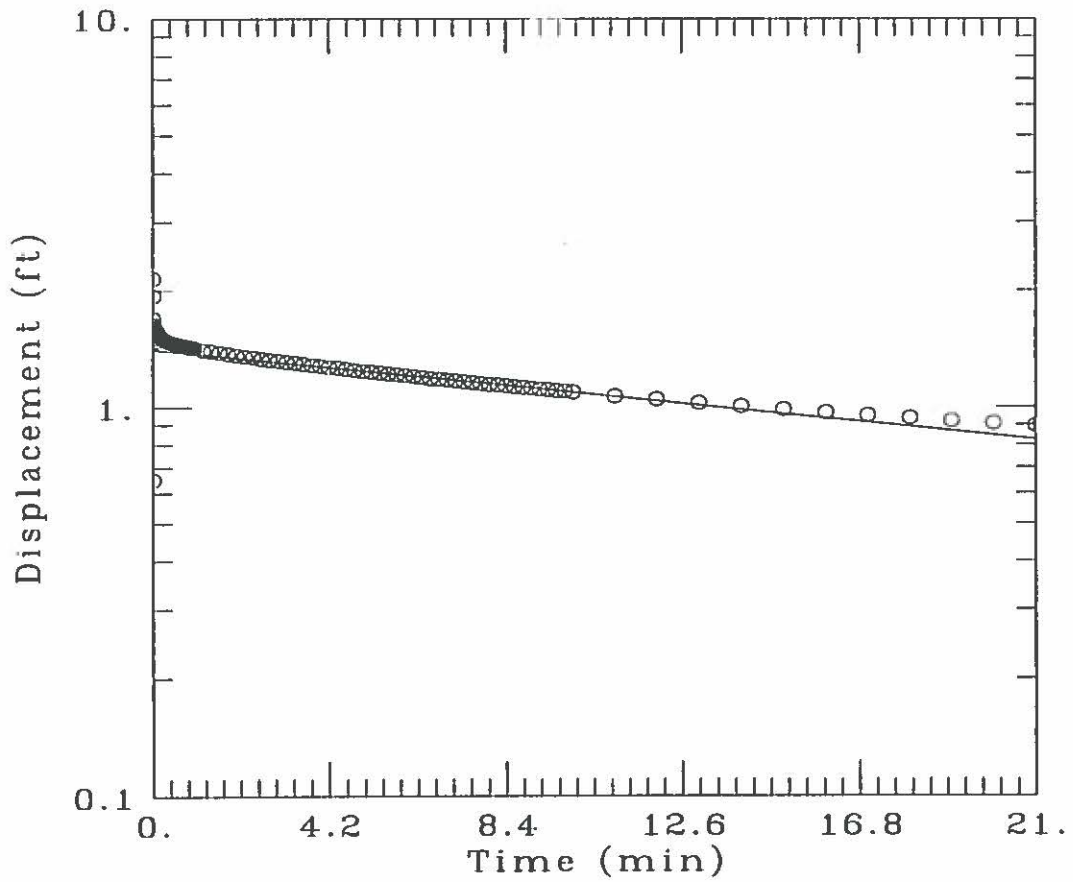
b = 10. ft

H = 10. ft

$K = 1.05 \times 10^{-5}$ cm/sec

CARLSON ENVIRONMENTAL, INC.	Client: Robertson – CECO
Project No.: 9236A	Location: Lemont, Illinois

MW-D2 RISING-HEAD PERMEABILITY TEST



DATA SET:
mw-d2.dat
12/21/95

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

TEST DATE:
12-20-95

TEST WELL:
MW D2

ESTIMATED PARAMETERS:
K = 2.2652E-05 ft/min
y0 = 1.409 ft

TEST DATA:
H0 = 1.7 ft
rc = 0.083 ft
rw = 0.33 ft
L = 10. ft
b = 10. ft
H = 10. ft

$K = 1.15 \times 10^{-5}$ cm/sec

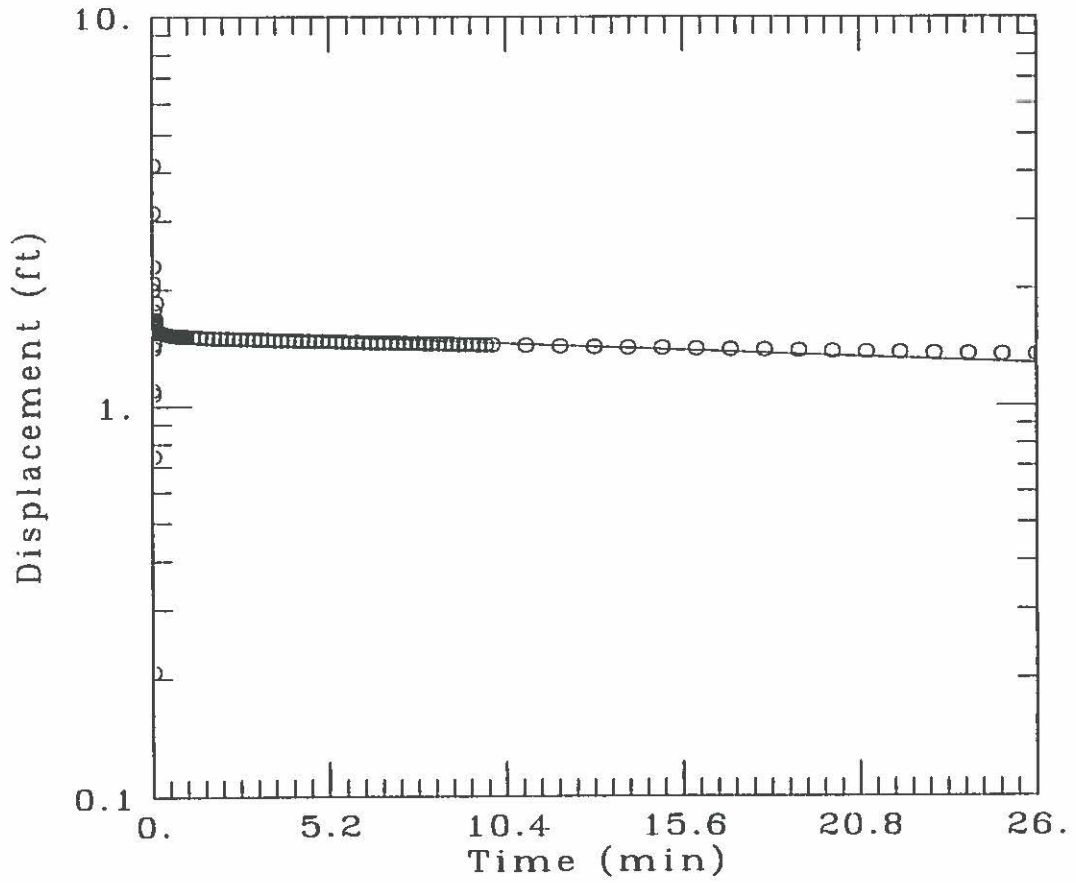
CARLSON ENVIRONMENTAL, INC.

Client: Robertson – CECO

Project No.: 9236A

Location: Lemont, Illinois

MW-D3 RISING-HEAD PERMEABILITY TEST



DATA SET:
MW D3. DAT
12/21/95

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

TEST DATE:
12-20-95

TEST WELL:
MW D3

ESTIMATED PARAMETERS:
K = 6.8167E-06 ft/min
y0 = 1.573 ft

TEST DATA:
H0 = 2. ft
rc = 0.083 ft
rw = 0.33 ft
L = 10. ft
b = 10. ft
H = 10. ft

K = 3.4 x 10^{-6} cm/sec

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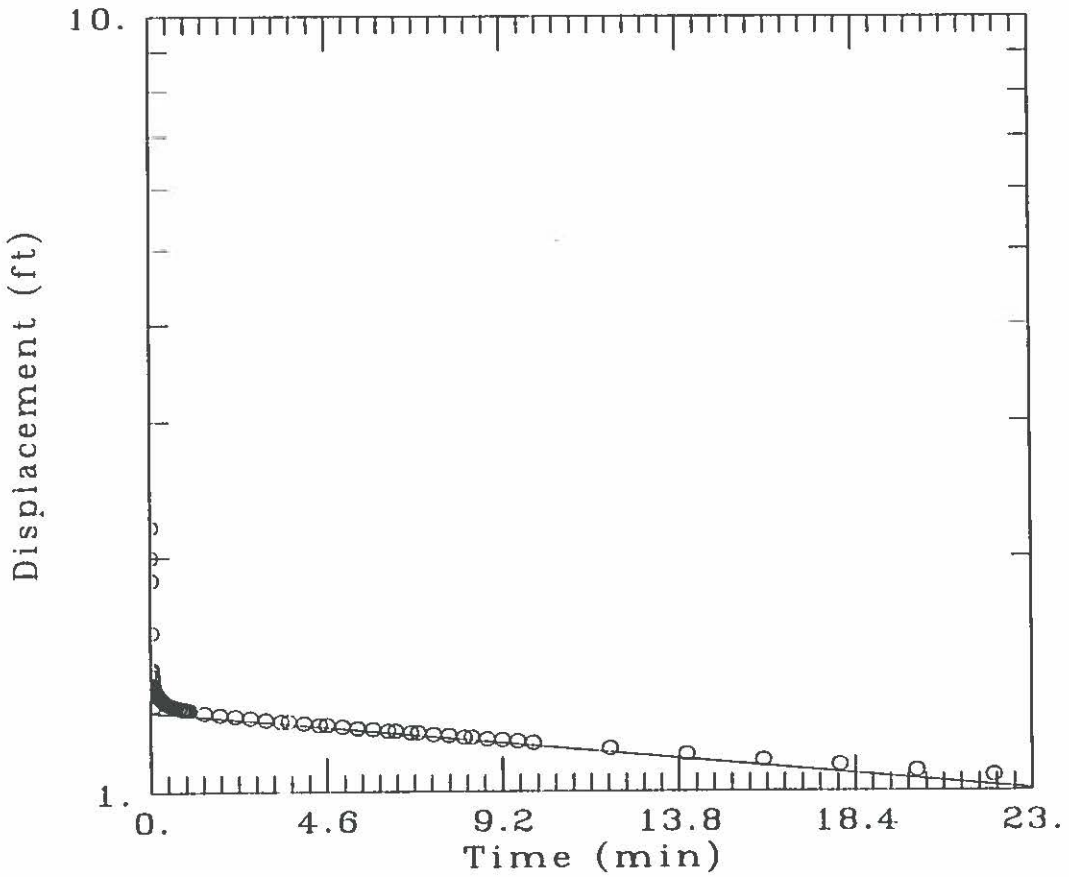
Client: Robertson – CECO

Project No.: 9236A

Location: Lemont, Illinois

MW-D4 RISING-HEAD PERMEABILITY TEST



DATA SET:
MW D4.DAT
12/21/95

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

TEST DATE:
12-20-95

TEST WELL:
MW D4

ESTIMATED PARAMETERS:
K = 8.8359E-06 ft/min
y0 = 1.264 ft

TEST DATA:
H0 = 2. ft
rc = 0.083 ft
rw = 0.33 ft
L = 10. ft
b = 10. ft
H = 10. ft

K = 4.4 x 10^{-6} cm/sec

Electronic Filing: Received, Clerk's Office 07/19/2024

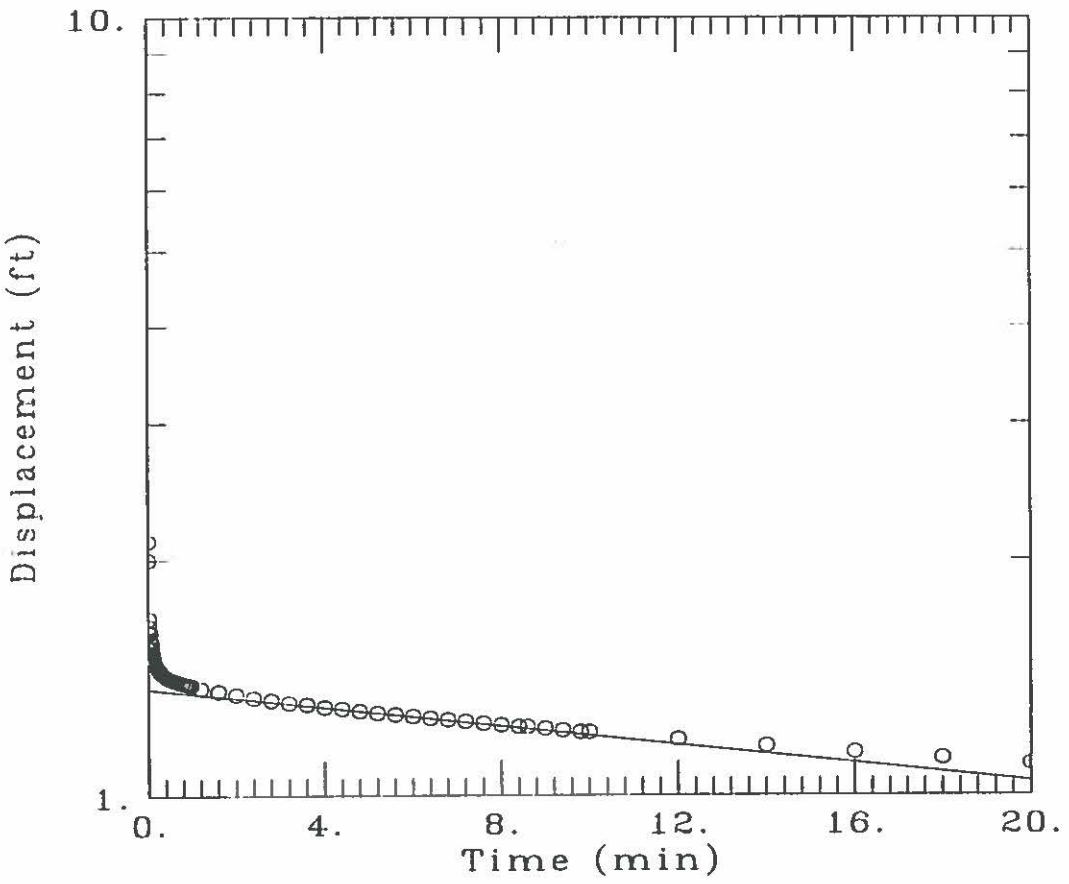
CARLSON ENVIRONMENTAL, INC.

Client: Robertson -- CECO

Project No.: 9236A

Location: Lemont, Illinois

MW-D5 RISING-HEAD PERMEABILITY TEST



DATA SET:

mw-d5.dat

12/21/95

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

12-20-95

TEST WELL:

MW-D5

ESTIMATED PARAMETERS:

K = 1.2042E-05 ft/min

y0 = 1.367 ft

TEST DATA:

H0 = 2. ft

rc = 0.083 ft

rw = 0.33 ft

L = 10. ft

b = 10. ft

H = 10. ft

K = 6.1 x 10^{-6} cm/sec

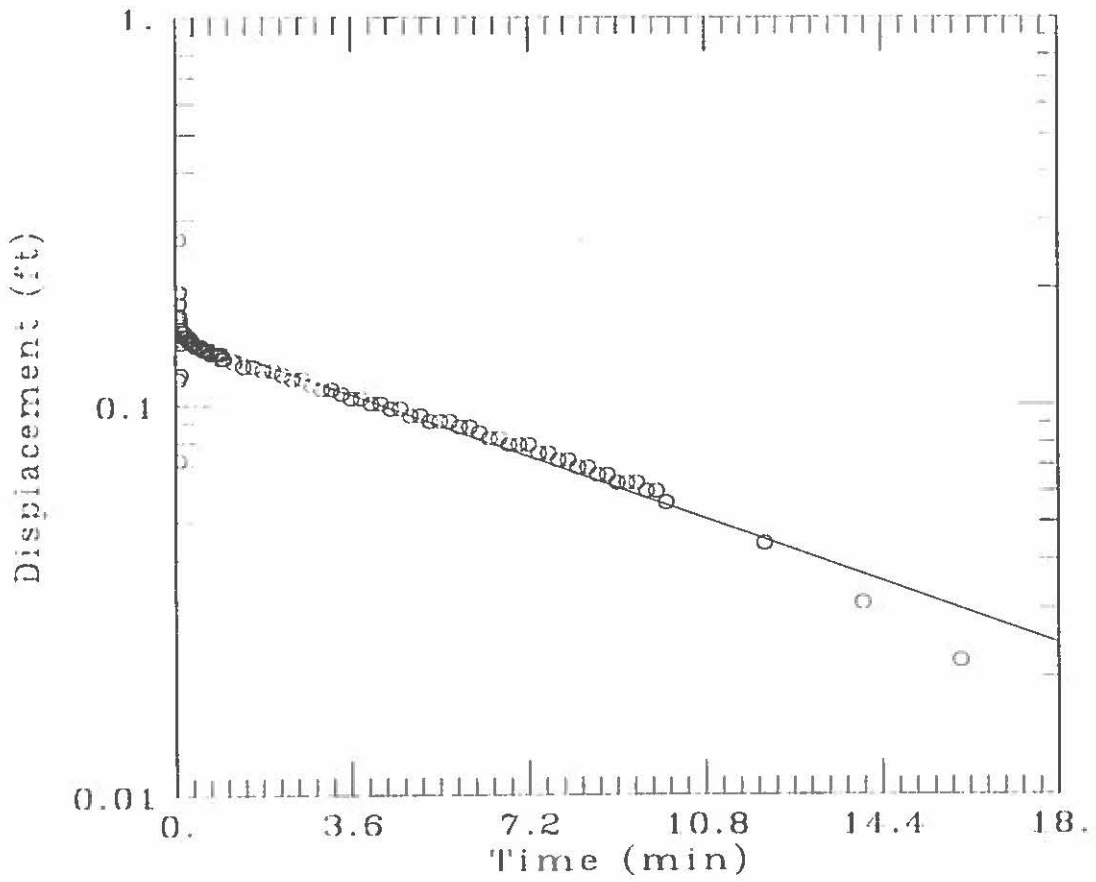
CARLSON ENVIRONMENTAL, INC.

Client: Robertson - Ceco

Project No.: 9236A

Location: Lemont, Illinois

OW #1 RISING-HEAD PERMEABILITY TEST



DATA SET:
ow-1.dat
01/19/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

TEST DATE:
1-17-96

TEST WELL:
OW 1

ESTIMATED PARAMETERS:
K = 9.759E-05 ft/min
y0 = 0.1538 ft

TEST DATA:
H0 = 2. ft
rc = 0.167 ft
rw = 0.417 ft
L = 50. ft
b = 50. ft
H = 45. ft

K = 4.95 x 10^{-5} cm/sec

Electronic Filing: Received, Clerk's Office 07/19/2024

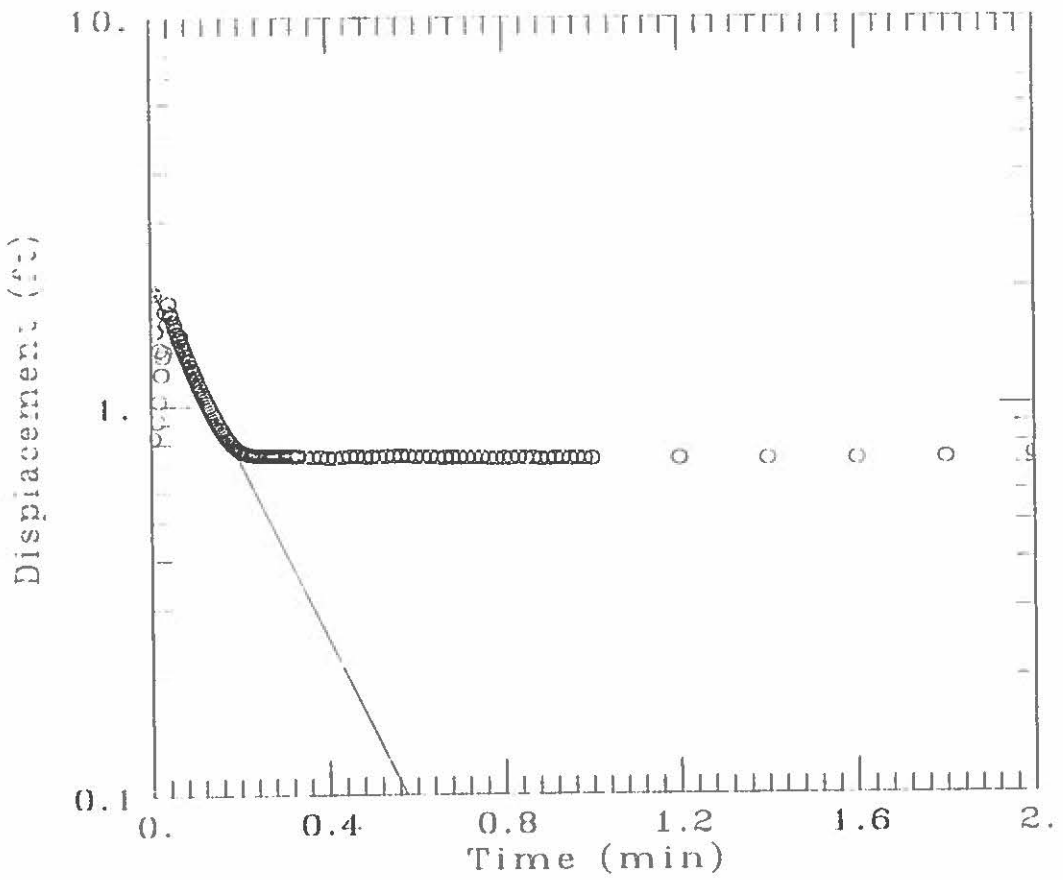
CARLSON ENVIRONMENTAL, INC.

Project No.: 92336A

Client: Robertson -- Ceco

Location: Lemont, Illinois

OW #2 RISING-HEAD PERMEABILITY TEST



DATA SET:
ow-2.dat
01/19/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

TEST DATE:
1-17-96

TEST WELL:
OW 2

ESTIMATED PARAMETERS:
K = 0.005013 ft/min
y0 = 2.05 ft

TEST DATA:
H0 = 2. ft
rc = 0.167 ft
rw = 0.417 ft
L = 50. ft
b = 50. ft
H = 45. ft

K = 2.55 x 10^{-3} cm/sec

Electronic Filing: Received, Clerk's Office 07/19/2024

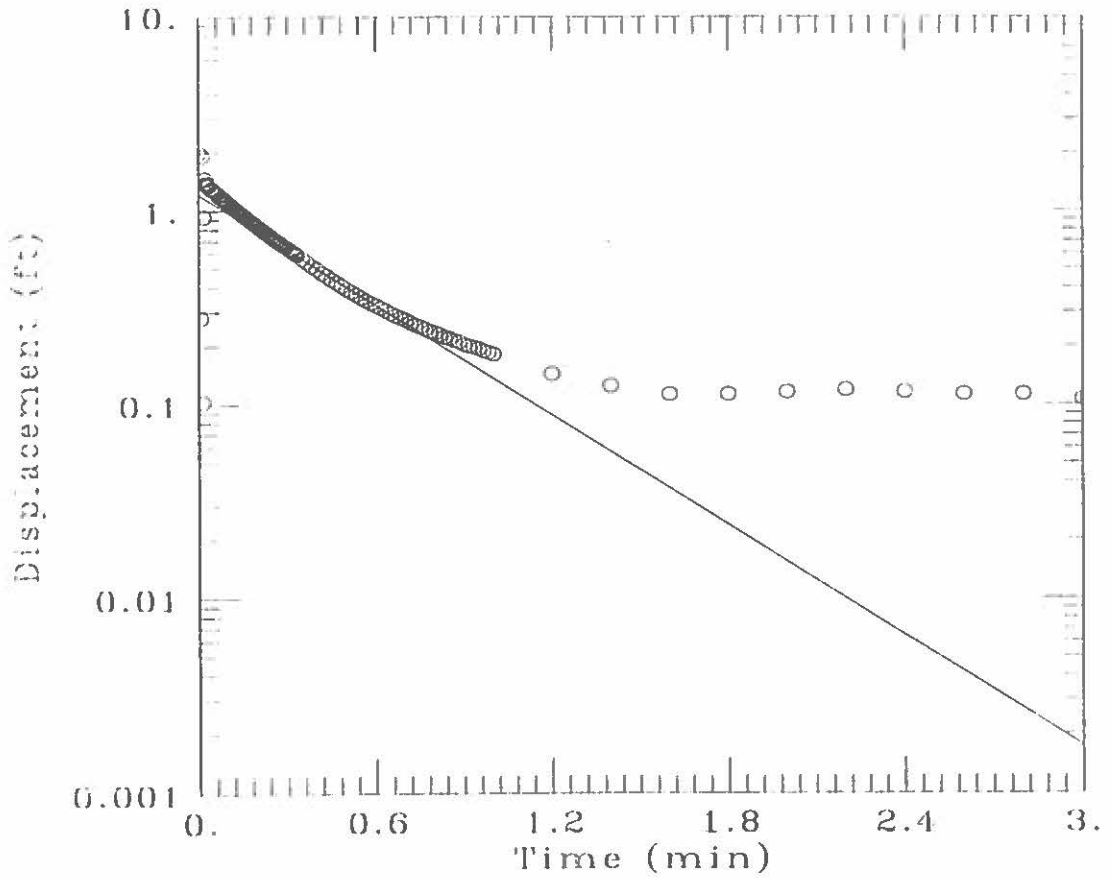
CARLSON ENVIRONMENTAL, INC.

Client: Robertson - Ceco

Project No.: 9236A

Location: Lemont, Illinois

OW #3 RISING-HEAD PERMEABILITY TEST



DATA SET:
ow-3.dat
01/19/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

TEST DATE:
1-17-96

TEST WELL:
OW3

ESTIMATED PARAMETERS:
K = 0.002085 ft/min
y0 = 1.213 ft

TEST DATA:
H0 = 2. ft
rc = 0.167 ft
rw = 0.417 ft
L = 50. ft
b = 50. ft
H = 45. ft

$K = 1.06 \times 10^{-3}$ cm/sec

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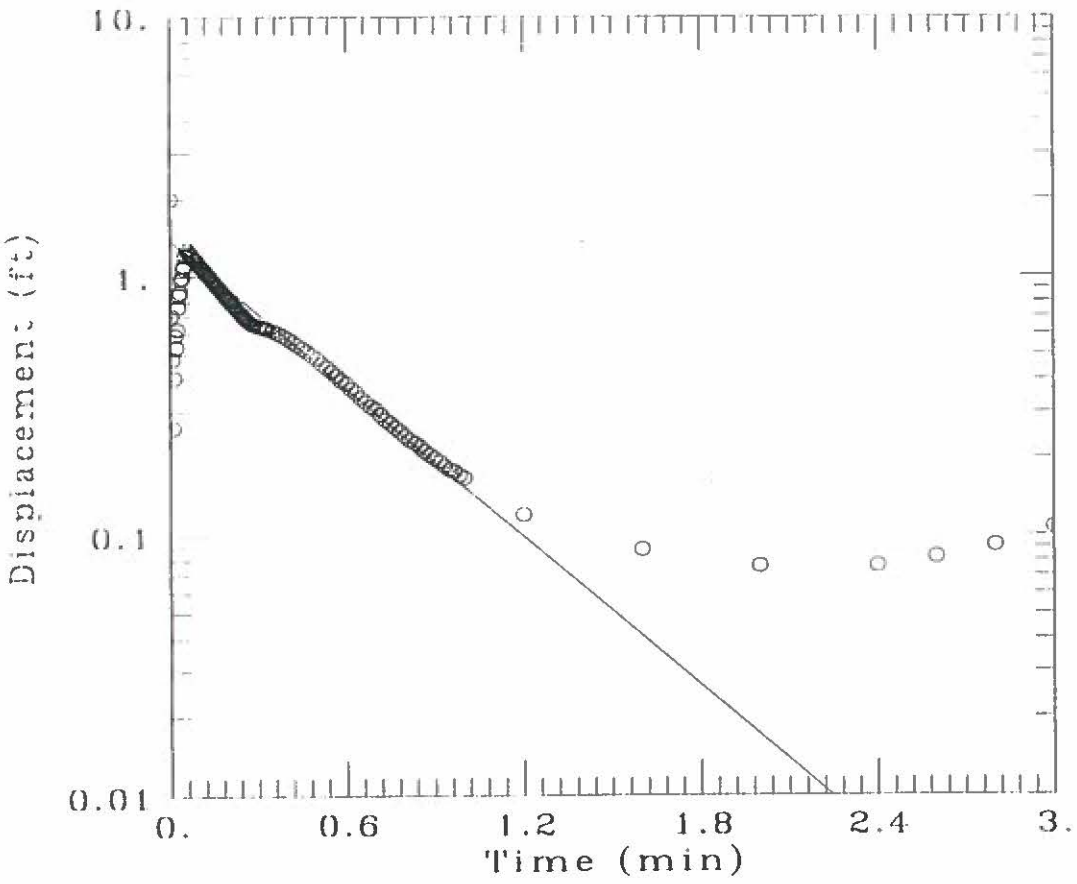
CARLSON ENVIRONMENTAL, INC.

Client: Robertson - Ceco

Project No.: 9236A

Location: Lemont, Illinois

OW #4 RISING-HEAD PERMEABILITY TEST



DATA SET:
OW-4.DAT
01/19/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

TEST DATE:
1-17-96

TEST WELL:
OW-4

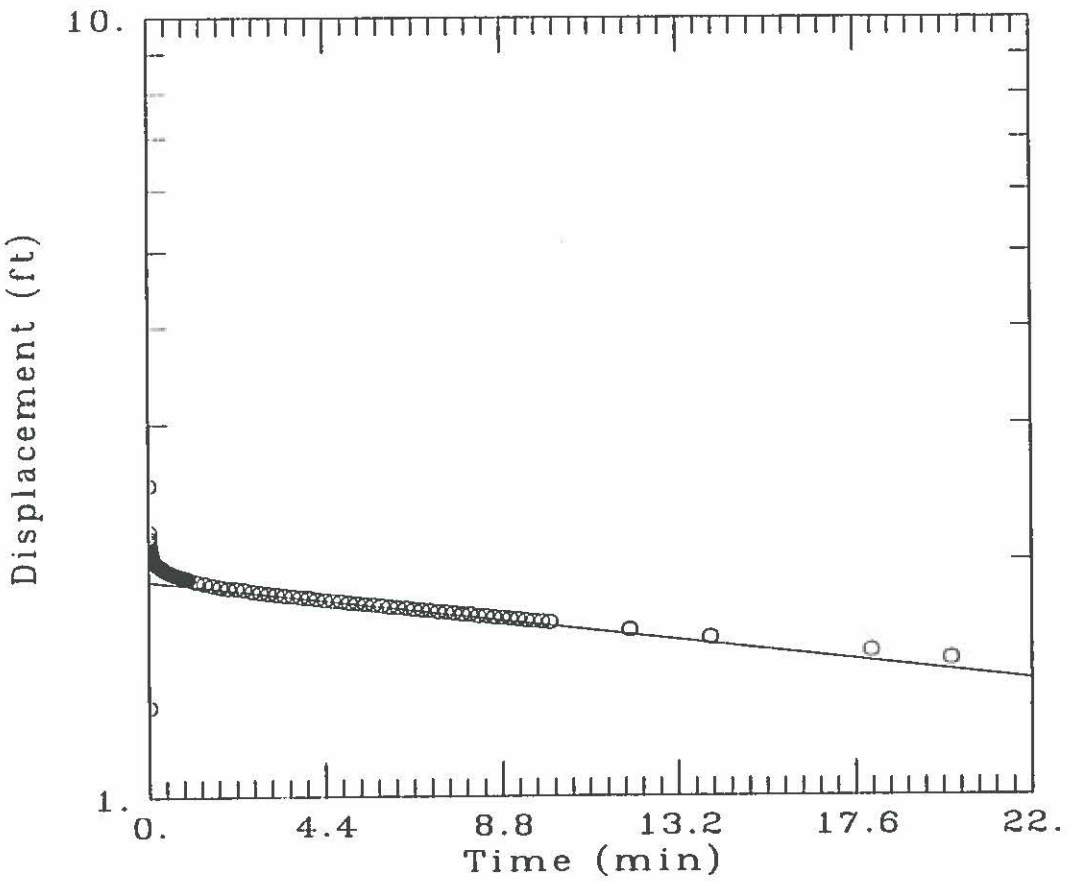
ESTIMATED PARAMETERS:
K = 0.002099 ft/min
y0 = 1.386 ft

TEST DATA:
H0 = 2. ft
rc = 0.167 ft
rw = 0.417 ft
L = 50. ft
b = 50. ft
H = 45. ft

K = 1.07 x 10^{-3} cm/sec

CARLSON ENVIRONMENTAL, INC.	Client: Robertson – CECO
Project No.: 9236A	Location: Lemont, Illinois

WELL-B RISING-HEAD PERMEABILITY TEST



DATA SET:
well-b.dat
12/22/95

AQUIFER TYPE:
Unconfined
SOLUTION METHOD:
Bouwer-Rice
TEST DATE:
12-20-95
TEST WELL:
Well-B

ESTIMATED PARAMETERS:
K = 1.1722E-05 ft/min
y0 = 1.882 ft

TEST DATA:
H0 = 2. ft
rc = 0.083 ft
rw = 0.33 ft
L = 10. ft
b = 10. ft
H = 10. ft

K = 5.9 x 10^{-6} cm/sec

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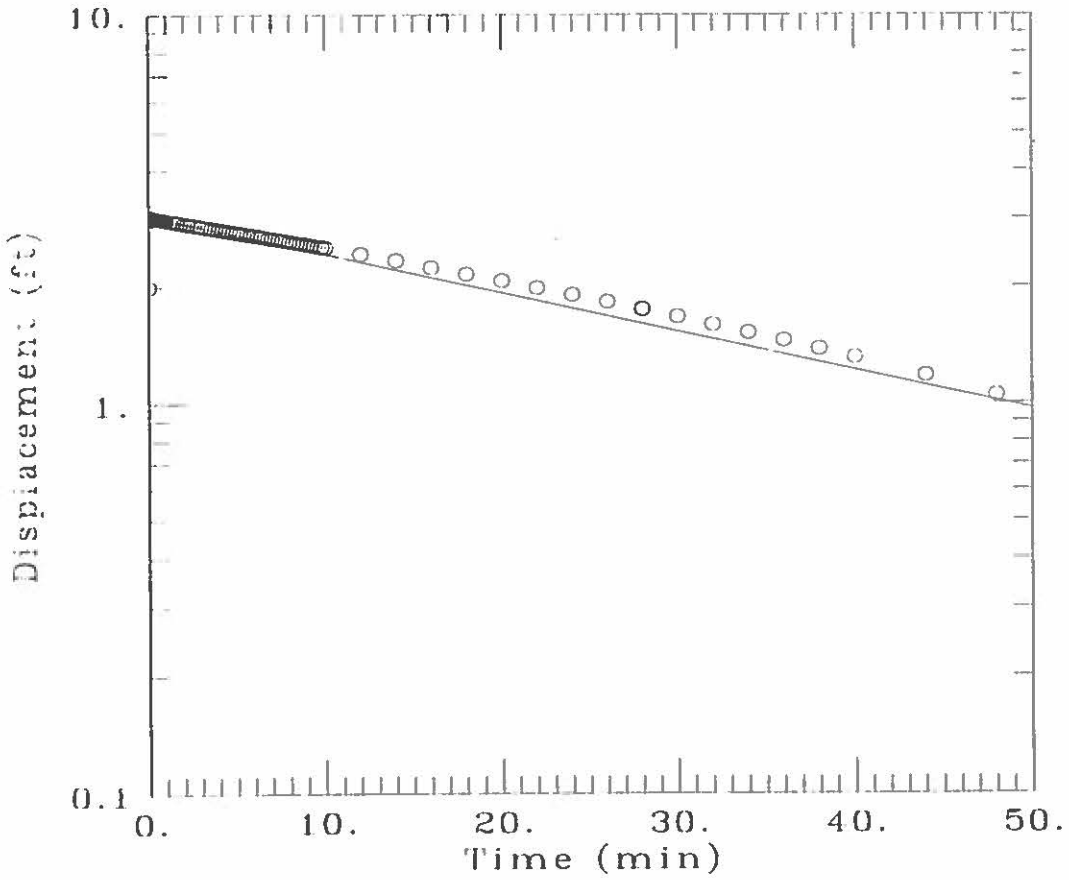
CARLSON ENVIRONMENTAL, INC.

Project No.: 9236A

Client: Robertson - Ceco

Location: Lemont, Illinois

WELL-C RISING-HEAD PERMEABILITY TEST



DATA SET:
WELL-C.DAT
01/19/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

TEST DATE:
1-17-96

TEST WELL:
WELL-C

ESTIMATED PARAMETERS:
K = 3.3231E-05 ft/min
y0 = 3.05 ft

TEST DATA:
H0 = 2. ft
rc = 0.083 ft
rw = 0.33 ft
L = 5. ft
b = 20. ft
H = 15. ft

$K = 1.68 \times 10^{-5}$ cm/sec

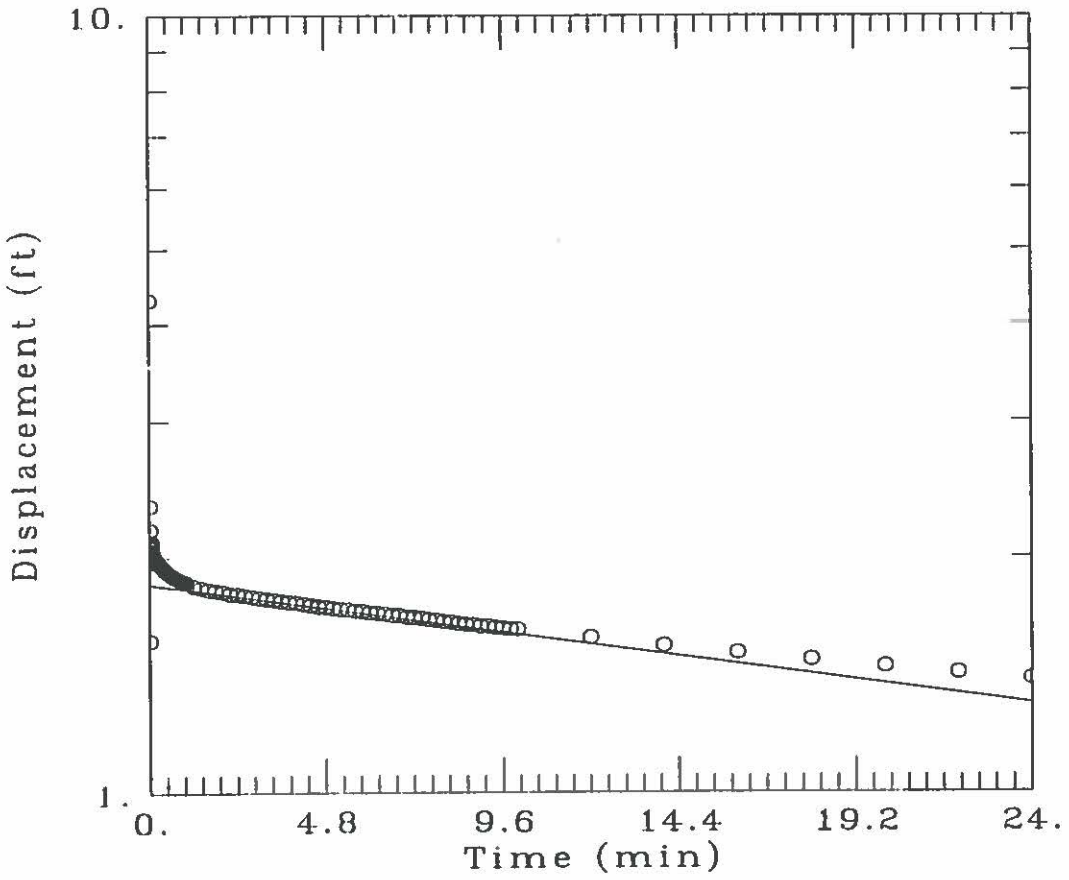
CARLSON ENVIRONMENTAL, INC.

Client: Robertson – CECO

Project No.: 9236A

Location: Lemont, Illinois

WELL-D RISING-HEAD PERMEABILITY TEST



DATA SET:

well-d.dat

12/22/95

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

12-20-95

TEST WELL:

Well-D

ESTIMATED PARAMETERS:

K = 1.3058E-05 ft/min

y0 = 1.648 ft

TEST DATA:

H0 = 2. ft

rc = 0.083 ft

rw = 0.33 ft

L = 10. ft

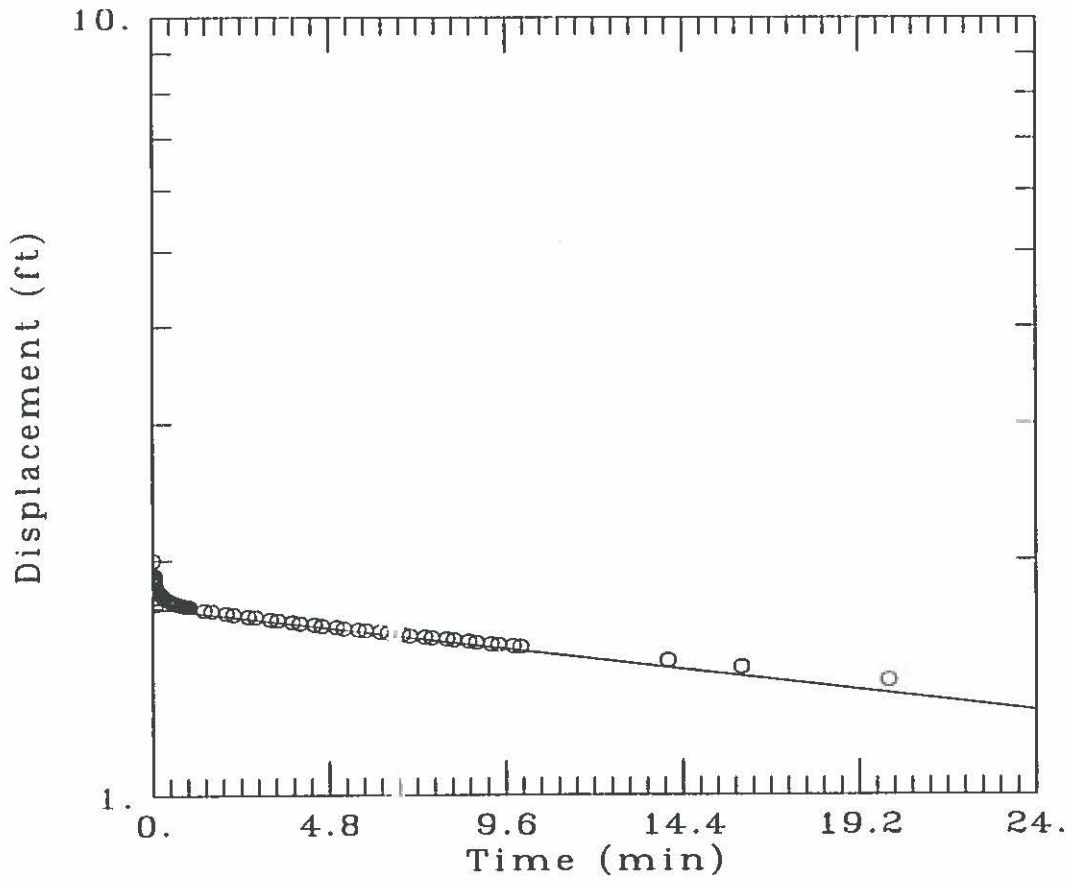
b = 10. ft

H = 10. ft

K = 6.6 x 10^{-6} cm/sec

CARLSON ENVIRONMENTAL, INC.	Client: Robertson – CECO
Project No.: 9236A	Location: Lemont, Illinois

WELL-J RISING-HEAD PERMEABILITY TEST



DATA SET:
WELL-J.DAT
12/22/95

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

TEST DATE:
12-20-95

TEST WELL:
WELL-J

ESTIMATED PARAMETERS:
K = 1.1282E-05 ft/min
y0 = 1.739 ft

TEST DATA:
H0 = 2. ft
rc = 0.083 ft
rw = 0.33 ft
L = 10. ft
b = 10. ft
H = 10. ft

K = 5.7 x 10^{-6} cm/sec

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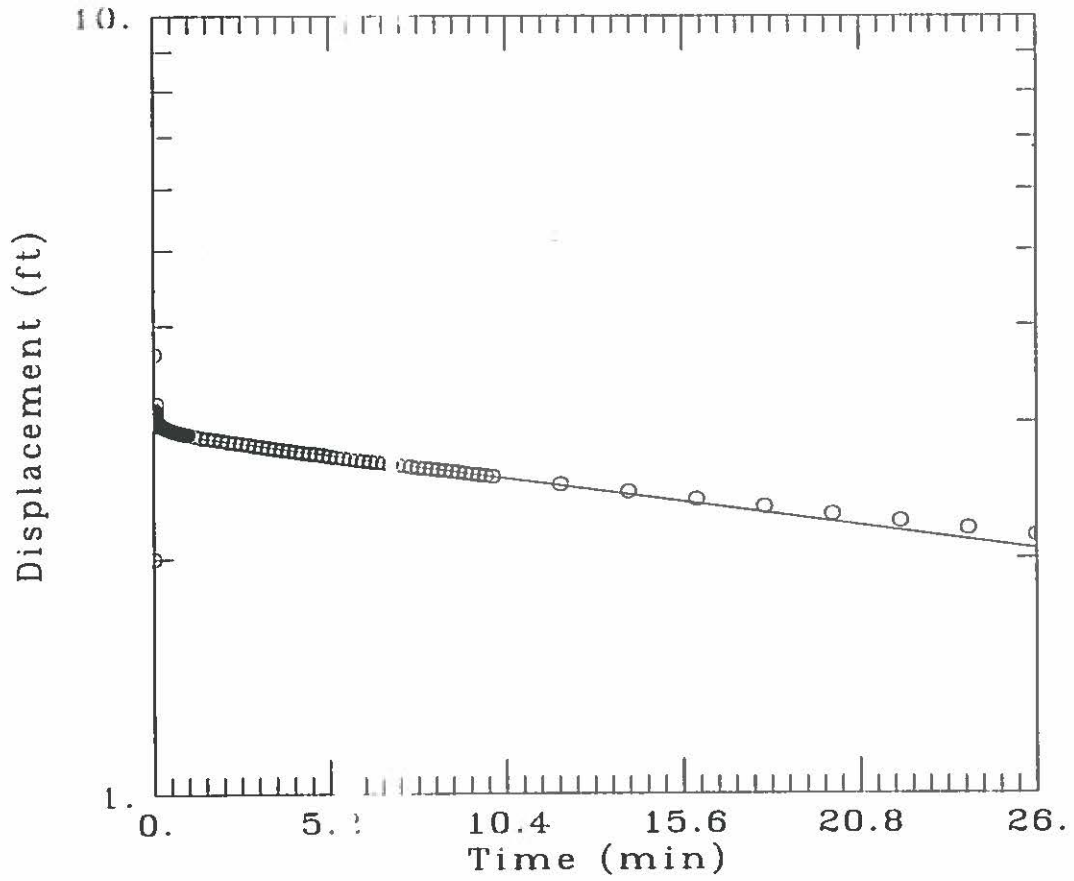
CARLSON ENVIRONMENTAL, INC.	Client: Robertson – CECO
Project No.: 9236A	Location: Lemont, Illinois

WELL-J-DUP RISING-HEAD PERMEABILITY TEST



DATA SET:
WELL-JDUP.DAT
12/22/95

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

TEST DATE:
12-20-95

TEST WELL:
WELL-J DUP.

ESTIMATED PARAMETERS:
K = 1.2007E-05 ft/min
y0 = 2.921 ft

TEST DATA:
H0 = 2. ft
rc = 0.083 ft
rw = 0.33 ft
L = 10. ft
b = 10. ft
H = 10. ft

K = 6.0 x 10^{-6} cm/sec

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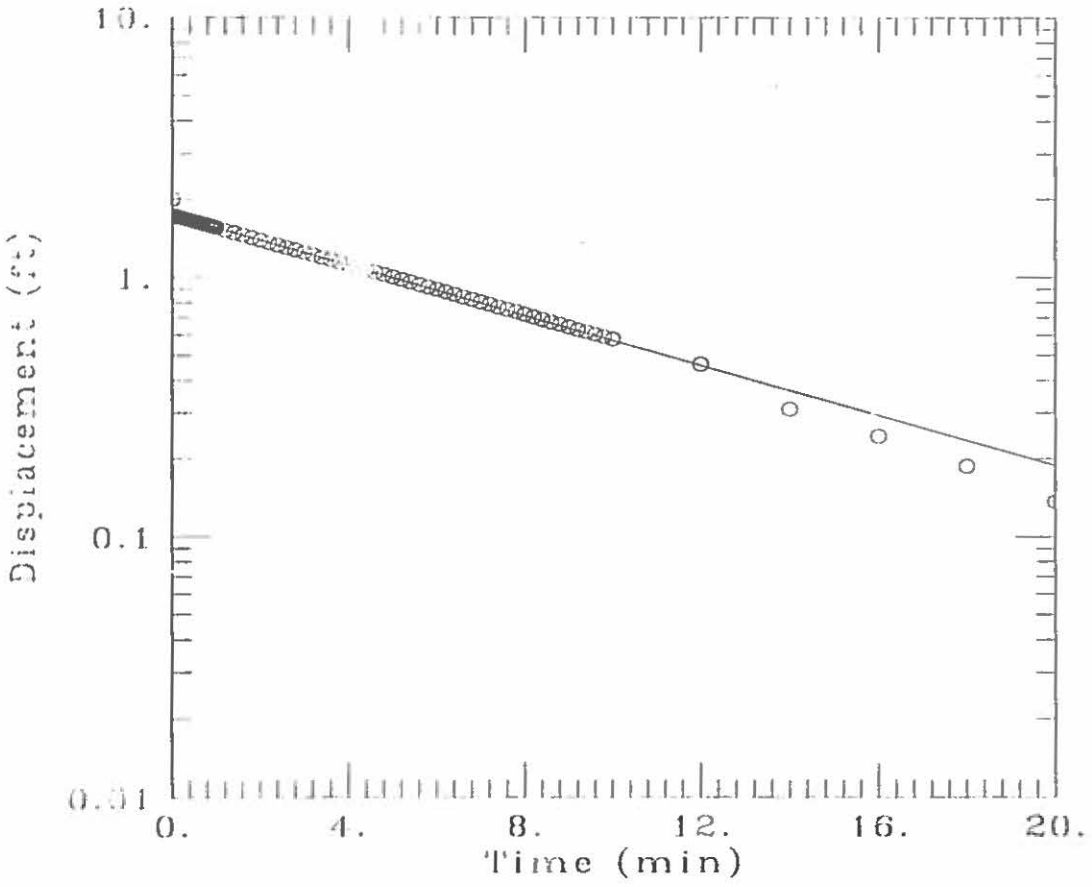
CARLSON ENVIRONMENTAL, INC.

Client: Robertson -- Ceco

Project No.: 9236A

Location: Lemont, Illinois

WELL-K RISING-HEAD PERMEABILITY TEST



DATA SET:

WELL-K.DAT

01/19/96

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

1-17-96

TEST WELL:

WELL-K

ESTIMATED PARAMETERS:

K = 0.0001605 ft/min

y0 = 1.732 ft

TEST DATA:

H0 = 2. ft

rc = 0.083 ft

rw = 0.33 ft

L = 5. ft

b = 20. ft

H = 15. ft

$K = 8.15 \times 10^{-5}$ cm/sec

ATTACHMENT D

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ATTACHMENT D

LABORATORY ANALYTICAL REPORTS

Electronic Filing: Received, Clerk's Office 07/19/2024

SOIL / SEDIMENT SAMPLE

LABORATORY REPORTS

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Date: December 18, 1995

rlson Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Ed Garske

Project: #9236A, Robertsson-Ceco

Enclosed are the results from 12 soil samples received at Great Lakes Analytical on December 11, 1995. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5120998	Soil: SB-01A	12/11/95	Total Metals, Long List
5120999	Soil: SB-01B	12/11/95	Total Metals, Short List
5121000	Soil: SB-01C	12/11/95	Total Metals, Short List
5121003	Soil: SB-02A	12/11/95	Total Metals, Long List
5121004	Soil: SB-02B	12/11/95	Total Metals, Short List
5121005	Soil: SB-02D	12/11/95	Total Metals, Short List
5121007	Soil: SB-03A	12/11/95	Total Metals, Short List
5121008	Soil: SB-03B	12/11/95	Total Metals, Short List
5121009	Soil: SB-03C	12/11/95	Total Metals, Long List
5121016	Soil: SB-04B	12/11/95	Total Metals, Short List
5121017	Soil: SB-04C	12/11/95	Total Metals, Long List
5121019	Soil: SB-04F	12/11/95	Total Metals, Short List

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Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Date: December 19, 1995

lson Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Ed Garske

Project: 9236A, Robertson Ceco - Lemont, IL

Enclosed are the results from 24 soil samples and 2 water samples received at Great Lakes Analytical on December 12, 1995. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5121120	Soil: SB-05D	12/12/95	Total Metals, Short List
5121122	Soil: SB-05F	12/12/95	Total Metals, Short List
5121123	Soil: SB-05G	12/12/95	Total Metals, Long List
5121124	Soil: SB-06A	12/12/95	Total Metals, Short List
5121125	Soil: SB-06B	12/12/95	Total Metals, Long List
5121126	Soil: PS-01	12/12/95	Total Metals, Long List
5121127	Soil: PS-02	12/12/95	Total Metals, Long List
5121128	Soil: PS-03	12/12/95	Total Metals, Long List
5121129	Soil: PS-04	12/12/95	Total Metals, Long List
5121130	Soil: SB-7A	12/12/95	Total Metals, Short List
5121131	Soil: SB-7B	12/12/95	Total Metals, Long List
5121132	Soil: SB-7C	12/12/95	Total Metals, Short List
5121135	Water: WS-02	12/12/95	Total Metals, Long List
5121136	Water: WS-05	12/12/95	Total Metals, Long List
5121139	Soil: SB-09C	12/12/95	Total Metals, Short List
5121140	Soil: SB-09D	12/12/95	Total Metals, Short List
5121141	Soil: SB-09E	12/12/95	Total Metals, Long List
5121142	Soil: SS-01	12/12/95	Total Metals, Long List

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MPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5121143	Soil: SS-02	12/12/95	Total Metals, Long List
5121144	Soil: SS-03	12/12/95	Total Metals, Long List
5121145	Soil: SS-04	12/12/95	Total Metals, Long List
5121146	Soil: SS-05	12/12/95	Total Metals, Long List
5121147	Soil: SS-06	12/12/95	Total Metals, Long List
5121149	Soil: SB-08C	12/12/95	Total Metals, Short List
5121150	Soil: SB-08D	12/12/95	Total Metals, Short List
5121151	Soil: SB-08F	12/12/95	Total Metals, Long List

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Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Date: December 20, 1995

Carlson Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Ed Garske

Project: 9236A, Robertson Ceco - Lemont, IL

Enclosed are the results from 18 soil samples received at Great Lakes Analytical on December 13, 1995. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5121222	Soil: SB-10B	12/13/95	Total Metals, Long List
5121223	Soil: SB-10C	12/13/95	Total Metals, Short List
5121224	Soil: SB-10E	12/13/95	Total Metals, Short List
5121227	Soil: Dup - 1B	12/13/95	Total Metals, Long List
5121228	Soil: Dup - 1C	12/13/95	Total Metals, Short List
5121229	Soil: Dup - 1E	12/13/95	Total Metals, Short List
5121230	Soil: SB - 11A	12/13/95	Total Metals, Short List
5121232	Soil: SB - 11C	12/13/95	Total Metals, Long List
5121233	Soil: SB - 11D	12/13/95	Total Metals, Short List
5121236	Soil: SB - 12A	12/13/95	Total Metals, Short List
5121237	Soil: SB - 12B	12/13/95	Total Metals, Long List
5121238	Soil: SB - 12C	12/13/95	Total Metals, Short List
5121246	Soil: SB - 13B	12/13/95	Total Metals, Short List
5121247	Soil: SB - 13C	12/13/95	Total Metals, Long List
5121248	Soil: SB - 13D	12/13/95	Total Metals, Short List
5121252	Soil: SB - 14B	12/12/95	Total Metals, Short List
5121253	Soil: SB - 14C	12/12/95	Total Metals, Short List
5121254	Soil: SB - 14D	12/12/95	Total Metals, Long List

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Very truly yours,

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Date: December 21, 1995

.rison Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Ed Garske

Project: #9236A, Robettson-Ceco

Enclosed are the results from 22 soil samples received at Great Lakes Analytical on December 14, 1995. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5121283	Soil: SB-15A	12/14/95	Total Metals, Short List
5121285	Soil: SB-15C	12/14/95	Total Metals, Long List
5121286	Soil: SB-15D	12/14/95	Total Metals, Short List
5121289	Soil: Dup-2C	12/14/95	Total Metals, Long List
5121290	Soil: Dup-2A	12/14/95	Total Metals, Short List
5121291	Soil: Dup-2D	12/14/95	Total Metals, Short List
5121292	Soil: SB-16A	12/14/95	Total Metals, Short List
5121293	Soil: SB-16B	12/14/95	Total Metals, Long List
5121294	Soil: SB-16C	12/14/95	Total Metals, Short List
5121297	Soil: SB-17A	12/14/95	Total Metals, Short List
5121298	Soil: SB-17B	12/14/95	Total Metals, Long List
5121299	Soil: SB-18A	12/14/95	Total Metals, Long List
5121300	Soil: SB-18B	12/14/95	Total Metals, Short List
5121301	Soil: SB-19A	12/14/95	Total Metals, Long List
5121302	Soil: SB-19B	12/14/95	Total Metals, Short List
5121303	Soil: SB-19C	12/14/95	Total Metals, Short List
5121305	Soil: SB-20A	12/14/95	Total Metals, Long List
5121306	Soil: SB-20B	12/14/95	Total Metals, Short List

.MPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5121307	Soil: SB-20D	12/14/95	Total Metals, Short List
5121308	Soil: SB-21A	12/14/95	Total Metals, Short List
5121309	Soil: SB-21B	12/14/95	Total Metals, Long List
5121310	Soil: SB-21C	12/14/95	Total Metals, Short List

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y truly yours,

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Date: December 22, 1995

Carlson Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Ed Garske

Project: 9236A,Robertson-CECO-Lemont, IL

Enclosed are the results from 21 soil samples received at Great Lakes Analytical on December 15, 1995. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5121317	Soil: SB-22A	12/15/95	Total Metals, Short List
5121318	Soil: SB-22B	12/15/95	Total Metals, Long List
5121319	Soil: SB-22D	12/15/95	Total Metals, Short List
5121321	Soil: SB-23A	12/15/95	Total Metals, Long List
5121322	Soil: SB-23B	12/15/95	Total Metals, Short List
5121323	Soil: SB-23C	12/15/95	Total Metals, Short List
5121324	Soil: SB-24A	12/15/95	Total Metals, Short List
5121325	Soil: SB-24B	12/15/95	Total Metals, Short List
5121326	Soil: SB-24C	12/15/95	Total Metals, Long List
5121327	Soil: SB-25A	12/15/95	Total Metals, Long List
5121328	Soil: SB-25B	12/15/95	Total Metals, Short List
5121329	Soil: SB-25C	12/15/95	Total Metals, Short List
5121330	Soil: SB-26A	12/15/95	Total Metals, Long List
5121331	Soil: SB-26B	12/15/95	Total Metals, Short List
5121332	Soil: SB-26C	12/15/95	Total Metals, Short List
5121333	Soil: Dup 3A	12/15/95	Total Metals, Short List
5121334	Soil: Dup 3B	12/15/95	Total Metals, Long List
5121335	Soil: Dup 3D	12/15/95	Total Metals, Short List
5121336	Soil: Dup 4A	12/15/95	Total Metals, Short List

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SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5121337	Soil: Dup 4B	12/15/95	Total Metals, Short List
5121338	Soil: Dup 4C	12/15/95	Total Metals, Long List

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Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREAT LAKES ANALYTICAL

...in W. Keeley
...boratory Director

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GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Date: April 1, 1996

son Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Peter Barys

Project: 9236A, Robertson, CECO Corp.

Enclosed are the results from 4 soil samples and 4 water samples received at Great Lakes Analytical on Mar 25, 1996. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
6031599	Soil: SS-7	3/25/96	Total Metals
6031600	Water: WS-7	3/25/96	Total Metals
6031601	Soil: SS-8	3/25/96	Total Metals
6031602	Soil: SS-9	3/25/96	Total Metals
6031603	Water: WS-8	3/25/96	Total Metals
6031604	Water: WS-9	3/25/96	Total Metals
6031605	Water: WS-10	3/25/96	Total Metals
6031606	Soil: SS-10	3/25/96	Total Metals

The Soil Lead and the Water Silver Matrix QC was outside established Control Limits. Recoveries are reported on pages 9-12.

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in W. Keeley
Laboratory Director

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GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Date: December 27, 1995

lson Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Ed Garske

Project: 9236A, Robertson - Ceco

Enclosed are the results from 6 soil samples received at Great Lakes Analytical on December 20, 1995. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5121693	Soil: SB-27A	12/20/95	Total Metals, Short List
5121694	Soil: SB-27B	12/20/95	Total Metals, Long List
5121695	Soil: SB-27C	12/20/95	Total Metals, Short List
5121701	Soil: SB-28A	12/20/95	Total Metals, Long List
5121702	Soil: SB-28B	12/20/95	Total Metals, Short List
5121704	Soil: SB-28D	12/20/95	Total Metals, Short List

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GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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rlson Environmental, Inc.
2 W. Randolph Street
Chicago, IL 60606
Attention: Ed Garske

Client Project ID: #9236A, Robertsson-Ceco
Sample Descript: Soil: SB-01A
Lab Number: 512-0998

Sampled: Dec 11, 1995
Received: Dec 11, 1995
Analyzed: Dec 14-15, 1995
Reported: Dec 18, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	6.0
Barium	3050/6010	25	310
Beryllium	3050/6010	0.50	0.62
Cadmium	3050/6010	0.50	3.7
Chromium	3050/6010	0.50	1,300
Lead	3050/7421	5.0	220
Mercury	7471	0.040	0.16
Nickel	3050/6010	2.5	36
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	0.50	210
Zinc	3050/6010	25	580

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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[illegible]dson Environmental, Inc.	Client Project ID:	#9236A, Robertsson-Ceco	Sampled: Dec 11, 1995
[illegible] W. Randolph Street	Sample Descript:	Soil: SB-01B	Received: Dec 11, 1995
Chicago, IL 60606			
Attention: Ed Garske	Lab Number:	512-0999	Analyzed: Dec 12-15, 1995
			Reported: Dec 18, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	2.4
Hexavalent Chromium	7196	2.0	N.D.
Lead	3050/6010	5.0	95

Analytes reported as N.D. were not present above the stated limit of detection.

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[illegible]rdson Environmental, Inc.	Client Project ID:	#9236A, Robertsson-Ceco	Sampled: Dec 11, 1995
[illegible] W. Randolph Street	Sample Descript:	Soil: SB-01C	Received: Dec 11, 1995
Chicago, IL 60606			
Attention: Ed Garske	Lab Number:	512-1000	Analyzed: Dec 12-15, 1995
			Reported: Dec 18, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	**3050/6010**	**0.50**	**14**
Hexavalent Chromium	7196	2.0	N.D.
Lead	**3050/6010**	**5.0**	**330**

Analytes reported as N.D. were not present above the stated limit of detection.

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[illegible]son Environmental, Inc.	Client Project ID:	#9236A, Robertsson-Ceco	Sampled: Dec 11, 1995
[illegible] W. Randolph Street	Sample Descript:	Soil: SB-02A	Received: Dec 11, 1995
Chicago, IL 60606			
Attention: Ed Garske	Lab Number:	512-1003	Analyzed: Dec 14-15, 1995
			Reported: Dec 18, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	N.D.
Barium	**3050/6010**	**25**	**390**
Beryllium	3050/6010	0.50	N.D.
Cadmium	**3050/6010**	**0.50**	**1.4**
Chromium	**3050/6010**	**0.50**	**2,300**
Lead	**3050/7421**	**5.0**	**48**
Mercury	7471	0.040	N.D.
Nickel	**3050/6010**	**2.5**	**34**
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	**3050/6010**	**0.50**	**330**
Zinc	**3050/6010**	**25**	**1,400**

Analytes reported as N.D. were not present above the stated limit of detection.

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]son Environmental, Inc.	Client Project ID:	#9236A, Robertsson-Ceco	Sampled: Dec 11, 1995
W. Randolph Street	Sample Descript:	Soil: SB-02B	Received: Dec 11, 1995
Chicago, IL 60606			
Attention: Ed Garske	Lab Number:	512-1004	Analyzed: Dec 12-15, 1995
			Reported: Dec 18, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	0.96
Hexavalent Chromium	7196	2.0	N.D.
Lead	3050/6010	5.0	42

Analytes reported as N.D. were not present above the stated limit of detection.

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[illegible]lson Environmental, Inc.	Client Project ID:	#9236A, Robertsson-Ceco	Sampled: Dec 11, 1995
[illegible] W. Randolph Street	Sample Descript:	Soil: SB-02D	Received: Dec 11, 1995
Chicago, IL 60606			
Attention: Ed Garske	Lab Number:	512-1005	Analyzed: Dec 12-15, 1995
			Reported: Dec 18, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	N.D.
Hexavalent Chromium	7196	2.0	N.D.
Lead	**3050/6010**	**5.0**	**19**

Analytes reported as N.D. were not present above the stated limit of detection.

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[illegible]son Environmental, Inc.	Client Project ID:	#9236A, Robertsson-Ceco	Sampled: Dec 11, 1995
[illegible] W. Randolph Street	Sample Descript:	Soil: SB-03A	Received: Dec 11, 1995
Chicago, IL 60606			
Attention: Ed Garske	Lab Number:	512-1007	Analyzed: Dec 12-15, 1995
			Reported: Dec 18, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.20	36
Hexavalent Chromium	7196	2.0	N.D.
Lead	3050/6010	5.0	1,200

Analytes reported as N.D. were not present above the stated limit of detection.

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lson Environmental, Inc.	Client Project ID:	#9236A, Robertsson-Ceco	Sampled:	Dec 11, 1995
W. Randolph Street	Sample Descript:	Soil: SB-03B	Received:	Dec 11, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1008	Analyzed:	Dec 12-15, 1995
			Reported:	Dec 18, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.20	11
Hexavalent Chromium	7196	2.0	N.D.
Lead	3050/6010	5.0	340

Analytes reported as N.D. were not present above the stated limit of detection.

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Carlson Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Ed Garske

Client Project ID: #9236A, Robertsson-Ceco
Sample Descript: Soil: SB-03C

Lab Number: 512-1009

Sampled: Dec 11, 1995
Received: Dec 11, 1995

Analyzed: Dec 14-15, 1995
Reported: Dec 18, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	**3050/7060**	**2.5**	**3.6**
Barium	**3050/6010**	**25**	**690**
Beryllium	**3050/6010**	**0.50**	**1.0**
Cadmium	**3050/6010**	**0.50**	**7.2**
Chromium	**3050/6010**	**0.50**	**1,300**
Lead	**3050/7421**	**5.0**	**200**
Mercury	7471	0.040	N.D.
Nickel	**3050/6010**	**2.5**	**34**
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	**3050/6010**	**0.50**	**190**
Zinc	**3050/6010**	**25**	**1,400**

Analytes reported as N.D. were not present above the stated limit of detection.

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...lson Environmental, Inc.	Client Project ID:	#9236A, Robertsson-Ceco	Sampled: Dec 11, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SB-04B	Received: Dec 11, 1995
Chicago, IL 60606			
Attention: Ed Garske	Lab Number:	512-1016	Analyzed: Dec 12-15, 1995
			Reported: Dec 18, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.20	7.9
Hexavalent Chromium	7196	2.0	N.D.
Lead	3050/6010	5.0	170

Analytes reported as N.D. were not present above the stated limit of detection.

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(708) 808-7766 FAX (708) 808-7772

...ison Environmental, Inc.	Client Project ID:	#9236A, Robertsson-Ceco	Sampled:	Dec 11, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SB-04C	Received:	Dec 11, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1017	Analyzed:	Dec 14-15, 1995
			Reported:	Dec 18, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antiomony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	4.4
Barium	3050/6010	25	300
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	1.7
Chromium	3050/6010	0.50	2,200
Lead	3050/7421	5.0	84
Mercury	7471	0.040	N.D.
Nickel	3050/6010	2.5	18
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	0.50	94
Zinc	3050/6010	25	590

Analytes reported as N.D. were not present above the stated limit of detection.

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Laboratory Director

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Robertson Environmental, Inc.	Client Project ID:	#9236A, Robertsson-Ceco	Sampled: Dec 11, 1995
[illegible] W. Randolph Street	Sample Descript:	Soil: SB-04F	Received: Dec 11, 1995
Chicago, IL 60606			
Attention: Ed Garske	Lab Number:	512-1019	Analyzed: Dec 12-15, 1995
			Reported: Dec 18, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.20	1.8
Hexavalent Chromium	7196	2.0	3.8
Lead	3050/6010	5.0	61

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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[illegible]lson Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
[illegible] W. Randolph Street	Sample Descript:	Soil: SB-05D	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1120	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	**3050/6010**	**0.50**	**53**
Hexavalent Chromium	7197	2.0	N.D.
Lead	**3050/6010**	**5.0**	**2,800**

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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Robertson Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
W. Randolph Street	Sample Descript:	Soil: SB-05F	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1122	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	**3050/6010**	**0.50**	**17**
Hexavalent Chromium	7197	2.0	N.D.
Lead	**3050/6010**	**5.0**	**990**

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
Laboratory Director

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rison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled: Dec 12, 1995
2 W. Randolph Street	Sample Descript:	Soil: SB-05G	Received: Dec 12, 1995
Chicago, IL 60606			
Attention: Ed Garske	Lab Number:	512-1123	Analyzed: Dec 13, 1995
			Reported: Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	5.9
Barium	3050/6010	25	170
Beryllium	3050/6010	0.50	0.63
Cadmium	3050/6010	0.50	10
Chromium	3050/6010	0.50	51
Lead	3050/6010	5.0	430
Mercury	7471	0.040	0.19
Nickel	3050/6010	2.5	27
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	25
Zinc	3050/6010	25	1,600

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SB-06A	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1124	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg		Sample Results mg/kg
Cadmium	3050/6010	0.50		4.5
Hexavalent Chromium	7197	2.0		2.2
Lead	3050/6010	5.0		1,200

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rlson Environmental, Inc.
.2 W. Randolph Street
Chicago, IL 60606
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL
Sample Descript: Soil: SB-06B
Lab Number: 512-1125

Sampled: Dec 12, 1995
Received: Dec 12, 1995
Analyzed: Dec 13, 1995
Reported: Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	5.7
Barium	3050/6010	25	460
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	6.7
Chromium	3050/6010	0.50	680
Lead	3050/6010	5.0	950
Mercury	7471	0.040	0.29
Nickel	3050/6010	2.5	44
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	330
Zinc	3050/6010	25	1,200

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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[illegible]ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
[illegible] W. Randolph Street	Sample Descript:	Soil: SB-7A	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1130	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	19
Hexavalent Chromium	7197	2.0	N.D.
Lead	3050/6010	5.0	1,100

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
Laboratory Director

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rlson Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
12 W. Randolph Street	Sample Descript:	Soil: SB-7B	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1131	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	**3050/7060**	**2.5**	**19**
Barium	**3050/6010**	**25**	**310**
Beryllium	3050/6010	0.50	N.D.
Cadmium	**3050/6010**	**0.50**	**9.5**
Chromium	**3050/6010**	**0.50**	**110**
Lead	**3050/6010**	**5.0**	**1,100**
Mercury	**7471**	**0.040**	**0.73**
Nickel	**3050/6010**	**2.5**	**130**
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	**3050/6010**	**5.0**	**26**
Zinc	**3050/6010**	**25**	**1,700**

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
... W. Randolph Street	Sample Descript:	Soil: SB-7C	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1132	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	9.0
Hexavalent Chromium	7197	2.0	N.D.
Lead	3050/6010	5.0	850

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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dson Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
W. Randolph Street	Sample Descript:	Soil: SB-08C	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1149	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg		Sample Results mg/kg
Cadmium	3050/6010	0.50		2.1
Hexavalent Chromium	7197	2.0		N.D.
Lead	3050/6010	5.0		110

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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Robertson Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
W. Randolph Street	Sample Descript:	Soil: SB-08D	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1150	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	5.0
Hexavalent Chromium	7197	2.0	N.D.
Lead	3050/6010	5.0	340

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
Laboratory Director

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rison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
2 W. Randolph Street	Sample Descript:	Soil: SB-08F	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1151	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	17
Barium	3050/6010	25	280
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	10
Chromium	3050/6010	0.50	72
Lead	3050/6010	5.0	1,200
Mercury	7471	0.040	0.75
Nickel	3050/6010	2.5	81
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	18
Zinc	3050/6010	25	1,900

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

5121120.CAR <26>

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...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled: Dec 12, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SB-09C	Received: Dec 12, 1995
Chicago, IL 60606			
Attention: Ed Garske	Lab Number:	512-1139	Analyzed: Dec 13, 1995
			Reported: Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	0.69
Hexavalent Chromium	7197	2.0	3.7
Lead	3050/6010	5.0	89

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

5121120.CAR <15>

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...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SB-09D	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1140	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	4.3
Hexavalent Chromium	7197	2.0	N.D.
Lead	3050/6010	5.0	380

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

5121120.CAR <16>

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...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled: Dec 12, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SB-09E	Received: Dec 12, 1995
Chicago, IL 60606			
Attention: Ed Garske	Lab Number:	512-1141	Analyzed: Dec 13, 1995
			Reported: Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	9.3
Barium	3050/6010	25	600
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	11
Chromium	3050/6010	0.50	450
Lead	3050/6010	5.0	2,200
Mercury	7471	0.040	1.9
Nickel	3050/6010	2.5	81
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	180
Zinc	3050/6010	25	4,400

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

5121120.CAR <17>

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[illegible]ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled: Dec 13, 1995
[illegible]2 W. Randolph Street	Sample Descript:	Soil: SB-10B	Received: Dec 13, 1995
Chicago, IL 60606			Digested: Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1222	Analyzed: Dec 15-20, 1995
			Reported: Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	9.3
Barium	3050/6010	25	280
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	80
Chromium	3050/6010	0.50	1,100
Lead	3050/6010	5.0	1,900
Mercury	7471	0.40	N.D.
Nickel	3050/6010	5.0	43
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	2.6
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	150
Zinc	3050/6010	25	9,200

Analytes reported as N.D. were not present above the stated limit of detection.

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Laboratory Director

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lson Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled: Dec 13, 1995
2 W. Randolph Street	Sample Descript:	Soil: SB-10C	Received: Dec 13, 1995
Chicago, IL 60606			Digested: Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1223	Analyzed: Dec 15-20, 1995
			Reported: Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	60
Hexavalent Chromium	7197	4.0	8.1
Lead	3050/6010	5.0	1,900

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...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled: Dec 13, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SB-10E	Received: Dec 13, 1995
Chicago, IL 60606			Digested: Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1224	Analyzed: Dec 15-20, 1995
			Reported: Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	13
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	320

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

5121222.CAR <3>

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...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled: Dec 13, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SB - 11A	Received: Dec 13, 1995
Chicago, IL 60606			Digested: Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1230	Analyzed: Dec 15-20, 1995
			Reported: Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	3.3
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	130

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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rlson Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 13, 1995
512 W. Randolph Street	Sample Descript:	Soil: SB - 11C	Received:	Dec 13, 1995
Chicago, IL 60606			Digested:	Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1232	Analyzed:	Dec 15-20, 1995
			Reported:	Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	19
Barium	3050/6010	25	120
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	2.3
Chromium	3050/6010	0.50	1,400
Lead	3050/6010	5.0	73
Mercury	7471	0.40	N.D.
Nickel	3050/6010	5.0	110
Selenium	3050/7740	0.50	1.0
Silver	3050/6010	2.5	3.4
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	450
Zinc	3050/6010	25	280

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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rlson Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 13, 1995
2 W. Randolph Street	Sample Descript:	Soil: SB - 11D	Received:	Dec 13, 1995
Chicago, IL 60606			Digested:	Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1233	Analyzed:	Dec 14, 1995
			Reported:	Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	0.66
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	26

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled: Dec 13, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SB - 12A	Received: Dec 13, 1995
Chicago, IL 60606			Digested: Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1236	Analyzed: Dec 15-20, 1995
			Reported: Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	3.3
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	320

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 13, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB - 12B	Received:	Dec 13, 1995
Chicago, IL 60606			Digested:	Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1237	Analyzed:	Dec 15-20, 1995
			Reported:	Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	7.9
Barium	3050/6010	25	140
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	19
Chromium	3050/6010	0.50	770
Lead	3050/6010	5.0	730
Mercury	7471	0.40	N.D.
Nickel	3050/6010	5.0	28
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	170
Zinc	3050/6010	25	2,500

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
Laboratory Director

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...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 13, 1995
...12 W. Randolph Street	Sample Descript:	Soil: SB - 12C	Received:	Dec 13, 1995
Chicago, IL 60606			Digested:	Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1238	Analyzed:	Dec 15-20, 1995
			Reported:	Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	4.8
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	150

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

5121222.CAR <12>

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled: Dec 13, 1995
...12 W. Randolph Street	Sample Descript:	Soil: SB - 13B	Received: Dec 13, 1995
Chicago, IL 60606			Digested: Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1246	Analyzed: Dec 15-20, 1995
			Reported: Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	0.66
Hexavalent Chromium	7197	4.0	6.3
Lead	3050/6010	5.0	13

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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...ion Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 13, 1995
3...2 W. Randolph Street	Sample Descript:	Soil: SB - 13C	Received:	Dec 13, 1995
Chicago, IL 60606			Digested:	Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1247	Analyzed:	Dec 15-20, 1995
			Reported:	Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	8.8
Barium	3050/6010	25	270
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	2.1
Chromium	3050/6010	0.50	1,400
Lead	3050/6010	5.0	27
Mercury	7471	0.40	N.D.
Nickel	3050/6010	5.0	28
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	2.6
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	210
Zinc	3050/6010	25	200

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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son Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 13, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB - 13D	Received:	Dec 13, 1995
Chicago, IL 60606			Digested:	Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1248	Analyzed:	Dec 15-20, 1995
			Reported:	Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	2.4
Hexavalent Chromium	7197	4.0	4.4
Lead	3050/6010	5.0	81

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Kevin W. Keeley
Laboratory Director

5121222.CAR <15>

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[illegible]on Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
3[illegible] W. Randolph Street	Sample Descript:	Soil: SB - 14B	Received:	Dec 13, 1995
Chicago, IL 60606			Digested:	Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1252	Analyzed:	Dec 15-20, 1995
			Reported:	Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	64
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/7421	5.0	3,600

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

5121222.CAR <16>

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son Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB - 14C	Received:	Dec 13, 1995
Chicago, IL 60606			Digested:	Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1253	Analyzed:	Dec 15-20, 1995
			Reported:	Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	2.4
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	140

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
Laboratory Director

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...son Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB - 14D	Received:	Dec 13, 1995
Chicago, IL 60606			Digested:	Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1254	Analyzed:	Dec 15-20, 1995
			Reported:	Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	7.0
Barium	3050/6010	25	270
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	47
Chromium	3050/6010	0.50	880
Lead	3050/6010	5.0	2,400
Mercury	7471	0.40	0.61
Nickel	3050/6010	5.0	46
Selenium	3050/7740	0.50	3.6
Silver	3050/6010	2.5	5.3
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	150
Zinc	3050/6010	25	8,700

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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GREAT LAKES ANALYTICAL
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son Environmental, Inc.	Client Project ID:	#9236A, Robettson-Ceco	Sampled: Dec 14, 1995
W. Randolph Street	Sample Descript:	Soil: SB-15A	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1283	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.050	6.4
Hexavalent Chromium	7197	4.0	4.5
Lead	3050/6010	5.0	230

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son Environmental, Inc.	Client Project ID:	#9236A, Robertson-Ceco	Sampled: Dec 14, 1995
512 W. Randolph Street	Sample Descript:	Soil: SB-15D	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1286	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.050	0.97
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	45

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
Laboratory Director

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ison Environmental, Inc.	Client Project ID:	#9236A, Robertson-Ceco	Sampled: Dec 14, 1995
2 W. Randolph Street	Sample Descript:	Soil: Dup-2A	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1290	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.050	4.8
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	180

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
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Robertson Environmental, Inc.	Client Project ID:	#9236A, Robettson-Ceco	Sampled: Dec 14, 1995
512 W. Randolph Street	Sample Descript:	Soil: Dup-2D	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1291	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.050	N.D.
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	28

Analytes reported as N.D. were not present above the stated limit of detection.

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Robertson Environmental, Inc.	Client Project ID:	#9236A, Robettson-Ceco	Sampled: Dec 14, 1995
512 W. Randolph Street	Sample Descript:	Soil: SB-16A	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1292	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.050	1.8
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	97

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
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5121283.CAR <5>

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...ison Environmental, Inc.	Client Project ID:	#9236A, Robertson-Ceco	Sampled: Dec 14, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SB-16C	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1294	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.050	0.94
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	140

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

5121283.CAR <6>

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(708) 808-7766 FAX (708) 808-7772

[illegible]son Environmental, Inc.	Client Project ID:	#9236A, Robertson-Ceco	Sampled: Dec 14, 1995
[illegible]2 W. Randolph Street	Sample Descript:	Soil: SB-17A	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1297	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.050	6.8
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	780

Analytes reported as N.D. were not present above the stated limit of detection.

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(708) 808-7766 FAX (708) 808-7772

...lson Environmental, Inc.	Client Project ID:	#9236A, Robertson-Ceco	Sampled: Dec 14, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-18B	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1300	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.050	4.0
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	480

Analytes reported as N.D. were not present above the stated limit of detection.

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rison Environmental, Inc.	Client Project ID:	#9236A, Robettson-Ceco	Sampled: Dec 14, 1995
2 W. Randolph Street	Sample Descript:	Soil: SB-19B	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1302	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.050	4.4
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	390

Analytes reported as N.D. were not present above the stated limit of detection.

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rlson Environmental, Inc.	Client Project ID:	#9236A, Robettson-Ceco	Sampled: Dec 14, 1995
2 W. Randolph Street	Sample Descript:	Soil: SB-19C	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1303	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.050	1.4
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	110

Analytes reported as N.D. were not present above the stated limit of detection.

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[illegible]ison Environmental, Inc.	Client Project ID:	#9236A, Robertson-Ceco	Sampled: Dec 14, 1995
[illegible]2 W. Randolph Street	Sample Descript:	Soil: SB-20B	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1306	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.050	13
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	380

Analytes reported as N.D. were not present above the stated limit of detection.

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rison Environmental, Inc.	Client Project ID:	#9236A, Robettson-Ceco	Sampled: Dec 14, 1995
12 W. Randolph Street	Sample Descript:	Soil: SB-20D	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1307	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.050	2.7
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	200

Analytes reported as N.D. were not present above the stated limit of detection.

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[illegible]rison Environmental, Inc.	Client Project ID:	#9236A, Robettson-Ceco	Sampled: Dec 14, 1995
[illegible]2 W. Randolph Street	Sample Descript:	Soil: SB-21A	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1308	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.050	12
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	380

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
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...son Environmental, Inc.	Client Project ID:	#9236A, Robertson-Ceco	Sampled: Dec 14, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SB-21C	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1310	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.050	3.1
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	130

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
Laboratory Director

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...ison Environmental, Inc.	Client Project ID:	#9236A, Robertson-Ceco	Sampled: Dec 14, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SB-15C	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1285	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	0.50	N.D.
Barium	3050/6010	25	400
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	0.85
Chromium	3050/6010	0.50	1,900
Lead	3050/6010	5.0	34
Mercury	7471	0.40	N.D.
Nickel	3050/6010	2.5	37
Selenium	3050/7741	0.50	6.5
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	230
Zinc	3050/6010	25	210

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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rison Environmental, Inc.	Client Project ID:	#9236A, Robertson-Ceco	Sampled: Dec 14, 1995
2 W. Randolph Street	Sample Descript:	Soil: Dup-2C	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1289	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	0.50	3.4
Barium	3050/6010	25	470
Beryllium	3050/6010	0.50	0.63
Cadmium	3050/6010	0.50	0.90
Chromium	3050/6010	0.50	1,600
Lead	3050/6010	5.0	38
Mercury	7471	0.40	N.D.
Nickel	3050/6010	2.5	52
Selenium	3050/7741	0.50	3.8
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	270
Zinc	3050/6010	25	260

Analytes reported as N.D. were not present above the stated limit of detection.

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...rison Environmental, Inc.	Client Project ID:	#9236A, Robertson-Ceco	Sampled: Dec 14, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-16B	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1293	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	0.50	N.D.
Barium	3050/6010	25	330
Beryllium	3050/6010	0.50	3.4
Cadmium	3050/6010	0.50	2.7
Chromium	3050/6010	0.50	1,000
Lead	3050/6010	5.0	89
Mercury	7471	0.40	N.D.
Nickel	3050/6010	2.5	33
Selenium	3050/7741	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	170
Zinc	3050/6010	25	780

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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rtson Environmental, Inc.	Client Project ID:	#9236A, Robertson-Ceco	Sampled: Dec 14, 1995
2 W. Randolph Street	Sample Descript:	Soil: SB-17B	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1298	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	0.50	5.6
Barium	3050/6010	25	25
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	N.D.
Chromium	3050/6010	0.50	12
Lead	3050/6010	5.0	30
Mercury	7471	0.40	N.D.
Nickel	3050/6010	2.5	9.8
Selenium	3050/7741	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	11
Zinc	3050/6010	25	57

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
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rison Environmental, Inc.	Client Project ID:	#9236A, Robertson-Ceco	Sampled:	Dec 14, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-18A	Received:	Dec 14, 1995
Chicago, IL 60606			Extracted:	Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1299	Analyzed:	Dec 15-21, 1995
			Reported:	Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	0.50	N.D.
Barium	3050/6010	25	530
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	3.6
Chromium	3050/6010	0.50	230
Lead	3050/6010	5.0	670
Mercury	7471	0.40	0.55
Nickel	3050/6010	2.5	24
Selenium	3050/7741	0.50	1.3
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	180
Zinc	3050/6010	25	690

Analytes reported as N.D. were not present above the stated limit of detection.

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...ison Environmental, Inc.	Client Project ID:	#9236A, Robertson-Ceco	Sampled: Dec 14, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SB-19A	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1301	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	0.50	N.D.
Barium	3050/6010	25	260
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	4.6
Chromium	3050/6010	0.50	1,500
Lead	3050/6010	5.0	380
Mercury	7471	0.40	N.D.
Nickel	3050/6010	2.5	62
Selenium	3050/7741	0.50	0.78
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	180
Zinc	3050/6010	25	900

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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...ison Environmental, Inc.	Client Project ID:	#9236A, Robertson-Ceco	Sampled:	Dec 14, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-20A	Received:	Dec 14, 1995
Chicago, IL 60606			Extracted:	Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1305	Analyzed:	Dec 15-21, 1995
			Reported:	Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	0.50	6.7
Barium	3050/6010	25	210
Beryllium	3050/6010	0.50	0.83
Cadmium	3050/6010	0.50	110
Chromium	3050/6010	0.50	880
Lead	3050/6010	5.0	3,000
Mercury	7471	0.40	0.56
Nickel	3050/6010	2.5	45
Selenium	3050/7741	0.50	2.3
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	200
Zinc	3050/6010	25	13,000

Analytes reported as N.D. were not present above the stated limit of detection.

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ison Environmental, Inc.	Client Project ID:	#9236A, Robertson-Ceco	Sampled: Dec 14, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-21B	Received: Dec 14, 1995
Chicago, IL 60606			Extracted: Dec 15, 1995
Attention: Ed Garske	Lab Number:	512-1309	Analyzed: Dec 15-21, 1995
			Reported: Dec 21, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	0.50	4.4
Barium	3050/6010	25	70
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	3.7
Chromium	3050/6010	0.50	94
Lead	3050/6010	5.0	160
Mercury	7471	0.40	N.D.
Nickel	3050/6010	2.5	27
Selenium	3050/7741	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	35
Zinc	3050/6010	25	720

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

lson Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled: Dec 15, 1995
2 W. Randolph Street	Sample Descript:	Soil: SB-22A	Received: Dec 15, 1995
Chicago, IL 60606			Digested: Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1317	Analyzed: Dec 16-22, 1995
			Reported: Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	12
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	1,500

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

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ison Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled: Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-22B	Received: Dec 15, 1995
Chicago, IL 60606			Digested: Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1318	Analyzed: Dec 16-22, 1995
			Reported: Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	3.3
Barium	3050/6010	25	110
Beryllium	3050/6010	0.50	0.71
Cadmium	3050/6010	0.50	1.6
Chromium	3050/6010	0.50	61
Lead	3050/6010	5.0	87
Mercury	7471	0.040	N.D.
Nickel	3050/6010	2.5	22
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	41
Zinc	3050/6010	25	190

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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ison Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled: Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-22D	Received: Dec 15, 1995
Chicago, IL 60606			Digested: Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1319	Analyzed: Dec 16-22, 1995
			Reported: Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	3.3
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	210

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

5121317.CAR <3>

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ison Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled:	Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-23A	Received:	Dec 15, 1995
Chicago, IL 60606			Digested:	Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1321	Analyzed:	Dec 16-22, 1995
			Reported:	Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	5.5
Barium	3050/6010	25	320
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	7.9
Chromium	3050/6010	0.50	440
Lead	3050/6010	5.0	530
Mercury	7471	0.040	1.1
Nickel	3050/6010	2.5	33
Selenium	3050/7740	0.50	0.64
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	250
Zinc	3050/6010	25	1,500

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
Laboratory Director

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...tson Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled: Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-23B	Received: Dec 15, 1995
Chicago, IL 60606			Digested: Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1322	Analyzed: Dec 16-22, 1995
			Reported: Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	38
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	1,300

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

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...con Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled: Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-23C	Received: Dec 15, 1995
Chicago, IL 60606			Digested: Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1323	Analyzed: Dec 16-22, 1995
			Reported: Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	37
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	1,300

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

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son Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled: Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-24A	Received: Dec 15, 1995
Chicago, IL 60606			Digested: Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1324	Analyzed: Dec 16-22, 1995
			Reported: Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	3.7
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	220

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

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son Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled: Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-24B	Received: Dec 15, 1995
Chicago, IL 60606			Digested: Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1325	Analyzed: Dec 16-22, 1995
			Reported: Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	1.4
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	66

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

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...son Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled:	Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-24C	Received:	Dec 15, 1995
Chicago, IL 60606			Digested:	Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1326	Analyzed:	Dec 16-22, 1995
			Reported:	Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	N.D.
Barium	3050/6010	25	250
Beryllium	3050/6010	0.50	0.94
Cadmium	3050/6010	0.50	1.2
Chromium	3050/6010	0.50	860
Lead	3050/6010	5.0	53
Mercury	7471	0.040	N.D.
Nickel	3050/6010	2.5	22
Selenium	3050/7740	0.50	0.68
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	300
Zinc	3050/6010	25	220

Analytes reported as N.D. were not present above the stated limit of detection.

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son Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled:	Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-25A	Received:	Dec 15, 1995
Chicago, IL 60606			Digested:	Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1327	Analyzed:	Dec 16-22, 1995
			Reported:	Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	40
Barium	3050/6010	25	49
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	N.D.
Chromium	3050/6010	0.50	9.3
Lead	3050/6010	5.0	19
Mercury	7471	0.040	0.048
Nickel	3050/6010	2.5	9.1
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	11
Zinc	3050/6010	25	76

Analytes reported as N.D. were not present above the stated limit of detection.

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son Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Ed Garske

Client Project ID: 9236A,Robertson-CECO-Lemont, IL
Sample Descript: Soil: SB-25B
Lab Number: 512-1328

Sampled: Dec 15, 1995
Received: Dec 15, 1995
Digested: Dec 16-19, 1995
Analyzed: Dec 16-22, 1995
Reported: Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg		Sample Results mg/kg
Cadmium	3050/6010	0.50		N.D.
Hexavalent Chromium	7197	4.0		N.D.
Lead	3050/6010	5.0		11

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

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son Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled: Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-25C	Received: Dec 15, 1995
Chicago, IL 60606			Digested: Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1329	Analyzed: Dec 16-22, 1995
			Reported: Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	0.63
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	12

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

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...son Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled:	Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-26A	Received:	Dec 15, 1995
Chicago, IL 60606			Digested:	Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1330	Analyzed:	Dec 16-22, 1995
			Reported:	Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	36
Barium	3050/6010	25	60
Beryllium	3050/6010	0.50	1.0
Cadmium	3050/6010	0.50	1.3
Chromium	3050/6010	0.50	7.2
Lead	3050/6010	5.0	71
Mercury	7471	0.040	0.31
Nickel	3050/6010	2.5	9.9
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	9.3
Zinc	3050/6010	25	270

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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...son Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled: Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-26B	Received: Dec 15, 1995
Chicago, IL 60606			Digested: Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1331	Analyzed: Dec 16-22, 1995
			Reported: Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	0.67
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	40

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

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GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

son Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled: Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: SB-26C	Received: Dec 15, 1995
Chicago, IL 60606			Digested: Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1332	Analyzed: Dec 16-22, 1995
			Reported: Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	0.80
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	44

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

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son Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled: Dec 13, 1995
W. Randolph Street	Sample Descript:	Soil: Dup - 1B	Received: Dec 13, 1995
Chicago, IL 60606			Digested: Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1227	Analyzed: Dec 15-20, 1995
			Reported: Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	8.1
Barium	3050/6010	25	180
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	58
Chromium	3050/6010	0.50	1,000
Lead	3050/6010	5.0	1,200
Mercury	7471	0.40	N.D.
Nickel	3050/6010	5.0	55
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	4.0
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	250
Zinc	3050/6010	25	5,600

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
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...lson Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled: Dec 13, 1995
...2 W. Randolph Street	Sample Descript:	Soil: Dup - 1C	Received: Dec 13, 1995
Chicago, IL 60606			Digested: Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1228	Analyzed: Dec 15-20, 1995
			Reported: Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	40
Hexavalent Chromium	7197	4.0	5.8
Lead	3050/6010	5.0	1,200

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...lson Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled: Dec 13, 1995
312 W. Randolph Street	Sample Descript:	Soil: Dup - 1E	Received: Dec 13, 1995
Chicago, IL 60606			Digested: Dec 14, 1995
Attention: Ed Garske	Lab Number:	512-1229	Analyzed: Dec 15-20, 1995
			Reported: Dec 20, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	30
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	450

Analytes reported as N.D. were not present above the stated limit of detection.

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lson Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled: Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: Dup 3A	Received: Dec 15, 1995
Chicago, IL 60606			Digested: Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1333	Analyzed: Dec 16-22, 1995
			Reported: Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	13
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	1,700

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

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...lson Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled: Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: Dup 3B	Received: Dec 15, 1995
Chicago, IL 60606			Digested: Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1334	Analyzed: Dec 16-22, 1995
			Reported: Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	17
Barium	3050/6010	25	340
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	5.4
Chromium	3050/6010	0.50	740
Lead	3050/6010	5.0	440
Mercury	7471	0.040	0.16
Nickel	3050/6010	2.5	100
Selenium	3050/7740	0.50	0.68
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	250
Zinc	3050/6010	25	1,100

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
Laboratory Director

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...son Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled: Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: Dup 3D	Received: Dec 15, 1995
Chicago, IL 60606			Digested: Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1335	Analyzed: Dec 16-22, 1995
			Reported: Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	0.99
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	57

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

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...son Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled: Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: Dup 4A	Received: Dec 15, 1995
Chicago, IL 60606			Digested: Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1336	Analyzed: Dec 16-22, 1995
			Reported: Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	0.74
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	17

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

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...ison Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled: Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: Dup 4B	Received: Dec 15, 1995
Chicago, IL 60606			Digested: Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1337	Analyzed: Dec 16-22, 1995
			Reported: Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	1.5
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	84

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

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ison Environmental, Inc.	Client Project ID:	9236A,Robertson-CECO-Lemont, IL	Sampled:	Dec 15, 1995
312 W. Randolph Street	Sample Descript:	Soil: Dup 4C	Received:	Dec 15, 1995
Chicago, IL 60606			Digested:	Dec 16-19, 1995
Attention: Ed Garske	Lab Number:	512-1338	Analyzed:	Dec 16-22, 1995
			Reported:	Dec 22, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	N.D.
Barium	3050/6010	25	320
Beryllium	3050/6010	0.50	0.84
Cadmium	3050/6010	0.50	0.52
Chromium	3050/6010	0.50	440
Lead	3050/6010	5.0	19
Mercury	7471	0.040	N.D.
Nickel	3050/6010	2.5	16
Selenium	3050/7740	0.50	0.70
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	200
Zinc	3050/6010	25	94

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
Laboratory Director

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...lson Environmental, Inc.	Client Project ID:	9236A, Robertson - Ceco	Sampled: Dec 20, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SB-27A	Received: Dec 20, 1995
Chicago, IL 60606			Digested: Dec 21, 1995
Attention: Ed Garske	Lab Number:	512-1693	Analyzed: Dec 21-22, 1995
			Reported: Dec 27, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	8.2*
Hexavalent Chromium	7197	2.0	N.D.
Lead	3050/6010	5.0	780

Analytes reported as N.D. were not present above the stated limit of detection.

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Laboratory Director

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[illegible]ison Environmental, Inc.	Client Project ID:	9236A, Robertson - Ceco	Sampled: Dec 20, 1995
[illegible]2 W. Randolph Street	Sample Descript:	Soil: SB-27B	Received: Dec 20, 1995
Chicago, IL 60606			Digested: Dec 21, 1995
Attention: Ed Garske	Lab Number:	512-1694	Analyzed: Dec 21-27, 1995
			Reported: Dec 27, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	4.2
Barium	3050/6010	25	200
Beryllium	3050/6010	0.50	0.68
Cadmium	3050/6010	0.50	2.9
Chromium	3050/6010	0.50	450
Lead	3050/6010	5.0	210
Mercury	7471	0.040	N.D.
Nickel	3050/6010	2.5	68
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	79
Zinc	3050/6010	25	480

Analytes reported as N.D. were not present above the stated limit of detection.

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rison Environmental, Inc.	Client Project ID:	9236A, Robertson - Ceco	Sampled: Dec 20, 1995
12 W. Randolph Street	Sample Descript:	Soil: SB-27C	Received: Dec 20, 1995
Chicago, IL 60606			Digested: Dec 21, 1995
Attention: Ed Garske	Lab Number:	512-1695	Analyzed: Dec 21-22, 1995
			Reported: Dec 27, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	2.9
Hexavalent Chromium	7197	2.0	N.D.
Lead	3050/6010	5.0	190

Analytes reported as N.D. were not present above the stated limit of detection.

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Laboratory Director

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rtson Environmental, Inc.	Client Project ID:	9236A, Robertson - Ceco	Sampled: Dec 20, 1995
.2 W. Randolph Street	Sample Descript:	Soil: SB-28A	Received: Dec 20, 1995
Chicago, IL 60606			Digested: Dec 21, 1995
Attention: Ed Garske	Lab Number:	512-1701	Analyzed: Dec 21-27, 1995
			Reported: Dec 27, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	4.2
Barium	3050/6010	25	280
Beryllium	3050/6010	0.50	0.57
Cadmium	3050/6010	0.50	3.7
Chromium	3050/6010	0.50	410
Lead	3050/6010	5.0	150
Mercury	7471	0.040	N.D.
Nickel	3050/6010	2.5	24
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	89
Zinc	3050/6010	25	820

Analytes reported as N.D. were not present above the stated limit of detection.

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...ison Environmental, Inc.	Client Project ID:	9236A, Robertson - Ceco	Sampled: Dec 20, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SB-28B	Received: Dec 20, 1995
Chicago, IL 60606			Digested: Dec 21, 1995
Attention: Ed Garske	Lab Number:	512-1702	Analyzed: Dec 21-27, 1995
			Reported: Dec 27, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	0.57
Hexavalent Chromium	7197	2.0	N.D.
Lead	3050/6010	5.0	21

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
Laboratory Director

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...ison Environmental, Inc.	Client Project ID:	9236A, Robertson - Ceco	Sampled: Dec 20, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SB-28D	Received: Dec 20, 1995
Chicago, IL 60606			Digested: Dec 21, 1995
Attention: Ed Garske	Lab Number:	512-1704	Analyzed: Dec 21-27, 1995
			Reported: Dec 27, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	0.70
Hexavalent Chromium	7197	2.0	N.D.
Lead	3050/6010	5.0	35

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

5121693.CAR <6>

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...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SS-01	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1142	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	5.8
Barium	3050/6010	25	47
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	1.5
Chromium	3050/6010	0.50	19
Lead	3050/6010	5.0	84
Mercury	7471	0.040	0.070
Nickel	3050/6010	2.5	8.8
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	13
Zinc	3050/6010	25	260

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
Laboratory Director

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...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled: Dec 12, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SS-02	Received: Dec 12, 1995
Chicago, IL 60606			
Attention: Ed Garske	Lab Number:	512-1143	Analyzed: Dec 13, 1995
			Reported: Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	N.D.
Barium	3050/6010	25	N.D.
Beryllium	3050/6010	0.50	N.D.
Cadmium	**3050/6010**	**0.50**	**0.97**
Chromium	**3050/6010**	**0.50**	**13**
Lead	**3050/6010**	**5.0**	**160**
Mercury	7471	0.040	N.D.
Nickel	**3050/6010**	**2.5**	**3.3**
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	**3050/6010**	**5.0**	**6.2**
Zinc	**3050/6010**	**25**	**140**

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
Laboratory Director

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...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SS-03	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1144	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	5.3
Barium	3050/6010	25	40
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	2.5
Chromium	3050/6010	0.50	23
Lead	3050/6010	5.0	150
Mercury	7471	0.040	0.17
Nickel	3050/6010	2.5	9.7
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	15
Zinc	3050/6010	25	370

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SS-04	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1145	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	14
Barium	3050/6010	25	72
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	3.0
Chromium	3050/6010	0.50	22
Lead	3050/6010	5.0	260
Mercury	7471	0.040	4.5
Nickel	3050/6010	2.5	13
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	18
Zinc	3050/6010	25	1,500

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SS-05	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1146	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	9.1
Barium	3050/6010	25	35
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	N.D.
Chromium	3050/6010	0.50	12
Lead	3050/6010	5.0	22
Mercury	7471	0.040	0.048
Nickel	3050/6010	2.5	14
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	20
Zinc	3050/6010	25	110

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
...2 W. Randolph Street	Sample Descript:	Soil: SS-06	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1147	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	34
Barium	3050/6010	25	82
Beryllium	3050/6010	0.50	0.57
Cadmium	3050/6010	0.50	1.8
Chromium	3050/6010	0.50	58
Lead	3050/6010	5.0	88
Mercury	7471	0.040	N.D.
Nickel	3050/6010	2.5	20
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	34
Zinc	3050/6010	25	440

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

5121120.CAR <23>

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'son Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.
Sample Descript: Soil: SS-7
Lab Number: 603-1599

Sampled: Mar 25, 1996
Received: Mar 25, 1996
Analyzed: Mar 27-29, 1996
Reported: Apr 1, 1996

METALS

Analyte	EPA Method	Detection Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Antimony	3050/6010	5.0	N.D.
Arsenic	**3050/7060**	**2.5**	**3.6**
Barium	**3050/6010**	**25**	**83**
Beryllium	3050/6010	0.50	N.D.
Cadmium	**3050/6010**	**0.50**	**0.53**
Chromium	**3050/6010**	**0.50**	**17**
Lead	**3050/6010**	**5.0**	**26**
Mercury	7471	0.040	N.D.
Nickel	**3050/6010**	**2.5**	**12**
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	**3050/6010**	**5.0**	**22**
Zinc	**3050/6010**	**25**	**140**

Analytes reported as N.D. were not present above the stated limit of detection.

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Laboratory Director

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...lson Environmental, Inc.	Client Project ID:	9236A, Robertson, CECO Corp.	Sampled: Mar 25, 1996
...2 W. Randolph Street	Sample Descript:	Soil: SS-8	Received: Mar 25, 1996
Chicago, IL 60606			
Attention: Peter Barys	Lab Number:	603-1601	Analyzed: Mar 27-29, 1996
			Reported: Apr 1, 1996

METALS

Analyte	EPA Method	Detection Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Antimony	3050/6010	5.0	N.D.
Arsenic	**3050/7060**	**2.5**	**3.4**
Barium	3050/6010	25	N.D.
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	N.D.
Chromium	**3050/6010**	**0.50**	**11**
Lead	**3050/6010**	**5.0**	**13**
Mercury	7471	0.040	N.D.
Nickel	**3050/6010**	**2.5**	**8.8**
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	**3050/6010**	**5.0**	**14**
Zinc	**3050/6010**	**25**	**66**

Analytes reported as N.D. were not present above the stated limit of detection.

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'son Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.
Sample Descript: Soil: SS-9
Lab Number: 603-1602

Sampled: Mar 25, 1996
Received: Mar 25, 1996
Analyzed: Mar 27-29, 1996
Reported: Apr 1, 1996

METALS

Analyte	EPA Method	Detection Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	2.8
Barium	3050/6010	25	130
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	4.6
Chromium	3050/6010	0.50	170
Lead	3050/6010	5.0	170
Mercury	7471	0.040	0.30
Nickel	3050/6010	2.5	18
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	47
Zinc	3050/6010	25	1,000

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

[illegible]son Environmental, Inc.	Client Project ID:	9236A, Robertson, CECO Corp.	Sampled: Mar 25, 1996
[illegible] W. Randolph Street	Sample Descript:	Soil: SS-10	Received: Mar 25, 1996
Chicago, IL 60606			
Attention: Peter Barys	Lab Number:	603-1606	Analyzed: Mar 27-29, 1996
			Reported: Apr 1, 1996

METALS

Analyte	EPA Method	Detection Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Antimony	3050/6010	5.0	N.D.
Arsenic	**3050/7060**	**2.5**	**2.7**
Barium	3050/6010	25	N.D.
Beryllium	3050/6010	0.50	N.D.
Cadmium	**3050/6010**	**0.50**	**0.86**
Chromium	**3050/6010**	**0.50**	**7.4**
Lead	**3050/6010**	**5.0**	**57**
Mercury	**7471**	**0.040**	**0.14**
Nickel	**3050/6010**	**2.5**	**6.8**
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	**3050/6010**	**5.0**	**5.4**
Zinc	**3050/6010**	**25**	**95**

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
...2 W. Randolph Street	Sample Descript:	Soil: PS-01	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1126	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	4.5
Barium	3050/6010	25	200
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	5.1
Chromium	3050/6010	0.50	790
Lead	3050/6010	5.0	510
Mercury	7471	0.040	0.18
Nickel	3050/6010	2.5	27
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	140
Zinc	3050/6010	25	930

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

rtson Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
2 W. Randolph Street	Sample Descript:	Soil: PS-02	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1127	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	25
Barium	3050/6010	25	37
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	2.0
Chromium	3050/6010	0.50	150
Lead	3050/6010	5.0	160
Mercury	7471	0.040	N.D.
Nickel	3050/6010	2.5	190
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	35
Zinc	3050/6010	25	410

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

rlson Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
2 W. Randolph Street	Sample Descript:	Soil: PS-03	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1128	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	4.6
Barium	3050/6010	25	160
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	3.4
Chromium	3050/6010	0.50	160
Lead	3050/6010	5.0	100
Mercury	7471	0.040	0.33
Nickel	3050/6010	2.5	24
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	57
Zinc	3050/6010	25	670

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

'son Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
W. Randolph Street	Sample Descript:	Soil: PS-04	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1129	Analyzed:	Dec 13, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony	3050/6010	5.0	N.D.
Arsenic	3050/7060	2.5	N.D.
Barium	3050/6010	25	60
Beryllium	3050/6010	0.50	N.D.
Cadmium	3050/6010	0.50	1.6
Chromium	3050/6010	0.50	56
Lead	3050/6010	5.0	50
Mercury	7471	0.040	N.D.
Nickel	3050/6010	2.5	9.8
Selenium	3050/7740	0.50	N.D.
Silver	3050/6010	2.5	N.D.
Thallium	3050/6010	25	N.D.
Vanadium	3050/6010	5.0	28
Zinc	3050/6010	25	260

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089
(708) 808-7766 FAX (708) 808-7772

son Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco
Matrix: Soil
QC Sample Group: 5121283-1312
Reported: Jan 5, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium
Method:	3050/6010	3050/7060	3050/6010	3050/6010	3050/6010	3050/6010	7196
Analyst:	I. Graske	A. Mehrabi	I. Graske	I. Graske	I. Graske	I. Graske	A. Mehrabi
Concentration:	1.0	0.030	1.0	1.0	1.0	1.0	0.050
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LAB. CONTROL SAMPLE DATA							
Date Analyzed:	Dec 21, 1995	Dec 18, 1995	Dec 19, 1995	Dec 21, 1995	Dec 19, 1995	Dec 19, 1995	Dec 15, 1995
Instrument I.D.#	1	1	1	1	1	1	1
LCS% Recovery:	98	112	96	98	102	99	98
MATRIX SPIKE & DUP. DATA							
Date Analyzed:	Dec 21, 1995	Dec 21, 1995	Dec 21, 1995	Dec 21, 1995	Dec 21, 1995	Dec 21, 1995	Dec 21, 1995
Instrument I.D.#	1	1	1	1	1	1	1
Matrix Spike % Recovery:	----	90	75	77	89	----	91
Matrix Spike Duplicate % Recovery:	----	69	122	74	90	----	91
Relative % Difference:	----	21	48	4.0	1.1	----	0

Please Note: Matrix Spike & Dup Data are unavailable for Antimony, Chromium, Zinc, and Lead due to high matrix interference.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

son Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco
Matrix: Soil
QC Sample Group: 5121283-1312

Reported: Jan 5, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium
Method:	3050/6010	7471	3050/6010	3050/7741	3050/6010	3050/6010	3050/6010
Analyst:	I. Graske	A. Mehrabi	I. Graske	S. Jankowski	I. Graske	I. Graske	I. Graske
Concentration:	1.0	0.0010	1.0	0.030	1.0	20	1.0
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LAB. CONTROL SAMPLE DATA							
Date Analyzed:	Dec 19, 1996	Dec 19, 1996	Dec 21, 1996	Dec 20, 1995	Dec 19, 1995	Dec 21, 1995	Dec 21, 1995
Instrument I.D.#	1	1	1	1	1	1	1
LCS% Recovery:	100	100	100	106	91	94	104
MATRIX SPIKE & DUP. DATA							
Date Analyzed:	Dec 19, 1996	Dec 19, 1996	Dec 21, 1996	Dec 20, 1995	Dec 19, 1995	Dec 21, 1995	Dec 21, 1995
Instrument I.D.#	1	1	1	1	1	1	1
Matrix Spike % Recovery:	94	98	178	92	81	67	85
Matrix Spike Duplicate % Recovery:	70	95	132	90	75	58	118
Relative % Difference:	29	3.1	30	0.38	7.7	14	5.7

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

.son Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco
Matrix: Soil
QC Sample Group: 5121283-1312

Reported: Jan 5, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Zinc	Cadmium	Lead
Method:	3050/6010	3050/6010	3050/6010
Analyst:	I. Graske	I. Graske	I. Graske
Concentration:	1.0	1.0	1.0
Units:	mg/kg	mg/kg	mg/kg
LAB. CONTROL SAMPLE DATA			
Date Analyzed:	Dec 21, 1995	Dec 19, 1995	Dec 19, 1995
Instrument I.D.#	1	1	1
LCS% Recovery:	101	90	87
MATRIX SPIKE & DUP. DATA			
Date Analyzed:	Dec 21, 1995	Dec 19, 1995	Dec 19, 1995
Instrument I.D.#	1	1	1
Matrix Spike % Recovery:	----	77	----
Matrix Spike Duplicate % Recovery:	----	79	----
Relative % Difference:	----	2.6	----

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}}$	x 100
Relative % Difference:	$\frac{\text{Conc. of M.S. - Conc. of M.S.D.}}{\text{(Conc. of M.S. + Conc. of M.S.D.) / 2}}$	x 100

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Ed Garske

Client Project ID: 9236A, Robertson - Ceco
Matrix: Soil
QC Sample Group: 5121693-95, 1701, 02, 04

Reported: Dec 27, 1995

QUALITY CONTROL DATA REPORT

ANALYTE	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium
Method:	3050/6010	3050/7060	3050/6010	3050/6010	3050/6010	3050/6010	7197
Analyst:	I. Graske	A. Mehrabi	I. Graske	I. Graske	I. Graske	I. Graske	S. Jankowski
Concentration:	1.0	0.30	1.0	1.0	1.0	1.0	0.50
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LAB. CONTROL SAMPLE DATA							
Date Analyzed:	Dec 22, 1995	Dec 27, 1995	Dec 22, 1995	Dec 22, 1995	Dec 22, 1995	Dec 22, 1995	Dec 21, 1995
Instrument I.D.#	1	1	1	1	1	1	1
LCS% Recovery:	87	108	93	89	103	99	107
MATRIX SPIKE & DUP. DATA							
Date Analyzed:	Dec 22, 1995	Dec 27, 1995	Dec 22, 1995	Dec 22, 1995	Dec 22, 1995	Dec 22, 1995	Dec 21, 1995
Instrument I.D.#	1	1	1	1	1	1	1
Matrix Spike % Recovery:	---	29	34	74	84	---	93
Matrix Spike Duplicate % Recovery:	---	99	32	76	84	---	94
Relative % Difference:	---	20	6.1	2.7	0	---	1.6

Please Note: Antimony, Chromium, Lead, Nickel, Vanadium and Zinc Matrix Spike & Dup QC are unavailable due to high matrix interference.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

$$\text{\% Recovery:} \quad \frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$$

$$\text{Relative \% Difference:} \quad \frac{\text{Conc. of M.S. - Conc. of M.S.D.}}{\text{(Conc. of M.S. + Conc. of M.S.D.) / 2}} \times 100$$

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

rison Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Ed Garske

Client Project ID: 9236A, Robertson - Ceco
Matrix: Soil
QC Sample Group: 5121693-95, 1701, 02, 04

Reported: Dec 27, 1995

QUALITY CONTROL DATA REPORT

ANALYTE	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium
Method:	3050/6010	7471	3050/6010	3050/7740	3050/6010	3050/6010	3050/6010
Analyst:	I. Graske	A. Mehrabi	I. Graske	A. Mehrabi	I. Graske	I. Graske	I. Graske
Concentration:	1.0	0.0010	1.0	0.015	1.0	1.0	1.0
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LAB. CONTROL SAMPLE DATA							
Date Analyzed:	Dec 22, 1995	Dec 26, 1995	Dec 22, 1995	Dec 27, 1995	Dec 22, 1995	Dec 22, 1995	Dec 22, 1995
Instrument I.D.#	1	1	1	1	1	1	1
LCS% Recovery:	103	106	88	101	100	96	106
MATRIX SPIKE & DUP. DATA							
Date Analyzed:	Dec 22, 1995	Dec 26, 1995	Dec 22, 1995	Dec 27, 1995	Dec 22, 1995	Dec 22, 1995	Dec 22, 1995
Instrument I.D.#	1	1	1	1	1	1	1
Matrix Spike % Recovery:	---	107	---	19	69	75	---
Matrix Spike Duplicate % Recovery:	---	102	---	27	74	55	---
Relative % Difference:	---	4.1	---	35	7.0	31	---

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Ed Garske

Client Project ID: 9236A, Robertson - Ceco
Matrix: Soil

QC Sample Group: 5121693-95, 1701, 02, 04

Reported: Dec 27, 1995

QUALITY CONTROL DATA REPORT

ANALYTE
Zinc

Method:	3050/6010
Analyst:	I. Graske
Concentration:	1.0
Units:	mg/kg
LAB. CONTROL SAMPLE DATA	
Date Analyzed:	Dec 22, 1995
Instrument I.D.#	1
LCS% Recovery:	91
MATRIX SPIKE & DUP. DATA	
Date Analyzed:	Dec 22, 1995
Instrument I.D.#	1
Matrix Spike % Recovery:	---
Matrix Spike Duplicate % Recovery:	---
Relative % Difference:	---

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

CEI

CHAIN-OF-CUSTODY RECORD

No. 6936

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ. NO. 9236A PROJECT NAME Robertson-Ceco Lemont, IL

SAMPLERS: (Signature) Bruce A. Shabino [signature]

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) "long list" of metals	"short list" of metals						REMARKS
1	SB-15 A	12/14	0742		X	Soil Sample 1-3 BGS	1		X						5121283
2	SB-15 B		0747		X	3-5	1								hold 5121284
3	SB-15 C		0752		X	5-7	1	X							5121285
4	SB-15 D		0758		X	7-9	1		X						5121286
5	SB-15 E		0802		X	9-11	1								hold 5121287
6	SB-15 F		0809		X	11-13	1								hold 5121288
7	Dup-2C				X		1	X							5121289
8	Dup-2A				X		1		X						5121290
9	Dup-2D				X		1		X						5121291
10	SB-16A		0911		X	1-3 bgs	1		X						5121292

Relinquished by (Signature)	Date/Time	Received by (Signature)
[signature]	12/14 1615	[signature]
[signature]	12/14 1615	K. Kell 12/14/95 1615

REMARKS

* Please refer to the attached long list and short list of metals

* Fax results to Ed Garske

Distribution White - Accompanies Shipment Yellow - Laboratory File Pink - Coordinator Field Files

Electronic Filing: Received, Clerk's Office 07/19/2024

CEI

CHAIN-OF-CUSTODY RECORD

No. 6935

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ. NO. 9236A PROJECT NAME Robertson-Ceco Lemont, IL

SAMPLERS: (Signature) Bruce A. Shabino BA Shabino

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) — long list of metals / short list of metals	REMARKS
1	SB-16B	12/14	945		X	Soil Sample 3-5 bgs	1	X	5121293
2	SB-16C		0954		X	5-7	1	X	5121294
3	SB-16D		0958		X	7-9	1		hold 5121295
4	SB-16F		0956		X	11-13	1		hold 5121296
5	SB-17A		1005		X	1-3	1	X	5121297
6	SB-17B		1010		X	3-5	1	X	5121298
7	SB-18A		1035		X	1-3	1	X	5121299
8	SB-18B		1034		X	3-5	1	X	5121300
9	SB-19A		1135		X	1-3	1	X	5121301
10	SB-19B		1134		X	3-5	1	X	5121302

Relinquished by (Signature)	Date/Time	Received by (Signature)
Sal T. Bad	12/14 1445	[signature]
[signature]	12/14 1615	K. Kill 12/14/95 1615
Relinquished by (Signature)	Date/Time	Received for Laboratory by (Signature)

REMARKS

X Please refer to the attached long list and short list of metals.

X Fax results to Ed Garsko

Distribution White - Accompanies Shipment Yellow - Lab[illegible] File Pink - Coordinator Field Files

CEI

CHAIN-OF-CUSTODY RECORD

No. 6934

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ. NO. 9236A

PROJECT NAME Robertson-Celo Lemont, IL

SAMPLERS: (Signature) Bruce A. Shabino BAShabino

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) *long list of metals	*short list of metals						REMARKS
1	B-19C	12/14	1142		X	Soil Sample 5-7 bgs	1		X						5121303
2	B-19D		1153		X	7-9 bgs	1								hold 5121304
3	B-20 A		1232		X	1-3	1	X							5121305
4	B-20 B		1237		X	3-5	1		X						5121306
5	B-20 D		1249		X	7-9	1		X						5121307
6	B-21 A		1330		X	1-3	1		X						5121308
7	B-21 B		1340		X	3-5	1	X							5121309
8	B-21C		1346		X	5-7	1		X						5121310
9	B-21D		1353		X	7-9	1								hold 5121311
10	B-21E F		1355		X	~~[illegible]~~ 11-13	1								hold 5121312

Relinquished by (Signature)	Date/Time	Received by (Signature)
Scott Bach	12/14 1420	[signature]
[signature]	12/14 1615	K. Kell 12/14/95 1615

REMARKS

* Please refer to the attached long list and short list of metals

* Fax results to Ed Garske

Distribution White - Accompanies Shipment Yellow - Laboratory File Pink - Coordinator Field Files

CEI

CHAIN-OF-CUSTODY RECORD

No. 6936

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ. NO. 9236.A PROJECT NAME Robertson-Ceco Lemont, IL

SAMPLERS: (Signature) Bruce A. Shabino [signature]

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) Long list of metals	Short list of metals							REMARKS
1	SB-15 A	12/14	0742		X	Soil Sample 1-3 BGS	1		X							5121283
2	SB-15 B		0747		X	3-5	1									hold 5121284
3	SB-15 C		0752		X	5-7	1	X								5121285
4	SB-15 D		0758		X	7-9	1		X							5121286
5	SB-15 E		0802		X	9-11	1									hold 5121287
6	SB-15 F		0809		X	11-13	1									hold 5121288
7	Dup-2C				X		1	X								5121289
8	Dup-2A				X		1		X							5121290
9	Dup-2D				X		1		X							5121291
10	SB-16A		0911		X	1-3 bgs	1		X							5121292

Relinquished by (Signature)	Date/Time	Received by (Signature)
[signature]	12/14 1615	[signature]
[signature]	12/14 1615	K. Kell 12/14/95 1615

REMARKS

* Please refer to the attached long list and short list of metals

* Fax results to Ed Garske

Distribution White - Accompanies Shipment, Yellow - Laboratory File, Pink - Coordinator Field Files

CEI

CHAIN-OF-CUSTODY RECORD

No. 6935

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ. NO. 9236A

PROJECT NAME Robertson-Ceco Lemont, IL

SAMPLERS: (Signature) Bruce A. Shabino BA Shabino

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	"long list" of metals	"short list" of metals							REMARKS
1	SB-16B	12/14	915		X	Soil Sample 3-5 bgs	1	X								5121293
2	SB-16C		0924		X	5-7	1		X							5121294
3	SB-16D		0928		X	7-9	1									hold 5121295
4	SB-16F		0938		X	11-13	1									hold 5121296
5	SB-17A		1005		X	1-3	1		X							5121297
6	SB-17B		1010		X	3-5	1	X								5121298
7	SB-18A		1035		X	1-3	1	X								5121299
8	SB-18B		1038		X	3-5	1		X							5121300
9	SB-19A		1135		X	1-3	1	X								5121301
10	SB-19B		1134		X	3-5	1		X							5121302

Relinquished by (Signature)	Date/Time	Received by (Signature)
Saul T. Bond	12/14 1615	[signature]
[signature]	12/14 1615	K. Kell 12/14/95 1615

REMARKS

X Please refer to the attached long list and short list of metals.

X Fax results to Ed Garsko

Distribution White - Accompanies Shipment Yellow - Laboratory File Pink - Coordinator Field Files

CEI

CHAIN-OF-CUSTODY RECORD

No. 6934

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ. NO. 9236A

PROJECT NAME Robertson-Celo Lemont, IL

SAMPLERS: (Signature) Bruce A. Shabino BAShabino

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) "long list" of metals	"short list" of metals							REMARKS
1	B-19C	12/14	1142		X	Soil Sample 5-7 bgs	1		X							5121303
2	B-19D		1153		X	7-9 bgs	1									hold 5121304
3	B-20 A		1232		X	1-3	1	X								5121305
4	B-20 B		1237		X	3-5	1		X							5121306
5	B-20 D		1249		X	7-9	1		X							5121307
6	B-21 A		1330		X	1-3	1		X							5121308
7	B-21 B		1340		X	3-5	1	X								5121309
8	B-21C		1346		X	5-7	1		X							5121310
9	B-21D		1353		X	7-9	1									hold 5121311
10	B-21E F		1355		X	~~[illegible]~~ 11-13	1									hold 5121312

Relinquished by (Signature)	Date/Time	Received by (Signature)
[signature]	12/14 1420	[signature]
[signature]	12/14 1615	Received by (Signature) K. Kell 12/14/95 1615
Relinquished by (Signature)	Date/Time	Received for Laboratory by (Signature)

REMARKS

* Please refer to the attached long list and short list of metals

* Fax results to Ed Garske

Distribution White - Accompanies Shipment Yellow - Laboratory File Pink - Coordinator Field Files

Electronic Filing: Received, Clerk's Office 07/19/2024

CEI

CHAIN-OF-CUSTODY RECORD

No. 6919

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ. NO. 9236A

PROJECT NAME Robertson - Cecil

SAMPLERS: (Signature) BA Shabino

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) Long Metals List	Short Metals List					REMARKS
1	SB-27A	12-20-15	8:12		X	Soil Sample 1-3'	1		X		5121693			
2	SB-27B		8:17		X	3-5'	1	X			5121694			
3	SB-27C		8:21		X	5-7'	1		X		5121695			
4	SB-27D		8:25		X	7-9'	1				5121696			Hold
5	SB-27E		8:28		X	9-11'	1				5121697			Hold
6	SB-27F		8:33		X	11-13'	1				5121698			Hold
7	SB-27G		8:35		X	13-15'	1				5121699			Hold
8	SB-27H	↓	8:40		X	15-16.5'	1				5121700			Hold
9														
10														

Relinquished by (Signature)	Date/Time	Received by (Signature)
BA Shabino	12-20-15 13:30	
Relinquished by (Signature)	Date/Time	Received by (Signature)
	12/20 14:40	Howell Arnold
Relinquished by (Signature)	Date/Time	Received for Laboratory by (Signature)

REMARKS

Please refer to attached Long and short Lists For laboratory Analyses

Fax results to Ed Garske.

Recieved ON ICE

Distribution White - Accompanies Shipment Yellow - Laboratory File Pink - Coordinator Field Files

Electronic Filing: Received, Clerk's Office 07/19/2024

CEI

CHAIN-OF-CUSTODY RECORD

No. 6908

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ. NO. 9236A

PROJECT NAME Robertson - CECO

SAMPLERS: (Signature) B.A. Shabino

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) Long Metals List / Short Metals List								REMARKS
1	SB 28A	12-20-95	9:04		X	Soil Sample 1-3'	1	X				5121701				
2	SB-28B		9:07		X	3-5'	1		X			5121702				
3	SB-28C		9:10		X	5-7'	1					5121703				Hold
4	SB-28D		9:16		X	7-9'	1		X			5121704				
5	SB-28E		9:19		X	9-11'	1					5121705				Hold
6	SB-28F	↓	9:24		X	11-13'	1					5121706				Hold
7																
8																
9																
10																

Relinquished by (Signature)	Date/Time	Received by (Signature)
B.A. Shabino	12-20-95 13:45	
Relinquished by (Signature)	Date/Time	Received by (Signature)
	12-21 1C/20	Nowell Arnold
Relinquished by (Signature)	Date/Time	Received for Laboratory by (Signature)

REMARKS

Please refer to attached Long + Short Lists For laboratory Analyses

Fax results to Ed Garske

Recieved ON ICE

Distribution White Accompanies Shipment Yellow Lab y File Pink Coordinator Field Files

Electronic Filing: Received, Clerk's Office 07/19/2024

GROUND WATER / SURFACE WATER

LABORATORY REPORTS

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

'son Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
W. Randolph Street	Sample Descript:	Water: WS-02	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1135	Analyzed:	Dec 15, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/L		Sample Results mg/L
Antimony	3015/6010	0.10		N.D.
Arsenic	3015/7060	0.050		N.D.
Barium	3015/6010	0.050		N.D.
Beryllium	3015/6010	0.010		N.D.
Cadmium	3015/6010	0.010		N.D.
Chromium	3015/6010	0.010		N.D.
Lead	3015/7421	0.0050		0.036
Mercury	7471	0.0020		N.D.
Nickel	3015/6010	0.050		N.D.
Selenium	3015/7740	0.010		N.D.
Silver	3015/6010	0.050		N.D.
Thallium	3015/6010	0.20		N.D.
Vanadium	3015/6010	0.10		N.D.
Zinc	3015/6010	0.50		N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

...ison Environmental, Inc.	Client Project ID:	9236A, Robertson Ceco - Lemont, IL	Sampled:	Dec 12, 1995
...2 W. Randolph Street	Sample Descript:	Water: WS-05	Received:	Dec 12, 1995
Chicago, IL 60606				
Attention: Ed Garske	Lab Number:	512-1136	Analyzed:	Dec 15, 1995
			Reported:	Dec 19, 1995

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7471	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

[illegible]son Environmental, Inc.	Client Project ID:	9236A, Robertson, CECO Corp.	Sampled: Mar 25, 1996
[illegible] W. Randolph Street	Sample Descript:	Water: WS-7	Received: Mar 25, 1996
Chicago, IL 60606			
Attention: Peter Barys	Lab Number:	603-1600	Analyzed: Mar 27-29, 1996
			Reported: Apr 1, 1996

METALS

Analyte	EPA Method	Detection Limit mg/L (ppm)	Sample Results mg/L (ppm)
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Lead	3015/7421	0.0050	0.0057
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Thallium	3015/6010	0.50	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

[illegible]son Environmental, Inc.	Client Project ID:	9236A, Robertson, CECO Corp.	Sampled: Mar 25, 1996
[illegible]W. Randolph Street	Sample Descript:	Water: WS-8	Received: Mar 25, 1996
Chicago, IL 60606			
Attention: Peter Barys	Lab Number:	603-1603	Analyzed: Mar 27-29, 1996
			Reported: Apr 1, 1996

METALS

Analyte	EPA Method	Detection Limit mg/L (ppm)	Sample Results mg/L (ppm)
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Lead	3015/7421	0.0050	0.0070
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Thallium	3015/6010	0.50	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.	Client Project ID:	9236A, Robertson, CECO Corp.	Sampled:	Mar 25, 1996
3[illegible]V. Randolph Street	Sample Descript:	Water: WS-9	Received:	Mar 25, 1996
Chicago, IL 60606				
Attention: Peter Barys	Lab Number:	603-1604	Analyzed:	Mar 27-29, 1996
			Reported:	Apr 1, 1996

METALS

Analyte	EPA Method	Detection Limit mg/L (ppm)	Sample Results mg/L (ppm)
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	**3015/6010**	**0.010**	**0.039**
Lead	**3015/7421**	**0.0050**	**0.037**
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Thallium	3015/6010	0.50	N.D.
Vanadium	**3015/6010**	**0.10**	**0.17**
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

[illegible]son Environmental, Inc.	Client Project ID:	9236A, Robertson, CECO Corp.	Sampled: Mar 25, 1996
[illegible]W. Randolph Street	Sample Descript:	Water: WS-10	Received: Mar 25, 1996
Chicago, IL 60606			
Attention: Peter Barys	Lab Number:	603-1605	Analyzed: Mar 27-29, 1996
			Reported: Apr 1, 1996

METALS

Analyte	EPA Method	Detection Limit mg/L (ppm)	Sample Results mg/L (ppm)
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Lead	3015/7421	0.0050	0.013
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Thallium	3015/6010	0.50	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089
(708) 808-7766 FAX (708) 808-7772

son Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.
Matrix: Soil
Method: Metals
QC Sample Group: 6031599, 1601-1602, 1606

Reported: Apr 1, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
Method:	3050/6010	3050/7060	3050/6010	3050/6010	3050/6010	3050/6010	3050/6010
Analyst:	I. Graske	A. Mehrabi	I. Graske	I. Graske	I. Graske	I. Graske	I. Graske
Concentration:	1.0	0.030	1.0	1.0	1.0	1.0	1.0
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LAB. CONTROL SAMPLE DATA							
Date Analyzed:	Mar 27, 1996	Mar 28, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996
Instrument I.D.#	1	1	1	1	1	1	1
LCS% Recovery:	92	89	98	99	99	101	99
Control Limits:	80-120	80-120	80-120	80-120	80-120	80-120	80-120
MATRIX SPIKE & DUP. DATA							
Date Analyzed:	Mar 27, 1996	Mar 28, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996
Instrument I.D.#	1	1	1	1	1	1	1
Matrix Spike % Recovery:	7.5	100	90	86	91	79	75
Matrix Spike Duplicate % Recovery:	8.4	93	89	84	88	78	74
Relative % Difference:	11	2.8	1.1	2.4	3.4	1.3	1.3
Control Limits:	74-116	64-117	64-114	76-101	75-95	78-106	75-99

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

son Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.
Matrix: Soil
Method: Metals
QC Sample Group: 6031599, 1601-1602, 1606

Reported: Apr 1, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Method:	7471	3015/6010	3015/7740	3015/6010	3015/6010	3015/6010	3015/6010
Analyst:	A. Mehrabi	I. Graske	A. Mehrabi	I. Graske	I. Graske	I. Graske	I. Graske
Concentration:	0.0010	1.0	0.030	1.0	2.0	1.0	1.0
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LAB. CONTROL SAMPLE DATA							
Date Analyzed:	Mar 29, 1996	Mar 27, 1996	Mar 28, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996
Instrument I.D.#	1	1	1	1	1	1	1
LCS% Recovery:	95	97	96	90	94	101	100
Control Limits:	80-120	80-120	80-120	80-120	80-120	80-120	80-120
MATRIX SPIKE & DUP. DATA							
Date Analyzed:	Mar 29, 1996	Mar 27, 1996	Mar 28, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996
Instrument I.D.#	1	1	1	1	1	1	1
Matrix Spike % Recovery:	91	75	62	58	72	92	84
Matrix Spike Duplicate % Recovery:	95	74	67	61	67	89	80
Relative % Difference:	2.7	1.3	7.1	5.0	7.2	3.3	4.9
Control Limits:	90-109	65-104	59-125	50-110	63-135	75-125	80-102

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

.son Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.
Matrix: Water
Method: Metals
QC Sample Group: 6031600, 1603-1605

Reported: Apr 1, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
Method:	3015/6010	3015/7060	3015/6010	3015/6010	3015/6010	3015/6010	3015/7421
Analyst:	I. Graske	A. Mehrabi	I. Graske	I. Graske	I. Graske	I. Graske	A. Mehrabi
Concentration:	1.0	0.030	1.0	1.0	1.0	1.0	0.030
Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
LAB. CONTROL SAMPLE DATA							
Date Analyzed:	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996
Instrument I.D.#	1	1	1	1	1	1	1
LCS% Recovery:	100	101	102	100	103	104	107
Control Limits:	80-120	80-120	80-120	80-120	80-120	80-120	80-120
MATRIX SPIKE & DUP. DATA							
Date Analyzed:	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996
Instrument I.D.#	1	1	1	1	1	1	1
Matrix Spike % Recovery:	103	104	102	99	100	98	97
Matrix Spike Duplicate % Recovery:	105	102	104	99	100	96	98
Relative % Difference:	1.9	1.2	1.9	0	0	2.1	0.49
Control Limits:	80-107	75-107	65-99	79-117	82-98	75-96	79-101

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Client: Environmental, Inc.
312 W. Randolph Street
Chicago, IL 60606
Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.
Matrix: Water
Method: Metals
QC Sample Group: 6031600, 1603-1605

Reported: Apr 1, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Method:	7470	3015/6010	3015/7740	3015/6010	3015/6010	3015/6010	3015/6010
Analyst:	A. Mehrabi	I. Graske	A. Mehrabi	I. Graske	I. Graske	I. Graske	I. Graske
Concentration:	0.0010	1.0	0.030	1.0	2.0	1.0	1.0
Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
LAB. CONTROL SAMPLE DATA							
Date Analyzed:	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996
Instrument I.D.#	1	1	1	1	1	1	1
LCS% Recovery:	100	103	107	99	102	103	103
Control Limits:	80-120	80-120	80-120	80-120	80-120	80-120	80-120
MATRIX SPIKE & DUP. DATA							
Date Analyzed:	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996
Instrument I.D.#	1	1	1	1	1	1	1
Matrix Spike % Recovery:	102	92	99	12	92	102	106
Matrix Spike Duplicate % Recovery:	106	92	98	16	87	103	108
Relative % Difference:	3.8	0	1.4	29	5.6	0.98	1.9
Control Limits:	84-107	84-109	33-117	68-98	71-129	75-125	53-145

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

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GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Date: January 23, 1996

ldson Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Project: #9236A

Enclosed are the results from 5 water samples received at Great Lakes Analytical on January 17, 1996. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
6011107	Water: Old Well #1	1/16/96	Total Metals Dissolved Metals
6011108	Water: Old Well #2	1/16/96	Total Metals Dissolved Metals
6011109	Water: Old Well #3	1/16/96	Total Metals Dissolved Metals
6011110	Water: Old Well #4	1/16/96	Total Metals Dissolved Metals
1111	Water: MW-K	1/16/96	Total Metals Dissolved Metals

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Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Date: January 24, 1996

son Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Peter Barys

Project: 9236A, Robertson-Ceco Lemont Site

Enclosed are the results from 6 water samples received at Great Lakes Analytical on January 18, 1996. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
6011181	Water: MW-J	1/17/96	Dissolved Metals Total Metals
6011182	Water: MW-B	1/17/96	Dissolved Metals Total Metals
6011183	Water: MW-C	1/17/96	Dissolved Metals Total Metals
6011184	Water: MW-D	1/17/96	Dissolved Metals Total Metals
185	Water: Dup-1	1/17/96	Dissolved Metals Total Metals
6011186	Water: FB-1	1/17/96	Dissolved Metals Total Metals

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Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.	Client Project ID:	#9236A	Sampled:	Jan 16, 1996
W. Randolph Street	Sample Descript:	Water: Old Well #1	Received:	Jan 17, 1996
Chicago, IL 60606				
Attention: Sam Bodine	Lab Number:	601-1107	Analyzed:	Jan 18-23, 1996
			Reported:	Jan 23, 1996

TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.
[illegible] W. Randolph Street
[illegible]cago, IL 60606
Attention: Sam Bodine

Client Project ID: #9236A
Sample Descript: Water: Old Well #2
Lab Number: 601-1108

Sampled: Jan 16, 1996
Received: Jan 17, 1996
Analyzed: Jan 18-23, 1996
Reported: Jan 23, 1996

TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

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Laboratory Director

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.
W. Randolph Street
cago, IL 60606
Attention: Sam Bodine

Client Project ID: #9236A
Sample Descript: Water: Old Well #3
Lab Number: 601-1109

Sampled: Jan 16, 1996
Received: Jan 17, 1996
Analyzed: Jan 18-23, 1996
Reported: Jan 23, 1996

TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

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Laboratory Director

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.	Client Project ID:	#9236A	Sampled:	Jan 16, 1996
[illegible] W. Randolph Street	Sample Descript:	Water: Old Well #4	Received:	Jan 17, 1996
[illegible]icago, IL 60606				
Attention: Sam Bodine	Lab Number:	601-1110	Analyzed:	Jan 18-23, 1996
			Reported:	Jan 23, 1996

TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

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Laboratory Director

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.
[illegible] W. Randolph Street
[illegible]icago, IL 60606
Attention: Sam Bodine

Client Project ID: #9236A
Sample Descript: Water: MW-K
Lab Number: 601-1111

Sampled: Jan 16, 1996
Received: Jan 17, 1996
Analyzed: Jan 18-23, 1996
Reported: Jan 23, 1996

TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
Laboratory Director

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.
[illegible] W. Randolph Street
[illegible]cago, IL 60606
Attention: Sam Bodine

Client Project ID: #9236A
Sample Descript: Water: Old Well #1
Lab Number: 601-1107

Sampled: Jan 16, 1996
Received: Jan 17, 1996
Analyzed: Jan 18-23, 1996
Reported: Jan 23, 1996

DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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Laboratory Director

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.
W. Randolph Street
cago, IL 60606
Attention: Sam Bodine

Client Project ID: #9236A
Sample Descript: Water: Old Well #2
Lab Number: 601-1108

Sampled: Jan 16, 1996
Received: Jan 17, 1996
Analyzed: Jan 18-23, 1996
Reported: Jan 23, 1996

DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089
(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.
[illegible] N. Randolph Street
C[illegible]icago, IL 60606
Attention: Sam Bodine

Client Project ID: #9236A
Sample Descript: Water: Old Well #3
Lab Number: 601-1109

Sampled: Jan 16, 1996
Received: Jan 17, 1996
Analyzed: Jan 18-23, 1996
Reported: Jan 23, 1996

DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Client Project ID: #9236A
Sample Descript: Water: Old Well #4
Lab Number: 601-1110

Sampled: Jan 16, 1996
Received: Jan 17, 1996
Analyzed: Jan 18-23, 1996
Reported: Jan 23, 1996

DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

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Laboratory Director

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.
[illegible] W. Randolph Street
[illegible]cago, IL 60606
Attention: Sam Bodine

Client Project ID: #9236A
Sample Descript: Water: MW-K
Lab Number: 601-1111

Sampled: Jan 16, 1996
Received: Jan 17, 1996
Analyzed: Jan 18-23, 1996
Reported: Jan 23, 1996

DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

C[illegible]son Environmental, Inc.
[illegible]W. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Client Project ID: #9236A
Matrix: Water
QC Sample Group: 6011107-1111
Reported: Jan 23, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
Method:	3015/6010	3015/7060	3015/6010	3015/6010	3015/6010	3015/6010	3015/7421
Analyst:	I. Graske	S. Jankowski	I. Graske	I. Graske	I. Graske	I. Graske	A. Mehrabi
Concentration:	2.0	0.030	1.0	1.0	0.50	1.0	0.030
Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
LAB. CONTROL SAMPLE DATA							
Date Analyzed:	Jan 23, 1996	Jan 19, 1996	Jan 22, 1996	Jan 23, 1996	Jan 22, 1996	Jan 22, 1996	Jan 19, 1996
Instrument I.D.#	1	1	1	1	1	1	1
LCS% Recovery:	96	103	102	99	103	105	100
MATRIX SPIKE & DUP. DATA							
Date Analyzed:	Jan 23, 1996	Jan 19, 1996	Jan 22, 1996	Jan 23, 1996	Jan 22, 1996	Jan 22, 1996	Jan 19, 1996
Instrument I.D.#	1	1	1	1	1	1	1
Matrix Spike % Recovery:	97	108	102	96	98	95	108
Matrix Spike Duplicate % Recovery:	96	103	99	96	99	96	104
Relative % Difference:	1.0	4.7	3.0	0	1.0	1.0	3.3

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}}$	x 100
Relative % Difference:	$\frac{\text{Conc. of M.S. - Conc. of M.S.D.}}{\text{(Conc. of M.S. + Conc. of M.S.D.) / 2}}$	x 100

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

[illegible]son Environmental, Inc.
[illegible] W. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Client Project ID: #9236A
Matrix: Water
QC Sample Group: 6011107-1111

Reported: Jan 23, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Method:	7470	3015/6010	3015/7740	3015/6010	3015/6010	3015/6010	3015/6010
Analyst:	A. Mehrabi	I. Graske	S. Jankowski	I. Graske	I. Graske	I. Graske	I. Graske
Concentration:	0.0010	1.0	0.030	0.50	2.0	1.0	1.0
Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
LAB. CONTROL SAMPLE DATA							
Date Analyzed:	Jan 18, 1996	Jan 23, 1996	Jan 20, 1996	Jan 22, 1996	Jan 23, 1996	Jan 23, 1996	Jan 23, 1996
Instrument I.D.#	1	1	1	1	1	1	1
LCS% Recovery:	91	99	105	106	96	104	99
MATRIX SPIKE & DUP. DATA							
Date Analyzed:	Jan 18, 1996	Jan 23, 1996	Jan 20, 1996	Jan 22, 1996	Jan 23, 1996	Jan 23, 1996	Jan 23, 1996
Instrument I.D.#	1	1	1	1	1	1	1
Matrix Spike % Recovery:	98	88	99	3.4	90	101	98
Matrix Spike Duplicate % Recovery:	97	85	97	3.8	62	98	97
Relative % Difference:	1.0	3.5	1.7	11	37	3.0	1.0

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

Electronic Filing: Received, Clerk's Office 07/19/2024

CEI

CHAIN-OF-CUSTODY RECORD

No. 6024

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ. NO. 9236A

PROJECT NAME Robertson-Ceco Stellcoat

SAMPLERS: (Signature) Samuel T. Bodine Sam T. Bodine

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) Total Metals *	Dissolved Metals * please Filter	REMARKS
1	old well #1	1/16			X	ground water Sample	2	X	X	6011107
2	old well #2				X		2	X	X	6011108
3	old well #3				X		2	X	X	6011109
4	old well #4				X		2	X	X	6011110
5	MW-K				X		2	X	X	6011111
6										
7										
8										
9										
10										

Relinquished by (Signature)	Date/Time	Received by (Signature)
Sam T. Bodine	1/17 1315	[signature]
[signature]	1/17 1500	K. Knell 1/17/96 1500
Relinquished by (Signature)	Date/Time	Received for Laboratory by (Signature)

REMARKS

Please fax results to Peter Barrys @ 312/346-6956

* Please note the attached list of metals. Also please Filter the untreated samples for dissolved metals.

5 day TAT

Distribution White - Accompanies Shipment Yellow - Laboratory File Pink - Coordinator Field Files

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site
Sample Descript: Water: MW-B
Lab Number: 601-1182

Sampled: Jan 17, 1996
Received: Jan 18, 1996
Analyzed: Jan 19-23, 1996
Reported: Jan 24, 1996

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3050/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.050	N.D.
Silver	3015/6010	0.010	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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GREAT LAKES ANALYTICAL
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Carlson Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site
Sample Descript: Water: MW-C
Lab Number: 601-1183

Sampled: Jan 17, 1996
Received: Jan 18, 1996
Analyzed: Jan 19-23, 1996
Reported: Jan 24, 1996

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3050/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.050	N.D.
Silver	3015/6010	0.010	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.
[illegible] W. Randolph Street
Chicago, IL 60606
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site
Sample Descript: Water: MW-D
Lab Number: 601-1184

Sampled: Jan 17, 1996
Received: Jan 18, 1996
Analyzed: Jan 19-23, 1996
Reported: Jan 24, 1996

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3050/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.050	N.D.
Silver	3015/6010	0.010	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

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Carlson Environmental, Inc.	Client Project ID:	9236A, Robertson-Ceco Lemont Site	Sampled:	Jan 17, 1996
[illegible] W. Randolph Street	Sample Descript:	Water: MW-J	Received:	Jan 18, 1996
Chicago, IL 60606				
Attention: Peter Barys	Lab Number:	601-1181	Analyzed:	Jan 19-23, 1996
			Reported:	Jan 24, 1996

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3050/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.050	N.D.
Silver	3015/6010	0.010	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

6011181.CAR <1>

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.
[illegible] W. Randolph Street
Chicago, IL 60606
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site
Sample Descript: Water: MW-J
Lab Number: 601-1181

Sampled: Jan 17, 1996
Received: Jan 18, 1996
Analyzed: Jan 19-23, 1996
Reported: Jan 24, 1996

LABORATORY ANALYSIS: TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3050/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.050	N.D.
Silver	3015/6010	0.010	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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GREAT LAKES ANALYTICAL
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Carlson Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site
Sample Descript: Water: MW-B
Lab Number: 601-1182

Sampled: Jan 17, 1996
Received: Jan 18, 1996
Analyzed: Jan 19-23, 1996
Reported: Jan 24, 1996

LABORATORY ANALYSIS: TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3050/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.050	N.D.
Silver	3015/6010	0.010	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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GREAT LAKES ANALYTICAL
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Carlson Environmental, Inc.	Client Project ID:	9236A, Robertson-Ceco Lemont Site	Sampled:	Jan 17, 1996
W. Randolph Street	Sample Descript:	Water: MW-C	Received:	Jan 18, 1996
Chicago, IL 60606				
Attention: Peter Barys	Lab Number:	601-1183	Analyzed:	Jan 19-23, 1996
			Reported:	Jan 24, 1996

LABORATORY ANALYSIS: TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L		Sample Results mg/L
Antimony	3015/6010	0.10		N.D.
Arsenic	3015/7060	0.050		N.D.
Barium	3015/6010	0.050		N.D.
Beryllium	3015/6010	0.010		N.D.
Cadmium	3015/6010	0.010		N.D.
Chromium	3050/6010	0.010		N.D.
Lead	3015/7421	0.0050		N.D.
Mercury	7470	0.0020		N.D.
Nickel	3015/6010	0.050		N.D.
Selenium	3015/7740	0.050		N.D.
Silver	3015/6010	0.010		N.D.
Thallium	3015/6010	0.20		N.D.
Vanadium	3015/6010	0.10		N.D.
Zinc	3015/6010	0.050		N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site
Sample Descript: Water: MW-D
Lab Number: 601-1184

Sampled: Jan 17, 1996
Received: Jan 18, 1996
Analyzed: Jan 19-23, 1996
Reported: Jan 24, 1996

LABORATORY ANALYSIS: TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3050/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.050	N.D.
Silver	3015/6010	0.010	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.	Client Project ID:	9236A, Robertson-Ceco Lemont Site	Sampled:	Jan 17, 1996
W. Randolph Street	Sample Descript:	Water: Dup-1	Received:	Jan 18, 1996
Chicago, IL 60606				
Attention: Peter Barys	Lab Number:	601-1185	Analyzed:	Jan 19-23, 1996
			Reported:	Jan 24, 1996

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3050/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.050	N.D.
Silver	3015/6010	0.010	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site
Sample Descript: Water: FB-1
Lab Number: 601-1186

Sampled: Jan 17, 1996
Received: Jan 18, 1996
Analyzed: Jan 19-23, 1996
Reported: Jan 24, 1996

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony	3015/6010	0.10	N.D.
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Beryllium	3015/6010	0.010	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3050/6010	0.010	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0020	N.D.
Nickel	3015/6010	0.050	N.D.
Selenium	3015/7740	0.050	N.D.
Silver	3015/6010	0.010	N.D.
Thallium	3015/6010	0.20	N.D.
Vanadium	3015/6010	0.10	N.D.
Zinc	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

[illegible]dson Environmental, Inc.
[illegible] W. Randolph Street
Chicago, IL 60606
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site
Matrix: Water
QC Sample Group: 6011181-1186
Reported: Jan 24, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
Method:	3015/6010	3015/7060	3015/6010	3015/6010	3015/6010	3015/6010	3015/7421
Analyst:	I. Graske	S. Jankowski	I. Graske	I. Graske	I. Graske	I. Graske	S. Jankowski
Concentration:	2.0	0.030	1.0	1.0	0.50	1.0	0.030
Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
LAB. CONTROL SAMPLE DATA							
Date Analyzed:	Jan 23, 1996	Jan 19, 1996	Jan 22, 1996	Jan 23, 1996	Jan 22, 1996	Jan 22, 1996	Jan 19, 1996
Instrument I.D.#	1	1	1	1	1	1	1
LCS% Recovery:	97	100	99	98	100	100	100
MATRIX SPIKE & DUP. DATA							
Date Analyzed:	Jan 23, 1996	Jan 19, 1996	Jan 22, 1996	Jan 23, 1996	Jan 22, 1996	Jan 22, 1996	Jan 19, 1996
Instrument I.D.#	1	1	1	1	1	1	1
Matrix Spike % Recovery:	96	111	100	98	99	97	103
Matrix Spike Duplicate % Recovery:	95	108	102	99	101	100	104
Relative % Difference:	0.37	3.2	2.0	1.0	2.7	3.0	1.2

GREAT LAKES ANALYTICAL

[illegible]vin W. Keeley
Laboratory Director

% Recovery: $\frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$

Relative % Difference: $\frac{\text{Conc. of M.S. - Conc. of M.S.D.}}{\text{(Conc. of M.S. + Conc. of M.S.D.) / 2}} \times 100$

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

ison Environmental, Inc.
2 W. Randolph Street
Chicago, IL 60606
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site
Matrix: Water
QC Sample Group: 6011181-1186

Reported: Jan 24, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Method:	7470	3015/6010	3015/7740	3015/6010	3015/6010	3015/6010	3015/6010
Analyst:	A. Mehrabi	I. Graske	S. Jankowski	I. Graske	I. Graske	I. Graske	I. Graske
Concentration:	0.0010	1.0	0.030	0.50	2.0	1.0	1.0
Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
LAB. CONTROL SAMPLE DATA							
Date Analyzed:	Jan 22, 1996	Jan 23, 1996	Jan 19, 1996	Jan 22, 1996	Jan 23, 1996	Jan 23, 1996	Jan 23, 1996
Instrument I.D.#	1	1	1	1	1	1	1
LCS% Recovery:	100	97	99	103	92	104	100
MATRIX SPIKE & DUP. DATA							
Date Analyzed:	Jan 22, 1996	Jan 23, 1996	Jan 19, 1996	Jan 22, 1996	Jan 23, 1996	Jan 23, 1996	Jan 23, 1996
Instrument I.D.#	1	1	1	1	1	1	1
Matrix Spike % Recovery:	100	96	98	9.5	96	102	98
Matrix Spike Duplicate % Recovery:	100	97	100	15	86	103	99
Relative % Difference:	0	1.0	1.7	43	12	98	1.0

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

Electronic Filing: Received, Clerk's Office 07/19/2024

CEI

CHAIN-OF-CUSTODY RECORD

No. 6892

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ. NO. 1736A

PROJECT NAME Robertson-Ceco Lemont site

SAMPLERS: (Signature) Samuel T. Bodine

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) Total Metals*	Dissolved Metals*	REMARKS
1	MW-J	1/17			X	Ground H2O Samples	2	X	X	6011181
2	MW-B				X		2	X	X	6011182
3	MW-C				X		2	X	X	6011183
4	MW-D				X		2	X	X	6011184
5	Dup-1				X		2	X	X	6011185
6	FB-1				X		2	X	X	6011186
7										
8										
9										
10										

Relinquished by (Signature)	Date/Time	Received by (Signature)
Samuel T. Bodine	1/18/17	
Relinquished by (Signature)	Date/Time	Received by (Signature)
	1/18/17	Nowell Arnold
Relinquished by (Signature)	Date/Time	Received for Laboratory by (Signature)

REMARKS

Please Fax results to Pete Barys @ 312-346-6956

* Please note the attached list of metals Please Filter the untreated samples for dissolved metals

5 day TAT Recieved ON ICE

Distribution White - Accompanies Shipment, Yellow - Laboratory File, Pink - Coordinator Field Files

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Date: January 26, 1996

'son Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Project: 9233A, Robertson-Ceco Lemont Site

Enclosed are the results from 6 water samples received at Great Lakes Analytical on January 18, 1996. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
6011175	Water: MW-D1	1/18/96	Dissolved Metals Total Metals Chloride, EPA 330.3 Organic Carbon, EPA 415.1 pH by EPA 9040 Phenol, EPA 420.4 Specific Conductance Sulfate, EPA 375.2 Total Organic Halogens
6011176	Water: MW-D2	1/18/96	Dissolved Metals Total Metals Chloride, EPA 330.3 Organic Carbon, EPA 415.1 pH by EPA 9040 Phenol, EPA 420.4 Specific Conductance Sulfate, EPA 375.2 Total Organic Halogens
6011177	Water: MW-D3	1/18/96	Dissolved Metals Total Metals Chloride, EPA 330.3 Organic Carbon, EPA 415.1 pH by EPA 9040 Phenol, EPA 420.4 Specific Conductance Sulfate, EPA 375.2 Total Organic Halogens
6011178	Water: MW-D4	1/18/96	Dissolved Metals Total Metals Chloride, EPA 330.3 Organic Carbon, EPA 415.1 pH by EPA 9040 Phenol, EPA 420.4

Electronic Filing: Received, Clerk's Office 07/19/2024

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
6011178	Water: MW-D4	1/18/96	Specific Conductance Sulfate, EPA 375.2 Total Organic Halogens
6011179	Water: MW-D5	1/18/96	Dissolved Metals Total Metals Chloride, EPA 330.3 Organic Carbon, EPA 415.1 pH by EPA 9040 Phenol, EPA 420.4 Specific Conductance Sulfate, EPA 375.2 Total Organic Halogens
6011180	Water: Dup-1	1/18/96	Dissolved Metals Total Metals Chloride, EPA 330.3 Organic Carbon, EPA 415.1 pH by EPA 9040 Phenol, EPA 420.4 Specific Conductance Sulfate, EPA 375.2 Total Organic Halogens

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Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.	Client Project ID:	9233A, Robertson-Ceco Lemont Site	Sampled:	Jan 18, 1996
W. Randolph Street	Sample Descript:	Water: MW-D1	Received:	Jan 18, 1996
Chicago, IL 60606				
Attention: Sam Bodine	Lab Number:	601-1175	Analyzed:	Jan 19-23, 1996
			Reported:	Jan 26, 1996

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Iron	3015/6010	0.050	0.98
Lead	3015/7421	0.0050	N.D.
Manganese	3015/6010	0.10	N.D.
Mercury	7470	0.0020	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Sodium	3050/6010	0.50	35

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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Carlson Environmental, Inc.
W. Randolph Street
cago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Sample Descript: Water: MW-D2
Lab Number: 601-1176

Sampled: Jan 18, 1996
Received: Jan 18, 1996
Analyzed: Jan 19-23, 1996
Reported: Jan 26, 1996

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L		Sample Results mg/L
Arsenic	3015/7060	0.050		N.D.
Barium	3015/6010	0.050		N.D.
Cadmium	3015/6010	0.010		N.D.
Chromium	3015/6010	0.010		N.D.
Iron	3015/6010	0.050		N.D.
Lead	3015/7421	0.0050		N.D.
Manganese	3015/6010	0.10		N.D.
Mercury	7470	0.0020		N.D.
Selenium	3015/7740	0.010		N.D.
Silver	3015/6010	0.050		N.D.
Sodium	3050/6010	0.50		24

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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Carlson Environmental, Inc.
W. Randolph Street
cago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Sample Descript: Water: MW-D3
Lab Number: 601-1177

Sampled: Jan 18, 1996
Received: Jan 18, 1996
Analyzed: Jan 19-23, 1996
Reported: Jan 26, 1996

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Iron	**3015/6010**	**0.050**	**0.17**
Lead	3015/7421	0.0050	N.D.
Manganese	**3015/6010**	**0.10**	**0.18**
Mercury	7470	0.0020	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Sodium	**3050/6010**	**0.50**	**40**

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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Laboratory Director

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Carlson Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Sample Descript: Water: MW-D4
Lab Number: 601-1178

Sampled: Jan 18, 1996
Received: Jan 18, 1996
Analyzed: Jan 19-23, 1996
Reported: Jan 26, 1996

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Iron	**3015/6010**	**0.050**	**1.6**
Lead	3015/7421	0.0050	N.D.
Manganese	**3015/6010**	**0.10**	**0.12**
Mercury	7470	0.0020	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Sodium	**3050/6010**	**0.50**	**30**

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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Carlson Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Sample Descript: Water: MW-D5
Lab Number: 601-1179

Sampled: Jan 18, 1996
Received: Jan 18, 1996
Analyzed: Jan 19-23, 1996
Reported: Jan 26, 1996

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Iron	3015/6010	0.050	N.D.
Lead	3015/7421	0.0050	N.D.
Manganese	3015/6010	0.10	N.D.
Mercury	7470	0.0020	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Sodium	**3050/6010**	**0.50**	**38**

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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Carlson Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Sample Descript: Water: Dup-1
Lab Number: 601-1180

Sampled: Jan 18, 1996
Received: Jan 18, 1996
Analyzed: Jan 19-23, 1996
Reported: Jan 26, 1996

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Iron	3015/6010	0.050	2.5
Lead	3015/7421	0.0050	N.D.
Manganese	3015/6010	0.10	0.12
Mercury	7470	0.0020	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Sodium	3050/6010	0.50	29

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
Laboratory Director

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Carlson Environmental, Inc.
[illegible] W. Randolph Street
C...cago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Sample Descript: Water: MW-D1
Lab Number: 601-1175

Sampled: Jan 18, 1996
Received: Jan 18, 1996
Analyzed: Jan 19-23, 1996
Reported: Jan 26, 1996

LABORATORY ANALYSIS: TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Hexavalent Chromium	7197	0.020	N.D.
Iron	3015/6010	0.050	1.9
Lead	3015/7421	0.0050	N.D.
Manganese	3015/6010	0.10	N.D.
Mercury	7470	0.0020	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Sodium	3050/6010	0.50	36

Analytes reported as N.D. were not present above the stated limit of detection.

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Laboratory Director

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Carlson Environmental, Inc.	Client Project ID:	9233A, Robertson-Ceco Lemont Site	Sampled:	Jan 18, 1996
W. Randolph Street	Sample Descript:	Water: MW-D2	Received:	Jan 18, 1996
Chicago, IL 60606				
Attention: Sam Bodine	Lab Number:	601-1176	Analyzed:	Jan 19-23, 1996
			Reported:	Jan 26, 1996

LABORATORY ANALYSIS: TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Hexavalent Chromium	7197	0.020	N.D.
Iron	**3015/6010**	**0.050**	**0.15**
Lead	3015/7421	0.0050	N.D.
Manganese	3015/6010	0.10	N.D.
Mercury	7470	0.0020	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Sodium	**3050/6010**	**0.50**	**25**

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
Laboratory Director

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Carlson Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Sample Descript: Water: MW-D3
Lab Number: 601-1177

Sampled: Jan 18, 1996
Received: Jan 18, 1996
Analyzed: Jan 19-23, 1996
Reported: Jan 26, 1996

LABORATORY ANALYSIS: TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Hexavalent Chromium	7197	0.020	N.D.
Iron	**3015/6010**	**0.050**	**1.3**
Lead	3015/7421	0.0050	N.D.
Manganese	**3015/6010**	**0.10**	**0.18**
Mercury	7470	0.0020	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Sodium	**3050/6010**	**0.50**	**43**

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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Carlson Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Sample Descript: Water: MW-D4
Lab Number: 601-1178

Sampled: Jan 18, 1996
Received: Jan 18, 1996
Analyzed: Jan 19-23, 1996
Reported: Jan 26, 1996

LABORATORY ANALYSIS: TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L		Sample Results mg/L
Arsenic	3015/7060	0.050		N.D.
Barium	3015/6010	0.050		N.D.
Cadmium	3015/6010	0.010		N.D.
Chromium	3015/6010	0.010		N.D.
Hexavalent Chromium	7197	0.020		N.D.
Iron	**3015/6010**	**0.050**		**6.6**
Lead	3015/7421	0.0050		N.D.
Manganese	**3015/6010**	**0.10**		**0.14**
Mercury	7470	0.0020		N.D.
Selenium	3015/7740	0.010		N.D.
Silver	3015/6010	0.050		N.D.
Sodium	**3050/6010**	**0.50**		**31**

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
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Carlson Environmental, Inc.
...W. Randolph Street
C...cago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Sample Descript: Water: MW-D5
Lab Number: 601-1179

Sampled: Jan 18, 1996
Received: Jan 18, 1996
Analyzed: Jan 19-23, 1996
Reported: Jan 26, 1996

LABORATORY ANALYSIS: TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L		Sample Results mg/L
Arsenic	3015/7060	0.050		N.D.
Barium	3015/6010	0.050		N.D.
Cadmium	3015/6010	0.010		N.D.
Chromium	3015/6010	0.010		N.D.
Hexavalent Chromium	7197	0.020		N.D.
Iron	3015/6010	0.050		0.088
Lead	3015/7421	0.0050		N.D.
Manganese	3015/6010	0.10		N.D.
Mercury	7470	0.0020		N.D.
Selenium	3015/7740	0.010		N.D.
Silver	3015/6010	0.050		N.D.
Sodium	3050/6010	0.50		39

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
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Carlson Environmental, Inc.
[illegible] W. Randolph Street
C...cago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Sample Descript: Water: Dup-1
Lab Number: 601-1180

Sampled: Jan 18, 1996
Received: Jan 18, 1996
Analyzed: Jan 19-23, 1996
Reported: Jan 26, 1996

LABORATORY ANALYSIS: TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Barium	3015/6010	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	N.D.
Hexavalent Chromium	7197	0.020	N.D.
Iron	**3015/6010**	**0.050**	**6.5**
Lead	3015/7421	0.0050	N.D.
Manganese	**3015/6010**	**0.10**	**0.14**
Mercury	7470	0.0020	N.D.
Selenium	3015/7740	0.010	N.D.
Silver	3015/6010	0.050	N.D.
Sodium	**3050/6010**	**0.50**	**30**

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
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Carlson Environmental, Inc.
[illegible] N. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Sample Descript: Water
Analysis for: Chloride, EPA 330.3
First Sample #: 601-1175

Sampled: Jan 18, 1996
Received: Jan 18, 1996
Analyzed: Jan 24, 1996
Reported: Jan 25, 1996

LABORATORY ANALYSIS FOR: Chloride, EPA 330.3

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
601-1175	MW-D1	1.0	30
601-1176	MW-D2	1.0	9.0
601-1177	MW-D3	1.0	44
601-1178	MW-D4	1.0	18
601-1179	MW-D5	1.0	7.8
601-1180	Dup-1	1.0	18

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Carlson Environmental, Inc.	Client Project ID:	9233A, Robertson-Ceco Lemont Site	Sampled:	Jan 18, 1996
W. Randolph Street	Sample Descript:	Water	Received:	Jan 18, 1996
Chicago, IL 60606	Analysis for:	Non-Purgeable Organic Carbon, EPA 415.1		
Attention: Sam Bodine	First Sample #:	601-1175	Analyzed:	Jan 23, 1996
			Reported:	Jan 25, 1996

LABORATORY ANALYSIS FOR: Non-Purgeable Organic Carbon, EPA 415.1

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
601-1175	MW-D1	1.0	2.1
601-1176	MW-D2	1.0	N.D.
601-1177	MW-D3	1.0	1.3
601-1178	MW-D4	1.0	1.1
601-1179	MW-D5	1.0	1.4
601-1180	Dup-1	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:

The Organic Carbon analysis was subcontracted to North Creek Analytical in Bothell WA.

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Carlson Environmental, Inc.
[illegible] W. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Sample Descript: Water
Analysis for: pH by EPA 9040
First Sample #: 601-1175

Sampled: Jan 18, 1996
Received: Jan 18, 1996
Analyzed: Jan 19, 1996
Reported: Jan 25, 1996

LABORATORY ANALYSIS FOR: pH by EPA 9040

Sample Number	Sample Description	Sample Result pH units	Temperature °C
601-1175	MW-D1	7.6	13
601-1176	MW-D2	8.8	12
601-1177	MW-D3	7.7	13
601-1178	MW-D4	7.7	16
601-1179	MW-D5	8.2	14
601-1180	Dup-1	7.3	15

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1380 Busch Parkway • Buffalo Grove, Illinois 60089
(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.
[illegible] N. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Sample Descript: Water
Analysis for: Phenol, EPA 420.4
First Sample #: 601-1175

Sampled: Jan 18, 1996
Received: Jan 18, 1996
Analyzed: Jan 18, 1996
Reported: Jan 25, 1996

LABORATORY ANALYSIS FOR: Phenol, EPA 420.4

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
601-1175	MW-D1	0.030	N.D.
601-1176	MW-D2	0.030	N.D.
601-1177	MW-D3	0.030	N.D.
601-1178	MW-D4	0.030	N.D.
601-1179	MW-D5	0.030	N.D.
601-1180	Dup-1	0.030	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.
[illegible] W. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Sample Descript: Water
Analysis for: Specific Conductance, EPA 120.1
First Sample #: 601-1175

Sampled: Jan 18, 1996
Received: Jan 18, 1996
Analyzed: Jan 18, 1996
Reported: Jan 25, 1996

LABORATORY ANALYSIS FOR: Specific Conductance, EPA 120.1

Sample Number	Sample Description	Sample Result mhos/cm
601-1175	MW-D1	1,000
601-1176	MW-D2	600
601-1177	MW-D3	1,000
601-1178	MW-D4	1,100
601-1179	MW-D5	820
601-1180	Dup-1	1,000

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Carlson Environmental, Inc.	Client Project ID:	9233A, Robertson-Ceco Lemont Site	Sampled:	Jan 18, 1996
[illegible] W. Randolph Street	Sample Descript:	Water	Received:	Jan 18, 1996
Chicago, IL 60606	Analysis for:	Sulfate, EPA 375.2		
Attention: Sam Bodine	First Sample #:	601-1175	Analyzed:	Jan 24, 1996
			Reported:	Jan 25, 1996

LABORATORY ANALYSIS FOR: Sulfate, EPA 375.2

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
601-1175	MW-D1	5.0	280
601-1176	MW-D2	5.0	220
601-1177	MW-D3	5.0	330
601-1178	MW-D4	5.0	330
601-1179	MW-D5	5.0	270
601-1180	Dup-1	5.0	330

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.	Client Project ID:	9233A, Robertson-Ceco Lemont Site	Sampled:	Jan 18, 1996
3[illegible]W. Randolph Street	Sample Descript:	Water	Received:	Jan 18, 1996
C[illegible]icago, IL 60606	Analysis for:	Total Organic Halogens, EPA 9020		
Attention: Sam Bodine	First Sample #:	601-1175	Analyzed:	Jan 25, 1996
			Reported:	Jan 25, 1996

LABORATORY ANALYSIS FOR: Total Organic Halogens, EPA 9020

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
601-1175	MW-D1	0.010	0.091
601-1176	MW-D2	0.010	0.014
601-1177	MW-D3	0.010	N.D.
601-1178	MW-D4	0.010	N.D.
601-1179	MW-D5	0.010	N.D.
601-1180	Dup-1	0.010	0.086

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

[illegible]son Environmental, Inc.
[illegible] W. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Matrix: Water
QC Sample Group: 6011175-1180
Reported: Jan 25, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Arsenic	Barium	Cadmium	Chromium	Hexavalent Chromium	Iron	Lead
Method:	3015/7060	3015/6010	3015/6010	3015/6010	7196	3015/6010	3015/6010
Analyst:	S. Jankowski	I. Graske	I. Graske	I. Graske	A. Mehrabi	I. Graske	S. Jankowski
Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
LAB. CONTROL SAMPLE DATA							
Date Analyzed:	Jan 19, 1996	Jan 22, 1996	Jan 22, 1996	Jan 22, 1996	Jan 19, 1996	Jan 23, 1996	Jan 19, 1996
Instrument I.D.#	1	1	1	1	1	1	1
LCS% Recovery:	100	99	100	100	95	96	100
MATRIX SPIKE & DUP. DATA							
Date Analyzed:	Jan 19, 1996	Jan 22, 1996	Jan 22, 1996	Jan 22, 1996	Jan 19, 1996	Jan 23, 1996	Jan 19, 1996
Instrument I.D.#	1	1	1	1	1	1	1
Matrix Spike % Recovery:	111	100	99	97	98	94	103
Matrix Spike Duplicate % Recovery:	108	102	101	100	106	95	104
Relative % Difference:	3.2	2.0	2.7	3.0	7.9	1.1	1.2

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Robertson Environmental, Inc.
W. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Matrix: Water
QC Sample Group: 6011175-1180

Reported: Jan 25, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Manganese	Mercury	Selenium	Silver	Sodium
Method:	3015/6010	7470	3015/7740	3015/6010	3015/6010
Analyst:	I. Graske	A. Mehrabi	S. Jankowski	I. Graske	I. Graske
Concentration:	1.0	0.0010	0.030	0.50	2.0
Units:	mg/L	mg/L	mg/L	mg/L	mg/L
LAB. CONTROL SAMPLE DATA					
Date Analyzed:	Jan 23, 1996	Jan 22, 1996	Jan 19, 1996	Jan 22, 1996	Jan 23, 1996
Instrument I.D.#	1	1	1	1	1
LCS% Recovery:	98	100	99	103	82
MATRIX SPIKE & DUP. DATA					
Date Analyzed:	Jan 23, 1996	Jan 22, 1996	Jan 19, 1996	Jan 22, 1996	Jan 23, 1996
Instrument I.D.#	1	1	1	1	1
Matrix Spike % Recovery:	96	100	98	9.5	81
Matrix Spike Duplicate % Recovery:	97	100	100	15	82
Relative % Difference:	1.0	0	1.7	43	2.8

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Robertson Environmental, Inc.
[illegible] W. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Matrix: Water
QC Sample Group: 6011178-1180

Reported: Jan 25, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Chloride	Phenol	Specific Conductance	Sulfate	Total Organic Halogens
Method:	330.3	420.4	120.1	375.2	9020
Analyst:	P. Hui	P. Hui	P. Hui	P. Hui	P. Hui
Concentration:	500	0.40	1,408	319	3.0
Units:	mg/L	mg/L	umho/cm	mg/L	mg/L
LAB. CONTROL SAMPLE DATA					
Date Analyzed:	Jan 24, 1996	Jan 18, 1996	Jan 18, 1996	Jan 24, 1996	Jan 23, 1996
LCS% Recovery:	97	91	105	92	95
MATRIX SPIKE & DUP. DATA					
Date Analyzed:	Jan 24, 1996	Jan 18, 1996	Jan 18, 1996	Jan 24, 1996	Jan 23, 1996
Matrix Spike % Recovery:	95	108	---	97	85
Matrix Spike Duplicate % Recovery:	96	103	----	98	128
Relative % Difference:	1.0	4.5	----	1.0	52

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

% Recovery: $\frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$

Relative % Difference: $\frac{\text{Conc. of M.S. - Conc. of M.S.D.}}{\text{(Conc. of M.S. + Conc. of M.S.D.) / 2}} \times 100$

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

[illegible]dson Environmental, Inc.
[illegible]. W. Randolph Street
Chicago, IL 60606
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site
Matrix: Water
QC Sample Group: 6011175-1180
Reported: Jan 25, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Total Organic Carbon
EPA Method:	415.1
Date Analyzed:	Jan 23, 1996
ACCURACY ASSESSMENT:	
LCS Spike Conc. Added:	5.0
LCS Spike Result:	5.2
LCS Spike % Recovery:	104
Upper Control Limit:	107
Lower Control Limit:	97
PRECISION ASSESSMENT	
Sample #:	B601306-01
Original:	2.1
Duplicate:	2.2
Relative % Difference:	4.7
Maximum RPD:	16

GREAT LAKES ANALYTICAL

[illegible]vin W. Keeley
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}}$	x 100
Relative % Difference:	$\frac{\text{Conc. of M.S. - Conc. of M.S.D.}}{\text{(Conc. of M.S. + Conc. of M.S.D.) / 2}}$	x 100

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GREAT LAKES ANALYTICAL
1380 Busch Parkway • Buffalo Grove, Illinois 60089
(708) 808-7766 FAX (708) 808-7772

dson Environmental, Inc.	Client Project ID: 9233A, Robertson-Ceco Lemont Site
W. Randolph Street	Matrix: Water
Chicago, IL 60606	Method: pH
Attention: Sam Bodine	QC Sample Group: 6011175-1180

Reported: Jan 25, 1996

QUALITY CONTROL DATA REPORT

ANALYTE
pH

Method: 9040
Analyst: P. Hul
Units: pH

LAB. CONTROL SAMPLE DATA

Date Analyzed: Jan 19, 1996

Buffer pH: 7.0

Measured pH: 7.0

Relative % Difference: 0

SAMPLE DUP. DATA

Sample pH: 7.6

Sample Duplicate pH: 7.6

Relative % Difference: 0

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}}$	x 100
Relative % Difference:	$\frac{\text{Conc. of M.S. - Conc. of M.S.D.}}{\text{(Conc. of M.S. + Conc. of M.S.D.) / 2}}$	x 100

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CEI

CHAIN-OF-CUSTODY RECORD

No. 6030

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ. NO. 92334 PROJECT NAME Robertson-Ceco Lemont Site

SAMPLERS: (Signature) Sam Bodine [signature]

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	Hex Chromium	Dissolved metals	Total metals	Phenols	non Purable organic carbon	Inorganics (Sulfate, chloride)	Halogens	pH & Conductivity	REMARKS
1	MW-D1	1/18	0750		X	500 mL plastic - no preservatives	1	X								6011175
2					X	500 mL plastic - no preservatives	1		X							
3					X	500 mL plastic w/ Nitric Acid	1			X						
4					X	1L Amber bottle -> Sulfuric Acid	1				X					
5					X	40 mL vials w/ HCL	3					X				
6					X	1L plastic - no preservatives	1						X	X	X	
7																
8																
9																
10																

Relinquished by (Signature)	Date/Time	Received by (Signature)
[signature]	1/18 1970	[signature]
[signature]	1/18 1615	Nowell Arnold

Received for Laboratory by (Signature)

REMARKS 5 day TAT Recieved ON ICE

*reference invoice # K049

* Please filtered dissolved metals

* fax results to Sam Bodine @ 312-346-6956

Distribution: White - Accompanies Shipment; Yellow - Laboratory File; Pink - Coordinator Field Files

Electronic Filing: Received, Clerk's Office 07/19/2024

CEI

CHAIN-OF-CUSTODY RECORD

No. 6031

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ. NO. 9233A

PROJECT NAME Robertson-Ceco Lemont Site

SAMPLERS: (Signature) Sam Bodine [signature]

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	Hex Chromium	Dissolved metals	Total metals	Phenols	non-purable organic carbon	Fluorides (chloride & sulfate)	Halogens	pH & Conductivity	REMARKS
1	MW-D2	1/18	0845		X	500 mL plastic - no preservatives	1	X								6011176
2					X	" " " "	1		X							
3					X	500 mL plastic - Nitric Acid	1			X						
4					X	1 L Amber - Sulfuric Acid	1				X					
5					X	40 mL vials - HCL	3					X				
6					X	1L plastic - no preservative	1						X	X	X	
7																
8																
9																
10																

Relinquished by (Signature)	Date/Time	Received by (Signature)
Sam T. Bodine	1/18 1400	[signature]
[signature]	1/18 1615	Norwell Arnold

REMARKS 5 day TAT Recieved ON ICE

* reference invoice # K049
* please filter dissolved metals
* fax results to Sam Bodine @ 312-346-6956

Distribution White - Accompanies Shipment, Yellow - Laboratory File, Pink - Coordinator Field Files

CEI

CHAIN-OF-CUSTODY RECORD

No. 6025

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ. NO. 9233A

PROJECT NAME Robertson-Ceco Lemont Site

SAMPLERS: (Signature) Sam Bodine Sam Bodine

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	Hex Chromium	Dissolved metals	Total metals	Phenols	non purgable organic carbon	Inorganics (sulfate, chloride)	Halogens	pH & Conductivity	REMARKS
1	MW-D3	1/18	0945		X	500 mL plastic - no preservative	1	X								6011177
2					X	" " " "	1		X							
3					X	500 mL plastic - nitric acid	1			X						
4					X	1 L Amber - Sulfuric acid	1				X					
5					X	40 mL Vials - HCL	3					X				
6					X	1 L plastic - no preservative	1						X	X	X	
7																
8																
9																
10																

Relinquished by (Signature)	Date/Time	Received by (Signature)
Sam T. Bodine	1/18 1430	[signature]
[signature]	1/18 1615	Nowell Arnold
		Received for Laboratory by (Signature)

REMARKS

5 day TAT

* reference invoice K049
* Filter dissolved metals sample
* fax results to Sam Bodine @ 312-346-6956 Recieved ON ICE

Distribution: White - Accompanies Shipment; Yellow - Laboratory File; Pink - Coordinator Field Files

CHAIN-OF-CUSTODY RECORD

No. 6026

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ. NO. 9233A

PROJECT NAME Robertson - Ceco Lemont Site

SAMPLERS: (Signature) Sam Bodine Sam Bodine

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	Hex Chromium	Dissolved metals	Total metals	phenol	non purable organic carbon	Inorganics (sulfate, chloride)	Halogens	pH & Conductivity	REMARKS
1	MW-DH	1/18	1100		X	500 mL plastic - no preservative	1	X								6011178
2					X	" " " "	1		X							
3					X	500 mL plastic - nitric acid	1			X						
4					X	1 L Amber - Sulfuric acid	1				X					
5					X	40 mL vials - HCL	3					X				
6					X	1 L plastic - no preservative	1						X	X	X	
7																
8																
9																
10																

Relinquished by (Signature)	Date/Time	Received by (Signature)
Sam T. Bodine	1/18 1420	[signature]
[signature]	1/18 1615	Nowell Arnold

Received for Laboratory by (Signature)

REMARKS

* reference invoice #KOUS
* filter dissolved metals sample
* fax results to Sam Bodine @ 312-346-6956

Recieved ON ICE

5 day TAT

Distribution White - Accompanies Shipment, Yellow - Laboratory File Pink - Coordinator Field Files

CEI

CHAIN-OF-CUSTODY RECORD

No. 6027

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ. NO. 9233A

PROJECT NAME Robertson-Ceco Lemont Site

SAMPLERS: (Signature) Sam Bodine Salt. Bodine

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	Hex Chromium	Dissolved Metals	Total metals	Phenols	non-Purgable organic carbon	Halogens	Inorganics (Sulfate, Chloride)	PH & Conductivity	REMARKS
1	MW-D5	1/18	1230		X	500 mL plastic - no preservatives	1	X								6011179
2					X	" " " "	1		X							
3					X	500 mL plastic - Nitric Acid	1			X						
4					X	1L Amber - Sulfuric Acid	1				X					
5					X	40 mL Vials - HCL	3					X				
6					X	1L plastic - no preservatives	1						X	X	X	
7																
8																
9																
10																

Relinquished by (Signature)	Date/Time	Received by (Signature)
Salt. Bodine	1/18 1422	MR Pishowski
MR Pishowski	1/18 1615	Nowell Arnold
		Received for Laboratory by (Signature)

REMARKS
* reference invoice K049
* Filter dissolved metals sample
* Fax results to Sam Bodine @ 312-346-6956
Recieved ON ICE

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CHAIN-OF-CUSTODY RECORD

No. 6029

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ. NO. 9233A

PROJECT NAME Robertson-Ceco Lemont Site

SAMPLERS: (Signature) Sam Bodine Sam Bod

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	Hex Chromium	Dissolved metals	total metals	phenols	non-purgable organic carbon	Inorganics (sulfate, chloride)	Halogens	pH & Conductivity	REMARKS
1	Dup-1	1/18			X	500 mL plastic - no preservation	1	X								C011180
2					X	" " " "	1		X							
3					X	500 mL plastic - Nitric Acid	1			X						
4					X	1 L Amber - Sulfuric Acid	1				X					
5					X	40 mL vials - HCL	3					X				
6					X	1 L plastic - no preservatives	1						X	X	X	
7																
8																
9																
10																

Relinquished by (Signature)	Date/Time	Received by (Signature)
Sam Bod	1/18 1420	Mr Rohowski
Mr Rohowski	1/18 1615	Nowell Arnold

Received for Laboratory by: (Signature)

REMARKS

* reference invoice #K049
* Filter dissolved metals sample
* fax results to Sam Bodine @ 312-346-6956 Recieved on ICE

Distribution: White - Accompanies Shipment; Yellow - Laboratory File; Pink - Coordinator Field Files

Electronic Filing: Received, Clerk's Office 07/19/2024

GREAT LAKES ANALYTICAL

CHAIN OF CUSTODY REPORT

1380 BUSCH PARKWAY
BUFFALO GROVE, ILLINOIS 60089-4505
(708) 808-7766 FAX (708) 808-7772

Client: GREAT LAKES ANALYTICAL
Address: 1380 BUSCH PARKWAY
BUFFALO GROVE, IL 60089-4505

Bill To:
Address:

TAT: 5 DAY (4 DAY) (3 DAY) 2 DAY 1 DAY < 24
DATE RESULTS NEEDED: 1/25/96
TEMPERATURE UPON RECEIPT:

Report to: L. Jankousky
Phone #: ( )
Fax #: ( )

State & Program:

Phone #: ( )
Fax #: ( )

AIR BILL NO.

Project: Carlson
Sampler:
PO/Quote #:

FIELD ID, LOCATION	DATE COLLECTED	TIME COLLECTED	SAMPLE MATRIX	PRESERVATIVES	NO. CONTAINERS	TYPE CONTAINERS	ANALYSIS TYPE	SAMPLE CONTROL: CRACKED/BROKEN	IMPROPERLY SEALED	GOOD CONDITION	LABORATORY ID NUMBER
1 6011175	1/18		H_2O	HCl	3	VOA	TOC				
2 6011176											
3 6011177											
4 6011178											
5 6011179											
6 6011180											
7											
8											
9											
10											

RELINQUISHED	DATE / TIME	RECEIVED	DATE / TIME	RELINQUISHED	DATE / TIME	RECEIVED	DATE / TIME
K. Krull	1/18/96 1700						
RELINQUISHED	DATE / TIME	RECEIVED	DATE / TIME	RELINQUISHED	DATE / TIME	RECEIVED	DATE / TIME

COMMENTS:

PAGE OF

ATTACHMENT E

ATTACHMENT E

CERTIFICATIONS

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This statement is to be completed by both a responsible officer of the owner or operator (as defined in 35 IAC 702.126) and a responsible officer (as defined in 35 IAC 702.126) of the laboratory which conducted the chemical analyses required as part of closure activities. The original of this statement shall accompany the original certification statement for closure activities at this site.

Laboratory Certification

Closure Log C-68

The applicable sample collection, handling, preservation, preparation and analysis conducted as part of closure activities at the facility described in this document that the chemical laboratory was responsible for has been conducted in accordance with the specification in the approved workplan. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

ILD990785453
USEPA ID Number

Robertson-Ceco Corporation Site
Facility Name

Signature of Owner/Operator Date

Name and Title of Owner/
Operator Representative

Great Lakes Analytical
Name of Laboratory

2-12-96
Signature of Laboratory Responsible Officer Date

Kevin W. Kaale / President
Name and Title of Laboratory
Responsible Officer
Mailing Address of Laboratory

MH:bjh/sp/382X/7

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ATTACHMENT 1

This statement is to be completed by both the responsible officer and by a registered professional engineer upon completion of closure. Submit one copy of the certification with original signatures and three additional copies.

Closure Certification Statement

Closure Log C-68

The hazardous waste management unit at the facility described in this document has been closed in accordance with the specifications in the approved closure plan. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

ILD990785453
USEPA ID Number

Robertson-Ceco Corp. Site
Facility Name

Signature of Owner/Operator | **Date** | **Name and Title**

Signature of Registered P.E. — 5-29-96 — **Date**

Kenneth W. James, P.E. #062-036808
Name of Registered P.E. and Illinois Registration Number

Kenneth W. James, P.E.

Carlson Environmental, Inc.

312 W. Randolph St., Suite 300

Chicago, IL 60606
Address of Illinois Registered P.E.

< P.E. Seal >

ECB:MAH:bjh/sp/382X/6

EXHIBIT D

Electronic Filing: Received, Clerk's Office 07/19/2024

CARLSON ENVIRONMENTAL, Inc.

November 3, 1997 9440A

Mr. James Moore
Illinois Environmental Protection Agency
Bureau of Land - # 33
Permit Section
1021 N. Grand Avenue East
Springfield, Illinois 62706

RE: 1978030005 - Will County
Robertson-Ceco Corporation
ILD990785453
Log No. C-68-M-6
RCRA Closure

Dear Mr. Moore:

Carlson Environmental, Inc. (CEI), has completed the Supplemental RCRA Facility Investigation (RFI) Phase I Report for the above referenced site. Enclosed are two (2) copies and the original. The investigation was completed in accordance with the Supplemental RFI Phase I Work Plan prepared by CEI and approved by the Agency with modifications in a letter dated August 7, 1997.

If you have any questions or require additional information please do not hesitate to contact myself or Edward Garske at (312) 346-2140.

Sincerely,

CARLSON ENVIRONMENTAL, INC.

Bruce Shabino
Project Manager

cc: David P. Pusateri
Clifton A. Lake
Edwin C. Bakowski

Electronic Filing: Received, Clerk's Office 07/19/2024

CARLSON ENVIRONMENTAL, Inc.

SUPPLEMENTAL RCRA FACILITY INVESTIGATION PHASE I REPORT

Robertson-Ceco Corporation
Lemont, Illinois

Prepared by
CARLSON ENVIRONMENTAL, INC.
312 West Randolph Street
Suite 300
Chicago, Illinois 60606
(312) 346-2140

Project No. 9440A
November 3, 1997

Bruce A. Shabino
Project Manager

Edward E. Garske, CHMM
Project Director

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1.0 INTRODUCTION

1.1 Purpose of the Supplemental RFI

This Supplemental Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Phase I Report (Report) has been prepared to fulfill corrective action requirements at a facility owned by Robertson-Ceco Corporation (Robertson-Ceco) in Lemont, Illinois. The Supplemental RFI Phase I activities were performed by Carlson Environmental, Inc. (CEI) in accordance with the Supplemental RFI Phase I Work Plan prepared by CEI and approved by the Illinois Environmental Protection Agency (IEPA) with modifications in a letter dated August 7, 1997.

The purpose of the Supplemental Phase I RFI was to collect additional information to assess the impact of the entire 25-acre site on human health and the environment.

1.2 Project Background

The subject property (the "Site") was owned during the 1970's and early 1980's by The Ceco Corporation (Ceco), a corporate predecessor to Robertson-Ceco. It was used in connection with the operation of an electric arc furnace steel production plant owned by Ceco located north of the Site, for the management of steel-making by-products, including emission control dust (EAF dust) from the electric arc furnaces. In 1980, EAF dust was designated as "listed" hazardous waste K061 by the United States Environmental Protection Agency (USEPA) under RCRA. During the active life of the Site, approximately 12,500 cubic yards of EAF dust were deposited at the site. Most of the EAF dust (10,000 cubic yards) was deposited in a large bermed storage area. The remainder was deposited at undocumented locations in the eastern part of the Site.

EAF dust deposition at the Site ceased in 1980, before the RCRA hazardous waste management regulations became effective. Following excavation and disposal by Ceco of approximately 10,000 cubic yards of EAF dust from the large bermed storage area at a RCRA-permitted off-site hazardous waste disposal facility during 1981-1982, Ceco determined that roughly 2,500 cubic yards of EAF dust remained on-site. In 1983, Ceco contracted with NUS to conduct an investigation to locate and remove the remaining EAF dust deposits. Under an IEPA-approved RCRA Closure Plan, the remaining deposits were located and excavated in 1985 together with approximately 29,500 cubic yards of miscellaneous non-hazardous steel plant by-products, primarily slag, which was co-excavated with the EAF dust to insure that all EAF dust was removed. These

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materials, altogether comprising a volume of 32,000 cubic yards, were placed in a RCRA interim-status waste pile closure unit constructed at the Site in accordance with an IEPA-approved Closure Plan.

The RCRA Closure Unit occupies approximately two acres of the Site and is surrounded by a 10-foot high chain link fence which is locked to prevent unauthorized access. RCRA post-closure ground water monitoring of the Closure Unit has disclosed no significant impact on the quality of the ground water in the uppermost aquifer. The hazardous constituents for which EAF dust is a listed hazardous waste (*i.e.*, lead, cadmium and hexavalent chromium), are either non-detectable or present in extremely low concentrations in the ground water.

In May 1996, CEI completed a RCRA Facility Investigation (RFI) Phase I Report. The Purpose of the Investigation was to collect information to assess the impact of the entire 25-acre site on human health and the environment.

2.0 GENERAL SITE INFORMATION

2.1 Site Description

The Site is located one-mile west of the city of Lemont in Will County, Illinois. (Figure One - Attachment A) and occupies approximately 25 acres. Access to the Site is by an unnamed paved road from New Avenue. The Site is characterized by the presence of steel production wastes and by-products (primarily furnace slag) which cover the entire property. Several small buildings are located in the western portion of the Site. A former slag processing operation (which in the past had been used to crush and size slag prior to sale as aggregate) is located in the north-central portion of the Site. Most of the Site surface is not vegetated, although some small shrubs and trees are present along the southern and northern boundaries.

A two-acre RCRA closure unit is located in the central portion of the Site secured with a locked chain-link fence. Five RCRA post-closure ground water monitoring wells are present and are used to perform regular post-closure ground water monitoring. The wells were sited and are sampled in accordance with applicable Illinois RCRA regulatory requirements.

The Site is within a heavily industrialized area. It occupies a portion of a former flagstone (Silurian dolomite) quarry. It is bounded to the east by Dudek, Inc., a scrap

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iron and metal dealer: to the south, by the Gulf, Mobile & Ohio Railroad; to the west, by an unnamed road which provides access to the Auburn Steel Plant (formerly the Ceco Steel Plant). A Union Oil Company of California oil refinery is located west of the unnamed road. To the north of the Site, is the I & M Canal, the Santa Fe Railroad and the Auburn Steel facility (Figure Two).

2.1.1 Historical Site Operations

Prior to the use of the Site as a scrap-processing and by-product management area in conjunction with the steel mill, it was a limestone quarry in which flagstone was mined for use as building stone. The mining operation left an open pit area roughly 10 feet in depth across most of the Site, with a bedrock surface as its base.

The steel plant to the north was built by Ceco and began operations in 1969. The plant consists of several electric arc scrap-melting furnaces as well as fabrication facilities for billet and other shapes, including concrete reinforcing bar. The source of the steel melted in the electric arc furnaces was and is, steel scrap.

Beginning in 1969, the Site was used in conjunction with the steel mill to process scrap metal for the furnaces, and to manage solid wastes and by-products generated by the steel mill. The principal by-product from electric arc steel-manufacturing is slag, with much lesser amounts of mill scale and EAF dust. In addition to these uses, the Site has been used for slag reclamation operations. The slag reclamation process involved the processing of slag "skulls." Slag skulls are large, slag masses that form in the furnaces where the steel is melted with fluxing material. Often the melting of scrap in the furnace is incomplete, and partially melted scrap steel becomes incorporated in the solidified slag mass. Because of its value as furnace feed stock, the steel scrap incorporated in the skulls was reclaimed by breaking and crushing the skulls with a wrecking ball. The separated steel scrap is then returned to the mill to be used as feed stock for the furnaces. The crushed slag was either used as fill at the Site, or further crushed, sized and sold as aggregate. The slag reclamation process is no longer active. Slag produced by Auburn Steel Company, the current owner of the steel mill, is managed elsewhere.

Over the years, the continued deposit of slag at the Site resulted in the gradual expansion of the slag fill from west to east as well as an increase in elevation of the Site. The Site surface is now at an average elevation of 10 feet above the bedrock surface.

When steel scrap is melted, a very fine dust (EAF dust) is produced. In 1972, the State

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of Illinois adopted air pollution control regulations which required installation of particulate emission control equipment on the steel plant's electric arc furnaces to capture EAF dust emissions. Baghouse dust collectors were installed to comply with the new regulations. After being collected in the baghouses, EAF dust was mixed with water to form a slurry in order to facilitate handling and control fugitive emissions. The slurry was then transported in trucks from the steel mill to the Site and deposited.

From late 1972 until 1980, slurried EAF dust collected by the baghouses was deposited at the Site. During 1972 - 1973, slurried EAF dust was reportedly brought to the Site in trucks, and deposited into various low areas in the eastern portion of the Site. These deposits were subsequently covered by layers of slag as the Site surface built up.

After about 1973, the slurried EAF dust was deposited exclusively in a discreet bermed area created for that purpose. The bermed area was also located in the eastern portion of the Site.

When the RCRA hazardous waste management regulations became effective in late 1980, and EAF dust became a listed hazardous waste, Ceco applied for and received RCRA interim status to store EAF dust in a "waste pile." No EAF dust was deposited at the Site after November 19, 1980, the effective date of the RCRA regulations. After that date, all EAF dust generated at the steel plant was transported directly to a RCRA-permitted off-site hazardous waste disposal facility. During 1981-1982, approximately 10,000 cubic yards of previously deposited EAF dust was excavated from the principal bermed EAF dust storage area, and disposed at an off-site hazardous waste disposal facility. At that time, based on steel plant operating records, Ceco determined that approximately 2,500 cubic yards of EAF dust remained in the subsurface at the Site.

On February 3, 1983, Ceco sold the steel mill to Thomas Steel Company. The sales agreement provided that Ceco would retain title to the Site which was then operated under lease by Dudek, Inc. Following the sale of the mill, Ceco leased the Site to Thomas Steel which in turn sub-leased the Site to Dudek. Under this arrangement, Dudek continued to provide the same scrap and slag processing services to Thomas Steel as it had previously provided to Ceco. Subsequently, following Thomas Steel's bankruptcy, the steel mill was sold to its current owner, Auburn Steel Company.

In 1991, Ceco Industries, Inc., the corporate parent of The Ceco Corporation, and H.H. Robertson & Company merged to form Robertson-Ceco Corporation.

Since the RCRA interim status waste pile closure unit construction was completed in

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July of 1988, no hazardous waste management activity has occurred at the Site, other than RCRA post-closure ground water monitoring and inspection, the activities described in the RFI Phase I dated May 1996, and the supplemental activities described in this Report.

2.1.2 Current Site Operations

All operations at the Site have ceased with the exception of RCRA post-closure activities associated with the Closure Unit.

2.2 Previous Investigations

Following the sale of the steel mill to Thomas Steel, Ceco hired NUS as its environmental consultant to locate and develop a RCRA closure plan for the 2,500 cubic yards of EAF dust still present at the Site.

2.2.1 1983 - EAF Dust Delineation and Impact Investigations

Initial Site Characterization - In April 1983, NUS began a study to determine the location of the remaining subsurface EAF dust deposits. The study included interviews of former Ceco employees and Dudek personnel, and a thorough Site inspection. These activities were followed by a surface and subsurface investigation utilizing soil borings and other sampling techniques to delineate the locations of EAF dust deposits beneath the then-existing Site surface. Collectively, this work provided the basis for the design of a subsurface investigation.

Subsurface Investigation and EAF Dust Deposit Delineation - NUS' EAF dust deposit delineation field investigation began in October 1983, with sampling subsurface materials using a split-barrel sampler during the advancement of 17 soil borings across the entire Site. The borings and sampling were extended to bedrock. The locations of the borings and the results of the investigation were presented in the Final Closure Plan for Waste Storage Area EPA ID No. ILD990785453, Will County, Illinois which was submitted to IEPA (January, 1985).

In general, NUS found the subsurface to consist of sand-to-boulder sized slag. Sample recovery was low, except in areas where discreet layers of fine-grained material which was believed to be EAF dust, was encountered. Conclusions drawn from research and personnel interviews concerning the probable locations of subsurface EAF dust deposits

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were confirmed during this phase of the investigation. Deposits of fine-grained materials, believed to be EAF dust, were found in the Site subsurface only in the eastern portion of the Site where EAF dust was expected to be encountered. Eight of the 17 borings encountered fine-grained material, all of which occurred in visually distinct subsurface layers indicative of the deposition of a fine water-slurried material. Samples of fine-grained material taken from these eight borings were subjected to EP Toxicity analyses for lead, cadmium and hexavalent chromium. One boring of the 17 contained fine-grained material which was EP toxic for lead and cadmium. Based upon these analyses, and the characteristic presentation as extremely fine-grained material in distinct subsurface layers, NUS determined that layers of fine-grained material found in the subsurface were most probably EAF dust deposits. Chemical analysis could not be used to identify EAF dust because EAF dust is a "listed" RCRA hazardous waste regardless of its chemical constituents (which vary substantially) and because metals are present at the Site from other sources. Nevertheless NUS' evaluation of all of the circumstantial evidence concluded that the fine-grained material found in distinct subsurface layers was most likely EAF dust.

Evaluation of the Ground Water Regime - Temporary ground water monitoring wells were installed in ten locations for the purpose of collecting water level/elevation data to determine the ground water flow direction and to collect ground water samples for analysis. The monitoring wells were 2-inch diameter PVC with slotted well screens throughout the saturated zone.

The temporary ground water monitoring wells were converted from the soil borings so that representative ground water samples could be obtained from across the Site, as documented in the January 1985 Closure Plan. The temporary monitoring wells were sampled twice during 1983. Measurements from these wells indicated that the ground water table was above the bedrock surface in the southern portion of the Site, and within the bedrock under other portions of the Site. Ground water elevations varied slightly from October to December 1983.

The analytical results from the temporary ground water monitoring wells (unfiltered samples) are presented in the January 1985 Closure Plan for lead, cadmium and chromium. In general, the unfiltered ground water samples were turbid, and showed detectable levels of lead, cadmium and chromium when analyzed under the "total metals" laboratory protocol.

During the ground water investigation, NUS also sampled four off-site wells previously installed by a prior environmental consultant (Eldridge Associates). One well was

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located up-gradient, south of the Site on the railroad right-of-way, and three wells were located down-gradient of the Site, on the I & M Canal right-of-way. The Eldridge monitoring wells were 4-inch PVC and were screened below the bedrock surface.

Analytical results from these wells, which reflect ground water quality in the uppermost aquifer both up-gradient and down-gradient of the Site showed non-detectable to extremely low concentrations of arsenic and chromium in both the up-gradient and down-gradient wells.

Surface Water Evaluation - Surface water was sampled twice during the 1983 field investigation. The results of the surface water analyses are provided in Ceco's responses to IEPA comments on the January 1985 Closure Plan. Surface water was sampled from three points along the I & M Canal, which is the closest surface water which receives runoff from the Site. Analysis of the I&M Canal surface water samples showed concentrations of arsenic, chromium and lead below Maximum Contaminant Level's (MCL's) or non-detectable.

Standing surface water was also sampled within the slag processing area where water was temporarily ponded on the bedrock surface. The laboratory results showed detectable levels of arsenic, cadmium, chromium, lead and selenium, however, all concentrations were below their respective MCL's.

2.2.2 1984 - Further EAF Dust Deposit Location and Ground water Studies

During August 1984, nine test pits were excavated with a back-hoe to provide additional information concerning the subsurface distribution of EAF dust deposits. In addition, eleven temporary ground water monitoring wells were installed into the top portion of the bedrock beneath the Site to further characterize ground water flow conditions in the saturated zone within the bedrock.

The results of the 1984 subsurface investigation were consistent with the 1983 borings, and disclosed EAF dust deposits in distinct layers of fine-grained material in the subsurface. Temporary monitoring wells showed that the ground water flow was the same as ground water flow patterns in the unconsolidated slag material above the bedrock, indicating that these units were hydraulically interconnected. Analyses of ground water samples from these monitoring wells showed no detectable concentrations of lead, cadmium or hexavalent chromium.

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2.2.3 January 1985 - RCRA Closure Plan

In January 1985, a RCRA Closure Plan for the Site was submitted for approval to IEPA. The plan summarized the Site data concerning the probable distribution of subsurface EAF dust deposits, and described the physio-chemical processes which appeared to restrict transport of metals in ground water beneath the Site.

Because for reasons discussed earlier in this report (Section 2.2.1), there is no chemical analysis capable of identifying EAF dust, Ceco's initial Closure Plan provided for visual identification of EAF dust deposits during excavation and for physical separation and off-site RCRA disposal of all excavated material less than 0.25 inches in diameter.

The Closure Plan also included information which demonstrated that because of geochemical conditions present in the Site subsurface, transport of metals in the ground water as dissolved species was not possible. The presence of large amounts of alkaline slag and the calcium-magnesium carbonate which comprises the dolomitic limestone bedrock insure that any low pH water entering the subsurface would be immediately neutralized, and any dissolved metals present in such water would precipitate as insoluble carbonate complexes. These same permanently alkaline conditions will prevent any ground water moving through the subsurface from being capable of leaching metals from the Site materials because the requisite low pH conditions required for leaching to occur, cannot exist.

A series of IEPA comments on the Closure Plan were addressed by NUS in April 1985 and on June 13, 1985, the IEPA approved the Closure Plan with several conditions. Work on the closure began during July 1985.

On September 18, 1985, a Site inspection was conducted by representatives of Ceco, IEPA and NUS. Following that inspection, a Compliance Inquiry Letter was prepared by the IEPA which identified several concerns with respect to the implementation of the approved Closure Plan. At a November 29, 1985 meeting to discuss these issues, IEPA advised Ceco that the hazardous waste "mixture rule" would require that the mechanical waste separation process operate to insure that all traces of EAF dust be removed from the non-hazardous (*i.e.*, greater than 0.25 inches in diameter) portion of the excavated material before the non-hazardous material could be returned to the excavation as fill. On January 20, 1986, Ceco advised IEPA that it was physically impossible for the mechanical separation process to remove all traces of EAF dust from the non-hazardous portion of the admixed excavated material, and consequently Ceco would prepare an Amended Closure Plan, which would close the Site by placement of the excavated EAF

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dust and admixed non-hazardous solid materials in an on-site RCRA Closure Unit.

During the course of the above discussions, excavation continued in accordance with the IEPA approved closure plan. Excavation was completed in early January 1986, and produced approximately 32,000 cubic yards of solid material comprised of EAF dust (2,500 cubic yards) and admixed non-hazardous slag other materials (29,500 cubic yards).

2.2.4 March 1986 - Amendment to the Closure Plan

In March 1986, Ceco submitted an Amendment to Closure Plan which proposed to place the admixed EAF dust and non-hazardous co-excavated material in an on-site RCRA waste pile closure unit. The amended Closure Plan was approved by the IEPA on September 11, 1986 with certain conditions which required Ceco to perform additional investigation at the Site to insure that all EAF dust deposits had been located and excavated during the 1985 excavation. Ceco objected to that portion of the IEPA's Closure Plan approval which required a supplemental Site investigation, but did not object to any IEPA approval condition with respect to the proposed closure unit design. Accordingly, Ceco directed NUS to construct the Closure Unit. Construction of the RCRA Closure Unit was completed in accordance with the IEPA-approved design, on or about August 1, 1988.

2.2.5 1988 - 1993

Ceco pursued administrative remedies under Illinois law, to review IEPA's September 11, 1986 Closure Plan approval conditions concerning the supplemental Site investigation and certain aspects of the post-closure ground water monitoring plan. For the most part, Ceco was unsuccessful in its challenges.

2.2.6 1993 - Installation and Sampling of Ground Water Monitoring Well Network

In April, 1993, NUS installed five RCRA post-closure ground water monitoring wells at the Site. Two wells were installed hydraulically up-gradient and three wells were located hydraulically down-gradient. As required by applicable ground water monitoring regulations, the post-closure ground water monitoring wells were installed in the uppermost aquifer, which is partly within the upper portion of the bedrock unit. Quarterly ground water sampling rounds were conducted for the first three years since the wells were installed. The ground water sampling for the Closure Unit is now on a bi-annual schedule.

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The wells were sampled to establish background water quality levels in accordance with 35 ILL. ADM. Code, Part 725, Subpart F. Analyses of unfiltered ground water samples collected during successive calendar quarters since well installation demonstrate that concentrations of lead, cadmium and hexavalent chromium in the ground water are either below detection limits or detectable at extremely low concentrations. These results show that the ground water in the upper-most aquifer is not being significantly impacted by the Closure Unit.

In the fall of 1995, Robertson-Ceco hired Carlson Environmental, Inc. (CEI) to perform the RCRA post-closure ground water monitoring and the RFI activities.

2.2.7 May 1996 - RCRA Facility Investigation Phase I Report

In May 1996, CEI completed a RCRA Facility Investigation (RFI) Phase I Report. The investigation was designed to determine whether EAF dust deposits remained at the Site outside the Closure Unit and to determine the impact of the entire 25-acre site on human health and the environment.

During December 1995 and January 1996, CEI completed 28 soil borings, 24 on-site (SB-1 through SB-24 - Figure One) and 4 off-site (SB-25 through SB-28), to bedrock (depths from 3.5 to 18.5 feet below ground surface (bgs)). Samples at these locations were taken in accordance with the approved RFI Work Plan. Four surface perimeter samples (PS-01 through PS-04) and ten sediment samples (SS-01 through SS-10) were also collected. Soil borings were located according to the grid pattern specified in the approved RFI Work Plan (300 foot centers) and advanced to bedrock to characterize the soils at the Site as well as to collect samples for environmental analysis.

The Phase I RFI field activities confirmed that no additional EAF dust deposits remain on-site. All EAF dust is contained within the existing RCRA Closure Unit. Ground water monitoring done during the RFI, reports all metals of concern in ground water at below detection levels, despite the presence of substantial amounts of EAF dust on the Site for many years prior to RCRA, and despite very permeable subsurface conditions. These results are consistent with earlier ground water monitoring, and support NUS' conclusion that geochemical conditions in the subsurface and in ground water, primarily related to naturally alkaline pH and abundant carbonate and bicarbonate ions from the dolomite, will not allow metals to exist in solution. (See, January 1985 Final Closure Plan, §2.3.3.).

Of the metals analyzed from the soil/sediment materials, only lead was detected at

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several grid-intersect boring locations in concentrations that exceed the Tier I TACO value (400 mg/kg) for a construction worker for industrial / commercial use property. The average total lead concentrations in soils/sediments across the Site (578.54 mg/kg) is only slightly above the Tier I TACO value for commercial/industrial use. Lead in soils/sediments should also be evaluated in light of the fact that the highest background (off-site) lead concentration was 760 mg/kg, and that the Site is located in a heavily industrialized area with limited access. Further, given that the Site "soils" are in fact furnace slag, it is unlikely that the lead levels reported by the "total metals" analysis are even remotely related to the concentrations of lead which would be biologically or environmentally available from these materials. All metals present in the slag exist tightly bound in a fused vitreous substrate, and are digested (*i.e.*, become soluble) during the "total metals" analysis only under the extremely aggressive digestion conditions which that protocol employs.

2.3 Regional and Site Physiography

The present-day physiographic features in the Site area were formed approximately 20,000 years ago by glacial and fluvial actions which physically shaped the surrounding land. Glacial deposits almost completely mask the bedrock surface in the area (Willman, 1971). The Site, which is located in the Des Plaines River Valley, lies within the physiographic province known as the Central Lowlands, a broad, relatively low area that roughly outlines the glaciated area. The local relief in the Central Lowlands seldom exceeds a few hundred feet. For the most part, the Site is above the 100-year flood plain elevation of the Des Plaines River.

The Site is situated on a former flagstone quarry, which is located in the northeast portion of Will County, near the Will County/Cook County border in Lemont, Illinois.

Surface water from the Site discharges to the I&M Canal located immediately to the north. Precipitation at the Site infiltrates quickly through the highly permeable slag and discharges to the ground water system. A small, intermittent drainage ditch runs the length of the southern boundary of the Site. An intermittent drainage channel located on the west-central portion of the Site runs from south to north and discharges to both the I & M Canal and the drainage ditch to the south of the Site. Water that collects in the former slag processing area discharges to the I & M Canal through a drainage ditch.

There are no significant surface water bodies, streams or wetland areas located at the Site. Significant surface water features in the vicinity of the Site include the Des

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Plaines River, the Chicago Sanitary and Ship Canal, and the I&M Canal.

The climate is continental with cold winters and warm summers. Average daily temperature is 51.4°Fahrenheit (F). The highest average daily temperature is 81°F in August, and the lowest daily temperature is 20.3°F in December. Mean annual precipitation is 38 inches. The prevailing wind direction is easterly at a velocity of less than 13 miles per hour.

2.4 Site Geology

The geology in the vicinity of the Site is characterized by relatively flat-lying, dolomitic bedrock overlain by river alluvium within the river valley and glacial deposits which form the surficial materials outside the river.

Dolomitic (calcium magnesium carbonate) bedrock lying beneath the Site belongs to the Niagaran Series of the Silurian System, Joliet Formation and is 40 to 60 feet thick (Willman, 1971). The Site is within a former quarry where dolomite was removed for use as building stone. Approximately 10 feet of limestone was removed from the estimated original surface down to approximately an elevation of 580 feet above mean sea level (msl). The slag fill at the Site is located within the quarry pit. A bedrock sill, consisting of bedrock left in place, is present between the Site and the I & M Canal. The dolomite is characterized by a yellow-brown (buff) color, moderate fracture densities with vertical fractures ranging from one-half foot to several feet apart, and horizontal bedding fractures that produce a general flaggy nature to the near surface bedrock. Bedrock is also exposed along the I & M Canal, which forms the northern boundary of the Site. The surface of the Site is covered with a layer of fill consisting primarily of steel furnace slag, which is approximately 10 feet in thickness across the Site.

2.5 Site Hydrogeology

The Des Plaines River, Chicago Sanitary and Ship Canal, and I & M Canal all flow within the dolomitic bedrock in the vicinity of the Site.

The Des Plaines River drains to the Illinois River approximately 20 miles downstream from the Lemont area, and ultimately to the Mississippi River.

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Generally, the ground water beneath and in proximity to the Site flows northwest as depicted on Figure Three. This ground water flow direction agrees with the earlier findings of NUS.

Infiltration of precipitation at the Site is moderate to high given the relatively high permeability of the Site materials. The uppermost aquifer at the Site is a water table aquifer, which fluctuates seasonally from within the slag fill (*i.e.*, above the bedrock surface) to below the bedrock surface (NUS, 1994). Field data demonstrates that these units are hydraulically connected. Ground water flow in the bedrock is primarily through a fracture system. Most of the surface water that infiltrates the Site enters the ground water and discharges to the I & M Canal as base flow discharge. Ground water from beneath the Site that does not discharge to the I & M Canal discharges to the Chicago Sanitary and Ship Canal, which lies immediately north of the steel mill.

No drinking water sources exist downstream of the Site that take water from the I&M Canal. Similarly, no drinking water sources using ground water are located hydraulically down-gradient from the Site between the Site and the Chicago Sanitary and Ship Canal.

3.0 NATURE AND EXTENT OF CONTAMINATION

3.1 Identification and Description of Site Units

The approved Work Plan for the RFI Phase I activities divides the Site into three identifiable units: Existing RCRA Closure Unit, Previously Excavated Areas, and the Remaining Area.

3.1.1 Existing RCRA Closure Unit -Unit 1

This unit is located in the approximate center of the Site, along the southern border, with dimensions of 300 feet by 220 feet. The Closure Unit is surrounded by a locked chain-link fence. The Closure Unit contains 32,000 cubic yards of excavated materials (approximately 29,500 cubic yards of non-hazardous slag admixed with 2,500 cubic yards of EAF dust). Five post-closure monitoring wells, two hydraulically up-gradient and three hydraulically down-gradient, surround the Closure Unit. For a detailed description of the Closure Unit see NUS's Draft Work Plan for the Phase I Facility Investigation Appendices A and B, Volume 2 of 2 (NUS, 1994).

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3.1.2 Previously Excavated Areas-Unit 2

This unit includes the former 10,000 cubic yard principal EAF dust storage area as well as the remaining areas of the Site which were excavated down to the bedrock surface in 1985. The 32,000 cubic yards of excavation spoil from this unit were placed into the RCRA closure unit described in Section 3.1.1.

3.1.3 Remaining Area-Unit 3

Unit 3 is the remainder of the Site. Subsurface boring and trenching investigations conducted in 1983, 1984, 1985 and 1995/1996 did not identify any subsurface EAF dust deposits in this area. In general, the subsurface in this unit is characterized by slag deposits up to 16 feet in thickness on top of the quarried bedrock surface. For a detailed description of each of these investigations, refer to Section 2.2 and to previous NUS investigation reports (1983, 1984, 1985 and 1993).

3.2 Site Survey

In February 1996, Reiter & Associates surveyed the Site and adjacent rights of way as required under the approved RFI Work Plan.

A Plat of Survey constructed by Reiter & Associates was utilized as a base map to construct the Site maps included in the RCRA RFI Phase I Report and Figures Two and Three included in this Report.

3.3 Waste Characterization

3.3.1 EAF Dust

EAF dust is designated by USEPA as listed hazardous waste (K061). USEPA's designation was based upon the fact that EAF dust may contain the hazardous constituents lead, cadmium, and hexavalent chromium. 40 C.F.R. Part 261, App. VII. Physically, EAF dust is a very fine particulate, 70 percent of which, by weight, is less than 5 microns in diameter. Its chemical make-up is primarily iron oxide together with oxides of other metals of a degree and type dependent upon the alloying and associated non-ferrous metals present with the scrap steel which was being melted when the EAF dust was created (*e.g.*, lead may be present from a lead-acid automobile battery which

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was not removed from an automobile carcass before compacting).

3.3.2 Slag

Slag is a non-metallic alkaline by-product of electric arc steel making which contains residual fluxes and other materials (including some metals) fused under high temperature in a vitreous mass. Electric arc furnace slag is not a hazardous waste and in fact is commonly sized and sold for use as aggregate. Most slag present on the Site ranges in size from 100 sieve size to 1 to 2 inches in diameter with occasional pieces up to 6 inches or more in diameter. Larger masses of slag are irregularly shaped with jagged edges. The texture of even the finest slag particles is far more coarse than that of EAF dust. Assuming a uniform thickness of approximately 10 feet across the entire Site, approximately 460,000 cubic yards of slag are present at the Site.

3.3.3 Mill Scale

Mill scale is another non-hazardous by-product in the steel making process which is present at the Site. Mill scale is iron oxide (rust) which forms on and is removed from the surface of steel bars during the rolling process. Mill scale was periodically deposited at the Site. No records were maintained as to the quantity or locations of disposed mill scale.

4.0 SUPPLEMENTAL INVESTIGATION

4.1 Investigation and Classification of Fill Material

On August 28, 1997, CEI retained Rock and Soil Drilling Corporation to advance 2 soil borings, (SB-121 & SB-118) in the vicinity of soil borings SB-21 and SB-18, respectively, completed during the RFI Phase I Investigation. Samples at these locations were taken in accordance with the approved Supplemental RFI Work Plan and Agency letter dated August 7, 1997. Samples were collected from approximately 0-2 feet below ground surface (ft bgs) and 4-6 ft bgs at each location to characterize the material and aid in the classification of the 25-acre site (excluding the Closure Unit). A photograph log of the site activities is included as Attachment A.

4.1.1 Soil Boring Procedures

Soil borings were advanced with a Diedrich D-120 drill rig utilizing 4.25 inch inner

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diameter hollow-stemmed augers. The soil borings were continuously sampled using a standard 2 inch diameter by 24-inch long split-spoon sampler which was driven into the subsurface by a 140 pound hammer free-falling 30 inches. All drilling and sampling activities were performed in accordance with the American Society for Testing Materials (ASTM) and USEPA methods. Geologic materials were visually classified and recorded on boring logs (Attachment D) by a CEI Senior Geologist. In addition, an Illinois Licensed Professional Engineer, Kenneth W. James, oversaw all field activities.

4.1.2 Soil Sampling and Analytical Methods

The reader should recognize that references to "soil" in the context of the Site surface and subsurface in fact describe furnace slag because nearly the entire Site is comprised of furnace slag on a quarried bedrock surface. Little, if any, true "soil" exists.

After each sample was brought to the surface, the split-spoon sampler was opened and described by the CEI geologist. Following physical observation and description of the sample, a CEI staff scientist transferred the sample into laboratory-supplied new glass jars equipped with Teflon-lined lids. The samples were maintained at a temperature of approximately 4 degrees C in an insulated container. All samples were maintained under strict chain-of-custody procedures. All samples were submitted to Sima Labs International in Merrillville, Indiana for analysis.

Samples from each soil boring were assigned alphanumeric identification numbers based on the soil boring number, and the depth of collection. The shallowest sample was given the letter "A", the next "B", *etc.* (*e.g.*, SB-1A, SB-1B).

Two samples were submitted for laboratory analysis from each soil boring: SB-118A (0-2 ft bgs) & SB-118C (4-6 ft bgs), and SB-121A (0-2 ft bgs) & SB-121C (4-6 ft bgs). In addition, one quality assurance sample (FB-100), consisting of a clean silica sand, was submitted. Each of the five samples were prepared according to ASTM Method D3987-85 (*Standard Test Method for Shake Extraction of Solid Waste with Water*) as specified in 35 Illinois Administrative Code (IAC) 817.103. The leachate resulting from this procedure was then analyzed for the parameters identified in 35 IAC 817.106 in order to classify the fill material at the site.

4.1.3 Equipment Decontamination Procedures

After each soil boring, all down-hole drilling equipment was thoroughly cleaned using a high-pressure steam-cleaner. Between each sample collection, the split-spoon sampler

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was scrubbed in a soap solution (Alconox® and water) and triple-rinsed with deionized water to prevent cross-contamination.

4.1.4 Soil Sampling Results

A summary of the analytical results for the soil boring samples collected for the classification of the fill material is included in Tables One & Two of Attachment B. Table One illustrates the analytical results of the soil leachate for metals. Table Two summarizes the concentrations of the parameters used to represent the soil quality. Attachment E contains the laboratory analytical reports and sample chain-of-custody documentation.

Chromium and lead were the only parameters detected above the laboratory detection limits. However, the concentrations were low, and comparison of the concentrations to the Maximum Allowable Leaching Concentrations (MALCs) indicate that the fill material at the site may be classified as Beneficially Usable Wastes (BUW).

4.2 Investigation of Petroleum Odor/Sheen

4.2.1 Sampling and Analytical Methods

During the RFI Phase I activities in December 1995, CEI noted a petroleum odor and sheen on the soil-water immediately above the dolomite bedrock surface at SB-21. The observation was noted on the soil boring log, but a sample was not submitted for laboratory analysis of petroleum constituents.

Following the collection of soil samples for the classification of the fill material as described in Section 4.1, sampling at SB-121 was continued to bedrock depth (14 ft bgs). Sample collection procedures were identical to those described in Sections 4.1.1 and 4.1.2, except all soil samples were screened with an organic vapor analyzer (OVA). The OVA is an effective device for identifying areas where volatile organic compounds (e.g., oils, solvents, gasoline constituents, etc.) may exist. However, the OVA does not identify specific compounds or their concentrations. The OVA measurements for SB-121 are recorded on the soil boring log (Attachment D).

CEI noted the same visual and olfactory observations in SB-121 as in SB-21. Sample SB-121G (12-14 ft bgs), collected from just above the bedrock surface, was submitted to Sima Labs International for analysis of benzene, toluene, ethylbenzene, and xylenes

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(BTEX) using EPA Method 8260 and polynuclear aromatic hydrocarbons (PNAs) using EPA Method 8270. Upon completion of SB-121, a temporary well screen and casing was lowered into the open borehole to allow for the collection of soil water. Water samples were collected from the temporary well (TW-121) with a decontaminated stainless steel bailer and submitted for the same analysis as sample SB-121G.

4.2.2 Sample Results

A summary of the analytical results for the soil sample SB-121G is included in Tables Three & Four of Attachment B. Table Three illustrates the analytical results of the PNA concentrations in the soil. Table Four summarizes the BTEX concentrations.

A summary of the analytical results for the water sample TW-121 is included in Tables Five & Six. Table Five illustrates the analytical results of the water for PNAs. Table Six summarizes the BTEX concentrations. Attachment E contains the laboratory analytical reports and sample chain-of-custody documentation.

Concentrations of PNAs and BTEX were found above the laboratory detection limit, however, no individual compound was found to exceed the most stringent IEPA Tier cleanup objective for industrial/commercial properties or the Ground Water Quality Standards for Class I: Potablel Resource Ground Water.

4.3 Downgradient Ground Water Investigation

4.3.1 Ground Water Monitoring Well Installation

On August 28, 1997, following the completion of soil sampling at SB-118, CEI and Rock & Soil Drilling Corporation constructed ground water monitoring well MW-A in the vicinity of SB-118. The well was constructed to a depth of 24 ft bgs within the bedrock and screened from 19 feet to 24 ft bgs. A well completion diagram for MW-A is included in Attachment D. The well was developed with a purge pump and at least 3 borehole volumes of water were removed.

4.3.2 Ground Water Level Measurements/Flow Direction

On September 17, 1997, CEI surveyed MW-A and tied it into the existing ground water monitoring well network which was surveyed by Reiter & Associates in February, 1996. Ground water level measurements were collected from all on-site wells using an

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electronic sounding device which is accurate to the nearest hundredth of a foot. At each well, a Solinst® model 101 water level meter was lowered into the well until the meter sounded. At that point, the depth to water was measured from the north side of the inner casing and recorded (Table 10). This process was performed twice for each well to ensure accurate measurements. Fourteen of the 17 ground water wells located on-site, were used to determine the ground water flow direction. Monitoring wells E and I are damaged and unusable for data collection. Old Well-3 (OW-3) was not used because anomalously high water levels were measured. In fact, the water level in OW-3 was actually found to be above ground surface which indicates that the casing might be damaged.

Ground water flow directions were estimated from the water level data collected on September 17, 1997. A ground water elevation contour map is shown on Figure Three. The flow direction for the shallow ground water generally trends to the northwest, towards the I & M Canal, which compliments the flow direction determined by CEI in the RFI Phase I Report and previous investigations.

4.3.3 Ground Water Sampling and Analytical Methods

Ground water samples were collected from each of four downgradient monitoring wells (MW-A, MW-B, MW-C, and MW-D) using a low-flow ground water sampling technique described in the Supplemental RFI Work Plan. The monitoring wells were sampled on September 12, 1997. The purpose of the sampling was to evaluate the effect of the presence of the slag fill material on the ground water quality. All ground water samples were submitted to Sima Labs International (Sima Labs) for analysis of the parameters listed in 35 IAC 620.410 *Ground Water Quality Standards for Class I: Potable Resource Ground Water*. In addition to the four samples, a duplicate set of samples was collected from MW-C for QA/QC purposes. All ground water samples were analyzed in strict accordance with ASTM methods and the EPA's SW-846. The detection limits used were at least the standard concentrations listed in 35 IAC 620.410.

The well sampling procedures were as follows:

1.) The Solinst® model 101 electric water level meter probe was carefully lowered into the well to minimize disturbance of the water column. When the meter sounded, the static water level was measured from the north side of the inner well casing and recorded to 0.01 feet. This process was performed twice for each monitoring well for accuracy purposes.

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2.) The required length of Teflon tubing was calculated, measured and marked for attachment to a peristaltic pump, so that the intake was located at the mid-point of the saturated screen interval. A minimal length of tubing was used to minimize the temperature change from the collection point to the discharge point.

3.) Tubing was inserted slowly to the measured depth and secured to the well casing to minimize disturbance to the water column. The tubing was dedicated to each well, secured to the cap, and left inside the protective casing to minimize disturbance to the water column during subsequent sampling events.

4.) Monitoring instruments were calibrated and assembled, and the tubing was connected to a peristaltic pump and a flow-through chamber in which the instrument probes were located.

5.) The water level was measured and recorded on a data sheet and compared to the previous static water level.

6.) The pump was started at the minimum continuous flow rate attainable by the pump, between 0.02 to 0.05 liters per minute. Start times and flow times were recorded. The flow rate was adjusted to a rate that minimized drawdown in the well. A full round of measurements were recorded every five minutes, including time, temperature, specific conductance, pH, turbidity, dissolved oxygen and water level.

7.) All data and changes were recorded on the data sheets and flow rates were adjusted to provide for minimal drawdown. If drawdown increased significantly, the wells were pumped intermittently until parameters stabilized.

8.) Once field parameters stabilize, ground water samples were collected. The stabilization was defined by readings within a range of ten percent for three consecutive five minute intervals, or until three well volumes had been purged and turbidity levels below 20 NTUs were achieved.

9.) Once stabilization was achieved, the flow-through chamber was disconnected and the samples were collected directly from the tubing.

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10.) The samples were maintained at a temperature of approximately 4 degrees C in an insulated container containing ice. Upon completion of sampling, the collected samples were transferred to Sima Labs International for laboratory analysis. The samples were maintained under strict standard chain-of-custody procedures/documents.

4.3.4 Ground Water Results

Analytical results from the ground water samples are summarized in Tables Seven through Nine. The only inorganic parameters which exceeded the Ground Water Quality Standards were chloride and total dissolved solids (TDS). Chloride was slightly exceeded in MW-A while MW-C slightly exceeded the standard for both chloride and TDS. The organic analytical results show that concentrations of Di (2-ethylhexyl)phthalate exceeded the Ground Water Quality Standard for Class I General Resource Ground Water of 0.006 milligrams per liter (mg/L) in MW-A (0.073mg/L), MW-B (0.14mg/L), and MW-D (0.059mg/L). No other organic parameter was found in exceedance of the standards. MW-A also reported concentrations of p-dichlorobenzene and xylenes above the laboratory detection limit but far below the ground water standards. The laboratory reports are included in Attachment E along with the chain-of-custody documentation.

5.0 SUMMARY AND CONCLUSIONS

Classification of the fill material covering the 25-acre site (excluding the Closure Unit) was completed during the Supplemental RCRA Facility Investigation Phase I. Four soil samples, collected at SB-118 and SB-121, and a field blank were subjected to ASTM Method D3987-85 as specified in 35 IAC 817.108, and the extracted leachate analyzed for the parameters identified in 35 IAC 817.106. Comparison of the resulting concentrations to the Maximun Allowable Leaching Concentrations (MALCs) indicate that the fill material may be classified as Benificially Usable Wastes (BUW).

Investigation of the petroleum odor/sheen identified in former soil boring SB-21 was completed by emplacing new soil boing, SB-121, in the vicinity of SB-21. A soil sample from directly above the bedrock (SB-121G (12-14 ft bgs)) and a soil-water sample were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) and polynuclear aromatic hydrocarbons (PNAs). The results show that BTEX and PNA compounds were detected above laboratory detection limits, however, no individual

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compounds were elevated beyond the listed objectives.

Ground water monitoring well OW-2 is located directly downgradient from SB-21/SB-121 as shown in Figure Three. On November 7, 1996, a ground water sample from OW-2 was submitted to Fitzimmons & Associates, Inc. for petroleum characteristics. The result of the analysis show that no petroleum-based fuel constituents were detected in the ground water directly downgradient from SB-21(Attachment F).

Ground water from newly installed ground water monitoring well MW-A and existing wells MW-B, MW-C, and MW-D were sampled and analyzed for the parameters listed in 35 IAC 620.410 *Ground Water Quality Standards for Class I: Potable Resource Ground Water*. The only inorganic parameters which exceeded the Ground Water Quality Standards were chloride and total dissolved solids (TDS). Chloride was slightly exceeded in MW-A while MW-C slightly exceeded the standard for both chloride and TDS. The organic analytical results show that concentrations of Di (2-ethylhexyl)phthalate exceeded the Ground Water Quality Standard for Class I Potable Resource Ground Water of 0.006 milligrams per liter (mg/L) in MW-A (0.073mg/L), MW-B (0.14mg/L), and MW-D (0.059mg/L). No other organic parameter was found in exceedance of the standards.

Di(2-ethylhexyl)phthalate is a common laboratory contaminant encountered in environmental testing laboratories during the analysis of semi-volatile compounds. CEI contacted Sima Labs and was informed that the concentrations detected were well within the ranges attributed to laboratory contamination.

All four wells (MW-A, MW-B, MW-C, MW-D) are located downgradient along the northern portion of the site as shown in Figure Three. The result of the ground water sampling in this investigation show that the presence of the slag fill material has not affected the quality of the ground water at the subject site. All certification forms for this investigation are included in Attachment G.

CEI recommends that the fill material across the 25-acres of the site(excluding the Closure Unit) be classified as Beneficially Usable Waste and that the site owner, Robertson-Ceco Corporation, need only continue with the Post-Closure ground water monitoring within the Closure Unit. No further investigation is necessary.

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6.0 REFERENCES

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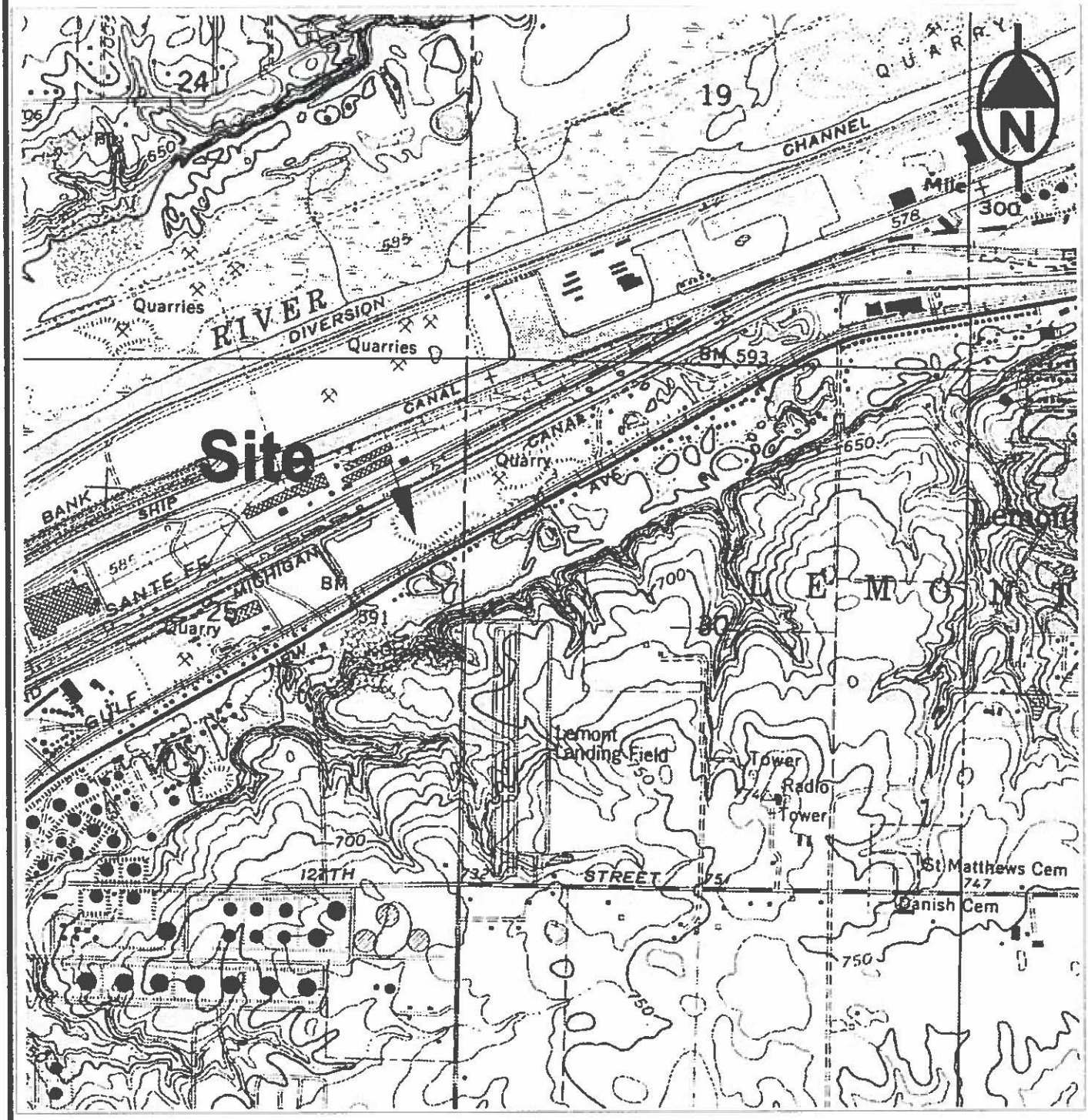
ATTACHMENT A
Figures



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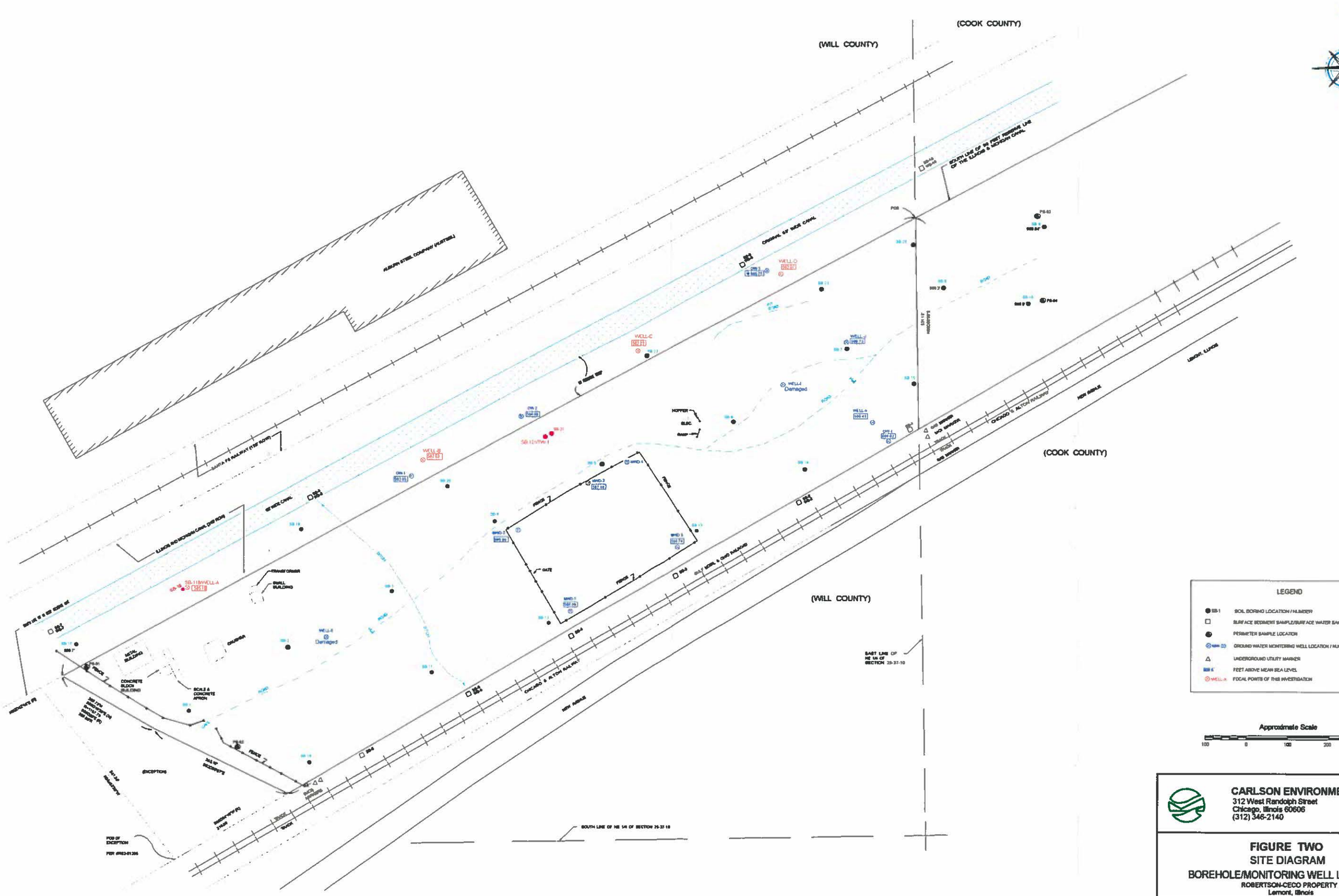
(miles)

CARLSON ENVIRONMENTAL, INC.
312 West Randolph Street
Chicago, Illinois 60606
(312) 346-2140

PROJECT NO	9440A	
DRAWN BY		DATE
CHECKED BY		DATE
REVISION 1		DATE
REVISION 2		DATE

FIGURE ONE
SITE MAP
Robertson-Ceco
Lemont, Illinois

Drawing No.
1 of 3


N
(COOK COUNTY)
(WILL COUNTY)
AUBURN STEEL COMPANY (ABATED)
SANTA FE RAILWAY (TSE SOUTH)
CENTERLINE OF SIDE CANAL
SOUTH LINE OF 50 FEET RESERVE LINE OF THE ILLINOIS & MICHIGAN CANAL
LINCOLN HIGHWAY
CHICAGO & ALTON RAILWAY
NEW AMSLE
LEMONT, ILLINOIS
(COOK COUNTY)
(WILL COUNTY)
EAST LINE OF NE 1/4 OF SECTION 25-37-10
SOUTH LINE OF NE 1/4 OF SECTION 25-37-10
SB-11/MW11-A
WELL-A Damaged
WELL-B Damaged
WELL-C
WELL-D
WELL-E
WELL-F
WELL-G
WELL-H Damaged
WELL-I Damaged
MW-1
MW-2
MW-3
SB-1
SB-2
SB-3
SB-4
SB-5
SB-6
SB-7
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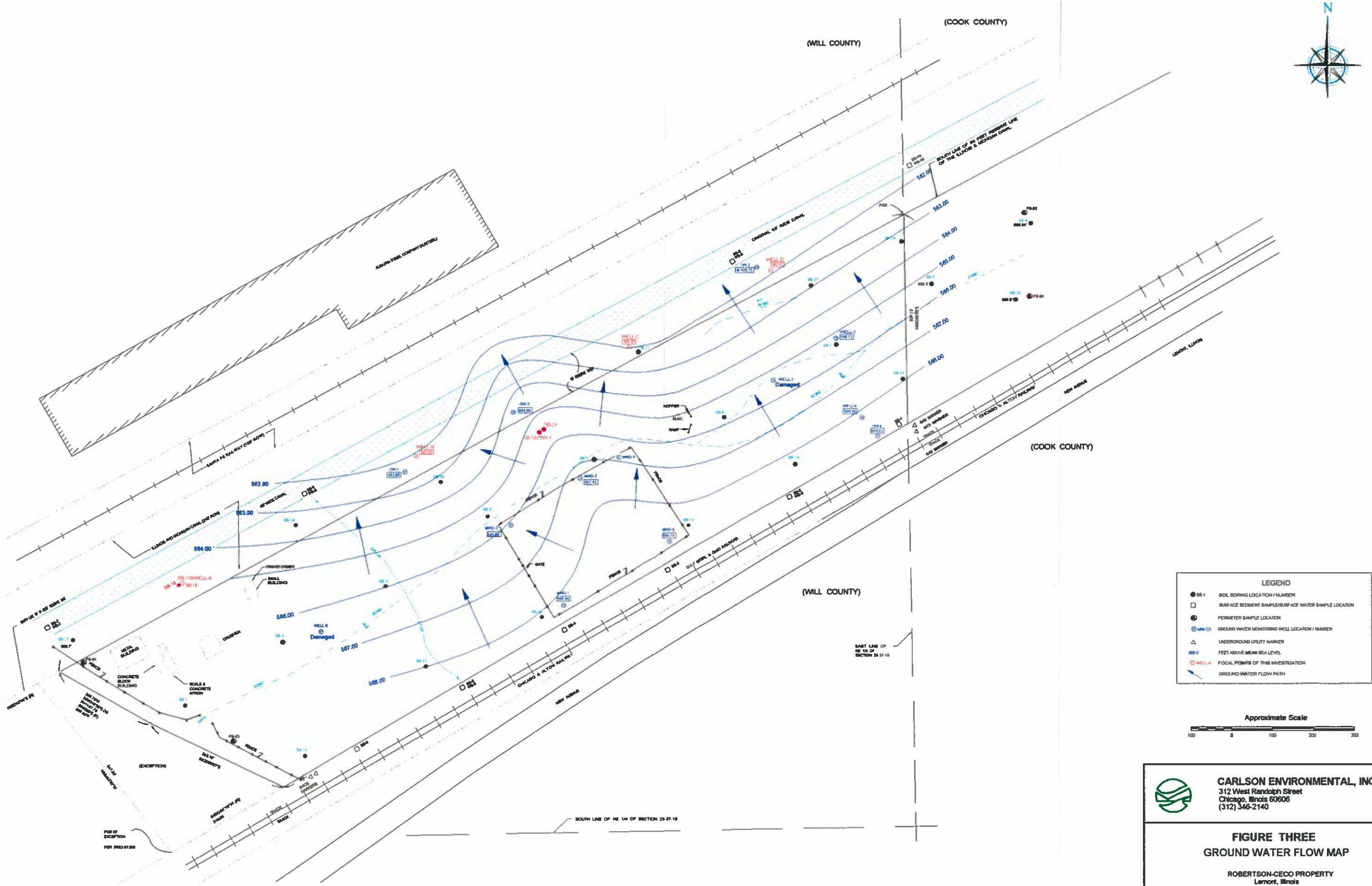

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ATTACHMENT B
Tables

Table One

Summary of Neutral Leachate Metals

Analytical Results

Robertson - Ceco Corporation

Lemont, Illinois

August 28, 1997

Analyte	Sample #	SB-118A	SB-118C	SB-121A	SB-121C	Field Blank	MALCs[1]		
	Depth (ft bgs)	0-2	4-6	0-2	4-6		BUW[2]	PUW[3]	LRW[4]
Arsenic		*ND*	*ND*	*ND*	*ND*	*ND*	0.05	0.1	0.25
Barium		*ND*	*ND*	*ND*	*ND*	*ND*	2	2	5
Cadmium		*ND*	*ND*	*ND*	*ND*	*ND*	0.005	0.01	0.05
Chromium		*ND*	*ND*	*ND*	0.16	*ND*	0.1	0.2	0.25
Copper		*ND*	*ND*	*ND*	*ND*	*ND*	5	5	10
Iron		*ND*	*ND*	*ND*	*ND*	*ND*	5	5	15
Lead		*ND*	0.004	*ND*	0.0083	*ND*	0.0075	0.1	0.25
Manganese		*ND*	*ND*	*ND*	*ND*	*ND*	0.15	0.75	3.75
Selenium		*ND*	*ND*	*ND*	*ND*	*ND*	0.05	0.05	0.25
Zinc		*ND*	*ND*	*ND*	*ND*	*ND*	5	10	50

ND - Not detected above laboratory quantitation limits

All concentrations are expressed in parts per million (ppm) or millgrams per liter (mg/L).

[1] = Maximum Allowable Leaching Concentration

[2] = Beneficially Usable Wastes

[3] = Potentially Usable Wastes

[4]= Low Risk Wastes

Table Two

Summary of Neutral Leachate Soil Quality

Analytical Results

Robertson - Ceco Corporation

Lemont, Illinois

August 28, 1997

Analyte	Sample #	SB-118A	SB-118C	SB-121A	SB-121C	Field Blank	MALCs[1]		
	Depth (ft bgs)	0-2	4-6	0-2	4-6		BUW[2]	PUW[3]	LRW[4]
Chloride		2.2	3	1.5	1	0.75	250	250	500
Fluoride		0.407	0.111	0.548	0.248	0.06	4	4	20
Nitrate		0.132	*ND*	*ND*	0.624	*ND*	10	20	30
Sulfate		9.67	69.7	17.2	5.59	*ND*	400	400	800
Total Disolved Solids (TDS)		79	150	86	660	21	1200	1200	3500

ND - Not detected above laboratory quantitation limits

All concentrations are expressed in parts per million (ppm) or milligrams per liter (mg/L).

[1] = Maximum Allowable Leaching Concentration

[2] = Beneficially Usable Wastes

[3] = Potentially Usable Wastes

[4]= Low Risk Wastes

Table Three

Summary of PNA Analytical Results - Soil

Robertson - Ceco

Lemont, Illinois

August 28, 1997

Sample Number	Sample Depth (ft)	Analyte															
		Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Napthalene	Phenanthrene	Pyrene
SB-121G	12-14	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
Cleanup Objectives*		570	*NE*	12000	2	0.8	5	*NE*	49	160	0.8	4300	560	8	84	*NE*	4200

ND - Not detected above laboratory quantitation limits

NE - Cleanup objective not established

* - Indicates the most stringent Tier 1 Cleanup Objectives for IEPA TACO Industrial/Commercial properties.

All concentrations are expressed in parts per million (ppm) or millgrams per kilograms (mg/kg).

Table Four

Summary of BTEX Analytical Results - Soil

Robertson - Ceco

Lemont, Illinois

August 28, 1997

Sample Number	Sample Depth (ft)	Analyte			
		Benzene	Toluene	Ethylbenzene	Xylene
SB-121G	12-14	0.0047	0.0024	0.0018	0.0086
Cleanup Objectives*		0.03	12	13	150

* - Indicates the most stringent Tier 1 Cleanup Objectives for IEPA TACO Industrial/Commercial properties.

All concentrations are expressed in millgrams per kilograms (mg/kg) or parts per million (ppm).

Table Five

Summary of PNA Analytical Results - Water

Robertson - Ceco

Lemont, Illinois

August 28, 1997

Sample Number	Screen Depth (ft)	Analyte															
		Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Napthalene	Phenanthrene	Pyrene
TW-121	9-14	0.006	*ND*	0.0023	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	0.0042	*ND*	*ND*	*ND*	*ND*
Cleanup Objectives*		0.42	*NE*	2.1	0.00013	0.0002	0.00018	*NE*	0.00017	0.0015	0.0003	0.28	0.28	0.00043	0.025	*NE*	0.21

ND - Not detected above laboratory quantitation limits

NE - Cleanup objective not established

* - Indicates the most stringent Tier 1 Cleanup Objectives for IEPA TACO Industrial/Commercial properties.

All concentrations are expressed in parts per million (ppm) or milligrams per kilograms (mg/kg).

Table Six

Summary of BTEX Analytical Results - Water

Robertson - Ceco

Lemont, Illinois

August 28, 1997

Sample Number	Screen Depth (ft)	Analyte			
		Benzene	Toluene	Ethylbenzene	Xylene
TW-121	'9-14	*ND*	*ND*	*ND*	*ND*
Cleanup Objectives*		0.005	1.0	0.7	10.0

ND - Not detected above laboratory quantitation limits

* - Indicates the most stringent Tier 1 Cleanup Objectives for IEPA TACO Industrial/Commercial properties, which is equal to the standards for Class I: Potable Resource Ground Water.

All concentrations are expressed in millgrams per liter (mg/L) or parts per million (ppm).

Table Seven

Summary of Inorganic Analytical Results - Ground Water

Robertson-Ceco Corporation

Lemont, Illinois

September 12, 1997

Analyte	Ground Water Standard*	Well Number				
		MW-A	MW-B	MW-C	MW-C Dup	MW-D
Antimony	0.006	*ND*	*ND*	*ND*	*ND*	*ND*
Arsenic	0.05	*ND*	*ND*	*ND*	*ND*	*ND*
Barium	2	0.058	0.0057	0.022	0.022	0.0095
Beryllium	0.004	*ND*	*ND*	*ND*	*ND*	*ND*
Boron	2	0.19	0.28	0.28	0.25	0.42
Cadmium	0.005	*ND*	*ND*	*ND*	0.0001	*ND*
Chromium	0.1	0.0037	0.0059	0.0056	0.0053	0.0078
Cobalt	1	*ND*	*ND*	*ND*	*ND*	*ND*
Copper	0.65	*ND*	*ND*	*ND*	*ND*	*ND*
Iron	5	0.023	0.26	0.36	0.33	0.016
Lead	0.0075	*ND*	*ND*	*ND*	*ND*	*ND*
Manganese	0.15	0.064	0.012	0.008	0.0071	*ND*
Mercury	0.002	0.00012	*ND*	*ND*	0.00012	*ND*
Nickel	0.1	*ND*	*ND*	0.022	0.019	*ND*
Selenium	0.05	0.0023	*ND*	*ND*	*ND*	*ND*
Silver	0.05	*ND*	*ND*	*ND*	*ND*	*ND*
Thallium	0.002	0.0015	*ND*	*ND*	*ND*	*ND*
Zinc	5	0.11	0.062	0.045	0.025	0.1

* = Ground Water Quality Standards for Class I: Potable Resource Ground Water

All concentrations expressed in milligrams per liter (mg/L) or parts per million (ppm).

ND = not detected above laboratory detection limits

Table Eight

Summary of Other Inorganic Analytical Results - Ground Water

Robertson-Ceco Corporation

Lemont, Illinois

September 12, 1997

Analyte	Ground Water Standard*	Well Number				
		MW-A	MW-B	MW-C	MW-C Dup	MW-D
Chloride	200	**240**	25	**280**	**290**	4.5
Cyanide	0.2	ND	ND	ND	ND	0.00222
Fluoride	4	0.144	0.255	0.291	0.279	0.273
Nitrate as N	10	ND	ND	0.289	ND	0.145
pH	6.5-9.0	7.7	7	7.2	7.2	7.3
Sulfate	400	79.4	284	342	348	325
Total Dissolved Solids	1,200	730	1,100	**1,400**	**1,500**	970

* = Ground Water Quality Standards for Class I: Potable Resource Ground Water

All concentrations expressed in milligrams per liter (mg/L) or parts per million (ppm).

ND = not detected above laboratory detection limits

Shaded areas and bolded numbers indicate concentration exceeds the standard.

Table Nine

Summary of Organic Analytical Results - Ground Water

Robertson-Ceco Corporation

Lemont, Illinois

September 12, 1997

Analyte	Ground Water Standard*	Well Number				
		MW-A	MW-B	MW-C	MW-C Dup	MW-D
Alachlor	0.002	*ND*	*ND*	*ND*	*ND*	*ND*
Aldicarb	0.003	*ND*	*ND*	*ND*	*ND*	*ND*
Atrazine	0.003	*ND*	*ND*	*ND*	*ND*	*ND*
Benzo(a)pyrene	0.0002	*ND*	*ND*	*ND*	*ND*	*ND*
Benzene	0.005	*ND*	*ND*	*ND*	*ND*	*ND*
Carbofuran	0.04	*ND*	*ND*	*ND*	*ND*	*ND*
Carbon tetrachloride	0.005	*ND*	*ND*	*ND*	*ND*	*ND*
Chlordane	0.002	*ND*	*ND*	*ND*	*ND*	*ND*
Dalapon	0.2	*ND*	*ND*	*ND*	*ND*	*ND*
Dichloromethane	0.005	*ND*	*ND*	*ND*	*ND*	*ND*
Di(2-ethylhexyl)phthalate[1]	0.006	**0.073**	**0.14**	0.0011	*ND*	**0.059**
Dinoseb	0.007	*ND*	*ND*	*ND*	*ND*	*ND*
Endothall	0.1	*ND*	*ND*	*ND*	*ND*	*ND*
Endrin	0.002	*ND*	*ND*	*ND*	*ND*	*ND*
Ethyl dibromide	0.00005	*ND*	*ND*	*ND*	*ND*	*ND*
Heptachlor	0.0004	*ND*	*ND*	*ND*	*ND*	*ND*
Heptochlor Epoxide	0.0002	*ND*	*ND*	*ND*	*ND*	*ND*
Hexachlorocyclopentadiene	0.05	*ND*	*ND*	*ND*	*ND*	*ND*
Lindane (cyclohexane)	0.0002	*ND*	*ND*	*ND*	*ND*	*ND*
2,4-D	0.07	*ND*	*ND*	*ND*	*ND*	*ND*
o-dichlorobenzene	0.6	*ND*	*ND*	*ND*	*ND*	*ND*
p-dichlorobenzene	0.075	0.0002	*ND*	*ND*	*ND*	*ND*
1,2-dibromo-3-chloropropane	0.002	*ND*	*ND*	*ND*	*ND*	*ND*
1,2-dichloroethane	0.005	*ND*	*ND*	*ND*	*ND*	*ND*
1,1-dichloroethylene	0.007	*ND*	*ND*	*ND*	*ND*	*ND*
cis-1,2-dichloroethylene	0.07	*ND*	*ND*	*ND*	*ND*	*ND*
trans-1,2-dichloroethylene	0.1	*ND*	*ND*	*ND*	*ND*	*ND*
1,2-dichloropropane	0.005	*ND*	*ND*	*ND*	*ND*	*ND*
Ethylbenzene	0.7	*ND*	*ND*	*ND*	*ND*	*ND*
Methoxychlor	0.04	*ND*	*ND*	*ND*	*ND*	*ND*
Monochlorobenzene	0.1	*ND*	*ND*	*ND*	*ND*	*ND*
Pentachlorophenol	0.001	*ND*	*ND*	*ND*	*ND*	*ND*
Phenols	0.1	*ND*	*ND*	*ND*	*ND*	*ND*
Picloram	0.5	*ND*	*ND*	*ND*	*ND*	*ND*
PCB's as Decachlorobiphenyl	0.005	*ND*	*ND*	*ND*	*ND*	*ND*

* = Ground Water Quality Standards for Class I: Potable Resource Ground Water.

[1] = common laboratory contaminant. Concentrations detected are within the ranges attributed to laboratory contamination.

ND - Not detected above laboratory quantitation limits

All concentrations are expressed in parts per million (ppm) or millgrams per liter (mg/L).

Shaded areas and bolded numbers indicate concentration exceeds the standard.

Table Nine (continued)

Summary of Organic Analytical Results - Ground Water

Robertson-Ceco Corporation

Lemont, Illinois

September 12, 1997

Analyte	Ground Water Standard*	Well Number				
		MW-A	MW-B	MW-C	MW-C Dup	MW-D
Simazine	0.004	*ND*	*ND*	*ND*	*ND*	*ND*
Styrene	0.1	*ND*	*ND*	*ND*	*ND*	*ND*
2,4,5-TP (Silvex)	0.05	*ND*	*ND*	*ND*	*ND*	*ND*
Tetrachloroethylene	0.005	*ND*	*ND*	*ND*	*ND*	*ND*
Toluene	1	*ND*	*ND*	*ND*	*ND*	*ND*
Toxaphene	0.003	*ND*	*ND*	*ND*	*ND*	*ND*
1,1,1-trichloroethane	0.2	*ND*	*ND*	*ND*	*ND*	*ND*
1,1,2-trichloroethane	0.005	*ND*	*ND*	*ND*	*ND*	*ND*
1,2,4-trichlorobenzene	0.07	*ND*	*ND*	*ND*	*ND*	*ND*
Trichloroethylene	0.005	*ND*	*ND*	*ND*	*ND*	*ND*
Vinyl chloride	0.002	*ND*	*ND*	*ND*	*ND*	*ND*
Xylenes	10	0.0001	*ND*	*ND*	*ND*	*ND*

* = Ground Water Quality Standards for Class I: Potable Resource Ground Water

[1] = common laboratory contaminant. Concentrations detected are within the ranges attributed to laboratory contamination.

ND - Not detected above laboratory quantitation limits

All concentrations are expressed in parts per million (ppm) or millgrams per liter (mg/L).

Shaded areas and bolded numbers indicate concentration exceeds the standard.

Table Ten
Ground Water Elevation Data
Robertson-Ceco Corporation
Lemont, Illinois

Well Number	TOC MPE (ft)	9/17/97	
		Depth to Water (ft btoc)	Ground Water Elevation (ft)
OW-1	596.42	12.77	583.65
OW-2	591.74	7.06	584.68
OW-3	592.01	2.26	589.75
OW-4	592.53	3.50	589.03
A	596.36	11.26	585.10
B	593.56	11.53	582.03
C	593.76	11.73	582.03
D	588.79	6.72	582.07
J	600.34	13.61	586.73
K	600.64	12.15	588.49
MW-D1	600.56	12.47	588.09
MW-D2	601.04	15.06	585.98
MW-D3	601.27	13.79	587.48
MW-D4	601.89	-	-
MW-D5	602.77	14.03	588.74

ft btoc = Feet Below Top Of Casing
TOC = Top Of Casing
MPE = Measuring Point Elevation
- = Water level unable to be measured

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ATTACHMENT C
Photographic Log

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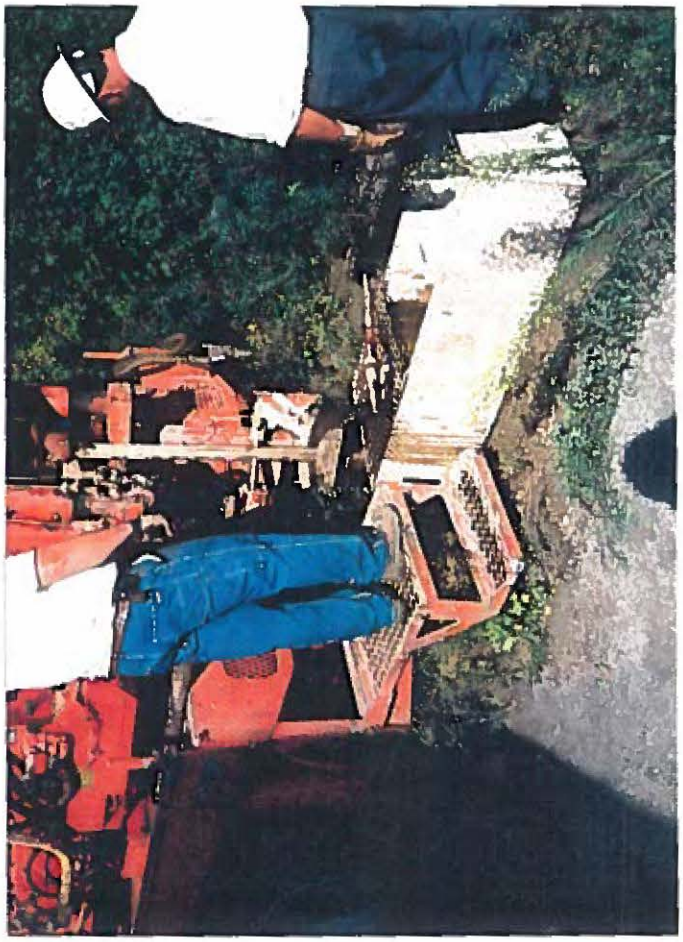
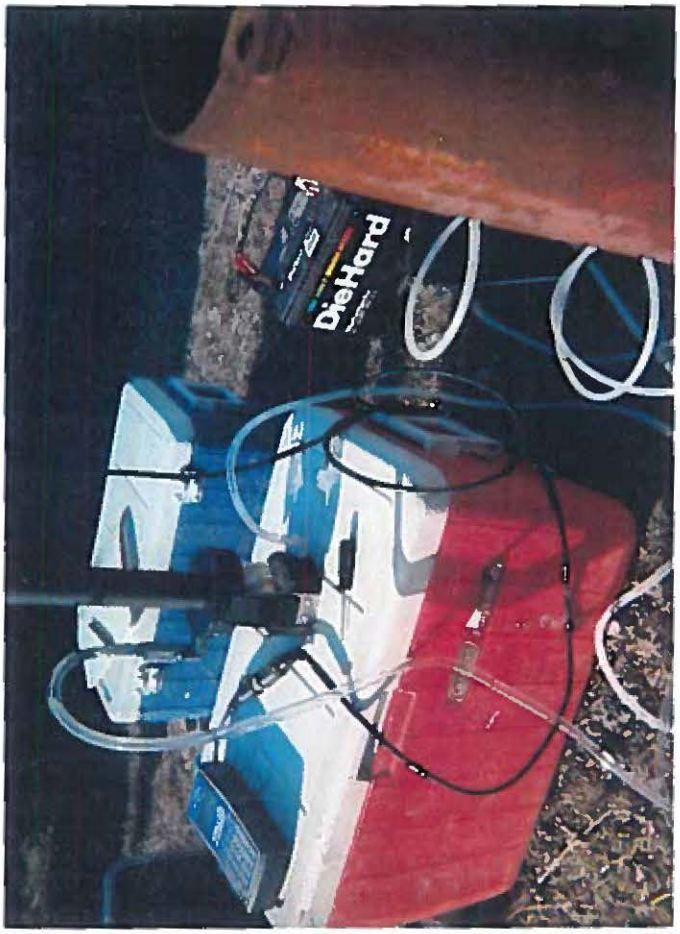
Photograph Descriptions
Robertson-Ceco
Lemont, Illinois

Photograph 1.	Installing Monitoring Well MW-A in the vicinity of SB-18
Photograph 2.	Installing Monitoring Well MW-A in the vicinity of SB-18
Photograph 3.	Setting up for ground water monitoring/sampling
Photograph 4.	The flow-through cell used to monitor the ground water parameter stability



Photograph 2



Photograph 4

Photograph 1

Photograph 3

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ATTACHMENT D

Soil Boring Logs/Monitoring Well Diagram

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Carlson Environmental, Inc.
312 West Randolph Street
Suite 300
Chicago, IL 60606
Phone (312) 346-2140 Fax (312) 346-6959

Log of Well SB-118/MW-A
Robertson-Ceco Corporation

Lemont, Illinois

Sheet 1 of 1

Job Number: 9440A

Elevation:

Driller: Rock & Soil Drilling Corp.

Date/Time Started: 08/26/97 0900

Drill Method: Giedrich D-120 / Hollow Stem Auger

Date/Time Completed: 08/28/97 0930

Sample Method: Split Spoon

Depth to Water: NA ft. BGS

Depth to Rock: 6 ft. BGS

Borehole Diameter: 8" in.

Total Depth: 6 ft. BGS

Logged By: BAS

Checked By: PAH

Sample No.	Sample Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
SB-118A	0-2	12"	8,8 10,14	1		Gray **SLAG**, moist, silt to fine gravel size	
				2		Brown **CLAYEY SILT (ML)**, moist, trace fine gravel, organics, slag	
SB-118B	2-4	18"	8,14 10,16	3		Gray **WEATHERED LIMESTONE**, fractured, fine to coarse gravel size	
				4		Brown **CLAYEY SILT (ML)**, moist, trace fine gravel	
SB-118C	4-6	14"	10,14 14,20	5		Gray **WEATHERED DOLOMITE**, fractured, coarse gravel size	
				6		Dolomite bedrock at 6 ft bgs	
				7			
				8			
				9			
				10			
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

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WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
Robertson-Ceco Corporation	9440A	MWA

SITE	COORDINATES	GROUND SURFACE ELEVATION	CASING STICKUP
Lemont, Illinois			2.0

Soil Boring Cross-Reference SB-118/MWA
Town and City Lemont, Illinois
County and State Cook, Illinois

Installation Date (s) 09/28/97

Drilling Method Hollow Stemmed Augers
Drilling Contractor Rock & Soil Drilling Corp.
Drilling Fluid None

Development Technique (s) / Dates
Removed approximately 100-gallons on 09/29/97 using a purge pump.

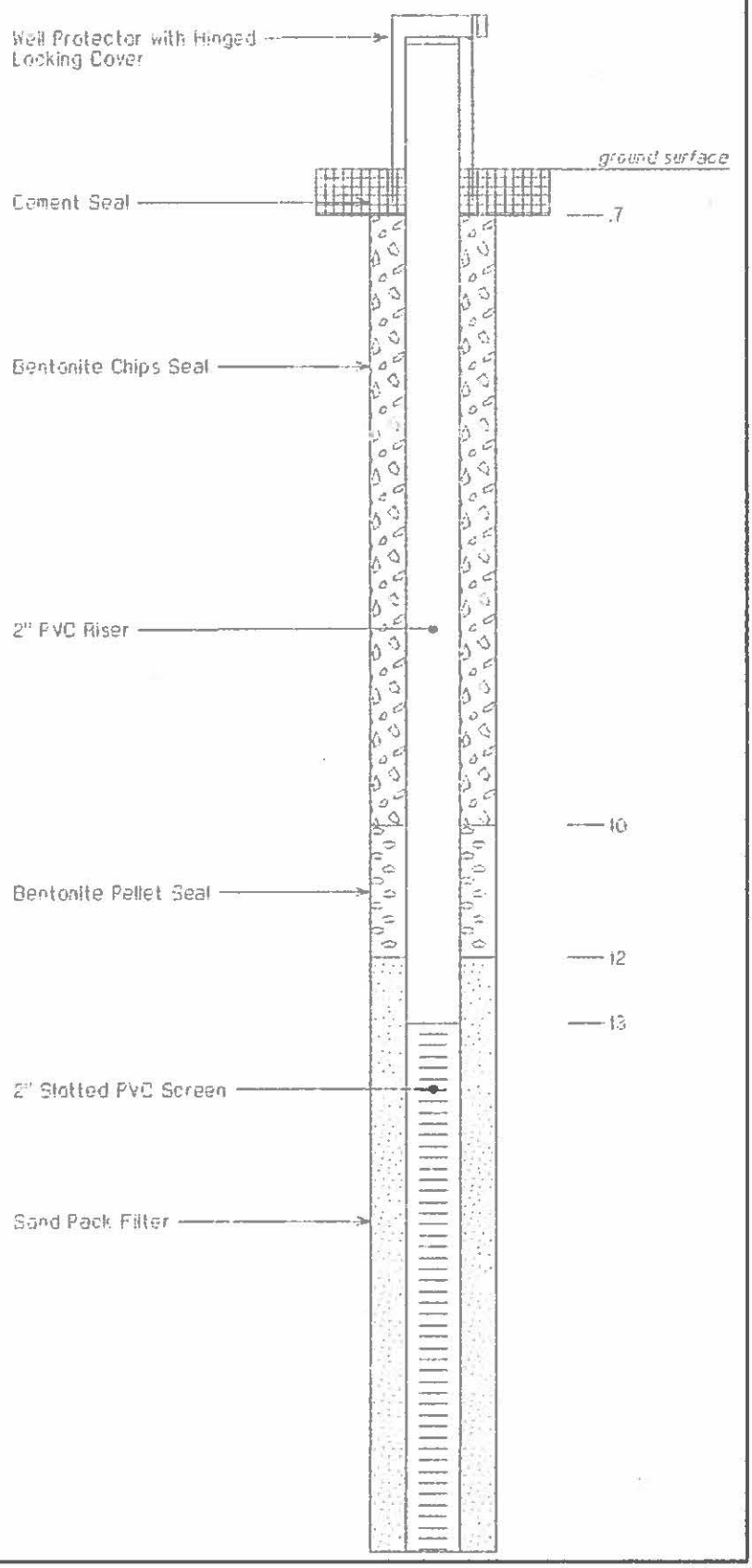
Fluid Loss During Drilling (gals) None
Water Removed During Development (gals)
100-gallons - 09/12/97

Static Depth to Water Date 09/12/97
Static Depth to Water (feet) 11.26

Well Purpose Monitoring ground water.

Remarks The static water level was measured from the north side of the well casing.
Casing elevation = 596.56

Prepared By BAS
Date Prepared 10/20/97



Carlson Environmental, Inc.

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Carlson Environmental, Inc.
312 West Randolph Street
Suite 300
Chicago, IL 60606
Phone (312) 346-2140 Fax (312) 346-6950

Log of Boring SB-121

Robertson-Ceco Corporation
New Avenue
Lemont, Illinois

Sheet 1 of 1
Job Number: 9440A
Elevation: NA

Driller: Rock & Soil Drilling Corp.
Date/Time Started: 08/28/97 0900
Drill Method: Hollow Stemmed Augers
Date/Time Completed: 08/28/97 0930
Sample Method: 2-Inch Diameter Split-Spoon
Depth to Water: 12.5 ft. BGS
Depth to Rock: 14 ft. BGS
Borehole Diameter: 8 in.
Total Depth: 14 ft. BGS
Logged By: BAS
Checked By: PAH

Sample No.	Interval (feet)	Recovery (in) OVA (units)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
SB-121A	0-2	9" 1	12,14 8,14	1		Gray **SLAG**, moist, silt to coarse gravel size	
SB-121B	2-4	12" 1.5	8,10 10,9	3		Dark brown **CLAYEY SILT (ML)**, moist, some slag and fine gravel	
SB-121C	4-6	14" 1.5	10,8 9,11	5			
SB-121D	6-8	12" 3.5	5,6 8,10	7		Brown **SANDY GRAVEL (GP)**, sand is poorly sorted, fine to coarse, gravel is fine to coarse, trace shale	
SB-121E	8-10	18" 8	8,6 8,10	9		Black **SILTY CLAY (CL)**, moist, soft, trace coarse limestone	
				10		White/gray **WEATHERED DOLOMITE**, fractured	Petroleum odor detected
SB-121F	10-12	18" 44	12,8 6,8	11		Black **CLAY (OL)**, moist, stiff, green streaks, some organics	
				12			Petroleum odor detected
SB-121G	12-14	14" 34	8,12 18,30	13		White/gray **WEATHERED DOLOMITE**, fractured, saturated	Sheen on the soil-water
				14		Dolomite bedrock at 14 feet bgs	
				15			
				16			
				17			
				18			
				19			
				20			

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ATTACHMENT E
Laboratory Analytical Reports

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

September 16, 1997

Bruce Shabino
Carlson Environmental, Inc.
312 W. Randolph Street

Chicago, IL 60606

RE: 9440A / CECO **Work Order : 9708204**

Dear Bruce Shabino,

Enclosed are the results for the 7 samples we received on August 29, 1997 for the analyses presented in the following report.

All Quality Control associated with these samples will be kept on file for your convenience for five years. After such time it will be disposed if we are not otherwise notified.

It has been a pleasure serving you and, if you have any questions concerning these results, please do not hesitate to contact us.

Respectfully submitted,
SIMALABS International

Carla E. Svetich
Project Manager

Enclosures

Electronic Filing: Received, Clerk's Office 07/19/2024

SHMALABS International

Date: *Tuesday, September 16, 199*

Client Carlson Environmental, Inc.
Project 9440A / CECO
Work Order 9708204
Date Received 08/29/97

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Client Description	Collection Date
9708204-01A	SB-118A	Soil 0-2'	08/28/97
9708204-02A	SB-118C	Soil 4-6'	08/28/97
9708204-03A	SB-121A	Soil 0-2'	08/28/97
9708204-04A	SB-121C	Soil 4-6'	08/28/97
9708204-05A	FB-100	Field Blank	08/28/97
9708204-06A	TW-121	Temp. Well	08/28/97
9708204-06B	TW-121	Temp. Well	08/28/97
9708204-07A	SB-121G	Soil - 12-14'	08/28/97
9708204-07B	SB-121G	Soil - 12-14'	08/28/97

Electronic Filing, Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: *Tuesday, September 16, 199*

Client	Carlson Environmental, Inc.	*Client Project*	9440A / CECO
		Work Order	9708204
Client Sample ID	SB-118A	*SIMALABS ID*	9708204-01A
Sample Description	Soil 0-2'		
Sample Matrix	Soil		
Collection Date	08/28/97		
Date Received	08/29/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
NEUTRAL LEACHATE FOR AS		Method: SW7060A		Prep Date:			Analyst: DRJ
Arsenic	A	ND	0.05		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR CD		Method: SW7131		Prep Date:			Analyst: DRJ
Cadmium	A	ND	0.005		mg/L	1	09/10/97
NEUTRAL LEACHATE FOR CHLORIDES		Method: E325.3		Prep Date:			Analyst: JLB
Chloride	A	2.2	1		mg/L	1	09/10/97
NEUTRAL LEACHATE FOR FLUORIDE		Method: E340.2		Prep Date:			Analyst: JEK
Fluoride	A	0.407	0.1		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR METALS		Method: SW6010A		Prep Date:			Analyst: DRJ
Barium	A	ND	2		mg/L	1	09/09/97
Chromium	A	ND	0.1		mg/L	1	09/09/97
Copper	A	ND	5		mg/L	1	09/09/97
Iron	A	ND	5		mg/L	1	09/09/97
Manganese	A	ND	0.15		mg/L	1	09/09/97
Zinc	A	ND	5		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR NITRATE		Method: E353.2		Prep Date:			Analyst: JEK
Nitrogen, Nitrate	A	0.132	0.1		mg/L	1	09/10/97
NEUTRAL LEACHATE FOR PB		Method: SW7421		Prep Date:			Analyst: DRJ
Lead	A	ND	0.0075		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR SE		Method: SW7740		Prep Date:			Analyst: DRJ
Selenium	A	ND	0.05		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR SULFATE		Method: E375.4		Prep Date:			Analyst: JEK
Sulfate	A	9.67	10	J	mg/L	1	09/10/97
NEUTRAL LEACHATE FOR TDS		Method: E160.1		Prep Date:			Analyst: JLB
Total Dissolved Solids (Residue, Filterable)	A	79	25		mg/L	1	09/09/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

Qual: ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SHAW LABS

ANALYTICAL RESULTS

Date: Tuesday, September 16, 1997

Client:	Carlson Environmental, Inc.	*Client Project:*	9440A / CECO
		Work Order	9708204
Client Sample ID	SB-118A	*SHAW LABS ID*	9708204-01A
Sample Description	Soil 0-2'		
Sample Matrix	Soil		
Collection Date	08/28/97		
Date Received	08/29/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY NEUTRAL LEACHATE		Method: SW8260A	Prep Date:			Analyst: NT	
1,1,1-Trichloroethane	A	ND	5		µg/L	1	09/12/97
1,1-Dichloroethene	A	ND	5		µg/L	1	09/12/97
1,2-Dichloroethane	A	ND	5		µg/L	1	09/12/97
1,2-Dichloropropane	A	ND	5		µg/L	1	09/12/97
Benzene	A	ND	5		µg/L	1	09/12/97
Bromodichloromethane	A	ND	5		µg/L	1	09/12/97
Bromoform	A	ND	5		µg/L	1	09/12/97
Carbon tetrachloride	A	ND	5		µg/L	1	09/12/97
Chlorobenzene	A	ND	5		µg/L	1	09/12/97
Chlorodibromomethane	A	ND	NA		µg/L	1	09/12/97
Chloroform	A	ND	5		µg/L	1	09/12/97
cis-1,2-Dichloroethene	A	ND	5		µg/L	1	09/12/97
Dibromochloromethane	A	ND	5		µg/L	1	09/12/97
Ethylbenzene	A	ND	5		µg/L	1	09/12/97
m,p-Xylene	A	ND	5		µg/L	1	09/12/97
o-Xylene	A	ND	5		µg/L	1	09/12/97
Styrene	A	ND	5		µg/L	1	09/12/97
Tetrachloroethene	A	ND	5		µg/L	1	09/12/97
Toluene	A	ND	5		µg/L	1	09/12/97
trans-1,2-Dichloroethene	A	ND	5		µg/L	1	09/12/97
Trichloroethene	A	ND	5		µg/L	1	09/12/97
Vinyl chloride	A	ND	10		µg/L	1	09/12/97
1,2-Dichloroethane-d4	S	113.1	88-110	S	%REC	1	09/12/97
4-Bromofluorobenzene	S	91.7	86-115		%REC	1	09/12/97
Dibromofluoromethane	S	115.2	86-118		%REC	1	09/12/97
Toluene-d8	S	95.7	80-120		%REC	1	09/12/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

Qual: ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: Tuesday, September 16, 199

Client	Carlson Environmental, Inc	Client Project	9440A CECO
		Work Order	9708204
Client Sample ID	SB-118C	SIMALABS ID	9708204-02A
Sample Description	Soil 4-6'		
Sample Matrix	Soil		
Collection Date	08/28/97		
Date Received	08/29/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
NEUTRAL LEACHATE FOR AS		Method: SW7060A		Prep Date:			Analyst: DRJ
Arsenic	A	ND	0.05		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR CD		Method: SW7131		Prep Date:			Analyst: DRJ
Cadmium	A	ND	0.005		mg/L	1	09/10/97
NEUTRAL LEACHATE FOR CHLORIDES		Method: E325.3		Prep Date:			Analyst: JLB
Chloride	A	3	1		mg/L	1	09/10/97
NEUTRAL LEACHATE FOR FLUORIDE		Method: E340.2		Prep Date:			Analyst: JEK
Fluoride	A	0.111	0.1		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR METALS		Method: SW6010A		Prep Date:			Analyst: DRJ
Barium	A	ND	2		mg/L	1	09/09/97
Chromium	A	ND	0.1		mg/L	1	09/09/97
Copper	A	ND	5		mg/L	1	09/09/97
Iron	A	ND	5		mg/L	1	09/09/97
Manganese	A	ND	0.15		mg/L	1	09/09/97
Zinc	A	ND	5		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR NITRATE		Method: E353.2		Prep Date:			Analyst: JEK
Nitrogen, Nitrate	A	ND	0.1		mg/L	1	09/10/97
NEUTRAL LEACHATE FOR PB		Method: SW7421		Prep Date:			Analyst: DRJ
Lead	A	0.004	0.0075	J	mg/L	1	09/09/97
NEUTRAL LEACHATE FOR SE		Method: SW7740		Prep Date:			Analyst: DRJ
Selenium	A	ND	0.05		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR SULFATE		Method: E375.4		Prep Date:			Analyst: JEK
Sulfate	A	69.7	10		mg/L	1	09/10/97
NEUTRAL LEACHATE FOR TDS		Method: E160.1		Prep Date:			Analyst: JLB
Total Dissolved Solids (Residue, Filterable)	A	150	25		mg/L	1	09/09/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

Qual: ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

ANALYTICAL RESULTS

Date: *Tuesday, September 16, 1997*

Client	Carlson Environmental, Inc.	*Client Project*	9440A / CECO
		Work Order	9708204
Client Sample ID	SB-118C	*SIMALABS ID*	9708204-02A
Sample Description	Soil 4-6'		
Sample Matrix	Soil		
Collection Date	08/28/97		
Date Received	08/29/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY NEUTRAL LEACHATE		Method: SW8260A		Prep Date:		Analyst: NT	
1,1,1-Trichloroethane	A	ND	5		µg/L	1	09/12/97
1,1-Dichloroethene	A	ND	5		µg/L	1	09/12/97
1,2-Dichloroethane	A	ND	5		µg/L	1	09/12/97
1,2-Dichloropropane	A	ND	5		µg/L	1	09/12/97
Benzene	A	ND	5		µg/L	1	09/12/97
Bromodichloromethane	A	ND	5		µg/L	1	09/12/97
Bromoform	A	ND	5		µg/L	1	09/12/97
Carbon tetrachloride	A	ND	5		µg/L	1	09/12/97
Chlorobenzene	A	ND	5		µg/L	1	09/12/97
Chlorodibromomethane	A	ND	NA		µg/L	1	09/12/97
Chloroform	A	ND	5		µg/L	1	09/12/97
cis-1,2-Dichloroethene	A	ND	5		µg/L	1	09/12/97
Dibromochloromethane	A	ND	5		µg/L	1	09/12/97
Ethylbenzene	A	ND	5		µg/L	1	09/12/97
m,p-Xylene	A	ND	5		µg/L	1	09/12/97
o-Xylene	A	ND	5		µg/L	1	09/12/97
Styrene	A	ND	5		µg/L	1	09/12/97
Tetrachloroethene	A	ND	5		µg/L	1	09/12/97
Toluene	A	ND	5		µg/L	1	09/12/97
trans-1,2-Dichloroethene	A	ND	5		µg/L	1	09/12/97
Trichloroethene	A	ND	5		µg/L	1	09/12/97
Vinyl chloride	A	ND	10		µg/L	1	09/12/97
1,2-Dichloroethane-d4	S	103.7	88-110		%REC	1	09/12/97
4-Bromofluorobenzene	S	90.0	86-115		%REC	1	09/12/97
Dibromofluoromethane	S	106.4	86-118		%REC	1	09/12/97
Toluene-d8	S	100.0	80-120		%REC	1	09/12/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard — DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: Tuesday, September 16, 199

Client	Carlson Environmental, Inc.	Client Project	9440A / CECO
		Work Order	9708204
Client Sample ID	SB-121A	SIMALABS ID	9708204-03A
Sample Description	Soil 0-2'		
Sample Matrix	Soil		
Collection Date	08/28/97		
Date Received	08/29/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
NEUTRAL LEACHATE FOR AS		Method: SW7060A		Prep Date:			Analyst: DRJ
Arsenic	A	ND	0.05		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR CD		Method: SW7131		Prep Date:			Analyst: DRJ
Cadmium	A	ND	0.005		mg/L	1	09/10/97
NEUTRAL LEACHATE FOR CHLORIDES		Method: E325.3		Prep Date:			Analyst: JLB
Chloride	A	1.5	1		mg/L	1	09/10/97
NEUTRAL LEACHATE FOR FLUORIDE		Method: E340.2		Prep Date:			Analyst: JEK
Fluoride	A	0.548	0.1		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR METALS		Method: SW6010A		Prep Date:			Analyst: DRJ
Barium	A	ND	2		mg/L	1	09/09/97
Chromium	A	ND	0.1		mg/L	1	09/09/97
Copper	A	ND	5		mg/L	1	09/09/97
Iron	A	ND	5		mg/L	1	09/09/97
Manganese	A	ND	0.15		mg/L	1	09/09/97
Zinc	A	ND	5		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR NITRATE		Method: E353.2		Prep Date:			Analyst: JEK
Nitrogen, Nitrate	A	ND	0.1		mg/L	1	09/10/97
NEUTRAL LEACHATE FOR PB		Method: SW7421		Prep Date:			Analyst: DRJ
Lead	A	ND	0.0075		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR SE		Method: SW7740		Prep Date:			Analyst: DRJ
Selenium	A	ND	0.05		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR SULFATE		Method: E375.4		Prep Date:			Analyst: JEK
Sulfate	A	17.2	10		mg/L	1	09/10/97
NEUTRAL LEACHATE FOR TDS		Method: E160.1		Prep Date:			Analyst: JLB
Total Dissolved Solids (Residue, Filterable)	A	86	25		mg/L	1	09/09/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual:
- ND - Not Detected at the Reporting Limit
- J - Analyte detected below Quantitation Limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- SD - Value diluted out
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

ANALYTICAL RESULTS

Date: *Tuesday, September 16, 1997*

Client:	Carlson Environmental, Inc.	*Client Project:*	9440A / CECO
		Work Order:	9708204
Client Sample ID:	SB-121A	*SIMALABS ID:*	9708204-03A
Sample Description:	Soil 0-2'		
Sample Matrix:	Soil		
Collection Date:	08/28/97		
Date Received:	08/29/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY NEUTRAL LEACHATE		Method: SW8260A		Prep Date:			Analyst: NT
1,1,1-Trichloroethane	A	ND	5		µg/L	1	09/12/97
1,1-Dichloroethene	A	ND	5		µg/L	1	09/12/97
1,2-Dichloroethane	A	ND	5		µg/L	1	09/12/97
1,2-Dichloropropane	A	ND	5		µg/L	1	09/12/97
Benzene	A	ND	5		µg/L	1	09/12/97
Bromodichloromethane	A	ND	5		µg/L	1	09/12/97
Bromoform	A	ND	5		µg/L	1	09/12/97
Carbon tetrachloride	A	ND	5		µg/L	1	09/12/97
Chlorobenzene	A	ND	5		µg/L	1	09/12/97
Chlorodibromomethane	A	ND	NA		µg/L	1	09/12/97
Chloroform	A	ND	5		µg/L	1	09/12/97
cis-1,2-Dichloroethene	A	ND	5		µg/L	1	09/12/97
Dibromochloromethane	A	ND	5		µg/L	1	09/12/97
Ethylbenzene	A	ND	5		µg/L	1	09/12/97
m,p-Xylene	A	ND	5		µg/L	1	09/12/97
o-Xylene	A	ND	5		µg/L	1	09/12/97
Styrene	A	ND	5		µg/L	1	09/12/97
Tetrachloroethene	A	ND	5		µg/L	1	09/12/97
Toluene	A	ND	5		µg/L	1	09/12/97
trans-1,2-Dichloroethene	A	ND	5		µg/L	1	09/12/97
Trichloroethene	A	ND	5		µg/L	1	09/12/97
Vinyl chloride	A	ND	10		µg/L	1	09/12/97
1,2-Dichloroethane-d4	S	105.1	88-110		%REC	1	09/12/97
4-Bromofluorobenzene	S	91.7	86-115		%REC	1	09/12/97
Dibromofluoromethane	S	112.7	86-118		%REC	1	09/12/97
Toluene-d8	S	92.3	80-120		%REC	1	09/12/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual: ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: Tuesday, September 16, 199

Client	Carlson Environmental, Inc	*Client Project*	9440A / CECO
		Work Order	9708204
Client Sample ID	SB-121C	*SIMALABS ID*	9708204-04A
Sample Description	Soil 4-6'		
Sample Matrix	Soil		
Collection Date	08/28/97		
Date Received	08/29/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
NEUTRAL LEACHATE FOR AS		Method: SW7060A		Prep Date:			Analyst: DRJ
Arsenic	A	ND	0.05		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR CD		Method: SW7131		Prep Date:			Analyst: DRJ
Cadmium	A	ND	0.005		mg/L	1	09/10/97
NEUTRAL LEACHATE FOR CHLORIDES		Method: E325.3		Prep Date:			Analyst: JLB
Chloride	A	1	1	J	mg/L	1	09/10/97
NEUTRAL LEACHATE FOR FLUORIDE		Method: E340.2		Prep Date:			Analyst: JEK
Fluoride	A	0.248	0.1		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR METALS		Method: SW6010A		Prep Date:			Analyst: DRJ
Barium	A	ND	2		mg/L	1	09/09/97
Chromium	A	0.16	0.1		mg/L	1	09/09/97
Copper	A	ND	5		mg/L	1	09/09/97
Iron	A	ND	5		mg/L	1	09/09/97
Manganese	A	ND	0.15		mg/L	1	09/09/97
Zinc	A	ND	5		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR NITRATE		Method: E353.2		Prep Date:			Analyst: JEK
Nitrogen, Nitrate	A	0.624	0.1		mg/L	1	09/10/97
NEUTRAL LEACHATE FOR PB		Method: SW7421		Prep Date:			Analyst: DRJ
Lead	A	0.0083	0.0075		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR SE		Method: SW7740		Prep Date:			Analyst: DRJ
Selenium	A	ND	0.05		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR SULFATE		Method: E375.4		Prep Date:			Analyst: JEK
Sulfate	A	5.59	10	J	mg/L	1	09/10/97
NEUTRAL LEACHATE FOR TDS		Method: E160.1		Prep Date:			Analyst: JLB
Total Dissolved Solids (Residue, Filterable)	A	660	25		mg/L	1	09/09/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

Qual: ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: Tuesday, September 16, 1997

Client	Carlson Environmental, Inc.	*Client Project*	9440A / CECO
		Work Order	9708204
Client Sample ID	SB-121C	*SIMALABS ID*	9708204-04A
Sample Description	Soil 4-6'		
Sample Matrix	Soil		
Collection Date	08/28/97		
Date Received	08/29/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY NEUTRAL LEACHATE		Method: SW8260A		Prep Date:		Analyst: NT	
1,1,1-Trichloroethane	A	ND	5		µg/L	1	09/16/97
1,1-Dichloroethene	A	ND	5		µg/L	1	09/16/97
1,2-Dichloroethane	A	ND	5		µg/L	1	09/16/97
1,2-Dichloropropane	A	ND	5		µg/L	1	09/16/97
Benzene	A	ND	5		µg/L	1	09/16/97
Bromodichloromethane	A	ND	5		µg/L	1	09/16/97
Bromoform	A	ND	5		µg/L	1	09/16/97
Carbon tetrachloride	A	ND	5		µg/L	1	09/16/97
Chlorobenzene	A	ND	5		µg/L	1	09/16/97
Chlorodibromomethane	A	ND	NA		µg/L	1	09/16/97
Chloroform	A	ND	5		µg/L	1	09/16/97
cis-1,2-Dichloroethene	A	ND	5		µg/L	1	09/16/97
Dibromochloromethane	A	ND	5		µg/L	1	09/16/97
Ethylbenzene	A	ND	5		µg/L	1	09/16/97
m,p-Xylene	A	ND	5		µg/L	1	09/16/97
o-Xylene	A	ND	5		µg/L	1	09/16/97
Styrene	A	ND	5		µg/L	1	09/16/97
Tetrachloroethene	A	ND	5		µg/L	1	09/16/97
Toluene	A	ND	5		µg/L	1	09/16/97
trans-1,2-Dichloroethene	A	ND	5		µg/L	1	09/16/97
Trichloroethene	A	ND	5		µg/L	1	09/16/97
Vinyl chloride	A	ND	10		µg/L	1	09/16/97
1,2-Dichloroethane-d4	S	106.2	83-110		%REC	1	09/16/97
4-Bromofluorobenzene	S	97.9	86-115		%REC	1	09/16/97
Dibromofluoromethane	S	111.8	86-118		%REC	1	09/16/97
Toluene-d8	S	112.3	80-120		%REC	1	09/16/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

Qual: ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: *Tuesday, September 16, 199*

Client:	Carlson Environmental, Inc.	*Client Project:*	9440A / CECO
		Work Order:	9708204
Client Sample ID:	FB-100	*SIMALABS ID:*	9708204-05A
Sample Description:	Field Blank		
Sample Matrix:	Soil		
Collection Date:	08/28/97		
Date Received:	08/29/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
NEUTRAL LEACHATE FOR AS		Method: SW7060A		Prep Date:			Analyst: DRJ
Arsenic	A	ND	0.05		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR CD		Method: SW7131		Prep Date:			Analyst: DRJ
Cadmium	A	ND	0.005		mg/L	1	09/10/97
NEUTRAL LEACHATE FOR CHLORIDES		Method: E325.3		Prep Date:			Analyst: JLB
Chloride	A	0.75	1	B	mg/L	1	09/10/97
NEUTRAL LEACHATE FOR FLUORIDE		Method: E340.2		Prep Date:			Analyst: JEK
Fluoride	A	0.06	0.1	J	mg/L	1	09/09/97
NEUTRAL LEACHATE FOR METALS		Method: SW6010A		Prep Date:			Analyst: DRJ
Barium	A	ND	2		mg/L	1	09/09/97
Chromium	A	ND	0.1		mg/L	1	09/09/97
Copper	A	ND	5		mg/L	1	09/09/97
Iron	A	ND	5		mg/L	1	09/09/97
Manganese	A	ND	0.15		mg/L	1	09/09/97
Zinc	A	ND	5		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR NITRATE		Method: E353.2		Prep Date:			Analyst: JEK
Nitrogen, Nitrate	A	ND	0.1		mg/L	1	09/10/97
NEUTRAL LEACHATE FOR PB		Method: SW7421		Prep Date:			Analyst: DRJ
Lead	A	ND	0.0075		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR SE		Method: SW7740		Prep Date:			Analyst: DRJ
Selenium	A	ND	0.05		mg/L	1	09/09/97
NEUTRAL LEACHATE FOR SULFATE		Method: E375.4		Prep Date:			Analyst: JEK
Sulfate	A	ND	10		mg/L	1	09/10/97
NEUTRAL LEACHATE FOR TDS		Method: E160.1		Prep Date:			Analyst: JLB
Total Dissolved Solids (Residue, Filterable)	A	21	25	J	mg/L	1	09/09/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: Tuesday, September 16, 199

Client:	Carlson Environmental, Inc.	*Client Project*	9440A CECO
		Work Order	9708204
Client Sample ID	FB-100	*SIMALABS ID*	9708204-05A
Sample Description	Field Blank		
Sample Matrix	Soil		
Collection Date	08/28/97		
Date Received:	08/29/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY NEUTRAL LEACHATE		Method: SW8260A		Prep Date:		Analyst: NT	
1,1,1-Trichloroethane	A	ND	5		µg/L	1	09/16/97
1,1-Dichloroethene	A	ND	5		µg/L	1	09/16/97
1,2-Dichloroethane	A	ND	5		µg/L	1	09/16/97
1,2-Dichloropropane	A	ND	5		µg/L	1	09/16/97
Benzene	A	ND	5		µg/L	1	09/16/97
Bromodichloromethane	A	ND	5		µg/L	1	09/16/97
Bromoform	A	ND	5		µg/L	1	09/16/97
Carbon tetrachloride	A	ND	5		µg/L	1	09/16/97
Chlorobenzene	A	ND	5		µg/L	1	09/16/97
Chlorodibromomethane	A	ND	NA		µg/L	1	09/16/97
Chloroform	A	ND	5		µg/L	1	09/16/97
cis-1,2-Dichloroethene	A	ND	5		µg/L	1	09/16/97
Dibromochloromethane	A	ND	5		µg/L	1	09/16/97
Ethylbenzene	A	ND	5		µg/L	1	09/16/97
m,p-Xylene	A	ND	5		µg/L	1	09/16/97
o-Xylene	A	ND	5		µg/L	1	09/16/97
Styrene	A	ND	5		µg/L	1	09/16/97
Tetrachloroethene	A	ND	5		µg/L	1	09/16/97
Toluene	A	ND	5		µg/L	1	09/16/97
trans-1,2-Dichloroethene	A	ND	5		µg/L	1	09/16/97
Trichloroethene	A	ND	5		µg/L	1	09/16/97
Vinyl chloride	A	ND	10		µg/L	1	09/16/97
1,2-Dichloroethane-d4	S	105.3	88-110		%REC	1	09/16/97
4-Bromofluorobenzene	S	89.1	86-115		%REC	1	09/16/97
Dibromofluoromethane	S	116.2	86-118		%REC	1	09/16/97
Toluene-d8	S	98.5	80-120		%REC	1	09/16/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

Qual: ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SEQUOIA·LABS

ANALYTICAL RESULTS

Date: *Tuesday, September 16, 199*

Client	Carlson Environmental, Inc.	*Client Project*	9440A / CECO
		Work Order	9708204
Client Sample ID	TW-121	*SEQUOIA ID*	9708204-06A
Sample Description	Temp. Well		
Sample Matrix	Aqueous		
Collection Date	08/28/97		
Date Received	08/29/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY GC/MS		Method: SW8260A	Prep Date:			Analyst: NT	
Benzene	A	ND	5		µg/L	1	09/05/97
Ethylbenzene	A	ND	5		µg/L	1	09/05/97
m,p-Xylene	A	ND	5		µg/L	1	09/05/97
o-Xylene	A	ND	5		µg/L	1	09/05/97
Toluene	A	ND	5		µg/L	1	09/05/97
4-Bromofluorobenzene	S	85.1	86-115	S	%REC	1	09/05/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

Qual: ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: Tuesday, September 16, 1997

Client	Carlson Environmental, Inc	*Client Project*	9440A - CECO
		Work Order	9708204
Client Sample ID	TW-121	*SIMALABS ID*	9708204-06B
Sample Description	Temp. Well		
Sample Matrix	Aqueous		
Collection Date	08/28/97		
Date Received	08/29/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
PAH BY EPA 8270B		Method: SW8270B	Prep Date:			Analyst: CLK	
Acenaphthene	A	160	8.9		µg/L	5	09/09/97
Acenaphthylene	A	ND	8.9		µg/L	5	09/09/97
Anthracene	A	ND	8.9		µg/L	5	09/09/97
Benzo[a]anthracene	A	ND	0.89		µg/L	5	09/09/97
Benzo[a]pyrene	A	ND	1.6		µg/L	5	09/09/97
Benzo[b]fluoranthene	A	ND	1.2		µg/L	5	09/09/97
Benzo[g,h,i]perylene	A	ND	5.2		µg/L	5	09/09/97
Benzo[k]fluoranthene	A	ND	1.2		µg/L	5	09/09/97
Chrysene	A	ND	8.9		µg/L	5	09/09/97
Dibenz[a,h]anthracene	A	ND	2.9		µg/L	5	09/09/97
Fluoranthene	A	ND	8.9		µg/L	5	09/09/97
Fluorene	A	67	36		µg/L	20	09/09/97
Indeno[1,2,3-cd]pyrene	A	ND	2.1		µg/L	5	09/09/97
Naphthalene	A	ND	8.9		µg/L	5	09/09/97
Phenanthrene	A	59	8.9		µg/L	5	09/09/97
Pyrene	A	ND	8.9		µg/L	5	09/09/97
2-Fluorobiphenyl	S	120.6	43-116	SD	%REC	5	09/09/97
Nitrobenzene-d5	S	71.0	35-114		%REC	5	09/09/97
Terphenyl-d14	S	134.2	33-141		%REC	5	09/09/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: Tuesday, September 16, 199

Client	Carlson Environmental, Inc	Client Project	9440A CECO
		Work Order	9708204
Client Sample ID	SB-121G	SIMALABS ID	9708204-07A
Sample Description	Soil - 12-14'		
Sample Matrix	Soil		
Collection Date	08/28/97		
Date Received	08/29/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY GC/MS		Method: SW8260A	Prep Date:			Analyst: NT	
Benzene	A	47	2		µg/Kg	1	09/05/97
Ethylbenzene	A	1.8	2	J	µg/Kg	1	09/05/97
m,p-Xylene	A	6.2	2		µg/Kg	1	09/05/97
o-Xylene	A	2.4	2		µg/Kg	1	09/05/97
Toluene	A	5.7	2		µg/Kg	1	09/05/97
4-Bromofluorobenzene	S	73.7	74-121	S	%REC	1	09/05/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: Tuesday, September 16, 1997

Client	Carlson Environmental, Inc	*Client Project*	9440A / CECO
		Work Order	9708204
Client Sample ID	SB-121G	*SIMALABS ID*	9708204-07B
Sample Description	Soil - 12-14'		
Sample Matrix	Soil		
Collection Date	08/28/97		
Date Received	08/29/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
PAH BY EPA 8270B		Method: SW8270B	Prep Date:			Analyst: CLK	
Acenaphthene	A	ND	170		µg/Kg	1	09/07/97
Acenaphthylene	A	ND	170		µg/Kg	1	09/07/97
Anthracene	A	ND	170		µg/Kg	1	09/07/97
Benzo[a]anthracene	A	ND	34		µg/Kg	1	09/07/97
Benzo[a]pyrene	A	ND	59		µg/Kg	1	09/07/97
Benzo[b]fluoranthene	A	ND	44		µg/Kg	1	09/07/97
Benzo[g,h,i]perylene	A	ND	170		µg/Kg	1	09/07/97
Benzo[k]fluoranthene	A	ND	44		µg/Kg	1	09/07/97
Chrysene	A	ND	170		µg/Kg	1	09/07/97
Dibenzo(a,h)anthracene	A	ND	110		µg/Kg	1	09/07/97
Fluoranthene	A	ND	170		µg/Kg	1	09/07/97
Fluorene	A	ND	170		µg/Kg	1	09/07/97
Indeno[1,2,3-cd]pyrene	A	ND	79		µg/Kg	1	09/07/97
Naphthalene	A	ND	170		µg/Kg	1	09/07/97
Phenanthrene	A	ND	170		µg/Kg	1	09/07/97
Pyrene	A	ND	170		µg/Kg	1	09/07/97
2-Fluorobiphenyl	S	46.5	30-116		%REC	1	09/07/97
Nitrobenzene-d5	S	41.6	23-120		%REC	1	09/07/97
Terphenyl-d14	S	50.4	18-137		%REC	1	09/07/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard — DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

CEI

CHAIN OF CUSTODY RECORD

No. 7540

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ NO. 9440A PROJECT NAME CECO

SAMPLERS (Signature)

TEMP BLANK	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) Sec List (NOTM-DSHPT)	BTEX	PNAs	REMARKS
	SB118A	8-28			X	Soil 0-2'	2	X			8204-01A
	SB-118C				X	Soil 4-6'	2	X			02A
	SB121A				X	Soil 0-2'	2	X			03A
	SB121C				X	Soil 4-6'	2	X			04A
	FB-100				X	Field blank	2	X			05A
	TW-121				X	Water - temporary well	4		X X		06A+B
	SB121G				X	Soil - 12-14'	2		X X		07A+B

Relinquished by (Signature)	Date/Time	Received by (Signature)
	8-28	8/29
Relinquished by (Signature)	Date/Time	Received by (Signature)
Relinquished by (Signature)	Date/Time	Received for Laboratory by (Signature)

REMARKS

Normal Turnaround.

Fax results to Bruce

Reference # 7059

Distribution: White - Accompanies Shipment; Yellow - Laboratory File; Pink - Coordinator Field Files

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

September 26, 1997

Bruce Shabino
Carlson Environmental, Inc.
312 W. Randolph Street

Chicago, IL 60606

RE: 9440A - CECO / Resample of TW-121 **Work Order : 9709118**

Dear Bruce Shabino,

Enclosed are the results for the 1 sample we received on September 17, 1997 for the analyses presented in the following report.

All Quality Control associated with these samples will be kept on file for your convenience for five years. After such time it will be disposed if we are not otherwise notified.

It has been a pleasure serving you; and, if you have any questions concerning these results, please do not hesitate to contact us.

Respectfully submitted,
SIMALABS International

Carla E. Svetich
Project Manager

Enclosures

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS International

Date: *Friday, September 26, 1997*

Client: Carlson Environmental, Inc.
Project: 9440A - CECO / Resample of TW-121
Work Order: 9709118
Date Received: 09/17/97

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Client Description	Collection Date
9709118-01A	TW-121	Temp Well #1	09/17/97

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: *Friday, September 26, 1997*

Client	Carlson Environmental, inc.	*Client Project*	9440A - CECO / Resample of
		Work Order	9709118
Client Sample ID	TW-121	*SIMALABS ID*	9709118-01A
Sample Description	Temp Well #1		
Sample Matrix	Aqueous		
Collection Date	09/17/97		
Date Received	09/17/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
PAH BY EPA 8270B		Method: SW8270B	Prep Date:			Analyst: CLK	
Acenaphthene	A	6	1 6		µg/L	1	09/25/97
Acenaphthylene	A	ND	1 6		µg/L	1	09/25/97
Anthracene	A	2 3	1 6		µg/L	1	09/25/97
Benzo[a]anthracene	A	ND	0 16		µg/L	1	09/25/97
Benzo[a]pyrene	A	ND	0 29		µg/L	1	09/25/97
Benzo[b]fluoranthene	A	ND	0 23		µg/L	1	09/25/97
Benzo[g,h,i]perylene	A	ND	0 96		µg/L	1	09/25/97
Benzo[k]fluoranthene	A	ND	0 21		µg/L	1	09/25/97
Chrysene	A	ND	1 6		µg/L	1	09/25/97
Dibenz[a,h]anthracene	A	ND	0 54		µg/L	1	09/25/97
Fluoranthene	A	ND	1 6		µg/L	1	09/25/97
Fluorene	A	4 2	1 6		µg/L	1	09/25/97
Indeno[1,2,3-cd]pyrene	A	ND	0 38		µg/L	1	09/25/97
Naphthalene	A	ND	1 6		µg/L	1	09/25/97
Phenanthrene	A	ND	1 6		µg/L	1	09/25/97
Pyrene	A	ND	1 6		µg/L	1	09/25/97
2-Fluorobiphenyl	S	88 1	43-116		%REC	1	09/25/97
Nitrobenzene-d5	S	96 4	35-114		%REC	1	09/25/97
Terphenyl-d14	S	102 2	33-141		%REC	1	09/25/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard — DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

9.24. PNA

CEI

Electronic Filing: Received, Clerk's Office 07/09/2024

CHAIN OF CUSTODY RECORD

No. — 7486

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140 Fax (312) 396-6956

PROJ NO. 9440A

PROJECT NAME CECO

SAMPLERS: (Signature) [signature]

Lab # 9709118-01A

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) PNAS							REMARKS
1	TW-121	9-17	1100		X	Water - Temp well #1	2		X						No charge - due to need for re analysis
2															
3															
4															
5															
6															
7															
8															
9															
10															

Relinquished by (Signature)	Date/Time	Received by (Signature)
[signature]	9-17	[signature] 9-17-97
Relinquished by (Signature)	Date/Time	Received by (Signature)
Relinquished by (Signature)	Date/Time	Received for Laboratory by (Signature)

REMARKS

Normal Turn-Around-Time

Resampled TW-1 for re-analysis of PNA's - No charge.

Please fax and send results to Bruce Shabino

Distribution: White - Accompanies Shipment; Yellow - Laboratory File; Pink - Coordinator Field Files

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

October 13, 1997

Bruce Shabino
Carlson Environmental, Inc.
312 W. Randolph Street

Chicago, IL 60606

RE: 9440A / CECO **Work Order : 9709096**

Dear Bruce Shabino,

Enclosed are the results for the 5 samples we received on September 15, 1997 for the analyses presented in the following report.

All Quality Control associated with these samples will be kept on file for your convenience for five years. After such time it will be disposed if we are not otherwise notified.

It has been a pleasure serving you; and, if you have any questions concerning these results, please do not hesitate to contact us.

Respectfully submitted,
SIMALABS International

Carla E. Svetich

Carla E. Svetich
Project Manager

Enclosures

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS International

Date: *Monday, October 13, 199*

Client: Carlson Environmental, Inc.
Project: 9440A / CECO
Work Order: 9709096
Date Received: 09/15/97

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Client Description	Collection Date
9709096-01A	MW-A	Well	09/12/97
9709096-01B	MW-A	Well	09/12/97
9709096-01C	MW-A	Well	09/12/97
9709096-01D	MW-A	Well	09/12/97
9709096-02A	MW-B	Well	09/12/97
9709096-02B	MW-B	Well	09/12/97
9709096-02C	MW-B	Well	09/12/97
9709096-02D	MW-B	Well	09/12/97
9709096-03A	MW-C	Well	09/12/97
9709096-03B	MW-C	Well	09/12/97
9709096-03C	MW-C	Well	09/12/97
9709096-03D	MW-C	Well	09/12/97
9709096-04A	MW-D	Well	09/12/97
9709096-04B	MW-D	Well	09/12/97
9709096-04C	MW-D	Well	09/12/97
9709096-04D	MW-D	Well	09/12/97
9709096-05A	MW-C Dup	Well	09/12/97
9709096-05B	MW-C Dup	Well	09/12/97
9709096-05C	MW-C Dup	Well	09/12/97
9709096-05D	MW-C Dup	Well	09/12/97

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: Monday, October 13, 1997

Client:	Carlson Environmental, Inc.	*Client Project:*	9440A / CECO
		Work Order:	9709096
Client Sample ID:	MW-A	*SIMALABS ID:*	9709096-01A
Sample Description:	Well		
Sample Matrix:	Aqueous		
Collection Date:	09/12/97		
Date Received:	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
NITRATE		Method: E353.3		Prep Date:			Analyst: JEK
Nitrogen, Nitrate	A	ND	0.1		mg/L	1	09/13/97
PH		Method: E150.1		Prep Date:			Analyst: JLB
pH	A	7.70	0.02		pH units	1	09/15/97
TOTAL DISSOLVED SOLIDS		Method: E160.1		Prep Date:			Analyst: JLB
Total Dissolved Solids (Residue, Filterable)	A	730	25		mg/L	1	09/15/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: *Monday, October 13, 1997*

Client:	Carlson Environmental, Inc.	*Client Project*	9440A / CECO
		Work Order	9709096
Client Sample ID	MW-A	*SIMALABS ID*	9709096-01B
Sample Description	Well		
Sample Matrix	Aqueous		
Collection Date	09/12/97		
Date Received	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
CHLORIDE		Method: E325.3		Prep Date:			Analyst: JLB
Chloride	A	240	10		mg/L	10	09/15/97
FLUORIDE		Method: E340.2		Prep Date:			Analyst: JEK
Fluoride	A	0.144	0.1		mg/L	1	09/23/97
SULFATE		Method: E375.4		Prep Date:			Analyst: JEK
Sulfate	A	79.4	10		mg/L	1	09/18/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: *Monday, October 13, 1997*

Client:	Carlson Environmental, Inc.	*Client Project:*	9440A / CECO
		Work Order:	9709096
Client Sample ID	MW-A	*SIMALABS ID:*	9709096-01C
Sample Description:	Well		
Sample Matrix:	Aqueous		
Collection Date:	09/12/97		
Date Received:	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
CYANIDE, TOTAL		Method: E335.4		Prep Date:			Analyst: JEK
Cyanide, Total	A	ND	0.004		mg/L	1	09/18/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

ANALYTICAL RESULTS

Date: Monday, October 13, 1997

Client:	Carlson Environmental, Inc.	*Client Project*	9440A CECO
		Work Order	9709096
Client Sample ID	MW-A	*SIMALABS ID*	9709096-01D
Sample Description	Well		
Sample Matrix:	Aqueous		
Collection Date	09/12/97		
Date Received	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
ANTIMONY, TOTAL		Method: SW7041		Prep Date:			Analyst: DRJ
Antimony	A	ND	0.006		mg/L	1	09/22/97
ARSENIC, TOTAL		Method: SW7060A		Prep Date:			Analyst: DRJ
Arsenic	A	ND	0.01		mg/L	1	09/19/97
CADMIUM, TOTAL		Method: SW7131		Prep Date:			Analyst: DRJ
Cadmium	A	ND	0.005		mg/L	1	09/22/97
ICP METALS, TOTAL		Method: SW6010A		Prep Date:			Analyst: DRJ
Barium	A	0.058	2	J	mg/L	1	09/24/97
Beryllium	A	ND	0.004		mg/L	1	09/24/97
Boron	A	0.19	2	JB	mg/L	1	09/24/97
Chromium	A	0.0037	0.1	J	mg/L	1	09/24/97
Cobalt	A	ND	1		mg/L	1	09/24/97
Copper	A	ND	0.65		mg/L	1	09/24/97
Iron	A	0.023	5	JB	mg/L	1	09/24/97
Manganese	A	0.064	0.15	J	mg/L	1	09/24/97
Nickel	A	ND	0.1		mg/L	1	09/24/97
Silver	A	ND	0.05		mg/L	1	09/24/97
Zinc	A	0.11	5	JB	mg/L	1	09/24/97
LEAD, TOTAL		Method: SW7421		Prep Date:			Analyst: DRJ
Lead	A	ND	0.0075		mg/L	1	09/19/97
MERCURY, TOTAL		Method: SW7470		Prep Date:			Analyst: DRJ
Mercury	A	0.00012	0.0002	J	mg/L	1	09/17/97
SELENIUM, TOTAL		Method: E270.2		Prep Date:			Analyst: DRJ
Selenium	A	0.0023	0.005	J	mg/L	1	09/19/97
THALLIUM, TOTAL		Method: SW7841		Prep Date:			Analyst: DRJ
Thallium	A	0.0015	0.005	J	mg/L	1	09/22/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: *Monday, October 13, 1997*

Client:	Carlson Environmental, Inc.	*Client Project*	9440A / CECO
		Work Order	9709096
Client Sample ID:	MW-B	*SIMALABS ID*	9709096-02A
Sample Description:	Well		
Sample Matrix:	Aqueous		
Collection Date:	09/12/97		
Date Received:	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
NITRATE		Method: E353.3		Prep Date:			Analyst: JEK
Nitrogen, Nitrate	A	ND	10		mg/L	1	09/13/97
PH		Method: E150.1		Prep Date:			Analyst: JLB
pH	A	7.00	0.02		pH units	1	09/15/97
TOTAL DISSOLVED SOLIDS		Method: E160.1		Prep Date:			Analyst: JLB
Total Dissolved Solids (Residue, Filterable)	A	1,100	25		mg/L	1	09/15/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: Monday, October 13, 1997

Client:	Carlson Environmental, Inc.	*Client Project:*	9440A : CECO
		Work Order:	9709096
Client Sample ID:	MW-B	*SIMALABS ID:*	9709096-02B
Sample Description:	Well		
Sample Matrix:	Aqueous		
Collection Date:	09/12/97		
Date Received:	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
CHLORIDE		Method: E325.3		Prep Date:			Analyst: JLB
Chloride	A	25	2		mg/L	2	09/15/97
FLUORIDE		Method: E340.2		Prep Date:			Analyst: JEK
Fluoride	A	0.255	0.1		mg/L	1	09/23/97
SULFATE		Method: E375.4		Prep Date:			Analyst: JEK
Sulfate	A	284	10		mg/L	1	09/18/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

Qual: ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: Monday, October 13, 1997

Client:	Carlson Environmental, Inc.	*Client Project*	9440A / CECO
		Work Order	9709096
Client Sample ID:	MW-B	*SIMALABS ID:*	9709096-02C
Sample Description:	Well		
Sample Matrix:	Aqueous		
Collection Date:	09/12/97		
Date Received:	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
CYANIDE, TOTAL		Method: E335.4		Prep Date:			Analyst: JEK
Cyanide, Total	A	ND	0.004		mg/L	1	09/18/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

ANALYTICAL RESULTS

Date: Monday, October 13, 1997

Client	Carlson Environmental, Inc.	*Client Project*	9440A CECO
		Work Order	9709096
Client Sample ID	MW-B	*SIMALABS ID*	9709096-02D
Sample Description	Well		
Sample Matrix	Aqueous		
Collection Date	09/12/97		
Date Received	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
ANTIMONY, TOTAL		Method: SW7041		Prep Date:			Analyst: DRJ
Antimony	A	ND	0.006		mg/L	1	09/22/97
ARSENIC, TOTAL		Method: SW7060A		Prep Date:			Analyst: DRJ
Arsenic	A	ND	0.01		mg/L	1	09/19/97
CADMIUM, TOTAL		Method: SW7131		Prep Date:			Analyst: DRJ
Cadmium	A	ND	0.005		mg/L	1	09/22/97
ICP METALS, TOTAL		Method: SW6010A		Prep Date:			Analyst: DRJ
Barium	A	0.0057	2	J	mg/L	1	09/24/97
Beryllium	A	ND	0.004		mg/L	1	09/24/97
Boron	A	0.28	2	JB	mg/L	1	09/24/97
Chromium	A	0.0059	0.1	J	mg/L	1	09/24/97
Cobalt	A	ND	1		mg/L	1	09/24/97
Copper	A	ND	0.65		mg/L	1	09/24/97
Iron	A	0.26	5	JB	mg/L	1	09/24/97
Manganese	A	0.012	0.15	J	mg/L	1	09/24/97
Nickel	A	ND	0.1		mg/L	1	09/24/97
Silver	A	ND	0.05		mg/L	1	09/24/97
Zinc	A	0.062	5	JB	mg/L	1	09/24/97
LEAD, TOTAL		Method: SW7421		Prep Date:			Analyst: DRJ
Lead	A	ND	0.0075		mg/L	1	09/19/97
MERCURY, TOTAL		Method: SW7470		Prep Date:			Analyst: DRJ
Mercury	A	ND	0.0002		mg/L	1	09/17/97
SELENIUM, TOTAL		Method: E270.2		Prep Date:			Analyst: DRJ
Selenium	A	ND	0.005		mg/L	1	09/19/97
THALLIUM, TOTAL		Method: SW7841		Prep Date:			Analyst: DRJ
Thallium	A	ND	0.005		mg/L	1	09/22/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMA·LABS

ANALYTICAL RESULTS

Date: Monday, October 13, 199

Client:	Carlson Environmental, Inc.	*Client Project:*	9440A / CECO
		Work Order:	9709096
Client Sample ID:	MW-C	*SIMALABS ID:*	9709096-03A
Sample Description:	Well		
Sample Matrix:	Aqueous		
Collection Date:	09/12/97		
Date Received:	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
NITRATE		Method: E353.3		Prep Date:			Analyst: JEK
Nitrogen, Nitrate	A	0.289	0.1		mg/L	1	09/13/97
PH		Method: E150.1		Prep Date:			Analyst: JLB
pH	A	7.20	0.02		pH units	1	09/15/97
TOTAL DISSOLVED SOLIDS		Method: E160.1		Prep Date:			Analyst: JLB
Total Dissolved Solids (Residue, Filterable)	A	1,400	25		mg/L	1	09/15/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: *Monday, October 13, 1997*

Client	Carlson Environmental, Inc.	*Client Project*	9440A / CECO
		Work Order	9709096
Client Sample ID	MW-C	*SIMALABS ID*	9709096-03B
Sample Description	Well		
Sample Matrix	Aqueous		
Collection Date	09/12/97		
Date Received	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
CHLORIDE		Method: E325.3		Prep Date:			Analyst: JLB
Chloride	A	280	20		mg/L	20	09/15/97
FLUORIDE		Method: E340.2		Prep Date:			Analyst: JEK
Fluoride	A	0.291	0.1		mg/L	1	09/23/97
SULFATE		Method: E375.4		Prep Date:			Analyst: JEK
Sulfate	A	342	20		mg/L	2	09/18/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

Qual: ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: *Monday, October 13, 1997*

Client:	Carlson Environmental, Inc.	*Client Project:*	9440A / CECO
		Work Order:	9709096
Client Sample ID:	MW-C	*SIMALABS ID:*	9709096-03C
Sample Description:	Well		
Sample Matrix:	Aqueous		
Collection Date:	09/12/97		
Date Received:	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
CYANIDE, TOTAL		Method: E335.4		Prep Date:			Analyst: JEK
Cyanide, Total	A	NDI	0.004		mg/L	1	09/18/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: Monday, October 13, 199[illegible]

Client:	Carlson Environmental, Inc.	*Client Project*	9440A / CECO
		Work Order	9709096
Client Sample ID	MW-C	*SIMALABS ID*	9709096-03D
Sample Description	Well		
Sample Matrix	Aqueous		
Collection Date	09/12/97		
Date Received	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
ANTIMONY, TOTAL		Method: SW7041		Prep Date:			Analyst: DRJ
Antimony	A	ND	0.006		mg/L	1	09/22/97
ARSENIC, TOTAL		Method: SW7060A		Prep Date:			Analyst: DRJ
Arsenic	A	ND	0.01		mg/L	1	09/19/97
CADMIUM, TOTAL		Method: SW7131		Prep Date:			Analyst: DRJ
Cadmium	A	ND	0.005		mg/L	1	09/22/97
ICP METALS, TOTAL		Method: SW6010A		Prep Date:			Analyst: DRJ
Barium	A	0.022	2	J	mg/L	1	09/24/97
Beryllium	A	ND	0.004		mg/L	1	09/24/97
Boron	A	0.28	2	JB	mg/L	1	09/24/97
Chromium	A	0.0056	0.1	J	mg/L	1	09/24/97
Cobalt	A	ND	1		mg/L	1	09/24/97
Copper	A	ND	0.65		mg/L	1	09/24/97
Iron	A	0.36	5	JB	mg/L	1	09/24/97
Manganese	A	0.008	0.15	J	mg/L	1	09/24/97
Nickel	A	0.022	0.1	J	mg/L	1	09/24/97
Silver	A	ND	0.05		mg/L	1	09/24/97
Zinc	A	0.045	5	JB	mg/L	1	09/24/97
LEAD, TOTAL		Method: SW7421		Prep Date:			Analyst: DRJ
Lead	A	ND	0.0075		mg/L	1	09/19/97
MERCURY, TOTAL		Method: SW7470		Prep Date:			Analyst: DRJ
Mercury	A	ND	0.0002		mg/L	1	09/17/97
SELENIUM, TOTAL		Method: E270.2		Prep Date:			Analyst: DRJ
Selenium	A	ND	0.005		mg/L	1	09/19/97
THALLIUM, TOTAL		Method: SW7841		Prep Date:			Analyst: DRJ
Thallium	A	ND	0.005		mg/L	1	09/22/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMA·LABS

ANALYTICAL RESULTS

Date: Monday, October 13, 1997

Client	Carlson Environmental, Inc.	*Client Project*	9440A CECO
		Work Order	9709096
Client Sample ID	MW-D	*SIMALABS ID*	9709096-04A
Sample Description	Well		
Sample Matrix	Aqueous		
Collection Date	09/12/97		
Date Received	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
NITRATE		Method: E353.3		Prep Date		Analyst: JEK	
Nitrogen, Nitrate	A	0.145	0.1		mg/L	1	09/13/97
PH		Method: E150.1		Prep Date		Analyst: JLB	
pH	A	7.30	0.02		pH units	1	09/15/97
TOTAL DISSOLVED SOLIDS		Method: E160.1		Prep Date		Analyst: JLB	
Total Dissolved Solids (Residue, Filterable)	A	970	25		mg/L	1	09/15/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

ANALYTICAL RESULTS

Date: *Monday, October 13, 1997*

Client	Carlson Environmental, Inc.	*Client Project*	9440A CECO
		Work Order	9709096
Client Sample ID	MW-D	*SIMALABS ID*	9709096-04B
Sample Description	Well		
Sample Matrix	Aqueous		
Collection Date	09/12/97		
Date Received	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
CHLORIDE		Method: E325.3		Prep Date:			Analyst: JLB
Chloride	A	4.5	1		mg/L	1	09/15/97
FLUORIDE		Method: E340.2		Prep Date:			Analyst: JEK
Fluoride	A	0.273	0.1		mg/L	1	09/23/97
SULFATE		Method: E375.4		Prep Date:			Analyst: JEK
Sulfate	A	325	20		mg/L	2	09/18/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: Monday, October 13, 1997

Client:	Carlson Environmental, Inc	*Client Project*	9440A / CECO
		Work Order	9709096
Client Sample ID	MW-D	*SIMALABS ID*	9709096-04C
Sample Description:	Well		
Sample Matrix:	Aqueous		
Collection Date:	09/12/97		
Date Received:	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
CYANIDE, TOTAL		Method: E335.4		Prep Date:			Analyst: JEK
Cyanide, Total	A	0.00222	0.004	J	mg/L	1	09/18/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: Monday, October 13, 1997

Client:	Carlson Environmental, Inc.	Client Project	9440A CECO
		Work Order	9709096
Client Sample ID:	MW-D	SIMALABS ID	9709096-04D
Sample Description	Well		
Sample Matrix:	Aqueous		
Collection Date	09/12/97		
Date Received:	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
ANTIMONY, TOTAL		Method: SW7041		Prep Date:		Analyst: DRJ	
Antimony	A	ND	0.006		mg/L	1	09/22/97
ARSENIC, TOTAL		Method: SW7060A		Prep Date:		Analyst: DRJ	
Arsenic	A	ND	0.0*		mg/L	1	09/19/97
CADMIUM, TOTAL		Method: SW7131		Prep Date:		Analyst: DRJ	
Cadmium	A	ND	0.005		mg/L	1	09/22/97
ICP METALS, TOTAL		Method: SW6010A		Prep Date:		Analyst: DRJ	
Barium	A	0.0095	2	J	mg/L	1	09/24/97
Beryllium	A	ND	0.004		mg/L	1	09/24/97
Boron	A	0.42	2	JB	mg/L	1	09/24/97
Chromium	A	0.0078	0.1	J	mg/L	1	09/24/97
Cobalt	A	ND	1		mg/L	1	09/24/97
Copper	A	ND	0.65		mg/L	1	09/24/97
Iron	A	0.016	5	JB	mg/L	1	09/24/97
Manganese	A	ND	0.15		mg/L	1	09/24/97
Nickel	A	ND	0.1		mg/L	1	09/24/97
Silver	A	ND	0.05		mg/L	1	09/24/97
Zinc	A	0.1	5	JB	mg/L	1	09/24/97
LEAD, TOTAL		Method: SW7421		Prep Date:		Analyst: DRJ	
Lead	A	ND	0.0075		mg/L	1	09/19/97
MERCURY, TOTAL		Method: SW7470		Prep Date:		Analyst: DRJ	
Mercury	A	ND	0.0002		mg/L	1	09/17/97
SELENIUM, TOTAL		Method: E270.2		Prep Date:		Analyst: DRJ	
Selenium	A	ND	0.005		mg/L	1	09/19/97
THALLIUM, TOTAL		Method: SW7841		Prep Date:		Analyst: DRJ	
Thallium	A	ND	0.005		mg/L	1	09/22/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

Qual: ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

ANALYTICAL RESULTS

Date: Monday, October 13, 1997

Client:	Carlson Environmental, Inc.	*Client Project*	9440A CECO
		Work Order	9709096
Client Sample ID	MW-C Dup	*SIMALABS ID*	9709096-05A
Sample Description	Well		
Sample Matrix	Aqueous		
Collection Date	09/12/97		
Date Received	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
NITRATE		Method: E353.3		Prep Date			Analyst: JEK
Nitrogen, Nitrate	A	ND	0.1		mg/L	1	09/13/97
PH		Method: E150.1		Prep Date			Analyst: JLB
pH	A	7.20	0.02		pH units	1	09/15/97
TOTAL DISSOLVED SOLIDS		Method: E160.1		Prep Date			Analyst: JLB
Total Dissolved Solids (Residue, Filterable)	A	1,500	25		mg/L	1	09/15/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: Monday, October 13, 199

Client:	Carlson Environmental, Inc.	Client Project	9440A / CECO
		Work Order	9709096
Client Sample ID	MW-C Dup	SIMALABS ID	9709096-05B
Sample Description	Well		
Sample Matrix:	Aqueous		
Collection Date	09/12/97		
Date Received	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
CHLORIDE		Method: E325.3		Prep Date:		Analyst: JLB	
Chloride	A	290	20		mg/L	20	09/15/97
FLUORIDE		Method: E340.2		Prep Date:		Analyst: JEK	
Fluoride	A	0.279	0.1		mg/L	1	09/23/97
SULFATE		Method: E375.4		Prep Date:		Analyst: JEK	
Sulfate	A	348	20		mg/L	2	09/18/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

Qual: ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: *Monday, October 13, 1997*

Client	Carlson Environmental, Inc.	*Client Project*	9440A / CECO
		Work Order	9709096
Client Sample ID	MW-C Dup	*SIMALABS ID*	9709096-05C
Sample Description	Well		
Sample Matrix	Aqueous		
Collection Date	09/12/97		
Date Received	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
CYANIDE, TOTAL		Method: E335.4		Prep Date:			Analyst: JEK
Cyanide, Total	A	ND	0.004		mg/L	1	09/18/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
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S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
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E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

SIMALABS

ANALYTICAL RESULTS

Date: Monday, October 13, 1997

Client:	Carlson Environmental, Inc.	Client Project:	9440A / CECO
		Work Order:	9709096
Client Sample ID:	MW-C Dup	SIMALABS ID:	9709096-05D
Sample Description:	Well		
Sample Matrix:	Aqueous		
Collection Date:	09/12/97		
Date Received:	09/15/97		

Analyses	Samp Type	Result	Limit	Qual	Units	DF	Date Analyzed
ANTIMONY, TOTAL		Method: SW7041		Prep Date:		Analyst: DRJ	
Antimony	A	ND	0.006		mg/L	1	09/22/97
ARSENIC, TOTAL		Method: SW7060A		Prep Date:		Analyst: DRJ	
Arsenic	A	ND	0.01		mg/L	1	09/19/97
CADMIUM, TOTAL		Method: SW7131		Prep Date:		Analyst: DRJ	
Cadmium	A	0.0001	0.005	JB	mg/L	1	09/22/97
ICP METALS, TOTAL		Method: SW6010A		Prep Date:		Analyst: DRJ	
Barium	A	0.022	2	J	mg/L	1	09/24/97
Beryllium	A	ND	0.004		mg/L	1	09/24/97
Boron	A	0.25	2	JB	mg/L	1	09/24/97
Chromium	A	0.0053	0.1	J	mg/L	1	09/24/97
Cobalt	A	ND	1		mg/L	1	09/24/97
Copper	A	ND	0.65		mg/L	1	09/24/97
Iron	A	0.33	5	JB	mg/L	1	09/24/97
Manganese	A	0.0071	0.15	J	mg/L	1	09/24/97
Nickel	A	0.019	0.1	J	mg/L	1	09/24/97
Silver	A	ND	0.05		mg/L	1	09/24/97
Zinc	A	0.025	5	JB	mg/L	1	09/24/97
LEAD, TOTAL		Method: SW7421		Prep Date:		Analyst: DRJ	
Lead	A	ND	0.0075		mg/L	1	09/19/97
MERCURY, TOTAL		Method: SW7470		Prep Date:		Analyst: DRJ	
Mercury	A	0.00012	0.0002	J	mg/L	1	09/17/97
SELENIUM, TOTAL		Method: E270.2		Prep Date:		Analyst: DRJ	
Selenium	A	ND	0.005		mg/L	1	09/19/97
THALLIUM, TOTAL		Method: SW7841		Prep Date:		Analyst: DRJ	
Thallium	A	ND	0.005		mg/L	1	09/22/97

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard

DF - Dilution Factor

Qual:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Quantitation Limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

Electronic Filing: Received, Clerk's Office 07/19/2024

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(884-889)

Priority: Standard Written

Status: Final

Sampling Point: MW-A

Samples Submitted: Six groundwater samples

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

Di(2-ethylhexyl)phthalate was detected in the sample submitted for analysis at a concentration of ~73 ug/L, which is greater than the current MCL of 6 ug/L. This concentration is estimated because the sample response exceeded the highest calibration standard. Reanalysis of a dilution was not available. None of the other analytes included in the detailed parameter list were detected in the sample submitted for analysis. Other compunds detected: Diethylphthalate at a concentration of ~13 ug/L. This concentration is estimated because the sample response exceeded the highest calibration standard. Reanalysis of a dilution was not available. Other compunds tentatively identified: An isomer of dichlorobenzoic acid at a concentration of ~150 ug/L. No standard was available to confirm this compound.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Environmental Health Laboratories (div. of MAS Technology Corporation).

Reviewed By: _____ Date: 10 13 97

Finalized By: _____ Date: 10-13-97

Electronic Filing: Received, Clerk's Office 07/10/2024

Client: Sima Labs International Report: 281884-889)

Sampling Point: MW-A

PARAMETER	SDWA Method	MDL * (ug/L)	Results (ug/L)	MCL (ug/L)	Extraction Date	Analysis Date	Lab Number
Alachlor (Lasso)	525.2	0.1	< 0.1	2	09/17/97	09/18/97	281884
Aldicarb	531.1	0.5	< 0.5	3	09/17/97	09/17/97	281887
Aldicarb Sulfone	531.1	0.4	< 0.4	2	09/17/97	09/17/97	281887
Aldicarb Sulfoxide	531.1	0.5	< 0.5	4	09/17/97	09/17/97	281887
Aldrin	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281884
Aroclor 1016	505	0.08	< 0.08	£	09/23/97	10/07/97	281888
Aroclor 1221	505	2.0	< 2.0	£	09/23/97	10/07/97	281888
Aroclor 1232	505	0.5	< 0.5	£	09/23/97	10/07/97	281888
Aroclor 1242	505	0.3	< 0.3	£	09/23/97	10/07/97	281888
Aroclor 1248	505	0.1	< 0.1	£	09/23/97	10/07/97	281888
Aroclor 1254	505	0.1	< 0.1	£	09/23/97	10/07/97	281888
Aroclor 1260	505	0.2	< 0.2	£	09/23/97	10/07/97	281888
Atrazine	525.2	0.1	< 0.1	3	09/17/97	09/18/97	281884
Benzo(a)pyrene	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281884
Butachlor	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281884
Carbaryl	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281887
Carbofuran	531.1	0.9	< 0.9	40	09/17/97	09/17/97	281887
alpha-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281884
gamma-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281884
Chlordane	505	0.2	< 0.2	2	09/23/97	10/07/97	281888
2,4-D	515.1	0.1	< 0.1	70	09/17/97	09/17/97	281885
Dalapon	515.1	1.0	< 1.0	200	09/17/97	09/17/97	281885
1,2-Dibromo-3-chloropropane	504.1	0.02	< 0.02	0.2	09/22/97	09/22/97	281889
Dicamba	515.1	0.1	< 0.1	---	09/17/97	09/17/97	281885
Dieldrin	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281884
Di (2-ethylhexyl) adipate	525.2	0.6	< 0.6	400	09/17/97	09/18/97	281884
Di (2-ethylhexyl) phthalate	525.2	0.6	- 73	6	09/17/97	09/18/97	281884
Dinoseb	515.1	0.1	< 0.1	7	09/17/97	09/17/97	281885
Diquat				20			
Endothall	548.1	9.0	< 9.0	100	09/17/97	09/17/97	281886
Endrin	525.2	0.01	< 0.01	2	09/17/97	09/18/97	281884
Ethylene dibromide (EDB)	504.1	0.01	< 0.01	0.05	09/22/97	09/22/97	281889
Glyphosate (Round-up)				700			
Heptachlor	525.2	0.04	< 0.04	0.4	09/17/97	09/18/97	281884
Heptachlor epoxide	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281884
Hexachlorobenzene	525.2	0.1	< 0.1	1	09/17/97	09/18/97	281884
Hexachlorocyclopentadiene	525.2	0.1	< 0.1	50	09/17/97	09/18/97	281884
3-Hydroxycarbofuran	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281887
Lindane (gamma-BHC)	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281884
Methoxychlor	525.2	0.1	< 0.1	40	09/17/97	09/18/97	281884
Methomyl	531.1	0.5	< 0.5	---	09/17/97	09/17/97	281887
Metolachlor (Dual)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281884
Metribuzin (Sencor)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281884
Oxamyl (Vydate)	531.1	1.0	< 1.0	200	09/17/97	09/17/97	281887
Pentachlorophenol	515.1	0.04	< 0.04	1	09/17/97	09/17/97	281885
Picloram (Tordon)	515.1	0.1	< 0.1	500	09/17/97	09/17/97	281885
Propachlor	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281884
2,4,5-TP (Silvex)	515.1	0.1	< 0.1	50	09/17/97	09/17/97	281885
Simazine	525.2	0.07	< 0.07	4	09/17/97	09/18/97	281884
2,3,7,8-TCDD (Dioxin)				0.00003			
Toxaphene	505	1.0	< 1.0	3	09/23/97	10/07/97	281888

* EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

£ Any positive Aroclor result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L).

Electronic Filing: Received, Clerk's Office 07/19/2024

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(890)

Priority: Standard Written

Status: Final

Sampling Point: MW-A

Samples Submitted: One groundwater sample

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

1,4-Dichlorobenzene and total xylenes were detected in the sample submitted for analysis at the concentrations indicated, which are both less than their current respective MCLs. 1,1-Dichloroethane was also detected in the sample submitted for analysis at a concentration of 0.2 ug/L. There is no MCL for this parameter. Other compounds detected: tert-Butyl alcohol at a concentration of 5.9 ug/L. There is no MCL for this parameter.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Environmental Health Laboratories (div. of MAS Technology Corporation).

Reviewed By: _____ Date: 9-13-97

Finalized By: _____ Date: 10-11-97

Client: Sima Labs International

Report: 281884-918(890)

Sampling Point: MW-A

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)	MCL (ug/L)
Regulated Parameters			
Benzene	0.5	< 0.5	5
Bromodichloromethane	0.1	< 0.1	100 *
Bromoform	0.1	< 0.1	100 *
Carbon tetrachloride	0.1	< 0.1	5
Chlorobenzene	0.2	< 0.2	100
Chloroform	0.1	< 0.1	100 *
Dibromochloromethane	0.1	< 0.1	100 *
1,2-Dibromo-3-Chloropropane	0.2	< 0.2	0.2 †
1,2-Dibromoethane(EDB)	0.1	< 0.1	0.05 †
1,2-Dichlorobenzene	0.1	< 0.1	600
1,4-Dichlorobenzene	0.1	0.2	75
1,2-Dichloroethane	0.1	< 0.1	5
1,1-Dichloroethylene	0.2	< 0.2	7
cis-1,2-Dichloroethylene	0.1	< 0.1	70
trans-1,2-Dichloroethylene	0.1	< 0.1	100
Dichloromethane	0.5	< 0.5	5
1,2-Dichloropropane	0.1	< 0.1	5
Ethylbenzene	0.1	< 0.1	700
Styrene	0.2	< 0.2	100
Tetrachloroethylene	0.2	< 0.2	5
Toluene	0.5	< 0.5	1000
1,2,4-Trichlorobenzene	0.2	< 0.2	70
1,1,1-Trichloroethane	0.1	< 0.1	200
1,1,2-Trichloroethane	0.1	< 0.1	5
Trichloroethylene	0.1	< 0.1	5
Vinyl chloride	0.2	< 0.2	2
Total Xylenes	0.1	0.1	10,000

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)
Unregulated Parameters		
Bromobenzene	0.2	< 0.2
Bromochloromethane	0.2	< 0.2
Bromomethane	0.5	< 0.5
n-Butylbenzene	0.2	< 0.2
sec-Butylbenzene	0.2	< 0.2
tert-Butylbenzene	0.2	< 0.2
Chloroethane	0.5	< 0.5
Chloromethane	0.5	< 0.5
2-Chlorotoluene (o-)	0.2	< 0.2
4-Chlorotoluene (p-)	0.2	< 0.2
Dibromomethane	0.1	< 0.1
1,3-Dichlorobenzene	0.1	< 0.1
Dichlorodifluoromethane	0.5	< 0.5
1,1-Dichloroethane	0.1	0.2
1,3-Dichloropropane	0.1	< 0.1
2,2-Dichloropropane	0.2	< 0.2
1,1-Dichloropropylene	0.1	< 0.1
cis-1,3-Dichloropropylene	0.1	< 0.1
trans-1,3-Dichloropropylene	0.1	< 0.1
Hexachlorobutadiene	0.2	< 0.2
Isopropylbenzene	0.1	< 0.1
4-Isopropyltoluene (p-)	0.1	< 0.1
Naphthalene	0.2	< 0.2
n-Propylbenzene	0.1	< 0.1
1,1,1,2-Tetrachloroethane	0.1	< 0.1
1,1,2,2-Tetrachloroethane	0.1	< 0.1
1,2,3-Trichlorobenzene	0.2	< 0.2
Trichlorofluoromethane	0.5	< 0.5
1,2,3-Trichloropropane	0.2	< 0.2
1,2,4-Trimethylbenzene	0.1	< 0.1
1,3,5-Trimethylbenzene	0.1	< 0.1

Method: 524.2

Analysis Date: 09/20/97

* The MCL of 100 ug/L is for total trihalomethanes and compliance samples must be collected from the distribution system.

** EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

† Compliance monitoring for these parameters must be done using EPA method 504.1

Electronic Filing: Received, Clerk's Office 07/19/2024

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(891-896)
Priority: Standard Written
Status: Final

Sampling Point: MW-B

Samples Submitted: Six groundwater samples

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

Di(2-ethylhexyl)phthalate was detected in the sample submitted for analysis at a concentration of ~140 ug/L. which is greater the current MCL of 6 ug/L. This concentration is estimated because the sample response exceeded the highest calibration standard. Reanalysis of a dilution was not available. None of the other analytes included in the detailed parameter list were detected in the sample submitted for analysis. Other compunds detected: Diethylphthalate at a concentration of ~10 ug/L. There is no MCL for this parameter. This concentration is estimated because the sample response exceeded the highest calibration standard. Reanalysis of a dilution was not available. Other compunds tentatively identified: An isomer of dichlorobenzoic acid at a concentration of ~140 ug/L. No standard was available to confirm this compound.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

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Reviewed By: _____ Date: 10/3/97

Finalized By: _____ Date: 10-15-97

Sampling Point: MW-B

PARAMETER	SDWA Method	MDL * (ug/L)	Results (ug/L)	MCL (ug/L)	Extraction Date	Analysis Date	Lab Number
Alachlor (Lasso)	525.2	0.1	< 0.1	2	09/17/97	09/18/97	281891
Aldicarb	531.1	0.5	< 0.5	3	09/17/97	09/17/97	281894
Aldicarb Sulfone	531.1	0.4	< 0.4	2	09/17/97	09/17/97	281894
Aldicarb Sulfoxide	531.1	0.5	< 0.5	4	09/17/97	09/17/97	281894
Aldrin	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281891
Aroclor 1016	505	0.08	< 0.08	£	09/23/97	10/07/97	281895
Aroclor 1221	505	2.0	< 2.0	£	09/23/97	10/07/97	281895
Aroclor 1232	505	0.5	< 0.5	£	09/23/97	10/07/97	281895
Aroclor 1242	505	0.3	< 0.3	£	09/23/97	10/07/97	281895
Aroclor 1248	505	0.1	< 0.1	£	09/23/97	10/07/97	281895
Aroclor 1254	505	0.1	< 0.1	£	09/23/97	10/07/97	281895
Aroclor 1260	505	0.2	< 0.2	£	09/23/97	10/07/97	281895
Atrazine	525.2	0.1	< 0.1	3	09/17/97	09/18/97	281891
Benzo(a)pyrene	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281891
Butachlor	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281891
Carbaryl	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281894
Carbofuran	531.1	0.9	< 0.9	40	09/17/97	09/17/97	281894
alpha-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281891
gamma-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281891
Chlordane	505	0.2	< 0.2	2	09/23/97	10/07/97	281895
2,4-D	515.1	0.1	< 0.1	70	09/17/97	09/17/97	281892
Dalapon	515.1	1.0	< 1.0	200	09/17/97	09/17/97	281892
1,2-Dibromo-3-chloropropane	504.1	0.02	< 0.02	0.2	09/22/97	09/22/97	281896
Dicamba	515.1	0.1	< 0.1	---	09/17/97	09/17/97	281892
Dieldrin	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281891
Di (2-ethylhexyl) adipate	525.2	0.6	< 0.6	400	09/17/97	09/18/97	281891
Di (2-ethylhexyl) phthalate	525.2	0.6	~ 140	6	09/17/97	09/18/97	281891
Dinoseb	515.1	0.1	< 0.1	7	09/17/97	09/17/97	281892
Diquat				20			
Endothall	548.1	9.0	< 9.0	100	09/17/97	09/17/97	281893
Endrin	525.2	0.01	< 0.01	2	09/17/97	09/18/97	281891
Ethylene dibromide (EDB)	504.1	0.01	< 0.01	0.05	09/22/97	09/22/97	281896
Glyphosate (Round-up)				700			
Heptachlor	525.2	0.04	< 0.04	0.4	09/17/97	09/18/97	281891
Heptachlor epoxide	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281891
Hexachlorobenzene	525.2	0.1	< 0.1	1	09/17/97	09/18/97	281891
Hexachlorocyclopentadiene	525.2	0.1	< 0.1	50	09/17/97	09/18/97	281891
3-Hydroxycarbofuran	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281894
Lindane (gamma-BHC)	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281891
Methoxychlor	525.2	0.1	< 0.1	40	09/17/97	09/18/97	281891
Methomyl	531.1	0.5	< 0.5	---	09/17/97	09/17/97	281894
Metolachlor (Dual)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281891
Metribuzin (Sencor)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281891
Oxamyl (Vydate)	531.1	1.0	< 1.0	200	09/17/97	09/17/97	281894
Pentachlorophenol	515.1	0.04	< 0.04	1	09/17/97	09/17/97	281892
Picloram (Tordon)	515.1	0.1	< 0.1	500	09/17/97	09/17/97	281892
Propachlor	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281891
2,4,5-TP (Silvex)	515.1	0.1	< 0.1	50	09/17/97	09/17/97	281892
Simazine	525.2	0.07	< 0.07	4	09/17/97	09/18/97	281891
2,3,7,8-TCDD (Dioxin)				0.00003			
Toxaphene	505	1.0	< 1.0	3	09/23/97	10/07/97	281895

* EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

£ Any positive Aroclor result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L).

Electronic Filing: Received, Clerk's Office 07/19/2024

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(897)

Priority: Standard Written

Status: Final

Sampling Point: MW-B

Samples Submitted: One groundwater sample

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

None of the VOCs included in the detailed parameter list were detected in the sample submitted for analysis.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Environmental Health Laboratories (div. of MAS Technology Corporation).

Reviewed By: _____ Date: 9/17/97

Finalized By: _____ Date: _____

Client: Sima Labs International

Report: 281884-918(897)

Sampling Point: MW-B

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)	MCL (ug/L)
Regulated Parameters			
Benzene	0.5	< 0.5	5
Bromodichloromethane	0.1	< 0.1	100 *
Bromoform	0.1	< 0.1	100 *
Carbon tetrachloride	0.1	< 0.1	5
Chlorobenzene	0.2	< 0.2	100
Chloroform	0.1	< 0.1	100 *
Dibromochloromethane	0.1	< 0.1	100 *
1,2-Dibromo-3-Chloropropane	0.2	< 0.2	0.2 †
1,2-Dibromoethane(EDB)	0.1	< 0.1	0.05 †
1,2-Dichlorobenzene	0.1	< 0.1	600
1,4-Dichlorobenzene	0.1	< 0.1	75
1,2-Dichloroethane	0.1	< 0.1	5
1,1-Dichloroethylene	0.2	< 0.2	7
cis-1,2-Dichloroethylene	0.1	< 0.1	70
trans-1,2-Dichloroethylene	0.1	< 0.1	100
Dichloromethane	0.5	< 0.5	5
1,2-Dichloropropane	0.1	< 0.1	5
Ethylbenzene	0.1	< 0.1	700
Styrene	0.2	< 0.2	100
Tetrachloroethylene	0.2	< 0.2	5
Toluene	0.5	< 0.5	1000
1,2,4-Trichlorobenzene	0.2	< 0.2	70
1,1,1-Trichloroethane	0.1	< 0.1	200
1,1,2-Trichloroethane	0.1	< 0.1	5
Trichloroethylene	0.1	< 0.1	5
Vinyl chloride	0.2	< 0.2	2
Total Xylenes	0.2	< 0.2	10,000

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)
Unregulated Parameters		
Bromobenzene	0.2	< 0.2
Bromochloromethane	0.2	< 0.2
Bromomethane	0.5	< 0.5
n-Butylbenzene	0.2	< 0.2
sec-Butylbenzene	0.2	< 0.2
tert-Butylbenzene	0.2	< 0.2
Chloroethane	0.5	< 0.5
Chloromethane	0.5	< 0.5
2-Chlorotoluene (o-)	0.2	< 0.2
4-Chlorotoluene (p-)	0.2	< 0.2
Dibromomethane	0.1	< 0.1
1,3-Dichlorobenzene	0.1	< 0.1
Dichlorodifluoromethane	0.5	< 0.5
1,1-Dichloroethane	0.1	< 0.1
1,3-Dichloropropane	0.1	< 0.1
2,2-Dichloropropane	0.2	< 0.2
1,1-Dichloropropylene	0.1	< 0.1
cis-1,3-Dichloropropylene	0.1	< 0.1
trans-1,3-Dichloropropylene	0.1	< 0.1
Hexachlorobutadiene	0.2	< 0.2
Isopropylbenzene	0.1	< 0.1
4-Isopropyltoluene (p-)	0.1	< 0.1
Naphthalene	0.2	< 0.2
n-Propylbenzene	0.1	< 0.1
1,1,1,2-Tetrachloroethane	0.1	< 0.1
1,1,2,2-Tetrachloroethane	0.1	< 0.1
1,2,3-Trichlorobenzene	0.2	< 0.2
Trichlorofluoromethane	0.5	< 0.5
1,2,3-Trichloropropane	0.2	< 0.2
1,2,4-Trimethylbenzene	0.1	< 0.1
1,3,5-Trimethylbenzene	0.1	< 0.1

Method: 524.2

Analysis Date: 09/20/97

* The MCL of 100 ug/L is for total trihalomethanes and compliance samples must be collected from the distribution system.

** EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

† Compliance monitoring for these parameters must be done using EPA method 504.1

Electronic Filing: Received, Clerk's Office 07/19/2024

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(898-903)
Priority: Standard Written
Status: Final

Sampling Point: MW-C

Samples Submitted: Six groundwater samples

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

Di(2-ethylhexyl)phthalate was detected in the sample submitted for analysis at a concentration of 1.1 ug/L, which is less the current MCL of 6 ug/L. Method 525.2 section 13.2.4 states that di(2-ethylhexyl)phthalate can "appear in variable quantities in laboratory and field reagent blanks, and generally cannot be accurately measured at levels below about 2 ug/L." Di(2-ethylhexyl)phthalate was not detected in the associated laboratory method blank. None of the other analytes included in the detailed parameter list were detected in the sample submitted for analysis. Other compunds detected: Diethylphthalate at a concentration of ~16 ug/L. This concentration is estimated because the sample response exceeded the highest calibration standard. Reanalysis of a dilution was not available. Other compunds tentatively identified: An isomer of dichlorobenzoic acid at a concentration of ~220 ug/L. No standard was available to confirm this compound.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

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Reviewed By: _____ Date: 10/13/97

Finalized By: _____ Date: 10-23-97

Electronic Filing: Received, Clerk's Office 07/19/2024

Sampling Point: MW-C

PARAMETER	SDWA Method	MDL * (ug/L)	Results (ug/L)	MCL (ug/L)	Extraction Date	Analysis Date	Lab Number
Alachlor (Lasso)	525.2	0.1	< 0.1	2	09/17/97	09/18/97	281898
Aldicarb	531.1	0.5	< 0.5	3	09/17/97	09/17/97	281901
Aldicarb Sulfone	531.1	0.4	< 0.4	2	09/17/97	09/17/97	281901
Aldicarb Sulfoxide	531.1	0.5	< 0.5	4	09/17/97	09/17/97	281901
Aldrin	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281898
Aroclor 1016	505	0.08	< 0.08	£	09/23/97	09/23/97	281902
Aroclor 1221	505	2.0	< 2.0	£	09/23/97	09/23/97	281902
Aroclor 1232	505	0.5	< 0.5	£	09/23/97	09/23/97	281902
Aroclor 1242	505	0.3	< 0.3	£	09/23/97	09/23/97	281902
Aroclor 1248	505	0.1	< 0.1	£	09/23/97	09/23/97	281902
Aroclor 1254	505	0.1	< 0.1	£	09/23/97	09/23/97	281902
Aroclor 1260	505	0.2	< 0.2	£	09/23/97	09/23/97	281902
Atrazine	525.2	0.1	< 0.1	3	09/17/97	09/18/97	281898
Benzo(a)pyrene	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281898
Butachlor	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281898
Carbaryl	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281901
Carbofuran	531.1	0.9	< 0.9	40	09/17/97	09/17/97	281901
alpha-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281898
gamma-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281898
Chlordane	505	0.2	< 0.2	2	09/23/97	09/23/97	281902
2,4-D	515.1	0.1	< 0.1	70	09/17/97	09/17/97	281899
Dalapon	515.1	1.0	< 1.0	200	09/17/97	09/17/97	281899
1,2-Dibromo-3-chloropropane	504.1	0.02	< 0.02	0.2	09/22/97	09/22/97	281903
Dicamba	515.1	0.1	< 0.1	---	09/17/97	09/17/97	281899
Dieldrin	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281898
Di (2-ethylhexyl) adipate	525.2	0.6	< 0.6	400	09/17/97	09/18/97	281898
Di (2-ethylhexyl) phthalate	525.2	0.6	1.1	6	09/17/97	09/18/97	281898
Dinoseb	515.1	0.1	< 0.1	7	09/17/97	09/17/97	281899
Diquat				20			
Endothall	548.1	9.0	< 9.0	100	09/17/97	09/17/97	281900
Endrin	525.2	0.01	< 0.01	2	09/17/97	09/18/97	281898
Ethylene dibromide (EDB)	504.1	0.01	< 0.01	0.05	09/22/97	09/22/97	281903
Glyphosate (Round-up)				700			
Heptachlor	525.2	0.04	< 0.04	0.4	09/17/97	09/18/97	281898
Heptachlor epoxide	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281898
Hexachlorobenzene	525.2	0.1	< 0.1	1	09/17/97	09/18/97	281898
Hexachlorocyclopentadiene	525.2	0.1	< 0.1	50	09/17/97	09/18/97	281898
3-Hydroxycarbofuran	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281901
Lindane (gamma-BHC)	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281898
Methoxychlor	525.2	0.1	< 0.1	40	09/17/97	09/18/97	281898
Methomyl	531.1	0.5	< 0.5	---	09/17/97	09/17/97	281901
Metolachlor (Dual)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281898
Metribuzin (Sencor)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281898
Oxamyl (Vydate)	531.1	1.0	< 1.0	200	09/17/97	09/17/97	281901
Pentachlorophenol	515.1	0.04	< 0.04	1	09/17/97	09/17/97	281899
Picloram (Tordon)	515.1	0.1	< 0.1	500	09/17/97	09/17/97	281899
Propachlor	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281898
2,4,5-TP (Silvex)	515.1	0.1	< 0.1	50	09/17/97	09/17/97	281899
Simazine	525.2	0.07	< 0.07	4	09/17/97	09/18/97	281898
2,3,7,8-TCDD (Dioxin)				0.00003			
Toxaphene	505	1.0	< 1.0	3	09/23/97	09/23/97	281902

* EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

£ Any positive Aroclor result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L).

Electronic Filing: Received, Clerk's Office 07/19/2024

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(904)

Priority: Standard Written

Status: Final

Sampling Point: MW-C

Samples Submitted: One groundwater sample

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

None of the VOCs included in the detailed parameter list were detected in the sample submitted for analysis. Other compounds detected: tert-Butyl alcohol at a concentration of 6.6 ug/L. There is no MCL for this parameter.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

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Reviewed By: _____ Date: 9/23/97

Finalized By: _____ Date: 9-23-97

Client: Sima Labs International

Report: 281884-918(904)

Sampling Point: MW-C

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)	MCL (ug/L)
Regulated Parameters			
Benzene	0.5	< 0.5	5
Bromodichloromethane	0.1	< 0.1	100 *
Bromoform	0.1	< 0.1	100 *
Carbon tetrachlonde	0.1	< 0.1	5
Chlorobenzene	0.2	< 0.2	100
Chloroform	0.1	< 0.1	100 *
Dibromochloromethane	0.1	< 0.1	100 *
1,2-Dibromo-3-Chloropropane	0.2	< 0.2	0.2 †
1,2-Dibromoethane(EDB)	0.1	< 0.1	0.05 †
1,2-Dichlorobenzene	0.1	< 0.1	600
1,4-Dichlorobenzene	0.1	< 0.1	75
1,2-Dichloroethane	0.1	< 0.1	5
1,1-Dichloroethylene	0.2	< 0.2	7
cis-1,2-Dichloroethylene	0.1	< 0.1	70
trans-1,2-Dichloroethylene	0.1	< 0.1	100
Dichloromethane	0.5	< 0.5	5
1,2-Dichloropropane	0.1	< 0.1	5
Ethylbenzene	0.1	< 0.1	700
Styrene	0.2	< 0.2	100
Tetrachloroethylene	0.2	< 0.2	5
Toluene	0.5	< 0.5	1000
1,2,4-Trichlorobenzene	0.2	< 0.2	70
1,1,1-Trichloroethane	0.1	< 0.1	200
1,1,2-Trichloroethane	0.1	< 0.1	5
Trichloroethylene	0.1	< 0.1	5
Vinyl chloride	0.2	< 0.2	2
Total Xylenes	0.2	< 0.2	10,000

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)
Unregulated Parameters		
Bromobenzene	0.2	< 0.2
Bromochloromethane	0.2	< 0.2
Bromomethane	0.5	< 0.5
n-Butylbenzene	0.2	< 0.2
sec-Butylbenzene	0.2	< 0.2
tert-Butylbenzene	0.2	< 0.2
Chloroethane	0.5	< 0.5
Chloromethane	0.5	< 0.5
2-Chlorotoluene (o-)	0.2	< 0.2
4-Chlorotoluene (p-)	0.2	< 0.2
Dibromomethane	0.1	< 0.1
1,3-Dichlorobenzene	0.1	< 0.1
Dichlorodifluoromethane	0.5	< 0.5
1,1-Dichloroethane	0.1	< 0.1
1,3-Dichloropropane	0.1	< 0.1
2,2-Dichloropropane	0.2	< 0.2
1,1-Dichloropropylene	0.1	< 0.1
cis-1,3-Dichloropropylene	0.1	< 0.1
trans-1,3-Dichloropropylene	0.1	< 0.1
Hexachlorobutadiene	0.2	< 0.2
Isopropylbenzene	0.1	< 0.1
4-Isopropyltoluene (p-)	0.1	< 0.1
Naphthalene	0.2	< 0.2
n-Propylbenzene	0.1	< 0.1
1,1,1,2-Tetrachloroethane	0.1	< 0.1
1,1,2,2-Tetrachloroethane	0.1	< 0.1
1,2,3-Trichlorobenzene	0.2	< 0.2
Trichlorofluoromethane	0.5	< 0.5
1,2,3-Trichloropropane	0.2	< 0.2
1,2,4-Trimethylbenzene	0.1	< 0.1
1,3,5-Trimethylbenzene	0.1	< 0.1

Method: 524.2

Analysis Date: 09/20/97

* The MCL of 100 ug/L is for total trihalomethanes and compliance samples must be collected from the distribution system.

** EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

† Compliance monitoring for these parameters must be done using EPA method 504.1

Electronic Filing: Received, Clerk's Office 07/19/2024

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(905-910)
Priority: Standard Written
Status: Final

Sampling Point: MW-C Dup

Samples Submitted: Six groundwater samples

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

Di(2-ethylhexyl)phthalate was detected in the sample submitted for analysis at a concentration of 0.8 ug/L, which is less the current MCL of 6 ug/L. Method 525.2 section 13.2.4 states that di(2-ethylhexyl)phthalate can "appear in variable quantities in laboratory and field reagent blanks, and generally cannot be accurately measured at levels below about 2 ug/L." Di(2-ethylhexyl)phthalate was not detected in the associated laboratory method blank. None of the other analytes included in the detailed parameter list were detected in the sample submitted for analysis. Other compunds detected: Diethylphthalate at a concentration of ~18 ug/L. This concentration is estimated because the sample response exceeded the highest calibration standard. Reanalysis of a dilution was not available. Other compunds tentatively identified: An isomer of dichlorobenzoic acid at a concentration of ~210 ug/L. No standard was available to confirm this compound.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

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Reviewed By: _____ Date: 10/3/97

Finalized By: _____ Date: 10/3/97

Electronic Filing: Received, Clerk's Office 07/19/2024

Client: Sima Labs Inc (Report: 28159A (905-910)

Sampling Point: MW-C Dup

PARAMETER	SDWA Method	MDL * (ug/L)	Results (ug/L)	MCL (ug/L)	Extraction Date	Analysis Date	Lab Number
Alachlor (Lasso)	525.2	0.1	< 0.1	2	09/17/97	09/18/97	281905
Aldicarb	531.1	0.5	< 0.5	3	09/17/97	09/17/97	281908
Aldicarb Sulfone	531.1	0.4	< 0.4	2	09/17/97	09/17/97	281908
Aldicarb Sulfoxide	531.1	0.5	< 0.5	4	09/17/97	09/17/97	281908
Aldrin	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281905
Aroclor 1016	505	0.08	< 0.08	£	09/23/97	09/23/97	281909
Aroclor 1221	505	2.0	< 2.0	£	09/23/97	09/23/97	281909
Aroclor 1232	505	0.5	< 0.5	£	09/23/97	09/23/97	281909
Aroclor 1242	505	0.3	< 0.3	£	09/23/97	09/23/97	281909
Aroclor 1248	505	0.1	< 0.1	£	09/23/97	09/23/97	281909
Aroclor 1254	505	0.1	< 0.1	£	09/23/97	09/23/97	281909
Aroclor 1260	505	0.2	< 0.2	£	09/23/97	09/23/97	281909
Atrazine	525.2	0.1	< 0.1	3	09/17/97	09/18/97	281905
Benzo(a)pyrene	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281905
Butachlor	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281905
Carbaryl	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281908
Carbofuran	531.1	0.9	< 0.9	40	09/17/97	09/17/97	281908
alpha-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281905
gamma-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281905
Chlordane	505	0.2	< 0.2	2	09/23/97	09/23/97	281909
2,4-D	515.1	0.1	< 0.1	70	09/17/97	09/17/97	281906
Dalapon	515.1	1.0	< 1.0	200	09/17/97	09/17/97	281906
1,2-Dibromo-3-chloropropane	504.1	0.02	< 0.02	0.2	09/22/97	09/22/97	281910
Dicamba	515.1	0.1	< 0.1	---	09/17/97	09/17/97	281906
Dieldrin	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281905
Di (2-ethylhexyl) adipate	525.2	0.6	< 0.6	400	09/17/97	09/18/97	281905
Di (2-ethylhexyl) phthalate	525.2	0.6	0.8	6	09/17/97	09/18/97	281905
Dinoseb	515.1	0.1	< 0.1	7	09/17/97	09/17/97	281906
Diquat				20			
Endothall	548.1	9.0	< 9.0	100	09/17/97	09/17/97	281907
Endrin	525.2	0.01	< 0.01	2	09/17/97	09/18/97	281905
Ethylene dibromide (EDB)	504.1	0.01	< 0.01	0.05	09/22/97	09/22/97	281910
Glyphosate (Round-up)				700			
Heptachlor	525.2	0.04	< 0.04	0.4	09/17/97	09/18/97	281905
Heptachlor epoxide	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281905
Hexachlorobenzene	525.2	0.1	< 0.1	1	09/17/97	09/18/97	281905
Hexachlorocyclopentadiene	525.2	0.1	< 0.1	50	09/17/97	09/18/97	281905
3-Hydroxycarbofuran	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281908
Lindane (gamma-BHC)	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281905
Methoxychlor	525.2	0.1	< 0.1	40	09/17/97	09/18/97	281905
Methomyl	531.1	0.5	< 0.5	---	09/17/97	09/17/97	281908
Metolachlor (Dual)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281905
Metribuzin (Sencor)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281905
Oxamyl (Vydate)	531.1	1.0	< 1.0	200	09/17/97	09/17/97	281908
Pentachlorophenol	515.1	0.04	< 0.04	1	09/17/97	09/17/97	281906
Picloram (Tordon)	515.1	0.1	< 0.1	500	09/17/97	09/17/97	281906
Propachlor	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281905
2,4,5-TP (Silvex)	515.1	0.1	< 0.1	50	09/17/97	09/17/97	281906
Simazine	525.2	0.07	< 0.07	4	09/17/97	09/18/97	281905
2,3,7,8-TCDD (Dioxin)				0.00003			
Toxaphene	505	1.0	< 1.0	3	09/23/97	09/23/97	281909

* EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

£ Any positive Aroclor result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L).

Electronic Filing: Received, Clerk's Office 07/19/2024

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(911)

Priority: Standard Written

Status: Final

Sampling Point: MW-C Dup

Samples Submitted: One groundwater sample

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

None of the VOCs included in the detailed parameter list were detected in the sample submitted for analysis.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

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Reviewed By: _____ Date: 10.13.97

Finalized By: _____ Date: 10-15-97

Client: Sima Labs International

Report 281884-918(911)

Sampling Point: MW-C Dup

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)	MCL (ug/L)
Regulated Parameters			
Benzene	0.5	< 0.5	5
Bromodichloromethane	0.1	< 0.1	100 *
Bromoform	0.1	< 0.1	100 *
Carbon tetrachlonde	0.1	< 0.1	5
Chlorobenzene	0.2	< 0.2	100
Chloroform	0.1	< 0.1	100 *
Dibromochloromethane	0.1	< 0.1	100 *
1,2-Dibromo-3-Chloropropane	0.2	< 0.2	0.2 †
1,2-Dibromoethane(EDB)	0.1	< 0.1	0.05 †
1,2-Dichlorobenzene	0.1	< 0.1	600
1,4-Dichlorobenzene	0.1	< 0.1	75
1,2-Dichloroethane	0.1	< 0.1	5
1,1-Dichloroethylene	0.2	< 0.2	7
cis-1,2-Dichloroethylene	0.1	< 0.1	70
trans-1,2-Dichloroethylene	0.1	< 0.1	100
Dichloromethane	0.5	< 0.5	5
1,2-Dichloropropane	0.1	< 0.1	5
Ethylbenzene	0.1	< 0.1	700
Styrene	0.2	< 0.2	100
Tetrachloroethylene	0.2	< 0.2	5
Toluene	0.5	< 0.5	1000
1,2,4-Trichlorobenzene	0.2	< 0.2	70
1,1,1-Trichloroethane	0.1	< 0.1	200
1,1,2-Trichloroethane	0.1	< 0.1	5
Trichloroethylene	0.1	< 0.1	5
Vinyl chloride	0.2	< 0.2	2
Total Xylenes	0.2	< 0.2	10,000

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)
Unregulated Parameters		
Bromobenzene	0.2	< 0.2
Bromochloromethane	0.2	< 0.2
Bromomethane	0.5	< 0.5
n-Butylbenzene	0.2	< 0.2
sec-Butylbenzene	0.2	< 0.2
tert-Butylbenzene	0.2	< 0.2
Chloroethane	0.5	< 0.5
Chloromethane	0.5	< 0.5
2-Chlorotoluene (o-)	0.2	< 0.2
4-Chlorotoluene (p-)	0.2	< 0.2
Dibromomethane	0.1	< 0.1
1,3-Dichlorobenzene	0.1	< 0.1
Dichlorodifluoromethane	0.5	< 0.5
1,1-Dichloroethane	0.1	< 0.1
1,3-Dichloropropane	0.1	< 0.1
2,2-Dichloropropane	0.2	< 0.2
1,1-Dichloropropylene	0.1	< 0.1
cis-1,3-Dichloropropylene	0.1	< 0.1
trans-1,3-Dichloropropylene	0.1	< 0.1
Hexachlorobutadiene	0.2	< 0.2
Isopropylbenzene	0.1	< 0.1
4-Isopropyltoluene (p-)	0.1	< 0.1
Naphthalene	0.2	< 0.2
n-Propylbenzene	0.1	< 0.1
1,1,1,2-Tetrachloroethane	0.1	< 0.1
1,1,2,2-Tetrachloroethane	0.1	< 0.1
1,2,3-Trichlorobenzene	0.2	< 0.2
Trichlorofluoromethane	0.5	< 0.5
1,2,3-Trichloropropane	0.2	< 0.2
1,2,4-Trimethylbenzene	0.1	< 0.1
1,3,5-Trimethylbenzene	0.1	< 0.1

Method: 524.2

Analysis Date: 09/20/97

* The MCL of 100 ug/L is for total trihalomethanes and compliance samples must be collected from the distribution system.

** EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

† Compliance monitoring for these parameters must be done using EPA method 504.1

Electronic Filing: Received, Clerk's Office 07/19/2024

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(912-917)
Priority: Standard Written
Status: Final

Sampling Point: MW-D

Samples Submitted: Six groundwater samples

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

Di(2-ethylhexyl)phthalate was detected in the sample submitted for analysis at a concentration of ~59 ug/L, which is greater the current MCL of 6 ug/L. This concentration is estimated because the sample response exceeded the highest calibration standard. Reanalysis of a dilution was not available. None of the other analytes included in the detailed parameter list were detected in the sample submitted for analysis. Other compunds detected: Diethylphthalate at a concentration of 4.1 ug/L. There is no MCL for this parameter. Other compunds tentatively identified: An isomer of dichlorobenzoic acid at a concentration of ~29 ug/L. No standard was available to confirm this compound.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Environmental Health Laboratories (div. of MAS Technology Corporation).

Reviewed By: _____ Date: 10 13 97

Finalized By: _____ Date: 10-13-97

Client: Sima Labs International Report (97-B9-0812-917)

Sampling Point: MW-D

PARAMETER	SDWA Method	MDL * (ug/L)	Results (ug/L)	MCL (ug/L)	Extraction Date	Analysis Date	Lab Number
Alachlor (Lasso)	525.2	0.1	< 0.1	2	09/17/97	09/18/97	281912
Aldicarb	531.1	0.5	< 0.5	3	09/17/97	09/17/97	281915
Aldicarb Sulfone	531.1	0.4	< 0.4	2	09/17/97	09/17/97	281915
Aldicarb Sulfoxide	531.1	0.5	< 0.5	4	09/17/97	09/17/97	281915
Aldrin	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281912
Aroclor 1016	505	0.08	< 0.08	£	09/23/97	09/23/97	281916
Aroclor 1221	505	2.0	< 2.0	£	09/23/97	09/23/97	281916
Aroclor 1232	505	0.5	< 0.5	£	09/23/97	09/23/97	281916
Aroclor 1242	505	0.3	< 0.3	£	09/23/97	09/23/97	281916
Aroclor 1248	505	0.1	< 0.1	£	09/23/97	09/23/97	281916
Aroclor 1254	505	0.1	< 0.1	£	09/23/97	09/23/97	281916
Aroclor 1260	505	0.2	< 0.2	£	09/23/97	09/23/97	281916
Atrazine	525.2	0.1	< 0.1	3	09/17/97	09/18/97	281912
Benzo(a)pyrene	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281912
Butachlor	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281912
Carbaryl	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281915
Carbofuran	531.1	0.9	< 0.9	40	09/17/97	09/17/97	281915
alpha-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281912
gamma-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281912
Chlordane	505	0.2	< 0.2	2	09/23/97	09/23/97	281916
2,4-D	515.1	0.1	< 0.1	70	09/17/97	09/17/97	281913
Dalapon	515.1	1.0	< 1.0	200	09/17/97	09/17/97	281913
1,2-Dibromo-3-chloropropane	504.1	0.02	< 0.02	0.2	09/22/97	09/22/97	281917
Dicamba	515.1	0.1	< 0.1	---	09/17/97	09/17/97	281913
Dieldrin	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281912
Di (2-ethylhexyl) adipate	525.2	0.6	< 0.6	400	09/17/97	09/18/97	281912
Di (2-ethylhexyl) phthalate	525.2	0.6	~ 59	6	09/17/97	09/18/97	281912
Dinoseb	515.1	0.1	< 0.1	7	09/17/97	09/17/97	281913
Diquat				20			
Endothall	548.1	9.0	< 9.0	100	09/17/97	09/17/97	281914
Endrin	525.2	0.01	< 0.01	2	09/17/97	09/18/97	281912
Ethylene dibromide (EDB)	504.1	0.01	< 0.01	0.05	09/22/97	09/22/97	281917
Glyphosate (Round-up)				700			
Heptachlor	525.2	0.04	< 0.04	0.4	09/17/97	09/18/97	281912
Heptachlor epoxide	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281912
Hexachlorobenzene	525.2	0.1	< 0.1	1	09/17/97	09/18/97	281912
Hexachlorocyclopentadiene	525.2	0.1	< 0.1	50	09/17/97	09/18/97	281912
3-Hydroxycarbofuran	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281915
Lindane (gamma-BHC)	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281912
Methoxychlor	525.2	0.1	< 0.1	40	09/17/97	09/18/97	281912
Methomyl	531.1	0.5	< 0.5	---	09/17/97	09/17/97	281915
Metolachlor (Dual)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281912
Metribuzin (Sencor)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281912
Oxamyl (Vydate)	531.1	1.0	< 1.0	200	09/17/97	09/17/97	281915
Pentachlorophenol	515.1	0.04	< 0.04	1	09/17/97	09/17/97	281913
Picloram (Tordon)	515.1	0.1	< 0.1	500	09/17/97	09/17/97	281913
Propachlor	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281912
2,4,5-TP (Silvex)	515.1	0.1	< 0.1	50	09/17/97	09/17/97	281913
Simazine	525.2	0.07	< 0.07	4	09/17/97	09/18/97	281912
2,3,7,8-TCDD (Dioxin)				0.00003			
Toxaphene	505	1.0	< 1.0	3	09/23/97	09/23/97	281916

* EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

£ Any positive Aroclor result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L).

Electronic Filing: Received, Clerk's Office 07/19/2024

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(918)

Priority: Standard Written

Status: Final

Sampling Point: MW-D

Samples Submitted: One groundwater sample

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

None of the VOCs included in the detailed parameter list were detected in the sample submitted for analysis.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Environmental Health Laboratories (div. of MAS Technology Corporation).

Reviewed By: _____ Date: 10-13-97

Finalized By: _____ Date: 10-15-97

Client: Sima Labs International

Report: 281884-918(918)

Sampling Point: MW-D

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)	MCL (ug/L)
Regulated Parameters			
Benzene	0.5	< 0.5	5
Bromodichloromethane	0.1	< 0.1	100 *
Bromoform	0.1	< 0.1	100 *
Carbon tetrachloride	0.1	< 0.1	5
Chlorobenzene	0.2	< 0.2	100
Chloroform	0.1	< 0.1	100 *
Dibromochloromethane	0.1	< 0.1	100 *
1,2-Dibromo-3-Chloropropane	0.2	< 0.2	0.2 †
1,2-Dibromoethane(EDB)	0.1	< 0.1	0.05 †
1,2-Dichlorobenzene	0.1	< 0.1	600
1,4-Dichlorobenzene	0.1	< 0.1	75
1,2-Dichloroethane	0.1	< 0.1	5
1,1-Dichloroethylene	0.2	< 0.2	7
cis-1,2-Dichloroethylene	0.1	< 0.1	70
trans-1,2-Dichloroethylene	0.1	< 0.1	100
Dichloromethane	0.5	< 0.5	5
1,2-Dichloropropane	0.1	< 0.1	5
Ethylbenzene	0.1	< 0.1	700
Styrene	0.2	< 0.2	100
Tetrachloroethylene	0.2	< 0.2	5
Toluene	0.5	< 0.5	1000
1,2,4-Trichlorobenzene	0.2	< 0.2	70
1,1,1-Trichloroethane	0.1	< 0.1	200
1,1,2-Trichloroethane	0.1	< 0.1	5
Trichloroethylene	0.1	< 0.1	5
Vinyl chloride	0.2	< 0.2	2
Total Xylenes	0.2	< 0.2	10,000

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)
Unregulated Parameters		
Bromobenzene	0.2	< 0.2
Bromochloromethane	0.2	< 0.2
Bromomethane	0.5	< 0.5
n-Butylbenzene	0.2	< 0.2
sec-Butylbenzene	0.2	< 0.2
tert-Butylbenzene	0.2	< 0.2
Chloroethane	0.5	< 0.5
Chloromethane	0.5	< 0.5
2-Chlorotoluene (o-)	0.2	< 0.2
4-Chlorotoluene (p-)	0.2	< 0.2
Dibromomethane	0.1	< 0.1
1,3-Dichlorobenzene	0.1	< 0.1
Dichlorodifluoromethane	0.5	< 0.5
1,1-Dichloroethane	0.1	< 0.1
1,3-Dichloropropane	0.1	< 0.1
2,2-Dichloropropane	0.2	< 0.2
1,1-Dichloropropylene	0.1	< 0.1
cis-1,3-Dichloropropylene	0.1	< 0.1
trans-1,3-Dichloropropylene	0.1	< 0.1
Hexachlorobutadiene	0.2	< 0.2
Isopropylbenzene	0.1	< 0.1
4-Isopropyltoluene (p-)	0.1	< 0.1
Naphthalene	0.2	< 0.2
n-Propylbenzene	0.1	< 0.1
1,1,1,2-Tetrachloroethane	0.1	< 0.1
1,1,2,2-Tetrachloroethane	0.1	< 0.1
1,2,3-Trichlorobenzene	0.2	< 0.2
Trichlorofluoromethane	0.5	< 0.5
1,2,3-Trichloropropane	0.2	< 0.2
1,2,4-Trimethylbenzene	0.1	< 0.1
1,3,5-Trimethylbenzene	0.1	< 0.1

Method: 524.2

Analysis Date: 09/20/97

* The MCL of 100 ug/L is for total trihalomethanes and compliance samples must be collected from the distribution system.

** EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

† Compliance monitoring for these parameters must be done using EPA method 504.1

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CEI

CHAIN-OF-CUSTODY RECORD

✓ 9.29-W M

No. — 7485

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140 Fax (312) 396-6956

PROJ NO. 9440A | PROJECT NAME CECO

SAMPLERS: (Signature) BA Shabino

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) Attached List *	REMARKS
1	MW-A	9-12	0840		X	Water - Well MW-A	1b	X	Analytes are listed 9096-01 on attached list
2	MW-B	"	1020		X	Well MW-B	1b	X	9096 02
3	MW-C	"	1345		X	Well MW-C	1b	X	03
4	MW-D	↓	1810		X	Well MW-D	1b	X	04
5	MW-C Dup	9-12	1345		X	Water - Well MW-C Dup	1b	X	05
6									
7									
8									
9									
10									

Relinquished by	Date/Time	Received by
BA Shabino	9-13	[signature] 9-13
Relinquished by	Date/Time	Received by
Relinquished by	Date/Time	Received for Laboratory by

REMARKS

10 Working days Turn-Around-Time

Reference # 7064

Please fax and send results to Bruce Shabino.

Distribution White Accompanies Shipment Yellow Laboratory File Pink Coordinator Field Files

Electronic Filing: Received, Clerk's Office 07/19/2024

Environmental Health Laboratories

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(884-889)
Priority: Standard Written
Status: Final

Sampling Point: MW-A

Samples Submitted: Six groundwater samples

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

Di(2-ethylhexyl)phthalate was detected in the sample submitted for analysis at a concentration of ~73 ug/L, which is greater than the current MCL of 6 ug/L. This concentration is estimated because the sample response exceeded the highest calibration standard. Reanalysis of a dilution was not available. None of the other analytes included in the detailed parameter list were detected in the sample submitted for analysis. Other compunds detected: Diethylphthalate at a concentration of ~13 ug/L. This concentration is estimated because the sample response exceeded the highest calibration standard. Reanalysis of a dilution was not available. Other compunds tentatively identified: An isomer of dichlorobenzoic acid at a concentration of ~150 ug/L. No standard was available to confirm this compound.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Environmental Health Laboratories (div. of MAS Technology Corporation).

Reviewed By: _____ Date: 10-13-97

Finalized By: _____ Date: 10-13-97

Electronic Filing: Received, Clerk's Office 07/19/2024

Sampling Point: MW-A

PARAMETER	SDWA Method	MDL * (ug/L)	Results (ug/L)	MCL (ug/L)	Extraction Date	Analysis Date	Lab Number
Alachlor (Lasso)	525.2	0.1	< 0.1	2	09/17/97	09/18/97	281884
Aldicarb	531.1	0.5	< 0.5	3	09/17/97	09/17/97	281887
Aldicarb Sulfone	531.1	0.4	< 0.4	2	09/17/97	09/17/97	281887
Aldicarb Sulfoxide	531.1	0.5	< 0.5	4	09/17/97	09/17/97	281887
Aldrin	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281884
Aroclor 1016	505	0.08	< 0.08	£	09/23/97	10/07/97	281888
Aroclor 1221	505	2.0	< 2.0	£	09/23/97	10/07/97	281888
Aroclor 1232	505	0.5	< 0.5	£	09/23/97	10/07/97	281888
Aroclor 1242	505	0.3	< 0.3	£	09/23/97	10/07/97	281888
Aroclor 1248	505	0.1	< 0.1	£	09/23/97	10/07/97	281888
Aroclor 1254	505	0.1	< 0.1	£	09/23/97	10/07/97	281888
Aroclor 1260	505	0.2	< 0.2	£	09/23/97	10/07/97	281888
Atrazine	525.2	0.1	< 0.1	3	09/17/97	09/18/97	281884
Benzo(a)pyrene	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281884
Butachlor	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281884
Carbaryl	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281887
Carbofuran	531.1	0.9	< 0.9	40	09/17/97	09/17/97	281887
alpha-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281884
gamma-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281884
Chlordane	505	0.2	< 0.2	2	09/23/97	10/07/97	281888
2,4-D	515.1	0.1	< 0.1	70	09/17/97	09/17/97	281885
Dalapon	515.1	1.0	< 1.0	200	09/17/97	09/17/97	281885
1,2-Dibromo-3-chloropropane	504.1	0.02	< 0.02	0.2	09/22/97	09/22/97	281889
Dicamba	515.1	0.1	< 0.1	---	09/17/97	09/17/97	281885
Dieldrin	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281884
Di (2-ethylhexyl) adipate	525.2	0.6	< 0.6	400	09/17/97	09/18/97	281884
Di (2-ethylhexyl) phthalate	525.2	0.6	- 73	6	09/17/97	09/18/97	281884
Dinoseb	515.1	0.1	< 0.1	7	09/17/97	09/17/97	281885
Diquat				20			
Endothall	548.1	9.0	< 9.0	100	09/17/97	09/17/97	281886
Endrin	525.2	0.01	< 0.01	2	09/17/97	09/18/97	281884
Ethylene dibromide (EDB)	504.1	0.01	< 0.01	0.05	09/22/97	09/22/97	281889
Glyphosate (Round-up)				700			
Heptachlor	525.2	0.04	< 0.04	0.4	09/17/97	09/18/97	281884
Heptachlor epoxide	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281884
Hexachlorobenzene	525.2	0.1	< 0.1	1	09/17/97	09/18/97	281884
Hexachlorocyclopentadiene	525.2	0.1	< 0.1	50	09/17/97	09/18/97	281884
3-Hydroxycarbofuran	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281887
Lindane (gamma-BHC)	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281884
Methoxychlor	525.2	0.1	< 0.1	40	09/17/97	09/18/97	281884
Methomyl	531.1	0.5	< 0.5	---	09/17/97	09/17/97	281887
Metolachlor (Dual)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281884
Metribuzin (Sencor)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281884
Oxamyl (Vydate)	531.1	1.0	< 1.0	200	09/17/97	09/17/97	281887
Pentachlorophenol	515.1	0.04	< 0.04	1	09/17/97	09/17/97	281885
Picloram (Tordon)	515.1	0.1	< 0.1	500	09/17/97	09/17/97	281885
Propachlor	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281884
2,4,5-TP (Silvex)	515.1	0.1	< 0.1	50	09/17/97	09/17/97	281885
Simazine	525.2	0.07	< 0.07	4	09/17/97	09/18/97	281884
2,3,7,8-TCDD (Dioxin)				0.00003			
Toxaphene	505	1.0	< 1.0	3	09/23/97	10/07/97	281888

* EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices

£ Any positive Aroclor result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L)

Electronic Filing: Received, Clerk's Office 07/19/2024

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report 281884-918(890)

Priority: Standard Written

Status: Final

Sampling Point: MW-A

Samples Submitted: One groundwater sample

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

1,4-Dichlorobenzene and total xylenes were detected in the sample submitted for analysis at the concentrations indicated, which are both less than their current respective MCLs. 1,1-Dichloroethane was also detected in the sample submitted for analysis at a concentration of 0.2 ug/L. There is no MCL for this parameter. Other compounds detected: tert-Butyl alcohol at a concentration of 5.9 ug/L. There is no MCL for this parameter.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Environmental Health Laboratories (div. of MAS Technology Corporation).

Reviewed By: _____ Date: 10-13-97

Finalized By: _____ Date: 10-13-97

Electronic Filing: Received, Clerk's Office 07/19/2024

Client: Sima Labs International

Report: 281884-918(890)

Sampling Point: MW-A

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)	MCL (ug/L)
Regulated Parameters			
Benzene	0.5	< 0.5	5
Bromodichloromethane	0.1	< 0.1	100 *
Bromoform	0.1	< 0.1	100 *
Carbon tetrachloride	0.1	< 0.1	5
Chlorobenzene	0.2	< 0.2	100
Chloroform	0.1	< 0.1	100 *
Dibromochloromethane	0.1	< 0.1	100 *
1,2-Dibromo-3-Chloropropane	0.2	< 0.2	0.2 †
1,2-Dibromoethane(EDB)	0.1	< 0.1	0.05 †
1,2-Dichlorobenzene	0.1	< 0.1	600
1,4-Dichlorobenzene	0.1	0.2	75
1,2-Dichloroethane	0.1	< 0.1	5
1,1-Dichloroethylene	0.2	< 0.2	7
cis-1,2-Dichloroethylene	0.1	< 0.1	70
trans-1,2-Dichloroethylene	0.1	< 0.1	100
Dichloromethane	0.5	< 0.5	5
1,2-Dichloropropane	0.1	< 0.1	5
Ethylbenzene	0.1	< 0.1	700
Styrene	0.2	< 0.2	100
Tetrachloroethylene	0.2	< 0.2	5
Toluene	0.5	< 0.5	1000
1,2,4-Trichlorobenzene	0.2	< 0.2	70
1,1,1-Trichloroethane	0.1	< 0.1	200
1,1,2-Trichloroethane	0.1	< 0.1	5
Trichloroethylene	0.1	< 0.1	5
Vinyl chloride	0.2	< 0.2	2
Total Xylenes	0.1	0.1	10,000

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)
Unregulated Parameters		
Bromobenzene	0.2	< 0.2
Bromochloromethane	0.2	< 0.2
Bromomethane	0.5	< 0.5
n-Butylbenzene	0.2	< 0.2
sec-Butylbenzene	0.2	< 0.2
tert-Butylbenzene	0.2	< 0.2
Chloroethane	0.5	< 0.5
Chloromethane	0.5	< 0.5
2-Chlorotoluene (o-)	0.2	< 0.2
4-Chlorotoluene (p-)	0.2	< 0.2
Dibromomethane	0.1	< 0.1
1,3-Dichlorobenzene	0.1	< 0.1
Dichlorodifluoromethane	0.5	< 0.5
1,1-Dichloroethane	0.1	0.2
1,3-Dichloropropane	0.1	< 0.1
2,2-Dichloropropane	0.2	< 0.2
1,1-Dichloropropylene	0.1	< 0.1
cis-1,3-Dichloropropylene	0.1	< 0.1
trans-1,3-Dichloropropylene	0.1	< 0.1
Hexachlorobutadiene	0.2	< 0.2
Isopropylbenzene	0.1	< 0.1
4-Isopropyltoluene (p-)	0.1	< 0.1
Naphthalene	0.2	< 0.2
n-Propylbenzene	0.1	< 0.1
1,1,1,2-Tetrachloroethane	0.1	< 0.1
1,1,2,2-Tetrachloroethane	0.1	< 0.1
1,2,3-Trichlorobenzene	0.2	< 0.2
Trichlorofluoromethane	0.5	< 0.5
1,2,3-Trichloropropane	0.2	< 0.2
1,2,4-Trimethylbenzene	0.1	< 0.1
1,3,5-Trimethylbenzene	0.1	< 0.1

Method: 524.2

Analysis Date: 09/20/97

* The MCL of 100 ug/L is for total trihalomethanes and compliance samples must be collected from the distribution system.

** EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

† Compliance monitoring for these parameters must be done using EPA method 504.1

Electronic Filing: Received, Clerk's Office 07/19/2024

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(891-896)
Priority: Standard Written
Status: Final

Sampling Point: MW-B

Samples Submitted: Six groundwater samples

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

Di(2-ethylhexyl)phthalate was detected in the sample submitted for analysis at a concentration of ~140 ug/L, which is greater the current MCL of 6 ug/L. This concentration is estimated because the sample response exceeded the highest calibration standard. Reanalysis of a dilution was not available. None of the other analytes included in the detailed parameter list were detected in the sample submitted for analysis. Other compunds detected: Diethylphthalate at a concentration of ~10 ug/L. There is no MCL for this parameter. This concentration is estimated because the sample response exceeded the highest calibration standard. Reanalysis of a dilution was not available. Other compunds tentatively identified: An isomer of dichlorobenzoic acid at a concentration of ~140 ug/L. No standard was available to confirm this compound.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Environmental Health Laboratories (div. of MAS Technology Corporation).

Reviewed By: _____ Date: 10/3/97

Finalized By: _____ Date: 10-13-97

Electronic Filing: Received, Clerk's Office 07/19/2024

Sampling Point: MW-B

PARAMETER	SDWA Method	MDL * (ug/L)	Results (ug/L)	MCL (ug/L)	Extraction Date	Analysis Date	Lab Number
Alachlor (Lasso)	525 2	0.1	< 0 1	2	09/17/97	09/18/97	281891
Aldicarb	531.1	0 5	< 0 5	3	09/17/97	09/17/97	281894
Aldicarb Sulfone	531 1	0 4	< 0 4	2	09/17/97	09/17/97	281894
Aldicarb Sulfoxide	531 1	0 5	< 0 5	4	09/17/97	09/17/97	281894
Aldrin	525 2	0.1	< 0 1	---	09/17/97	09/18/97	281891
Aroclor 1016	505	0 08	< 0 08	£	09/23/97	10/07/97	281895
Aroclor 1221	505	2 0	< 2 0	£	09/23/97	10/07/97	281895
Aroclor 1232	505	0 5	< 0.5	£	09/23/97	10/07/97	281895
Aroclor 1242	505	0 3	< 0 3	£	09/23/97	10/07/97	281895
Aroclor 1248	505	0.1	< 0.1	£	09/23/97	10/07/97	281895
Aroclor 1254	505	0.1	< 0.1	£	09/23/97	10/07/97	281895
Aroclor 1260	505	0 2	< 0 2	£	09/23/97	10/07/97	281895
Atrazine	525.2	0.1	< 0 1	3	09/17/97	09/18/97	281891
Benzo(a)pyrene	525.2	0 02	< 0 02	0 2	09/17/97	09/18/97	281891
Butachlor	525.2	0 1	< 0.1	---	09/17/97	09/18/97	281891
Carbaryl	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281894
Carbofuran	531.1	0.9	< 0 9	40	09/17/97	09/17/97	281894
alpha-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281891
gamma-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281891
Chlordane	505	0 2	< 0 2	2	09/23/97	10/07/97	281895
2,4-D	515.1	0.1	< 0.1	70	09/17/97	09/17/97	281892
Dalapon	515.1	1.0	< 1.0	200	09/17/97	09/17/97	281892
1,2-Dibromo-3-chloropropane	504.1	0.02	< 0.02	0 2	09/22/97	09/22/97	281896
Dicamba	515.1	0.1	< 0.1	---	09/17/97	09/17/97	281892
Dieldrin	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281891
Di (2-ethylhexyl) adipate	525.2	0.6	< 0.6	400	09/17/97	09/18/97	281891
Di (2-ethylhexyl) phthalate	525.2	0.6	~ 140	6	09/17/97	09/18/97	281891
Dinoseb	515.1	0.1	< 0.1	7	09/17/97	09/17/97	281892
Diquat				20			
Endothall	548.1	9.0	< 9.0	100	09/17/97	09/17/97	281893
Endrin	525.2	0.01	< 0.01	2	09/17/97	09/18/97	281891
Ethylene dibromide (EDB)	504.1	0.01	< 0.01	0.05	09/22/97	09/22/97	281896
Glyphosate (Round-up)				700			
Heptachlor	525.2	0.04	< 0.04	0.4	09/17/97	09/18/97	281891
Heptachlor epoxide	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281891
Hexachlorobenzene	525.2	0.1	< 0.1	1	09/17/97	09/18/97	281891
Hexachlorocyclopentadiene	525.2	0.1	< 0.1	50	09/17/97	09/18/97	281891
3-Hydroxycarbofuran	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281894
Lindane (gamma-BHC)	525.2	0 02	< 0.02	0 2	09/17/97	09/18/97	281891
Methoxychlor	525.2	0.1	< 0.1	40	09/17/97	09/18/97	281891
Methomyl	531.1	0.5	< 0.5	---	09/17/97	09/17/97	281894
Metolachlor (Dual)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281891
Metribuzin (Sencor)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281891
Oxamyl (Vydate)	531.1	1.0	< 1.0	200	09/17/97	09/17/97	281894
Pentachlorophenol	515.1	0 04	< 0 04	1	09/17/97	09/17/97	281892
Picloram (Tordon)	515.1	0.1	< 0.1	500	09/17/97	09/17/97	281892
Propachlor	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281891
2,4,5-TP (Silvex)	515.1	0.1	< 0.1	50	09/17/97	09/17/97	281892
Simazine	525.2	0.07	< 0.07	4	09/17/97	09/18/97	281891
2,3,7,8-TCDD (Dioxin)				0 00003			
Toxaphene	505	1.0	< 1.0	3	09/23/97	10/07/97	281895

* EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

£ Any positive Aroclor result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0 5 ug/L)

Electronic Filing: Received, Clerk's Office 07/19/2024

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(897)

Priority: Standard Written

Status: Final

Sampling Point: MW-B

Samples Submitted: One groundwater sample

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

None of the VOCs included in the detailed parameter list were detected in the sample submitted for analysis.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

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Reviewed By: _____ Date: 10-13-97

Finalized By: _____ Date: 10-30-97

Client: Sima Labs International Report: 281884-918(897)

Sampling Point: MW-B

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)	MCL (ug/L)	PARAMETER	Report Limit ** (ug/L)	Result (ug/L)
Regulated Parameters				Unregulated Parameters		
Benzene	0.5	< 0.5	5	Bromobenzene	0.2	< 0.2
Bromodichloromethane	0.1	< 0.1	100 *	Bromochloromethane	0.2	< 0.2
Bromoform	0.1	< 0.1	100 *	Bromomethane	0.5	< 0.5
Carbon tetrachloride	0.1	< 0.1	5	n-Butylbenzene	0.2	< 0.2
Chlorobenzene	0.2	< 0.2	100	sec-Butylbenzene	0.2	< 0.2
Chloroform	0.1	< 0.1	100 *	tert-Butylbenzene	0.2	< 0.2
Dibromochloromethane	0.1	< 0.1	100 *	Chloroethane	0.5	< 0.5
1,2-Dibromo-3-Chloropropane	0.2	< 0.2	0.2 †	Chloromethane	0.5	< 0.5
1,2-Dibromoethane(EDB)	0.1	< 0.1	0.05 †	2-Chlorotoluene (o-)	0.2	< 0.2
1,2-Dichlorobenzene	0.1	< 0.1	600	4-Chlorotoluene (p-)	0.2	< 0.2
1,4-Dichlorobenzene	0.1	< 0.1	75	Dibromomethane	0.1	< 0.1
1,2-Dichloroethane	0.1	< 0.1	5	1,3-Dichlorobenzene	0.1	< 0.1
1,1-Dichloroethylene	0.2	< 0.2	7	Dichlorodifluoromethane	0.5	< 0.5
cis-1,2-Dichloroethylene	0.1	< 0.1	70	1,1-Dichloroethane	0.1	< 0.1
trans-1,2-Dichloroethylene	0.1	< 0.1	100	1,3-Dichloropropane	0.1	< 0.1
Dichloromethane	0.5	< 0.5	5	2,2-Dichloropropane	0.2	< 0.2
1,2-Dichloropropane	0.1	< 0.1	5	1,1-Dichloropropylene	0.1	< 0.1
Ethylbenzene	0.1	< 0.1	700	cis-1,3-Dichloropropylene	0.1	< 0.1
Styrene	0.2	< 0.2	100	trans-1,3-Dichloropropylene	0.1	< 0.1
Tetrachloroethylene	0.2	< 0.2	5	Hexachlorobutadiene	0.2	< 0.2
Toluene	0.5	< 0.5	1000	Isopropylbenzene	0.1	< 0.1
1,2,4-Trichlorobenzene	0.2	< 0.2	70	4-Isopropyltoluene (p-)	0.1	< 0.1
1,1,1-Trichloroethane	0.1	< 0.1	200	Naphthalene	0.2	< 0.2
1,1,2-Trichloroethane	0.1	< 0.1	5	n-Propylbenzene	0.1	< 0.1
Trichloroethylene	0.1	< 0.1	5	1,1,1,2-Tetrachloroethane	0.1	< 0.1
Vinyl chloride	0.2	< 0.2	2	1,1,2,2-Tetrachloroethane	0.1	< 0.1
Total Xylenes	0.2	< 0.2	10,000	1,2,3-Trichlorobenzene	0.2	< 0.2
				Trichlorofluoromethane	0.5	< 0.5
				1,2,3-Trichloropropane	0.2	< 0.2
				1,2,4-Trimethylbenzene	0.1	< 0.1
				1,3,5-Trimethylbenzene	0.1	< 0.1

Method: 524.2 Analysis Date: 09/20/97

* The MCL of 100 ug/L is for total trihalomethanes and compliance samples must be collected from the distribution system.

** EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matnces.

† Compliance monitoring for these parameters must be done using EPA method 504.1

Electronic Filing: Received, Clerk's Office 07/19/2024

Environmental Health Laboratories

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(898-903)
Priority: Standard Written
Status: Final

Sampling Point: MW-C

Samples Submitted: Six groundwater samples

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

Di(2-ethylhexyl)phthalate was detected in the sample submitted for analysis at a concentration of 1.1 ug/L, which is less the current MCL of 6 ug/L. Method 525.2 section 13.2.4 states that di(2-ethylhexyl)phthalate can "appear in variable quantities in laboratory and field reagent blanks, and generally cannot be accurately measured at levels below about 2 ug/L." Di(2-ethylhexyl)phthalate was not detected in the associated laboratory method blank. None of the other analytes included in the detailed parameter list were detected in the sample submitted for analysis. Other compunds detected: Diethylphthalate at a concentration of ~16 ug/L. This concentration is estimated because the sample response exceeded the highest calibration standard. Reanalysis of a dilution was not available. Other compunds tentatively identified: An isomer of dichlorobenzoic acid at a concentration of ~220 ug/L. No standard was available to confirm this compound.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Environmental Health Laboratories (div. of MAS Technology Corporation).

Reviewed By: _____ Date: 10/13/97

Finalized By: _____ Date: 10-13-97

Electronic Filing: Received, Clerk's Office 07/19/2024

Sampling Point: MW-C

PARAMETER	SDWA Method	MDL * (ug/L)	Results (ug/L)	MCL (ug/L)	Extraction Date	Analysis Date	Lab Number
Alachlor (Lasso)	525 2	0 1	< 0 1	2	09/17/97	09/18/97	281898
Aldicarb	531.1	0 5	< 0 5	3	09/17/97	09/17/97	281901
Aldicarb Sulfone	531.1	0 4	< 0 4	2	09/17/97	09/17/97	281901
Aldicarb Sulfoxide	531.1	0 5	< 0 5	4	09/17/97	09/17/97	281901
Aldrin	525 2	0 1	< 0 1	---	09/17/97	09/18/97	281898
Aroclor 1016	505	0 08	< 0 08	£	09/23/97	09/23/97	281902
Aroclor 1221	505	2 0	< 2 0	£	09/23/97	09/23/97	281902
Aroclor 1232	505	0 5	< 0 5	£	09/23/97	09/23/97	281902
Aroclor 1242	505	0 3	< 0 3	£	09/23/97	09/23/97	281902
Aroclor 1248	505	0.1	< 0.1	£	09/23/97	09/23/97	281902
Aroclor 1254	505	0.1	< 0.1	£	09/23/97	09/23/97	281902
Aroclor 1260	505	0 2	< 0 2	£	09/23/97	09/23/97	281902
Atrazine	525.2	0.1	< 0.1	3	09/17/97	09/18/97	281898
Benzo(a)pyrene	525.2	0 02	< 0 02	0 2	09/17/97	09/18/97	281898
Butachlor	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281898
Carbaryl	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281901
Carbofuran	531.1	0.9	< 0.9	40	09/17/97	09/17/97	281901
alpha-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281898
gamma-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281898
Chlordane	505	0.2	< 0 2	2	09/23/97	09/23/97	281902
2,4-D	515.1	0.1	< 0.1	70	09/17/97	09/17/97	281899
Dalapon	515.1	1.0	< 1.0	200	09/17/97	09/17/97	281899
1,2-Dibromo-3-chloropropane	504.1	0.02	< 0.02	0.2	09/22/97	09/22/97	281903
Dicamba	515.1	0.1	< 0.1	---	09/17/97	09/17/97	281899
Dieldrin	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281898
Di (2-ethylhexyl) adipate	525.2	0.6	< 0.6	400	09/17/97	09/18/97	281898
Di (2-ethylhexyl) phthalate	525.2	0.6	1.1	6	09/17/97	09/18/97	281898
Dinoseb	515.1	0.1	< 0.1	7	09/17/97	09/17/97	281899
Diquat				20			
Endothall	548.1	9.0	< 9.0	100	09/17/97	09/17/97	281900
Endrin	525.2	0 01	< 0.01	2	09/17/97	09/18/97	281898
Ethylene dibromide (EDB)	504.1	0.01	< 0.01	0 05	09/22/97	09/22/97	281903
Glyphosate (Round-up)				700			
Heptachlor	525.2	0.04	< 0.04	0.4	09/17/97	09/18/97	281898
Heptachlor epoxide	525.2	0.02	< 0.02	0 2	09/17/97	09/18/97	281898
Hexachlorobenzene	525.2	0.1	< 0.1	1	09/17/97	09/18/97	281898
Hexachlorocyclopentadiene	525.2	0.1	< 0.1	50	09/17/97	09/18/97	281898
3-Hydroxycarbofuran	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281901
Lindane (gamma-BHC)	525.2	0.02	< 0.02	0 2	09/17/97	09/18/97	281898
Methoxychlor	525.2	0.1	< 0.1	40	09/17/97	09/18/97	281898
Methomyl	531.1	0.5	< 0.5	---	09/17/97	09/17/97	281901
Metolachlor (Dual)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281898
Metribuzin (Sencor)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281898
Oxamyl (Vydate)	531.1	1.0	< 1.0	200	09/17/97	09/17/97	281901
Pentachlorophenol	515.1	0.04	< 0.04	1	09/17/97	09/17/97	281899
Picloram (Tordon)	515.1	0.1	< 0.1	500	09/17/97	09/17/97	281899
Propachlor	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281898
2,4,5-TP (Silvex)	515.1	0.1	< 0.1	50	09/17/97	09/17/97	281899
Simazine	525.2	0.07	< 0.07	4	09/17/97	09/18/97	281898
2,3,7,8-TCDD (Dioxin)				0.00003			
Toxaphene	505	1.0	< 1.0	3	09/23/97	09/23/97	281902

* EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

£ Any positive Aroclor result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0 5 ug/L).

Electronic Filing: Received, Clerk's Office 07/19/2024

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(904)

Priority: Standard Written

Status: Final

Sampling Point: MW-C

Samples Submitted: One groundwater sample

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

None of the VOCs included in the detailed parameter list were detected in the sample submitted for analysis. Other compounds detected: tert-Butyl alcohol at a concentration of 6.6 ug/L. There is no MCL for this parameter.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Environmental Health Laboratories (div. of MAS Technology Corporation).

Reviewed By: _____ Date: 10-13-97

Finalized By: _____ Date: 10-13-97

Electronic Filing: Received, Clerk's Office 07/19/2024

Client: Sima Labs International

Report: 281884-918(904)

Sampling Point: MW-C

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)	MCL (ug/L)	PARAMETER	Report Limit ** (ug/L)	Result (ug/L)
Regulated Parameters				Unregulated Parameters		
Benzene	0.5	< 0.5	5	Bromobenzene	0.2	< 0.2
Bromodichloromethane	0.1	< 0.1	100 *	Bromochloromethane	0.2	< 0.2
Bromoform	0.1	< 0.1	100 *	Bromomethane	0.5	< 0.5
Carbon tetrachloride	0.1	< 0.1	5	n-Butylbenzene	0.2	< 0.2
Chlorobenzene	0.2	< 0.2	100	sec-Butylbenzene	0.2	< 0.2
Chloroform	0.1	< 0.1	100 *	tert-Butylbenzene	0.2	< 0.2
Dibromochloromethane	0.1	< 0.1	100 *	Chloroethane	0.5	< 0.5
1,2-Dibromo-3-Chloropropane	0.2	< 0.2	0.2 †	Chloromethane	0.5	< 0.5
1,2-Dibromoethane(EDB)	0.1	< 0.1	0.05 †	2-Chlorotoluene (o-)	0.2	< 0.2
1,2-Dichlorobenzene	0.1	< 0.1	600	4-Chlorotoluene (p-)	0.2	< 0.2
1,4-Dichlorobenzene	0.1	< 0.1	75	Dibromomethane	0.1	< 0.1
1,2-Dichloroethane	0.1	< 0.1	5	1,3-Dichlorobenzene	0.1	< 0.1
1,1-Dichloroethylene	0.2	< 0.2	7	Dichlorodifluoromethane	0.5	< 0.5
cis-1,2-Dichloroethylene	0.1	< 0.1	70	1,1-Dichloroethane	0.1	< 0.1
trans-1,2-Dichloroethylene	0.1	< 0.1	100	1,3-Dichloropropane	0.1	< 0.1
Dichloromethane	0.5	< 0.5	5	2,2-Dichloropropane	0.2	< 0.2
1,2-Dichloropropane	0.1	< 0.1	5	1,1-Dichloropropylene	0.1	< 0.1
Ethylbenzene	0.1	< 0.1	700	cis-1,3-Dichloropropylene	0.1	< 0.1
Styrene	0.2	< 0.2	100	trans-1,3-Dichloropropylene	0.1	< 0.1
Tetrachloroethylene	0.2	< 0.2	5	Hexachlorobutadiene	0.2	< 0.2
Toluene	0.5	< 0.5	1000	Isopropylbenzene	0.1	< 0.1
1,2,4-Trichlorobenzene	0.2	< 0.2	70	4-Isopropyltoluene (p-)	0.1	< 0.1
1,1,1-Trichloroethane	0.1	< 0.1	200	Naphthalene	0.2	< 0.2
1,1,2-Trichloroethane	0.1	< 0.1	5	n-Propylbenzene	0.1	< 0.1
Trichloroethylene	0.1	< 0.1	5	1,1,1,2-Tetrachloroethane	0.1	< 0.1
Vinyl chloride	0.2	< 0.2	2	1,1,2,2-Tetrachloroethane	0.1	< 0.1
Total Xylenes	0.2	< 0.2	10,000	1,2,3-Trichlorobenzene	0.2	< 0.2
				Trichlorofluoromethane	0.5	< 0.5
				1,2,3-Trichloropropane	0.2	< 0.2
				1,2,4-Trimethylbenzene	0.1	< 0.1
				1,3,5-Trimethylbenzene	0.1	< 0.1

Method: 524.2

Analysis Date: 09/20/97

* The MCL of 100 ug/L is for total trihalomethanes and compliance samples must be collected from the distribution system.

** EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

† Compliance monitoring for these parameters must be done using EPA method 504.1

Electronic Filing: Received, Clerk's Office 07/19/2024

Environmental Health Laboratories

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(905-910)
Priority: Standard Written
Status: Final

Sampling Point: MW-C Dup

Samples Submitted: Six groundwater samples

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

Di(2-ethylhexyl)phthalate was detected in the sample submitted for analysis at a concentration of 0.8 ug/L, which is less the current MCL of 6 ug/L. Method 525.2 section 13.2.4 states that di(2-ethylhexyl)phthalate can "appear in variable quantities in laboratory and field reagent blanks, and generally cannot be accurately measured at levels below about 2 ug/L." Di(2-ethylhexyl)phthalate was not detected in the associated laboratory method blank. None of the other analytes included in the detailed parameter list were detected in the sample submitted for analysis. Other compunds detected: Diethylphthalate at a concentration of ~18 ug/L. This concentration is estimated because the sample response exceeded the highest calibration standard. Reanalysis of a dilution was not available. Other compunds tentatively identified: An isomer of dichlorobenzoic acid at a concentration of ~210 ug/L. No standard was available to confirm this compound.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Environmental Health Laboratories (div. of MAS Technology Corporation).

Reviewed By: _____ Date: 10/3/97

Finalized By: _____ Date: 10/7/97

Electronic Filing: Received, Clerk's Office 07/19/2024

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(911)

Priority: Standard Written

Status: Final

Sampling Point: MW-C Dup

Samples Submitted: One groundwater sample

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

None of the VOCs included in the detailed parameter list were detected in the sample submitted for analysis.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Environmental Health Laboratories (div. of MAS Technology Corporation).

Reviewed By: _____ Date: 10 13 97

Finalized By: _____ Date: 10-13-97

Electronic Filing: Received, Clerk's Office 07/19/2024

Client: Sima Labs International

Report: 281884-918(911)

Sampling Point: MW-C Dup

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)	MCL (ug/L)
Regulated Parameters			
Benzene	0.5	< 0.5	5
Bromodichloromethane	0.1	< 0.1	100 *
Bromoform	0.1	< 0.1	100 *
Carbon tetrachloride	0.1	< 0.1	5
Chlorobenzene	0.2	< 0.2	100
Chloroform	0.1	< 0.1	100 *
Dibromochloromethane	0.1	< 0.1	100 *
1,2-Dibromo-3-Chloropropane	0.2	< 0.2	0.2 †
1,2-Dibromoethane(EDB)	0.1	< 0.1	0.05 †
1,2-Dichlorobenzene	0.1	< 0.1	600
1,4-Dichlorobenzene	0.1	< 0.1	75
1,2-Dichloroethane	0.1	< 0.1	5
1,1-Dichloroethylene	0.2	< 0.2	7
cis-1,2-Dichloroethylene	0.1	< 0.1	70
trans-1,2-Dichloroethylene	0.1	< 0.1	100
Dichloromethane	0.5	< 0.5	5
1,2-Dichloropropane	0.1	< 0.1	5
Ethylbenzene	0.1	< 0.1	700
Styrene	0.2	< 0.2	100
Tetrachloroethylene	0.2	< 0.2	5
Toluene	0.5	< 0.5	1000
1,2,4-Trichlorobenzene	0.2	< 0.2	70
1,1,1-Trichloroethane	0.1	< 0.1	200
1,1,2-Trichloroethane	0.1	< 0.1	5
Trichloroethylene	0.1	< 0.1	5
Vinyl chloride	0.2	< 0.2	2
Total Xylenes	0.2	< 0.2	10,000

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)
Unregulated Parameters		
Bromobenzene	0.2	< 0.2
Bromochloromethane	0.2	< 0.2
Bromomethane	0.5	< 0.5
n-Butylbenzene	0.2	< 0.2
sec-Butylbenzene	0.2	< 0.2
tert-Butylbenzene	0.2	< 0.2
Chloroethane	0.5	< 0.5
Chloromethane	0.5	< 0.5
2-Chlorotoluene (o-)	0.2	< 0.2
4-Chlorotoluene (p-)	0.2	< 0.2
Dibromomethane	0.1	< 0.1
1,3-Dichlorobenzene	0.1	< 0.1
Dichlorodifluoromethane	0.5	< 0.5
1,1-Dichloroethane	0.1	< 0.1
1,3-Dichloropropane	0.1	< 0.1
2,2-Dichloropropane	0.2	< 0.2
1,1-Dichloropropylene	0.1	< 0.1
cis-1,3-Dichloropropylene	0.1	< 0.1
trans-1,3-Dichloropropylene	0.1	< 0.1
Hexachlorobutadiene	0.2	< 0.2
Isopropylbenzene	0.1	< 0.1
4-Isopropyltoluene (p-)	0.1	< 0.1
Naphthalene	0.2	< 0.2
n-Propylbenzene	0.1	< 0.1
1,1,1,2-Tetrachloroethane	0.1	< 0.1
1,1,2,2-Tetrachloroethane	0.1	< 0.1
1,2,3-Trichlorobenzene	0.2	< 0.2
Trichlorofluoromethane	0.5	< 0.5
1,2,3-Trichloropropane	0.2	< 0.2
1,2,4-Trimethylbenzene	0.1	< 0.1
1,3,5-Trimethylbenzene	0.1	< 0.1

Method: 524.2

Analysis Date: 09/20/97

* The MCL of 100 ug/L is for total trihalomethanes and compliance samples must be collected from the distribution system.

** EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

† Compliance monitoring for these parameters must be done using EPA method 504.1

Electronic Filing: Received, Clerk's Office 07/19/2024

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(912-917)
Priority: Standard Written
Status: Final

Sampling Point: MW-D

Samples Submitted: Six groundwater samples

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

Di(2-ethylhexyl)phthalate was detected in the sample submitted for analysis at a concentration of ~59 ug/L, which is greater the current MCL of 6 ug/L. This concentration is estimated because the sample response exceeded the highest calibration standard. Reanalysis of a dilution was not available. None of the other analytes included in the detailed parameter list were detected in the sample submitted for analysis. Other compunds detected: Diethylphthalate at a concentration of 4.1 ug/L. There is no MCL for this parameter. Other compunds tentatively identified: An isomer of dichlorobenzoic acid at a concentration of ~29 ug/L. No standard was available to confirm this compound.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Environmental Health Laboratories (div. of MAS Technology Corporation).

Reviewed By: _____ Date: 10 13 97

Finalized By: _____ Date: 10-3-97

Electronic Filing: Received, Clerk's Office 07/19/2024

Sampling Point: MW-D

PARAMETER	SDWA Method	MDL * (ug/L)	Results (ug/L)	MCL (ug/L)	Extraction Date	Analysis Date	Lab Number
Alachlor (Lasso)	525.2	0.1	< 0.1	2	09/17/97	09/18/97	281912
Aldicarb	531.1	0.5	< 0.5	3	09/17/97	09/17/97	281915
Aldicarb Sulfone	531.1	0.4	< 0.4	2	09/17/97	09/17/97	281915
Aldicarb Sulfoxide	531.1	0.5	< 0.5	4	09/17/97	09/17/97	281915
Aldrin	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281912
Aroclor 1016	505	0.08	< 0.08	£	09/23/97	09/23/97	281916
Aroclor 1221	505	2.0	< 2.0	£	09/23/97	09/23/97	281916
Aroclor 1232	505	0.5	< 0.5	£	09/23/97	09/23/97	281916
Aroclor 1242	505	0.3	< 0.3	£	09/23/97	09/23/97	281916
Aroclor 1248	505	0.1	< 0.1	£	09/23/97	09/23/97	281916
Aroclor 1254	505	0.1	< 0.1	£	09/23/97	09/23/97	281916
Aroclor 1260	505	0.2	< 0.2	£	09/23/97	09/23/97	281916
Atrazine	525.2	0.1	< 0.1	3	09/17/97	09/18/97	281912
Benzo(a)pyrene	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281912
Butachlor	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281912
Carbaryl	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281915
Carbofuran	531.1	0.9	< 0.9	40	09/17/97	09/17/97	281915
alpha-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281912
gamma-Chlordane	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281912
Chlordane	505	0.2	< 0.2	2	09/23/97	09/23/97	281916
2,4-D	515.1	0.1	< 0.1	70	09/17/97	09/17/97	281913
Dalapon	515.1	1.0	< 1.0	200	09/17/97	09/17/97	281913
1,2-Dibromo-3-chloropropane	504.1	0.02	< 0.02	0.2	09/22/97	09/22/97	281917
Dicamba	515.1	0.1	< 0.1	---	09/17/97	09/17/97	281913
Dieldrin	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281912
Di (2-ethylhexyl) adipate	525.2	0.6	< 0.6	400	09/17/97	09/18/97	281912
Di (2-ethylhexyl) phthalate	525.2	0.6	- 59	6	09/17/97	09/18/97	281912
Dinoseb	515.1	0.1	< 0.1	7	09/17/97	09/17/97	281913
Diquat				20			
Endothall	548.1	9.0	< 9.0	100	09/17/97	09/17/97	281914
Endrin	525.2	0.01	< 0.01	2	09/17/97	09/18/97	281912
Ethylene dibromide (EDB)	504.1	0.01	< 0.01	0.05	09/22/97	09/22/97	281917
Glyphosate (Round-up)				700			
Heptachlor	525.2	0.04	< 0.04	0.4	09/17/97	09/18/97	281912
Heptachlor epoxide	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281912
Hexachlorobenzene	525.2	0.1	< 0.1	1	09/17/97	09/18/97	281912
Hexachlorocyclopentadiene	525.2	0.1	< 0.1	50	09/17/97	09/18/97	281912
3-Hydroxycarbofuran	531.1	1.0	< 1.0	---	09/17/97	09/17/97	281915
Lindane (gamma-BHC)	525.2	0.02	< 0.02	0.2	09/17/97	09/18/97	281912
Methoxychlor	525.2	0.1	< 0.1	40	09/17/97	09/18/97	281912
Methomyl	531.1	0.5	< 0.5	---	09/17/97	09/17/97	281915
Metolachlor (Dual)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281912
Metribuzin (Sencor)	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281912
Oxamyl (Vydate)	531.1	1.0	< 1.0	200	09/17/97	09/17/97	281915
Pentachlorophenol	515.1	0.04	< 0.04	1	09/17/97	09/17/97	281913
Picloram (Tordon)	515.1	0.1	< 0.1	500	09/17/97	09/17/97	281913
Propachlor	525.2	0.1	< 0.1	---	09/17/97	09/18/97	281912
2,4,5-TP (Silvex)	515.1	0.1	< 0.1	50	09/17/97	09/17/97	281913
Simazine	525.2	0.07	< 0.07	4	09/17/97	09/18/97	281912
2,3,7,8-TCDD (Dioxin)				0.00003			
Toxaphene	505	1.0	< 1.0	3	09/23/97	09/23/97	281916

* EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

£ Any positive Aroclor result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L).

Electronic Filing: Received, Clerk's Office 07/19/2024

Environmental Health Laboratories

LABORATORY REPORT

Client: Sima Labs International
Attn: Carla Svetich
250 West 84th Drive
Merrillville, IN 46410

Report: 281884-918(918)

Priority: Standard Written

Status: Final

Sampling Point: MW-D

Samples Submitted: One groundwater sample

Copies to: None

Collected: 09/12/97 By: Client Received: 09/16/97

REPORT SUMMARY

None of the VOCs included in the detailed parameter list were detected in the sample submitted for analysis.

Detailed quantitative results are presented on the following page.

Results of all associated quality control samples were within acceptance limits, except where noted. No project specific quality control was requested.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Environmental Health Laboratories (div. of MAS Technology Corporation).

Reviewed By: _____ Date: 10-13-97

Finalized By: _____ Date: 10-16-97

Electronic Filing: Received, Clerk's Office 07/19/2024

Client: Sima Labs International

Report 281884-918(918)

Sampling Point: MW-D

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)	MCL (ug/L)
Regulated Parameters			
Benzene	0.5	< 0.5	5
Bromodichloromethane	0.1	< 0.1	100 *
Bromoform	0.1	< 0.1	100 *
Carbon tetrachloride	0.1	< 0.1	5
Chlorobenzene	0.2	< 0.2	100
Chloroform	0.1	< 0.1	100 *
Dibromochloromethane	0.1	< 0.1	100 *
1,2-Dibromo-3-Chloropropane	0.2	< 0.2	0.2 †
1,2-Dibromoethane(EDB)	0.1	< 0.1	0.05 †
1,2-Dichlorobenzene	0.1	< 0.1	600
1,4-Dichlorobenzene	0.1	< 0.1	75
1,2-Dichloroethane	0.1	< 0.1	5
1,1-Dichloroethylene	0.2	< 0.2	7
cis-1,2-Dichloroethylene	0.1	< 0.1	70
trans-1,2-Dichloroethylene	0.1	< 0.1	100
Dichloromethane	0.5	< 0.5	5
1,2-Dichloropropane	0.1	< 0.1	5
Ethylbenzene	0.1	< 0.1	700
Styrene	0.2	< 0.2	100
Tetrachloroethylene	0.2	< 0.2	5
Toluene	0.5	< 0.5	1000
1,2,4-Trichlorobenzene	0.2	< 0.2	70
1,1,1-Trichloroethane	0.1	< 0.1	200
1,1,2-Trichloroethane	0.1	< 0.1	5
Trichloroethylene	0.1	< 0.1	5
Vinyl chloride	0.2	< 0.2	2
Total Xylenes	0.2	< 0.2	10,000

PARAMETER	Report Limit ** (ug/L)	Result (ug/L)
Unregulated Parameters		
Bromobenzene	0.2	< 0.2
Bromochloromethane	0.2	< 0.2
Bromomethane	0.5	< 0.5
n-Butylbenzene	0.2	< 0.2
sec-Butylbenzene	0.2	< 0.2
tert-Butylbenzene	0.2	< 0.2
Chloroethane	0.5	< 0.5
Chloromethane	0.5	< 0.5
2-Chlorotoluene (o-)	0.2	< 0.2
4-Chlorotoluene (p-)	0.2	< 0.2
Dibromomethane	0.1	< 0.1
1,3-Dichlorobenzene	0.1	< 0.1
Dichlorodifluoromethane	0.5	< 0.5
1,1-Dichloroethane	0.1	< 0.1
1,3-Dichloropropane	0.1	< 0.1
2,2-Dichloropropane	0.2	< 0.2
1,1-Dichloropropylene	0.1	< 0.1
cis-1,3-Dichloropropylene	0.1	< 0.1
trans-1,3-Dichloropropylene	0.1	< 0.1
Hexachlorobutadiene	0.2	< 0.2
Isopropylbenzene	0.1	< 0.1
4-Isopropyltoluene (p-)	0.1	< 0.1
Naphthalene	0.2	< 0.2
n-Propylbenzene	0.1	< 0.1
1,1,1,2-Tetrachloroethane	0.1	< 0.1
1,1,2,2-Tetrachloroethane	0.1	< 0.1
1,2,3-Trichlorobenzene	0.2	< 0.2
Trichlorofluoromethane	0.5	< 0.5
1,2,3-Trichloropropane	0.2	< 0.2
1,2,4-Trimethylbenzene	0.1	< 0.1
1,3,5-Trimethylbenzene	0.1	< 0.1

Method: 524.2

Analysis Date: 09/20/97

* The MCL of 100 ug/L is for total trihalomethanes and compliance samples must be collected from the distribution system.

** EHL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

† Compliance monitoring for these parameters must be done using EPA method 504.1

Electronic Filing: Received, Clerk's Office 07/19/2024

✓ 9.29-

CEI

CHAIN-OF-CUSTODY RECORD

No. — 748

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140 Fax (312) 396-6956

PROJ NO. 9440A

PROJECT NAME CECO

SAMPLERS: (Signature) BA Shabino

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) Attached List *	REMARKS
1	MW-A	9-12	0840		X	Water - Well MW-A	1b	X	Analytes are listed 9096 on attached list
2	MW-B	↓	1020		X	Well MW-B	1b	X	9096 C
3	MW-C		1345		X	Well MW-C	1b	X	0
4	MW-D	↓	1810		X	Well MW-D	1b	X	0
5	MW-C Dup	9-12	1345		X	Water - Well MW-C Dup	1b	X	0
6									
7									
8									
9									
10									

Relinquished by	Date/Time	Received by
BA Shabino	9-13	9-13
Relinquished by	Date/Time	Received by
Relinquished by	Date/Time	Received for Laboratory by

REMARKS

10 Working days Turn-Around-Time

Reference # 7064

Please fax and send results to Bruce Shabino.

Distribution White Accompanies Shipment Yellow Laboratory File Pink Coordinator Field File

Electronic Filing: Received, Clerk's Office 07/19/2024

ATTACHMENT F
Petroleum Fuel Analysis

Electronic Filing: Received, Clerk's Office 07/19/2024

Fitzsimmons & ASSOCIATES, INC.
CHEMICAL ANALYSTS & CONSULTANTS

1860 Arthur Drive
West Chicago, IL 60185
Tel: (630) 231-0680
Fax: (630) 231-0811

ANALYSIS REPORT FOR

CARLSON ENVIRONMENTAL, INC.
312 West Randolph Street
Chicago, IL 60606

Attn: Sam Bodine

PURCHASE ORDER NO

CEI Proj. No. 9233A

DATE 11/14/96

REPORT OF SAMPLE ANALYSIS: Analysis of one water sample for characterization of any petroleum contamination.

CEI Proj. No. 9233A (Robertson-Ceco Facility)

METHODS: Purge & Trap GC/MS
(both bottles were analyzed separately)

RESULTS:

Old Well MW-2

No petroleum-based fuel was found in this sample.

The detection limit for this analysis is approximately 50 ug/L.

Electronic Filing: Received, Clerk's Office 07/19/2024

CEI

CHAIN OF CUSTODY RECORD

No. 7246

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ NO: 92334

PROJECT NAME: Robertson - Ceco Facility Lemont Site

SAMPLERS (Signature): Samuel T. Bodino [signature]

CONT.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) Petroleum Finger Printing							REMARKS
	Old well MW-2	11/7			X	Ground H_2O Sample	2	X							

Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	11/8		Metro Mess. 11-20-3-3
			Received for Laboratory by (Signature)

REMARKS

X normal 5 day TAT

x please fax results to Sam Bodino @ 312-346-6956

Distribution: White - Accompanies Shipment; Yellow - Laboratory File; Pink - Coordinator Field Files

ATTACHMENT G
Certifications

EXHIBIT E

Electronic Filing: Received, Clerk's Office 07/19/2024

NUS CORPORATION
Parkwest Two
Cliff Mine Road
Pittsburgh, PA 15275
412-788-1080

R-31-11-4-2

FINAL CLOSURE PLAN

FOR

WASTE STORAGE AREA
EPA ID NO. ILD990785453
WILL COUNTY, ILLINOIS

THE CECO CORPORATION
OAK BROOK, ILLINOIS

NUS PROJECT NUMBER U495

JANUARY 1985

SUBMITTED FOR NUS BY:

EDWARD L. BAER
PROJECT MANAGER

APPROVED:

E. DENNIS ESCHER, P.E.
VICE PRESIDENT
GENERAL MANAGER

Electronic Filing: Received, Clerk's Office 07/19/2024

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DRAWINGS

NUMBER		LOCATION
U495-01	GENERAL SITE PLAN	Rear Pocket
U495-02	IDENTIFIED FURNACE DUST AREAS	Rear Pocket

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1.0 INTRODUCTION

The facility, sometimes referred to as the Dudek Site, is owned by The Ceco Corporation and is located in Will County in the Town of Lemont, Illinois. The site was used for storage of steel-making by-products, including emission control dust from electric arc furnace steel making, which is currently classified as hazardous waste K061 by both the USEPA and the IEPA. The source of the dust was The Ceco Corporation-owned steel plant located about 500 feet northwest of the site. The plant is now owned by the Thomas Steel Company.

The site covers approximately 25 acres and is located immediately adjacent to the Illinois and Michigan Canal (See Site Location Map, Figure 1-1). The canal lies between the site and the steel plant. About 800 feet northwest of the site is another canal, the Chicago Sanitary and Ship Canal. The Des Plaines River is located about 2,000 feet northwest of the site. The site was formerly a quarry where dolomitic limestone was removed, producing an enclosed, relatively flat surface.

The Ceco Corporation has interim status to store hazardous waste KO6l in waste piles at a former plant site in Lemont, Illinois. This report presents the proposed methods and procedures that will be utilized to complete the final closure of this site in accordance with applicable Illinois Environmental Protection Agency (IEPA) and United States Environmental Protection Agency (USEPA) regulations. The information presented herein will identify and describe the procedures which will close the facility in a manner that meets the requirements of the applicable regulations.

The initial portion of this report discusses the results of surface and subsurface investigations undertaken to assist in the design of a closure plan. Pursuant to 35 Ill. Adm. Code Section 725.213(a), The Ceco Corporation has elected to remove the wastes presently in storage from the site in accordance with 35 Ill. Adm. Code Section 725.358.

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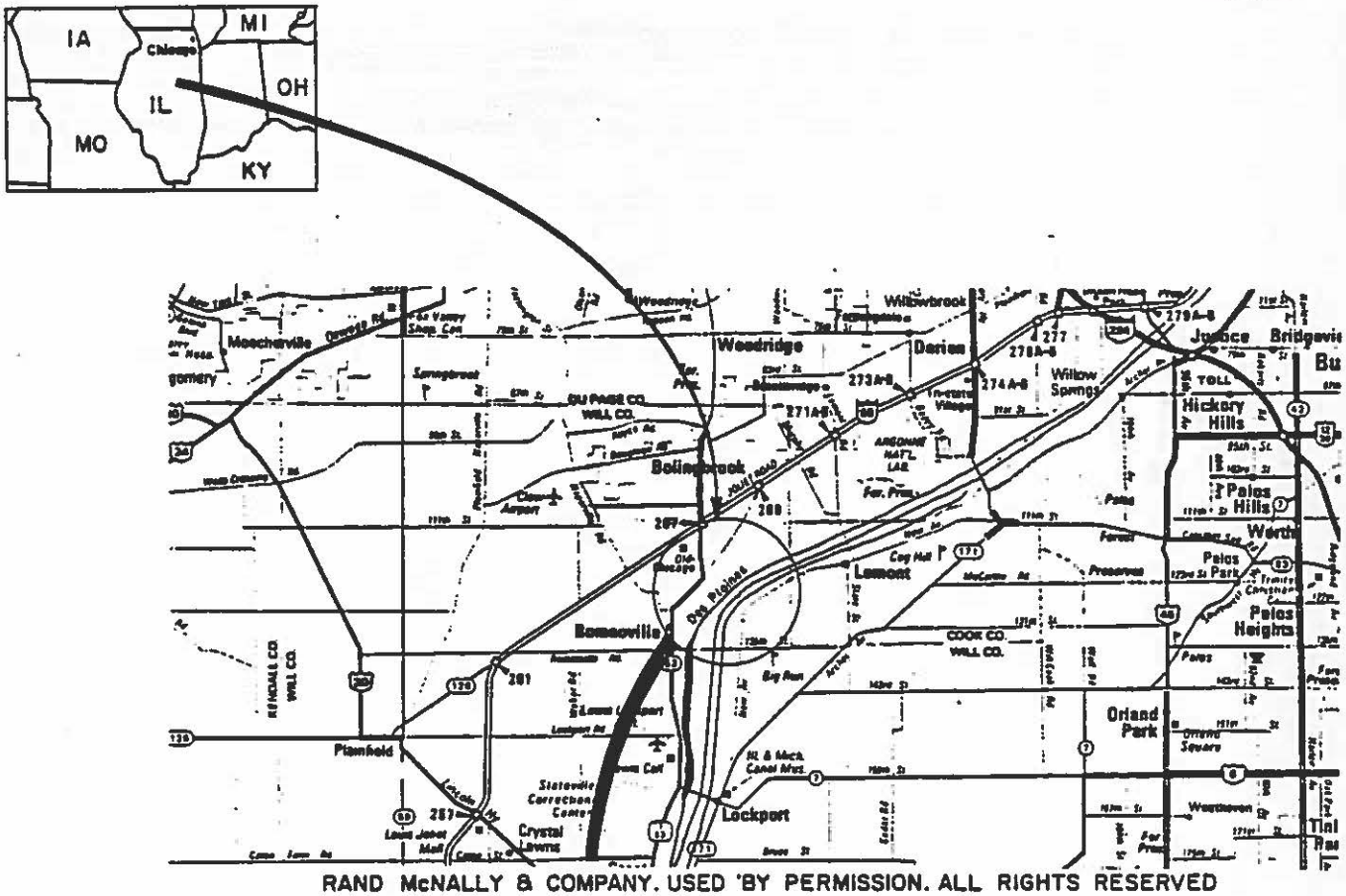

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SCALE : 1" = 4.7 MILES

REPRODUCE FROM ROMEOVILLE QUADRANGLE, USGS, 1962. SCALE 1"= 2000'

FIGURE 1-1

SITE LOCATION MAP

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Closure operations will commence within 90 days after approval of this closure plan. Due to the chosen closure alternative, post-closure care and monitoring of this facility is not required and is not addressed herein.

Most of the furnace dust was removed and disposed of at a licensed hazardous waste disposal facility during 1981 and 1982. However, investigation revealed some furnace dust still remains in the fill. Furnace dust is no longer being deposited for storage at this site.

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2.0 SITE INVESTIGATION

Onsite investigations have been performed. These have included general field reconnaissance and observation, discussions with plant personnel on past and present facility operations, evaluation of existing data, detailed waste analyses, surface and groundwater sampling and analyses, and subsurface sampling and analyses.

The objectives of the investigations were to

- Estimate the extent and distribution of the remaining furnace dust at the site
- Estimate to what extent, if any, the groundwater might be contaminated
- Estimate chemical interaction between groundwater and natural dolomitic limestone
- Identify and evaluate a method of closure

2.1 General Site Conditions

The site was originally a limestone quarry, which resulted in a large open pit and exposed dolomite bedrock with highwalls adjacent to the Illinois and Michigan Canal on the north, and the Illinois Central Gulf Railroad to the south. The large open area was then used as a fill area for steel mini-mill wastes such as slag, and other various demolition wastes and debris. The fill presently exists to an average depth of 15 feet on the surface of the exposed dolomite. The site was used from 1970 to 1980 for the storage of electric arc furnace emission control dust. The waste was deposited as a water slurry.

The other material in the fill consists primarily of slag, which ranges in grain size from very fine (less than number 100 sieve) up to sizes of 6 to 8 feet in diameter. Most of the slag in the fill appears to range between material that passes less than

the number 100 sieve to material 1 to 2 inches in diameter with occasional pieces that are about 6 inches in diameter. Piles of large slag exist across the surface of the site. The site is presently leased by The Ceco Corporation to a slag separation processor, who performs a symbiotic iron recovery function for the plant.

2.2 Waste Characteristics

The waste of concern is emission control dust resulting from electric arc furnace steel making. The USEPA has listed electric arc furnace emission control dust as a hazardous waste (K061) because such material can release hexavalent chromium, lead, and cadmium when subjected to the EP Toxicity extraction procedure as described in 40 CFR Part 261, Appendix VII. Physically, the dust exists as a fine particulate, 70 percent of which, by weight, is less than 5 microns in diameter. Appendix B of this report indicates the maximum limits for drinking water and EP Toxicity.

2.3 Subsurface Investigation

An investigation was undertaken to characterize the subsurface conditions that exist at this site. Refer to Drawing No. U495-01 for locations.

A series of 17 borings were placed in the fill, to the top of bedrock, in October of 1983. Of these borings, ten were developed as monitoring wells to sample groundwater. The borings were drilled using 6" dia. continuous flight, hollow-stem augers and split-barrel sampling. Wells were constructed of 2" dia. flush joint, threaded, PVC pipe, cased and fitted with 2" dia., 2-foot-long, slotted (0.010) PVC well screen at the base. The well screen was packed with clean, washed, fine gravel so that each screen would have at least 2 feet of gravel pack above the top of the screen. In August of 1984, 11 additional wells were placed from 5 to 10 feet into the bedrock so that this component of the groundwater regime might be analyzed and evaluated. These monitoring wells were placed using a 6" dia. air rotary bit. The standpipes consisted of 2"ϕ, flush joint, threaded PVC pipe fitted with a minimum of 5 feet of slotted well screen. The screen was also gravel-packed and a 3-foot-thick bentonite pellet seal was placed above the

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gravel. These wells were fitted with a 6" dia. steel casing and locking cap cemented into place. In addition, 4 existing, deep (80 to 100 feet) wells had previously been placed between the canal and the site. All borings and wells were surveyed to obtain horizontal and vertical control.

CECO excavated an exploratory trench located immediately west of the former dust storage area in 1982. This trench extended approximately 150 feet to the west. In August of 1984, nine test pits surrounding the trench were excavated to bedrock in order to provide additional information about the composition of the fill material.

Several surface water samples were obtained and analyzed for the purpose of geochemical characterization of the surface and groundwater system.

2.3.1 Sampling and Analysis

Groundwater samples were obtained from the wells in 1983 and again in 1984. Water levels were measured at the time of sampling. Most wells were sampled on three different occasions. The two initial sampling rounds in 1983 were unfiltered. The last round, in 1984, obtained samples that were filtered in the field through a 45-micron filter prior to placement in prepared sample bottles. In addition, field pH, specific conductivity, and major cations and anions were obtained. This procedure allowed some comparison of analytical results between the total and dissolved constituents.

Chemical preservatives, minimum holding-time requirements, and analytical procedures used were in accordance with USEPA "Methods for Chemical Analyses of Water and Wastes." A minimum of 1 casing volume of water was purged by hand bailing prior to sampling. The water level was allowed to reach equilibrium before a sample was taken. All samples were obtained manually with a bailer.

A number of samples of fill material were obtained from various sources at various times. Samples were retained in clean, new sample jars with screw-top lids. Samples of fill material were collected from the borings and test excavations. All

samples were logged and labeled according to boring location and depth, prior to delivery to the laboratory.

Thirty-six groundwater and thirty-three samples of fill material from the investigations were chemically analyzed. Analyses of fill material were performed in order to characterize electric arc furnace dust. Therefore, lead, cadmium, and chromium were analyzed in each case. The samples were subjected to the EP Toxicity Test procedure as defined in the regulations. Appendix A summarizes the primary metals analyses for the groundwater and fill material samples obtained from the investigations.

2.3.2 Geology and Hydrogeology

The Dudek Site is located in the Central Lowlands physiographic province and lies within the valley proper of the Des Plaines River. Although the site lies within the valley of the Des Plaines River, the surface of the site lies above the 100-year flood plain elevation of the river.

The geology of the area in the vicinity of the site is characterized by relatively flat-lying, dolomitic bedrock overlain by river alluvium within the river valley and glacial deposits that form the surficial materials beyond the valley. The Des Plaines River, Chicago Sanitary and Ship Canal, and Illinois and Michigan Canal flow within the dolomitic bedrock in the vicinity of the site.

The Des Plaines River lies in the drainage basin of the Illinois River, and ultimately the Mississippi drainage area. The Des Plaines River flows generally to the south, and enters the Illinois River approximately 20 miles downstream from the site.

The dolomitic bedrock lying beneath and around the site belongs to the Silurian age, Joliet formation. The site is located within a former quarry where the dolomite was removed for use as building stone. Approximately 10 feet of limestone was removed from the estimated original ground surface down to approximately elevation 580. The fill at the site is located within the trench of the quarry, and a bedrock sill occurs between the fill and the Illinois and Michigan

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Canal, as shown in Figure 2-1. The dolomite is exposed in a quarried area immediately northeast of the site. The dolomite is characterized by a yellow-brown (buff) color, moderate fracture densities with vertical fractures ranging from one-half foot to several feet apart, and horizontal bedding fractures which produce a general flaggy nature to the near surface bedrock. Bedrock is also exposed along the Illinois and Michigan Canal, which forms the northern boundary of the site. It is assumed that bedrock beneath the fill has a similar character.

Groundwater beneath and around the site flows to the northwest, toward the Illinois and Michigan Canal. Drawing U495-01 depicts the water table contours as defined from the water levels obtained in October, 1983. Subsequent water levels obtained in the monitoring wells in August 1984 indicate the same general configuration of the contours, with levels being approximately 1/2 to 1 foot lower than those shown on Drawing U495-01. Figures 2-2 and 2-3 are geological cross sections through the fill that indicate the relationship of the water table to the fill and bedrock.

Infiltration of precipitation through the surface of the fill is estimated to be moderate to high. The permeability of the fill and the near-surface bedrock is also estimated to be moderate to high. Groundwater flow through the bedrock is primarily through the fracture system developed in the rock. It is estimated that most of the water that infiltrates through the fill and enters the groundwater system discharges to the Illinois and Michigan Canal as base flow discharge. There are no drinking water sources downstream of the site that take water from the Canal.

2.3.3 Geochemistry

The purpose of the geochemical program was to estimate the possible migration of any heavy metals which might be migrating from dust storage areas identified in the first two well and soil sampling events and the interconnection between the groundwater in the fill and the bedrock. Placement of wells into both the fill and bedrock aided in assessing the interactions of the dolomite rock and infiltrating water.

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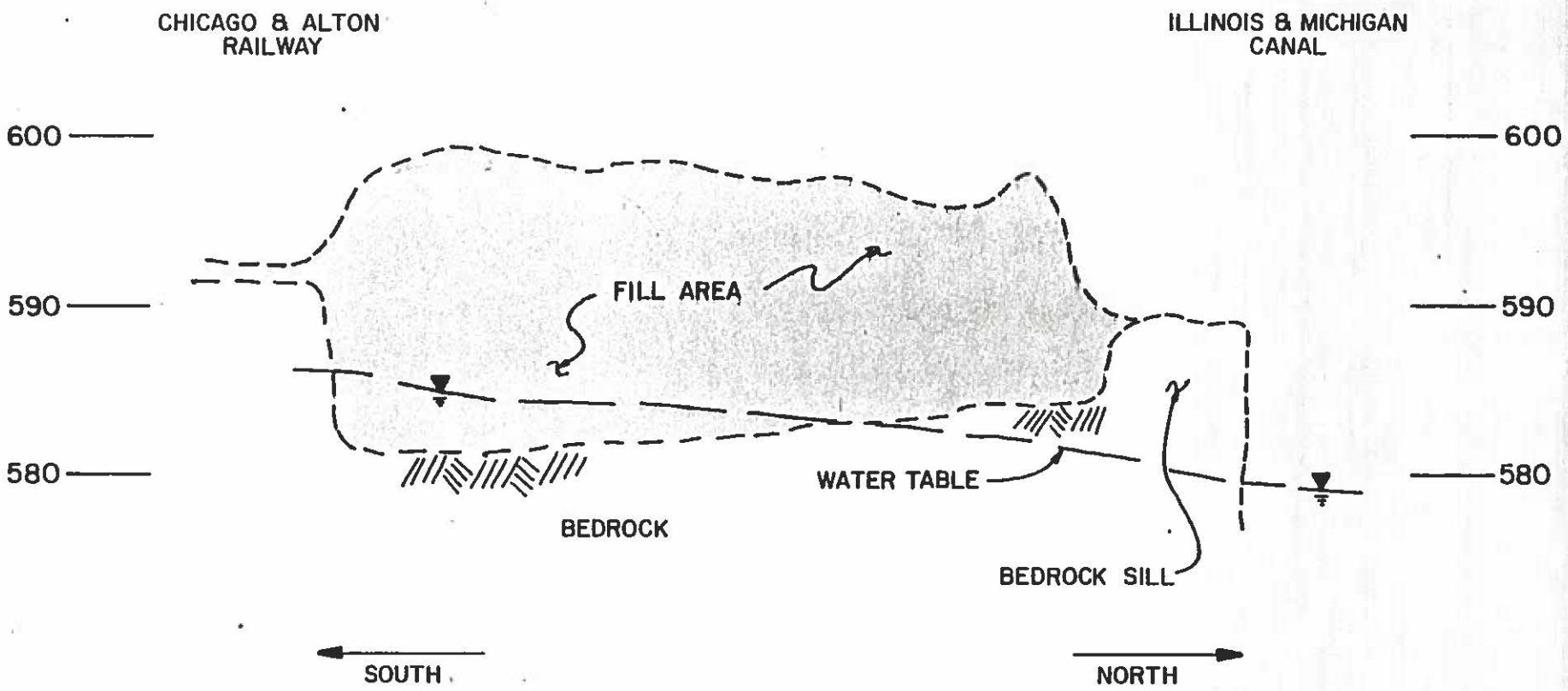

FIGURE 2-1

GENERALIZED SITE CROSS SECTION
NORTH-SOUTH
NOT TO SCALE

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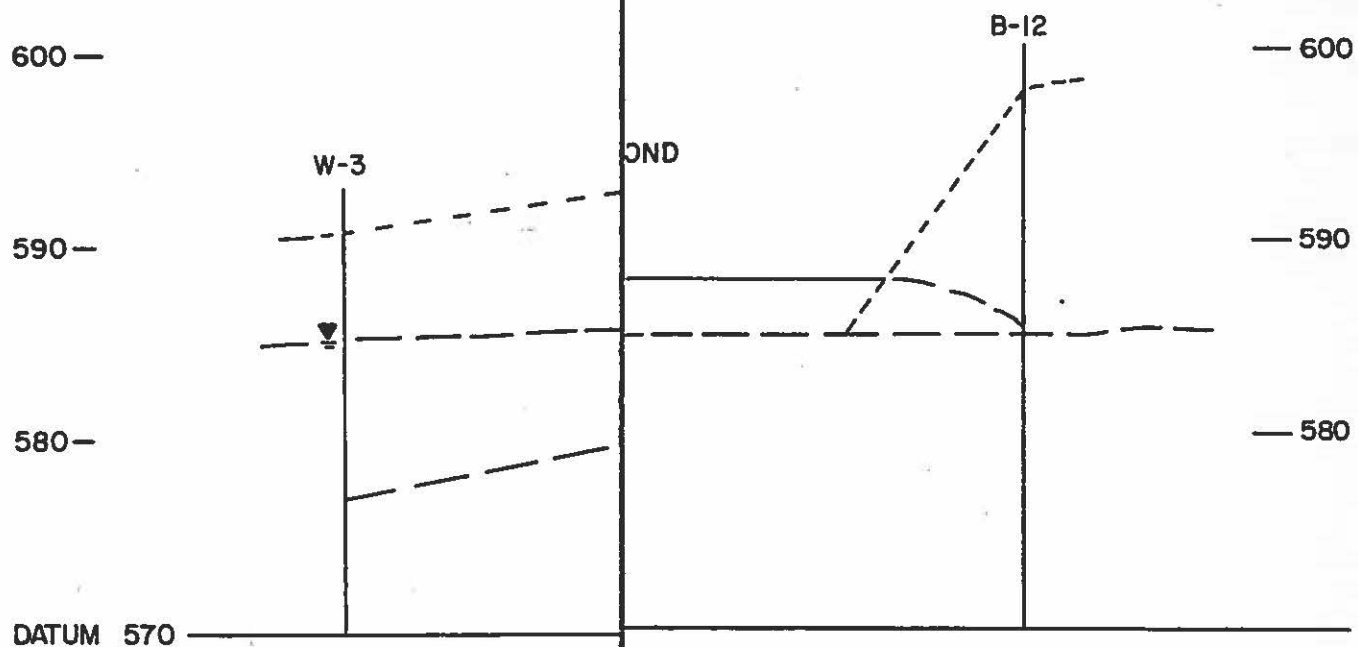

LEGEND

▼ WATER LEVEL RECORDED ON 10/6/83

LOCATION OF FILL SAMPLE TAKEN FROM BORING WITH EP TOX ANALYSIS (MG/L)

120 240

E IN FEET

FIGURE 2-2

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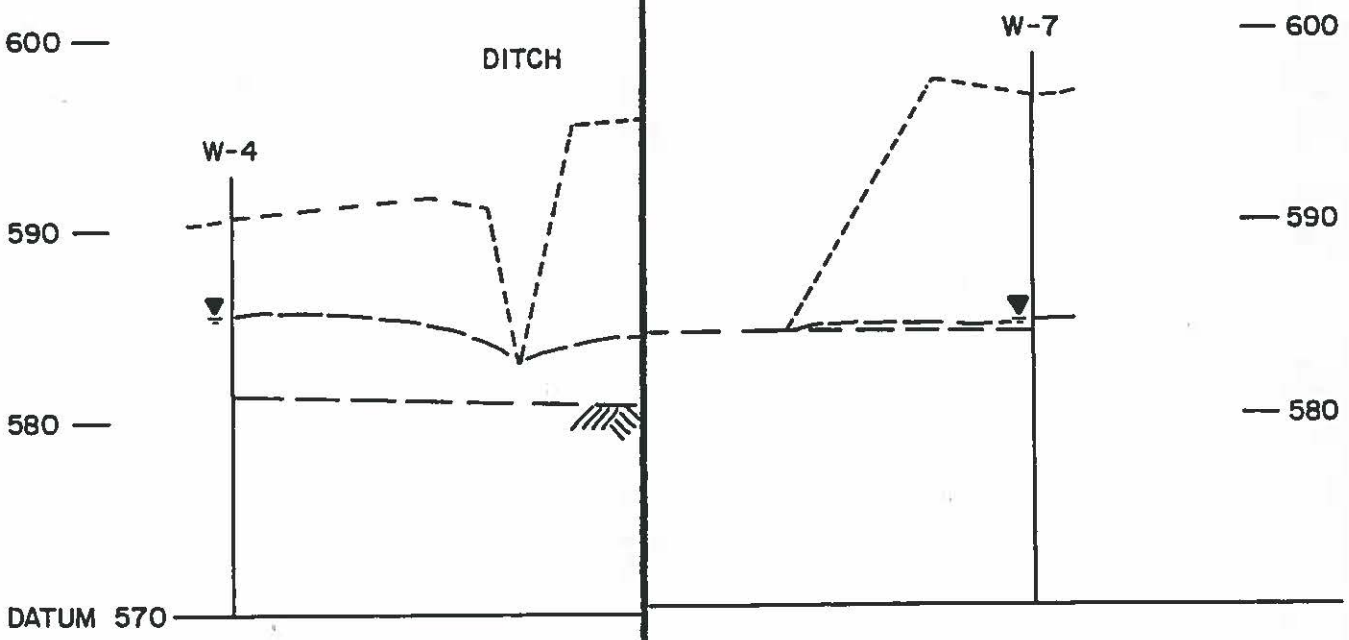

LEGEND

▼ WATER LEVEL RECORDED ON 10/6/83

LOCATION OF FILL SAMPLE TAKEN FROM BORING WITH EP TOX ANALYSIS (MG/L)

0 240

FEET

8

FIGURE 2-3

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In order to chemically characterize the aquifer system, major anion and cation analyses were performed on filtered groundwater samples during the third sampling event (August 1984) at the site. These analyses are useful for determining groundwater types and for obtaining the concentration of major anions, such as bicarbonate and carbonate, which affect the solubility of the various heavy metal species.

Data from the anion-cation analyses were plotted on trilinear or Piper diagrams (Figures 2-4 a, b, and c). The graphical method of plotting allows for quick discrimination of water types in the diamond field of the plot. Comparing the wells completed in the fill, in the rock beneath the fill, and in the deep bedrock north of the site, most of the plots fall within a similar shaded area. This suggests that the waters are of similar quality and, therefore, are probably interconnected. This supports the hydrogeology results that indicate a flat gradient and predominantly horizontal flow.

Lead was chosen for analysis to estimate the potential for mobility of heavy metals at the site because it appears in more groundwater samples and at a higher concentration than either hexavalent chromium or cadmium. In addition, lead is likely to be more mobile than the other metals of concern.

The solubility of lead is primarily governed by the pH, oxidation-reduction potential, and the presence of other major chemical species. The extent that lead will migrate is affected by changes in the above factors which may cause precipitation or by sorption to clays or other mineral surfaces.

In a pure water system with few other constituents, the solubility of lead is not significantly affected by pH ranges. However, the introduction of other components such as carbonate will affect lead solubility. Figure 2-5 is an eH-pH stability diagram for a lead-carbonate system. As seen in this diagram, lead is soluble below a pH of 8.0, however, above pH 8.0, lead precipitates as the mineral cerussite ($PbCO_3$). Faust and Aly indicate that above pH 8.0, lead solubility will not be above 10 mg/l.

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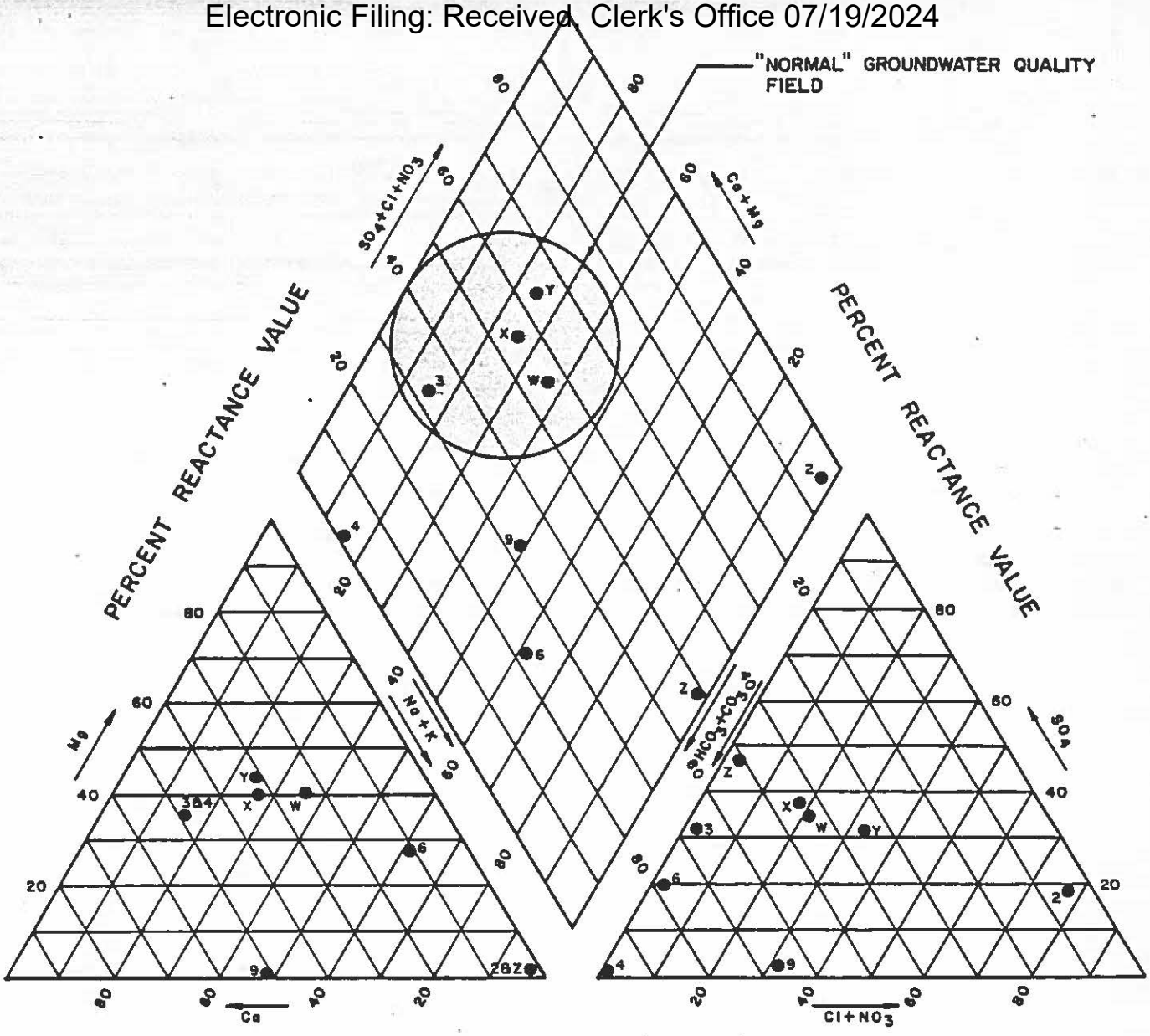

SAMPLES

WELL 2 CANAL (GATE END);(W)
WELL 3 CANAL (MID SITE);(X)
WELL 4 CANAL (FAR END);(Y)
WELL 6 LAGOON ; (Z)
WELL 9

FIGURE 2-4a

TRILINEAR DIAGRAM
FILL WELLS AND SURFACE WATER

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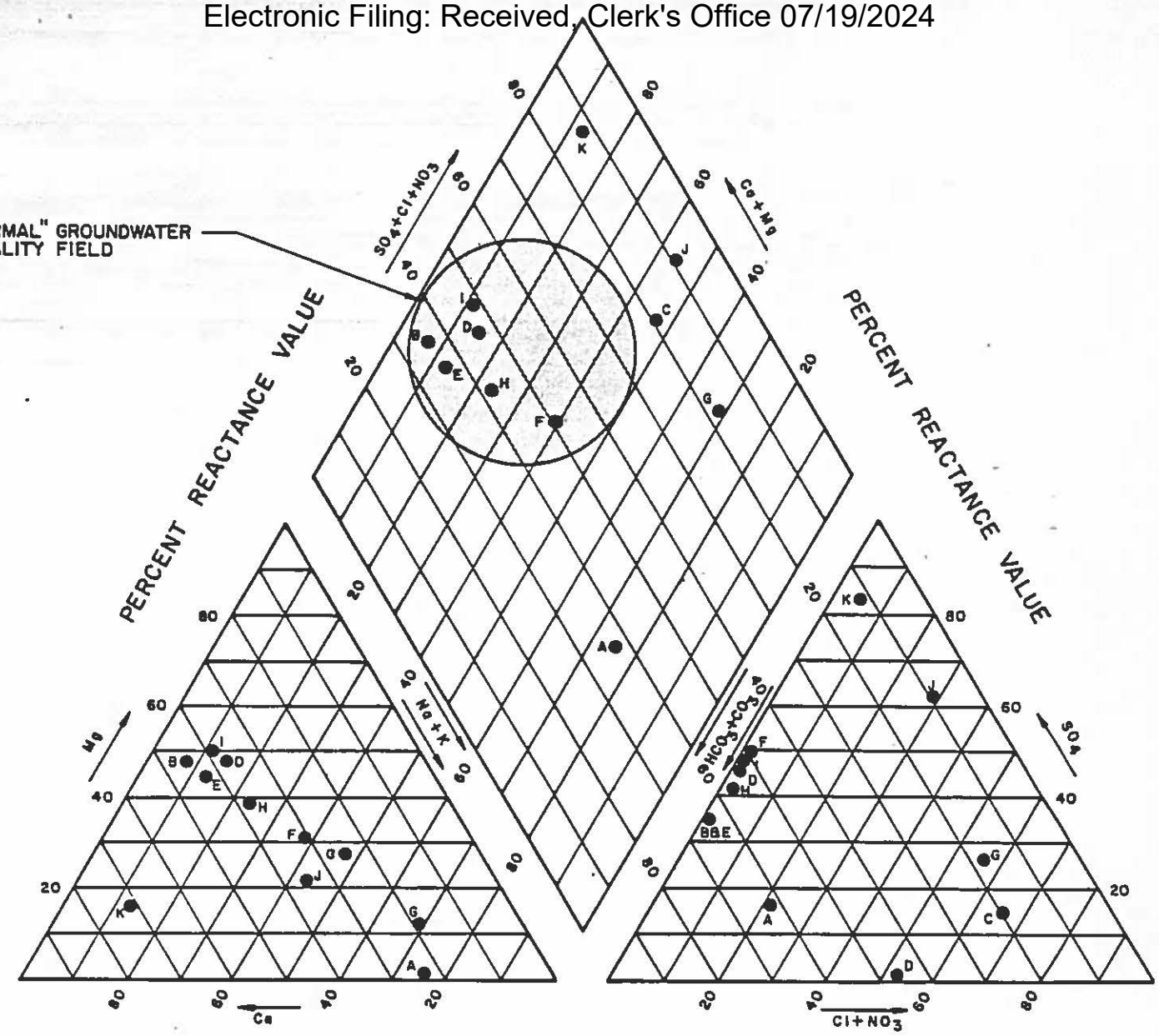

WELL SAMPLES

A	F
B	G
C	H
D	I
E	J
	K

FIGURE 2-4b

TRILINEAR DIAGRAM
BEDROCK WELLS

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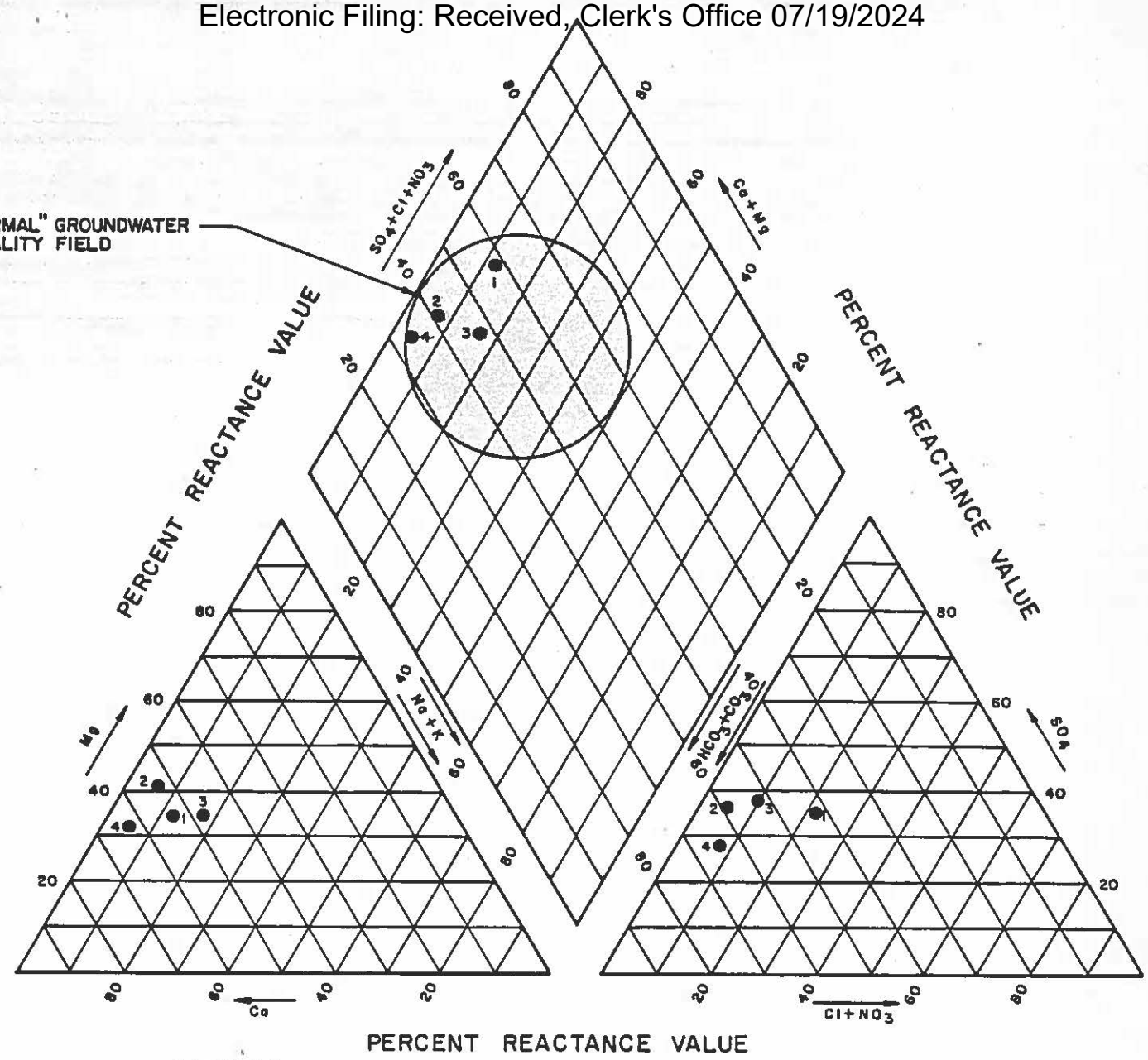

CATIONS
(% meq/l)

ANIONS
(% meq/l)

SAMPLES

OW-1
OW-2
OW-3
OW-4

FIGURE 2-4c

TRILINEAR DIAGRAM
DEEP BEDROCK WELLS

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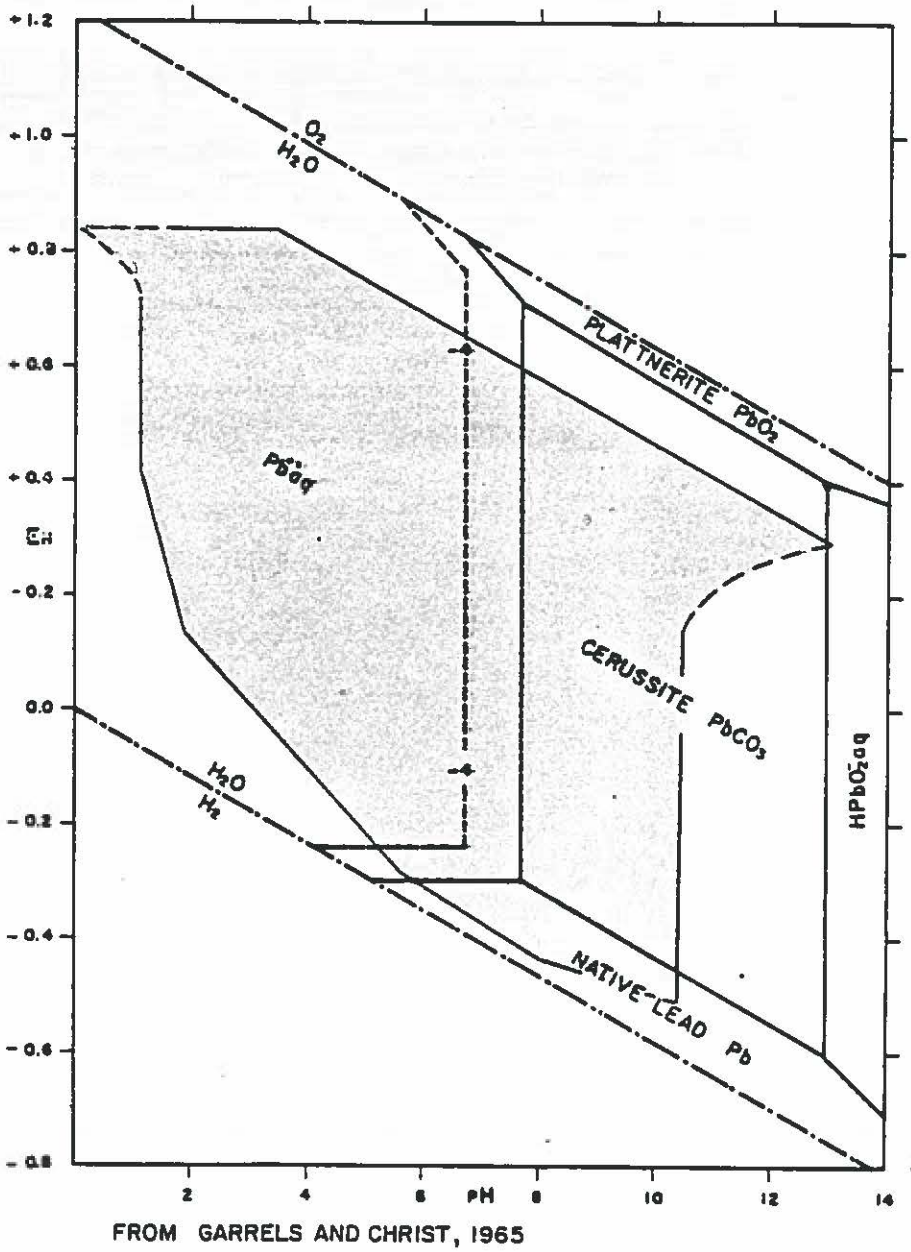

FROM GARRELS AND CHRIST, 1965

DISTRIBUTION OF Eh-pH MEASUREMENT OF NATURAL AQUEOUS ENVIRONMENTS

FIGURE 2-5

STABILITY FIELD FOR Pb-CO_2-H_2O SYSTEM

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Further chemical complexing can occur by introducing sulfate into the system. This anion occurs at the site and will have an effect on solubility. Figure 2-6 depicts the stability or solubility relationships of the sulfate, carbonate, and lead systems. In the diagram, the soluble species of lead is limited to the pH range below 2.0.

At this site, acidic pH conditions do not exist because of the presence of dolomite ($MgCO_3$) and because the groundwater naturally has high concentrations of bicarbonates. Lead in solution would therefore tend to precipitate very rapidly. The naturally alkaline pH conditions and the presence of relatively high carbonates and bicarbonates also support the conclusion that the filtered groundwater samples more accurately depict heavy metal concentrations of lead than do the unfiltered results. Once groundwater enters into the rock, complexing ions, such as carbonates from the dolomite, combine to immobilize the metals.

Hem (1976) indicated that the following equation could be used for waters with low ionic activity (low dissolved solids), like those that exist at this site as determined by geochemical analyses:

$$\frac{[Pb^{+2}]\,[HCO_3^-]}{[H^+]} = 10^{-3.09}$$

Substituting lead concentrations from the third (filtered) sampling event, the following predicted and observed values exist:

Well	Lab pH	HCO_3 (mg/l)	Pb Predicted (mg/l)	Pb Observed (Filtered) (mg/l)	Pb Observed (Unfiltered) (mg/l)
2	9.00	390*	3×10^{-5}	3.5×10^{-1}	2.9
3	7.20	360	2×10^{-3}	3.0×10^{-2}	3.0×10^{-2}
6	7.80	850	2×10^{-4}	4.4×10^{-1}	4.5

* Sum of $HCO_3 + CO_3$

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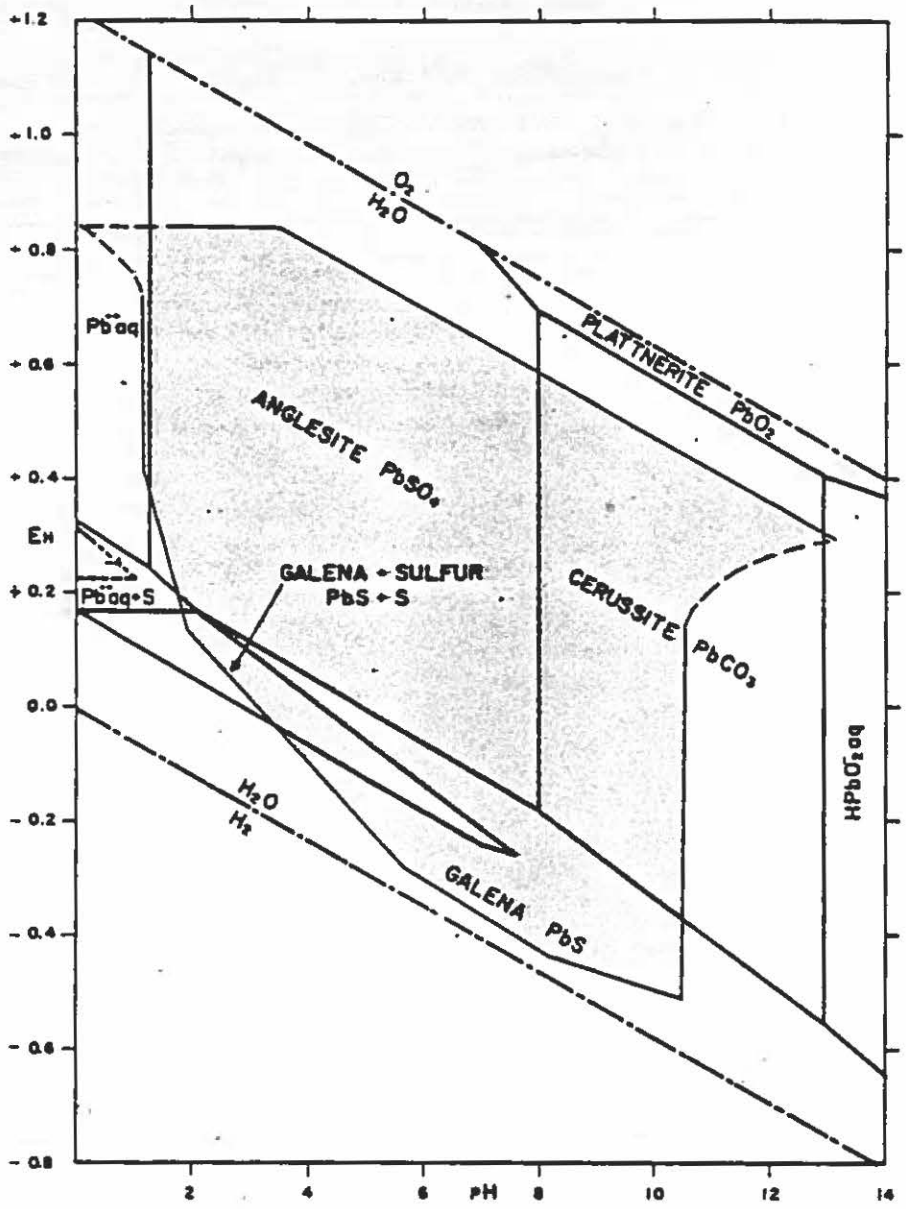

FROM GARRELS AND CHRIST, 1965

DISTRIBUTION OF Eh-pH MEASUREMENT OF NATURAL AQUEOUS ENVIRONMENTS

FIGURE 2-6

STABILITY FIELD FOR Pb-S-CO_2-H_2O SYSTEM

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This data indicates that the observed, filtered concentrations are a few orders of magnitude higher than the predicted values. The reasons may be the effect of colloidal size particles passing through the 45-micron filter, or the eutectic effect of other components (higher ionic activity) in the system. The observed, unfiltered results are generally higher than the predicted, filtered results. Regardless, the concentrations observed from the filtered samples more closely parallel the predicted values than the unfiltered samples, therefore, the filtered samples more accurately represent actual groundwater quality. Filtering of samples with a smaller-sized filter would most likely result in even lower observed values.

The above discussion considers only the precipitation mechanisms that affect heavy metal migration in groundwater. Many researchers indicate that lead migration is reduced even more by the effect of sorption. A study on sorptive effects is not warranted, however, because the precipitation process substantially precludes migration in the present circumstances.

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3.0 SUMMARY AND CONCLUSIONS

The geology/hydrogeology investigation reveals that groundwater flow is to the northwest. Groundwater flow is fed primarily by quickly infiltrating precipitation through the permeable, overlying fill material. This flow occurs in the fractured bedrock beneath the fill. The water table intersects the base of the fill and lies within the fill along the southern boundary of the site. This aquifer occurs in both the dolomite rock and the fill.

The geochemical study confirms that only one aquifer exists at the site. Heavy metal migration is inhibited substantially by the physio-chemical processes of precipitation and sorption. No heavy metal groundwater plume was identified to be emanating from the furnace dust storage areas, nor is migration of heavy metals anticipated providing physio-chemical conditions remain unchanged.

The subsurface investigation results in two primary conclusions regarding this site:

- Because of natural geochemical processes, any heavy metals present are not being placed into solution, and hence, are not migrating.

- The fill portions still containing furnace dust, despite earlier excavation of the primary dust storage areas, can be identified for further removal activities.

Areas targeted as potential furnace dust repositories are indicated on Drawing U495-02. These target areas represent those portions of the site where the investigation has shown the presence of material which exhibits EP Toxicity for lead, cadmium, or hexavalent chromium.

The areas indicated define the apparent boundaries of the remaining furnace dust deposits at the site. They also include substantial amounts of inert fill material.

It is these areas, therefore, that become the focus of the closure operation.

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4.0 CLOSURE DESIGN AND DEVELOPMENT

This section describes the proposed, final closure plan for the furnace dust storage areas identified by the foregoing investigations.

This closure plan involves excavation of the areas determined from scientific exploration and analyses to contain any furnace dust which remains at the site. Also, included herein are the actions necessary and required to complete the closure in an environmentally responsible manner. These actions include a plan for separation of furnace dust from inert fill components and offsite transportation and disposal of furnace dust at a licensed, hazardous waste disposal facility. Excavation, separation, and disposal will occur concurrently. Figure 4-1 indicates the concept employed in this closure design.

During closure operations, relevant health and safety procedures will be maintained by the personnel to prevent inhalation or ingestion of air-borne particulates that may be generated during activities. These procedures are not addressed here, however upon closure plan approval, a Site Health and Safety Plan will be prepared and submitted.

Appendix C provides an itemized cost estimate to complete the closure as outlined in this plan.

4.1 Excavation

Drawing U495-02 indicates the areas to be excavated to existing bedrock (approximately 15 feet below the surface of the fill). Excavation can be performed by backhoe, front-end loader, and elevating scraper. This equipment will enable personnel to be selective in excavation and allow greater flexibility of fill material separation. A total of 58,300 cubic yards of bulk fill material is estimated for excavation.

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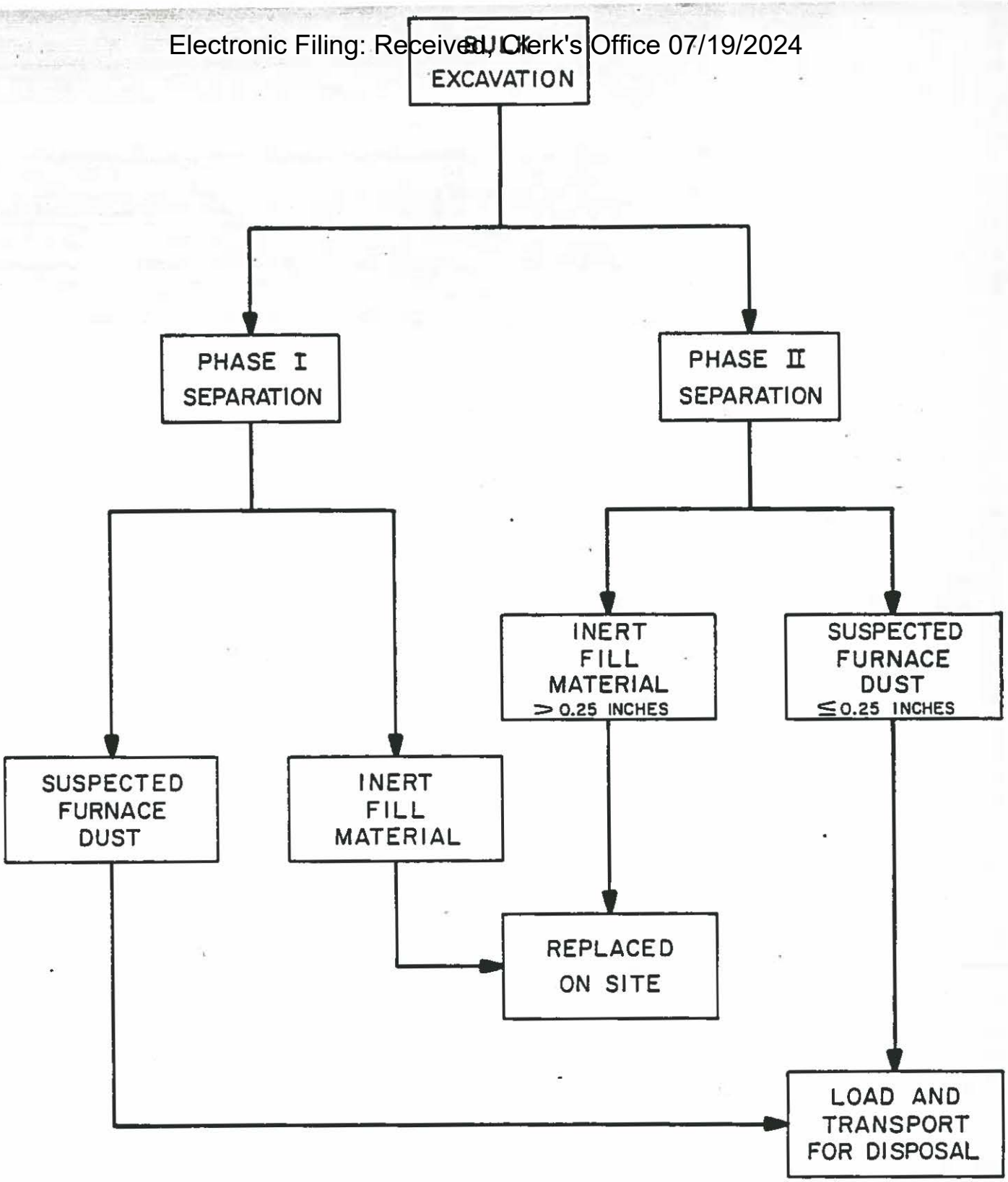

CLOSURE DESIGN FLOW CHART

FIGURE 4-1

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Excavation must progress in a methodical manner within each area. As excavation progresses, lenses or pockets of furnace dust will be identified. When encountered, this material will be carefully removed and carefully segregated for subsequent disposal as a hazardous waste. Fill material that is obviously not furnace dust will be removed from the immediate area and stored for eventual replacement after excavation operations are completed. Fill material which is believed to be other than furnace dust, but nonetheless closely exhibits the physical characteristics of furnace dust, will be taken to the separation process area for further mechanical separation (see Section 4.2).

The moisture content of the fill material prior to processing must be such that separation can occur unhindered by clumping or agglomeration of the finer particles. Reduction in moisture may be obtained by the consecutive removal of shallow (6-inch) layers of the uppermost fill material. As each layer of material is exposed, evaporation and solar drying of the next layer can occur. Additional drying of the material, when necessary, may include spreading and discing to allow the moisture content of the fill to decrease to a point where more effective separation may be obtained. An onsite staging area will be designated for performing the spreading and discing.

As excavation/separation progresses, the exposed slopes of the excavated area will be maintained at a 2:1 horizontal to vertical ratio or greater to preclude any sliding or intermixing of inert fill and potential furnace dust deposits, and to accommodate the use of equipment.

Dewatering of the open excavations may become necessary because of either precipitation or drainage of in-situ water. Provisions for dewatering will consist of gasoline-powered pumps in sufficient number and of sufficient capacity, which will draw off the accumulated water, and discharge to a holding tank or tank truck. This water will be periodically sampled and analyzed for elevated levels of lead, cadmium or hexavalent chromium. Prior arrangements will be made for analyses with a local laboratory for this purpose to ensure a rapid turnaround time for the samples. Once analyzed, the results will determine if treatment prior to disposal is

necessary to reduce the wastewater to below existing Illinois effluent limits. It is expected that, because much of the work will be performed above the water table, large amounts of water will not be encountered.

The recommended treatment method for the water is neutralization and precipitation, which are well-developed processes currently being applied to the full-scale treatment of many industrial wastewaters containing soluble heavy metals. The operating parameters and economics are well-defined and documented. Extensive research and development are usually unnecessary in determining whether a particular waste stream is amenable to this treatment. Past experience and simple laboratory treatability tests are all that is necessary in determining applicability.

With regard to wastewater that could be categorized as hazardous, the most common existing application is the removal of toxic heavy metals from wastewater by lime treatment. Practically every industry that discharges a process wastewater contaminated with suspended and/or precipitable pollutants employs some form of precipitation and/or sedimentation. Sedimentation is currently in widespread use for the removal of suspended solids; and precipitation (usually with lime) is used to remove the heavy metals.

Neutralization, precipitation, and sedimentation are generally practical, effective, and relatively low-cost processes for the removal of precipitable, soluble substances and suspended particles from aqueous waste streams. Energy consumption is very low compared to other processes. The processes produce a waste sludge.

Once excavation of the areas is completed, remaining, inert fill material, which was separated either by hand or mechanical processing, will be backfilled into the excavations. The excavated depressions will be returned to the original pre-excavation elevation by grading with existing fill material to provide a uniform slope and appearance and to allow positive drainage of surface water.

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4.2 Separation

As previously stated, furnace dust consists of finely divided particles generally less than 5 microns in diameter. Because much of the fill material consists of larger-diameter non-hazardous components, excavated material can be reduced in volume by physical separation of the larger-diameter inert fill components. This concept would allow much of the inert fill material to remain on site.

Separation of the material will occur in two phases. Phase I will involve a visual examination and determination at the point of excavation. Large slag, demolition material, and other debris will be segregated by hand or by the equipment, as required.

Phase II separation will utilize the existing onsite process. This operation is an iron recovery process which uses vibrating screens of varying sizes. Furnace slag is placed in large hoppers above the screens that separate the slag into fractions as small as 7/16 inch in size. Smaller-sized screens are available for further particulate size reduction. Consideration of the fill material and the screening process suggests that a volume reduction of approximately 80 percent can be realized by utilizing a 1/4-inch screen while still providing a margin of assurance that all furnace dust will be removed. Of the total volume of excavated material, approximately 20 percent (or 11,660 cubic yards) would require offsite disposal as a hazardous waste.

Present experience indicates that a 10 cubic-yard truckload of furnace slag is processed in approximately 30 minutes. However, it is possible to accelerate the cycle time needed by making adjustments in the conveyor belt feed arrangement. An estimate of processing 10 cubic yards of fill material is expected to be about 15 minutes. The total time required to perform the separation process can also be estimated.

For the purpose of the above estimate the following assumptions are made:

- Ten-hour work-day/50 hours per week (5 days/week)
- Suitable weather conditions will exist (April to October)
- All excavated material will require processing
- All material passing through a 1/4-inch screen will be disposed of as a hazardous waste.

Given an estimated 58,300 cubic yards total volume of fill excavated, it is anticipated that 145 working days or 29 calendar weeks will be required to successfully process the fill material. This would result in an 80-percent reduction of the total excavated volume, or 11,660 cubic yards for disposal off site as a hazardous waste.

4.3 Offsite Disposal

Disposal shall be offsite in an approved landfill specifically permitted to accept electric arc furnace dust. The disposal facility, located in Calumet City and operated by Waste Management, Inc., is such a facility and is located approximately 35 miles from the Dudek Site. This facility presently accepts electric arc furnace dust generated by Thomas Steel Company.

The fill material directly identified as furnace dust during Phase I, and all material less than 1/4-inch resulting from the mechanical separation process, will be disposed of as hazardous waste. A licensed hauler will be obtained to transport the material to the disposal facility and all necessary manifests will be prepared.

4.4 Erosion and Sedimentation Control

The climate is predominantly continental, ranging from relatively warm in summer to relatively cold in winter. In late autumn and winter, air masses that are initially very cold often reach the site only after being tempered by passage over one or more of the Great Lakes. Similarly, in late spring and summer, air masses reaching the site from the north, northeast, or east are cooler because of movement over

the Great Lakes. Very low winter temperatures most often occur in air that flows southwest toward Lake Superior. In summer, the higher temperatures are with south or southwest flow and are, therefore, not influenced by the lakes.

Precipitation falls mainly from air that has passed over the Gulf of Mexico. In winter, snow fall is light, but locally heavy near the lakeshore, with Lake Michigan the principal moisture souce. Summer thundershowers are often locally heavy and variable. Longer periods of continuous precipitation are mostly in autumn, winter, and spring. About one-half of the precipitation in winter, and about 10 percent of the yearly total precipitation, falls as snow. Snowfall, from month-to-month and year-to-year, is greatly variable. There is a 50 percent likelihood that the first and last 1-inch snowfall of a season will occur by December 5 and March 20.

The average monthly values for precipitation and temperatures are presented below. The averages are calculated over a 24-year period of record, 1958 through 1981 inclusive.

	Average Precipitation (Inches)	Average Temperature (°F)
January	1.64	20.4
February	1.30	25.0
March	2.60	36.1
April	3.87	48.8
May	3.26	59.0
June	4.19	68.5
July	3.50	72.8
August	3.63	71.9
September	3.86	64.6
October	2.05	53.1
November	2.12	40.0
December	2.15	27.0
Annual Average	34.17	49.0

Source: Climatological Data, Annual Summaries for Chicago, Illinois; National Oceanic and Atmospheric Administration; National Climatic Center, Asheville, North Carolina

The surface of the site is flat, with virtually no upslope watershed. Erosion of the work site during closure activities would occur primarily as a result of direct precipitation. To prevent runoff from occurring, an earthen mound or dike will be placed above the top of the excavation areas to divert potential runoff around the exposed slopes. Straw bales may be staked at strategic points where water-borne sediment is, or may likely occur, while closure activities are ongoing. A diversion channel and sedimentation basin system is not considered necessary or practical. Once closure operations have ceased, erosion control will not be required.

4.5 Schedule of Closure

The following sequence of activities will occur during closure:

1. Modify existing onsite feed arrangement to expedite separation processing.

2. Prepare erosion control berm(s) and place straw bales as necessary about excavation areas.

3. Prepare haulways and staging areas, as required, from excavation area(s) to separation area.

4. Commence excavation operation.

5. Commence separation operation.

6. Load and transport processed material for disposal at a licensed hazardous waste disposal facility.

7. Replace inert material into excavated area(s) after excavation operations cease at that area.

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5.0 DECONTAMINATION

At the completion of closure activities, all vehicular equipment that has come into contact with the waste material shall be thoroughly decontaminated with high-pressure steam. A decontamination area will be designated onsite. Decontamination water will be collected in 55-gallon drums and, when full, labeled and removed for treatment or disposal as required. Equipment or clothing that cannot be decontaminated onsite will be double-bagged and transported for decontamination or disposal.

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6.0 CERTIFICATION OF CLOSURE

When closure is completed, The Ceco Corporation will submit to the Illinois Environmental Protection Agency a certification by both Ceco and an independent, registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan.

APPENDIX A

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APPENDIX A

SUMMARY OF GROUNDWATER AND FILL MATERIAL ANALYSES
ALL UNITS IN mg/l

Well*	1983 Groundwater -- 1st Set (Unfiltered) Lead	Cadmium	Chromium
1A	160*	5.3*	4.0*
2	70*	1.44*	1.38*
3	< 0.03	< 0.005	< 0.01
4	- - - - - - - - - - - Dry, No Sample - - - - - - - -		
5	- - - - - - - - - - - Dry, No Sample - - - - - - - -		
6	1.28*	0.1*	< 0.01
7	- - - - - - - - - - - Dry, No Sample - - - - - - - -		
8	9.68*	0.26*	0.34*
9	0.35*	0.007	0.26*
10	5.85*	0.18*	0.28*
Old Well 1	< 0.03	< 0.005	0.01
Old Well 2	< 0.03	< 0.005	< 0.01
Old Well 3	< 0.03	< 0.005	0.01
Old Well 4	< 0.03	< 0.005	0.01

Well*	1983 Groundwater -- 2nd Set (Unfiltered) Lead	Cadmium	Chromium
1A	34*	1.1*	0.21*
2	2.93*	0.082*	0.1*
3	< 0.03	0.010	0.01
4	0.12*	0.007	0.02
5	- - - - - - - - - - - Dry, No Sample - - - - - - - -		
6	4.55*	0.16*	0.09*
7	- - - - - - - - - - - Dry, No Sample - - - - - - - -		
8	6.94*	0.17*	0.18*
9	0.99*	0.032*	0.42*
10	6.55*	0.195*	0.16*

1984 Groundwater --- 3rd Set (Filtered)

Well*	Lead	Cadmium	Chromium	Field pH
1A	- - - - - - - - - - - - Dry, No Sample - - - - - - - - -			
2	0.35*	0.023*	0.01	8.66
3	< 0.03	< 0.005	< 0.01	7.82
4	< 0.03	< 0.005	0.01	7.23
5	- - - - - - - - - - - - Dry, No Sample - - - - - - - - -			
6	0.37*	< 0.005	< 0.01	7.90
6 (duplicate)	0.41*	< 0.005	< 0.01	7.90
7	- - - - - - - - - - - - Dry, No Sample - - - - - - - - -			
8	- - - - - - - - - - Demolished, No Sample - - - - - - -			
9	< 0.03	< 0.005	< 0.01	10.45
10	- - - - - - - - - - - - Dry, No Sample - - - - - - - - -			

Well**	Lead	Cadmium	Chromium	Field pH
A	< 0.03	< 0.005	< 0.01	11.25
B	< 0.03	< 0.005	< 0.01	7.54
C	< 0.03	< 0.005	< 0.01	7.60
D	< 0.03	< 0.005	< 0.01	7.38
E	< 0.03	< 0.005	< 0.01	7.39
F	< 0.03	< 0.005	< 0.01	7.26
G	< 0.03	< 0.005	< 0.01	8.95
H	< 0.03	< 0.005	< 0.01	7.03
I	< 0.03	< 0.005	< 0.01	7.30
J	< 0.03	< 0.005	< 0.01	8.43
K	< 0.03	< 0.005	< 0.01	8.20

* Completed into fill material.
** Completed into bedrock.

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FILL MATERIAL SAMPLES — EP LEACHATE ANALYSES

Boring	1983 Lead	1983 Cadmium	1983 Chromium
1A	1.29	0.23	0.02
3	< 0.03	0.011	0.02
4	0.21	0.093	< 0.01
6	41*	7.4*	0.02
	250*	30*	0.02
	22.8*	5.3*	0.02
9	0.03	0.005	< 0.001
12	< 0.03	< 0.005	< 0.001
14	0.10	0.085	0.01
17	< 0.03	0.007	0.02

Boring	1984 Lead	1984 Cadmium	1984 Chromium
2	0.05	0.062	< 0.01
	0.07	0.059	< 0.01
5	180*	6.3*	0.02
	70*	3.0*	0.01
	1.2	0.034	0.01
7	0.39	0.058	< 0.01
8	3.3	0.25	< 0.01
	6.5*	0.75	< 0.01
	3.7	0.42	0.01
10	12*	6.0*	0.03
	72*	7.5*	0.05
	0.30	0.14	< 0.01

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FILL MATERIAL SAMPLES--EP LEACHATE ANALYSES

	1984		
	Lead	Cadmium	Chromium
Test Pit 1	60*	13*	< 0.01
Test Pit 2	0.11	0.011	< 0.01
Test Pit 3	2.00	0.067	< 0.01
Test Pit 4	1.56	0.400	< 0.01
Test Pit 5	2.06	0.527	< 0.01
Test Pit 6	- - - - - - - - - - - No Dust Visible - - - - - - - - -		
Test Pit 7	0.28	0.022	< 0.01
Test Pit 8	- - - - - - - - - - - No Dust Visible - - - - - - - -		
Test Pit 9	5.00*	0.389	< 0.01

* These values meet or exceed EPA maximum limits, see Appendix B.

APPENDIX B

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APPENDIX B

EPA INTERIM PRIMARY DRINKING WATER/EP TOXICITY LIMITS

Parameter	Maximum Limits* Primary Drinking Water	EP Toxicity
Arsenic (As)	0.05	5.0
Barium (Ba)	1.0	100.0
Cadmium (Cd)**	0.01	1.0
Chromium (Cr^{+6})**	0.05	5.0
Lead (Pb)**	0.05	5.0
Mercury (Hg)	0.002	0.2
Selenium (Se)	0.01	1.0
Silver (Ag)	0.05	5.0

* Values are in mg/l.
** Basis for listing of electric arc furnace emission control dust.

APPENDIX C

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APPENDIX C

CLOSURE COST ESTIMATE
JANUARY 1985

Item	Estimate	Cost
Mobilization/Demobilization	NA	$ 0
Erosion Control	Lump Sum	2,000
Excavation (Incl. Labor)	58,300 cy @ $1.00/cy	58,300
Phase II Separation (Incl. Labor)	58,300 cy @ $0.75/cy	43,725
Transportation Offsite	11,660 tons @ $0.15/ton/mi.*	61,215
Disposal (@ Calumet City)	11,660 cy @ $30.00/cy	349,800
Replacement of Inert Material	46,640 cy @ $0.70/cy	32,648
	SUBTOTAL	547,688
Health and Safety	0.15 (Excavation & Separation)	15,304
	SUBTOTAL	562,992
Dewatering:		
Pump Rental	2 Pumps @ $75/day/145 days	10,875
Wastewater Analysis	15 Samples @ $75/Sample	1,125
	SUBTOTAL	574,992
Wastewater Treatment:		
Onsite Holding Tank	5,000 Gal. Installed	7,500
Mixer/Motor	1 HP	2,000
Labor	1 Man-day/Batch/4 Batches	600
Sludge Disposal	@ Calumet City, 2 tons	150
Miscellaneous	Permits, Chemicals, etc.	3,000
	SUBTOTAL	588,242
Decontamination:		
Rental of Steam Equipment	2 days @ $200/day	400
Disposal of Decon Water	20 drums @ $40/drum	800
	SUBTOTAL	589,442

* Assume 1 cy ≈ 1 ton

APPENDIX C
CLOSURE COST ESTIMATE
JANUARY 1985
PAGE TWO

Item	Estimate		Cost
Closure Certification:			
1 Professional Engineer	24 hrs @ $60/hr		1,440
Expenses	3 days @ $100/day		300
		SUBTOTAL	591,182
Contingencies	@ 10%		59,118
	TOTAL ESTIMATED CLOSURE COST		$650,300

EXHIBIT F

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NUS CORPORATION
Park West Two
Cliff Mine Road
Pittsburgh, PA 15275
412-788-1080

R-33-2-6-4

AMENDMENT TO CLOSURE PLAN

FOR

WASTE STORAGE AREA
EPA ID NO. ILD990785453
WILL COUNTY, ILLINOIS

THE CECO CORPORATION
OAKBROOK, ILLINOIS

NUS PROJECT NUMBER U495

MARCH 1986

SUBMITTED FOR NUS BY:

EDWARD L. BAER
PROJECT MANAGER

APPROVED:

E. DENNIS ESCHER, P.E.
VICE PRESIDENT
AND GENERAL MANAGER
PEC DIVISION

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A	CLOSURE COST ESTIMATE
B	ANNUAL POST-CLOSURE COST ESTIMATE

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DRAWINGS

NUMBER		LOCATION
U495-A-01	PROPOSED CLOSURE SITE PLAN	Rear Pocket
U495-A-02	DETAILS	Rear Pocket
U495-A-03	AREAS OF PREVIOUS EXCAVATION	Rear Pocket

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1.0 INTRODUCTION

This document is an amendment to the Closure Plan submitted by The Ceco Corporation (Ceco) on January 31, 1985, pursuant to 35 Ill. Adm. Code Section 725.212 for an interim status storage facility for hazardous waste KO61. That Closure Plan was reviewed by the Illinois Environmental Protection Agency (IEPA) and approved by letter dated June 13, 1985. Closure activities commenced on September 3, 1985, in accordance with the approved Closure Plan.

On September 18, 1985, at the request of IEPA, a site inspection was conducted with representatives of Ceco, IEPA and NUS Corporation, Ceco's environmental consulting firm, in attendance. Following that inspection, a Compliance Inquiry Letter was issued by IEPA on September 27, 1985, which set forth several concerns of IEPA with respect to the implementation of the approved Closure Plan. On November 20, 1985, representatives of IEPA, USEPA, Ceco and NUS met in Springfield, Illinois, to discuss IEPA's concerns. At that meeting IEPA advised Ceco that the "mixture rule," promulgated by USEPA under RCRA to govern circumstances where hazardous waste and non-hazardous solid waste are admixed, would require that the mechanical waste separation process (described at Section 4.2 of the Closure Plan) operate to insure that all traces of KO61 material be removed from the non-hazardous components of the mixture before the non-hazardous material could be returned as fill to the excavated portions of the site. Because this interpretation of the mixture rule called into question an essential element of the Closure Plan, Ceco advised IEPA that it would consider its impact on further closure activities and advise IEPA of its position. On January 20, 1986, Ceco advised IEPA by letter that Ceco had concluded that it was physically impossible for the mechanical separation process to remove all traces of KO61 material from the non-hazardous portions of the admixed excavated material, and that consequently Ceco would submit by March 20, 1986, an amendment to the Closure Plan which contemplated closure of the site with the admixed KO61 material and non-hazardous solid waste remaining in place.

This amendment incorporates by reference the previously approved Closure Plan. The amendment addresses only the change in concept of the Closure Plan to closure with hazardous waste remaining on site, from the original Plan's contemplated removal of all hazardous waste to a licensed commercial disposal facility.

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2.0 DESIGN CONCEPT OF CLOSURE

2.1 Scope of Work

During the period from September through December, 1985, portions of the site which were known to contain deposits of KO61 material were excavated to remove such material. Areas selected for excavation were those which, based upon previous surface and subsurface investigation, were suspected to contain deposits of KO61 material. The excavation technique followed is described in Section 4.1 of the Closure Plan. Constant and careful onsite monitoring of all field activities was documented and records were kept. In addition, areas of the site in the vicinity of Boring No. 14 and Wells Nos. 3, 4, and 9 were excavated to demonstrate that no KO61 material was present in the western portion of the site. All excavation was done under the direction of a registered professional engineer whose instructions were to locate KO61 material deposits and to trace those deposits by additional excavation until they were no longer present. In this fashion, all deposits of KO61 material at the site were located and excavated, together with a significant volume of non-hazardous solid waste, including slag, mill scale and other debris. Drawing No. U495-A-03 depicts the site and the excavated areas.

The total volume of material excavated from the site was 102,800 cubic yards. Of this amount, approximately 32,000 cubic yards consisted of admixed KO61 and non-hazardous solid material. Admixture of KO61 material and other solid waste was the unavoidable result of the excavation process. This admixed material is temporarily stockpiled on the surface. The remaining volume of the excavated material consisted of non-hazardous "overburden" located above deposits of KO61 material. This material was stockpiled separately from the portion containing KO61 material, and backfilled into excavated areas from which all KO61 material had been removed.

This amendment to the Closure Plan addresses the future management of the 32,000 cubic yards of admixed KO61 material and non-hazardous solid waste. It describes the work necessary to close the interim status storage pile by creating a permanent repository for the admixed material in accordance with the

requirements of 35 Ill. Adm. Code Sections 725.358(b) and 725.410, and the post-closure requirements applicable pursuant to 35 Ill. Adm. Code Sections 725.217 through .220.

2.2 Earthwork and Grading

Site preparation will begin by excavation of a suitable area within the former regulated unit. (The location and details of the closed interim status waste pile unit appear in Drawings Nos. U495-A-01 and -02.) Excavation will include the removal of all fill material and any debris or organic matter, for example, wood, paper, which is present. All material less than 6-inch maximum dimension, other than debris and organic matter, will be stockpiled for subsequent use in construction of the base and sides of the unit when excavation is complete.

Initial excavation will be to the maximum dimensions and depth of the unit. Embankment side slopes of the excavated area will be maintained at a slope of three horizontal to one vertical. A minimum 6-inch layer of previously excavated non-hazardous material will be placed over the bottom and sides of the unit and compacted to produce a firm, uniform, and smooth interior surface using a rubber-wheeled compactor.

The finished interior of the excavation will be inspected during and after construction. Each completed and compacted portion of the unit will be inspected for gross imperfections, cracks, channels or other structural non-conformities. Final depth of the completed excavation will be at least 10 feet as measured from the existing ground surface to the bottom of the unit.

When construction of the unit is complete, transport and placement of the admixed KO61 material and non-hazardous solid waste into the unit will commence. A temporary access ramp will be provided into the unit to accommodate vehicular traffic access during placement of the admixed material. The admixed material will be placed and spread in 2-foot layers in the working area, and compacted with 4 to 6 passes of a track-mounted bulldozer, until the top of the compacted waste reaches an elevation approximately equal to the surrounding ground surface. Waste

placement and compaction will continue from that elevation by means of a temporary earthen ramp until all 32,000 cubic yards of admixed material have been deposited and compacted. The portion of the unit above the existing ground surface elevation will be constructed with sides maintained at a slope of three horizontal to one vertical. Exposed side slopes may require periodic compaction in addition to the horizontal compaction applied during deposit of the admixed material. In such event, the side slopes will be compacted with the track-mounted bulldozer to insure their structural integrity.

2.3 Final Cover and Vegetation

Application of final cover to the above-grade portion of the regulated unit will involve the placement of a minimum 2-foot thick layer of compacted clay with 12 inches of topsoil and vegetation covering the clay layer. Because of irregularities which may be present on the surface of the compacted admixed waste material, the compacted clay layer thickness may vary. In no event, however, will the thickness of the compacted clay be less than 2 feet. The clay material used will exhibit a minimum in-place hydraulic conductivity of 1×10^{-7} cm per second. The clay layer will be placed in 6 to 8-inch lifts and compacted using suitable equipment. A steel tamping foot, sheep's foot or similar type of compaction equipment will be used.

During construction of the final cover, all activities will be supervised by a qualified licensed professional engineer or other representative of NUS. As each lift is placed, it will be inspected for imperfections including granular lenses, cracks, channels, root holes or other structural non-conformities which may affect the permeability of the final cover. Compaction and moisture content of the clay material will be continuously monitored during placement of the final cover. Moisture will be distributed uniformly through the clay material to insure optimum compaction. Laboratory analyses shall be performed to determine optimum moisture ranges and density characteristics. Guidance for moisture content of the clay cover material will require that not more than 20 percent of the samples taken will fall outside the range for optimum moisture content as determined. The supervisor present will inform the contractor when the moisture content of the

clay material exceeds the range set out above. Upon being so notified, the contractor will make appropriate adjustments in procedures as necessary to maintain the moisture content within the specified limits. A Troxler 3411B nuclear density meter, or equivalent, will be employed following compaction of each lift at specified locations in order to monitor the density of the compacted clay layer.

A keyway trench will be constructed at the toe of the exposed waste mound. (Details of the keyway trench are shown on Drawing No. U495-A-02.) The configuration of the keyway will be trapezoidal, with a depth of two feet, bottom width of two feet and side slopes of one to one. Clay cover material will be placed and compacted into the keyway to provide a stability for the compacted clay layer on the side slopes of the unit.

Following completion of construction of the clay layer portion of the final cover, the clay will be inspected for line and grade, uniformity of slope, and any imperfections which might hinder its ability to perform as intended. Thereafter, a 12-inch cover of topsoil capable of supporting indigenous vegetation will be placed on the top and side slopes of the unit and hand-rolled smooth. The topsoil layer will be sufficient to protect the clay layer such that the engineering properties of the clay layer will not vary significantly. Any material protruding from the surface will be removed to insure a uniform sloping surface. The top soil layer will be placed to provide positive drainage from the surface of the unit at no less than 2 percent nor greater than 4 percent in all directions. Grasses and legumes indigenous to the area will be used to provide soil particle stabilization for the top layer of the final cover. The vegetative cover will shield the topsoil layer from the direct impact of rain and wind, while the roots of the grasses and legumes will bind and secure the soil particles against erosion from runoff. During seeding, all areas of the topsoil area will be mulched to reduce erosion and aid in germination and establishment of the seedlings. Cereal straw will be used as the mulch material and will be applied at a rate sufficient to produce a layer of 1 to 1.5 inches deep. Temporary stabilization measures such as CURLEX, or its equivalent, may be used if necessary to minimize seed wash-out immediately following planting.

A perimeter diversion channel will be constructed to collect surface water runoff from the unit and to intercept and divert run-on. The perimeter channel will discharge to the Illinois-Michigan Canal. Construction detail of the perimeter channel is shown on Drawing No. U495-A-02, which depicts a channel of triangular cross-section having a minimum depth of one foot with side slopes of three horizontal to one vertical. The channel will be constructed to slope toward the receiving water such that positive flow will always be maintained. During seeding of the perimeter diversion channel, straw bales will be placed at strategic points to prevent sediment accumulation from migrating offsite. The channel will be provided with a 6-inch layer of topsoil and seeded with appropriate vegetation adaptable to erosive flows and increased moisture. Where the proposed access road crosses the perimeter diversion channel, a 24-inch corrugated metal pipe will be placed to allow surface flows to pass under the access road.

2.4 Construction Sequence and Schedule

The following construction sequence will be followed:

1. Place erosion control measures about work area.
2. Clear and grade work area.
3. Commence bulk excavation of material to approximate dimensions of unit.
4. Backfill with selected non-hazardous material from excavation and compact to achieve final design configuration.
5. Construct temporary access ramp into excavation.
6. Transport and compact admixed K061 material and non-hazardous solid waste in 2-foot layers (including any contaminated subsoils from the temporary stockpile area).
7. Excavate keyway trench around unit.
8. Place and compact clay layer portion of final cover.
9. Place and compact topsoil layer of final cover.
10. Construct perimeter diversion channel.
11. Complete topsoil placement and apply vegetation to final cover and perimeter diversion channel.

12. Construct chain-link fence to control access to closed unit.
13. Drill and develop groundwater monitoring wells.

Current estimates are that the closure operations will be completed in approximately 4 months from the time of commencement. Ideally, closure should begin during the spring in order to permit the vegetative cover to germinate and grow to the point at which it will survive the following winter.

2.5 Decontamination

Upon completion of closure activities, all equipment which has come in contact with the admixed KO61 material and non-hazardous solid waste will be thoroughly decontaminated with high-pressure steam. A decontamination area will be designated onsite. Water used during decontamination will be collected in 55 gallon drums, which when full, will be labeled and removed for treatment or disposal. Equipment or clothing which cannot be decontaminated will be double-bagged and transported for decontamination or disposal.

2.6 Certification of Closure

Following completion of all closure activities, Ceco will submit to IEPA a certification by Ceco and an independent registered professional engineer that the facility has been closed in accordance with the specifications of the Closure Plan, as amended.

2.7 Closure Cost Estimate

The closure cost estimate is set out in Appendix A. It includes only the cost of the closure activities described above. Amounts already expended by Ceco for closure activities to date (approximately $350,000) are not included.

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3.0 POST-CLOSURE PLAN

Because some hazardous waste will remain permanently onsite, under the closure scheme selected, post-closure care requirements are imposed by 35 Ill. Adm. Code Sections 725.358(b), 725.410, and Sections 725.217 through .220.

3.1 Inspection and Maintenance

The final cover and perimeter channel will be inspected periodically. Any disturbed areas of the final cover or perimeter channel will be repaired and revegetated as necessary to minimize wind and water erosion and preserve the structural integrity of the clay portion of the final cover and the perimeter channel, respectively. The fence surrounding the site will be inspected periodically and any necessary repairs undertaken. The final cover will be maintained at its design grade and slope, and will be inspected to insure that it is performing as specified in the Closure Plan, as amended. Any observed surface depressions, bare spots, erosion or other conditions adverse to the function and integrity of the final cover will be corrected immediately. Permanently surveyed bench marks and other points of reference for the site will be protected and maintained.

Access to the site will be restricted by a 3 strand barbed wire, 10-foot high chain-link fence and locked gate. Security will be provided and maintained against unauthorized entry. Use of the site will be restricted to personnel involved in carrying out post-closure activities as described above. Upon completion of closure operations, the closed unit will remain vacant and land use will consist of only those activities necessary to maintain post-closure integrity and monitoring of groundwater.

Groundwater monitoring wells and equipment installed for compliance with 35 Ill. Adm. Code Part 725, Subpart F, will be kept clean and operable. Any well which is damaged will be immediately repaired as necessary to maintain its function and reliability.

3.2 Post-Closure Survey and Records

Within 90 days following completion of closure activities, a field survey will be completed showing the location and dimensions of the closed unit with respect to permanently surveyed benchmarks. In addition, the plat of survey will include a certification by Ceco that any activities at the site which might adversely affect the integrity of the closed unit will be restricted. The survey will be prepared and certified by a professional land surveyor licensed to practice in the State of Illinois. The survey plat indicating the location and dimension of the closed unit with respect to the permanently surveyed bench marks will be submitted to the Will County Recorder of Deeds and to the Director of IEPA. With the survey plat will be submitted a record of the type, location, and quantity of KO61 material within the closed unit. Ceco will also cause to be recorded by the Will County Recorder of Deeds, a notation on the deed to the property, which will in perpetuity notify any potential purchaser that it has been used to manage hazardous waste, and that its use is restricted under 35 Ill. Adm. Code Section 725.217(c). Ceco will notify any purchaser of the property in writing of the requirements of the Closure Plan, as amended, prior to any transfer of ownership.

3.3 Post-Closure Cost Estimate

The post-closure cost estimate for this site is set forth in Appendix B. It will be revised each year to account for the effects of inflation as required by 35 Ill. Adm. Code Section 725.245, and will be amended if events occurring following completion of closure necessitate such amendment. The post-closure cost estimate for the site includes the cost of maintaining the function and integrity of the final cover and of groundwater monitoring activities.

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4.0 GROUNDWATER MONITORING PLAN

A groundwater monitoring program in compliance with the requirements of 35 Ill. Adm. Code Part 725, Subpart F (Sections 725.190 through .194), will be implemented during the post-closure period. Records of groundwater analysis throughout the post-closure period will be maintained. Quarterly, semi-annual, and annual reports will be submitted to IEPA when required under the regulations.

4.1 Proposed Groundwater Monitoring Well Locations

In accordance with the requirements of the regulations, four groundwater monitoring well locations have been selected. They are depicted on Drawing No. U495-A-01, and include one upgradient well cluster, U-1A and U-1B, and three downgradient wells, D-2 through D-4.

The upgradient well cluster will consist of two wells. One will be screened at the top of the dolomite bedrock and the other at a point from 5 to 10 feet into the dolomite rock. Two of the three downgradient wells will be screened in the rock and the third screened at the base of the fill material immediately above the surface of the rock.

Drilling of monitoring wells will be by 6-inch diameter air rotary or continuous flight hollow stem augers. When the desired drilling depth is reached, a standpipe will be installed in the bore hole. The standpipe will consist of 2-inch diameter, flush joint-threaded PVC pipe fitted with a minimum 2-foot long, slotted well screen at the base. A slot size of 0.010 inches will be utilized. The PVC standpipe will be installed with the casing in the bore hole. The well screen will be gravel-packed with clean, washed fine gravel to a level of at least 1 foot above the top of the screen. A 3-foot thick bentonite pellet seal will be placed on top of the gravel. The remaining portions of the bore hole will be backfilled with drill cuttings from bore holes. Each standpipe will extend 2 feet above the ground surface. A 1/4 inch to 3/8 inch diameter hole will be drilled into the pipe about approximately 6 inches

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from the top to allow for venting. A plastic top will be fitted to the standpipe so that it can be easily removed for sampling. A 5-foot long, 6-inch diameter steel casing with locking cap will be cemented into place. Figure 1 depicts a typical monitoring well design.

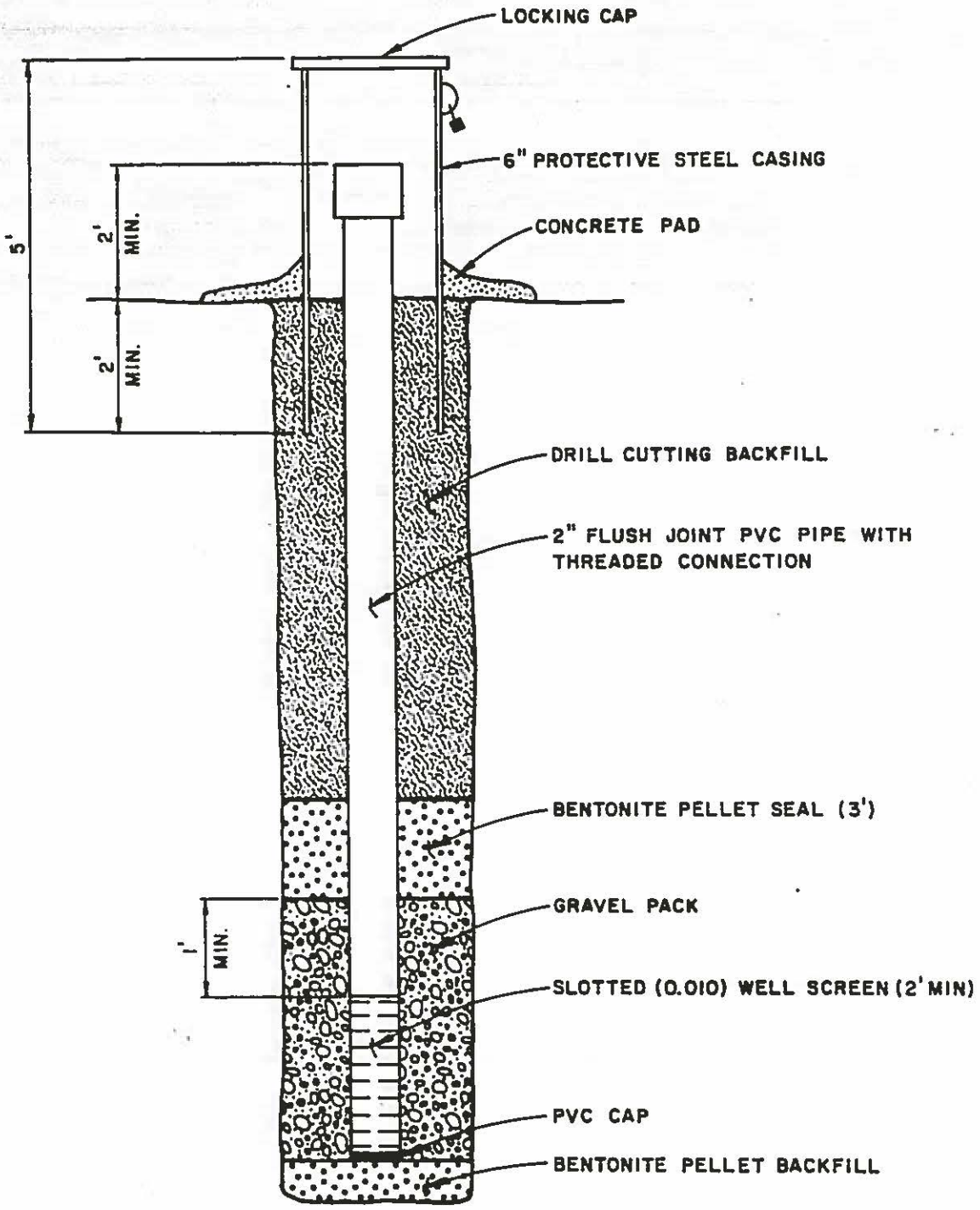
4.2 Analytical Parameters for Groundwater Monitoring

Based upon extensive sampling and analysis of the groundwater done by NUS from this site, parameters selected for the groundwater monitoring program will be as follows:

- Drinking water standards
  - Cadmium
  - Chromium
  - Lead
  - Turbidity
- Groundwater quality
  - Chloride
  - Iron
  - Sulfate
- Groundwater contamination indicators
  - pH
  - Specific conductance
  - Total dissolved solids

4.3 Monitoring Frequency

Monitoring for the first year will be directed toward establishing background concentrations. Following the first year groundwater monitoring will be for the purpose of analysis of the routine parameters set out above. For all monitoring wells, the values of all parameters specified in Section 4.2 will be established quarterly for a period of one year for each upgradient monitoring well. The groundwater contamination indicators specified in Section 4.2 will have at least



TYPICAL MONITORING WELL DESIGN
AMENDMENT TO CLOSURE PLAN
THE CECO CORPORATION
NOT TO SCALE

FIGURE 1

NUS CORPORATION
A Halliburton Company

four replicate measurements obtained for each sample. The initial background arithmetic mean and variance will be determined by pooling these replicate measurements during the first year.

The following procedures will be followed in reporting background water quality data. Drinking water parameters for each monitoring point will be submitted within 15 days after completion of each quarterly analysis. Any parameter whose concentration exceeds the maximum concentration levels will be separately identified. After the first year, all monitoring points will be sampled and the samples analyzed for the following parameters with the designated frequencies:

- Groundwater quality parameters, at least semi-annually
- Groundwater contamination indicator parameters at least quarterly

Reporting for routine analysis will be on a quarterly basis. The groundwater monitoring report will separately identify any significant differences between the initial background for individual wells using the Students t-test at the 0.01 level of significance. Reports will be submitted no later than the last day of the month following each calendar quarter.

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APPENDIX A

CLOSURE COST ESTIMATE
MARCH 1986

Item	Estimate	Cost ($)
Mobilization/Demobilization	Lump sum	$ 2,000
Bulk Excavation	25,500 cy @ $2.00/cy	51,000
Place/Compact Fill Material	3,000 cy @ $5.00/cy	15,000
Transport/Place Admixed Waste	32,000 cy @ $1.50/cy	48,000
Place/Compact Clay Cap	4,500 cy @ $15.00/cy	67,500
Place Topsoil	3,000 cy @ $8.25/cy	24,750
Seeding/Mulching/Fertilizer	3 acres @ $750/acre	2,250
10-Foot High Chain Link Fence	1,380 LF @ $11.00/LF	15,180
Construct Perimeter Channel	1,500 LF @ $2.00/LF	3,000
24" Corrugated Metal Pipe	40 LF @ $25.00/LF	1,000
Subtotal		229,680
Certification by Professional Engineer:		
- Labor	24 mh @ $60/mh	1,440
- Expenses	3 days @ $100/day	300
NUS Inspector During Construction	500 manhours @ $45/mh	22,500
- Long-Term Per Diem	120 days @ $35/day	4,200
- Car Rental (Long-Term Lease)	120 days @ $20/day	2,400
- Airfare	4 round trip @ $160/trip	640
Laboratory Soil Analyses		
- Moisture Density-Modified	5 samples @ $130/sample	650
Subtotal		$ 32,130
Survey	Lump Sum	1,500
Monitoring Well Installation (5 wells)	120 VF @ $100/VF	$ 12,000
Subtotal		$ 13,500
Decontamination:		
- Equipment	2 days @ $200/day	$ 400
- Disposal/Treatment	20 drums @ $80/drum	1,600
Subtotal		$ 2,000
Contingency	@ 10%	$ 27,731
TOTAL CLOSURE COST ESTIMATE		$305,041

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APPENDIX B

ANNUAL POST-CLOSURE COST ESTIMATE
(YEAR ONE)
MARCH 1986

Item	Estimate	Cost ($)
Obtain Monitoring Well Samples	64 manhours @ $30/mh	$ 1,920
Laboratory Analytical (4 Samples/Well/ Quarter/First Year)	80 samples @ $275/sample	22,000
Post-Closure Care (Labor/Materials/ Equipment)	Lump sum	2,000
Subtotal		$25,920
Contingency	@ 10%	$ 2,592
TOTAL POST-CLOSURE COST ESTIMATE		$28,512

EXHIBIT G

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ENVIRONMENTAL, INC.

February 18, 1998 PN 9440B

Mr. Gino Bruni
Illinois Environmental Protection Agency
Bureau of Land
1701 South First Avenue
Suite 600
Maywood, Illinois 60153

RE: Violation Notice, L-1997-01818
1978030005 - Will County
Ceco Corporation
ILD990785453
Compliance File

Dear Mr. Bruni:

On behalf of our client, please find the enclosed document, *Ground Water Quality Assessment Program* and all Annual Reports, to date, for the RCRA Hazardous Waste Management Unit at the above-referenced site.

The next scheduled submittal for the post-closure ground water monitoring activities will be the 1998 Annual Report, to be submitted prior to March 1, 1999.

If you have any questions, please contact myself or Edward Garske at (312)346-2140.

Sincerely,

CARLSON ENVIRONMENTAL, INC.

Bruce A. Shabino
Project Manager

enclosures

cc: Mr. Cliff Lake
Mr. David Pusateri

312 West Randolph Street • Chicago Illinois 60606 • Tel: (312) 346-2140 Fax: (312) 346-6956

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CARLSON
ENVIRONMENTAL, INC.

GROUND WATER QUALITY ASSESSMENT PROGRAM

Robertson-Ceco Corporation
Lemont, Illinois
ILD990785453

Prepared by
CARLSON ENVIRONMENTAL, INC.
312 West Randolph Street
Suite 300
Chicago, Illinois 60606
(312) 346-2140

Project No. 9440B
February 18, 1998

Bruce A. Shabino
Project Manager

Kenneth W. James, P.E.
Project Engineer

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CARLSON ENVIRONMENTAL, INC.

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ATTACHMENTS

ATTACHMENT A - Figures

FIGURE ONE	SITE LOCATION MAP
FIGURE TWO	SITE DIAGRAM
FIGURE THREE	GROUND WATER WELLS/POTENTIOMETRIC SURFACE MAP

ATTACHMENT B - Soil Borehole Logs/Monitoring Well Completion Diagrams

ATTACHMENT C - Table

TABLE ONE	SUMMARY OF GROUND WATER PARAMETERS AND ANALYTICAL METHODS

ATTACHMENT D - Certification Statement

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1.0 INTRODUCTION

Carlson Environmental, Inc. (CEI) is pleased to present this *Ground Water Quality Assessment Program* to the Illinois Environmental Protection Agency (IEPA) on behalf of Robertson-Ceco Corporation (Ceco), for the facility located in Lemont, Illinois, (Figure One - Attachment A). This program is intended to meet the requirements of 35 IAC Section 725.193(a) Subpart F, by outlining a comprehensive ground water monitoring program for the RCRA hazardous waste management unit at the subject site.

The purpose of this *Ground Water Quality Assessment Program* is to provide the Agency with information regarding; the ground water monitoring wells surrounding the RCRA hazardous waste management unit, the sampling and analysis plan, and the data to be reported to the Agency on a regular basis.

1.1 Site Description

The Site is located one-mile west of the city of Lemont in Will County, Illinois. (Figure One - Attachment A) and occupies approximately 25 acres. Access to the Site is by an unnamed paved road from New Avenue. The Site is characterized by the presence of steel production wastes and by-products (primarily furnace slag) which cover the entire property. Several small buildings are located in the western portion of the Site. A former slag processing operation (which in the past had been used to crush and size slag prior to sale as aggregate) is located in the north-central portion of the Site. Most of the Site surface is not vegetated, although some small shrubs and trees are present along the southern and northern boundaries.

The Site is within a heavily industrialized area. It occupies a portion of a former flagstone (Silurian dolomite) quarry. It is bounded to the east by Dudek, Inc., a scrap iron and metal dealer; to the south, by the Gulf, Mobile & Ohio Railroad; to the west, by an unnamed road which provides access to the Auburn Steel Plant (formerly the Ceco Steel Plant). A Union Oil Company of California oil refinery is located west of the unnamed road. To the north of the Site, is the I & M Canal, the Santa Fe Railroad and the Auburn Steel facility (Figure Two - Attachment A).

The RCRA closure unit is located in the central portion of the Site and occupies approximately two-acres. The closure unit contains approximately 12,500 cubic yards of

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emission control dust (EAF dust) from off-site electric arc furnaces ("listed" hazardous waste K061 by the United States Environmental Protection Agency under RCRA) and approximately 29,500 cubic yards of miscellaneous non-hazardous steel plant by-products, primarily slag, which was co-excavated with the EAF dust to insure that all EAF dust was removed from the Site. These materials, altogether comprising a volume of 32,000 cubic yards, were placed in a RCRA interim-status waste pile closure unit constructed at the Site in accordance with an IEPA-approved Closure Plan. The hazardous waste management unit is completely enclosed within a 10 foot high locking chain-link fence.

1.2 Regional and Site Physiography

The present-day physiographic features in the Site area were formed approximately 20,000 years ago by glacial and fluvial actions which physically shaped the surrounding land. Glacial deposits almost completely mask the bedrock surface in the area (Willman, 1971). The Site, which is located in the Des Plaines River Valley, lies within the physiographic province known as the Central Lowlands, a broad, relatively low area that roughly outlines the glaciated area. The local relief in the Central Lowlands seldom exceeds a few hundred feet. For the most part, the Site is above the 100-year flood plain elevation of the Des Plaines River.

The Site is situated on a former flagstone quarry, which is located in the northeast portion of Will County, near the Will County/Cook County border in Lemont, Illinois.

Surface water from the Site discharges to the I&M Canal located immediately to the north. Precipitation at the Site infiltrates quickly through the highly permeable slag and discharges to the ground water system. A small, intermittent drainage ditch runs the length of the southern boundary of the Site. An intermittent drainage channel located on the west-central portion of the Site runs from south to north and discharges to both the I & M Canal and the drainage ditch to the south of the Site. Water that collects in the former slag processing area discharges to the I & M Canal through a drainage ditch.

There are no significant surface water bodies, streams or wetland areas located at the Site. Significant surface water features in the vicinity of the Site include the Des Plaines River, the Chicago Sanitary and Ship Canal, and the I&M Canal.

The climate is continental with cold winters and warm summers. Average daily

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temperature is 51.4°Fahrenheit (F). The highest average daily temperature is 81°F in August, and the lowest daily temperature is 20.3°F in December. Mean annual precipitation is 38 inches. The prevailing wind direction is easterly at a velocity of less than 13 miles per hour.

1.3 Site Geology

The geology in the vicinity of the Site is characterized by relatively flat-lying, dolomitic bedrock overlain by river alluvium within the river valley and glacial deposits which form the surficial materials outside the river.

Dolomitic (calcium magnesium carbonate) bedrock lying beneath the Site belongs to the Niagaran Series of the Silurian System, Joliet Formation. The Site is within a former quarry where dolomite was removed for use as building stone. Approximately 10 feet of limestone was removed from the estimated original surface down to approximately an elevation of 580 feet above mean sea level (msl). The slag fill at the Site is located within the quarry pit. A bedrock sill, consisting of bedrock left in place, is present between the Site and the I & M Canal. The dolomite is characterized by a yellow-brown (buff) color, moderate fracture densities with vertical fractures ranging from one-half foot to several feet apart, and horizontal bedding fractures that produce a general flaggy nature to the near surface bedrock. Bedrock is also exposed along the I & M Canal, which forms the northern boundary of the Site. The surface of the Site is covered with a layer of fill consisting primarily of steel furnace slag, which is approximately 10 feet in thickness across the Site.

1.4 Site Hydrogeology

The Des Plaines River, Chicago Sanitary and Ship Canal, and I & M Canal all flow within the dolomitic bedrock in the vicinity of the Site.

The Des Plaines River drains to the Illinois River approximately 20 miles downstream from the Lemont area, and ultimately to the Mississippi River.

Generally, the ground water beneath and in proximity to the Site flows northwest.

Infiltration of precipitation at the Site is moderate to high given the relatively high

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permeability of the Site materials. The uppermost aquifer at the Site is a water table aquifer, which fluctuates seasonally from within the slag fill (*i.e.*, above the bedrock surface) to below the bedrock surface (NUS, 1994). Field data demonstrates that these units are hydraulically connected. Ground water flow in the bedrock is primarily through a fracture system. Most of the surface water that infiltrates the Site enters the ground water and discharges to the I & M Canal as base flow discharge. Ground water from beneath the Site that does not discharge to the I & M Canal discharges to the Chicago Sanitary and Ship Canal, which lies immediately north of the steel mill.

2.0 GROUND WATER QUALITY ASSESSMENT

2.1 Ground Water Monitoring System

A ground water monitoring well system, surrounding the hazardous waste management unit, was installed by Halliburton NUS Corporation (NUS) in April 1993 to comply with 35 IAC Section 725.191. The well network consists of five wells (Figure Three, Attachment A). Monitoring wells MW-D1 and MW-D5 are located hydraulically upgradient from the waste management unit for the purpose of monitoring the "background" ground water concentrations. Monitoring wells MW-D2, MW-D3, and MW-D4 are located hydraulically downgradient from the waste management area. The downgradient wells were installed at the limit of the waste management area to ensure the immediate detection of any hazardous waste. The placement of the wells were designed based on the northeastern potentiometric ground water flow in the uppermost aquifer as reported by NUS in previous reports.

The five ground water monitoring wells were completed within the bedrock at depths ranging from approximately 26 feet below ground surface (ft bgs) to 30 ft bgs. The screened interval of each well is located approximately 3 to 8 feet below the bedrock surface, in the upper water table aquifer. The wells are constructed of 2-inch diameter, 5-foot sections of stainless steel well screens and risers. The soil borehole logs and well completion diagrams, as completed by NUS, are presented in Attachment B.

2.2 Ground Water Sampling and Analysis

The objective of the ground water sampling is to collect data that will help determine

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whether the waste management unit has impacted the ground water at the Site. Ground water concentrations from the five monitoring wells will be compared to the applicable drinking water standards for various parameters as defined in Section 2.2.4. Ground water data collected from the upgradient wells will be compared to ground water collected from the downgradient wells to determine whether a statistically significant increase (or decrease in the case of pH) in the parameter concentration exists.

Ground water samples will be collected quarterly at the site. Beginning with Sample Round No. 13 in May 1997, as approved by the IEPA, the sampling frequency will be on a semi-annual basis. All ground water sampling will be conducted in accordance with IEPA and USEPA (SW-846 - Third Edition) methods.

2.2.1 Ground Water Sampling Procedures

Ground water samples will be collected using a USEPA accepted low-flow sampling method and ground water sampling procedures will be conducted in accordance with USEPA SW-846 Test Methods for Evaluating Solid Waste, Third Edition. The low-flow method is designed to obtain a representative ground water sample from the well without requiring a filtered sample. The following procedures will be followed for each of the five monitoring wells within the RCRA waste management unit:

1.) Before each of the five monitoring wells are sampled, ground water level measurements will be collected and recorded. With this information ground water flow direction will be confirmed with each event and included in the form of a potentiometric surface ground water map, in each report to the IEPA. Static ground water levels will be measured from each of the network monitoring wells using an electric water level meter probe. Water levels will be measured from the north side of the inner well casing to the nearest one-hundredth of a foot. This process will be repeated twice for each well to insure accurate measurements.

2.) A required length of teflon tubing will be measured and marked for attachment to a peristaltic pump, so that the intake will be located at the mid-point of the saturated screen interval. A minimal length of tubing will be used to minimize the temperature change from the collection point to the discharge point.

3.) The tubing will be inserted slowly to the measured depth and secured to the well casing to minimize disturbance to the water column. The tubing will be dedicated

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to each well, secured to the cap, and left inside the protective casing to minimize disturbance to the water column during subsequent sampling events.

4.) The monitoring instruments will be calibrated and assembled. The tubing will be connected to the pump and a flow-through chamber in which the instrument probes are located.

5.) The pump will be started at the minimum continuous flow rate attainable by the pump, between 0.02 to 0.05 liters per minute. Start times and flow times will be recorded. The flow rate will be adjusted to a rate that minimizes drawdown in the well. A full round of measurements will be recorded every five minutes including time, temperature, specific conductance, pH, turbidity, and dissolved oxygen.

6.) All data and changes will be recorded on the data sheets.

7.) Once field parameters stabilize, ground water samples will be collected. The stabilization will be defined by readings within a range of ten percent for three consecutive five minute intervals, or until three well volumes have been purged and turbidity levels below 20 NTUs are achieved.

8.) Once stabilization is achieved, the flow-through chamber will be disconnected and the sample will be collected directly from the tubing in the appropriate laboratory supplied containers. Samples to be analyzed for total organic carbon will be collected in 40 milliliter vials with "zero headspace".

9.) The samples will be maintained at a temperature of approximately 4°C in an insulated container. Upon completion of the site sampling, the samples will be submitted to a qualified laboratory for analysis. The samples will be maintained under standard chain-of-custody procedures/documents at all times.

During the first year, background concentrations will be established for all the parameters specified in Section 2.2.4. Four replicate measurements will be collected from the upgradient wells and analyzed for the indicator parameters as specified in Section 2.2.4. These concentrations will be used to determine the initial background arithmetic mean and variance by pooling the data for each respective parameter obtained during the first year.

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2.2.2 Sample Handling Procedure

The field supervisor will be responsible for the care and custody of the samples collected until they are transferred to the laboratory or authorized laboratory courier. All sample logs and field data will be the responsibility of the field supervisor.

The chain-of-custody documents will be completed and signed by the field supervisor. The chain-of-custody document will include the following information: project name, sample number, location of the sample, description of the sample location, type of sample, name of person collecting the sample, number and type of containers, analysis requested, remarks, etc. Similar information will be provided on the sample label affixed to each sample container.

2.2.3 Decontamination Procedures

Ground water sampling will be conducted in a manner to minimize the potential for cross-contamination. Between sampling each well, an Alconox and water solution will be pumped through the low-flow sampling equipment and measuring devices followed by a deionized water rinse. The teflon tubing used to collect the ground water sample is dedicated to each respective well and does not require decontamination. All personnel will wear new latex or vinyl gloves for each sample collected.

2.2.4 Analytical Methods

All ground water samples will be analyzed by a qualified analytical laboratory in accordance with USEPA's methods set forth in SW-846 "Test Methods For Evaluating Solid Wastes" Third Edition. The parameters to be analyzed include those that establish ground water quality; chloride, iron, manganese, phenols, sodium, and sulfate and those that are used as indicators of ground water contamination; pH, specific conductance, total organic carbon, and total organic halogen as specified in 35 IAC 742.192. In addition, the ground water will be analyzed for total metals and hexavalent chromium due to the nature of the waste stored in the unit. A list of the required ground water sampling parameters and respective analytical methods are included as Table One in Attachment C.

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2.2.5 Quality Assurance / Quality Control

To ensure quality sampling procedures, quality assurance and quality control (QA/QC) samples will be collected along with each ground water sampling event. To be included in each sampling event, a duplicate sample will be collected. If possible, the duplicate sample will be collected from a downgradient monitoring well for concentration comparison. The purpose of the duplicate sample analysis is to verify the laboratory precision of the results. The qualified laboratory to be used for the analyses will also follow an internal QA/QC Program.

3.0 GROUND WATER EVALUATION

The analytical results obtained for each ground water sampling event will be compared to the ground water standards as listed in 35 IAC 620.410 *Ground Water Quality Standards for Class I: Potable Resource Ground Water.* For each indicator parameter listed in Section 2.2.4 or 35 IAC 725.192(b)(3), the arithmetic mean and variance will be calculated based on four replicate measurements on each sample. The results will be compared to the initial background arithmetic mean calculated from the first year's upgradient ground water concentrations. The comparison will be made for each individual well using the Student t-test at the 0.01 level of significance to determine statistically significant increases (or decreases in pH) over the initial background concentration.

If the ground water concentrations show a statistically significant increase (or pH decrease) in the upgradient wells for a given sampling event, this information will be submitted with the Annual Report in accordance with 35 IAC 725.194(a)(2)(B). If a downgradient well shows a statistically significant increase (or pH decrease) from the background concentrations, then additional sampling will be performed in accordance with 35 IAC 725.193(d).

3.1 Additional Ground Water Investigation

If a downgradient well shows a statistically significant increase (or pH decrease) from the background concentrations for a given sampling event, then additional sampling must be performed in accordance with 35 IAC 725.193(d) and the following process will be followed:

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1.) A sample should be immediately collected from the downgradient well reporting the significant increase and analyzed to determine whether the difference was due to a laboratory error.

2.) If the significant difference is confirmed, written notice will be provided to the Agency within seven days of the confirmation indicating that the unit may be affecting the ground water quality.

3.) Within fifteen days of the written notice to the IEPA, a plan will be submitted to the Agency outlining an alternate ground water monitoring system designed to address the ground water quality. The plan will detail the procedures to be used in evaluating the significant increase (or pH decrease) in the ground water. The extent of the hazardous waste constituents in the ground water will be determined along with the rate of migration for the particular constituent.

4.) As soon as feasible, a report detailing the assessment of the ground water quality will be submitted to the IEPA.

4.0 GROUND WATER REPORTING

On an annual basis, the concentrations of the parameters identified in Section 2.2.4 of this report and 35 IAC 725.192(b)((3) for each monitoring well will be submitted to the Agency in the Annual Report. As part of the Annual Report, the ground water elevations and potentiometric flow diagram will also be included. Any parameters which are found to have a statistically significant exceedance beyond the original upgradient background concentrations must also be reported.

If an additional ground water investigation was performed at the Site due to significant differences in the background parameter concentrations, then the results of this investigation must also be submitted with the Annual Report.

During the active life of the facility or post-closure care, the required information will be provided annually under 35 IAC 725.175.

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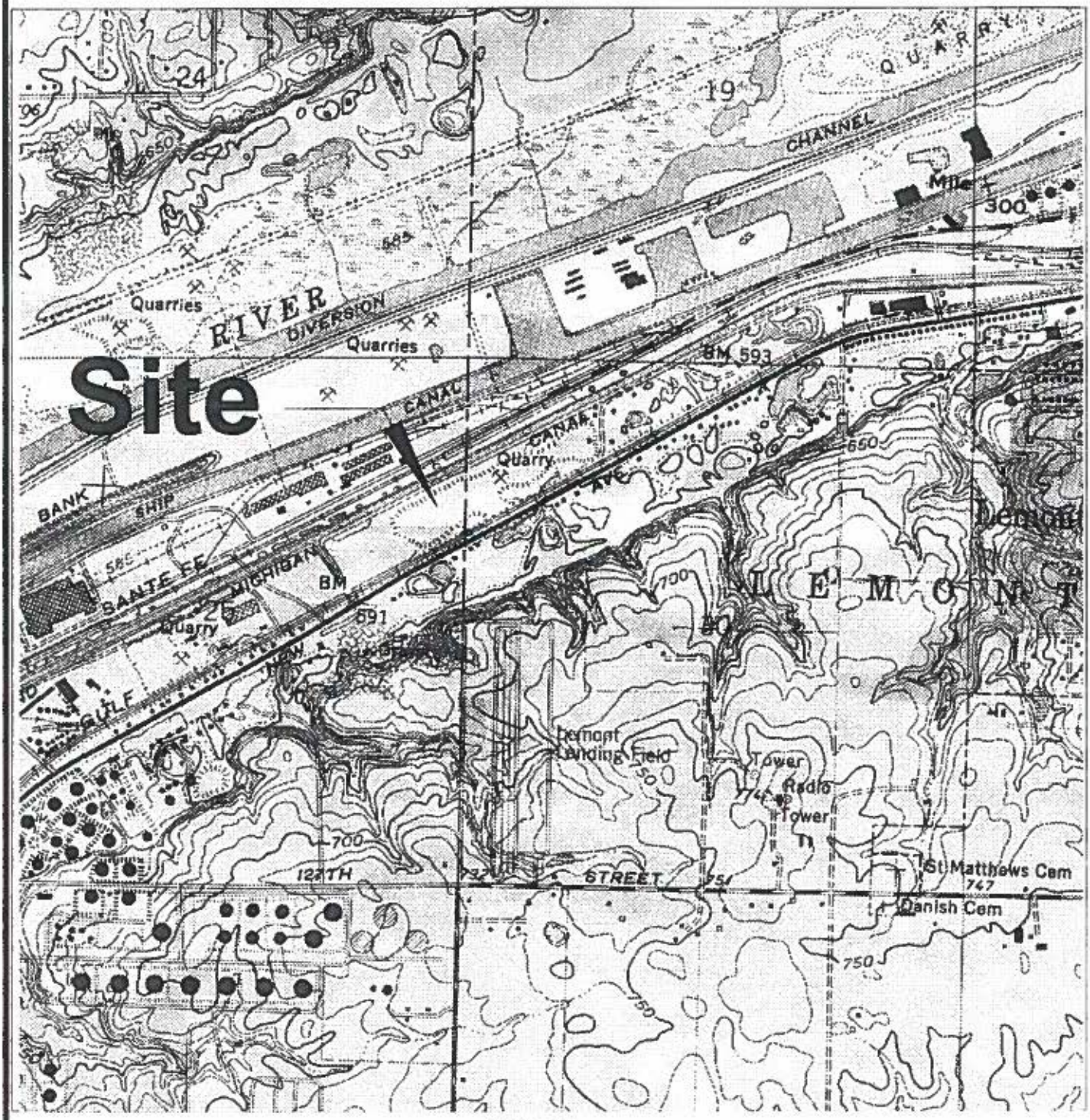
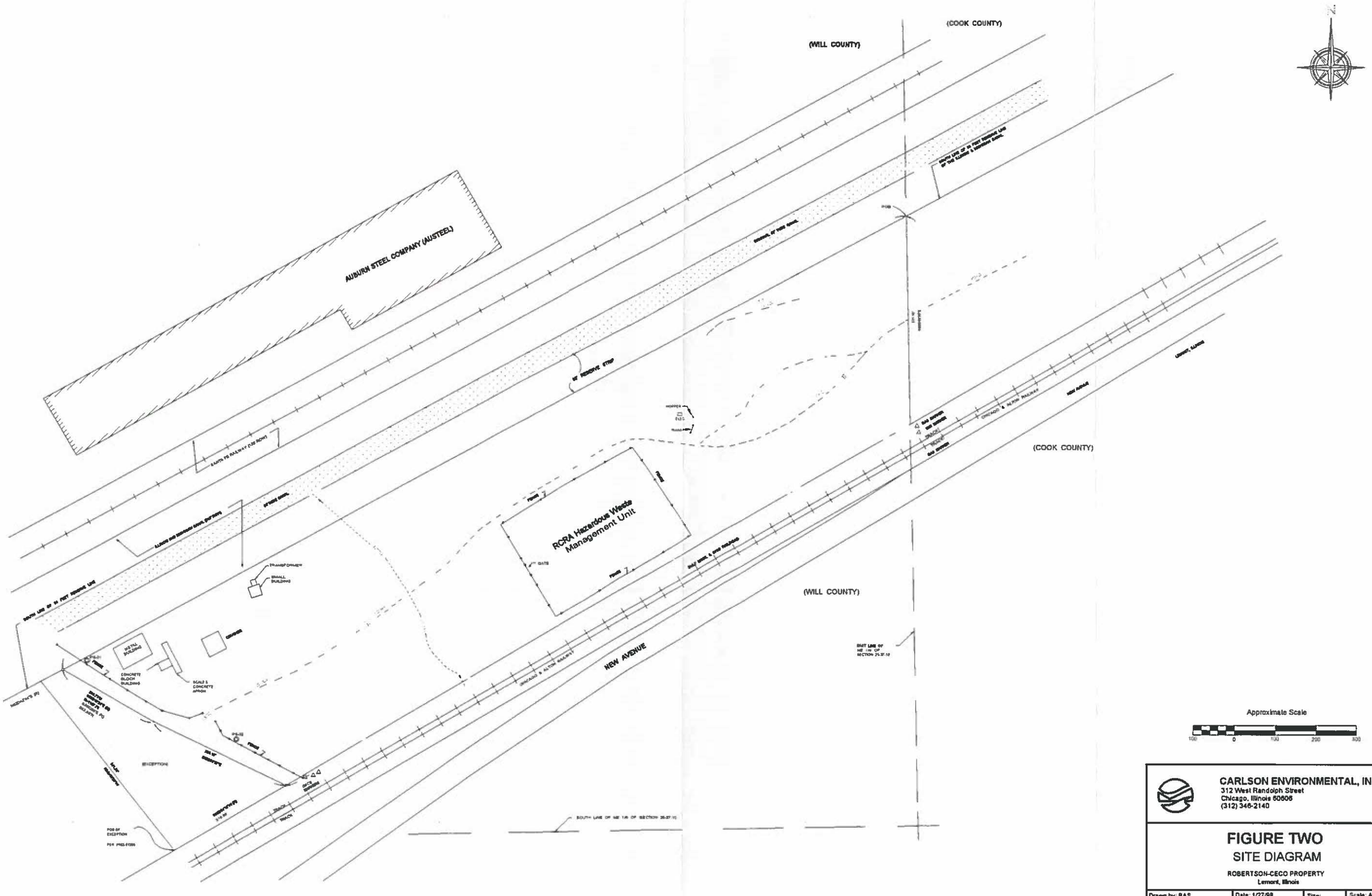
ATTACHMENT A
Figures



CARLSON ENVIRONMENTAL, INC. 312 West Randolph Street Chicago, Illinois 60606 (312) 346-2140	PROJECT NO.	9440A		FIGURE ONE SITE MAP Robertson-Ceco Lemont, Illinois	Drawing No. 1
	DRAWN BY		DATE		
	CHECKED BY		DATE		
	REVISION 1		DATE		
	REVISION 2		DATE		

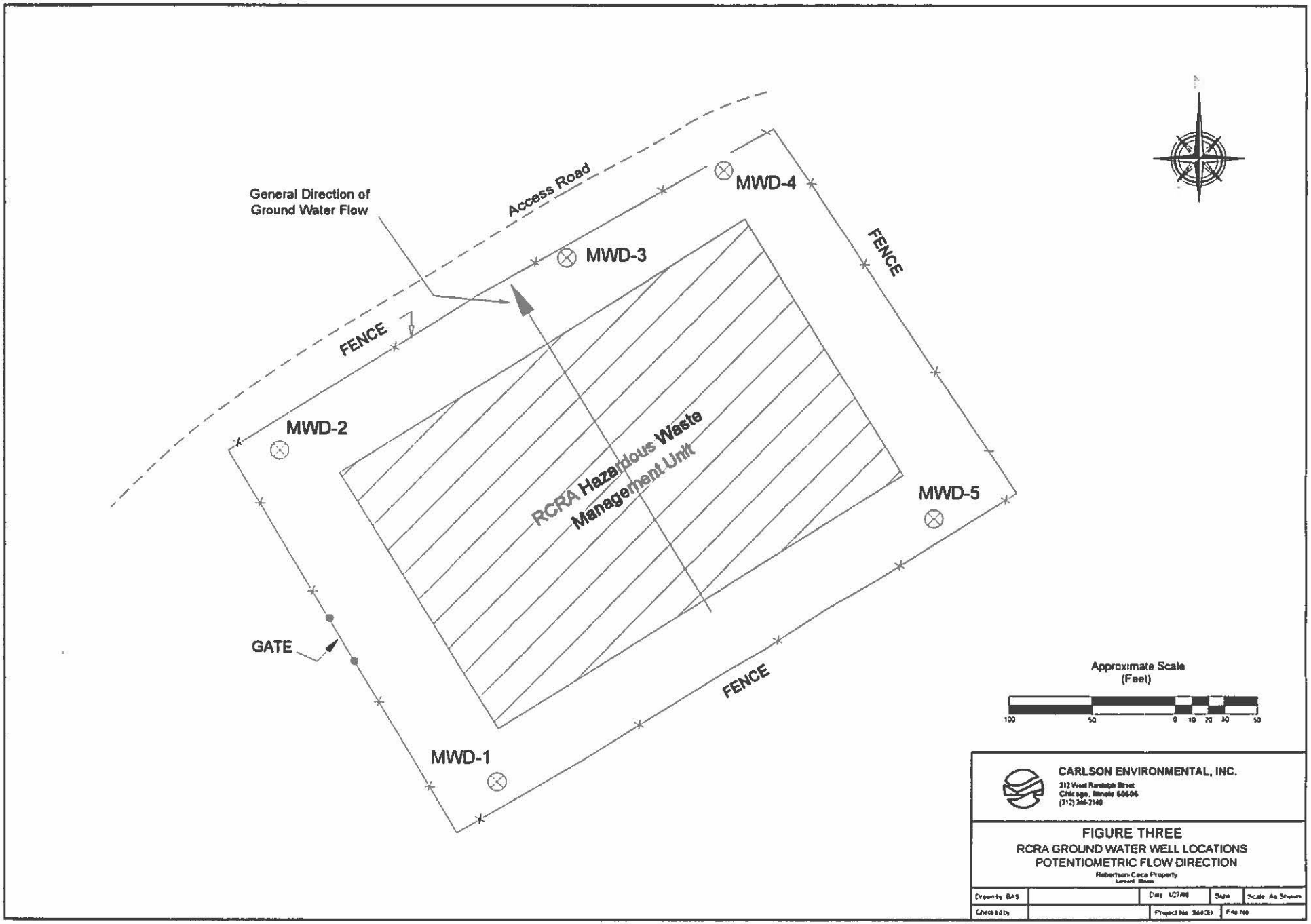


CARLSON ENVIRONMENTAL, INC.
312 West Randolph Street
Chicago, Illinois 60606
(312) 346-2140

FIGURE TWO
SITE DIAGRAM

ROBERTSON-CECO PROPERTY
Lemont, Illinois

Drawn by: BAS	Date: 1/27/98	Size:	Scale: As Shown
Checked by:	Project No. 9440B	File No. 9440Agwflo.dw2	


General Direction of
Ground Water Flow
Access Road
MWD-4
MWD-3
FENCE
FENCE
MWD-2
RCRA Hazardous Waste
Management Unit
MWD-5
GATE
FENCE
MWD-1
Approximate Scale
(Feet)
100
50
0
10
20
30
50
CARLSON ENVIRONMENTAL, INC.
312 West Randolph Street
Chicago, Illinois 60606
(312) 346-7140
FIGURE THREE
RCRA GROUND WATER WELL LOCATIONS
POTENTIOMETRIC FLOW DIRECTION
Robertson Coco Property
Lemont, Illinois
Drawn by BAS
Date 1/27/88
Scale As Shown
Checked by
Project No 8440b
File No

Electronic Filing: Received, Clerk's Office 07/19/2024

ATTACHMENT B

Soil Borehole Logs/Well Completion Diagrams

BORING LOG Amended: 02/07/94 HALLIBURTON NUS ENVIRONMENTAL CORPORATION

Electronic Filing: Received, Clerk's Office 07/19/2024

PROJECT: Dudek Site LOCATION: Lemont, IL DRILLED BY: R. Eger/Fox Drilling BORING NO.: MW-01

DATE STARTED: 4-6-93 INCLINATION: Vertical LOGGED BY: WJ Martin/JD Lynch GROUND ELEV.: NM

DATE COMPLETED: 4-7-93 BEARING: N/A CHECKED BY: WJ Martin TOTAL DEPTH: 30 ft 5 in.

ELEV. feet	DEPTH feet	SAMPLE TYPE-NO.	SAMPLE BLOWS PER 6"	SAMPLE PEN. in.	SAMPLE REC. in.	REMARKS ON ADVANCE OF BORING **	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS **
	0					Auger to 20 ft with 6 and 8 inch augers.		Unconsolidated materials similar to those logged for MW-05. Silty sand. Medium grained sand with plastic, dark grey silts.
	2							
	4							
	6							
	8							
	10							
	12					▽ @ 11.52 feet on 4-26-93		
	14							
	16							
	18							
	20							

** Measurements represent distance below ground surface.

LEGEND:
TYPE-NO. - Type of sample
C - Rock core sample
S - Split barrel sample
BLOWS PER 6" - 140 lb. hammer falling 30" to drive a split barrel sampler; coring time per foot of rock
PEN - Penetration length of sampler
REC - Length of sample recovered
▽ - Natural ground water table
NM - Not Measured

NOTES:
Borehole advanced by augers to refusal. At refusal, the auger flights were withdrawn from the borehole and rotary techniques were used to complete the boring.
Groundwater encountered at 11.52 feet below ground surface on April 26, 1993.

DATE: 02/07/94 PROJECT NO.: 5T98
PAGE: 1 OF 2 BORING NO.: MW-01

BORING LOG Amended: 02/07/94 HALLIBURTON NUS ENVIRONMENTAL CORPORATION

Electronic Filing: Received, Clerk's Office 07/19/2024

PROJECT: Dudek Site LOCATION: Lemont, IL DRILLED BY: K Sperl/Fox Drilling BORING NO.: MW-01

DATE STARTED: 4-6-93 INCLINATION: Vertical LOGGED BY: WJ Martin/JD Lynch GROUND ELEV.: NM

DATE COMPLETED: 4-7-93 BEARING: N/A CHECKED BY: WJ Martin TOTAL DEPTH: 30 ft 5 in.

ELEV. feet	DEPTH feet	SAMPLE TYPE-NO.	SAMPLE BLOWS PER 6"	SAMPLE PEN. in.	SAMPLE REC. in.	REMARKS ON ADVANCE OF BORING **	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS **
	20					Little penetration with 6 inch auger near bedrock. Changed drill water. Switched to an 8 inch auger to intercept bedrock and drive temporary casing into bedrock at 20 feet 3 inches. Advanced hole to 29 feet 11 inches from 20 feet 3 inches with roller bit. Lost approx. 900 gallons of water down the hole; not recovered upon development. Hole drilled 6 inches deeper than target depth to allow volume for chips (cuttings) which could not be flushed from the hole. Borehole was cleared (developed) of most cuttings prior to well installation. Well was set at 29 feet 11 inches		Bedrock at 20 feet 3 inches - grey dolomite
	22							
	24							
	26							
	28							
	30							End of Boring - 30 feet 5 inches Installed MW-01
	32							
	34							
	36							
	38							
	40							** Measurements represent distance below ground surface

LEGEND:
TYPE-NO. - Type of sample
C - Rock core sample
S - Split barrel sample
BLOWS PER 6" - 140 lb. hammer falling 30" to drive a split barrel sampler; coring time per foot of rock
PEN - Penetration length of sampler
REC - Length of sample recovered
$\bar{g}$ - Natural ground water table
NM - Not Measured

NOTES:
Borehole advanced by augers to refusal. At refusal, the auger flights were withdrawn from the borehole and rotary techniques were used to complete the boring.
Groundwater encountered at 11.52 feet below ground surface on April 26, 1993.

DATE: 02/07/94 PROJECT NO.: 5T98
PAGE: 2 OF 2 BORING NO.: MW-01

Electronic Filing: Received, Clerk's Office 07/19/2024

PROJECT: Dudek Site | LOCATION: Lemont, Illinois | DRILLED BY: R. Eger/Fox Drilling | BORING NO.: MW-02

DATE STARTED: 4-12-93 | INCLINATION: Vertical | LOGGED BY: JD Lynch | GROUND ELEV.: NM

DATE COMPLETED: 4-12-93 | BEARING: N/A | CHECKED BY: WJ Martin | TOTAL DEPTH: 29 ft

ELEV. feet	DEPTH feet	SAMPLE TYPE-NO.	SAMPLE BLOWS PER 6"	SAMPLE PEN. in.	SAMPLE REC. in.	REMARKS ON ADVANCE OF BORING **	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS **
	0							Unconsolidated materials similar to those logged for MW-05. Silty sand. Medium grained sand with plastic, dark grey silts.
	2							
	4							
	6							
	8							
	10							
	12							
	14					▽ @ 13.20 feet on 4-28-93		
	16					Auger refusal at 17 feet. Auger was dry. Changed drill water. Began drilling with tricone bit after driving casing into bedrock at 17 feet. Lost water at 17-20 feet.		Bedrock at 17 feet - grey dolomite
	18							
	20							** Measurements represent distance below ground surface.

LEGEND:
TYPE-NO. - Type of sample
C - Rock core sample
S - Split barrel sample
BLOWS PER 6" - 140 lb. hammer falling 30" to drive a split barrel sampler; coring time per foot of rock
PEN - Penetration length of sampler
REC - Length of sample recovered
▽ - Natural ground water table
NM - Not Measured

NOTES:
Borehole advanced by augers to refusal. At refusal, the auger flights were withdrawn from the borehole and rotary techniques were used to to complete the boring.
Groundwater was encountered at 13.20 feet below ground surface on April 28, 1993.

DATE: 02/07/94 | PROJECT NO.: 5T98
PAGE: 1 OF 2 | BORING NO.: MW-02

BORING LOG Amended: 02/07/94 HALLIBURTON NUS ENVIRONMENTAL CORPORATION

Electronic Filing: Received, Clerk's Office 07/19/2024

PROJECT: Dudek Site LOCATION: Lemont, Illinois DRILLED BY: R. Egan/Fox Drilling BORING NO.: MW-D2

DATE STARTED: 4-12-93 INCLINATION: Vertical LOGGED BY: JD Lynch GROUND ELEV.: NM

DATE COMPLETED: 4-12-93 BEARING: N/A CHECKED BY: WJ Martin TOTAL DEPTH: 29 ft

ELEV. feet	DEPTH feet	SAMPLE TYPE-NO.	SAMPLE BLOWS PER 6"	SAMPLE PEN. in.	SAMPLE REC. in.	REMARKS ON ADVANCE OF BORING **	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS **
	20							
	22							
	24							
	26							
	28							
	30					Hole was drilled to 29 feet. Hole collapsed to 26 feet. Borehole was cleared (developed) of most cuttings prior to well installation. Well was set at 26 feet.		End of Boring - 29 feet Installed MW-D2
	32							
	34							
	36							
	38							** Measurements represent distance below ground surface.
	40							

LEGEND:
TYPE-NO. - Type of sample
C - Rock core sample
S - Split barrel sample
BLOWS PER 6" - 140 lb. hammer falling 30" to drive a split barrel sampler; coring time per foot of rock
PEN - Penetration length of sampler
REC - Length of sample recovered
▽ - Natural ground water table
NM - Not Measured

NOTES:

Borehole advanced by augers to refusal. At refusal, the auger flights were withdrawn from the borehole and rotary techniques were used to to complete the boring.
Groundwater was encountered at 13.20 feet below ground surface on April 26, 1993.

DATE: 02/07/94 PROJECT NO.: 5T96
PAGE: 2 OF 2 BORING NO.: MW-D2

Electronic Filing: Received, Clerk's Office 07/19/2024

DRILLED BY: R. Eger/Fox Drilling BORING NO.: MW-D3

DATE STARTED: 4-13-93 INCLINATION: Vertical LOGGED BY: JD Lynch GROUND ELEV.: NM

DATE COMPLETED: 4-14-93 BEARING: N/A CHECKED BY: WJ Martin TOTAL DEPTH: 28 ft 6 in

ELEV. feet	DEPTH feet	SAMPLE TYPE-NO.	SAMPLE BLOWS PER 6"	SAMPLE PEN. in.	SAMPLE REC. in.	REMARKS ON ADVANCE OF BORING **	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS **
	0							Unconsolidated materials similar to those logged for MW-D5. Silty sand. Medium grained sand with plastic, dark grey silts.
	2							
	4							
	6							
	8							
	10							
	12							
	14							
	16					Augered with 6 inch auger to 16 feet. Refusal. Changed drill water. Rotary drill and set casing at 16 feet. ▽ @ 17.80 feet on 4-26-93.		Bedrock at 16 feet - grey dolomite
	18							** Measurements represent distance below ground surface.
	20							

LEGEND:
TYPE-NO. - Type of sample
C - Rock core sample
S - Split barrel sample
BLOWS PER 6" - 140 lb. hammer falling 30" to drive a split barrel sampler; coring time per foot of rock
PEN - Penetration length of sampler
REC - Length of sample recovered
▽ - Natural ground water table
NM - Not Measured

NOTES:
Borehole advanced by augers to refusal. At refusal, the auger flights were withdrawn from the borehole and rotary techniques were used to complete the boring.
Groundwater was encountered at 12.80 feet below ground surface on April 26, 1993.

DATE: 02/07/94 PROJECT NO.: 5T98
PAGE: 1 OF 2 BORING NO.: MW-D3

Electronic Filing: Received, Clerk's Office 07/19/2024

BORING LOG Amended: 02/07/94 HALLIBURTON NUS ENVIRONMENTAL CORPORATION

PROJECT: Dudek Site LOCATION: Lemont, Illinois DRILLED BY: R. Eger/Fox Drilling BORING NO.: MW-03

DATE STARTED: 4-13-93 INCLINATION: Vertical LOGGED BY: JD Lynch GROUND ELEV.: NM

DATE COMPLETED: 4-14-93 BEARING: N/A CHECKED BY: MJ Martin TOTAL DEPTH: 28 ft 6 in.

ELEV. feet	DEPTH feet	SAMPLE TYPE-NO.	SAMPLE BLOWS PER 6"	SAMPLE PEN. in.	SAMPLE REC. in.	REMARKS ON ADVANCE OF BORING **	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS **
	20							
	22							
	24							
	26					Drilled to 26.5 feet. Borehole was cleared (developed) of most cuttings prior to well installation. Set well at 25.5 feet.		End of Boring - 26.5 feet Installed MW-03
	28							
	30							
	32							
	34							
	36							
	38							
	40							

** Measurements represent distance below ground surface.

LEGEND:
TYPE-NO. - Type of sample
C - Rock core sample
S - Split barrel sample
BLOWS PER 6" - 140 lb. hammer falling 30" to drive a split barrel sampler; coring time per foot of rock
PEN - Penetration length of sampler
REC - Length of sample recovered
∇ - Natural ground water table
NM - Not Measured

NOTES:
Borehole advanced by augers to refusal. At refusal, the auger flights were withdrawn from the borehole and rotary techniques were used to complete the boring.
Groundwater was encountered at 12.80 feet below ground surface on April 26, 1993.

DATE: 02/07/94 PROJECT NO.: 5T96
PAGE: 2 OF 2 BORING NO.: MW-03

Electronic Filing: Received, Clerk's Office 07/19/2024

INCLINATION: Vertical LOGGED BY: JO Lynch GROUND ELEV.:

DATE COMPLETED: 4-08-93 BEARING: N/A CHECKED BY: WJ Martin TOTAL DEPTH:

ELEV. feet	DEPTH feet	SAMPLE TYPE-NO.	SAMPLE BLOWS PER 6"	SAMPLE PEN. in.	SAMPLE REC. in.	REMARKS ON ADVANCE OF BORING **	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS **
	0							Unconsolidated materials similar to those logged for MW-D Silty sand. Medium grained sand with plastic, dark grey si
	2							
	4							
	6							
	8							
	10							
	12							
	14							
	16					Auger refusal at 15.5 feet. Changed drill water. Drove casing several inches into rock at 15.5 feet. No groundwater found at 15.5 feet on 4-8-93. ▽ @ 15.58 feet on 4-26-93		Bedrock at 15.5 feet - grey dolomite
	18							
	20							** Measurements represent distance below ground surface.

LEGEND:
TYPE-NO - Type of sample
C - Rock core sample
S - Split barrel sample
BLOWS PER 6" - 140 lb. hammer falling 30" to drive a split barrel sampler; coring time per foot of rock
PEN - Penetration length of sampler
REC - Length of sample recovered
▽ - Natural ground water table
NM - Not Measured

NOTES:
Borehole advanced by augers to refusal. At refusal, the auger flights were withdrawn from the borehole and rotary techniques were used to complete the boring.
Groundwater encountered at 15.58 feet below ground surface on April 26, 1993.

DATE: 02/07/94 PROJECT NO.: 5T98
PAGE: 1 OF 2 BORING NO.: MW-D4

ORING LOG Amended: 02/07/94 HALLIBURTON NUS ENVIRONMENTAL CORPORATION

Electronic Filing: Received, Clerk's Office 07/19/2024

PROJECT: Dudek Site LOCATION: Lemont, Illinois DRILLED BY: R. Ederer/Fox Drilling BORING NO.: MW-04

DATE STARTED: 4-07-93 INCLINATION: Vertical LOGGED BY: JD Lynch GROUND ELEV.: NM

DATE COMPLETED: 4-08-93 BEARING: N/A CHECKED BY: WJ Martin TOTAL DEPTH: 28 ft

ELEV. feet	DEPTH feet	SAMPLE TYPE-NO.	SAMPLE BLOWS PER 6"	SAMPLE PEN. in.	SAMPLE REC. in.	REMARKS ON ADVANCE OF BORING **	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS **
	20							
	22							
	24					Drilled with tricone bit to approximately 26 feet. Borehole was cleared (developed) of most cuttings prior to well installation. Installed well at 24.5 feet.		
	26							End of Boring - 28 feet Installed MW-04
	28							
	30							
	32							
	34							
	36							
	38							
	40							

** Measurements represent distance below ground surface.

LEGEND:
TYPE-NO. - Type of sample
C - Rock core sample
S - Split barrel sample
BLOWS PER 6" - 140 lb. hammer falling 30" to drive a split barrel sampler; coring time per foot of rock
PEN - Penetration length of sample
REC - Length of sample recovered
▽ - Natural ground water table
NM - Not Measured

NOTES:

Borehole advanced by augers to refusal. At refusal, the auger flights were withdrawn from the borehole and rotary techniques were used to complete the boring.

Groundwater encountered at 15.58 feet below ground surface on April 26, 1993.

DATE: 02/07/94 PROJECT NO.: 5T98

PAGE: 2 OF 2 BORING NO.: MW-04

Electronic Filing: Received, Clerk's Office 07/19/2024

DRILLED BY: R. Eger/Fox Drilling — BORING NO.: MW-

STARTED: 4-08-93 — INCLINATION: Vertical — LOGGED BY: MJ Martin — GROUND ELEV.: NI

DATE COMPLETED: 4-08-93 — BEARING: N/A — CHECKED BY: MJ Martin — TOTAL DEPTH: 29

ELEV. feet	DEPTH feet	SAMPLE TYPE-NO.	SAMPLE BLOWS PER 6"	SAMPLE PEN. in.	SAMPLE REC. in.	REMARKS ON ADVANCE OF BORING **	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS **
	0							Silty sand. Silty medium grained sand, plastic dark grey silt water table possibly encountered at bedrock surface.
	2							
	4							
	6							
	8							
	10							
	12							
	14					▽ @ 14.73 feet on 4-28-93 Advanced hole to 15.5 feet with augers. Refusal at 15.5 feet. Changed drill water at bedrock surface, 15.5 feet. Drove casing several inches into bedrock. Advanced borehole with rollerbit from 15.5 to 20 feet.		
	16							Bedrock at 15.5 feet. Bedrock chips are light colored and calcareous with some buff colored and mafic minerals- bedrock is a grey dolomite as observed from surface exposures and local cobbles and boulders.
	18							
	20							** Measurements represent distance below ground surface.

LEGEND:
TYPE-NO. - Type of sample
C - Rock core sample
S - Split barrel sample
BLOWS PER 6" - 140 lb. hammer falling 30" to drive a split barrel sampler; coring time per foot of rock
PEN - Penetration length of sampler
REC - Length of sample recovered
▽ - Natural ground water table
NM - Not Measured

NOTES:
Borehole advanced by augers to refusal. At refusal, the auger flights were withdrawn from the borehole and rotary techniques were used to complete the boring.
Groundwater encountered at 14.73 feet below ground surface on April 28, 1993.

DATE: 02/07/94 — PROJECT NO.: 5T90
PAGE: 1 OF 2 — BORING NO.: MW-05

BORING LOG Amended: 02/07/94 HALLIBURTON NUS ENVIRONMENTAL CORPORATION

Electronic Filing: Received, Clerk's Office 07/19/2024

PROJECT: Dudek Site LOCATION: Lemont, Illinois DRILLED BY: R. Eger/Por Drilling BORING NO.: MW-05

DATE STARTED: 4-05-93 INCLINATION: Vertical LOGGED BY: WJ Martin GROUND ELEV.: NM

DATE COMPLETED: 4-06-93 BEARING: N/A CHECKED BY: WJ Martin TOTAL DEPTH: 29 ft

ELEV. feet	DEPTH feet	SAMPLE TYPE-NO.	SAMPLE BLOWS PER 6"	SAMPLE PEN. in.	SAMPLE REC. in.	REMARKS ON ADVANCE OF BORING **	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS **
	20					Continued advancement from 20 to 29 feet. Hole drilled deeper than target depth to allow volume for chips (cuttings) which could not be flushed from the hole. Borehole cleared (developed) of most cuttings prior to well installation. Set well at 24 feet 6 inches		
	22							
	24							
	26							
	28							
	30							End of Boring - 29 feet Installed MW-05
	32							
	34							
	36							
	38							
	40							

** Measurements represent distance below ground surface.

LEGEND:
TYPE-NO. - Type of sample
C - Rock core sample
S - Split barrel sample
BLOWS PER 6" - 140 lb. hammer falling 30" to drive a split barrel sampler; coring time per foot of rock
PEN - Penetration length of sampler
REC - Length of sample recovered
▽ - Natural ground water table
NM - Not Measured

NOTES:

Borehole advanced by augers to refusal. At refusal, the auger flights were withdrawn from the borehole and rotary techniques were used to complete the boring.

Groundwater encountered at 14.73 feet below ground surface on April 28, 1993.

DATE: 02/07/94 PROJECT NO.: 5T98

PAGE: 2 OF 2 BORING NO.: MW-05

ATTACHMENT B

WELL CONSTRUCTION LOGS

Electronic Filing: Received, Clerk's Office 07/19/2024

PROJECT: Dudek Site PAGE: 1 OF

PROJECT LOCATION: Lemont, Illinois WELL NO.: MW-01

CLIENT: Robertson-CECO BORING NO.: MW-01

CONTRACTOR: Fox Drilling DRILLER: R. Eger BORING LOCATION: Lemont, IL

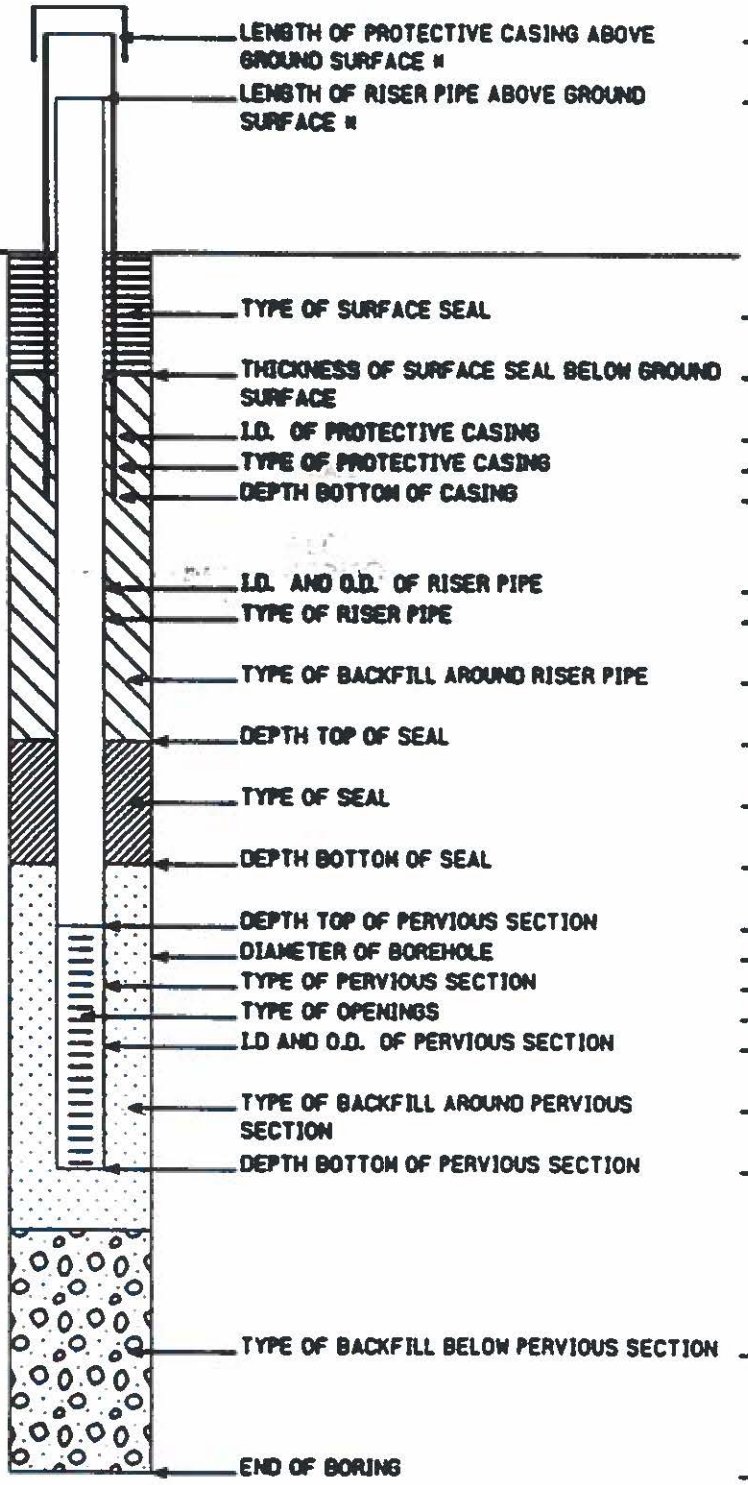
LOGGED BY: JO Lynch DATE: 4-7-93 PROJECT NO.: 5T98

CHECKED BY: WJ Martin DATE: 5-20-93

ELEVATION TOP OF PROTECTIVE CASING Not Measured

ELEVATION TOP OF RISER PIPE Not Measured

GROUND ELEVATION Not Measured



OVERBURDEN
Grey
silty
sand

Water @ 11.52 ft. 4-20-93

General soil conditions (not to scale)

20 ft. 3 in.
BEDROCK
Grey
dolomite

LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE *	1.65 feet
LENGTH OF RISER PIPE ABOVE GROUND SURFACE *	1.55 feet
TYPE OF SURFACE SEAL	Cement
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE	4 ft 6 in.
I.D. OF PROTECTIVE CASING	8 in.
TYPE OF PROTECTIVE CASING	Steel
DEPTH BOTTOM OF CASING	5 ft
I.D. AND O.D. OF RISER PIPE	2 in. ID Nominal
TYPE OF RISER PIPE	316 Stainless Steel
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Slurry
DEPTH TOP OF SEAL	20 ft 11 in.
TYPE OF SEAL	Bentonite Balls
DEPTH BOTTOM OF SEAL	22 ft 11 in.
DEPTH TOP OF PERVIOUS SECTION	24 ft 11 in.
DIAMETER OF BOREHOLE	8 in. nominal
TYPE OF PERVIOUS SECTION	Wound 316 Stainless Steel
TYPE OF OPENINGS	0.01 in. Slot Wire
I.D AND O.D. OF PERVIOUS SECTION	2 in. ID
TYPE OF BACKFILL AROUND PERVIOUS SECTION	Sand
DEPTH BOTTOM OF PERVIOUS SECTION	29 ft 11 in.
TYPE OF BACKFILL BELOW PERVIOUS SECTION	Sand and Rock Chips
END OF BORING	30 ft 5 in.

* Measurements taken from the August 3, 1993 sample round.

Electronic Filing: Received, Clerk's Office 07/19/2024

PROJECT LOCATION: Lemont, Illinois | WELL NO.: MW-02

CLIENT: Robertson-CECO | BORING NO.: MW-02

CONTRACTOR: Fox Drilling | DRILLER: R. Eger | BORING LOCATION: Lemont, Illinois

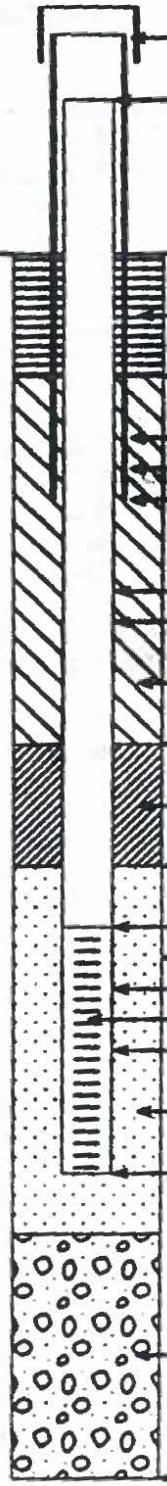
LOGGED BY: JD Lynch | DATE: 4-12-93 | PROJECT NO.: 5T98

CHECKED BY: WJ Martin | DATE: 5-20-93

ELEVATION TOP OF PROTECTIVE CASING: Not Measured

ELEVATION TOP OF RISER PIPE: Not Measured

GROUND ELEVATION: Not Measured



OVERBURDEN
Grey
silty
sand

General soil conditions (not to scale)

▼ @ 13.20 ft. 4-26-93

17 ft.

BEDROCK
Grey
dolomite

LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE *	2.42 feet
LENGTH OF RISER PIPE ABOVE GROUND SURFACE *	2.15 feet
TYPE OF SURFACE SEAL	Cement
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE	4 ft 6 in.
I.D. OF PROTECTIVE CASING	6 in.
TYPE OF PROTECTIVE CASING	Steel
DEPTH BOTTOM OF CASING	5 ft
I.D. AND O.D. OF RISER PIPE	2 in. ID Nominal
TYPE OF RISER PIPE	316 Stainless Steel
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Slurry
DEPTH TOP OF SEAL	17 ft
TYPE OF SEAL	Bentonite Balls
DEPTH BOTTOM OF SEAL	19 ft
DEPTH TOP OF PERVIOUS SECTION	21 ft
DIAMETER OF BOREHOLE	6 in. nominal
TYPE OF PERVIOUS SECTION	Wound 316 Stainless Steel
TYPE OF OPENINGS	0.01 in. Slot Wire
I.D AND O.D. OF PERVIOUS SECTION	2 in. ID
TYPE OF BACKFILL AROUND PERVIOUS SECTION	Sand
DEPTH BOTTOM OF PERVIOUS SECTION	26 ft
TYPE OF BACKFILL BELOW PERVIOUS SECTION	Collapse Material, Sand, and Rock Chips
END OF BORING	29 ft

* Measurements taken from the August 3, 1993 sample round.

Electronic Filing: Received, Clerk's Office 07/19/2024

MONITORING WELL CONSTRUCTION LOG Amended: 02/07/94 HALLIBURTON NUS ENVIRONMENTAL CORPORATION

PROJECT: Dudek Site
PAGE: 1 OF 1
PROJECT LOCATION: Lemont, Illinois
WELL NO.: MW-03
CLIENT: Robertson-CECO
BORING NO.: MW-03
CONTRACTOR: Fox Drilling
DRILLER: R. Eger
BORING LOCATION: Lemont, Illinois
LOGGED BY: JD Lynch
DATE: 4-14-93
PROJECT NO.: 5T90
CHECKED BY: WJ Martin
DATE: 5-20-93

ELEVATION TOP OF PROTECTIVE CASING Not Measured

ELEVATION TOP OF RISER PIPE Not Measured

GROUND ELEVATION Not Measured

OVERBURDEN
Grey
silty
sand

General soil conditions (not to scale)

▼ @ 12.80 ft 4-26-93

18 ft.
BEDROCK
Grey
dolomite

LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE *	1.7 feet
LENGTH OF RISER PIPE ABOVE GROUND SURFACE *	1.5 feet
TYPE OF SURFACE SEAL	Cement
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE	4 ft 8 in.
I.D. OF PROTECTIVE CASING	8 in.
TYPE OF PROTECTIVE CASING	Steel
DEPTH BOTTOM OF CASING	5 ft
I.D. AND O.D. OF RISER PIPE	2 in. ID Nominal
TYPE OF RISER PIPE	316 Stainless Steel
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Slurry
DEPTH TOP OF SEAL	18 ft 6 in.
TYPE OF SEAL	Bentonite Balls
DEPTH BOTTOM OF SEAL	18 ft 8 in.
DEPTH TOP OF PERVIOUS SECTION	20 ft 8 in.
DIAMETER OF BOREHOLE	8 in. nominal
TYPE OF PERVIOUS SECTION	Wound 316 Stainless Steel
TYPE OF OPENINGS	0.01 in. Slot Wire
I.D AND O.D. OF PERVIOUS SECTION	2 in. ID
TYPE OF BACKFILL AROUND PERVIOUS SECTION	Sand
DEPTH BOTTOM OF PERVIOUS SECTION	25 ft 8 in.
TYPE OF BACKFILL BELOW PERVIOUS SECTION	Sand and Rock Chips
END OF BORING	26 ft 8 in.

* Measurements taken from the August 3, 1993 sample round.

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PROJECT: Dudek Site PAGE: 1 OF 1

PROJECT LOCATION: Lemont, Illinois WELL NO.: MW-04

CLIENT: Robertson-CECO BORING NO.: MW-04

CONTRACTOR: Fox Drilling DRILLER: R. Eger BORING LOCATION: Lemont, Illinois

LOGGED BY: JD Lynch DATE: 4-8-93 PROJECT NO.: 5T98

CHECKED BY: WJ Martin DATE: 5-20-93

ELEVATION TOP OF PROTECTIVE CASING Not Measured

ELEVATION TOP OF RISER PIPE Not Measured

GROUND ELEVATION Not Measured

LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE *	2.0 feet
LENGTH OF RISER PIPE ABOVE GROUND SURFACE *	1.7 feet
TYPE OF SURFACE SEAL	Cement
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE	4 ft 8 in.
I.D. OF PROTECTIVE CASING	8 in.
TYPE OF PROTECTIVE CASING	Steel
DEPTH BOTTOM OF CASING	5 ft
I.D. AND O.D. OF RISER PIPE	2 in. ID Nominal
TYPE OF RISER PIPE	316 Stainless Steel
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Slurry
DEPTH TOP OF SEAL	15 ft 8 in.
TYPE OF SEAL	Bentonite Balls
DEPTH BOTTOM OF SEAL	17 ft 8 in.
DEPTH TOP OF PERVIOUS SECTION	19 ft 8 in.
DIAMETER OF BOREHOLE	8 in. nominal
TYPE OF PERVIOUS SECTION	Wound 316 Stainless Steel
TYPE OF OPENINGS	0.01 in. Slot Wire
I.D AND O.D. OF PERVIOUS SECTION	2 in. ID
TYPE OF BACKFILL AROUND PERVIOUS SECTION	Sand
DEPTH BOTTOM OF PERVIOUS SECTION	24 ft 8 in.
TYPE OF BACKFILL BELOW PERVIOUS SECTION	Sand and Rock Chips
END OF BORING	26 ft

OVERBURDEN
Grey
silty
sand

General soil conditions (not to scale)

▽ @ 15.58 feet 4-26-93

15 feet 8 inches
BEDROCK
Grey dolomite

* Measurements taken from August 3, 1993 sample round.

MONITORING WELL CONSTRUCTION LOG Amended: 02/07/94 HALLIBURTON NUS ENVIRONMENTAL CORPORATION

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PROJECT: Dudek Site PAGE: 1 OF 1

PROJECT LOCATION: Lemont, Illinois WELL NO.: MW-05

CLIENT: Robertson-CECO BORING NO.: MW-05

CONTRACTOR: Fox Drilling DRILLER: R. Eger BORING LOCATION: Lemont, Illinois

LOGGED BY: WJ Martin DATE: 4-6-93 PROJECT NO.: 5T96

CHECKED BY: WJ Martin DATE: 5-20-93

ELEVATION TOP OF PROTECTIVE CASING Not Measured

ELEVATION TOP OF RISER PIPE Not Measured

GROUND ELEVATION Not Measured

OVERBURDEN
Grey
silty
sand

General soil conditions (not to scale)

▼ @ 14.73 ft. 4-26-93

15 feet 6 inches
BEDROCK
Grey
dolomite

LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE #	2.25 feet
LENGTH OF RISER PIPE ABOVE GROUND SURFACE #	1.85 feet
TYPE OF SURFACE SEAL	Cement
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE	4 ft 6 in.
I.D. OF PROTECTIVE CASING	6 in.
TYPE OF PROTECTIVE CASING	Steel
DEPTH BOTTOM OF CASING	5 ft
I.D. AND O.D. OF RISER PIPE	2 in. ID Nominal
TYPE OF RISER PIPE	316 Stainless Steel
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Slurry
DEPTH TOP OF SEAL	15 ft 6 in.
TYPE OF SEAL	Bentonite Balls
DEPTH BOTTOM OF SEAL	17 ft 6 in.
DEPTH TOP OF PERVIOUS SECTION	19 ft 6 in.
DIAMETER OF BOREHOLE	6 in. nominal
TYPE OF PERVIOUS SECTION	Wound 316 Stainless Steel
TYPE OF OPENINGS	0.01 in. Slot Wire
I.D AND O.D. OF PERVIOUS SECTION	2 in. ID
TYPE OF BACKFILL AROUND PERVIOUS SECTION	Sand
DEPTH BOTTOM OF PERVIOUS SECTION	24 ft 6 in.
TYPE OF BACKFILL BELOW PERVIOUS SECTION	Sand and Rock Chips
END OF BORING	29 ft

Measurements taken from the August 3, 1993 sample round.

ATTACHMENT C
Tables

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TABLE ONE

Ground Water Parameters and Analytical Methods

Robertson-Ceco Corporation

Lemont, Illinois

PARAMETER	EPA METHOD	DETECTION LIMIT
Arsenic	3015/7060	0.050 mg/L
Barium	3015/6010	0.05 mg/L
Cadmium	3015/6010	0.010 mg/L
Chromium, total	3015/6010	0.010 mg/L
Chromium, hexavalent	7197	0.020 mg/L
Iron	3015/6010	0.050 mg/L
Lead	3015/7421	0.005 mg/L
Manganese	3015/6010	0.1 mg/L
Mercury	7470	0.002 mg/L
Selenium	3015/7740	0.010 mg/L
Silver	3015/6010	0.050 mg/L
Sodium	3015/6010	0.50 mg/L
Phenols	420.4	0.3 mg/L
Sulfate	375.2	5.0 mg/L
Chloride	330.3	1.0 mg/L
Total Organic Halogens	9020	0.010 mg/L
Non-Pureable Organic Carbon	415.1	1.0 mg/L
pH	9040	-----
Specific Conductance	120.1	-----

mg/L = milligrams per liter

ATTACHMENT D
Certification Statement

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Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

ILD990785453
USEPA ID Number

Robertson-Ceco Corporation
Facility Name

13 Feb 95
Signature of Owner/Operator Representitive — Date

Clifton A. Lake, Attorney
Name and Title of Owner/Operator Representitive

EXHIBIT H

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CARLSON ENVIRONMENTAL

March 13, 2017 PN 100.01

Mr. Steve Nightingale
Illinois Environmental Protection Agency
Division of Land Pollution Control
Permit Section
1021 N. Grand Avenue East
Springfield, Illinois 62794

RE: 2016 Annual Groundwater Monitoring Report
1978030005 -- Will County
RCH Newco II LLC
ILD #990785453
RCRA Log No. C-68

Dear Mr. Nightingale:

On behalf of RCH Newco II LLC, please find enclosed the 2016 Annual Groundwater Monitoring Report as required in 35 Ill. Adm. Code Part 725.175, for the RCRA Hazardous Waste Management Unit at the above-referenced site. The annual report details the facility activities for 2016, including a statistical analysis of the groundwater data.

If you have any questions, please contact me at (312)346-2140.

Sincerely,

CARLSON ENVIRONMENTAL, INC.

Bruce A. Shabino, P.G.
Senior Project Manager

enclosure

cc: Mr. David Pusateri

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CARLSON ENVIRONMENTAL

RCRA - 2016 ANNUAL GROUNDWATER MONITORING REPORT

RCH Newco II LLC
EPA ID No. ILD990785453

Prepared For
RCH Newco II LLC

Prepared By
Carlson Environmental, Inc.

65 E. Wacker Place
Suite 2210
Chicago, IL 60601
(P) 312-346-2140
(F) 312-346-6956
www.carlsonenv.com

Project No. 100.01
March 13, 2017

Bruce A. Shabino, P.G.
Senior Project Manager

Edward E. Garske, CHMM
President

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CARLSON ENVIRONMENTAL

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 BACKGROUND 1

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3.2 Groundwater Sampling 2
3.3 Groundwater Analyses 4
3.4 Groundwater Analytical Results 5

4.0 POST-CLOSURE COST ESTIMATE 6

5.0 CONCLUSIONS 6

ATTACHMENTS

ATTACHMENT A - Figures
ATTACHMENT B - Tables
ATTACHMENT C - Laboratory Analytical Reports
ATTACHMENT D - Certification Statement

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CARLSON ENVIRONMENTAL

RCH Newco II LLC
ILD990785453

March 13, 2017

1.0 INTRODUCTION

This Annual Groundwater Monitoring Report summarizes the activities associated with the closed RCRA Hazardous Waste Management Unit (Closure Unit) at the former Robertson-Ceco Corporation Property (currently owned by RCH Newco II LLC) in accordance with 35 IAC 725.175, for the period of 2016. The report details the laboratory analytical results and the statistical analysis for the data collected in the twenty-second year of post-closure groundwater monitoring for the Closure Unit. This report was completed on behalf of our client, RCH Newco II LLC.

2.0 BACKGROUND

The RCH Newco II LLC property is located on New Avenue in Lemont, Will County, Illinois (Figure 1, Attachment A) and is approximately two-acres in size (Figure 2, Attachment A). The Closure Unit contains approximately 2,500 cubic yards of emission control dust (EAF dust) from off-site electric arc furnaces ("listed" hazardous waste K061 by the United States Environmental Protection Agency under RCRA) and approximately 29,500 cubic yards of miscellaneous non-hazardous steel plant by-products, primarily slag, which was co-excavated with the EAF dust. These materials, altogether comprising a volume of 32,000 cubic yards, were placed in a RCRA Interim-Status Closure Unit (landfill) constructed in accordance with an IEPA-approved Closure Plan. The hazardous waste management unit is completely enclosed within a 10 foot high locking chain-link fence that was in good condition at the time of the recently completed sampling events.

Construction of the Closure Unit was completed in accordance with the IEPA-approved design in 1988. Since the completion of the construction of the Closure Unit, no hazardous waste management activity has occurred at the site other than the groundwater monitoring and inspection activities associated with the Closure Unit.

In April 1993, Halliburton NUS Corporation (NUS) installed five RCRA post-closure groundwater monitoring wells at the Closure Unit. Two wells were installed hydraulically

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up-gradient and three wells were located hydraulically down-gradient. The post-closure groundwater monitoring wells were installed in the uppermost aquifer, which is partly within the upper portion of the bedrock unit.

3.0 GROUNDWATER MONITORING

3.1 Monitoring Well Network

The groundwater monitoring well system, surrounding the Closure Unit, was designed to comply with applicable state regulations. The well network consists of five wells (Figure 3, Attachment A). Monitoring wells MWD-1 and MWD-5 are located hydraulically upgradient from the Closure Unit for the purpose of monitoring the "background" groundwater concentrations. Monitoring wells MWD-2, MWD-3, and MWD-4 are located hydraulically downgradient from the Closure Unit. The downgradient wells were installed at the limit of the waste management area to ensure the immediate detection of any hazardous constituent. The placement of the wells was designed based on the northeastern potentiometric groundwater flow in the uppermost aquifer as reported by NUS in previous reports.

3.2 Groundwater Sampling

A quarterly groundwater sampling program was started by NUS in April 1993 for the Closure Unit well network. Carlson began sampling the groundwater beginning with Round 9. The completion of Sample Round 12 marked the end of the quarterly groundwater monitoring and the start of a semi-annual sampling event pursuant to IEPA's February 7, 1996 correspondence reducing sampling frequency. The objective of the groundwater sampling is to collect data that would help determine whether the Closure Unit has impacted the groundwater.

On June 21 (Round 51), and November 29 (Round 52), 2016, Carlson visually inspected and measured the standing water levels in the five groundwater monitoring wells previously installed at the site for the Closure Unit. Inspection of the monitoring wells indicated that the stickup well-head protective covers were in good condition and were locked securely in place.

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During Rounds 51 and 52, groundwater samples were collected from each of the five wells (MWD-1 through MWD-5), using a United States Environmental Protection Agency (USEPA) accepted low flow groundwater sampling method. The low flow sampling method was designed to obtain a representative sample from the well without requiring filtering of the sample. The objective is to collect a groundwater sample by eliminating turbidity that is common to bailing methods.

The well sampling procedures were as follows:

1.) The static water level was measured and recorded to 0.01 feet with an electric water level indicator (Solinist model 101). The probe was carefully lowered into the well to minimize disturbance of the water column. Water level measurements are shown in Table 1, Attachment B.

2.) If necessary, the required length of teflon tubing was calculated, measured and marked for attachment to a peristaltic pump, so that the intake was located at the mid-point of the saturated screen interval. A minimal length of tubing was used to minimize the temperature change from the collection point to the discharge point.

3.) If not already present, the tubing was inserted slowly to the measured depth and secured to the well casing to minimize disturbance to the water column. The tubing was dedicated to each well, secured to the cap, and left inside the protective casing to minimize disturbance to the water column during subsequent sampling events.

4.) The monitoring instruments were calibrated and assembled. The tubing was connected to the pump and a flow-through chamber in which the instrument probes were located.

5.) The water level was measured and recorded on a data sheet and compared to the previous static water level.

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6.) The pump was started at the minimum continuous flow rate attainable by the pump, between 0.02 to 0.05 liters per minute. A full round of measurements was recorded every five minutes including time, temperature, specific conductance, pH, turbidity and dissolved oxygen. All data and changes were recorded on the data sheets.

7.) After field parameters stabilized, groundwater samples were collected. Stabilization was defined by readings within a range of ten percent for three consecutive five minute intervals.

8.) After stabilization was achieved, the flow-through chamber was disconnected and the sample was collected directly from the tubing.

9.) The samples were maintained at a temperature of approximately 4°C in an insulated container. Upon completion of the site sampling, the samples were shipped to Microbac Laboratories, Inc. (Microbac) for laboratory analysis. The samples were maintained under standard chain-of-custody procedures/documents.

3.3 Groundwater Analyses

In 2009, the sampling plan for the site was modified pursuant to IEPA's approval letter dated June 2, 2009. The sampling plan frequency and parameters to be analyzed are now as follows:

Samples Collected During the Quarter of the Calendar Year	Parameters to be Sampled
Second Quarter	Groundwater Quality Parameters Groundwater Contamination Parameters
Fourth Quarter	Groundwater Contamination Parameters

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For Sample Rounds 51 & 52, four separate groundwater samples were collected from each of the five wells and analyzed for the indicators of groundwater contamination as listed below.

Groundwater collected during Sample Round 51 was also analyzed for the indicators of groundwater quality as listed below. A duplicate sample was collected from monitoring well MWD-5 during Round 51 and analyzed for all the parameters listed below. Laboratory analytical methods are indicated on Table 2, Attachment B.

Groundwater samples were analyzed at Microbac in accordance with IEPA and USEPA (SW-846 - Third Edition) methods. The groundwater samples were analyzed for the parameters establishing groundwater contamination (pH, specific conductance, non-purgeable organic carbon (TOC), total organic halogens (TOX)), and groundwater quality (chloride, iron, manganese, phenols, sodium and sulfate), as specified in applicable state regulations, the IEPA approved closure plan and IEPA correspondence.

3.4 Groundwater Analytical Results

Groundwater concentrations from the five monitoring wells were compared to the standards for the above referenced parameters as referenced in 35 IAC 725, Appendix C, *USEPA Interim Primary Drinking Water Standards* as shown in Tables 4 and 5 of Attachment B, for Rounds 51 and 52, respectively. The laboratory analytical reports for Round 51 and 52 are included in Attachment C.

The “background” concentrations from the upgradient wells, calculated during the first year of sampling activities, were compared to groundwater concentrations collected from the downgradient and upgradient wells to determine whether a statistically significant increase (or decrease in the case of pH) in the parameter concentration was present.

Table 3 in Attachment B summarizes the “background” groundwater concentrations from the first year of groundwater monitoring. Carlson compared the sample means and variances of the indicator parameters for the upgradient and downgradient wells to the “background” concentrations using the Student’s T-Test at the 0.01 level of significance in accordance with 35 IAC 725.193(b). The statistical evaluation of the upgradient and

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downgradient wells for Round 51 of RCRA post-closure groundwater sampling is contained in Tables 6 and 7, respectively. Tables 8 and 9, respectively, contain the statistical evaluation of the upgradient and downgradient wells for Round 52.

4.0 POST-CLOSURE COST ESTIMATE

The Closure Unit was closed in 1988 and groundwater monitoring began in 1993. The original cost to conduct 30 years of post-closure groundwater monitoring at the Closure Unit was estimated at $376,973. This cost was based on 120 quarterly sampling events at the present value of money. To date, 52 separate sampling events have been conducted, and the Illinois Environmental Protection Agency has changed the frequency of the required sampling to semi-annually. With the new sampling plan, approved by the IEPA in a letter dated June 2, 2009, the project cost for the next 7 years through 2023 is estimated at $116,200. This estimate is based on the current average yearly cost multiplied by the 7 remaining years of sampling events, not the present value of money.

5.0 CONCLUSIONS

Based on the analytical data for both sampling events in 2016, groundwater at the Closure Unit did not exceed the drinking water standards as referenced in 35 IAC 725, Appendix C, *USEPA Interim Primary Drinking Water Standards,* for the parameters identified in Section 3.3. For each indicator parameter, the arithmetic mean and variance were calculated for each well based on the groundwater analytical data collected during each sampling event in 2016. The arithmetic mean and variance were compared to the initial "background" arithmetic mean concentrations, as determined in the first year of post-closure groundwater monitoring, using the Student's T-Test at the 0.01 level of significance.

The analysis revealed that groundwater in upgradient monitoring well MWD-1, as well as downgradient monitoring well MWD-4, contained a statistically significant decrease in pH (initial background arithmetic mean of 7.36), during Sample Round 51, while

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updowngradient monitoring well MWD-5 contained a statistically significant increase in pH. During Sample Round 52, there was a statistically significant decrease in groundwater pH for upgradient monitoring wells MWD-1 and MWD-5 and downgradient monitoring wells MWD-2, MWD-3, and MWD-4.

Based on the statistically significant changes in groundwater pH in both downgradient and upgradient monitoring wells, Carlson believes that the changes are naturally occurring. If any single groundwater contamination parameter in subsequent groundwater monitoring events is elevated (or reduced in the case of pH) at a statistically significant level beyond "background" values in more than one downgradient well, without being elevated (or reduced in the case of pH) in an upgradient well, then an additional investigation will be initiated. Such an investigation to determine the extent and rate of migration of the regulated substance of concern would be conducted in accordance with applicable state regulations. No additional action is planned at this time.

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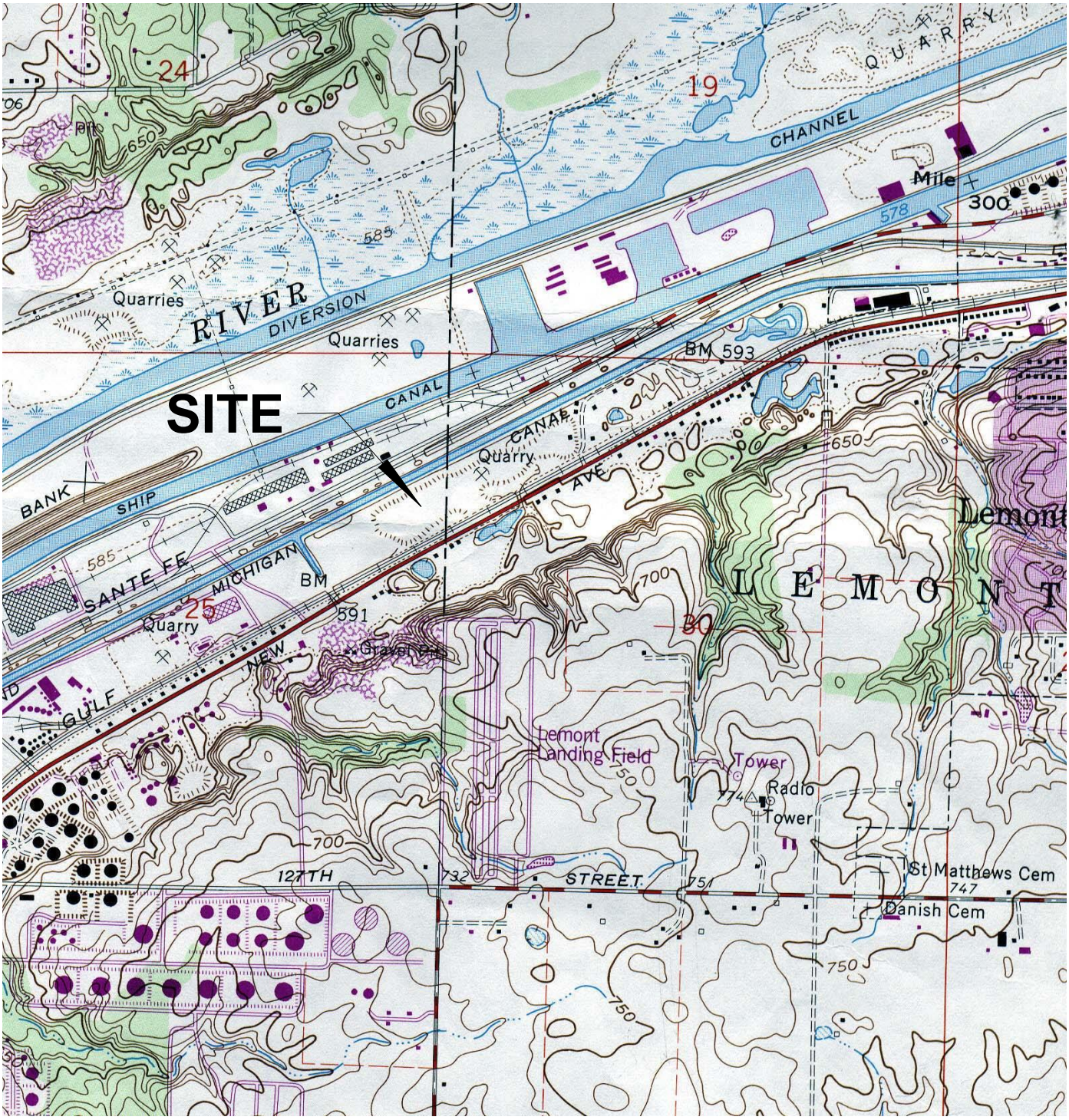
ATTACHMENT A

Figures



0 500 1000 2000

APPROXIMATE SCALE (FEET)

From USGS 7.5 Minute Series Topographical Quadrangel "Romeoville, Illinois" (1962-Photorevised 1973 & 1980)

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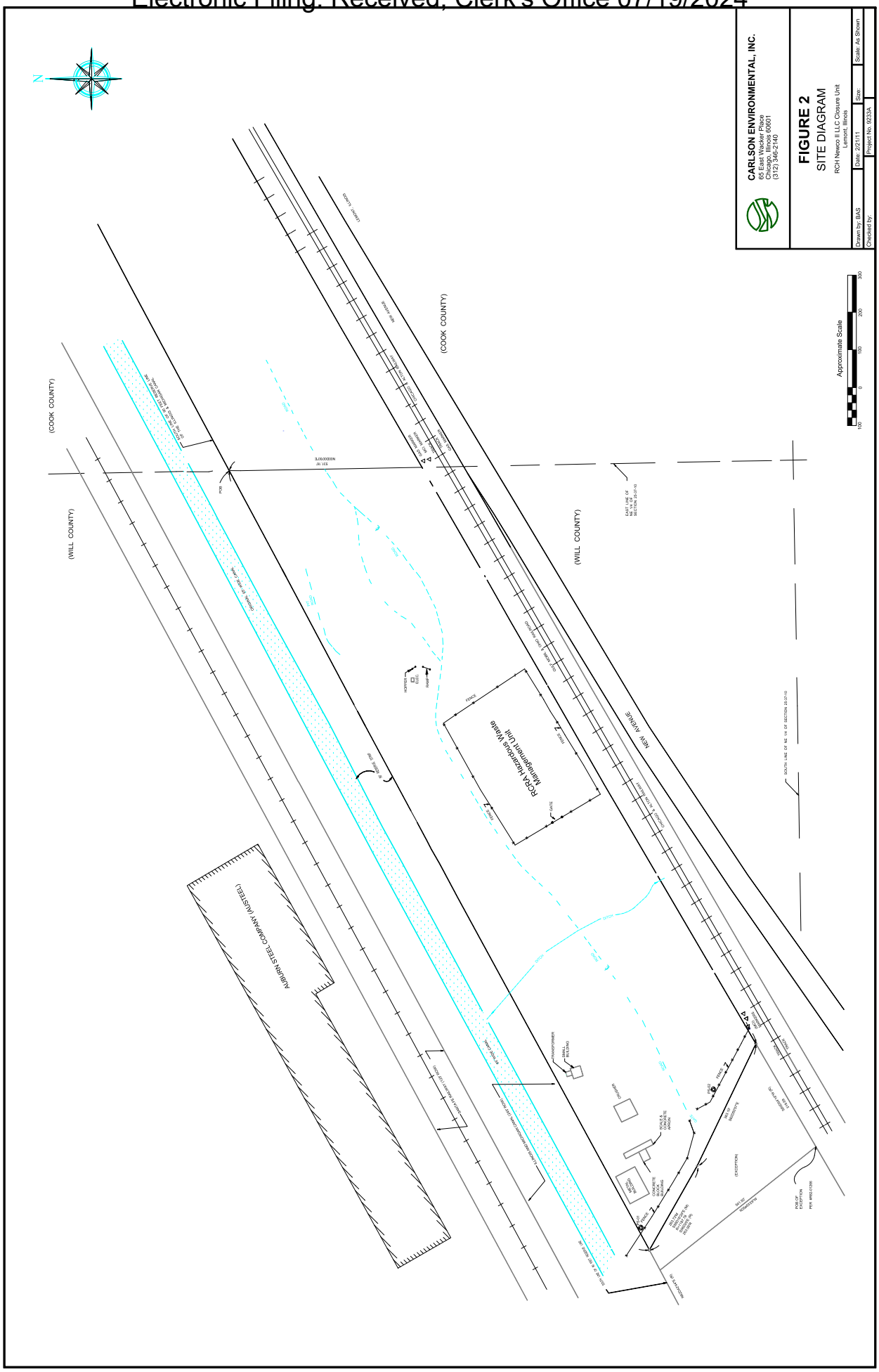
65 East Wacker Place
Chicago, Illinois 60601
(312) 346-2140

PROJECT NO.	9233A	
DRAWN BY		DATE
CHECKED BY		DATE
REVISION 1		DATE
REVISION 2		DATE

FIGURE 1
SITE MAP
RCH Newco II LLC Closure Unit
Lemont, Illinois

Drawing No.
1


CARLSON ENVIRONMENTAL, INC.
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Chicago, Illinois 60601
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FIGURE 2
SITE DIAGRAM
RCH Newco II LLC Closure Unit
Lemont, Illinois
Drawn by: BAS
Checked by:
Date: 2/21/11
Site:
Scale: As Shown
Project No: 10233A
Approximate Scale
0
100
200
300
(COOK COUNTY)
(WILL COUNTY)
NEW AVENUE
ROCK HAZARDOUS WASTE MANAGEMENT UNIT
AUBURN STEEL COMPANY (MUSTEEL)
POB
POC
POB OF EXCEPTION
(EXCEPTION)
SOUTH LINE OF NE 1/4 OF SECTION 25-37-10
NORTH LINE OF NE 1/4 OF SECTION 25-37-10
FENCE
GATE
SCALE & WEIGHT
SMALL BUILDING
DARIEN BRICK BUILDING
SCALE & AMMONIA
SCALE HOUSE
SCALE HOUSE
SCALE HOUSE

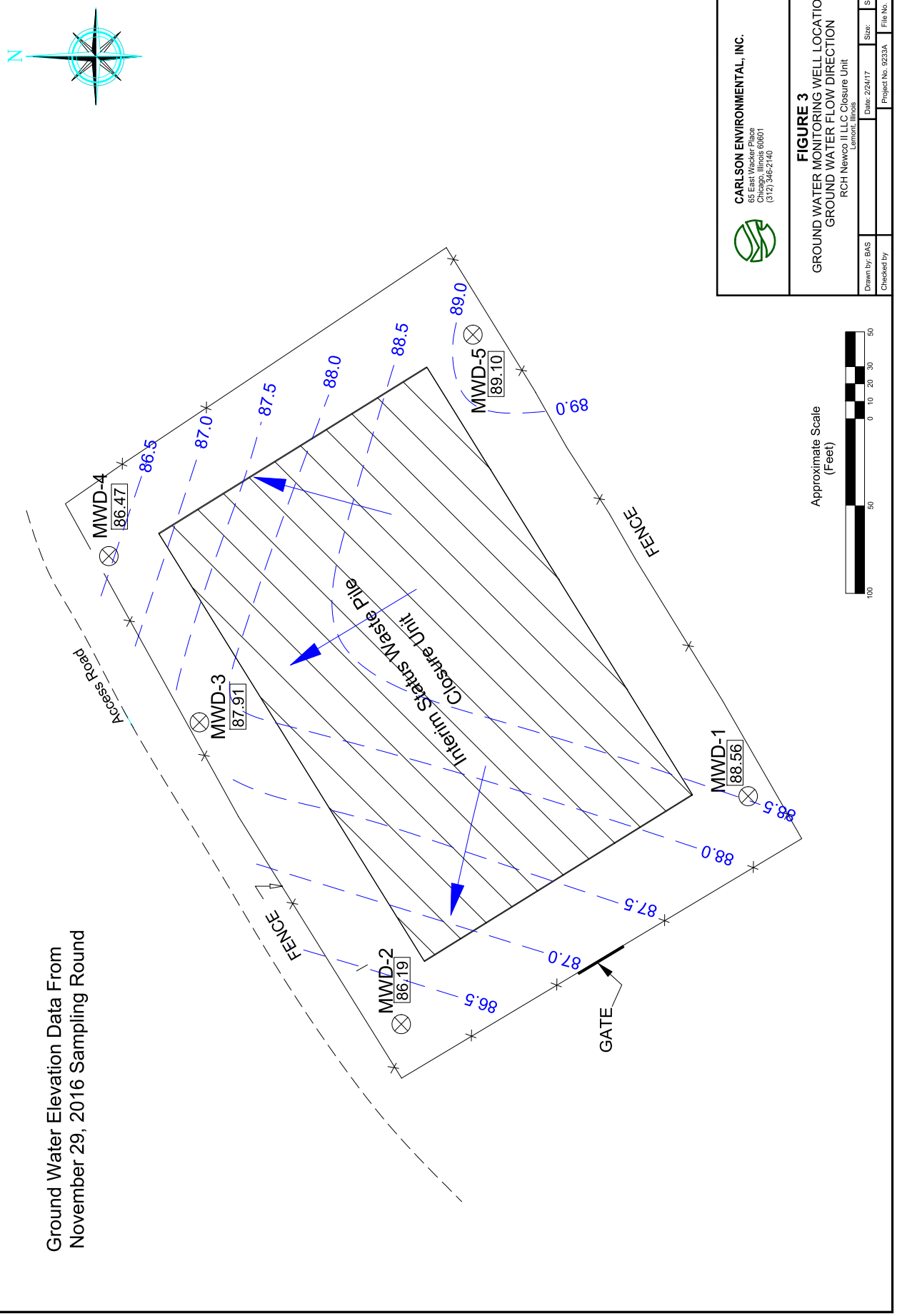
N
MWD-4
86.47
MWD-3
87.91
MWD-2
86.19
MWD-5
89.10
MWD-1
88.56
Interim Status Waste Pile Closure Unit
Access Road
FENCE
FENCE
GATE
86.5
87.0
87.5
88.0
88.5
89.0
89.0
88.5
88.0
87.5
87.0
86.5
Approximate Scale
(Feet)
100 50 0 10 20 30 50
Ground Water Elevation Data From
November 29, 2016 Sampling Round
CARLSON ENVIRONMENTAL, INC.
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FIGURE 3
GROUND WATER MONITORING WELL LOCATIONS
GROUND WATER FLOW DIRECTION
RCH Newco II LLC Closure Unit
Lemont, Illinois
Drawn by: BAS
Checked by
Date: 2/24/17
Project No. 9233A
Size:
Scale: As Shown
File No.

ATTACHMENT B

Tables

TABLE 1: Water Level Measurements

RCH Newco II LLC

Lemont, Illinois

2016 Annual Report

DESCRIPTION	MW-D1	MW-D2	MW-D3	MW-D4	MW-D5
Diameter of Casing	2 in.	2 in.	2 in.	2 in.	2 in.
Total Length of Casing	31.72 ft.	28.60 ft.	27.91 ft.	26.94 ft.	27.99 ft.
Static Water Level - June 21, 2016	-11.98	-14.51	-13.09	-15.05	-13.19
Static Water Level - November 29, 2016	-11.44	-14.32	-12.74	-14.71	-13.12
Surveyed Elevation from Top of Casing	100.00	100.51	100.65	101.18	102.22
Relative Elevation - June 21, 2016	88.02	86.00	87.56	86.13	89.03
Relative Elevation - November 29, 2016	88.56	86.19	87.91	86.47	89.10
Distance from Top of Casing to Ground Surface [1]	1.65 ft.	2.42 ft.	1.70 ft.	2.00 ft.	2.25 ft.
Distance Between Top of Casing and Top of Riser [1]	0.10 ft.	0.27 ft.	0.20 ft.	0.30 ft.	0.40 ft.

[1] Measure by Halliburton NUS on August 3, 1993

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TABLE 2: Summary of Analytical Methods
RCH Newco II LLC
Lemont, Illinois

PARAMETER	*EPA METHOD*	*DETECTION LIMIT*
Arsenic	SW7060A	0.01 mg/L
Barium	SW6010A	0.01 mg/L
Cadmium	SW6010A	0.001 mg/L
Chromium, total	SW6010A	0.01 mg/L
Chromium, hexavalent	SW7196A	0.005 mg/L
Iron	SW6010A	0.05 mg/L
Lead	SW7421	0.005 mg/L
Manganese	SW6010A	0.01 mg/L
Mercury	SW7470A	0.0002 mg/L
Selenium	3015/7740	0.005 mg/L
Silver	SW6010A	0.01 mg/L
Sodium	SW6010A	2.0 mg/L
Phenols	SW9066	0.01 mg/L
Sulfate	E375.4	10.0 mg/L
Chloride	M 4500-CL B	1.0 mg/L
Total Organic Halogens	SW9020	0.01 mg/L
Non-Purgeable Organic Carbon	E415.2	1.0 mg/L
pH	E150.1	0.02 pH units
Specific Conductance	E120.1	10 umhos/cm

mg/L = milligrams per liter

Table 3

Established Background Concentrations

RCH Newco II LLC ILD990785453

Lemont, Illinois

Parameter	Background Concentration[1] (Arithmetic Mean)
Total Organic Carbon (TOC)	2.766
Total Organic Halogens (TOX)	0.017
pH	7.363
Specific Conductance	1334.375
Arsenic	0.100
Barium	0.039
Cadmium	0.005
Chromium	0.019
Hexavalent Chromium	0.013
Lead	0.050
Mercury	0.0002
Selenium	0.100
Silver	0.010
Chloride	33.952
Iron	0.913
Manganese	0.196
Phenolics	0.009
Sodium	50.333
Sulfate	309.048

[1] Concentrations are in milligrams per liter (mg/L), except for Specific Conductance (umhos/cm) and pH (pH units)

TABLE 4: Round 51 Analytical Results

RCH Newco II LLC

Lemont, Illinois

June 21, 2016

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D1A*	*MW-D1B*	*MW-D1C*	*MW-D1D*
			Location	upgradient	upgradient	upgradient	upgradient
			Date	6/21/2016	6/21/2016	6/21/2016	6/21/2016
Iron	mg/L	---		0.24	NA	NA	NA
Manganese	mg/L	---		0.076	NA	NA	NA
Sodium	mg/L	---		31	NA	NA	NA
Phenol	mg/L	---		ND	NA	NA	NA
Sulfate	mg/L	---		180	NA	NA	NA
Chloride	mg/L	---		49	NA	NA	NA
Total Organic Halogens	mg/L	---		ND	ND	0.011	0.011
Non-Purgeable Organic Carbon	mg/L	---		1.7	1.7	1.7	1.7
pH	---	6.5 - 9		7.23	7.15	7.18	7.15
Specific Conductance	umho/cm	---		1290	1330	1330	1320

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Electronic Filing: Received, Clerk's Office 07/19/2024

TABLE 4: Round 51 Analytical Results

RCH Newco II LLC

Lemont, Illinois

June 21, 2016

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D2A*	*MW-D2B*	*MW-D2C*	*MW-D2D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	6/21/2016	6/21/2016	6/21/2016	6/21/2016
Iron	mg/L	---		1.8	NA	NA	NA
Manganese	mg/L	---		0.16	NA	NA	NA
Sodium	mg/L	---		25	NA	NA	NA
Phenol	mg/L	---		ND	NA	NA	NA
Sulfate	mg/L	---		250	NA	NA	NA
Chloride	mg/L	---		20	NA	NA	NA
Total Organic Halogens	mg/L	---		ND	ND	ND	ND
Non-Purgeable Organic Carbon	mg/L	---		1.1	0.96	0.98	0.99
pH	---	6.5 - 9		7.23	7.18	7.18	7.16
Specific Conductance	umho/cm	---		1220	1250	1240	1260

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Electronic Filing: Received, Clerk's Office 07/19/2024

TABLE 4: Round 51 Analytical Results

RCH Newco II LLC

Lemont, Illinois

June 21, 2016

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D3A*	*MW-D3B*	*MW-D3C*	*MW-D3D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	6/21/2016	6/21/2016	6/21/2016	6/21/2016
Iron	mg/L	---		ND	NA	NA	NA
Manganese	mg/L	---		0.13	NA	NA	NA
Sodium	mg/L	---		34	NA	NA	NA
Phenol	mg/L	---		ND	NA	NA	NA
Sulfate	mg/L	---		340	NA	NA	NA
Chloride	mg/L	---		32	NA	NA	NA
Total Organic Halogens	mg/L	---		ND	ND	ND	ND
Non-Purgeable Organic Carbon	mg/L	---		1.2	2.5	2.1	1.2
pH	---	6.5 - 9		7.28	7.28	7.29	7.34
Specific Conductance	umho/cm	---		1370	1390	1390	1350

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Electronic Filing: Received, Clerk's Office 07/19/2024

TABLE 4: Round 51 Analytical Results

RCH Newco II LLC

Lemont, Illinois

June 21, 2016

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D4A*	*MW-D4B*	*MW-D4C*	*MW-D4D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	6/21/2016	6/21/2016	6/21/2016	6/21/2016
Iron	mg/L	---		0.081	NA	NA	NA
Manganese	mg/L	---		0.01	NA	NA	NA
Sodium	mg/L	---		28	NA	NA	NA
Phenol	mg/L	---		ND	NA	NA	NA
Sulfate	mg/L	---		340	NA	NA	NA
Chloride	mg/L	---		5.0	NA	NA	NA
Total Organic Halogens	mg/L	---		ND	ND	ND	ND
Non-Purgeable Organic Carbon	mg/L	---		1.3	1.2	1.2	1.2
pH	---	6.5 - 9		7.23	7.15	7.17	7.13
Specific Conductance	umho/cm	---		1330	1340	1330	1340

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Electronic Filing: Received, Clerk's Office 07/19/2024

TABLE 4: Round 51 Analytical Results

RCH Newco II LLC

Lemont, Illinois

June 21, 2016

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D5A*	*MW-D5B*	*MW-D5C*	*MW-D5D*
			Location	upgradient	upgradient	upgradient	upgradient
			Date	6/21/2016	6/21/2016	6/21/2016	6/21/2016
Iron	mg/L	---		ND	ND	NA	NA
Manganese	mg/L	---		0.011	0.006	NA	NA
Sodium	mg/L	---		23	22	NA	NA
Phenol	mg/L	---		ND	ND	NA	NA
Sulfate	mg/L	---		370	350	NA	NA
Chloride	mg/L	---		2.5	3.0	NA	NA
Total Organic Halogens	mg/L	---		ND	ND	ND	ND
Non-Purgeable Organic Carbon	mg/L	---		1.1	1.1	1.1	1.1
pH	---	6.5 - 9		7.42	7.48	7.45	7.42
Specific Conductance	umho/cm	---		1330	1320	1340	1350

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Electronic Filing: Received, Clerk's Office 07/19/2024

TABLE 5: Round 52 Analytical Results

RCH Newco II LLC

Lemont, Illinois

November 29, 2016

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D1A*	*MW-D1B*	*MW-D1C*	*MW-D1D*
			Location	upgradient	upgradient	upgradient	upgradient
			Date	11/29/2016	11/29/2016	11/29/2016	11/29/2016
Total Organic Halogens	mg/L	---		0.019	0.016	0.013	0.016
Non-Purgeable Organic Carbon	mg/L	---		1.8	1.7	1.7	1.7
pH	---	6.5 - 9		7.02	7.01	7.03	7
Specific Conductance	umho/cm	---		1260	1280	1290	1300

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Electronic Filing: Received, Clerk's Office 07/19/2024

TABLE 5: Round 52 Analytical Results

RCH Newco II LLC

Lemont, Illinois

November 29, 2016

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D2A*	*MW-D2B*	*MW-D2C*	*MW-D2D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	11/29/2016	11/29/2016	11/29/2016	11/29/2016
Total Organic Halogens	mg/L	---		ND	0.014	0.024	ND
Non-Purgeable Organic Carbon	mg/L	---		1.1	1.1	1.1	1.1
pH	---	6.5 - 9		7.17	7.19	7.19	7.17
Specific Conductance	umho/cm	---		1240	1250	1240	1240

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Electronic Filing: Received, Clerk's Office 07/19/2024

TABLE 5: Round 52 Analytical Results

RCH Newco II LLC

Lemont, Illinois

November 29, 2016

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D3A*	*MW-D3B*	*MW-D3C*	*MW-D3D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	11/29/2016	11/29/2016	11/29/2016	11/29/2016
Total Organic Halogens	mg/L	---		ND	ND	ND	ND
Non-Purgeable Organic Carbon	mg/L	---		1.4	14	1.3	1.2
pH	---	6.5 - 9		7.07	7.05	7.04	7.07
Specific Conductance	umho/cm	---		1310	1340	1300	1320

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Electronic Filing: Received, Clerk's Office 07/19/2024

TABLE 5: Round 52 Analytical Results

RCH Newco II LLC

Lemont, Illinois

November 29, 2016

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D4A*	*MW-D4B*	*MW-D4C*	*MW-D4D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	11/29/2016	11/29/2016	11/29/2016	11/29/2016
Total Organic Halogens	mg/L	---		ND	ND	ND	0.057
Non-Purgeable Organic Carbon	mg/L	---		1.3	1.3	1.3	1.3
pH	---	6.5 - 9		7.01	7.02	7.01	7
Specific Conductance	umho/cm	---		1320	1300	1300	1310

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

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TABLE 5: Round 52 Analytical Results

RCH Newco II LLC

Lemont, Illinois

November 29, 2016

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D5A*	*MW-D5B*	*MW-D5C*	*MW-D5D*
			Location	upgradient	upgradient	upgradient	upgradient
			Date	11/29/2016	11/29/2016	11/29/2016	11/29/2016
Total Organic Halogens	mg/L	---		ND	ND	ND	ND
Non-Purgeable Organic Carbon	mg/L	---		1.2	1.2	1.2	1.2
pH	---	6.5 - 9		7.15	7.15	7.13	7.08
Specific Conductance	umho/cm	---		1300	1280	1280	1290

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Electronic Filing: Received, Clerk's Office 07/19/2024

Table 6

Statistical Evaluation of Upgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 51 June 2016

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D1	TOC	2.766	2.484	1.7	0	4.541	<0**	N
	TOX	0.017	0.097	0.008	0.0005	4.541	-5.14	N
	pH	7.363	0.112	7.18	0.0014	4.541/-4.541	-9.63	**Y**
	Spec. Cond.	1334.375	15,231.855	1318	358.33	4.541	-1.69	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D5	TOC	2.766	2.484	1.1	0	4.541	<0**	N
	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	pH	7.363	0.112	7.44	0.0008	4.541/-4.541	5.53	**Y**
	Spec. Cond.	1334.375	15,231.855	1335	166.67	4.541	0.15	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

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Table 7

Statistical Evaluation of Downgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 51 June 2016

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D2	TOC	2.766	2.484	1.008	0.004	4.541	-55.81	N
	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	pH	7.363	0.112	7.19	0.0009	4.541/-4.541	-1.15	N
	Spec. Cond.	1334.375	15,231.855	1243	291.67	4.541	-10.66	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D3	TOC	2.766	2.484	1.75	0.43	4.541	-3.08	N
	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	pH	7.363	0.112	7.30	0.0008	4.541/-4.541	-4.34	N
	Spec. Cond.	1334.375	15,231.855	1375	366.67	4.541	4.28	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D4	TOC	2.766	2.484	1.225	0.0025	4.541	-61.64	N
	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	pH	7.363	0.112	7.17	0.0019	4.541/-4.541	-8.98	**Y**
	Spec. Cond.	1334.375	15,231.855	1335	33.33	4.541	0.35	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

Electronic Filing: Received, Clerk's Office 07/19/2024

Table 8

Statistical Evaluation of Upgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 52 November 2016

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D1	TOC	2.766	2.484	1.725	0.0025	4.541	-41.64	N
	TOX	0.017	0.097	0.016	0.0000006	4.541	-0.83	N
	pH	7.363	0.112	7.02	0.00017	4.541/-4.541	-52.77	**Y**
	Spec. Cond.	1334.375	15,231.855	1283	291.67	4.541	-5.97	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D5	TOC	2.766	2.484	1.2	0	4.541	<0**	N
	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	pH	7.363	0.112	7.13	0.0011	4.541/-4.541	-14.12	**Y**
	Spec. Cond.	1334.375	15,231.855	1288	91.67	4.541	-9.61	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

Electronic Filing: Received, Clerk's Office 07/19/2024

Table 9

Statistical Evaluation of Downgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 52 November 2016

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D2	TOC	2.766	2.484	1.1	0	4.541	<0**	N
	TOX	0.017	0.097	0.012	0.00034	4.541	-1.11	N
	pH	7.363	0.112	7.18	0.00013	4.541/-4.541	-30.5	**Y**
	Spec. Cond.	1334.375	15,231.855	1243	25	4.541	-36.4	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D3	TOC	2.766	2.484	4.475	40.329	4.541	0.54	N
	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	pH	7.363	0.112	7.06	0.00023	4.541/-4.541	-40.4	**Y**
	Spec. Cond.	1334.375	15,231.855	1318	291.67	4.541	-1.87	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D4	TOC	2.766	2.484	1.3	0	4.541	<0**	N
	TOX	0.017	0.097	0.018	0.000012	4.541	0.08	N
	pH	7.363	0.112	7.01	0.000067	4.541/-4.541	-88.25	**Y**
	Spec. Cond.	1334.375	15,231.855	1308	91.67	4.541	-5.43	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

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ATTACHMENT C

Laboratory Analytical Reports

MICROBAC®

July 5, 2016

Carlson Environmental, Inc.
65 East Wacker Place, Suite 2210
Chicago, IL 60601-

Work Order No.: 16F1594

Re: Ceco - Lemont, IL

Dear Bruce Shabino:

Microbac Laboratories, Inc. - Chicagoland Division received 20 sample(s) on 6/22/2016 5:26:00PM for the analyses presented in the following report as Work Order 16F1594.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please contact your project manager. For any feedback, please contact Robert Crookston, Managing Director, at robert.crookston@microbac.com.

Sincerely,
Microbac Laboratories, Inc.

Ron Misiunas
Director of Laboratory Services

MICROBAC®

WORK ORDER SAMPLE SUMMARY

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Project: Ceco - Lemont, IL
Lab Order: 16F1594

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
16F1594-01	MWD-1A	Grab	06/21/2016 09:00	6/22/2016 5:26:00PM
16F1594-02	MWD-1B	Grab	06/21/2016 09:00	6/22/2016 5:26:00PM
16F1594-03	MWD-1C	Grab	06/21/2016 09:00	6/22/2016 5:26:00PM
16F1594-04	MWD-1D	Grab	06/21/2016 09:00	6/22/2016 5:26:00PM
16F1594-05	MWD-2A	Grab	06/21/2016 10:30	6/22/2016 5:26:00PM
16F1594-06	MWD-2B	Grab	06/21/2016 10:30	6/22/2016 5:26:00PM
16F1594-07	MWD-2C	Grab	06/21/2016 10:30	6/22/2016 5:26:00PM
16F1594-08	MWD-2D	Grab	06/21/2016 10:30	6/22/2016 5:26:00PM
16F1594-09	MWD-3A	Grab	06/21/2016 12:00	6/22/2016 5:26:00PM
16F1594-10	MWD-3B	Grab	06/21/2016 12:00	6/22/2016 5:26:00PM
16F1594-11	MWD-3C	Grab	06/21/2016 12:00	6/22/2016 5:26:00PM
16F1594-12	MWD-3D	Grab	06/21/2016 12:00	6/22/2016 5:26:00PM
16F1594-13	MWD-4A	Grab	06/21/2016 13:30	6/22/2016 5:26:00PM
16F1594-14	MWD-4B	Grab	06/21/2016 13:30	6/22/2016 5:26:00PM
16F1594-15	MWD-4C	Grab	06/21/2016 13:30	6/22/2016 5:26:00PM
16F1594-16	MWD-4D	Grab	06/21/2016 13:30	6/22/2016 5:26:00PM
16F1594-17	MWD-5A	Grab	06/21/2016 15:00	6/22/2016 5:26:00PM
16F1594-18	MWD-5B	Grab	06/21/2016 15:00	6/22/2016 5:26:00PM
16F1594-19	MWD-5C	Grab	06/21/2016 15:00	6/22/2016 5:26:00PM
16F1594-20	MWD-5D	Grab	06/21/2016 15:00	6/22/2016 5:26:00PM

Samples Subcontracted To: Keystone Laboratories, Inc.

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
16F1594-01	MWD-1A	Grab	06/21/2016 09:00	6/22/2016 5:26:00PM
16F1594-02	MWD-1B	Grab	06/21/2016 09:00	6/22/2016 5:26:00PM
16F1594-03	MWD-1C	Grab	06/21/2016 09:00	6/22/2016 5:26:00PM
16F1594-04	MWD-1D	Grab	06/21/2016 09:00	6/22/2016 5:26:00PM
16F1594-05	MWD-2A	Grab	06/21/2016 10:30	6/22/2016 5:26:00PM
16F1594-06	MWD-2B	Grab	06/21/2016 10:30	6/22/2016 5:26:00PM
16F1594-07	MWD-2C	Grab	06/21/2016 10:30	6/22/2016 5:26:00PM
16F1594-08	MWD-2D	Grab	06/21/2016 10:30	6/22/2016 5:26:00PM
16F1594-09	MWD-3A	Grab	06/21/2016 12:00	6/22/2016 5:26:00PM
16F1594-10	MWD-3B	Grab	06/21/2016 12:00	6/22/2016 5:26:00PM
16F1594-11	MWD-3C	Grab	06/21/2016 12:00	6/22/2016 5:26:00PM
16F1594-12	MWD-3D	Grab	06/21/2016 12:00	6/22/2016 5:26:00PM
16F1594-13	MWD-4A	Grab	06/21/2016 13:30	6/22/2016 5:26:00PM
16F1594-14	MWD-4B	Grab	06/21/2016 13:30	6/22/2016 5:26:00PM
16F1594-15	MWD-4C	Grab	06/21/2016 13:30	6/22/2016 5:26:00PM
16F1594-16	MWD-4D	Grab	06/21/2016 13:30	6/22/2016 5:26:00PM
16F1594-17	MWD-5A	Grab	06/21/2016 15:00	6/22/2016 5:26:00PM
16F1594-18	MWD-5B	Grab	06/21/2016 15:00	6/22/2016 5:26:00PM

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WORK ORDER SAMPLE SUMMARY **Date:** *Tuesday, July 5, 2016*

16F1594-19	MWD-5C	Grab	06/21/2016 15:00	6/22/2016 5:26:00PM
16F1594-20	MWD-5D	Grab	06/21/2016 15:00	6/22/2016 5:26:00PM

Samples Subcontracted To: Microbac - KTL

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
16F1594-01	MWD-1A	Grab	06/21/2016 09:00	6/22/2016 5:26:00PM
16F1594-02	MWD-1B	Grab	06/21/2016 09:00	6/22/2016 5:26:00PM
16F1594-03	MWD-1C	Grab	06/21/2016 09:00	6/22/2016 5:26:00PM
16F1594-04	MWD-1D	Grab	06/21/2016 09:00	6/22/2016 5:26:00PM
16F1594-05	MWD-2A	Grab	06/21/2016 10:30	6/22/2016 5:26:00PM
16F1594-06	MWD-2B	Grab	06/21/2016 10:30	6/22/2016 5:26:00PM
16F1594-07	MWD-2C	Grab	06/21/2016 10:30	6/22/2016 5:26:00PM
16F1594-08	MWD-2D	Grab	06/21/2016 10:30	6/22/2016 5:26:00PM
16F1594-09	MWD-3A	Grab	06/21/2016 12:00	6/22/2016 5:26:00PM
16F1594-10	MWD-3B	Grab	06/21/2016 12:00	6/22/2016 5:26:00PM
16F1594-11	MWD-3C	Grab	06/21/2016 12:00	6/22/2016 5:26:00PM
16F1594-12	MWD-3D	Grab	06/21/2016 12:00	6/22/2016 5:26:00PM
16F1594-13	MWD-4A	Grab	06/21/2016 13:30	6/22/2016 5:26:00PM
16F1594-14	MWD-4B	Grab	06/21/2016 13:30	6/22/2016 5:26:00PM
16F1594-15	MWD-4C	Grab	06/21/2016 13:30	6/22/2016 5:26:00PM
16F1594-16	MWD-4D	Grab	06/21/2016 13:30	6/22/2016 5:26:00PM
16F1594-17	MWD-5A	Grab	06/21/2016 15:00	6/22/2016 5:26:00PM
16F1594-18	MWD-5B	Grab	06/21/2016 15:00	6/22/2016 5:26:00PM
16F1594-19	MWD-5C	Grab	06/21/2016 15:00	6/22/2016 5:26:00PM
16F1594-20	MWD-5D	Grab	06/21/2016 15:00	6/22/2016 5:26:00PM

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-1A
Sample Description: Grab
Matrix: Aqueous
Work Order/ID: 16F1594-01
Sampled: 06/21/2016 9:00
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 9020**					Analyst: **KCS**
Total Organic Halogens			Prep Method: **TOX/TX/EOX**					Prep Date/Time: **06/28/2016 00:00**
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	06/30/2016 13:24
			Method: **SW-846 6010C**					Analyst: **SE**
Total Metals by ICP			Prep Method: **SW846 3005A**					Prep Date/Time: **06/23/2016 10:45**
Iron	dil	A	***0.24***	0.050		mg/L	1	06/27/2016 16:43
Manganese	dil	A	***0.076***	0.0020		mg/L	1	06/27/2016 16:43
Sodium	dil	A	***31***	0.50		mg/L	1	06/27/2016 16:43
			Method: **SM 4500-Cl B-1997**					Analyst: **EB**
Chloride								Prep Date/Time: **06/27/2016 13:30**
Chloride	dij	A	***49***	1.0		mg/L	1	06/27/2016 13:30
			Method: **EPA 120.1 Rev 1982**					Analyst: **EB**
Specific Conductance								Prep Date/Time: **06/30/2016 13:05**
Specific Conductance	i	A	***1290***	2.00		umhos/cm	1	06/30/2016 13:05
			Method: **SM 4500 H+ B-2000**					Analyst: **JES**
pH								Prep Date/Time: **06/27/2016 14:40**
pH	dij	A	***7.23***	2.00	H	pH at 25°C	1	06/27/2016 14:40
			Method: **SW-846 9066**					Analyst: **AGRIEFF**
Total Phenolics			Prep Method: **Aq. Phenolics Distillation**					Prep Date/Time: **06/29/2016 11:03**
Phenolics, Total Recoverable	di	A	***ND***	0.010		mg/L	1	06/29/2016 13:11
			Method: **SW-846 9038**					Analyst: **BRENAN**
Sulfate, Turbidimetric								Prep Date/Time: **06/28/2016 09:16**
Sulfate	i	A	***180***	10		mg/L	1	06/28/2016 11:26
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **06/27/2016 00:00**
Carbon, Total Organic	K	C1/10/	***1.7***	0.50		mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-1B
Sample Description: Grab
Matrix: Aqueous
Work Order/ID: 16F1594-02
Sampled: 06/21/2016 9:00
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 9020**					Analyst: **KCS**
Total Organic Halogens			Prep Method: **TOX/TX/EOX**					Prep Date/Time: **06/28/2016 00:00**
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	06/30/2016 13:24
			Method: **EPA 120.1 Rev 1982**					Analyst: **EB**
Specific Conductance								Prep Date/Time: **06/30/2016 13:05**
Specific Conductance	i	A	***1330***	2.00		umhos/cm	1	06/30/2016 13:05
			Method: **SM 4500 H+ B-2000**					Analyst: **JES**
pH								Prep Date/Time: **06/27/2016 14:40**
pH	dij	A	***7.15***	2.00	H	pH at 25°C	1	06/27/2016 14:40
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **06/27/2016 00:00**
Carbon, Total Organic	K	C1/10	***1.7***	0.50	M2	mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-1C
Sample Description: Grab
Matrix: Aqueous

Work Order/ID: 16F1594-03
Sampled: 06/21/2016 9:00
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens			Method: **EPA 9020** Prep Method: **TOX/TX/EOX**				Analyst: **KCS** Prep Date/Time: **06/28/2016 00:00**	
Total Organic Halogens (TOX)	NI		***0.011***	0.010		mg/L	1	06/30/2016 13:24
Specific Conductance			Method: **EPA 120.1 Rev 1982**				Analyst: **EB** Prep Date/Time: **06/30/2016 13:05**	
Specific Conductance	i	A	***1330***	2.00		umhos/cm	1	06/30/2016 13:05
pH			Method: **SM 4500 H+ B-2000**				Analyst: **JES** Prep Date/Time: **06/27/2016 14:40**	
pH	dij	A	***7.18***	2.00	H	pH at 25°C	1	06/27/2016 14:40
Total Organic Carbon			Method: **SM 5310C** Prep Method: **WC_TOC**				Analyst: **KNY** Prep Date/Time: **06/27/2016 00:00**	
Carbon, Total Organic	K	C1/10	***1.7***	0.50		mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-1D
Sample Description: Grab
Matrix: Aqueous
Work Order/ID: 16F1594-04
Sampled: 06/21/2016 9:00
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens			Method: **EPA 9020** Prep Method: **TOX/TX/EOX**				Analyst: **KCS** Prep Date/Time: **06/28/2016 00:00**	
Total Organic Halogens (TOX)	NI		***0.011***	0.010		mg/L	1	06/30/2016 13:24
Specific Conductance			Method: **EPA 120.1 Rev 1982**				Analyst: **EB** Prep Date/Time: **06/30/2016 13:05**	
Specific Conductance	i	A	***1320***	2.00		umhos/cm	1	06/30/2016 13:05
pH			Method: **SM 4500 H+ B-2000**				Analyst: **JES** Prep Date/Time: **06/27/2016 14:40**	
pH	dij	A	***7.15***	2.00	H	pH at 25°C	1	06/27/2016 14:40
Total Organic Carbon			Method: **SM 5310C** Prep Method: **WC_TOC**				Analyst: **KNY** Prep Date/Time: **06/27/2016 00:00**	
Carbon, Total Organic	K	C1/10	***1.7***	0.50	M2	mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-2A
Sample Description: Grab
Matrix: Aqueous
Work Order/ID: 16F1594-05
Sampled: 06/21/2016 10:30
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 9020**					Analyst: **KCS**
Total Organic Halogens			Prep Method: **TOX/TX/EOX**					Prep Date/Time: **06/28/2016 00:00**
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	06/30/2016 13:24
			Method: **SW-846 6010C**					Analyst: **SE**
Total Metals by ICP			Prep Method: **SW846 3005A**					Prep Date/Time: **06/23/2016 10:45**
Iron	dil	A	***1.8***	0.050		mg/L	1	06/27/2016 16:57
Manganese	dil	A	***0.16***	0.0020		mg/L	1	06/27/2016 16:57
Sodium	dil	A	***25***	0.50		mg/L	1	06/27/2016 16:57
			Method: **SM 4500-Cl B-1997**					Analyst: **EB**
Chloride								Prep Date/Time: **06/27/2016 13:30**
Chloride	dij	A	***20***	1.0		mg/L	1	06/27/2016 13:30
			Method: **EPA 120.1 Rev 1982**					Analyst: **EB**
Specific Conductance								Prep Date/Time: **06/30/2016 13:05**
Specific Conductance	i	A	***1220***	2.00		umhos/cm	1	06/30/2016 13:05
			Method: **SM 4500 H+ B-2000**					Analyst: **JES**
pH								Prep Date/Time: **06/27/2016 14:40**
pH	dij	A	***7.23***	2.00	H	pH at 25°C	1	06/27/2016 14:40
			Method: **SW-846 9066**					Analyst: **AGRIEFF**
Total Phenolics			Prep Method: **Aq. Phenolics Distillation**					Prep Date/Time: **06/29/2016 11:03**
Phenolics, Total Recoverable	di	A	***ND***	0.010		mg/L	1	06/29/2016 13:12
			Method: **SW-846 9038**					Analyst: **BRENAN**
Sulfate, Turbidimetric								Prep Date/Time: **06/28/2016 09:16**
Sulfate	i	A	***250***	10		mg/L	1	06/28/2016 11:28
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **06/27/2016 00:00**
Carbon, Total Organic	K	C1/10	***1.1***	0.50		mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-2B
Sample Description: Grab
Matrix: Aqueous

Work Order/ID: 16F1594-06
Sampled: 06/21/2016 10:30
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens			Method: **EPA 9020** Prep Method: **TOX/TX/EOX**				Analyst: **KCS** Prep Date/Time: **06/28/2016 00:00**	
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	06/30/2016 13:24
Specific Conductance			Method: **EPA 120.1 Rev 1982**				Analyst: **EB** Prep Date/Time: **06/30/2016 13:05**	
Specific Conductance	i	A	***1250***	2.00		umhos/cm	1	06/30/2016 13:05
pH			Method: **SM 4500 H+ B-2000**				Analyst: **JES** Prep Date/Time: **06/27/2016 14:40**	
pH	dij	A	***7.18***	2.00	H	pH at 25°C	1	06/27/2016 14:40
Total Organic Carbon			Method: **SM 5310C** Prep Method: **WC_TOC**				Analyst: **KNY** Prep Date/Time: **06/27/2016 00:00**	
Carbon, Total Organic	K	C1/10	***0.96***	0.50		mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-2C
Sample Description: Grab
Matrix: Aqueous

Work Order/ID: 16F1594-07
Sampled: 06/21/2016 10:30
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens			Method: **EPA 9020** Prep Method: **TOX/TX/EOX**				Analyst: **KCS** Prep Date/Time: **06/28/2016 00:00**	
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	06/30/2016 13:24
Specific Conductance			Method: **EPA 120.1 Rev 1982**				Analyst: **EB** Prep Date/Time: **06/30/2016 13:05**	
Specific Conductance	i	A	***1240***	2.00		umhos/cm	1	06/30/2016 13:05
pH			Method: **SM 4500 H+ B-2000**				Analyst: **JES** Prep Date/Time: **06/27/2016 14:40**	
pH	dij	A	***7.18***	2.00	H	pH at 25°C	1	06/27/2016 14:40
Total Organic Carbon			Method: **SM 5310C** Prep Method: **WC_TOC**				Analyst: **KNY** Prep Date/Time: **06/27/2016 00:00**	
Carbon, Total Organic	K	C1/10	***0.98***	0.50		mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-2D
Sample Description: Grab
Matrix: Aqueous

Work Order/ID: 16F1594-08
Sampled: 06/21/2016 10:30
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens			Method: **EPA 9020** Prep Method: **TOX/TX/EOX**				Analyst: **KCS** Prep Date/Time: **06/28/2016 00:00**	
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	06/30/2016 13:24
Specific Conductance			Method: **EPA 120.1 Rev 1982**				Analyst: **EB** Prep Date/Time: **06/30/2016 13:05**	
Specific Conductance	i	A	***1260***	2.00		umhos/cm	1	06/30/2016 13:05
pH			Method: **SM 4500 H+ B-2000**				Analyst: **JES** Prep Date/Time: **06/27/2016 14:40**	
pH	dij	A	***7.16***	2.00	H	pH at 25°C	1	06/27/2016 14:40
Total Organic Carbon			Method: **SM 5310C** Prep Method: **WC_TOC**				Analyst: **KNY** Prep Date/Time: **06/27/2016 00:00**	
Carbon, Total Organic	K	C1/10	***0.99***	0.50		mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-3A
Sample Description: Grab
Matrix: Aqueous
Work Order/ID: 16F1594-09
Sampled: 06/21/2016 12:00
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 9020**					Analyst: **KCS**
Total Organic Halogens			Prep Method: **TOX/TX/EOX**					Prep Date/Time: **06/28/2016 00:00**
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	06/30/2016 13:24
			Method: **SW-846 6010C**					Analyst: **SE**
Total Metals by ICP			Prep Method: **SW846 3005A**					Prep Date/Time: **06/23/2016 10:45**
Iron	dil	A	***ND***	0.050		mg/L	1	06/27/2016 17:02
Manganese	dil	A	***0.13***	0.0020		mg/L	1	06/27/2016 17:02
Sodium	dil	A	***34***	0.50		mg/L	1	06/27/2016 17:02
			Method: **SM 4500-Cl B-1997**					Analyst: **EB**
Chloride								Prep Date/Time: **06/27/2016 13:30**
Chloride	dij	A	***32***	1.0		mg/L	1	06/27/2016 13:30
			Method: **EPA 120.1 Rev 1982**					Analyst: **EB**
Specific Conductance								Prep Date/Time: **06/30/2016 13:05**
Specific Conductance	i	A	***1370***	2.00		umhos/cm	1	06/30/2016 13:05
			Method: **SM 4500 H+ B-2000**					Analyst: **JES**
pH								Prep Date/Time: **06/27/2016 14:40**
pH	dij	A	***7.28***	2.00	H	pH at 25°C	1	06/27/2016 14:40
			Method: **SW-846 9066**					Analyst: **AGRIEFF**
Total Phenolics			Prep Method: **Aq. Phenolics Distillation**					Prep Date/Time: **06/29/2016 11:03**
Phenolics, Total Recoverable	di	A	***ND***	0.010		mg/L	1	06/29/2016 13:12
			Method: **SW-846 9038**					Analyst: **BRENAN**
Sulfate, Turbidimetric								Prep Date/Time: **06/28/2016 09:16**
Sulfate	i	A	***340***	100		mg/L	10	06/28/2016 12:31
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **06/27/2016 00:00**
Carbon, Total Organic	K	C1/10/	***1.2***	0.50		mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-3B
Sample Description: Grab
Matrix: Aqueous
Work Order/ID: 16F1594-10
Sampled: 06/21/2016 12:00
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 9020**					Analyst: **KCS**
Total Organic Halogens			Prep Method: **TOX/TX/EOX**					Prep Date/Time: **06/28/2016 00:00**
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	06/30/2016 13:24
			Method: **EPA 120.1 Rev 1982**					Analyst: **EB**
Specific Conductance								Prep Date/Time: **06/30/2016 13:05**
Specific Conductance	i	A	***1390***	2.00		umhos/cm	1	06/30/2016 13:05
			Method: **SM 4500 H+ B-2000**					Analyst: **JES**
pH								Prep Date/Time: **06/27/2016 14:40**
pH	dij	A	***7.28***	2.00	H	pH at 25°C	1	06/27/2016 14:40
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **06/27/2016 00:00**
Carbon, Total Organic	K	C1/10	***2.5***	0.50		mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-3C
Sample Description: Grab
Matrix: Aqueous
Work Order/ID: 16F1594-11
Sampled: 06/21/2016 12:00
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 9020**					Analyst: **KCS**
Total Organic Halogens			Prep Method: **TOX/TX/EOX**					Prep Date/Time: **06/30/2016 00:00**
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	07/01/2016 8:25
			Method: **EPA 120.1 Rev 1982**					Analyst: **EB**
Specific Conductance								Prep Date/Time: **06/30/2016 13:05**
Specific Conductance	i	A	***1390***	2.00		umhos/cm	1	06/30/2016 13:05
			Method: **SM 4500 H+ B-2000**					Analyst: **JES**
pH								Prep Date/Time: **06/27/2016 14:40**
pH	dij	A	***7.29***	2.00	H	pH at 25°C	1	06/27/2016 14:40
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **06/27/2016 00:00**
Carbon, Total Organic	K	C1/10	***2.1***	0.50		mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-3D
Sample Description: Grab
Matrix: Aqueous

Work Order/ID: 16F1594-12
Sampled: 06/21/2016 12:00
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens			Method: **EPA 9020** Prep Method: **TOX/TX/EOX**					Analyst: **KCS** Prep Date/Time: **06/30/2016 00:00**
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	07/01/2016 8:25
Specific Conductance			Method: **EPA 120.1 Rev 1982**					Analyst: **EB** Prep Date/Time: **06/30/2016 13:05**
Specific Conductance	i	A	***1350***	2.00		umhos/cm	1	06/30/2016 13:05
pH			Method: **SM 4500 H+ B-2000**					Analyst: **JES** Prep Date/Time: **06/27/2016 14:40**
pH	dij	A	***7.34***	2.00	H	pH at 25°C	1	06/27/2016 14:40
Total Organic Carbon			Method: **SM 5310C** Prep Method: **WC_TOC**					Analyst: **KNY** Prep Date/Time: **06/27/2016 00:00**
Carbon, Total Organic	K	C1/10	***1.2***	0.50		mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-4A
Sample Description: Grab
Matrix: Aqueous
Work Order/ID: 16F1594-13
Sampled: 06/21/2016 13:30
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 9020**					Analyst: **KCS**
Total Organic Halogens			Prep Method: **TOX/TX/EOX**					Prep Date/Time: **06/30/2016 00:00**
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	07/01/2016 8:25
			Method: **SW-846 6010C**					Analyst: **SE**
Total Metals by ICP			Prep Method: **SW846 3005A**					Prep Date/Time: **06/23/2016 10:45**
Iron	dil	A	***0.081***	0.050		mg/L	1	06/27/2016 17:21
Manganese	dil	A	***0.010***	0.0020		mg/L	1	06/27/2016 17:21
Sodium	dil	A	***28***	0.50		mg/L	1	06/27/2016 17:21
			Method: **SM 4500-Cl B-1997**					Analyst: **EB**
Chloride								Prep Date/Time: **06/27/2016 13:30**
Chloride	dij	A	***5.0***	1.0		mg/L	1	06/27/2016 13:30
			Method: **EPA 120.1 Rev 1982**					Analyst: **EB**
Specific Conductance								Prep Date/Time: **06/30/2016 13:05**
Specific Conductance	i	A	***1330***	2.00		umhos/cm	1	06/30/2016 13:05
			Method: **SM 4500 H+ B-2000**					Analyst: **JES**
pH								Prep Date/Time: **06/28/2016 13:10**
pH	dij	A	***7.23***	2.00	H	pH at 25°C	1	06/28/2016 13:10
			Method: **SW-846 9066**					Analyst: **AGRIEFF**
Total Phenolics			Prep Method: **Aq. Phenolics Distillation**					Prep Date/Time: **06/29/2016 11:03**
Phenolics, Total Recoverable	di	A	***ND***	0.010		mg/L	1	06/29/2016 13:17
			Method: **SW-846 9038**					Analyst: **BRENAN**
Sulfate, Turbidimetric								Prep Date/Time: **06/28/2016 09:16**
Sulfate	i	A	***340***	100		mg/L	10	06/28/2016 12:33
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **06/27/2016 00:00**
Carbon, Total Organic	K	C1/10	***1.3***	0.50		mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-4B
Sample Description: Grab
Matrix: Aqueous

Work Order/ID: 16F1594-14
Sampled: 06/21/2016 13:30
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens			Method: **EPA 9020** Prep Method: **TOX/TX/EOX**				Analyst: **KCS** Prep Date/Time: **06/30/2016 00:00**	
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	07/01/2016 8:25
Specific Conductance			Method: **EPA 120.1 Rev 1982**				Analyst: **EB** Prep Date/Time: **06/30/2016 13:05**	
Specific Conductance	i	A	***1340***	2.00		umhos/cm	1	06/30/2016 13:05
pH			Method: **SM 4500 H+ B-2000**				Analyst: **JES** Prep Date/Time: **06/28/2016 13:10**	
pH	dij	A	***7.15***	2.00	H	pH at 25°C	1	06/28/2016 13:10
Total Organic Carbon			Method: **SM 5310C** Prep Method: **WC_TOC**				Analyst: **KNY** Prep Date/Time: **06/27/2016 00:00**	
Carbon, Total Organic	K	C1/10	***1.2***	0.50		mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-4C
Sample Description: Grab
Matrix: Aqueous
Work Order/ID: 16F1594-15
Sampled: 06/21/2016 13:30
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 9020**					Analyst: **KCS**
Total Organic Halogens			Prep Method: **TOX/TX/EOX**					Prep Date/Time: **06/30/2016 00:00**
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	07/01/2016 8:25
			Method: **EPA 120.1 Rev 1982**					Analyst: **EB**
Specific Conductance								Prep Date/Time: **06/30/2016 13:05**
Specific Conductance	i	A	***1330***	2.00		umhos/cm	1	06/30/2016 13:05
			Method: **SM 4500 H+ B-2000**					Analyst: **JES**
pH								Prep Date/Time: **06/29/2016 14:25**
pH	dij	A	***7.17***	2.00	H	pH at 25°C	1	06/29/2016 14:25
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **06/27/2016 00:00**
Carbon, Total Organic	K	C1/10	***1.2***	0.50		mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-4D
Sample Description: Grab
Matrix: Aqueous

Work Order/ID: 16F1594-16
Sampled: 06/21/2016 13:30
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens			Method: **EPA 9020** Prep Method: **TOX/TX/EOX**					Analyst: **KCS** Prep Date/Time: **06/30/2016 00:00**
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	07/01/2016 8:25
Specific Conductance			Method: **EPA 120.1 Rev 1982**					Analyst: **EB** Prep Date/Time: **06/30/2016 13:05**
Specific Conductance	i	A	***1340***	2.00		umhos/cm	1	06/30/2016 13:05
pH			Method: **SM 4500 H+ B-2000**					Analyst: **JES** Prep Date/Time: **06/29/2016 14:25**
pH	dij	A	***7.13***	2.00	H	pH at 25°C	1	06/29/2016 14:25
Total Organic Carbon			Method: **SM 5310C** Prep Method: **WC_TOC**					Analyst: **KNY** Prep Date/Time: **06/27/2016 00:00**
Carbon, Total Organic	K	C1/10	***1.2***	0.50		mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-5A
Sample Description: Grab
Matrix: Aqueous
Work Order/ID: 16F1594-17
Sampled: 06/21/2016 15:00
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 9020**					Analyst: **KCS**
Total Organic Halogens			Prep Method: **TOX/TX/EOX**					Prep Date/Time: **06/30/2016 00:00**
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	07/01/2016 8:25
			Method: **SW-846 6010C**					Analyst: **SE**
Total Metals by ICP			Prep Method: **SW846 3005A**					Prep Date/Time: **06/23/2016 10:45**
Iron	dil	A	***ND***	0.050		mg/L	1	06/27/2016 17:26
Manganese	dil	A	***0.011***	0.0020		mg/L	1	06/27/2016 17:26
Sodium	dil	A	***23***	0.50		mg/L	1	06/27/2016 17:26
			Method: **SM 4500-Cl B-1997**					Analyst: **EB**
Chloride								Prep Date/Time: **06/27/2016 13:30**
Chloride	dij	A	***2.5***	1.0		mg/L	1	06/27/2016 13:30
			Method: **EPA 120.1 Rev 1982**					Analyst: **EB**
Specific Conductance								Prep Date/Time: **06/30/2016 13:05**
Specific Conductance	i	A	***1330***	2.00		umhos/cm	1	06/30/2016 13:05
			Method: **SM 4500 H+ B-2000**					Analyst: **JES**
pH								Prep Date/Time: **06/28/2016 13:10**
pH	dij	A	***7.42***	2.00	H	pH at 25°C	1	06/28/2016 13:10
			Method: **SW-846 9066**					Analyst: **AGRIEFF**
Total Phenolics			Prep Method: **Aq. Phenolics Distillation**					Prep Date/Time: **06/29/2016 11:03**
Phenolics, Total Recoverable	di	A	***ND***	0.010		mg/L	1	06/29/2016 13:17
			Method: **SW-846 9038**					Analyst: **BRENAN**
Sulfate, Turbidimetric								Prep Date/Time: **06/28/2016 09:16**
Sulfate	i	A	***370***	100		mg/L	10	06/28/2016 12:35
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **06/27/2016 00:00**
Carbon, Total Organic	K	C1/10	***1.1***	0.50		mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-5B
Sample Description: Grab
Matrix: Aqueous
Work Order/ID: 16F1594-18
Sampled: 06/21/2016 15:00
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 9020**					Analyst: **KCS**
Total Organic Halogens			Prep Method: **TOX/TX/EOX**					Prep Date/Time: **06/30/2016 00:00**
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	07/01/2016 8:25
			Method: **SW-846 6010C**					Analyst: **SE**
Total Metals by ICP			Prep Method: **SW846 3005A**					Prep Date/Time: **06/23/2016 10:45**
Iron	dil	A	***ND***	0.050		mg/L	1	06/27/2016 17:31
Manganese	dil	A	***0.0060***	0.0020		mg/L	1	06/27/2016 17:31
Sodium	dil	A	***22***	0.50		mg/L	1	06/27/2016 17:31
			Method: **SM 4500-Cl B-1997**					Analyst: **EB**
Chloride								Prep Date/Time: **06/27/2016 13:30**
Chloride	dij	A	***3.0***	1.0		mg/L	1	06/27/2016 13:30
			Method: **EPA 120.1 Rev 1982**					Analyst: **EB**
Specific Conductance								Prep Date/Time: **06/30/2016 13:05**
Specific Conductance	i	A	***1320***	2.00		umhos/cm	1	06/30/2016 13:05
			Method: **SM 4500 H+ B-2000**					Analyst: **JES**
pH								Prep Date/Time: **06/28/2016 13:10**
pH	dij	A	***7.48***	2.00	H	pH at 25°C	1	06/28/2016 13:10
			Method: **SW-846 9066**					Analyst: **AGRIEFF**
Total Phenolics			Prep Method: **Aq. Phenolics Distillation**					Prep Date/Time: **06/29/2016 11:03**
Phenolics, Total Recoverable	di	A	***ND***	0.010		mg/L	1	06/29/2016 13:18
			Method: **SW-846 9038**					Analyst: **BRENAN**
Sulfate, Turbidimetric								Prep Date/Time: **06/28/2016 09:16**
Sulfate	i	A	***350***	100		mg/L	10	06/28/2016 12:37
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **06/27/2016 00:00**
Carbon, Total Organic	K	C1/10	***1.1***	0.50		mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-5C
Sample Description: Grab
Matrix: Aqueous
Work Order/ID: 16F1594-19
Sampled: 06/21/2016 15:00
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 9020**					Analyst: **KCS**
Total Organic Halogens			Prep Method: **TOX/TX/EOX**					Prep Date/Time: **06/30/2016 00:00**
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	07/01/2016 8:25
			Method: **EPA 120.1 Rev 1982**					Analyst: **EB**
Specific Conductance								Prep Date/Time: **06/30/2016 13:05**
Specific Conductance	i	A	***1340***	2.00		umhos/cm	1	06/30/2016 13:05
			Method: **SM 4500 H+ B-2000**					Analyst: **JES**
pH								Prep Date/Time: **06/28/2016 13:10**
pH	dij	A	***7.45***	2.00	H	pH at 25°C	1	06/28/2016 13:10
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **06/27/2016 00:00**
Carbon, Total Organic	K	C1/10	***1.1***	0.50		mg/L	1	06/27/2016 0:00

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Analytical Results

Date: *Tuesday, July 5, 2016*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-5D
Sample Description: Grab
Matrix: Aqueous

Work Order/ID: 16F1594-20
Sampled: 06/21/2016 15:00
Received: 06/22/2016 17:26

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 9020**					Analyst: **KCS**
Total Organic Halogens			Prep Method: **TOX/TX/EOX**					Prep Date/Time: **06/30/2016 00:00**
Total Organic Halogens (TOX)	NI		***ND***	0.010		mg/L	1	07/01/2016 8:25
			Method: **EPA 120.1 Rev 1982**					Analyst: **EB**
Specific Conductance								Prep Date/Time: **06/30/2016 13:05**
Specific Conductance	i	A	***1350***	2.00		umhos/cm	1	06/30/2016 13:05
			Method: **SM 4500 H+ B-2000**					Analyst: **JES**
pH								Prep Date/Time: **06/28/2016 13:10**
pH	dij	A	***7.42***	2.00	H	pH at 25°C	1	06/28/2016 13:10
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **06/27/2016 00:00**
Carbon, Total Organic	K	C1/10	***1.1***	0.50		mg/L	1	06/27/2016 0:00

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FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

B = Detected in the associated method Blank at a concentration above the routine RL
b- = Detected in the associated method Blank at a concentration greater than 2.2 times the MDL
b* = Detected in the associated method Blank at a concentration greater than half the RL
CFU = Colony forming units
D = Dilution performed on sample
DF = Dilution Factor
g = Gram
E = Value above quantitation range
H = Analyte was prepared and/or analyzed outside of the analytical method holding time
I = Matrix Interference
J = Analyte concentration detected between RL and MDL (Metals / Organics)
LOD = Limit of Detection
LOQ = Limit of Quantitation
m3 = Meters cubed
MDL = Method Detection Limit
mg/Kg = Milligrams per Kilogram (ppm)
mg/L = Milligrams per Liter (ppm)
NA = Not Analyzed
ND = Not Detected at the Reporting Limit (or the Method Detection Limit, if used)
NR = Not Recovered
R = RPD outside accepted recovery limits
RL = Reporting Limit
S = Spike recovery outside recovery limits
Surr = Surrogate
U = Undetected
> = Greater than
< = Less than
% = Percent
* = Result exceeds project specific limits

ANALYTE TYPES: (AT)

A,B = Target Analyte
I = Internal Standard
M = Summation Analyte
S = Surrogate
T = Tentatively Identified Compound (TIC, concentration estimated)

QC SAMPLE IDENTIFICATIONS

BLK = Method Blank
DUP = Method Duplicate
BS = Method Blank Spike
MS = Matrix Spike
ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
CRL = Client Required Reporting Limit
PDS = Post Digestion Spike
QCS = Quality Control Standard
ICSA = Interference Check Standard "A"
ICSAB = Interference Check Standard "AB"
BSD = Method Blank Spike Duplicate
MSD = Matrix Spike Duplicate
ICV = Initial Calibration Verification
CCV = Continuing Calibration Verification
OPR = Ongoing Precision and Recovery Standard
SD = Serial Dilution

CERTIFICATIONS (Certs)

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.

[d] Illinois EPA drinking water, wastewater and solid waste analysis (#200064)
[i] Kansas Dept Health & Env. NELAP (#E-10397)
[I] Iowa Department of Natural Resources (#95)
[j] Kentucky Wastewater Laboratory Certification Program (#90147)
[K] Kentucky Drinking Water Accreditation (#00074)
[l] North Carolina DENR NPDES effluent, surface water (#597)
[N] Kansas Department of Health and Environment (#E-10287)

MICROBAC®

COOLER INSPECTION

Date: Tuesday, July 5, 2016

Client Name: Carlson Environmental, Inc.

Date/Time Received: 06/22/2016 17:26

Work Order Number: 16F1594

Received by: Ashlie Carter

Checklist completed by: 6/22/2016 6:02:00PM | Ashlie Carter

Reviewed by: 6/23/2016 | RJM

Carrier Name: Microbac

Cooler ID: Default Cooler

Container/Temp Blank Temperature: 4.3° C

After-Hour Arrival?	Yes	☐	No	☑		
Shipping container/cooler in good condition?	Yes	☑	No	☐	Not Present	☐
Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	Not Present	☑
Custody seals intact on sample containers?	Yes	☐	No	☐	Not Present	☑
COC present?	Yes	☑	No	☐		
COC included sufficient client identification?	Yes	☑	No	☐		
COC included sufficient sample collector information?	Yes	☑	No	☐		
COC included a sample description?	Yes	☑	No	☐		
COC agrees with sample labels?	Yes	☑	No	☐		
COC identified the appropriate matrix?	Yes	☑	No	☐		
COC included date of collection?	Yes	☑	No	☐		
COC included time of collection?	Yes	☑	No	☐		
COC identified the appropriate number of containers?	Yes	☑	No	☐		
Samples in proper container/bottle?	Yes	☑	No	☐		
Sample containers intact?	Yes	☑	No	☐		
Sufficient sample volume for indicated test?	Yes	☑	No	☐		
All samples received within holding time?	Yes	☑	No	☐		
If the samples are preserved, are the preservatives identified?	Yes	☑	No	☐		

If No, adjusted by? _____

COC included the requested analyses?	Yes	☑	No	☐		
COC signed when relinquished and received?	Yes	☑	No	☐		
Samples received on ice?	Yes	☑	No	☐		
Samples properly preserved?	Yes	☑	No	☐		
Voa vials for aqueous samples have zero headspace?	Yes	☐	No	☐	No VOA vials submitted	☑

Cooler Comments:

ANY "NO" EVALUATION (excluding After-Hour Receipt) REQUIRES CLIENT NOTIFICATION.

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Sample ID	Client Sample ID	Comments
16F1594-01	MWD-1A	
16F1594-02	MWD-1B	
16F1594-03	MWD-1C	
16F1594-04	MWD-1D	
16F1594-05	MWD-2A	
16F1594-06	MWD-2B	
16F1594-07	MWD-2C	
16F1594-08	MWD-2D	
16F1594-09	MWD-3A	
16F1594-10	MWD-3B	
16F1594-11	MWD-3C	
16F1594-12	MWD-3D	
16F1594-13	MWD-4A	
16F1594-14	MWD-4B	
16F1594-15	MWD-4C	
16F1594-16	MWD-4D	
16F1594-17	MWD-5A	
16F1594-18	MWD-5B	
16F1594-19	MWD-5C	
16F1594-20	MWD-5D	

Electronic Filing: Received, Clerk's Office 07/19/2024

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Samples Submitted to:

[X] 250 West 84th Drive, Merrillville, IN 46410, Tel: 219-769-8378, Fax: 219-769-1664

[ ] 5733 West 65th Street, Indianapolis, IN 46278, Tel: 317-872-1375, Fax: 317-872-1379

Chain of Custody Record

Number

Instructions on back

Client Name	Carlson Environmental	**Project**	CECO / Lemont, IL
Address		**Location**	
City, State, Zip		**PO #**	
Contact	Bruce Shabino	Compliance Monitoring? [ ] Yes [ ] No	
Telephone #		(1)Agency/Program	

Turnaround Time
[X] Routine (5 to 7 business days)
[ ] RUSH* (notify lab)
_____ (needed by)

Report Type
[X] Results Only [ ] Level II
[ ] Level III [ ] Level III CLP-like
[ ] Level IV [ ] Level IV CLP-like
[ ] EDD

Sampled by (PRINT) Bruce Shabino **Sampler Signature** [signature] **Sampler Phone #** _____

Send Report via [ ] Mail [ ] Telephone [ ] Fax (fax #) _____ [X] e-mail (address) _____

* **Matrix Types:** Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

** **Preservative Types:** (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	Requested Analyses → Preservative Types ** ↓	pH, Spec Cond	TOC	TOX	Cl, SO4	Phenolics	Metals (Fe,Mn,Na)			For Lab Use Only
																	16F1594
MWD-1A	GW	X			6/21/16	900	6	U,1,2	X	X	X	X	X	X			-01
MWD-1B							4	U,2	X	X	X						-02
MWD-1C							4	U,2	X	X	X						-03
MWD-1D							4	U,2	X	X	X						-04
MWD-2A						1030	6	U,1,2	X	X	X	X	X	X			-05
MWD-2B							4	U,2	X	X	X						-06
MWD-2C							4	U,2	X	X	X						-07
MWD-2D							4	U,2	X	X	X						-08
MWD-3A						1200	6	U,1,2	X	X	X	X	X	X			-09
MWD-3B							4	U,2	X	X	X						-10

Sample Identification [ ] Hazardous [ ] Non-Hazardous [ ] Radioactive

Sample Disposition [ ] Dispose as appropriate [ ] Return [ ] Archive

To be completed by Microbac	Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Temperature Upon Receipt (°C): 4.4 - 0.1 = 4.3	[signature]	6-22-16 1129	[signature]	6-22-16 1129
Samples Received on Ice? (Yes) No N/A	Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Custody Seals Intact? Yes No N/A	[signature]	6-22-16 1722	Ashlie V. Carter	6/22/16 1726

16F1584 Ron Misiunas
Carlson - Chicago, IL
Ceco - Lemont, IL
06/22/2016

Electronic Filing: Received, Clerk's Office 07/19/2024

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Samples Submitted to: [X] 250 West 84th Drive, Merrillville, IN 46410, Tel: 219-769-8378, Fax: 219-769-1664 | [ ] 5711 West 85th Street, Indianapolis, IN 46278, Tel: 317-872-1375, Fax: 317-872-1379

Chain of Custody Record

Number

Instructions on back

Client Name Carlson Environmental	**Project** CECO / Lemont, IL	**Turnaround Time**	**Report Type**
Address	**Location**	[X] Routine (5 to 7 business days)	[X] Results Only [ ] Level II
City, State, Zip	**PO #**	[ ] RUSH* (notify lab)	[ ] Level III [ ] Level III CLP-like
Contact Bruce Shabino	Compliance Monitoring? [ ] Yes [ ] No	_____ (needed by)	[ ] Level IV [ ] Level IV CLP-like
Telephone #	(1)Agency/Program		[ ] EDD

Sampled by (PRINT) Bruce Shabino **Sampler Signature** BAS **Sampler Phone #** _____

Send Report via [ ] Mail [ ] Telephone [ ] Fax (fax #) _____ [X] e-mail (address) _____

*** Matrix Types:** Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

**** Preservative Types:** (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	Requested Analyses → Preservative Types ** ↓	pH, Spec Cond	TOC	TOX	Cl, SO4	Phenolics	Metals (Fe,Mn,Na)			For Lab Use Only 16F1594
MWD-3C	GW	X			6/21/16	1200	4	U,2	X	X	X						-11
MWD-3D	↓	↓			↓	↓	4	U,2	X	X	X						-12
MWD-4A						1330	6	U,1,2	X	X	X	X	X	X			-13
MWD-4B						↓	4	U,2	X	X	X						-14
MWD-4C							4	U,2	X	X	X						-15
MWD-4D						↓	4	U,2	X	X	X						-16
MWD-5A						1500	6	U,1,2	X	X	X	X	X	X			-17
MWD-5B							6	U,2	X	X	X	X	X	X			-18
MWD-5C							4	U,2	X	X	X						-19
MWD-5D	↓	↓			↓	↓	4	U,2	X	X	X						-20

Possible Hazard Identification [ ] Hazardous [ ] Non-Hazardous [ ] Radioactive **Sample Disposition** [ ] Dispose as appropriate [ ] Return [ ] Archive

Comments

To be completed by Microbac

Temperature Upon Receipt (°C) 4.4 - 0.1 = 4.3	**Relinquished By (signature)** BAS	**Date/Time** 6-22-16 1129	**Received By (signature)**	**Date/Time** 6-22-16 1129
Samples Received on Ice? (Yes) No N/A	**Relinquished By (signature)**	**Date/Time**	**Received By (signature)**	**Date/Time**
Custody Seals Intact? Yes No N/A	**Relinquished By (signature)**	**Date/Time** 6-22-16 1726	**Received By (signature)** Charlie V Carter	**Date/Time** 6/22/16 1726

MICROBAC®

December 8, 2016

Carlson Environmental, Inc.
65 East Wacker Place, Suite 2210
Chicago, IL 60601-

Work Order No.: 16K1757

Re: 100.01 - Ceco / Lemont, IL

Dear Bruce Shabino:

Microbac Laboratories, Inc. - Chicagoland Division received 20 sample(s) on 11/29/2016 5:30:00PM for the analyses presented in the following report as Work Order 16K1757.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please contact your project manager. For any feedback, please contact Robert Crookston, Managing Director, at robert.crookston@microbac.com.

Sincerely,
Microbac Laboratories, Inc.

Ron Misiunas
Director of Laboratory Services

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WORK ORDER SAMPLE SUMMARY

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Project: 100.01 - Ceco / Lemont, IL
Lab Order: 16K1757

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
16K1757-01	MWD-1A		11/29/2016 14:30	11/29/2016 5:30:00PM
16K1757-02	MWD-1B		11/29/2016 14:30	11/29/2016 5:30:00PM
16K1757-03	MWD-1C		11/29/2016 14:30	11/29/2016 5:30:00PM
16K1757-04	MWD-1D		11/29/2016 14:30	11/29/2016 5:30:00PM
16K1757-05	MWD-2A		11/29/2016 09:15	11/29/2016 5:30:00PM
16K1757-06	MWD-2B		11/29/2016 09:15	11/29/2016 5:30:00PM
16K1757-07	MWD-2C		11/29/2016 09:15	11/29/2016 5:30:00PM
16K1757-08	MWD-2D		11/29/2016 09:15	11/29/2016 5:30:00PM
16K1757-09	MWD-3A		11/29/2016 10:30	11/29/2016 5:30:00PM
16K1757-10	MWD-3B		11/29/2016 10:30	11/29/2016 5:30:00PM
16K1757-11	MWD-3C		11/29/2016 10:30	11/29/2016 5:30:00PM
16K1757-12	MWD-3D		11/29/2016 10:30	11/29/2016 5:30:00PM
16K1757-13	MWD-4A		11/29/2016 11:45	11/29/2016 5:30:00PM
16K1757-14	MWD-4B		11/29/2016 11:45	11/29/2016 5:30:00PM
16K1757-15	MWD-4C		11/29/2016 11:45	11/29/2016 5:30:00PM
16K1757-16	MWD-4D		11/29/2016 11:45	11/29/2016 5:30:00PM
16K1757-17	MWD-5A		11/29/2016 13:00	11/29/2016 5:30:00PM
16K1757-18	MWD-5B		11/29/2016 13:00	11/29/2016 5:30:00PM
16K1757-19	MWD-5C		11/29/2016 13:00	11/29/2016 5:30:00PM
16K1757-20	MWD-5D		11/29/2016 13:00	11/29/2016 5:30:00PM

Samples Subcontracted To: Keystone Laboratories, Inc.

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
16K1757-01	MWD-1A		11/29/2016 14:30	11/29/2016 5:30:00PM
16K1757-02	MWD-1B		11/29/2016 14:30	11/29/2016 5:30:00PM
16K1757-03	MWD-1C		11/29/2016 14:30	11/29/2016 5:30:00PM
16K1757-04	MWD-1D		11/29/2016 14:30	11/29/2016 5:30:00PM
16K1757-05	MWD-2A		11/29/2016 09:15	11/29/2016 5:30:00PM
16K1757-06	MWD-2B		11/29/2016 09:15	11/29/2016 5:30:00PM
16K1757-07	MWD-2C		11/29/2016 09:15	11/29/2016 5:30:00PM
16K1757-08	MWD-2D		11/29/2016 09:15	11/29/2016 5:30:00PM
16K1757-09	MWD-3A		11/29/2016 10:30	11/29/2016 5:30:00PM
16K1757-10	MWD-3B		11/29/2016 10:30	11/29/2016 5:30:00PM
16K1757-11	MWD-3C		11/29/2016 10:30	11/29/2016 5:30:00PM
16K1757-12	MWD-3D		11/29/2016 10:30	11/29/2016 5:30:00PM
16K1757-13	MWD-4A		11/29/2016 11:45	11/29/2016 5:30:00PM
16K1757-14	MWD-4B		11/29/2016 11:45	11/29/2016 5:30:00PM
16K1757-15	MWD-4C		11/29/2016 11:45	11/29/2016 5:30:00PM
16K1757-16	MWD-4D		11/29/2016 11:45	11/29/2016 5:30:00PM
16K1757-17	MWD-5A		11/29/2016 13:00	11/29/2016 5:30:00PM
16K1757-18	MWD-5B		11/29/2016 13:00	11/29/2016 5:30:00PM

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WORK ORDER SAMPLE SUMMARY **Date:** *Thursday, December 8, 2016*

16K1757-19	MWD-5C		11/29/2016 13:00	11/29/2016 5:30:00PM
16K1757-20	MWD-5D		11/29/2016 13:00	11/29/2016 5:30:00PM

Samples Subcontracted To: Microbac - KTL

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
16K1757-01	MWD-1A		11/29/2016 14:30	11/29/2016 5:30:00PM
16K1757-02	MWD-1B		11/29/2016 14:30	11/29/2016 5:30:00PM
16K1757-03	MWD-1C		11/29/2016 14:30	11/29/2016 5:30:00PM
16K1757-04	MWD-1D		11/29/2016 14:30	11/29/2016 5:30:00PM
16K1757-05	MWD-2A		11/29/2016 09:15	11/29/2016 5:30:00PM
16K1757-06	MWD-2B		11/29/2016 09:15	11/29/2016 5:30:00PM
16K1757-07	MWD-2C		11/29/2016 09:15	11/29/2016 5:30:00PM
16K1757-08	MWD-2D		11/29/2016 09:15	11/29/2016 5:30:00PM
16K1757-09	MWD-3A		11/29/2016 10:30	11/29/2016 5:30:00PM
16K1757-10	MWD-3B		11/29/2016 10:30	11/29/2016 5:30:00PM
16K1757-11	MWD-3C		11/29/2016 10:30	11/29/2016 5:30:00PM
16K1757-12	MWD-3D		11/29/2016 10:30	11/29/2016 5:30:00PM
16K1757-13	MWD-4A		11/29/2016 11:45	11/29/2016 5:30:00PM
16K1757-14	MWD-4B		11/29/2016 11:45	11/29/2016 5:30:00PM
16K1757-15	MWD-4C		11/29/2016 11:45	11/29/2016 5:30:00PM
16K1757-16	MWD-4D		11/29/2016 11:45	11/29/2016 5:30:00PM
16K1757-17	MWD-5A		11/29/2016 13:00	11/29/2016 5:30:00PM
16K1757-18	MWD-5B		11/29/2016 13:00	11/29/2016 5:30:00PM
16K1757-19	MWD-5C		11/29/2016 13:00	11/29/2016 5:30:00PM
16K1757-20	MWD-5D		11/29/2016 13:00	11/29/2016 5:30:00PM

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CASE NARRATIVE

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Project: 100.01 - Ceco / Lemont, IL
Lab Order: 16K1757

The TOC analysis was performed at Microbac - Kentucky.

The TOX analysis was performed at Keystone Laboratories located in South Newton , IA. Their report is attached.

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Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-1A
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-01
Sampled: 11/29/2016 14:30
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1260***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.02***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 14:51**
Carbon, Total Organic	**K**	C1/10	***1.8***	0.50		mg/L	1	12/02/2016 14:51

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Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-1B
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-02
Sampled: 11/29/2016 14:30
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1280***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.01***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 16:22**
Carbon, Total Organic	**K**	C1/10	***1.7***	0.50		mg/L	1	12/02/2016 16:22

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Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-1C
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-03
Sampled: 11/29/2016 14:30
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1290***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.03***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 16:36**
Carbon, Total Organic	**K**	C1/10	***1.7***	0.50		mg/L	1	12/02/2016 16:36

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Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-1D
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-04
Sampled: 11/29/2016 14:30
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1300***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.00***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 17:14**
Carbon, Total Organic	**K**	C1/10	***1.7***	0.50		mg/L	1	12/02/2016 17:14

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Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-2A
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-05
Sampled: 11/29/2016 9:15
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1240***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.17***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 17:27**
Carbon, Total Organic	**K**	C1/10	***1.1***	0.50		mg/L	1	12/02/2016 17:27

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Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-2B
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-06
Sampled: 11/29/2016 9:15
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1250***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.19***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 17:40**
Carbon, Total Organic	**K**	C1/10	***1.1***	0.50		mg/L	1	12/02/2016 17:40

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Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-2C
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-07
Sampled: 11/29/2016 9:15
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1240***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.19***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 17:52**
Carbon, Total Organic	**K**	C1/10	***1.1***	0.50		mg/L	1	12/02/2016 17:52

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Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-2D
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-08
Sampled: 11/29/2016 9:15
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1240***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.17***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 18:05**
Carbon, Total Organic	**K**	C1/10	***1.1***	0.50		mg/L	1	12/02/2016 18:05

MICROBAC®

Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-3A
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-09
Sampled: 11/29/2016 10:30
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1310***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.07***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 18:17**
Carbon, Total Organic	**K**	C1/10	***1.4***	0.50		mg/L	1	12/02/2016 18:17

MICROBAC®

Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-3B
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-10
Sampled: 11/29/2016 10:30
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1340***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.05***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 18:30**
Carbon, Total Organic	**K**	C1/10	***14***	5.0		mg/L	10	12/02/2016 18:30

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Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-3C
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-11
Sampled: 11/29/2016 10:30
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1300***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.04***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 18:43**
Carbon, Total Organic	**K**	C1/10	***1.3***	0.50		mg/L	1	12/02/2016 18:43

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Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-3D
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-12
Sampled: 11/29/2016 10:30
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1320***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.07***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 18:56**
Carbon, Total Organic	**K**	C1/10	***1.3***	0.50		mg/L	1	12/02/2016 18:56

MICROBAC®

Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-4A
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-13
Sampled: 11/29/2016 11:45
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1320***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.01***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 19:08**
Carbon, Total Organic	**K**	C1/10	***1.3***	0.50		mg/L	1	12/02/2016 19:08

MICROBAC®

Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-4B
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-14
Sampled: 11/29/2016 11:45
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	i	A	***1300***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	dij	A	***7.02***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 19:44**
Carbon, Total Organic	K	C1/10	***1.3***	0.50		mg/L	1	12/02/2016 19:44

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Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-4C
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-15
Sampled: 11/29/2016 11:45
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1300***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.01***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 19:57**
Carbon, Total Organic	**K**	C1/10	***1.3***	0.50		mg/L	1	12/02/2016 19:57

MICROBAC®

Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-4D
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-16
Sampled: 11/29/2016 11:45
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	i	A	***1310***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	dij	A	***7.00***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 20:09**
Carbon, Total Organic	K	C1/10	***1.3***	0.50		mg/L	1	12/02/2016 20:09

MICROBAC®

Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-5A
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-17
Sampled: 11/29/2016 13:00
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1300***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.15***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 20:21**
Carbon, Total Organic	**K**	C1/10	***1.2***	0.50		mg/L	1	12/02/2016 20:21

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Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-5B
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-18
Sampled: 11/29/2016 13:00
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1280***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.15***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/02/2016 20:33**
Carbon, Total Organic	**K**	C1/10	***1.2***	0.50		mg/L	1	12/02/2016 20:33

MICROBAC®

Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-5C
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-19
Sampled: 11/29/2016 13:00
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1280***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.13***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/06/2016 11:19**
Carbon, Total Organic	**K**	C1/10	***1.2***	0.50		mg/L	1	12/06/2016 11:19

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Analytical Results

Date: *Thursday, December 8, 2016*

Client: Carlson Environmental, Inc.
Client Project: 100.01 - Ceco / Lemont, IL
Client Sample ID: MWD-5D
Sample Description:
Matrix: Aqueous

Work Order/ID: 16K1757-20
Sampled: 11/29/2016 13:00
Received: 11/29/2016 17:30

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **EPA 120.1 Rev 1982**					Analyst: **RJC**
Specific Conductance								Prep Date/Time: **12/01/2016 15:44**
Specific Conductance	**i**	A	***1290***	2.00		umhos/cm	1	12/01/2016 15:44
			Method: **SM 4500 H+ B-2000**					Analyst: **EB**
pH								Prep Date/Time: **12/01/2016 13:20**
pH	**dij**	A	***7.08***	2.00	H	pH at 25°C	1	12/01/2016 13:20
			Method: **SM 5310C**					Analyst: **KNY**
Total Organic Carbon			Prep Method: **WC_TOC**					Prep Date/Time: **12/06/2016 11:31**
Carbon, Total Organic	**K**	C1/10	***1.2***	0.50		mg/L	1	12/06/2016 11:31

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FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

B = Detected in the associated method Blank at a concentration above the routine RL
b- = Detected in the associated method Blank at a concentration greater than 2.2 times the MDL
b* = Detected in the associated method Blank at a concentration greater than half the RL
CFU = Colony forming units
D = Dilution performed on sample
DF = Dilution Factor
g = Gram
E = Value above quantitation range
H = Analyte was prepared and/or analyzed outside of the analytical method holding time
I = Matrix Interference
J = Analyte concentration detected between RL and MDL (Metals / Organics)
LOD = Limit of Detection
LOQ = Limit of Quantitation
m3 = Meters cubed
MDL = Method Detection Limit
mg/Kg = Milligrams per Kilogram (ppm)
mg/L = Milligrams per Liter (ppm)
NA = Not Analyzed
ND = Not Detected at the Reporting Limit (or the Method Detection Limit, if used)
NR = Not Recovered
R = RPD outside accepted recovery limits
RL = Reporting Limit
S = Spike recovery outside recovery limits
Surr = Surrogate
U = Undetected
> = Greater than
< = Less than
% = Percent
* = Result exceeds project specific limits

ANALYTE TYPES: (AT)

A,B = Target Analyte
I = Internal Standard
M = Summation Analyte
S = Surrogate
T = Tentatively Identified Compound (TIC, concentration estimated)

QC SAMPLE IDENTIFICATIONS

BLK = Method Blank
DUP = Method Duplicate
BS = Method Blank Spike
MS = Matrix Spike
ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
CRL = Client Required Reporting Limit
PDS = Post Digestion Spike
QCS = Quality Control Standard
ICSA = Interference Check Standard "A"
ICSAB = Interference Check Standard "AB"
BSD = Method Blank Spike Duplicate
MSD = Matrix Spike Duplicate
ICV = Initial Calibration Verification
CCV = Continuing Calibration Verification
OPR = Ongoing Precision and Recovery Standard
SD = Serial Dilution

CERTIFICATIONS (Certs)

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.

[d] Illinois EPA drinking water, wastewater and solid waste analysis (#200064)
[i] Kansas Dept Health & Env. NELAP (#E-10397)
[j] Kentucky Wastewater Laboratory Certification Program (#90147)
[K] Kentucky Drinking Water Accreditation (#00074)

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COOLER INSPECTION

Date: Thursday, December 8, 2016

Client Name: Carlson Environmental, Inc.

Date/Time Received: 11/29/2016 17:30

Work Order Number: 16K1757

Received by: Nicole Rainwater

Checklist completed by: 11/30/2016 8:50:00AM | Nicole Rainwater

Reviewed by: 11/30/2016 | RJM

Carrier Name: Microbac

Cooler ID: Default Cooler

Container/Temp Blank Temperature: 5.6° C

After-Hour Arrival?	Yes	☐	No	☑		
Shipping container/cooler in good condition?	Yes	☑	No	☐	Not Present	☐
Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	Not Present	☑
Custody seals intact on sample containers?	Yes	☐	No	☐	Not Present	☑
COC present?	Yes	☑	No	☐		
COC included sufficient client identification?	Yes	☑	No	☐		
COC included sufficient sample collector information?	Yes	☑	No	☐		
COC included a sample description?	Yes	☑	No	☐		
COC agrees with sample labels?	Yes	☑	No	☐		
COC identified the appropriate matrix?	Yes	☑	No	☐		
COC included date of collection?	Yes	☑	No	☐		
COC included time of collection?	Yes	☑	No	☐		
COC identified the appropriate number of containers?	Yes	☑	No	☐		
Samples in proper container/bottle?	Yes	☑	No	☐		
Sample containers intact?	Yes	☑	No	☐		
Sufficient sample volume for indicated test?	Yes	☑	No	☐		
All samples received within holding time?	Yes	☑	No	☐		
If the samples are preserved, are the preservatives identified?	Yes	☑	No	☐		

If No, adjusted by? _____

COC included the requested analyses?	Yes	☑	No	☐		
COC signed when relinquished and received?	Yes	☑	No	☐		
Samples received on ice?	Yes	☑	No	☐		
Samples properly preserved?	Yes	☑	No	☐		
Voa vials for aqueous samples have zero headspace?	Yes	☐	No	☐	No VOA vials submitted	☑

Cooler Comments:

ANY "NO" EVALUATION (excluding After-Hour Receipt) REQUIRES CLIENT NOTIFICATION.

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Sample ID	Client Sample ID	Comments
16K1757-01	MWD-1A	
16K1757-02	MWD-1B	
16K1757-03	MWD-1C	
16K1757-04	MWD-1D	
16K1757-05	MWD-2A	
16K1757-06	MWD-2B	
16K1757-07	MWD-2C	
16K1757-08	MWD-2D	
16K1757-09	MWD-3A	
16K1757-10	MWD-3B	
16K1757-11	MWD-3C	
16K1757-12	MWD-3D	
16K1757-13	MWD-4A	
16K1757-14	MWD-4B	
16K1757-15	MWD-4C	
16K1757-16	MWD-4D	
16K1757-17	MWD-5A	
16K1757-18	MWD-5B	
16K1757-19	MWD-5C	
16K1757-20	MWD-5D	

Electronic Filing: Received, Clerk's Office 07/19/2024

16K1757 Ron Misunas
Carlson - Chicago, IL
Ceco - Lemont, IL-100.01
11/29/2016

MICROBAC®

Samples: [ ] 850 West 84th Drive, Merrillville, IN 46410, Tel: 219-769-8378, Fax: 219-769-1664
[ ] 3925 West 86th Street, Indianapolis, IN 46278, Tel: 317-872-1375, Fax: 317-872-1379

Submitted to:

Chain of Custody Record

Number **138084**

Instructions on back

ne Carlson Environmental	Project 100.01	**Turnaround Time**	**Report Type**
	Location Ceco	[X] Routine (5 to 7 business days)	[ ] Results Only [ ] Level II
, Zip	PO #	[ ] RUSH* (notify lab)	[ ] Level III [ ] Level III CLP-like
	Compliance Monitoring? [ ] Yes [ ] No	(needed by)	[ ] Level IV [ ] Level IV CLP-like
: #	(1)Agency/Program		[ ] EDD

y (PRINT) Bruce Shabino Sampler Signature Sampler Phone #

ort via [ ] Mail [ ] Telephone [ ] Fax (fax #) [ ] e-mail (address) bshabino@carlsonenv.com

* **Matrix Types:** Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

** **Preservative Types:** (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	Requested Analyses → Preservative Types ** ↓	PH	Spec. Conduct.	TDC	TOX					For Lab Use Only 16K1757
MWD-1A	GW	X			11-29-16	1430	4		X	X	X	X					-01
MWD-1B	↓	↓			↓	↓	↓		↓	↓	↓	↓					-02
MWD-1C						↓											-03
MWD-1D						↓											-04
MWD-2A						915											-05
MWD-2B						↓											-06
MWD-2C																	-07
MWD-2D						↓											-08
MWD-3A						1030											-09
MWD-3B	↓	↓			↓	1030	↓		↓	↓	↓	↓					-10

Possible Hazard Identification [ ] Hazardous [ ] Non-Hazardous [ ] Radioactive **Sample Disposition** [ ] Dispose as appropriate [ ] Return [ ] Archive

Comments

To be completed by Microbac

Temperature Upon Receipt (°C): 5.6 - 0.0 = 5.6

Samples Received on Ice? (Yes) No N/A

Custody Seals Intact? Yes No (N/A)

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	11-29-16 1530		11-29-16 1530
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Relinquished By (signature)	Date/Time 1723	Received By (signature)	Date/Time
	11-29-16		11-29-16

rev.6/18/15

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Samples Submitted to:
[] 250 West 84th Drive, Merrillville, IN 46410, Tel: 219-769-8378, Fax: 219-769-1664
[] 5713 West 85th Street, Indianapolis, IN 46278, Tel: 317-872-1375, Fax: 317-872-1379

Chain of Custody Record

Number **138085**

Instructions on back

Client Name: Carbon Env.	Project: 100.01	**Turnaround Time**	**Report Type**
Address	Location: Coco	[X] Routine (5 to 7 business days)	[] Results Only [] Level II
City, State, Zip	PO #	[] RUSH* (notify lab)	[] Level III [] Level III CLP-like
Contact	Compliance Monitoring? [] Yes [] No	_____ (needed by)	[] Level IV [] Level IV CLP-like
Telephone #	(1)Agency/Program		[] EDD

Sampled by (PRINT): Bruce Shabino Sampler Signature: BAShabino Sampler Phone #: _____

Send Report via [] Mail [] Telephone [] Fax (fax #) _____ [] e-mail (address) _____

* **Matrix Types:** Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

** **Preservative Types:** (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	Requested Analyses → Preservative Types ** ↓	pH	Spec Cond	TOC	TOX					For Lab Use Only 16K1757
MWD-3C	GW	X			11-29-16	1030	4		X	X	X	X					-11
MWD-3D						1030											-12
MWD-4A						1145											-13
MWD-4B						↓											-14
MWD-4C																	-15
MWD-4D																	-16
MWD-5A						1300											-17
MWD-5B						↓											-18
MWD-5C																	-19
MWD-5D	↓	↓			↓	↓	↓		↓	↓	↓	↓					-20

Possible Hazard Identification [] Hazardous [] Non-Hazardous [] Radioactive **Sample Disposition** [] Dispose as appropriate [] Return [] Archive

Comments

To be completed by Microbac

Temperature Upon Receipt (°C): 5-6-0=5.6

Samples Received on Ice? (Yes) No N/A

Custody Seals Intact? Yes No (N/A)

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
BAShabino	11-28-16 1530	[signature]	11-28-16 1530
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
~~Relinquished By (signature)~~ [signature]	Date/Time 11-28-16 1720	Received By (signature) [signature]	Date/Time 11-29-16

rev.6/18/15

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Electronic Filing: Received, Clerk's Office 07/19/2024

Keystone LABORATORIES, INC.

MEMBER ACIL

December 07 2016

Project Manager
Microbac Laboratories, Inc
250 West 84th Drive
Merrillville, IN 46410

RE: Subcontract
16K1757

Enclosed are the results of analyses for samples received by the laboratory on 12/01/16 10:50. If you have any questions concerning this report, please feel free to contact me at 1-800-858-5227.

ANALYTICAL REPORT FOR SAMPLES

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
16K1757-01	1L60068-01	Water	11/29/16 14:30	12/01/16 10:50
16K1757-02	1L60068-02	Water	11/29/16 14:30	12/01/16 10:50
16K1757-03	1L60068-03	Water	11/29/16 14:30	12/01/16 10:50
16K1757-04	1L60068-04	Water	11/29/16 14:30	12/01/16 10:50
16K1757-05	1L60068-05	Water	11/29/16 09:15	12/01/16 10:50
16K1757-06	1L60068-06	Water	11/29/16 09:15	12/01/16 10:50
16K1757-07	1L60068-07	Water	11/29/16 09:15	12/01/16 10:50
16K1757-08	1L60068-08	Water	11/29/16 09:15	12/01/16 10:50
16K1757-09	1L60068-09	Water	11/29/16 10:30	12/01/16 10:50
16K1757-10	1L60068-10	Water	11/29/16 10:30	12/01/16 10:50
16K1757-11	1L60068-11	Water	11/29/16 10:30	12/01/16 10:50
16K1757-12	1L60068-12	Water	11/29/16 10:30	12/01/16 10:50
16K1757-13	1L60068-13	Water	11/29/16 11:45	12/01/16 10:50
16K1757-14	1L60068-14	Water	11/29/16 11:45	12/01/16 10:50
16K1757-15	1L60068-15	Water	11/29/16 11:45	12/01/16 10:50
16K1757-16	1L60068-16	Water	11/29/16 11:45	12/01/16 10:50

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

Phone 641-792-8451
600 East 17th Street South
Newton, IA 50208
Fax 641-792-7989

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Project Number: Project Manager:	Subcontract 16K1757 Project Manager	Reported 12/07/16 17:20

16K1757-17	1L60068-17	Water	11/29/16 13:00	12/01/16 10:50
16K1757-18	1L60068-18	Water	11/29/16 13:00	12/01/16 10:50
16K1757-19	1L60068-19	Water	11/29/16 13:00	12/01/16 10:50
16K1757-20	1L60068-20	Water	11/29/16 13:00	12/01/16 10:50

Client Supplied Containers

Keystone LABORATORIES, INC.

NELAP ACCREDITED TNI LABORATORY

MEMBER ACIL

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 16K1757 Project Manager: Project Manager	Reported 12/07/16 17:20

Microbac Laboratories, Inc. - Chicagoland

MICROBAC

IL600068

SUBCONTRACT ORDER 16K1757

SENDING LABORATORY:
Microbac Laboratories, Inc. - Chicagoland
250 West 84th Drive
Merrillville, IN 46410
Phone: 219.769.8378
Project Manager: Ron Misiunas

RECEIVING LABORATORY:
Keystone Laboratories, Inc.
600 East 17th Street South
Newton, IA 50208
Phone: (800) 858-5227

Proiect Info:

Project Type:
Project Location:

Report TAT: 5
Due: 12/07/2016 23:59

Sample ID: 16K1757-01 **Matrix: Aqueous** **Sampled: 11/29/2016 14:30**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 14:30

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 16K1757-02 **Matrix: Aqueous** **Sampled: 11/29/2016 14:30**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 14:30

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 16K1757-03 **Matrix: Aqueous** **Sampled: 11/29/2016 14:30**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 14:30

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 16K1757-04 **Matrix: Aqueous** **Sampled: 11/29/2016 14:30**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 14:30

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 16K1757-05 **Matrix: Aqueous** **Sampled: 11/29/2016 09:15**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 09:15

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 16K1757-06 **Matrix: Aqueous** **Sampled: 11/29/2016 09:15**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 09:15

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

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Microbac Laboratories, Inc. - Chicagoland

MICROBAC

IL60068

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16K1757

Sample ID: 16K1757-07 **Matrix: Aqueous** **Sampled: 11/29/2016 09:15**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 09:15

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 16K1757-08 **Matrix: Aqueous** **Sampled: 11/29/2016 09:15**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 09:15

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 16K1757-09 **Matrix: Aqueous** **Sampled: 11/29/2016 10:30**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 10:30

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 16K1757-10 **Matrix: Aqueous** **Sampled: 11/29/2016 10:30**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 10:30

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 16K1757-11 **Matrix: Aqueous** **Sampled: 11/29/2016 10:30**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 10:30

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 16K1757-12 **Matrix: Aqueous** **Sampled: 11/29/2016 10:30**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 10:30

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 16K1757-13 **Matrix: Aqueous** **Sampled: 11/29/2016 11:45**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 11:45

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

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Keystone LABORATORIES, INC.

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16K1757

Sample ID: 16K1757-14 **Matrix: Aqueous** **Sampled: 11/29/2016 11:45**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 11:45

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 16K1757-15 **Matrix: Aqueous** **Sampled: 11/29/2016 11:45**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 11:45

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 16K1757-16 **Matrix: Aqueous** **Sampled: 11/29/2016 11:45**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 11:45

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 16K1757-17 **Matrix: Aqueous** **Sampled: 11/29/2016 13:00**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 13:00

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 16K1757-18 **Matrix: Aqueous** **Sampled: 11/29/2016 13:00**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 13:00

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 16K1757-19 **Matrix: Aqueous** **Sampled: 11/29/2016 13:00**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 13:00

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 16K1757-20 **Matrix: Aqueous** **Sampled: 11/29/2016 13:00**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/07/2016 23:59	12/27/2016 13:00

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

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16K1757

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Nicole Rainwater 11/30/16/1700 Fed Ex
Released By Date Received By Date

Released By Date Received By Date
J Rennon 12/1/16 10:50

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16K1757-01

1L60068-01 (Water)

Date Sampled:11/29/2016 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.019**	0.010	mg/L	1	1ZL0118	12/02/16	12/05/16 10:26	EPA 9020	

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16K1757-02

1L60068-02 (Water)

Date Sampled:11/29/2016 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.016**	0.010	mg/L	1	1ZL0118	12/02/16	12/05/16 10:26	EPA 9020	

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16K1757-03

1L60068-03 (Water)

Date Sampled:11/29/2016 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.013**	0.010	mg/L	1	1ZL0174	12/05/16	12/06/16 13:54	EPA 9020	

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16K1757-04

1L60068-04 (Water)

Date Sampled:11/29/2016 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.016**	0.010	mg/L	1	1ZL0118	12/02/16	12/05/16 10:26	EPA 9020	

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16K1757-05

1L60068-05 (Water)

Date Sampled:11/29/2016 9:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1ZL0174	12/05/16	12/06/16 13:54	EPA 9020	

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16K1757-06

1L60068-06 (Water)

Date Sampled:11/29/2016 9:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.014**	0.010	mg/L	1	1ZL0118	12/02/16	12/05/16 10:26	EPA 9020	

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16K1757-07

1L60068-07 (Water)

Date Sampled:11/29/2016 9:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.024**	0.010	mg/L	1	1ZL0174	12/05/16	12/06/16 13:54	EPA 9020	

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16K1757-08

1L60068-08 (Water)

Date Sampled:11/29/2016 9:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1ZL0174	12/05/16	12/06/16 13:54	EPA 9020	

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16K1757-09

1L60068-09 (Water)

Date Sampled:11/29/2016 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1ZL0174	12/05/16	12/06/16 13:54	EPA 9020	

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16K1757-10

1L60068-10 (Water)

Date Sampled:11/29/2016 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1ZL0174	12/05/16	12/06/16 13:54	EPA 9020	

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16K1757-11

1L60068-11 (Water)

Date Sampled:11/29/2016 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1ZL0174	12/05/16	12/06/16 13:54	EPA 9020	

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16K1757-12

1L60068-12 (Water)

Date Sampled:11/29/2016 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1ZL0174	12/05/16	12/06/16 13:54	EPA 9020	

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16K1757-13

1L60068-13 (Water)

Date Sampled:11/29/2016 11:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1ZL0174	12/05/16	12/06/16 13:54	EPA 9020	

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16K1757-14

1L60068-14 (Water)

Date Sampled:11/29/2016 11:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1ZL0174	12/05/16	12/06/16 13:54	EPA 9020	

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16K1757-15

1L60068-15 (Water)

Date Sampled:11/29/2016 11:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1ZL0245	12/06/16	12/07/16 14:03	EPA 9020	

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16K1757-16

1L60068-16 (Water)

Date Sampled:11/29/2016 11:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.057**	0.010	mg/L	1	1ZL0245	12/06/16	12/07/16 14:03	EPA 9020	

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16K1757-17

1L60068-17 (Water)

Date Sampled:11/29/2016 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1ZL0245	12/06/16	12/07/16 14:03	EPA 9020	

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16K1757-18

1L60068-18 (Water)

Date Sampled:11/29/2016 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1ZL0245	12/06/16	12/07/16 14:03	EPA 9020	

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16K1757-19

1L60068-19 (Water)

Date Sampled:11/29/2016 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1ZL0245	12/06/16	12/07/16 14:03	EPA 9020	

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16K1757-20

1L60068-20 (Water)

Date Sampled:11/29/2016 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1ZL0245	12/06/16	12/07/16 14:03	EPA 9020	

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Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1ZL0118 - TOX/TX/EOX										
Blank (1ZL0118-BLK1)				Prepared: 12/02/16 Analyzed: 12/05/16						
Total Organic Halogens (TOX)	ND	0.010	mg/L							
LCS (1ZL0118-BS1)				Prepared: 12/02/16 Analyzed: 12/05/16						
Total Organic Halogens (TOX)	0.1064	0.010	mg/L	0.101916		104	77-126			
LCS Dup (1ZL0118-BSD1)				Prepared: 12/02/16 Analyzed: 12/05/16						
Total Organic Halogens (TOX)	0.1031	0.010	mg/L	0.101916		101	77-126	3.23	24	
Reference (1ZL0118-SRM1)				Prepared: 12/02/16 Analyzed: 12/05/16						
Total Organic Halogens (TOX)	0.0969	0.010	mg/L	0.100083		96.8	90-110			
Reference (1ZL0118-SRM2)				Prepared: 12/02/16 Analyzed: 12/05/16						
Total Organic Halogens (TOX)	0.0950	0.010	mg/L	0.100083		94.9	90-110			
Batch 1ZL0174 - TOX/TX/EOX										
Blank (1ZL0174-BLK1)				Prepared: 12/05/16 Analyzed: 12/06/16						
Total Organic Halogens (TOX)	ND	0.010	mg/L							
LCS (1ZL0174-BS1)				Prepared: 12/05/16 Analyzed: 12/06/16						
Total Organic Halogens (TOX)	0.0926	0.010	mg/L	0.101916		90.8	77-126			
LCS Dup (1ZL0174-BSD1)				Prepared: 12/05/16 Analyzed: 12/06/16						
Total Organic Halogens (TOX)	0.0958	0.010	mg/L	0.101916		94.0	77-126	3.47	24	
Reference (1ZL0174-SRM1)				Prepared: 12/05/16 Analyzed: 12/06/16						
Total Organic Halogens (TOX)	0.0928	0.010	mg/L	0.100083		92.7	90-110			

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MEMBER ACIL

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 16K1757 Project Manager: Project Manager	Reported 12/07/16 17:20

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1ZL0174 - TOX/TX/EOX										
Reference (1ZL0174-SRM2)				Prepared: 12/05/16 Analyzed: 12/06/16						
Total Organic Halogens (TOX)	0.0924	0.010	mg/L	0.100083		92.3	90-110			
Batch 1ZL0245 - TOX/TX/EOX										
Blank (1ZL0245-BLK1)				Prepared: 12/06/16 Analyzed: 12/07/16						
Total Organic Halogens (TOX)	ND	0.010	mg/L							
LCS (1ZL0245-BS1)				Prepared: 12/06/16 Analyzed: 12/07/16						
Total Organic Halogens (TOX)	0.0960	0.010	mg/L	0.101916		94.2	77-126			
LCS Dup (1ZL0245-BSD1)				Prepared: 12/06/16 Analyzed: 12/07/16						
Total Organic Halogens (TOX)	0.0970	0.010	mg/L	0.101916		95.2	77-126	1.04	24	
Reference (1ZL0245-SRM1)				Prepared: 12/06/16 Analyzed: 12/07/16						
Total Organic Halogens (TOX)	0.0965	0.010	mg/L	0.100083		96.4	90-110			
Reference (1ZL0245-SRM2)				Prepared: 12/06/16 Analyzed: 12/07/16						
Total Organic Halogens (TOX)	0.0965	0.010	mg/L	0.100083		96.4	90-110			

Certified Analyses Included in This Report

Method/Matrix	Analyte	Certifications
EPA 9020 in Water		
	Total Organic Halogens (TOX)	KS-NT,SIA1X

Code	Certifying Authority	Certificate Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2017
KS-NT	Kansas Department of Health and Environment (NELAP	E-10287	12/31/2016
MO-KC	Missouri Department of Natural Resources	140	04/30/2015
SIA1X	Iowa Department of Natural Resources	95	02/01/2017

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

Phone 641-792-8451
600 East 17th Street South
Newton, IA 50208
Fax 641-792-7989

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 16K1757 Project Manager: Project Manager	Reported 12/07/16 17:20

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 16K1757 Project Manager: Project Manager	Reported 12/07/16 17:20

Sue Thompson

Sue Thompson

Project Manager II

ATTACHMENT D

Certification Statement

Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

ILD990785453
USEPA ID Number

RCH Newco II LLC
Site Name

1978030005
IEPA Number

RCH Newco II LLC
Site Owner/Operator

Kevin J. Shudy
Signature of Owner/Operator Representative **Date**

Kevin J. Shudy / VP
Name and Title of Owner/Operator Representative

08/21/2019 4:56PM L016751 1978030005 24C 3,105,766 170000174683 04/25/2019 L RCH NEWCO II LLC
B:39553 F:50497 I:00000123 L16-03999
Electronic Filing: Received, Clerk's Office 07/19/2024

MEMORANDUM

Date 4/25/2019

To: BOL File Room

From: Pamela Ketchum

Re: LPC# 1978030005 - Will County
RCH Newco II LLC
Subpart F
24C

The 2018 Annual Groundwater Monitoring Report for the above referenced facility was dated 4/23/2019 and was received by the Agency on 4/25/2019. A copy is attached.

cc:

IEPA-DIVISION OF RECORDS MANAGEMENT
RELEASABLE

JUL 11 2019

REVIEWER: EMI

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CARLSON ENVIRONMENTAL

April 23, 2019 PN 100.01

Ms. Deanne Virgin
Illinois Environmental Protection Agency
Bureau of Land #24
1021 N. Grand Avenue East
Springfield, Illinois 62702-3998

RE: 2018 Hazardous Waste Report
1978030005 -- Will County
Lemont/Ceco Corporation
ILD #990785453

Dear Ms. Virgin:

On behalf of RCH Newco II LLC, please find enclosed the 2018 Hazardous Waste Report Form IC, for the RCRA Hazardous Waste Management Unit at the above-referenced site. In addition, a copy of the 2018 Annual Groundwater Monitoring Report is included. The original copy of this report has been submitted to the IEPA Division of Land Pollution Control Permits Section.

If you have any questions, please contact me at (312)346-2140.

Sincerely,

CARLSON ENVIRONMENTAL, INC.

Bruce A. Shabino, P.G.
Senior Project Manager

enclosure

cc: Mr. Kevin Shudy

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US EPA Number: ILD990785453

IEPA Number: 1978030005

Company Name: RCH NEWCO II LLC

Address : Stephen Street

All information on this page is required.

ILLINOIS Environmental Protection Agency
2018 Hazardous Waste Report
Form IC - Identification and Certification

For IEPA (Agency) Use Only:
_____ Fee Enclosed _____ No Fee Enclosed

Section 1. HAZARDOUS WASTE ACTIVITIES

4 **RCRA Generator Status** as of 3-1-2019

1 = LQG: Greater than 1,000 kg/mo (2200 lbs/mo) of non-acute hazardous waste (Forms GM and T1 must also be completed using the complete electronic package)
2 = SQG: 100 to 1,000 kg/mo of non-acute hazardous waste
3 = CESGG: Less than 100 kg/mo of non-acute hazardous waste
4 = Nongenerator

IF your site is no longer a LQG, but was a LQG during calendar year 2018, YOU MUST COMPLETE THE REPORT USING THE COMPLETE ELECTRONIC PACKAGE

Other Generator Activities: Enter Y (yes) or N (no)

N United States Importer of Hazardous Waste

N Mixed Waste (hazardous & radioactive) Generator

All other hazardous waste activities: Enter Y or N

N Transporter of Hazardous Waste

N Transfer Facility (at your site) 40 CFR263.12

N Treater, Storer, or Disposer of Hazardous Waste (at your site)
Note: A hazardous waste permit is required for this activity.

N Recycler of Hazardous Waste (at your site)
Note: A hazardous waste permit may be required for this activity.

Exempt Boiler and/or Industrial Furnace:

N Small Quantity On-Site Burner Exemption

N Smelting, Melting, Refining Furnace Exemption

N Underground Injection Control

Section 2. UNIVERSAL WASTE ACTIVITIES: Y OR N

N Large Quantity Handler (5,000 kg) of Universal Waste. Mark the following types only if Yes.

N Batteries

N Pesticides

N Mercury Containing Equipment

N Lamps

N Destination Facility for Universal Waste.
Note: A hazardous waste permit may be required for this activity.

Section 3. Used Oil ACTIVITIES: Enter Y OR N

N Used Oil Transporter

N Used Oil Transfer Facility

N Used Oil Processor

N Used Oil Re-refiner

N Off-Specification Used Oil Burner

N Marketer who Directs Shipment of Off-Spec Used oil to Off-spec Used Oil Burner

N Marketer who First Claims the Used Oil Meets the Specifications

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Section 4. ENTER THE 6 digit 2017 NAICS CODES(S) FOR THIS LOCATION

N/A

Section 5. TYPES:

Site Land Type (Enter code from list in instructions): 1

Owner Type (Enter code from list in instructions): 1

Date current owner Became Owner (mm/dd/yyyy): -/-/1990

Operator Type (Enter code from list in instructions): 1

Date current operator Became Operator (mm/dd/yyyy): -/-/1990

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Section 6. Comments: N Enter Y (Yes) if you have comments regarding this page and attach extra sheet.

COST ESTIMATES FOR TSD FACILITIES, interim status and permitted

A. Closure cost estimate: $.00

B. Estimate for post closure monitoring and maintenance costs (disposal facilities only): $83,000.00

Section 7. Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Certification: I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. Please print: Last Name Shudy First Name Kevin J. B. Title Vice President

C. Signature Kevin J. Shudy D. Date of Signature 04/18/2019

Name, Telephone number, and email of person to contact if there are questions about this report:

Bruce Shabino, P.G. - Carlson Environmental, Inc. Phone (312) 899-0646 Fax (312) 346-6956

This Agency is authorized to require this information under 415 ILCS 5/4 and 21. Disclosure of this information is required. Failure to disclose this information may result in a civil penalty of not to exceed $50,000 for the violation and an additional civil penalty of not to exceed $10,000 for each day during which the violation continues (415 ILCS 5/42 and 44).

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RCRA - 2018 ANNUAL GROUNDWATER MONITORING REPORT

RCH Newco II LLC
EPA ID No. ILD990785453

Prepared For
RCH Newco II LLC

Prepared By
Carlson Environmental, Inc.

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Project No. 100.01
April 23, 2019

Bruce A. Shabino, P.G.
Senior Project Manager

Edward E. Garske
President

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1.0 INTRODUCTION 1

2.0 BACKGROUND 1

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3.1 Monitoring Well Network 2
3.2 Groundwater Sampling 2
3.3 Groundwater Analyses 4
3.4 Groundwater Analytical Results 5

4.0 POST-CLOSURE COST ESTIMATE 6

5.0 CONCLUSIONS 6

ATTACHMENTS

ATTACHMENT A - Figures
ATTACHMENT B - Tables
ATTACHMENT C - Laboratory Analytical Reports
ATTACHMENT D - Certification Statement

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RCH Newco II LLC
ILD990785453

April 23, 2019

1.0 INTRODUCTION

This Annual Groundwater Monitoring Report summarizes the activities associated with the closed RCRA Hazardous Waste Management Unit (Closure Unit) at the former Robertson-Ceco Corporation Property (currently owned by RCH Newco II LLC) in accordance with 35 IAC 725.175, for the period of 2018. The report details the laboratory analytical results and the statistical analysis for the data collected in the twenty-fifth year of post-closure groundwater monitoring for the Closure Unit. This report was completed on behalf of our client, RCH Newco II LLC.

2.0 BACKGROUND

The RCH Newco II LLC property is located on New Avenue in Lemont, Will County, Illinois (Figure 1, Attachment A) and is approximately two-acres in size (Figure 2, Attachment A). The Closure Unit contains approximately 2,500 cubic yards of emission control dust (EAF dust) from off-site electric arc furnaces ("listed" hazardous waste K061 by the United States Environmental Protection Agency under RCRA) and approximately 29,500 cubic yards of miscellaneous non-hazardous steel plant by-products, primarily slag, which was co-excavated with the EAF dust. These materials, altogether comprising a volume of 32,000 cubic yards, were placed in a RCRA Interim-Status Closure Unit (landfill) constructed in accordance with an IEPA-approved Closure Plan. The hazardous waste management unit is completely enclosed within a 10 foot high locking chain-link fence that was in good condition at the time of the recently completed sampling events.

Construction of the Closure Unit was completed in accordance with the IEPA-approved design in 1988. Since the completion of the construction of the Closure Unit, no hazardous waste management activity has occurred at the site other than the groundwater monitoring and inspection activities associated with the Closure Unit.

In April 1993, Halliburton NUS Corporation (NUS) installed five RCRA post-closure groundwater monitoring wells at the Closure Unit. Two wells were installed hydraulically

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up-gradient and three wells were located hydraulically down-gradient. The post-closure groundwater monitoring wells were installed in the uppermost aquifer, which is partly within the upper portion of the bedrock unit.

3.0 GROUNDWATER MONITORING

3.1 Monitoring Well Network

The groundwater monitoring well system, surrounding the Closure Unit, was designed to comply with applicable state regulations. The well network consists of five wells (Figure 3, Attachment A). Monitoring wells MWD-1 and MWD-5 are located hydraulically upgradient from the Closure Unit for the purpose of monitoring the "background" groundwater concentrations. Monitoring wells MWD-2, MWD-3, and MWD-4 are located hydraulically downgradient from the Closure Unit. The downgradient wells were installed at the limit of the waste management area to ensure the immediate detection of any hazardous constituent. The placement of the wells was designed based on the northeastern potentiometric groundwater flow in the uppermost aquifer as reported by NUS in previous reports.

3.2 Groundwater Sampling

A quarterly groundwater sampling program was started by NUS in April 1993 for the Closure Unit well network. Carlson began sampling the groundwater beginning with Round 9. The completion of Sample Round 12 marked the end of the quarterly groundwater monitoring and the start of a semi-annual sampling event pursuant to IEPA's February 7, 1996 correspondence reducing sampling frequency. The objective of the groundwater sampling is to collect data that would help determine whether the Closure Unit is impacting the groundwater.

On June 13 (Round 55), and December 3 (Round 56), 2018, Carlson visually inspected and measured the standing water levels in the five groundwater monitoring wells previously installed at the site for the Closure Unit. Inspection of the monitoring wells indicated that the stickup well-head protective covers were in good condition and were locked securely in place.

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During Rounds 55 and 56, groundwater samples were collected from each of the five wells (MWD-1 through MWD-5), using a United States Environmental Protection Agency (USEPA) accepted low flow groundwater sampling method. The low flow sampling method was designed to obtain a representative sample from the well without requiring filtering of the sample. The objective is to collect a groundwater sample by eliminating turbidity that is common to bailing methods.

The well sampling procedures were as follows:

1.) The static water level was measured and recorded to 0.01 feet with an electric water level indicator (Solinist model 101). The probe was carefully lowered into the well to minimize disturbance of the water column. Water level measurements are shown in Table 1, Attachment B.

2.) If necessary, the required length of teflon tubing was calculated, measured and marked for attachment to a peristaltic pump, so that the intake was located at the mid-point of the saturated screen interval. A minimal length of tubing was used to minimize the temperature change from the collection point to the discharge point.

3.) If not already present, the tubing was inserted slowly to the measured depth and secured to the well casing to minimize disturbance to the water column. The tubing was dedicated to each well, secured to the cap, and left inside the protective casing to minimize disturbance to the water column during subsequent sampling events.

4.) The monitoring instruments were calibrated and assembled. The tubing was connected to the pump and a flow-through chamber in which the instrument probes were located.

5.) The water level was measured and recorded on a data sheet and compared to the previous static water level.

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6.) The pump was started at the minimum continuous flow rate attainable by the pump, between 0.02 to 0.05 liters per minute. A full round of measurements was recorded every five minutes including time, temperature, specific conductance, pH, turbidity and dissolved oxygen. All data and changes were recorded on the data sheets.

7.) After field parameters stabilized, groundwater samples were collected. Stabilization was defined by readings within a range of ten percent for three consecutive five minute intervals.

8.) After stabilization was achieved, the flow-through chamber was disconnected and the sample was collected directly from the tubing.

9.) The samples were maintained at a temperature of approximately 4°C in an insulated container. Upon completion of the site sampling, the samples were shipped to Microbac Laboratories, Inc. (Microbac) for laboratory analysis. The samples were maintained under standard chain-of-custody procedures/documents.

3.3 Groundwater Analyses

In 2009, the sampling plan for the site was modified pursuant to IEPA's approval letter dated June 2, 2009. The sampling plan frequency and parameters to be analyzed are now as follows:

Samples Collected During the Quarter of the Calendar Year	Parameters to be Sampled
Second Quarter	Groundwater Quality Parameters Groundwater Contamination Parameters
Fourth Quarter	Groundwater Contamination Parameters

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For Sample Rounds 55 & 56, four separate groundwater samples were collected from each of the five wells and analyzed for the indicators of groundwater contamination as listed below.

Groundwater collected during Sample Round 55 was also analyzed for the indicators of groundwater quality as listed below. A duplicate sample was collected from monitoring well MWD-2 during Round 55 and analyzed for all the parameters listed below. Laboratory analytical methods are indicated on Table 2, Attachment B.

Groundwater samples were analyzed at Microbac in accordance with IEPA and USEPA (SW-846 - Third Edition) methods. The groundwater samples were analyzed for the parameters establishing groundwater contamination (pH, specific conductance, non-purgeable organic carbon (TOC), total organic halogens (TOX)), and groundwater quality (chloride, iron, manganese, phenols, sodium and sulfate), as specified in applicable state regulations, the IEPA approved closure plan and IEPA correspondence.

3.4 Groundwater Analytical Results

Groundwater concentrations from the five monitoring wells were compared to the standards for the above referenced parameters as referenced in 35 IAC 725, Appendix C, *USEPA Interim Primary Drinking Water Standards* as shown in Tables 4 and 5 of Attachment B, for Rounds 55 and 56, respectively. The laboratory analytical reports for Round 55 and 56 are included in Attachment C.

The "background" concentrations from the upgradient wells, calculated during the first year of sampling activities, were compared to groundwater concentrations collected from the downgradient and upgradient wells to determine whether a statistically significant increase (or decrease in the case of pH) in the parameter concentration was present.

Table 3 in Attachment B summarizes the "background" groundwater concentrations from the first year of groundwater monitoring. Carlson compared the sample means and variances of the indicator parameters for the upgradient and downgradient wells to the "background" concentrations using the Student's T-Test at the 0.01 level of significance in accordance with 35 IAC 725.193(b). The statistical evaluation of the upgradient and

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downgradient wells for Round 55 of RCRA post-closure groundwater sampling is contained in Tables 6 and 7, respectively. Tables 8 and 9, respectively, contain the statistical evaluation of the upgradient and downgradient wells for Round 56.

4.0 POST-CLOSURE COST ESTIMATE

The Closure Unit was closed in 1988 and groundwater monitoring began in 1993. The original cost to conduct 30 years of post-closure groundwater monitoring at the Closure Unit was estimated at $376,973. This cost was based on 120 quarterly sampling events at the present value of money. To date, 56 separate sampling events have been conducted, and the Illinois Environmental Protection Agency has changed the frequency of the required sampling to semi-annually. With the new sampling plan, approved by the IEPA in a letter dated June 2, 2009, the project cost for the remaining 5 years through 2023 is estimated at $83,000. This estimate is based on the current average yearly cost multiplied by the 5 remaining years of sampling events, not the present value of money.

5.0 CONCLUSIONS

Based on the analytical data for both sampling events in 2018, groundwater at the Closure Unit did not exceed the drinking water standards as referenced in 35 IAC 725, Appendix C, *USEPA Interim Primary Drinking Water Standards,* for the parameters identified in Section 3.3. For each indicator parameter, the arithmetic mean and variance were calculated for each well based on the groundwater analytical data collected during each sampling event in 2018. The arithmetic mean and variance were compared to the initial "background" arithmetic mean concentrations, as determined in the first year of post-closure groundwater monitoring, using the Student's T-Test at the 0.01 level of significance.

The analysis revealed that groundwater in upgradient monitoring wells MWD-1 and MWD-5, as well as downgradient monitoring wells MWD-2 and MWD-4, contained a statistically significant increase in TOX (initial background arithmetic mean concentration

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of 0.017 mg/L) during Sample Round 55. A statistically significant decrease in pH (initial background arithmetic mean of 7.36) in upgradient monitoring wells MWD-1 and downgradient wells MWD-2 and MWD-4 were also found during Sample Round 55.

In Sample Round 56, there was a statistically significant decrease in pH for all five of the monitoring wells. Total organic carbon (initial background arithmetic mean concentration of 2.77 mg/L) was found to have a statistically significant increase in upgradient monitoring wells MWD-1 and MWD-5, as well as in downgradient monitoring wells MWD-2 and MWD-4. Upgradient monitoring well MWD-1 had a statistically significant increase in TOX.

Based on the statistically significant changes in groundwater for pH, TOX and TOC in both downgradient and upgradient monitoring wells, Carlson believes that the changes are naturally occurring or coming from some offsite source. If any single groundwater contamination parameter in subsequent groundwater monitoring events is elevated (or reduced in the case of pH) at a statistically significant level beyond "background" values in more than one downgradient well, without being elevated (or reduced in the case of pH) in an upgradient well, then an additional investigation will be initiated. Such an investigation to determine the extent and rate of migration of the regulated substance of concern would be conducted in accordance with applicable state regulations. No additional action is planned at this time.

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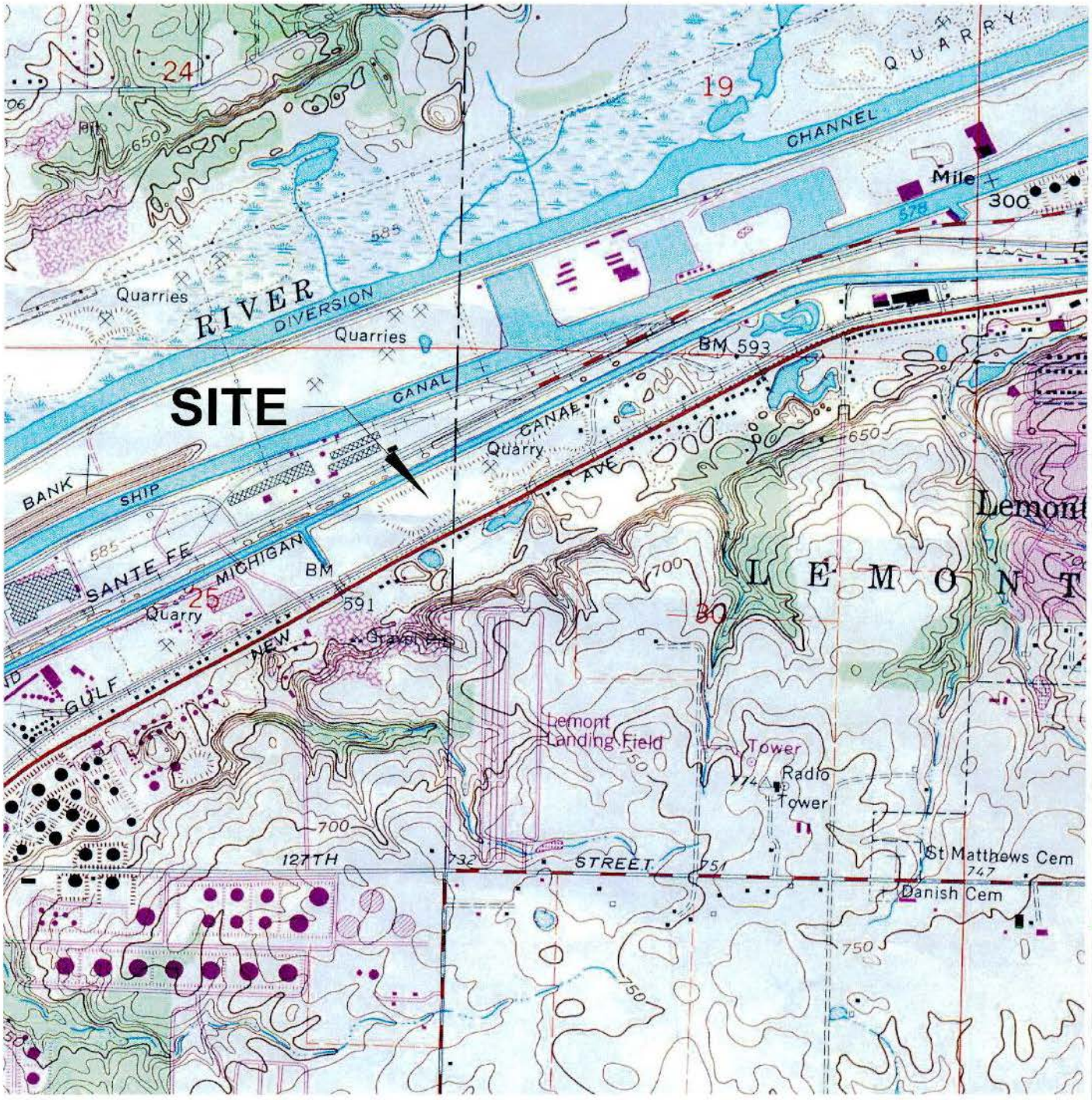
ATTACHMENT A

Figures



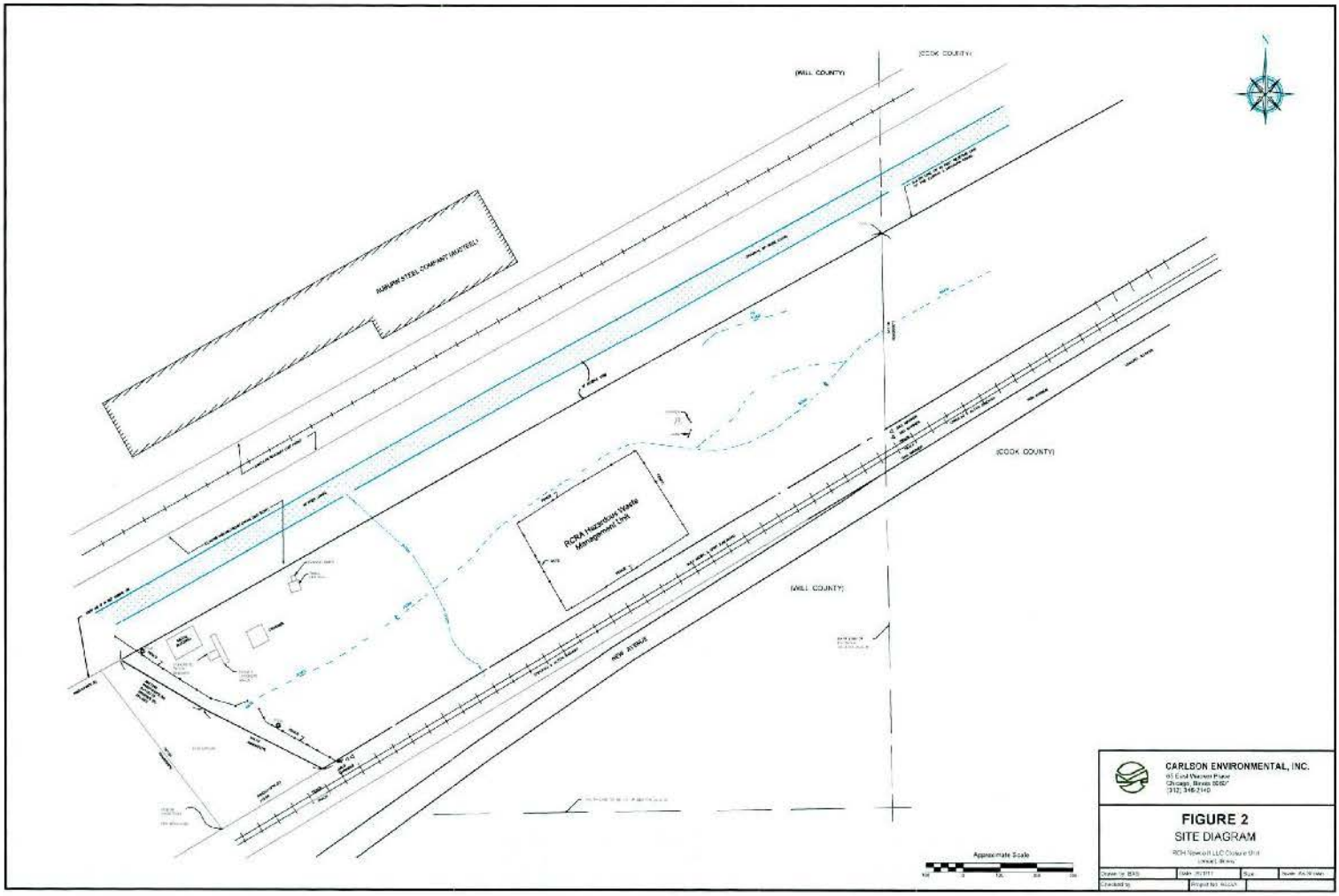
From USGS 7.5 Minute Series Topographical Quadrangel "Romeoville, Illinois" (1962-Photorevised 1973 & 1980)

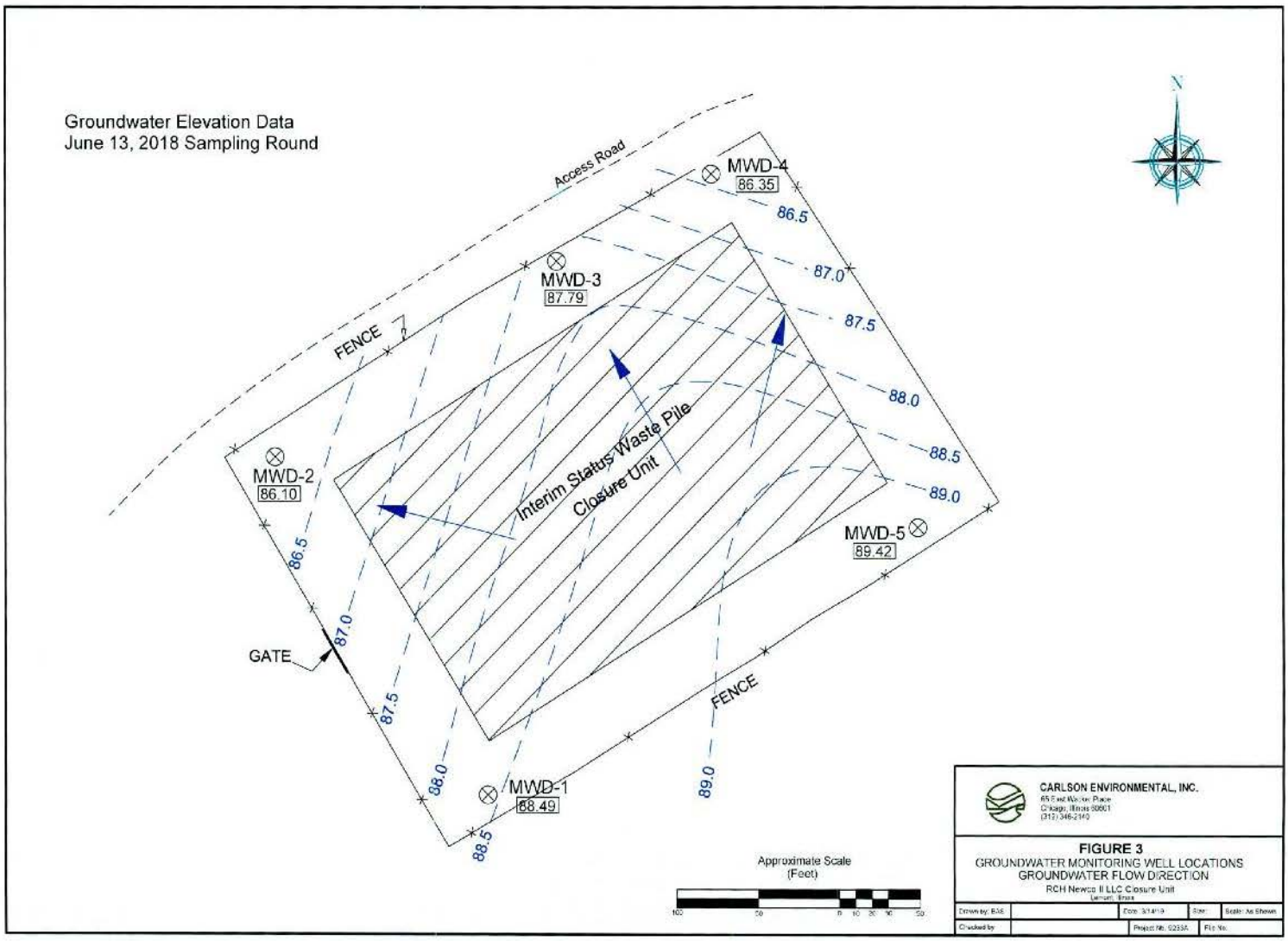
CARLSON ENVIRONMENTAL, INC.
65 East Wacker Place
Chicago, Illinois 60601
(312) 346-2140

PROJECT NO.	9233A	
DRAWN BY		DATE
CHECKED BY		DATE
REVISION 1		DATE
REVISION 2		DATE

FIGURE 1
SITE MAP
RCH Newco II LLC Closure Unit
Lemont, Illinois

Drawing No.
1


(WILL COUNTY)
(COOK COUNTY)
AUBURN STEEL COMPANY (MUSTEEL)
RCRA Hazardous Waste Management Unit
(COOK COUNTY)
(WILL COUNTY)
NEW AVENUE
Approximate Scale
CARLSON ENVIRONMENTAL, INC.
FIGURE 2
SITE DIAGRAM


Groundwater Elevation Data
June 13, 2018 Sampling Round
Access Road
MWD-4
86.35
MWD-3
87.79
MWD-2
86.10
MWD-5
89.42
MWD-1
88.49
FENCE
GATE
Interim Status Waste Pile
Closure Unit
86.5
87.0
87.5
88.0
88.5
89.0
N
Approximate Scale
(Feet)
CARLSON ENVIRONMENTAL, INC.
FIGURE 3
GROUNDWATER MONITORING WELL LOCATIONS
GROUNDWATER FLOW DIRECTION
RCH Newco II LLC Closure Unit

ATTACHMENT B

Tables

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TABLE 1: Water Level Measurements
RCH Newco II LLC
Lemont, Illinois
2018 Annual Report

DESCRIPTION	MW-D1	MW-D2	MW-D3	MW-D4	MW-D5
Diameter of Casing	2 in.	2 in.	2 in.	2 in.	2 in.
Total Length of Casing	31.72 ft.	28.60 ft.	27.91 ft.	26.94 ft.	27.99 ft.
Static Water Level - June 13, 2018	-11.51	-14.41	-12.86	-14.83	-12.80
Static Water Level - December 3, 2018	-11.14	-14.25	-12.80	-14.82	-12.41
Surveyed Elevation from Top of Casing	100.00	100.51	100.65	101.18	102.22
Relative Elevation - June 13, 2018	88.49	86.10	87.79	86.35	89.42
Relative Elevation - December 3, 2018	88.86	86.26	87.85	86.36	89.81
Distance from Top of Casing to Ground Surface [1]	1.65 ft.	2.42 ft.	1.70 ft.	2.00 ft.	2.25 ft.
Distance Between Top of Casing and Top of Riser [1]	0.10 ft.	0.27 ft.	0.20 ft.	0.30 ft.	0.40 ft.

[1] Measure by Halliburton NUS on August 3, 1993

TABLE 2: Summary of Analytical Methods
RCH Newco II LLC
Lemont, Illinois

PARAMETER	EPA METHOD	DETECTION LIMIT
Arsenic	SW7060A	0.01 mg/L
Barium	SW6010A	0.01 mg/L
Cadmium	SW6010A	0.001 mg/L
Chromium, total	SW6010A	0.01 mg/L
Chromium, hexavalent	SW7196A	0.005 mg/L
Iron	SW6010A	0.05 mg/L
Lead	SW7421	0.005 mg/L
Manganese	SW6010A	0.01 mg/L
Mercury	SW7470A	0.0002 mg/L
Selenium	3015/7740	0.005 mg/L
Silver	SW6010A	0.01 mg/L
Sodium	SW6010A	2.0 mg/L
Phenols	SW9066	0.01 mg/L
Sulfate	E375.4	10.0 mg/L
Chloride	M 4500-CL B	1.0 mg/L
Total Organic Halogens	SW9020	0.01 mg/L
Non-Purgeable Organic Carbon	E415.2	1.0 mg/L
pH	E150.1	0.02 pH units
Specific Conductance	E120.1	10 umhos/cm

mg/L = milligrams per liter

Table 3

Established Background Concentrations

RCH Newco II LLC ILD990785453

Lemont, Illinois

Parameter	Background Concentration[1] (Arithmetic Mean)
Total Organic Carbon (TOC)	2.766
Total Organic Halogens (TOX)	0.017
pH	7.363
Specific Conductance	1334.375
Arsenic	0.100
Barium	0.039
Cadmium	0.005
Chromium	0.019
Hexavalent Chromium	0.013
Lead	0.050
Mercury	0.0002
Selenium	0.100
Silver	0.010
Chloride	33.952
Iron	0.913
Manganese	0.196
Phenolics	0.009
Sodium	50.333
Sulfate	309.048

[1] Concentrations are in milligrams per liter (mg/L), except for Specific Conductance (umhos/cm) and pH (pH units)

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TABLE 4: Round 55 Analytical Results

RCH Newco II LLC

Lemont, Illinois

June 13, 2018

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D1A	MW-D1B	MW-D1C	MW-D1D
			Location	upgradient	upgradient	upgradient	upgradient
			Date	6/13/2018	6/13/2018	6/13/2018	6/13/2018
Iron	mg/L	---		.22	NA	NA	NA
Manganese	mg/L	---		.034	NA	NA	NA
Sodium	mg/L	---		31	NA	NA	NA
Phenol	mg/L	---		ND	NA	NA	NA
Sulfate	mg/L	---		240	NA	NA	NA
Chloride	mg/L	---		60	NA	NA	NA
Total Organic Halogens	mg/L	---		0.037	0.05	0.046	0.06
Non-Purgeable Organic Carbon	mg/L	---		2.31	2.20	2.36	7.58
pH	---	6.5 - 9		7.31	7.32	7.33	7.29
Specific Conductance	umho/cm	---		1300	1310	1310	1300

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Electronic Filing: Received, Clerk's Office 07/19/2024

TABLE 4: Round 55 Analytical Results
RCH Newco II LLC
Lemont, Illinois
June 13, 2018

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D2A	MW-D2B	MW-D2C	MW-D2D
			Location	downgradient	downgradient	downgradient	downgradient
			Date	6/13/2018	6/13/2018	6/13/2018	6/13/2018
Iron	mg/L	---		3.3	3.4	NA	NA
Manganese	mg/L	---		0.17	0.18	NA	NA
Sodium	mg/L	---		24	24	NA	NA
Phenol	mg/L	---		ND	ND	NA	NA
Sulfate	mg/L	---		260	270	NA	NA
Chloride	mg/L	---		32	30	NA	NA
Total Organic Halogens	mg/L	---		0.041	0.038	0.033	0.043
Non-Purgeable Organic Carbon	mg/L	---		8.88	36.6	2.36	60.1
pH	---	6.5 - 9		7.22	7.22	7.24	7.19
Specific Conductance	umho/cm	---		1220	1200	1200	1210

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

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TABLE 4: Round 55 Analytical Results
RCH Newco II LLC
Lemont, Illinois
June 13, 2018

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D3A*	*MW-D3B*	*MW-D3C*	*MW-D3D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	6/13/2018	6/13/2018	6/13/2018	6/13/2018
Iron	mg/L	---		ND	NA	NA	NA
Manganese	mg/L	---		ND	NA	NA	NA
Sodium	mg/L	---		33	NA	NA	NA
Phenol	mg/L	---		ND	NA	NA	NA
Sulfate	mg/L	---		340	NA	NA	NA
Chloride	mg/L	---		35	NA	NA	NA
Total Organic Halogens	mg/L	---		0.046	0.034	0.094	0.136
Non-Purgeable Organic Carbon	mg/L	---		19.0	2.51	47.7	5.81
pH	---	6.5 - 9		7.38	7.34	7.35	7.41
Specific Conductance	umho/cm	---		1350	1340	1330	1340

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

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TABLE 4: Round 55 Analytical Results
RCH Newco II LLC
Lemont, Illinois
June 13, 2018

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D4A	MW-D4B	MW-D4C	MW-D4D
			Location	downgradient	downgradient	downgradient	downgradient
			Date	6/13/2018	6/13/2018	6/13/2018	6/13/2018
Iron	mg/L	---		.063	NA	NA	NA
Manganese	mg/L	---		.0074	NA	NA	NA
Sodium	mg/L	---		27	NA	NA	NA
Phenol	mg/L	---		ND	NA	NA	NA
Sulfate	mg/L	---		380	NA	NA	NA
Chloride	mg/L	---		6.5	NA	NA	NA
Total Organic Halogens	mg/L	---		0.055	0.041	0.044	0.045
Non-Purgeable Organic Carbon	mg/L	---		7.01	15.9	7.44	8.64
pH	---	6.5 - 9		7.25	7.24	7.25	7.25
Specific Conductance	umho/cm	---		1310	1310	1320	1320

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Electronic Filing: Received, Clerk's Office 07/19/2024

TABLE 4: Round 55 Analytical Results
RCH Newco II LLC
Lemont, Illinois
June 13, 2018

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D5A	MW-D5B	MW-D5C	MW-D5D
			Location	upgradient	upgradient	upgradient	upgradient
			Date	6/13/2018	6/13/2018	6/13/2018	6/13/2018
Iron	mg/L	---		ND	NA	NA	NA
Manganese	mg/L	---		ND	NA	NA	NA
Sodium	mg/L	---		22	NA	NA	NA
Phenol	mg/L	---		ND	NA	NA	NA
Sulfate	mg/L	---		400	NA	NA	NA
Chloride	mg/L	---		5.0	NA	NA	NA
Total Organic Halogens	mg/L	---		0.041	0.034	0.031	0.036
Non-Purgeable Organic Carbon	mg/L	---		7.82	7.15	12.3	5.72
pH	---	6.5 - 9		7.34	7.40	7.35	7.34
Specific Conductance	umho/cm	---		1340	1340	1340	1330

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

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TABLE 5: Round 56 Analytical Results
RCH Newco II LLC
Lemont, Illinois
December 3, 2018

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D1A	MW-D1B	MW-D1C	MW-D1D
			Location	upgradient	upgradient	upgradient	upgradient
			Date	12/3/2018	12/3/2018	12/3/2018	12/3/2018
Total Organic Halogens	mg/L	---		0.026	0.028	0.033	0.031
Non-Purgeable Organic Carbon	mg/L	—		3.30	3.19	5.97	4.94
pH	—	6.5 - 9		7.18	7.21	7.05	7.07
Specific Conductance	umho/cm	---		1100	1140	1310	1270

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

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TABLE 5: Round 56 Analytical Results
RCH Newco II LLC
Lemont, Illinois
December 3, 2018

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D2A	MW-D2B	MW-D2C	MW-D2D
			Location	downgradient	downgradient	downgradient	downgradient
			Date	12/3/2018	12/3/2018	12/3/2018	12/3/2018
Total Organic Halogens	mg/L	---		0.029	0.031	0.045	0.045
Non-Purgeable Organic Carbon	mg/L	---		6.75	7.14	6.88	9.64
pH	---	6.5 - 9		7.18	7.17	7.14	7.15
Specific Conductance	umho/cm	---		986	999	987	1020

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

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TABLE 5: Round 56 Analytical Results

RCH Newco II LLC

Lemont, Illinois

December 3, 2018

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D3A	MW-D3B	MW-D3C	MW-D3D
			Location	downgradient	downgradient	downgradient	downgradient
			Date	12/3/2018	12/3/2018	12/3/2018	12/3/2018
Total Organic Halogens	mg/L	—		0.049	0.047	0.031	0.028
Non-Purgeable Organic Carbon	mg/L	—		7.47	8.21	6.56	17.9
pH	—	6.5 - 9		7.15	7.27	7.12	7.21
Specific Conductance	umho/cm	—		1370	1300	1240	1190

mg/L = milligrams per liter

umho/cm = micro mhos per centimeter

— = not established

ND = not detected above laboratory detection limits

NA = not applicable

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TABLE 5: Round 56 Analytical Results
RCH Newco II LLC
Lemont, Illinois
December 3, 2018

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D4A	MW-D4B	MW-D4C	MW-D4D
			Location	downgradient	downgradient	downgradient	downgradient
			Date	12/3/2018	12/3/2018	12/3/2018	12/3/2018
Total Organic Halogens	mg/L	—		0.012	ND	0.014	ND
Non-Purgeable Organic Carbon	mg/L	—		7.16	7.37	7.19	7.80
pH	---	6.5 - 9		7.00	7.04	7.00	7.06
Specific Conductance	umho/cm	---		1280	1280	1270	1310

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

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TABLE 5: Round 56 Analytical Results
RCH Newco II LLC
Lemont, Illinois
December 3, 2018

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D5A	MW-D5B	MW-D5C	MW-D5D
			Location	upgradient	upgradient	upgradient	upgradient
			Date	12/3/2018	12/3/2018	12/3/2018	12/3/2018
Total Organic Halogens	mg/L	---		ND	ND	ND	ND
Non-Purgeable Organic Carbon	mg/L	---		5.26	5.73	5.91	5.63
pH	---	6.5 - 9		7.11	7.16	7.15	7.13
Specific Conductance	umho/cm	---		1340	1350	1360	1340

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

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Table 6

Statistical Evaluation of Upgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 55 June 2018

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D1	TOX	0.017	0.097	0.048	0.00009	4.541	6.2	Y
	TOC	2.766	2.484	3.61	7.00	4.541	0.63	N
	pH	7.363	0.112	7.31	0.0003	4.541/-4.541	-5.56	Y
	Spec. Cond.	1334.375	15,231.855	1305	33.33	4.541	-10.03	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D5	TOX	0.017	0.097	.036	0.00002	4.541	9.5	Y
	TOC	2.766	2.484	8.25	8.07	4.541	2.26	N
	pH	7.363	0.112	7.36	.0008	4.541/-4.541	-0.13	N
	Spec. Cond.	1334.375	15,231.855	1338	25	4.541	1.60	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

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Table 7

Statistical Evaluation of Downgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 55 June 2018

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D2	TOX	0.017	0.097	0.039	0.000012	4.541	11.00	Y
	TOC	2.766	2.484	26.99	0.001	4.541	1.82	N
	pH	7.363	0.112	7.22	0.0017	4.541/-4.541	-12.73	Y
	Spec. Cond.	1334.375	15,231.855	1208	91.67	4.541	-26.41	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D3	TOX	0.017	0.097	0.078	0.002	4.541	2.54	N
	TOC	2.766	2.484	18.76	423.12	4.541	1.55	N
	pH	7.363	0.112	7.37	0.001	4.541/-4.541	-0.19	N
	Spec. Cond.	1334.375	15,231.855	1340	66.67	4.541	1.47	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D4	TOX	0.017	0.097	0.046	0.00004	4.541	9.67	Y
	TOC	2.766	2.484	9.75	17.30	4.541	3.36	N
	pH	7.363	0.112	7.25	0.00003	4.541/-4.541	-36.67	Y
	Spec. Cond.	1334.375	15,231.855	1315	33.33	4.541	-6.57	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

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Table 8

Statistical Evaluation of Upgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 56 December 2018

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D1	TOX	0.017	0.097	0.030	0.00001	4.541	6.67	Y
	TOC	2.766	2.484	4.35	1.81	4.541	2.37	N
	pH	7.363	0.112	7.13	0.006	4.541/-4.541	-5.88	Y
	Spec. Cond.	1334.375	15,231.855	1205	10,166.67	4.541	-2.56	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D5	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	TOC	2.766	2.484	5.63	0.075	4.541	20.43	Y
	pH	7.363	0.112	7.14	0.0005	4.541/-4.541	-20.00	Y
	Spec. Cond.	1334.375	15,231.855	1348	91.67	4.541	2.82	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equating zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

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Table 9

Statistical Evaluation of Downgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 56 December 2018

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D2	TOX	0.017	0.097	0.038	0.00008	4.541	4.20	N
	TOC	2.766	2.484	7.60	1.87	4.541	7.00	Y
	pH	7.363	0.112	7.16	0.0003	4.541/-4.541	-22.22	Y
	Spec. Cond.	1334.375	15,231.855	998	250	4.541	-42.48	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D3	TOX	0.017	0.097	0.039	0.0001	4.541	3.67	N
	TOC	2.766	2.484	10.04	27.95	4.541	2.74	N
	pH	7.363	0.112	7.19	0.0004	4.541/-4.541	-5.00	Y
	Spec. Cond.	1334.375	15,231.855	1275	6,033.33	4.541	-1.52	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D4	TOX	0.017	0.097	0.009	0.00002	4.541	-3.20	N
	TOC	2.766	2.484	7.38	0.087	4.541	30.73	Y
	pH	7.363	0.112	7.03	0.0009	4.541/-4.541	-16.5	Y
	Spec. Cond.	1334.375	15,231.855	1285	300	4.541	-5.66	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

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ATTACHMENT C

Laboratory Analytical Reports

Electronic Filing: Received, Clerk's Office 07/19/2024

MICROBAC®

July 6, 2018

Carlson Environmental, Inc.
65 East Wacker Place, Suite 2210
Chicago, IL 60601-

Work Order No.: 18F1122

Re: Robertson - Ceco 100.01

Dear Bruce Shabino:

Microbac Laboratories, Inc. - Chicagoland Division received 20 sample(s) on 6/14/2018 3:46:00PM for the analyses presented in the following report as Work Order 18F1122.

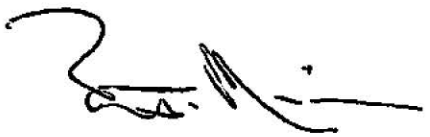
The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please contact your project manager. For any feedback, please contact Ron Misiunas, Division Manager, at ron.misiunas@microbac.com.

Sincerely,
Microbac Laboratories, Inc.



Ron Misiunas
Managing Director

MICROBAC®

WORK ORDER SAMPLE SUMMARY

Date: *Friday, July 6, 2018*

Client: Carlson Environmental, Inc.
Project: Robertson - Ceco 100.01
Lab Order: 18F1122

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
18F1122-01	MWD-1A		06/13/2018 16:00	6/14/2018 3:46:00PM
18F1122-02	MWD-1B		06/13/2018 16:00	6/14/2018 3:46:00PM
18F1122-03	MWD-1C		06/13/2018 16:00	6/14/2018 3:46:00PM
18F1122-04	MWD-1D		06/13/2018 16:00	6/14/2018 3:46:00PM
18F1122-05	MWD-2A		06/13/2018 10:40	6/14/2018 3:46:00PM
18F1122-06	MWD-2B		06/13/2018 10:40	6/14/2018 3:46:00PM
18F1122-07	MWD-2C		06/13/2018 10:40	6/14/2018 3:46:00PM
18F1122-08	MWD-2D		06/13/2018 10:40	6/14/2018 3:46:00PM
18F1122-09	MWD-3A		06/13/2018 12:00	6/14/2018 3:46:00PM
18F1122-10	MWD-3B		06/13/2018 12:00	6/14/2018 3:46:00PM
18F1122-11	MWD-3C		06/13/2018 12:00	6/14/2018 3:46:00PM
18F1122-12	MWD-3D		06/13/2018 12:00	6/14/2018 3:46:00PM
18F1122-13	MWD-4A		06/13/2018 13:15	6/14/2018 3:46:00PM
18F1122-14	MWD-4B		06/13/2018 13:15	6/14/2018 3:46:00PM
18F1122-15	MWD-4C		06/13/2018 13:15	6/14/2018 3:46:00PM
18F1122-16	MWD-4D		06/13/2018 13:15	6/14/2018 3:46:00PM
18F1122-17	MWD-5A		06/13/2018 14:30	6/14/2018 3:46:00PM
18F1122-18	MWD-5B		06/13/2018 14:30	6/14/2018 3:46:00PM
18F1122-19	MWD-5C		06/13/2018 14:30	6/14/2018 3:46:00PM
18F1122-20	MWD-5D		06/13/2018 14:30	6/14/2018 3:46:00PM

Samples Subcontracted To: Keystone Laboratories, Inc.

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
18F1122-01	MWD-1A		06/13/2018 16:00	6/14/2018 3:46:00PM
18F1122-02	MWD-1B		06/13/2018 16:00	6/14/2018 3:46:00PM
18F1122-03	MWD-1C		06/13/2018 16:00	6/14/2018 3:46:00PM
18F1122-04	MWD-1D		06/13/2018 16:00	6/14/2018 3:46:00PM
18F1122-05	MWD-2A		06/13/2018 10:40	6/14/2018 3:46:00PM
18F1122-06	MWD-2B		06/13/2018 10:40	6/14/2018 3:46:00PM
18F1122-07	MWD-2C		06/13/2018 10:40	6/14/2018 3:46:00PM
18F1122-08	MWD-2D		06/13/2018 10:40	6/14/2018 3:46:00PM
18F1122-09	MWD-3A		06/13/2018 12:00	6/14/2018 3:46:00PM
18F1122-10	MWD-3B		06/13/2018 12:00	6/14/2018 3:46:00PM
18F1122-11	MWD-3C		06/13/2018 12:00	6/14/2018 3:46:00PM
18F1122-12	MWD-3D		06/13/2018 12:00	6/14/2018 3:46:00PM
18F1122-13	MWD-4A		06/13/2018 13:15	6/14/2018 3:46:00PM
18F1122-14	MWD-4B		06/13/2018 13:15	6/14/2018 3:46:00PM
18F1122-15	MWD-4C		06/13/2018 13:15	6/14/2018 3:46:00PM
18F1122-16	MWD-4D		06/13/2018 13:15	6/14/2018 3:46:00PM
18F1122-17	MWD-5A		06/13/2018 14:30	6/14/2018 3:46:00PM
18F1122-18	MWD-5B		06/13/2018 14:30	6/14/2018 3:46:00PM

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WORK ORDER SAMPLE SUMMARY **Date:** *Friday, July 6, 2018*

18F1122-19	MWD-5C		06/13/2018 14:30	6/14/2018 3:46:00PM
18F1122-20	MWD-5D		06/13/2018 14:30	6/14/2018 3:46:00PM

Samples Subcontracted To: Microbac - OVD

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
18F1122-01	MWD-1A		06/13/2018 16:00	6/14/2018 3:46:00PM
18F1122-02	MWD-1B		06/13/2018 16:00	6/14/2018 3:46:00PM
18F1122-03	MWD-1C		06/13/2018 16:00	6/14/2018 3:46:00PM
18F1122-04	MWD-1D		06/13/2018 16:00	6/14/2018 3:46:00PM
18F1122-05	MWD-2A		06/13/2018 10:40	6/14/2018 3:46:00PM
18F1122-06	MWD-2B		06/13/2018 10:40	6/14/2018 3:46:00PM
18F1122-07	MWD-2C		06/13/2018 10:40	6/14/2018 3:46:00PM
18F1122-08	MWD-2D		06/13/2018 10:40	6/14/2018 3:46:00PM
18F1122-09	MWD-3A		06/13/2018 12:00	6/14/2018 3:46:00PM
18F1122-10	MWD-3B		06/13/2018 12:00	6/14/2018 3:46:00PM
18F1122-11	MWD-3C		06/13/2018 12:00	6/14/2018 3:46:00PM
18F1122-12	MWD-3D		06/13/2018 12:00	6/14/2018 3:46:00PM
18F1122-13	MWD-4A		06/13/2018 13:15	6/14/2018 3:46:00PM
18F1122-14	MWD-4B		06/13/2018 13:15	6/14/2018 3:46:00PM
18F1122-15	MWD-4C		06/13/2018 13:15	6/14/2018 3:46:00PM
18F1122-16	MWD-4D		06/13/2018 13:15	6/14/2018 3:46:00PM
18F1122-17	MWD-5A		06/13/2018 14:30	6/14/2018 3:46:00PM
18F1122-18	MWD-5B		06/13/2018 14:30	6/14/2018 3:46:00PM
18F1122-19	MWD-5C		06/13/2018 14:30	6/14/2018 3:46:00PM
18F1122-20	MWD-5D		06/13/2018 14:30	6/14/2018 3:46:00PM

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CASE NARRATIVE **Date:** *Friday, July 6, 2018*

Client: Carlson Environmental, Inc.
Project: Robertson - Ceco 100.01
Lab Order: 18F1122

TOX analysis was performed by Keystone Labs. Their data report is included as an attachment to this report.

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Analytical Results

Date: *Friday, July 6, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Robertson - Ceco 100.01		
Client Sample ID:	MWD-1A	**Work Order/ID:**	18F1122-01
Sample Description:		**Sampled:**	06/13/2018 16:00
Matrix:	Aqueous	**Received:**	06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SW-846 6010C					Analyst: BTM
Total Metals by ICP			Prep Method: SW846 3005A					Prep Date/Time: 06/15/2018 07:22
Iron	dil	A	*0.22*	0.050		mg/L	1	06/18/2018 16:22
Manganese	dil	A	*0.034*	0.0020		mg/L	1	06/19/2018 10:14
Sodium	dil	A	*31*	0.50		mg/L	1	06/18/2018 16:22
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time:
Total Organic Carbon			*2.31*	2.00		mg/L	2	06/22/2018 13:33
			Method: SM 4500-Cl B-1997					Analyst: KJH
Chloride			Prep Method: SM 4500-Cl B-1997					Prep Date/Time: 06/19/2018 17:00
Chloride	dil	A	*60*	1.0		mg/L	1	06/19/2018 17:03
			Method: EPA 120.1 Rev 1982					Analyst: EF
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 06/21/2018 12:32
Specific Conductance	I	A	*1300*	2.00		umhos/cm	1	06/21/2018 12:32
			Method: SM 4500 H+ B-2000					Analyst: MLH
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 06/18/2018 13:59
pH	dil	A	*7.31*	2.00	H	pH at 25°C	1	06/18/2018 14:09
			Method: SW-846 9066					Analyst: EF
Total Phenolics			Prep Method: SW-846 9066					Prep Date/Time: 06/21/2018 09:20
Phenolics, Total Recoverable	dl	A	*ND*	0.010		mg/L	1	06/22/2018 15:50
			Method: SW-846 9038					Analyst: GRIEFF
Sulfate, Turbidimetric			Prep Method: SW-846 9038					Prep Date/Time: 06/25/2018 07:10
Sulfate	I	A	*240*	10		mg/L	1	06/25/2018 8:01

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Analytical Results

Date: *Friday, July 6, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Robertson - Ceco 100.01		
Client Sample ID:	MWD-1B	**Work Order/ID:**	18F1122-02
Sample Description:		**Sampled:**	06/13/2018 16:00
Matrix:	Aqueous	**Received:**	06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Carbon			Method: SM5310-C-2000					Analyst: DIH Prep Date/Time:
Total Organic Carbon			*2.20*	2.00		mg/L	2	06/22/2018 13:53
Specific Conductance			Method: EPA 120.1 Rev 1982 Prep Method: EPA 120.1 Rev 1982					Analyst: EF Prep Date/Time: 06/21/2018 12:32
Specific Conductance	i	A	*1310*	2.00		umhos/cm	1	06/21/2018 12:32
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: MLH Prep Date/Time: 06/18/2018 13:59
pH	dij	A	*7.32*	2.00	H	pH at 25°C	1	06/18/2018 14:09

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Analytical Results

Date: *Friday, July 6, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Robertson - Ceco 100.01		
Client Sample ID:	MWD-1C	**Work Order/ID:**	18F1122-03
Sample Description:		**Sampled:**	06/13/2018 16:00
Matrix:	Aqueous	**Received:**	06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Carbon			Method: SM5310-C-2000					Analyst: DIH
								Prep Date/Time:
Total Organic Carbon			2.36	2.00		mg/L	2	06/22/2018 14:14
Specific Conductance			Method: EPA 120.1 Rev 1982					Analyst: EF
			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 06/21/2018 12:32
Specific Conductance		A	1310	2.00		umhos/cm	1	06/21/2018 12:32
pH			Method: SM 4500 H+ B-2000					Analyst: MLH
			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 06/18/2018 13:59
pH	dlj	A	7.33	2.00	H	pH at 25°C	1	06/18/2018 14:09

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Analytical Results

Date: *Friday, July 6, 2018*

Client: Carlson Environmental, Inc.
Client Project: Robertson - Ceco 100.01
Client Sample ID: MWD-1D
Sample Description:
Matrix: Aqueous

Work Order/ID: 18F1122-04
Sampled: 06/13/2018 16:00
Received: 06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Carbon			Method: SM5310-C-2000				Analyst: DIH Prep Date/Time:	
Total Organic Carbon			*7.58*	4.00		mg/L	4	06/22/2018 17:43
Specific Conductance			Method: EPA 120.1 Rev 1982 Prep Method: EPA 120.1 Rev 1982				Analyst: EF Prep Date/Time: 06/21/2018 12:32	
Specific Conductance	i	A	*1300*	2.00		umhos/cm	1	06/21/2018 12:32
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000				Analyst: MLH Prep Date/Time: 06/18/2018 13:59	
pH	dlj	A	*7.29*	2.00	H	pH at 25°C	1	06/18/2018 14:09

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Analytical Results

Date: *Friday, July 6, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Robertson - Ceco 100.01		
Client Sample ID:	MWD-2A	**Work Order/ID:**	18F1122-05
Sample Description:		**Sampled:**	06/13/2018 10:40
Matrix:	Aqueous	**Received:**	06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SW-846 6010C					Analyst: BTM
Total Metals by ICP			Prep Method: SW846 3005A					Prep Date/Time: 06/15/2018 07:22
Iron	dil	A	*3.3*	0.050		mg/L	1	06/18/2018 16:27
Manganese	dil	A	*0.17*	0.0020		mg/L	1	06/19/2018 10:19
Sodium	dil	A	*24*	0.50		mg/L	1	06/18/2018 16:27
			Method: SM5310-C-2000					Analyst: DJH
Total Organic Carbon								Prep Date/Time:
Total Organic Carbon			*8.88*	4.00		mg/L	4	06/22/2018 18:04
			Method: SM 4500-Cl B-1997					Analyst: KJH
Chloride			Prep Method: SM 4500-Cl B-1997					Prep Date/Time: 06/19/2018 17:00
Chloride	dij	A	*32*	1.0		mg/L	1	06/19/2018 17:03
			Method: EPA 120.1 Rev 1982					Analyst: EF
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 06/21/2018 12:32
Specific Conductance	i	A	*1220*	2.00		umhos/cm	1	06/21/2018 12:32
			Method: SM 4500 H+ B-2000					Analyst: MLH
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 06/18/2018 13:59
pH	dij	A	*7.22*	2.00	H	pH at 25°C	1	06/18/2018 14:09
			Method: SW-846 9066					Analyst: EF
Total Phenolics			Prep Method: SW-846 9066					Prep Date/Time: 06/21/2018 09:20
Phenolics, Total Recoverable	dl	A	*ND*	0.010		mg/L	1	06/22/2018 15:51
			Method: SW-846 9038					Analyst: GRIEFF
Sulfate, Turbidimetric			Prep Method: SW-846 9038					Prep Date/Time: 06/25/2018 07:10
Sulfate	I	A	*260*	10		mg/L	1	06/25/2018 8:06

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Analytical Results

Date: *Friday, July 6, 2018*

Client: Carlson Environmental, Inc.
Client Project: Robertson - Ceco 100.01
Client Sample ID: MWD-2B
Sample Description:
Matrix: Aqueous

Work Order/ID: 18F1122-06
Sampled: 06/13/2018 10:40
Received: 06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SW-846 6010C					Analyst: BTM
Total Metals by ICP			Prep Method: SW846 3005A					Prep Date/Time: 06/15/2018 07:22
Iron	dil	A	*3.4*	0.050		mg/L	1	06/18/2018 16:32
Manganese	dil	A	*0.18*	0.0020		mg/L	1	06/19/2018 10:24
Sodium	dil	A	*24*	0.50		mg/L	1	06/18/2018 16:32
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time:
Total Organic Carbon			*36.6*	2.00		mg/L	2	06/22/2018 15:20
			Method: SM 4500-Cl B-1997					Analyst: KJH
Chloride			Prep Method: SM 4500-Cl B-1997					Prep Date/Time: 06/19/2018 17:00
Chloride	dij	A	*30*	1.0		mg/L	1	06/19/2018 17:03
			Method: EPA 120.1 Rev 1982					Analyst: EF
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 06/21/2018 12:32
Specific Conductance	i	A	*1200*	2.00		umhos/cm	1	06/21/2018 12:32
			Method: SM 4500 H+ B-2000					Analyst: MLH
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 06/18/2018 13:59
pH	dij	A	*7.22*	2.00	H	pH at 25°C	1	06/18/2018 14:09
			Method: SW-846 9066					Analyst: EF
Total Phenolics			Prep Method: SW-846 9066					Prep Date/Time: 06/21/2018 09:20
Phenolics, Total Recoverable	di	A	*ND*	0.010		mg/L	1	06/22/2018 15:55
			Method: SW-846 9038					Analyst: GRIEFF
Sulfate, Turbidimetric			Prep Method: SW-846 9038					Prep Date/Time: 06/25/2018 07:10
Sulfate	I	A	*270*	10		mg/L	1	06/25/2018 8:08

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Analytical Results

Date: *Friday, July 6, 2018*

Client: Carlson Environmental, Inc.
Client Project: Robertson - Ceco 100.01
Client Sample ID: MWD-2C
Sample Description:
Matrix: Aqueous

Work Order/ID: 18F1122-07
Sampled: 06/13/2018 10:40
Received: 06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time:
Total Organic Carbon			2.36	2.00		mg/L	2	06/22/2018 15:41
			Method: EPA 120.1 Rev 1982					Analyst: EF
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 06/21/2018 12:32
Specific Conductance	i	A	1200	2.00		umhos/cm	1	06/21/2018 12:32
			Method: SM 4500 H+ B-2000					Analyst: MLH
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 06/18/2018 13:59
pH	dij	A	7.24	2.00	H	pH at 25°C	1	06/18/2018 14:09

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Analytical Results

Date: *Friday, July 6, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Robertson - Ceco 100.01		
Client Sample ID:	MWD-2D	**Work Order/ID:**	18F1122-08
Sample Description:		**Sampled:**	06/13/2018 10:40
Matrix:	Aqueous	**Received:**	06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time:
Total Organic Carbon			*60.1*	2.00		mg/L	2	06/22/2018 16:03
			Method: EPA 120.1 Rev 1982					Analyst: EF
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 06/21/2018 12:32
Specific Conductance	i	A	*1210*	2.00		umhos/cm	1	06/21/2018 12:32
			Method: SM 4500 H+ B-2000					Analyst: MLH
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 06/18/2018 13:59
pH	dij	A	*7.19*	2.00	H	pH at 25°C	1	06/18/2018 14:09

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Analytical Results

Date: *Friday, July 6, 2018*

Client: Carlson Environmental, Inc.
Client Project: Robertson - Ceco 100.01
Client Sample ID: MWD-3A
Sample Description:
Matrix: Aqueous

Work Order/ID: 18F1122-09
Sampled: 06/13/2018 12:00
Received: 06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SW-846 6010C					Analyst: BTM
Total Metals by ICP			Prep Method: SW846 3005A					Prep Date/Time: 06/15/2018 07:22
Iron	dil	A	*ND*	0.050		mg/L	1	06/18/2018 16:46
Manganese	dil	A	*ND*	0.0020		mg/L	1	06/19/2018 10:29
Sodium	dil	A	*33*	0.50		mg/L	1	06/18/2018 16:46
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time:
Total Organic Carbon			*19.0*	2.00		mg/L	2	06/22/2018 16:24
			Method: SM 4500-Cl B-1997					Analyst: KJH
Chloride			Prep Method: SM 4500-Cl B-1997					Prep Date/Time: 06/19/2018 17:00
Chloride	dij	A	*35*	1.0		mg/L	1	06/19/2018 17:03
			Method: EPA 120.1 Rev 1982					Analyst: EF
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 06/21/2018 12:32
Specific Conductance	i	A	*1350*	2.00		umhos/cm	1	06/21/2018 12:32
			Method: SM 4500 H+ B-2000					Analyst: MLH
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 06/18/2018 13:59
pH	dij	A	*7.38*	2.00	H	pH at 25°C	1	06/18/2018 14:09
			Method: SW-846 9066					Analyst: EF
Total Phenolics			Prep Method: SW-846 9066					Prep Date/Time: 06/21/2018 09:20
Phenolics, Total Recoverable	dl	A	*ND*	0.010		mg/L	1	06/22/2018 15:58
			Method: SW-846 9038					Analyst: GRIEFF
Sulfate, Turbidimetric			Prep Method: SW-846 9038					Prep Date/Time: 06/25/2018 07:10
Sulfate	i	A	*340*	100		mg/L	10	06/25/2018 8:28

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Analytical Results

Date: *Friday, July 6, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Robertson - Ceco 100.01		
Client Sample ID:	MWD-3B	**Work Order/ID:**	18F1122-10
Sample Description:		**Sampled:**	06/13/2018 12:00
Matrix:	Aqueous	**Received:**	06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time:
Total Organic Carbon			*2.51*	2.00		mg/L	2	06/22/2018 16:45
			Method: EPA 120.1 Rev 1982					Analyst: EF
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 06/21/2018 12:32
Specific Conductance		A	*1340*	2.00		umhos/cm	1	06/21/2018 12:32
			Method: SM 4500 H+ B-2000					Analyst: MLH
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 06/18/2018 13:59
pH	dlj	A	*7.34*	2.00	H	pH at 25°C	1	06/18/2018 14:09

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Analytical Results

Date: *Friday, July 6, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Robertson - Ceco 100.01		
Client Sample ID:	MWD-3C	**Work Order/ID:**	18F1122-11
Sample Description:		**Sampled:**	06/13/2018 12:00
Matrix:	Aqueous	**Received:**	06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000				Analyst: DIH	
Total Organic Carbon							Prep Date/Time:	
Total Organic Carbon			*47.7*	2.00		mg/L	2	06/22/2018 12:29
			Method: EPA 120.1 Rev 1982				Analyst: EF	
Specific Conductance			Prep Method: EPA 120.1 Rev 1982				Prep Date/Time: 06/21/2018 12:32	
Specific Conductance	i	A	*1330*	2.00		umhos/cm	1	06/21/2018 12:32
			Method: SM 4500 H+ B-2000				Analyst: MLH	
pH			Prep Method: SM 4500 H+ B-2000				Prep Date/Time: 06/18/2018 13:59	
pH	dij	A	*7.35*	2.00	H	pH at 25°C	1	06/18/2018 14:09

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Analytical Results

Date: *Friday, July 6, 2018*

Client: Carlson Environmental, Inc.
Client Project: Robertson - Ceco 100.01
Client Sample ID: MWD-3D
Sample Description:
Matrix: Aqueous

Work Order/ID: 18F1122-12
Sampled: 06/13/2018 12:00
Received: 06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Carbon			Method: SM5310-C-2000				Analyst: DH Prep Date/Time:	
Total Organic Carbon			*5.81*	2.00		mg/L	2	06/21/2018 15:28
Specific Conductance			Method: EPA 120.1 Rev 1982 Prep Method: EPA 120.1 Rev 1982				Analyst: EF Prep Date/Time: 06/21/2018 12:32	
Specific Conductance	I	A	*1340*	2.00		umhos/cm	1	06/21/2018 12:32
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000				Analyst: MLH Prep Date/Time: 06/18/2018 13:59	
pH	dlj	A	*7.41*	2.00	H	pH at 25°C	1	06/18/2018 14:09

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Analytical Results

Date: *Friday, July 6, 2018*

Client: Carlson Environmental, Inc.
Client Project: Robertson - Ceco 100.01
Client Sample ID: MWD-4A
Sample Description:
Matrix: Aqueous

Work Order/ID: 18F1122-13
Sampled: 06/13/2018 13:15
Received: 06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SW-846 6010C					Analyst: BTM
Total Metals by ICP			Prep Method: SW846 3005A					Prep Date/Time: 06/15/2018 07:22
Iron	dil	A	*0.063*	0.050		mg/L	1	06/18/2018 16:51
Manganese	dil	A	*0.0074*	0.0020		mg/L	1	06/19/2018 10:34
Sodium	dil	A	*27*	0.50		mg/L	1	06/18/2018 16:51
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time:
Total Organic Carbon			*7.01*	2.00		mg/L	2	06/21/2018 15:50
			Method: SM 4500-Cl B-1997					Analyst: KJH
Chloride			Prep Method: SM 4500-Cl B-1997					Prep Date/Time: 06/20/2018 13:49
Chloride	dij	A	*6.5*	1.0		mg/L	1	06/20/2018 13:54
			Method: EPA 120.1 Rev 1982					Analyst: EF
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 06/21/2018 12:32
Specific Conductance	i	A	*1310*	2.00		umhos/cm	1	06/21/2018 12:32
			Method: SM 4500 H+ B-2000					Analyst: MLH
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 06/18/2018 13:59
pH	dij	A	*7.25*	2.00	H	pH at 25°C	1	06/18/2018 14:09
			Method: SW-846 9066					Analyst: EF
Total Phenolics			Prep Method: SW-846 9066					Prep Date/Time: 06/21/2018 09:20
Phenolics, Total Recoverable	dl	A	*ND*	0.010		mg/L	1	06/22/2018 16:00
			Method: SW-846 9038					Analyst: GRIEFF
Sulfate, Turbidimetric			Prep Method: SW-846 9038					Prep Date/Time: 06/25/2018 07:10
Sulfate	i	A	*380*	100		mg/L	10	06/25/2018 8:30

MICROBAC®

Analytical Results

Date: *Friday, July 6, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Robertson - Ceco 100.01		
Client Sample ID:	MWD-4B	**Work Order/ID:**	18F1122-14
Sample Description:		**Sampled:**	06/13/2018 13:15
Matrix:	Aqueous	**Received:**	06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time:
Total Organic Carbon			*15.9*	2.00		mg/L	2	06/21/2018 16:12
			Method: EPA 120.1 Rev 1982					Analyst: EF
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 06/21/2018 12:32
Specific Conductance	i	A	*1310*	2.00		umhos/cm	1	06/21/2018 12:32
			Method: SM 4500 H+ B-2000					Analyst: MLH
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 06/18/2018 13:59
pH	dij	A	*7.24*	2.00	H	pH at 25°C	1	06/18/2018 14:09

MICROBAC®

Analytical Results

Date: *Friday, July 6, 2018*

Client: Carlson Environmental, Inc.
Client Project: Robertson - Ceco 100.01
Client Sample ID: MWD-4C
Sample Description:
Matrix: Aqueous

Work Order/ID: 18F1122-15
Sampled: 06/13/2018 13:15
Received: 06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Carbon			Method: SM5310-C-2000				Analyst: DIH	
							Prep Date/Time:	
Total Organic Carbon			*7.44*	2.00		mg/L	2	06/21/2018 16:35
Specific Conductance			Method: EPA 120.1 Rev 1982				Analyst: EF	
			Prep Method: EPA 120.1 Rev 1982				Prep Date/Time: 06/21/2018 12:32	
Specific Conductance	I	A	*1320*	2.00		umhos/cm	1	06/21/2018 12:32
pH			Method: SM 4500 H+ B-2000				Analyst: MLH	
			Prep Method: SM 4500 H+ B-2000				Prep Date/Time: 06/18/2018 13:59	
pH	dlj	A	*7.25*	2.00	H	pH at 25°C	1	06/18/2018 14:09

MICROBAC®

Analytical Results

Date: *Friday, July 6, 2018*

Client: Carlson Environmental, Inc.
Client Project: Robertson - Ceco 100.01
Client Sample ID: MWD-4D
Sample Description:
Matrix: Aqueous

Work Order/ID: 18F1122-16
Sampled: 06/13/2018 13:15
Received: 06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time:
Total Organic Carbon			8.64	2.00		mg/L	2	06/21/2018 16:57
			Method: EPA 120.1 Rev 1982					Analyst: EF
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 06/21/2018 12:32
Specific Conductance	i	A	1320	2.00		umhos/cm	1	06/21/2018 12:32
			Method: SM 4500 H+ B-2000					Analyst: MLH
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 06/18/2018 13:59
pH	dij	A	7.25	2.00	H	pH at 25°C	1	06/18/2018 14:09

MICROBAC®

Analytical Results

Date: *Friday, July 6, 2018*

Client: Carlson Environmental, Inc.
Client Project: Robertson - Ceco 100.01
Client Sample ID: MWD-5A
Sample Description:
Matrix: Aqueous

Work Order/ID: 18F1122-17
Sampled: 06/13/2018 14:30
Received: 06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SW-846 6010C					Analyst: BTM
Total Metals by ICP			Prep Method: SW846 3005A					Prep Date/Time: 06/15/2018 07:22
Iron	dil	A	*ND*	0.050		mg/L	1	06/18/2018 16:56
Manganese	dil	A	*ND*	0.0020		mg/L	1	06/19/2018 10:39
Sodium	dil	A	*22*	0.50		mg/L	1	06/18/2018 16:56
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time:
Total Organic Carbon			*7.82*	2.00		mg/L	2	06/21/2018 17:19
			Method: SM 4500-Cl B-1997					Analyst: KJH
Chloride			Prep Method: SM 4500-Cl B-1997					Prep Date/Time: 06/20/2018 13:49
Chloride	dij	A	*5.0*	1.0		mg/L	1	06/20/2018 13:54
			Method: EPA 120.1 Rev 1982					Analyst: EF
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 06/21/2018 12:32
Specific Conductance	i	A	*1340*	2.00		umhos/cm	1	06/21/2018 12:32
			Method: SM 4500 H+ B-2000					Analyst: MLH
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 06/18/2018 13:59
pH	dij	A	*7.34*	2.00	H	pH at 25°C	1	06/18/2018 14:09
			Method: SW-846 9066					Analyst: EF
Total Phenolics			Prep Method: SW-846 9066					Prep Date/Time: 06/21/2018 11:15
Phenolics, Total Recoverable	dl	A	*ND*	0.010		mg/L	1	06/22/2018 16:01
			Method: SW-846 9038					Analyst: GRIEFF
Sulfate, Turbidimetric			Prep Method: SW-846 9038					Prep Date/Time: 06/25/2018 07:10
Sulfate	i	A	*400*	100		mg/L	10	06/25/2018 8:31

MICROBAC®

Analytical Results

Date: *Friday, July 6, 2018*

Client: Carlson Environmental, Inc.
Client Project: Robertson - Ceco 100.01
Client Sample ID: MWD-5B
Sample Description:
Matrix: Aqueous

Work Order/ID: 18F1122-18
Sampled: 06/13/2018 14:30
Received: 06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Carbon			Method: SM5310-C-2000				Analyst: DIH Prep Date/Time:	
Total Organic Carbon			*7.15*	2.00		mg/L	2	06/21/2018 18:02
Specific Conductance			Method: EPA 120.1 Rev 1982 Prep Method: EPA 120.1 Rev 1982				Analyst: EF Prep Date/Time: 06/21/2018 12:32	
Specific Conductance		A	*1340*	2.00		umhos/cm	1	06/21/2018 12:32
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000				Analyst: MLH Prep Date/Time: 06/18/2018 13:59	
pH	dij	A	*7.40*	2.00	H	pH at 25°C	1	06/18/2018 14:09

MICROBAC®

Analytical Results

Date: *Friday, July 6, 2018*

Client: Carlson Environmental, Inc.
Client Project: Robertson - Ceco 100.01
Client Sample ID: MWD-5C
Sample Description:
Matrix: Aqueous

Work Order/ID: 18F1122-19
Sampled: 06/13/2018 14:30
Received: 06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000				Analyst: DIH	
Total Organic Carbon							Prep Date/Time:	
Total Organic Carbon			*12.3*	2.00		mg/L	2	06/21/2018 18:24
			Method: EPA 120.1 Rev 1982				Analyst: EF	
Specific Conductance			Prep Method: EPA 120.1 Rev 1982				Prep Date/Time: 06/21/2018 12:32	
Specific Conductance	i	A	*1340*	2.00		umhos/cm	1	06/21/2018 12:32
			Method: SM 4500 H+ B-2000				Analyst: MLH	
pH			Prep Method: SM 4500 H+ B-2000				Prep Date/Time: 06/18/2018 13:59	
pH	dlj	A	*7.35*	2.00	H	pH at 25°C	1	06/18/2018 14:09

MICROBAC®

Analytical Results

Date: *Friday, July 6, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Robertson - Ceco 100.01		
Client Sample ID:	MWD-5D	**Work Order/ID:**	18F1122-20
Sample Description:		**Sampled:**	06/13/2018 14:30
Matrix:	Aqueous	**Received:**	06/14/2018 15:46

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time:
Total Organic Carbon			5.72	2.00		mg/L	2	06/21/2018 18:47
			Method: EPA 120.1 Rev 1982					Analyst: EF
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 06/21/2018 12:32
Specific Conductance	I	A	1330	2.00		umhos/cm	1	06/21/2018 12:32
			Method: SM 4500 H+ B-2000					Analyst: MLH
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 06/18/2018 13:59
pH	dij	A	7.34	2.00	H	pH at 25°C	1	06/18/2018 14:09

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FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

B = Detected in the associated method Blank at a concentration above the routine RL
b- = Detected in the associated method Blank at a concentration greater than 2.2 times the MDL
b* = Detected in the associated method Blank at a concentration greater than half the RL
CFU = Colony forming units
D = Dilution performed on sample
DF = Dilution Factor
g = Gram
E = Value above quantitation range
H = Analyte was prepared and/or analyzed outside of the analytical method holding time
I = Matrix Interference
J = Analyte concentration detected between RL and MDL (Metals / Organics)
LOD = Limit of Detection
LOQ = Limit of Quantitation
m3 = Meters cubed
MDL = Method Detection Limit
mg/Kg = Milligrams per Kilogram (ppm)
mg/L = Milligrams per Liter (ppm)
NA = Not Analyzed
ND = Not Detected at the Reporting Limit (or the Method Detection Limit, if used)
NR = Not Recovered
R = RPD outside accepted recovery limits
RL = Reporting Limit
S = Spike recovery outside recovery limits
Surr = Surrogate
U = Undetected
> = Greater than
< = Less than
% = Percent
* = Result exceeds project specific limits

ANALYTE TYPES: (AT)

A,B = Target Analyte
I = Internal Standard
M = Summation Analyte
S = Surrogate
T = Tentatively Identified Compound (TIC, concentration estimated)

QC SAMPLE IDENTIFICATIONS

BLK = Method Blank
DUP = Method Duplicate
BS = Method Blank Spike
MS = Matrix Spike
ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
CRL = Client Required Reporting Limit
PDS = Post Digestion Spike
QCS = Quality Control Standard
ICSA = Interference Check Standard "A"
ICSAB = Interference Check Standard "AB"
BSD = Method Blank Spike Duplicate
MSD = Matrix Spike Duplicate
ICV = Initial Calibration Verification
CCV = Continuing Calibration Verification
OPR = Ongoing Precision and Recovery Standard
SD = Serial Dilution

CERTIFICATIONS (Certs)

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.

[d] Illinois EPA drinking water, wastewater and solid waste analysis (#200064)
[i] Kansas Dept Health & Env. NELAP (#E-10397)
[j] Kentucky Wastewater Laboratory Certification Program (#90147)
[l] North Carolina DENR NPDES effluent, surface water (#597)

MICROBAC®

COOLER INSPECTION

Date: Friday, July 6, 2018

Client Name: Carlson Environmental, Inc.

Date/Time Received: 06/14/2018 15:46

Work Order Number: 18F1122

Received by: Dave Bryant

Checklist completed by: 6/14/2018 5:51:00PM | Dave Bryant

Reviewed by: 6/22/2018 | KAZ

Carrier Name: Microbac

Cooler ID: Default Cooler

Container/Temp Blank Temperature: 4.4° C

After-Hour Arrival?	Yes	☐	No	☑		
Shipping container/cooler in good condition?	Yes	☑	No	☐	Not Present	☐
Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	Not Present	☑
Custody seals intact on sample containers?	Yes	☐	No	☐	Not Present	☑
COC present?	Yes	☑	No	☐		
COC included sufficient client identification?	Yes	☑	No	☐		
COC included sufficient sample collector information?	Yes	☑	No	☐		
COC included a sample description?	Yes	☑	No	☐		
COC agrees with sample labels?	Yes	☑	No	☐		
COC identified the appropriate matrix?	Yes	☑	No	☐		
COC included date of collection?	Yes	☑	No	☐		
COC included time of collection?	Yes	☑	No	☐		
COC identified the appropriate number of containers?	Yes	☑	No	☐		
Samples in proper container/bottle?	Yes	☑	No	☐		
Sample containers intact?	Yes	☑	No	☐		
Sufficient sample volume for indicated test?	Yes	☑	No	☐		
All samples received within holding time?	Yes	☑	No	☐		
If the samples are preserved, are the preservatives identified?	Yes	☑	No	☐		

If No, adjusted by? _____

COC included the requested analyses?	Yes	☑	No	☐		
COC signed when relinquished and received?	Yes	☑	No	☐		
Samples received on ice?	Yes	☑	No	☐		
Samples properly preserved?	Yes	☑	No	☐		
Voa vials for aqueous samples have zero headspace?	Yes	☑	No	☐	No VOA vials submitted	☐

Cooler Comments:

ANY "NO" EVALUATION (excluding After-Hour Receipt) REQUIRES CLIENT NOTIFICATION.

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Sample ID	Client Sample ID	Comments
18F1122-01	MWD-1A	
18F1122-02	MWD-1B	
18F1122-03	MWD-1C	
18F1122-04	MWD-1D	
18F1122-05	MWD-2A	
18F1122-06	MWD-2B	
18F1122-07	MWD-2C	
18F1122-08	MWD-2D	
18F1122-09	MWD-3A	
18F1122-10	MWD-3B	
18F1122-11	MWD-3C	
18F1122-12	MWD-3D	
18F1122-13	MWD-4A	
18F1122-14	MWD-4B	
18F1122-15	MWD-4C	
18F1122-16	MWD-4D	
18F1122-17	MWD-5A	
18F1122-18	MWD-5B	
18F1122-19	MWD-5C	
18F1122-20	MWD-5D	

1 of 2

CEI

CHAIN-OF-CUSTODY RECORD

No. 16583

CARLSON ENVIRONMENTAL, INC. 65 E. Wacker Place Chicago, IL 60601 (312)346-2140

PROJ. NO. 100.01 PROJECT NAME Robertson-Ceco

SAMPLERS: (Signature) Bruce Shadian

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) TAL / TOX / Spec Cond. / PH / Phenols / Sulfate / Chloride / Fe, NH4, Ala	REMARKS
1	MWD-1A	6-13-18	1600		X	Groundwater	6	X X X X X X X X	-01
2	MWD-1B						4	X X X X	-02
3	MWD-1C						4	X X X X	-03
4	MWD-1D						4	X X X X	-04
5	MWD-2A		1040				6	X X X X X X X X	-05
6	MWD-2B						6	X X X X X X X X	-06
7	MWD-2C						4	X X X X	-07
8	MWD-2D						4	X X X X	-08
9	MWD-3A		1200				6	X X X X X X X X	-09
10	MWD-3B						4	X X X X	-10

18F1122

Relinquished by:	Date/Time	Received by:
[signature]	6-14-18 1146	[signature]
Relinquished by:	Date/Time	Received by:
Relinquished by: [signature]	Date/Time 6-14-18 1546	Received for Laboratory by: [signature] 6/14/18 1546

REMARKS

Standard TAT

QI 5.3

4.4°C

18F1122 Ron Misiunas
Carlson - Chicago, IL
Robertson - Ceco
06/14/2018

Distribution White - Accompanies Shipment, Yellow - Laboratory File Pink - Consignor Field Files

2 of 2

CEI

CHAIN-OF-CUSTODY RECORD

No. 16584

CARLSON ENVIRONMENTAL, INC. 65 E. Wacker Place Chicago, IL 60601 (312)346-2140

PROJ. NO. 100101 PROJECT NAME Robertson-Ceco

SAMPLERS: (Signature)

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	TOC	TOX	Spec. Cond.	pH	Phenols	Sulfate	Chloride	Fe, Mn, Na	REMARKS
1	MWD-3A	6/13/18	1120		X	Groundwater	4	X	X	X	X					-11
2	MWD-3D		↓				4	X	X	X	X					-12
3	MWD-4A		1315				6	X	X	X	X	X	X	X	X	-13
4	MWD-4B						4	X	X	X	X					-14
5	MWD-4C						4	X	X	X	X					-15
6	MWD-4D		↓				4	X	X	X	X					-16
7	MWD-5A		1430				6	X	X	X	X	X	X	X	X	-17
8	MWD-5B						4	X	X	X	X					-18
9	MWD-5C						4	X	X	X	X					-19
10	MWD-5D		↓		↓		4	X	X	X	X					-20

Relinquished by	Date/Time	Received by
	6-14-18 1740	
Relinquished by	Date/Time	Received by
Relinquished by	Date/Time	Received for Laboratory by
6-14-18	1541	6/14/18 1546

REMARKS

Standard TAT

OI 5.3
-.9
4.4°C

Distribution: White - Accompanies Shipment, Yellow - Laboratory File, Pink - Coordinator Field Files

Keystone LABORATORIES, INC.

MEMBER ACIL

July 05 2018

Project Manager
Microbac Laboratories, Inc
250 West 84th Drive
Merrillville, IN 46410

RE: Subcontract
18F1122

Enclosed are the results of analyses for samples received by the laboratory on 06/19/18 10:10. If you have any questions concerning this report, please feel free to contact me at 1-800-858-5227.

ANALYTICAL REPORT FOR SAMPLES

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
18F1122-01	1F81609-01	Water	06/13/18 16:00	06/19/18 10:10
18F1122-02	1F81609-02	Water	06/13/18 16:00	06/19/18 10:10
18F1122-03	1F81609-03	Water	06/13/18 16:00	06/19/18 10:10
18F1122-04	1F81609-04	Water	06/13/18 16:00	06/19/18 10:10
18F1122-05	1F81609-05	Water	06/13/18 10:40	06/19/18 10:10
18F1122-06	1F81609-06	Water	06/13/18 10:40	06/19/18 10:10
18F1122-07	1F81609-07	Water	06/13/18 10:40	06/19/18 10:10
18F1122-08	1F81609-08	Water	06/13/18 10:40	06/19/18 10:10
18F1122-09	1F81609-09	Water	06/13/18 12:00	06/19/18 10:10
18F1122-10	1F81609-10	Water	06/13/18 12:00	06/19/18 10:10
18F1122-11	1F81609-11	Water	06/13/18 12:00	06/19/18 10:10
18F1122-12	1F81609-12	Water	06/13/18 12:00	06/19/18 10:10
18F1122-13	1F81609-13	Water	06/13/18 13:15	06/19/18 10:10
18F1122-14	1F81609-14	Water	06/13/18 13:15	06/19/18 10:10
18F1122-15	1F81609-15	Water	06/13/18 13:15	06/19/18 10:10
18F1122-16	1F81609-16	Water	06/13/18 13:15	06/19/18 10:10

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

Phone 641-792-8451
600 East 17th Street South
Newton, IA 50208
Fax 641-792-7989

Electronic Filing: Received, Clerk's Office 07/19/2024

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18F1122 Project Manager: Project Manager	Reported 07/05/18 17:13

18F1122-17	1F81609-17	Water	06/13/18 14:30	06/19/18 10:10
18F1122-18	1F81609-18	Water	06/13/18 14:30	06/19/18 10:10
18F1122-19	1F81609-19	Water	06/13/18 14:30	06/19/18 10:10
18F1122-20	1F81609-20	Water	06/13/18 14:30	06/19/18 10:10

CASE NARRATIVE

The samples received on 06/19/18 10:10 for Work Order 1F81609 were contained in client supplied containers.

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18F1122 Project Manager: Project Manager	Reported 07/05/18 17:13

Microbac Laboratories, Inc. - Chicagoland

MICROBAC®

SUBCONTRACT ORDER
18F1122

1F81609

SENDING LABORATORY:
Microbac Laboratories, Inc. - Chicagoland
250 West 84th Drive
Merrillville, IN 46410
Phone: 219.769.8378
Project Manager: Ron Misiunas

RECEIVING LABORATORY:
Keystone Laboratories, Inc.
600 East 17th Street South
Newton, IA 50208
Phone: (800) 858-5227

Project Info:

Project Type: ENV-WasteAnalysis
Project Location:
Report TAT: 5
Due: 06/21/2018 23:59

Sample ID: 18F1122-01 **Matrix: Aqueous** **Sampled: 06/13/2018 16:00**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 16:00

-01

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 18F1122-02 **Matrix: Aqueous** **Sampled: 06/13/2018 16:00**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 16:00

-02

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 18F1122-03 **Matrix: Aqueous** **Sampled: 06/13/2018 16:00**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 16:00

-03

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 18F1122-04 **Matrix: Aqueous** **Sampled: 06/13/2018 16:00**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 16:00

-04

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Page 1 of 5

Electronic Filing: Received, Clerk's Office 07/19/2024

Microbac Laboratories, Inc
250 West 84th Drive
Merrillville, IN 46410

Project: Subcontract
Project Number: 18F1122
Project Manager: Project Manager

Reported
07/05/18 17:13

Microbac Laboratories, Inc. - Chicagoland

MICROBAC®

SUBCONTRACT ORDER
18F1122

1F81609

Sample ID: 18F1122-05 **Matrix: Aqueous** **Sampled: 06/13/2018 10:40** -05

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 10:40

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 18F1122-06 **Matrix: Aqueous** **Sampled: 06/13/2018 10:40** -06

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 10:40

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 18F1122-07 **Matrix: Aqueous** **Sampled: 06/13/2018 10:40** -07

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 10:40

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 18F1122-08 **Matrix: Aqueous** **Sampled: 06/13/2018 10:40** -08

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 10:40

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 18F1122-09 **Matrix: Aqueous** **Sampled: 06/13/2018 12:00** -09

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 12:00

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

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Keystone LABORATORIES, INC.

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18F1122 Project Manager: Project Manager	Reported 07/05/18 17:13

Microbac Laboratories, Inc. - Chicagoland

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SUBCONTRACT ORDER
18F1122

1F81609

Sample ID: 18F1122-10 **Matrix: Aqueous** **Sampled: 06/13/2018 12:00**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 12:00

-10

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 18F1122-11 **Matrix: Aqueous** **Sampled: 06/13/2018 12:00**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 12:00

-11

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 18F1122-12 **Matrix: Aqueous** **Sampled: 06/13/2018 12:00**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 12:00

-12

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 18F1122-13 **Matrix: Aqueous** **Sampled: 06/13/2018 13:15**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 13:15

-13

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 18F1122-14 **Matrix: Aqueous** **Sampled: 06/13/2018 13:15**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 13:15

-14

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

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Project Number: 18F1122
Project Manager: Project Manager

Reported
07/05/18 17:13

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18F1122

1F81609

Sample ID: 18F1122-15 **Matrix: Aqueous** **Sampled: 06/13/2018 13:15** -15

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 13:15

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 18F1122-16 **Matrix: Aqueous** **Sampled: 06/13/2018 13:15** -16

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 13:15

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 18F1122-17 **Matrix: Aqueous** **Sampled: 06/13/2018 14:30** -17

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 14:30

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 18F1122-18 **Matrix: Aqueous** **Sampled: 06/13/2018 14:30** -18

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 14:30

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Sample ID: 18F1122-19 **Matrix: Aqueous** **Sampled: 06/13/2018 14:30** -19

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 14:30

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

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18F1122

IF81609

Sample ID: 18F1122-20 **Matrix: Aqueous** **Sampled: 06/13/2018 14:30**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	06/21/2018 23:59	07/11/2018 14:30

-20

Containers Supplied:
C: 250 ml amber glass, preserved - H2SO4

Released By	Date	Received By	Date
Brittany Hartsell	10-18-18/1700	Fed Ex	
		Jacob Malcom	10-19-18 10:10
Released By	Date	Received By	Date

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18F1122-01

1F81609-01 (Water)

Date Sampled:6/13/2018 4:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.037	0.010	mg/L	1	1BF1194	06/27/18	06/28/18 10:31	EPA 9020	TOX-2

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18F1122-02

1F81609-02 (Water)

Date Sampled:6/13/2018 4:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.050**	0.010	mg/L	1	IBG0131	07/03/18	07/03/18 14:55	EPA 9020	TOX-2

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18F1122-03

1F81609-03 (Water)

Date Sampled:6/13/2018 4:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.046**	0.010	mg/L	1	1BG0131	07/03/18	07/03/18 14:55	EPA 9020	TOX-2

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18F1122-04

1F81609-04 (Water)

Date Sampled:6/13/2018 4:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.060	0.010	mg/L	1	IBG0131	07/03/18	07/03/18 14:55	EPA 9020	TOX-2

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18F1122-05

1F81609-05 (Water)

Date Sampled:6/13/2018 10:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.041	0.010	mg/L	1	1BG0131	07/03/18	07/03/18 14:55	EPA 9020	TOX-2

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18F1122-06

1F81609-06 (Water)

Date Sampled:6/13/2018 10:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.038	0.010	mg/L	1	IBG0131	07/03/18	07/03/18 14:55	EPA 9020	TOX-2

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18F1122-07

1F81609-07 (Water)

Date Sampled:6/13/2018 10:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.033	0.010	mg/L	1	IBG0131	07/03/18	07/03/18 14:55	EPA 9020	TOX-2

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18F1122-08

1F81609-08 (Water)

Date Sampled:6/13/2018 10:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.043**	0.010	mg/L	1	IBG0131	07/03/18	07/03/18 14:55	EPA 9020	TOX-2

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18F1122-09

1F81609-09 (Water)

Date Sampled:6/13/2018 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.046**	0.010	mg/L	1	IBG0131	07/03/18	07/03/18 14:55	EPA 9020	TOX-2

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18F1122-10

1F81609-10 (Water)

Date Sampled:6/13/2018 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.034**	0.010	mg/L	1	1BG0131	07/03/18	07/03/18 14:55	EPA 9020	TOX-2

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18F1122 Project Manager: Project Manager	Reported 07/05/18 17:13

18F1122-11

1F81609-11 (Water)

Date Sampled:6/13/2018 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.094	0.010	mg/L	1	1BG0185	07/05/18	07/05/18 16:00	EPA 9020	TOX-2, TOX-3

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18F1122-12

1F81609-12 (Water)

Date Sampled:6/13/2018 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.136	0.010	mg/L	1	IBG0185	07/05/18	07/05/18 16:00	EPA 9020	TOX-2

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18F1122-13

1F81609-13 (Water)

Date Sampled:6/13/2018 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.055	0.010	mg/L	1	IBG0185	07/05/18	07/05/18 16:00	EPA 9020	TOX-2

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18F1122-14

1F81609-14 (Water)

Date Sampled:6/13/2018 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.041**	0.010	mg/L	1	IBG0185	07/05/18	07/05/18 16:00	EPA 9020	TOX-2

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18F1122-15

1F81609-15 (Water)

Date Sampled:6/13/2018 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.044	0.010	mg/L	1	IBG0185	07/05/18	07/05/18 16:00	EPA 9020	TOX-2

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18F1122-16

1F81609-16 (Water)

Date Sampled:6/13/2018 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.045	0.010	mg/L	1	1BG0185	07/05/18	07/05/18 16:00	EPA 9020	TOX-2

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18F1122-17

1F81609-17 (Water)

Date Sampled:6/13/2018 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.041	0.010	mg/L	1	1BG0185	07/05/18	07/05/18 16:00	EPA 9020	TOX-2

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18F1122-18

1F81609-18 (Water)

Date Sampled:6/13/2018 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.034	0.010	mg/L	1	IBG0185	07/05/18	07/05/18 16:00	EPA 9020	TOX-2

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18F1122-19

1F81609-19 (Water)

Date Sampled:6/13/2018 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.031**	0.010	mg/L	1	IBG0185	07/05/18	07/05/18 16:00	EPA 9020	TOX-2

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18F1122-20

1F81609-20 (Water)

Date Sampled:6/13/2018 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.036**	0.010	mg/L	1	IBG0185	07/05/18	07/05/18 16:55	EPA 9020	TOX-2

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18F1122 Project Manager: Project Manager	Reported 07/05/18 17:13

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1BF1194 - TOX/TX/EOX										
Blank (1BF1194-BLK1)				Prepared: 06/27/18 Analyzed: 06/28/18						
Total Organic Halogens (TOX)	ND	0.010	mg/L							
LCS (1BF1194-BS1)				Prepared: 06/27/18 Analyzed: 06/28/18						
Total Organic Halogens (TOX)	0.1054	0.010	mg/L	0.0988902		107	74-126			QM-23
LCS Dup (1BF1194-BSD1)				Prepared: 06/27/18 Analyzed: 06/28/18						
Total Organic Halogens (TOX)	0.1132	0.010	mg/L	0.0988902		115	74-126	7.19	30	QM-23
Reference (1BF1194-SRM1)				Prepared: 06/27/18 Analyzed: 06/28/18						
Total Organic Halogens (TOX)	0.1014	0.010	mg/L	0.0984592		103	90-110			
Reference (1BF1194-SRM2)				Prepared: 06/27/18 Analyzed: 06/28/18						
Total Organic Halogens (TOX)	0.0911	0.010	mg/L	0.0984592		92.5	90-110			
Batch 1BG0131 - TOX/TX/EOX										
Blank (1BG0131-BLK1)				Prepared & Analyzed: 07/03/18						
Total Organic Halogens (TOX)	ND	0.010	mg/L							
LCS (1BG0131-BS1)				Prepared & Analyzed: 07/03/18						
Total Organic Halogens (TOX)	0.1012	0.010	mg/L	0.0988902		102	74-126			QM-23
LCS Dup (1BG0131-BSD1)				Prepared & Analyzed: 07/03/18						
Total Organic Halogens (TOX)	0.1039	0.010	mg/L	0.0988902		105	74-126	2.65	30	QM-23
Reference (1BG0131-SRM1)				Prepared & Analyzed: 07/03/18						
Total Organic Halogens (TOX)	0.1019	0.010	mg/L	0.0988902		103	0-200			

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

Phone 641-792-8451

600 East 17th Street South
Newton, IA 50208

Fax 641-792-7989

Electronic Filing: Received, Clerk's Office 07/19/2024

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18F1122 Project Manager: Project Manager	Reported 07/05/18 17:13

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1BG0131 - TOX/TX/EOX										
Reference (1BG0131-SRM2)				Prepared & Analyzed: 07/03/18						
Total Organic Halogens (TOX)	0.1059	0.010	mg/L	0.0988902		107	0-200			
Batch 1BG0185 - TOX/TX/EOX										
Blank (1BG0185-BLK1)				Prepared & Analyzed: 07/05/18						
Total Organic Halogens (TOX)	ND	0.010	mg/L							
LCS (1BG0185-BS1)				Prepared & Analyzed: 07/05/18						
Total Organic Halogens (TOX)	0.1060	0.010	mg/L	0.0988902		107	74-126			QM-23
LCS Dup (1BG0185-BSD1)				Prepared & Analyzed: 07/05/18						
Total Organic Halogens (TOX)	0.1031	0.010	mg/L	0.0988902		104	74-126	2.74	30	QM-23
Reference (1BG0185-SRM1)				Prepared & Analyzed: 07/05/18						
Total Organic Halogens (TOX)	0.0988	0.010	mg/L	0.0984592		100	90-110			
Reference (1BG0185-SRM2)				Prepared & Analyzed: 07/05/18						
Total Organic Halogens (TOX)	0.1013	0.010	mg/L	0.0984592		103	90-110			

Certified Analyses Included in This Report

Method/Matrix	Analyte	Certifications
EPA 9020 in Water		
	Total Organic Halogens (TOX)	KS-NT,SIA1X

Code	Certifying Authority	Certificate Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2019
KS-NT	Kansas Department of Health and Environment (NELAP	E-10287	10/31/2018
MO-KC	Missouri Department of Natural Resources	140	04/30/2019
SIA1X	Iowa Department of Natural Resources	95	02/01/2019

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Phone 641-792-8451

600 East 17th Street South
Newton, IA 50208

Fax 641-792-7989

Electronic Filing: Received, Clerk's Office 07/19/2024

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18F1122 Project Manager: Project Manager	Reported 07/05/18 17:13

Notes and Definitions

TOX-3	The RPD value for the sample duplicates are outside of acceptance limits due to matrix interference. The reported value is an average of all test measurements.
TOX-2	Repeated analysis of this sample consistently exceeded greater than 10% breakthrough to the second column.
QM-23	LCS/LCSD were analyzed in place of MS/MSD due to limited sample volume.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

Phone 641-792-8451

600 East 17th Street South
Newton, IA 50208

Fax 641-792-7989

Electronic Filing: Received, Clerk's Office 07/19/2024

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18F1122 Project Manager: Project Manager	Reported 07/05/18 17:13

Leslie Taylor

Leslie Taylor For Sue Thompson
Project Manager II

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

Phone 641-792-8451
600 East 17th Street South
Newton, IA 50208
Fax 641-792-7989

MICROBAC®

December 20, 2018

Carlson Environmental, Inc.
65 East Wacker Place, Suite 2210
Chicago, IL 60601-

Work Order No.: 18L0146

Re: Ceco - Lemont, IL

Dear Bruce Shabino:

Microbac Laboratories, Inc. - Chicagoland Division received 20 sample(s) on 12/4/2018 4:28:00PM for the analyses presented in the following report as Work Order 18L0146.

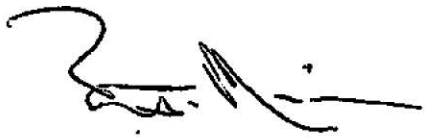
The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please contact your project manager. For any feedback, please contact Ron Misiunas, Division Manager, at ron.misiunas@microbac.com.

Sincerely,
Microbac Laboratories, Inc.



Ron Misiunas
Managing Director

MICROBAC®

WORK ORDER SAMPLE SUMMARY

Date: *Thursday, December 20, 2018*

Client: Carlson Environmental, Inc.
Project: Ceco - Lemont, IL
Lab Order: 18L0146

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
18L0146-01	MWD-1A		12/03/2018 11:30	12/4/2018 4:28:00PM
18L0146-02	MWD-1B		12/03/2018 11:30	12/4/2018 4:28:00PM
18L0146-03	MWD-1C		12/03/2018 11:30	12/4/2018 4:28:00PM
18L0146-04	MWD-1D		12/03/2018 11:30	12/4/2018 4:28:00PM
18L0146-05	MWD-2A		12/03/2018 10:15	12/4/2018 4:28:00PM
18L0146-06	MWD-2B		12/03/2018 10:15	12/4/2018 4:28:00PM
18L0146-07	MWD-2C		12/03/2018 10:15	12/4/2018 4:28:00PM
18L0146-08	MWD-2D		12/03/2018 10:15	12/4/2018 4:28:00PM
18L0146-09	MWD-3A		12/03/2018 14:45	12/4/2018 4:28:00PM
18L0146-10	MWD-3B		12/03/2018 14:45	12/4/2018 4:28:00PM
18L0146-11	MWD-3C		12/03/2018 14:45	12/4/2018 4:28:00PM
18L0146-12	MWD-3D		12/03/2018 14:45	12/4/2018 4:28:00PM
18L0146-13	MWD-4A		12/03/2018 13:00	12/4/2018 4:28:00PM
18L0146-14	MWD-4B		12/03/2018 13:00	12/4/2018 4:28:00PM
18L0146-15	MWD-4C		12/03/2018 13:00	12/4/2018 4:28:00PM
18L0146-16	MWD-4D		12/03/2018 13:00	12/4/2018 4:28:00PM
18L0146-17	MWD-5A		12/03/2018 12:30	12/4/2018 4:28:00PM
18L0146-18	MWD-5B		12/03/2018 12:30	12/4/2018 4:28:00PM
18L0146-19	MWD-5C		12/03/2018 12:30	12/4/2018 4:28:00PM
18L0146-20	MWD-5D		12/03/2018 12:30	12/4/2018 4:28:00PM

Samples Subcontracted To: Keystone Laboratories, Inc.

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
18L0146-01	MWD-1A		12/03/2018 11:30	12/4/2018 4:28:00PM
18L0146-02	MWD-1B		12/03/2018 11:30	12/4/2018 4:28:00PM
18L0146-03	MWD-1C		12/03/2018 11:30	12/4/2018 4:28:00PM
18L0146-04	MWD-1D		12/03/2018 11:30	12/4/2018 4:28:00PM
18L0146-05	MWD-2A		12/03/2018 10:15	12/4/2018 4:28:00PM
18L0146-06	MWD-2B		12/03/2018 10:15	12/4/2018 4:28:00PM
18L0146-07	MWD-2C		12/03/2018 10:15	12/4/2018 4:28:00PM
18L0146-08	MWD-2D		12/03/2018 10:15	12/4/2018 4:28:00PM
18L0146-09	MWD-3A		12/03/2018 14:45	12/4/2018 4:28:00PM
18L0146-10	MWD-3B		12/03/2018 14:45	12/4/2018 4:28:00PM
18L0146-11	MWD-3C		12/03/2018 14:45	12/4/2018 4:28:00PM
18L0146-12	MWD-3D		12/03/2018 14:45	12/4/2018 4:28:00PM
18L0146-13	MWD-4A		12/03/2018 13:00	12/4/2018 4:28:00PM
18L0146-14	MWD-4B		12/03/2018 13:00	12/4/2018 4:28:00PM
18L0146-15	MWD-4C		12/03/2018 13:00	12/4/2018 4:28:00PM
18L0146-16	MWD-4D		12/03/2018 13:00	12/4/2018 4:28:00PM
18L0146-17	MWD-5A		12/03/2018 12:30	12/4/2018 4:28:00PM
18L0146-18	MWD-5B		12/03/2018 12:30	12/4/2018 4:28:00PM

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WORK ORDER SAMPLE SUMMARY **Date:** *Thursday, December 20, 2018*

18L0146-19	MWD-5C		12/03/2018 12:30	12/4/2018 4:28:00PM
18L0146-20	MWD-5D		12/03/2018 12:30	12/4/2018 4:28:00PM

Samples Subcontracted To: Microbac - OVD

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
18L0146-01	MWD-1A		12/03/2018 11:30	12/4/2018 4:28:00PM
18L0146-02	MWD-1B		12/03/2018 11:30	12/4/2018 4:28:00PM
18L0146-03	MWD-1C		12/03/2018 11:30	12/4/2018 4:28:00PM
18L0146-04	MWD-1D		12/03/2018 11:30	12/4/2018 4:28:00PM
18L0146-05	MWD-2A		12/03/2018 10:15	12/4/2018 4:28:00PM
18L0146-06	MWD-2B		12/03/2018 10:15	12/4/2018 4:28:00PM
18L0146-07	MWD-2C		12/03/2018 10:15	12/4/2018 4:28:00PM
18L0146-08	MWD-2D		12/03/2018 10:15	12/4/2018 4:28:00PM
18L0146-09	MWD-3A		12/03/2018 14:45	12/4/2018 4:28:00PM
18L0146-10	MWD-3B		12/03/2018 14:45	12/4/2018 4:28:00PM
18L0146-11	MWD-3C		12/03/2018 14:45	12/4/2018 4:28:00PM
18L0146-12	MWD-3D		12/03/2018 14:45	12/4/2018 4:28:00PM
18L0146-13	MWD-4A		12/03/2018 13:00	12/4/2018 4:28:00PM
18L0146-14	MWD-4B		12/03/2018 13:00	12/4/2018 4:28:00PM
18L0146-15	MWD-4C		12/03/2018 13:00	12/4/2018 4:28:00PM
18L0146-16	MWD-4D		12/03/2018 13:00	12/4/2018 4:28:00PM
18L0146-17	MWD-5A		12/03/2018 12:30	12/4/2018 4:28:00PM
18L0146-18	MWD-5B		12/03/2018 12:30	12/4/2018 4:28:00PM
18L0146-19	MWD-5C		12/03/2018 12:30	12/4/2018 4:28:00PM
18L0146-20	MWD-5D		12/03/2018 12:30	12/4/2018 4:28:00PM

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Analytical Results

Date: *Thursday, December 20, 2018*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-1A
Sample Description:
Matrix: Aqueous

Work Order/ID: 18L0146-01
Sampled: 12/03/2018 11:30
Received: 12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time: 12/08/2018 11:06
Total Organic Carbon			*3.30*	2.00		mg/L	2	12/08/2018 11:06
			Method: EPA 120.1 Rev 1982					Analyst: ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 12/11/2018 11:39
Specific Conductance		A	*1100*	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 12/06/2018 10:42
pH	dil	A	*7.18*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Ceco - Lemont, IL		
Client Sample ID:	MWD-1B	**Work Order/ID:**	18L0146-02
Sample Description:		**Sampled:**	12/03/2018 11:30
Matrix:	Aqueous	**Received:**	12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time: 12/08/2018 11:26
Total Organic Carbon			*3.19*	2.00		mg/L	2	12/08/2018 11:26
			Method: EPA 120.1 Rev 1982					Analyst: ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 12/11/2018 11:39
Specific Conductance	i	A	*1140*	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 12/06/2018 10:42
pH	dil	A	*7.21*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Ceco - Lemont, IL		
Client Sample ID:	MWD-1C	**Work Order/ID:**	18L0146-03
Sample Description:		**Sampled:**	12/03/2018 11:30
Matrix:	Aqueous	**Received:**	12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time: 12/08/2018 00:23
Total Organic Carbon			*5.97*	2.00		mg/L	2	12/08/2018 0:23
			Method: EPA 120.1 Rev 1982					Analyst: ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 12/11/2018 11:39
Specific Conductance		A	*1310*	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 12/06/2018 10:42
pH	dlj	A	*7.05*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Ceco - Lemont, IL		
Client Sample ID:	MWD-1D	**Work Order/ID:**	18L0146-04
Sample Description:		**Sampled:**	12/03/2018 11:30
Matrix:	Aqueous	**Received:**	12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time: 12/08/2018 06:36
Total Organic Carbon			*4.94*	2.00		mg/L	2	12/08/2018 6:36
			Method: EPA 120.1 Rev 1982					Analyst: ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 12/11/2018 11:39
Specific Conductance	i	A	*1270*	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 12/06/2018 10:42
pH	dlj	A	*7.07*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client:	Carlson Environmental, Inc.
Client Project:	Ceco - Lemont, IL
Client Sample ID:	MWD-2A
Sample Description:	
Matrix:	Aqueous
Work Order/ID:	18L0146-05
Sampled:	12/03/2018 10:15
Received:	12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time: 12/07/2018 15:26
Total Organic Carbon			*6.75*	2.00		mg/L	2	12/07/2018 15:26
			Method: EPA 120.1 Rev 1982					Analyst: ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 12/11/2018 11:39
Specific Conductance	i	A	986	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 12/06/2018 10:42
pH	dlj	A	*7.18*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Ceco - Lemont, IL		
Client Sample ID:	MWD-2B	**Work Order/ID:**	18L0146-06
Sample Description:		**Sampled:**	12/03/2018 10:15
Matrix:	Aqueous	**Received:**	12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time: 12/07/2018 15:48
Total Organic Carbon			*7.14*	2.00		mg/L	2	12/07/2018 15:48
			Method: EPA 120.1 Rev 1982					Analyst: ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 12/11/2018 11:39
Specific Conductance	I	A	999	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 12/06/2018 10:42
pH	dlj	A	*7.17*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Ceco - Lemont, IL		
Client Sample ID:	MWD-2C	**Work Order/ID:**	18L0146-07
Sample Description:		**Sampled:**	12/03/2018 10:15
Matrix:	Aqueous	**Received:**	12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time: 12/07/2018 16:09
Total Organic Carbon			*6.88*	2.00		mg/L	2	12/07/2018 16:09
			Method: EPA 120.1 Rev 1982					Analyst: ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 12/11/2018 11:39
Specific Conductance		A	*987*	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 12/06/2018 10:42
pH	dlj	A	*7.14*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Ceco - Lemont, IL		
Client Sample ID:	MWD-2D	**Work Order/ID:**	18L0146-08
Sample Description:		**Sampled:**	12/03/2018 10:15
Matrix:	Aqueous	**Received:**	12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst:DIH
Total Organic Carbon								Prep Date/Time:12/07/2018 16:31
Total Organic Carbon			*9.64*	2.00		mg/L	2	12/07/2018 16:31
			Method: EPA 120.1 Rev 1982					Analyst:ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time:12/11/2018 11:39
Specific Conductance	I	A	*1020*	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst:DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time:12/06/2018 10:42
pH	dlj	A	*7.15*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Ceco - Lemont, IL		
Client Sample ID:	MWD-3A	**Work Order/ID:**	18L0146-09
Sample Description:		**Sampled:**	12/03/2018 14:45
Matrix:	Aqueous	**Received:**	12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time: 12/07/2018 16:53
Total Organic Carbon			*7.47*	2.00		mg/L	2	12/07/2018 16:53
			Method: EPA 120.1 Rev 1982					Analyst: ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 12/11/2018 11:39
Specific Conductance	I	A	*1370*	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 12/06/2018 10:42
pH	dil	A	*7.15*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Ceco - Lemont, IL		
Client Sample ID:	MWD-3B	**Work Order/ID:**	18L0146-10
Sample Description:		**Sampled:**	12/03/2018 14:45
Matrix:	Aqueous	**Received:**	12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time: 12/07/2018 17:14
Total Organic Carbon			*18.21*	2.00		mg/L	2	12/07/2018 17:14
			Method: EPA 120.1 Rev 1982					Analyst: ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 12/11/2018 11:39
Specific Conductance		A	*1300*	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 12/06/2018 10:42
pH	dlj	A	*7.27*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Ceco - Lemont, IL		
Client Sample ID:	MWD-3C	**Work Order/ID:**	18L0146-11
Sample Description:		**Sampled:**	12/03/2018 14:45
Matrix:	Aqueous	**Received:**	12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time: 12/07/2018 17:36
Total Organic Carbon			*6.56*	2.00		mg/L	2	12/07/2018 17:36
			Method: EPA 120.1 Rev 1982					Analyst: ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 12/11/2018 11:39
Specific Conductance	i	A	*1240*	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 12/06/2018 10:42
pH	dij	A	*7.12*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Ceco - Lemont, IL		
Client Sample ID:	MWD-3D	**Work Order/ID:**	18L0146-12
Sample Description:		**Sampled:**	12/03/2018 14:45
Matrix:	Aqueous	**Received:**	12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time: 12/07/2018 17:57
Total Organic Carbon			*17.9*	2.00		mg/L	2	12/07/2018 17:57
			Method: EPA 120.1 Rev 1982					Analyst: ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 12/11/2018 11:39
Specific Conductance	i	A	*1190*	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 12/06/2018 10:42
pH	dil	A	*7.21*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Ceco - Lemont, IL		
Client Sample ID:	MWD-4A	**Work Order/ID:**	18L0146-13
Sample Description:		**Sampled:**	12/03/2018 13:00
Matrix:	Aqueous	**Received:**	12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time: 12/07/2018 18:18
Total Organic Carbon			*7.16*	2.00		mg/L	2	12/07/2018 18:18
			Method: EPA 120.1 Rev 1982					Analyst: ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 12/11/2018 11:39
Specific Conductance	i	A	*1280*	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 12/06/2018 10:42
pH	dij	A	*7.00*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-4B
Sample Description:
Matrix: Aqueous

Work Order/ID: 18L0146-14
Sampled: 12/03/2018 13:00
Received: 12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time: 12/07/2018 19:01
Total Organic Carbon			7.37	2.00		mg/L	2	12/07/2018 19:01
			Method: EPA 120.1 Rev 1982					Analyst: ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 12/11/2018 11:39
Specific Conductance	i	A	1280	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 12/06/2018 10:42
pH	dlj	A	7.04	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Ceco - Lemont, IL		
Client Sample ID:	MWD-4C	**Work Order/ID:**	18L0146-15
Sample Description:		**Sampled:**	12/03/2018 13:00
Matrix:	Aqueous	**Received:**	12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time: 12/07/2018 19:23
Total Organic Carbon			*7.19*	2.00		mg/L	2	12/07/2018 19:23
			Method: EPA 120.1 Rev 1982					Analyst: ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 12/11/2018 11:39
Specific Conductance	i	A	*1270*	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 12/06/2018 10:42
pH	dij	A	*7.00*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Ceco - Lemont, IL		
Client Sample ID:	MWD-4D	**Work Order/ID:**	18L0146-16
Sample Description:		**Sampled:**	12/03/2018 13:00
Matrix:	Aqueous	**Received:**	12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time: 12/07/2018 19:44
Total Organic Carbon			*7.80*	2.00		mg/L	2	12/07/2018 19:44
			Method: EPA 120.1 Rev 1982					Analyst: ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 12/11/2018 11:39
Specific Conductance		A	*1310*	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 12/06/2018 10:42
pH	dil	A	*7.06*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Ceco - Lemont, IL		
Client Sample ID:	MWD-5A	**Work Order/ID:**	18L0146-17
Sample Description:		**Sampled:**	12/03/2018 12:30
Matrix:	Aqueous	**Received:**	12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DH
Total Organic Carbon								Prep Date/Time: 12/07/2018 21:47
Total Organic Carbon			*5.26*	2.00		mg/L	2	12/07/2018 21:47
			Method: EPA 120.1 Rev 1982					Analyst: ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 12/11/2018 11:39
Specific Conductance		A	*1340*	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 12/06/2018 10:42
pH	dij	A	*7.11*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Ceco - Lemont, IL		
Client Sample ID:	MWD-5B	**Work Order/ID:**	18L0146-18
Sample Description:		**Sampled:**	12/03/2018 12:30
Matrix:	Aqueous	**Received:**	12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst: DIH
Total Organic Carbon								Prep Date/Time: 12/07/2018 22:08
Total Organic Carbon			*5.73*	2.00		mg/L	2	12/07/2018 22:08
			Method: EPA 120.1 Rev 1982					Analyst: ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 12/11/2018 11:39
Specific Conductance	i	A	*1350*	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 12/06/2018 10:42
pH	dlj	A	*7.16*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client: Carlson Environmental, Inc.
Client Project: Ceco - Lemont, IL
Client Sample ID: MWD-5C
Sample Description:
Matrix: Aqueous

Work Order/ID: 18L0146-19
Sampled: 12/03/2018 12:30
Received: 12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Carbon			Method: SM5310-C-2000				Analyst: DIH	Prep Date/Time: 12/07/2018 22:50
Total Organic Carbon			*5.91*	2.00		mg/L	2	12/07/2018 22:50
Specific Conductance			Method: EPA 120.1 Rev 1982 Prep Method: EPA 120.1 Rev 1982				Analyst: ABG	Prep Date/Time: 12/11/2018 11:39
Specific Conductance	I	A	*1360*	2.00		umhos/cm	1	12/11/2018 11:39
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000				Analyst: DAT	Prep Date/Time: 12/06/2018 10:42
pH	dlj	A	*7.15*	2.00	H	pH at 25°C	1	12/06/2018 10:42

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Analytical Results

Date: *Thursday, December 20, 2018*

Client:	Carlson Environmental, Inc.		
Client Project:	Ceco - Lemont, IL		
Client Sample ID:	MWD-5D	**Work Order/ID:**	18L0146-20
Sample Description:		**Sampled:**	12/03/2018 12:30
Matrix:	Aqueous	**Received:**	12/04/2018 16:28

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SM5310-C-2000					Analyst:DIH
Total Organic Carbon								Prep Date/Time:12/07/2018 23:11
Total Organic Carbon			*5.63*	2.00		mg/L	2	12/07/2018 23:11
			Method: EPA 120.1 Rev 1982					Analyst:ABG
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time:12/11/2018 11:39
Specific Conductance	I	A	*1340*	2.00		umhos/cm	1	12/11/2018 11:39
			Method: SM 4500 H+ B-2000					Analyst:DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time:12/06/2018 11:32
pH	dlj	A	*7.13*	2.00	H	pH at 25°C	1	12/06/2018 11:32

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FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

B = Detected in the associated method Blank at a concentration above the routine RL
b- = Detected in the associated method Blank at a concentration greater than 2.2 times the MDL
b* = Detected in the associated method Blank at a concentration greater than half the RL
CFU = Colony forming units
D = Dilution performed on sample
DF = Dilution Factor
g = Gram
E = Estimated Value
H = Analyte was prepared and/or analyzed outside of the analytical method holding time
I = Matrix Interference
J = Analyte concentration detected between RL and MDL (Metals / Organics)
LOD = Limit of Detection
LOQ = Limit of Quantitation
m3 = Meters cubed
MDL = Method Detection Limit
mg/Kg = Milligrams per Kilogram (ppm)
mg/L = Milligrams per Liter (ppm)
NA = Not Analyzed
ND = Not Detected at the Reporting Limit (or the Method Detection Limit, if used)
NR = Not Recovered
R = RPD outside accepted recovery limits
RL = Reporting Limit
S = Spike recovery outside recovery limits
Surr = Surrogate
U = Undetected
> = Greater than
< = Less than
% = Percent
* = Result exceeds project specific limits

ANALYTE TYPES: (AT)

A,B = Target Analyte
I = Internal Standard
M = Summation Analyte
S = Surrogate
T = Tentatively Identified Compound (TIC, concentration estimated)

QC SAMPLE IDENTIFICATIONS

BLK = Method Blank
DUP = Method Duplicate
BS = Method Blank Spike
MS = Matrix Spike
ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
CRL = Client Required Reporting Limit
PDS = Post Digestion Spike
QCS = Quality Control Standard
ICSA = Interference Check Standard "A"
ICSAB = Interference Check Standard "AB"
BSD = Method Blank Spike Duplicate
MSD = Matrix Spike Duplicate
ICV = Initial Calibration Verification
CCV = Continuing Calibration Verification
OPR = Ongoing Precision and Recovery Standard
SD = Serial Dilution

CERTIFICATIONS (Certs)

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.

[d] Illinois EPA drinking water, wastewater and solid waste analysis (#200064)
[i] Kansas Dept Health & Env. NELAP (#E-10397)
[i] Kentucky Wastewater Laboratory Certification Program (#90147)

Cooler Receipt Log

Cooler ID: Default Cooler **Temp:** 0.2°C

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Cooler Inspection Checklist

Ice Present or not required?	No
Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes
Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes
Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes
Sample type identified on COC?	Yes
Correct containers listed on COC?	Yes
Correct number of containers listed on COC?	Yes
Containers intact?	Yes
COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes
Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes
Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes
Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes
Trip Blank(s) Present or not required?	No

Electronic Filing: Received, Clerk's Office 07/19/2024

Keystone LABORATORIES, INC.

MEMBER ACIL

December 19 2018

Project Manager
Microbac Laboratories, Inc
250 West 84th Drive
Merrillville, IN 46410

RE: Subcontract
18L0146

Enclosed are the results of analyses for samples received by the laboratory on 12/06/18 12:50. If you have any questions concerning this report, please feel free to contact me at 1-800-858-5227.

ANALYTICAL REPORT FOR SAMPLES

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
18L0146-01	IL80382-01	Water	12/03/18 11:30	12/06/18 12:50
18L0146-02	IL80382-02	Water	12/03/18 11:30	12/06/18 12:50
18L0146-03	IL80382-03	Water	12/03/18 11:30	12/06/18 12:50
18L0146-04	IL80382-04	Water	12/03/18 11:30	12/06/18 12:50
18L0146-05	IL80382-05	Water	12/03/18 10:15	12/06/18 12:50
18L0146-06	IL80382-06	Water	12/03/18 10:15	12/06/18 12:50
18L0146-07	IL80382-07	Water	12/03/18 10:15	12/06/18 12:50
18L0146-08	IL80382-08	Water	12/03/18 10:15	12/06/18 12:50
18L0146-09	IL80382-09	Water	12/03/18 14:45	12/06/18 12:50
18L0146-10	IL80382-10	Water	12/03/18 14:45	12/06/18 12:50
18L0146-11	IL80382-11	Water	12/03/18 14:45	12/06/18 12:50
18L0146-12	IL80382-12	Water	12/03/18 14:45	12/06/18 12:50
18L0146-13	IL80382-13	Water	12/03/18 13:00	12/06/18 12:50
18L0146-14	IL80382-14	Water	12/03/18 13:00	12/06/18 12:50
18L0146-15	IL80382-15	Water	12/03/18 13:00	12/06/18 12:50
18L0146-16	IL80382-16	Water	12/03/18 13:00	12/06/18 12:50

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

Phone 641-792-8451
600 East 17th Street South
Newton, IA 50208
Fax 641-792-7989

Electronic Filing: Received, Clerk's Office 07/19/2024

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-17	1L80382-17	Water	12/03/18 12:30	12/06/18 12:50
18L0146-18	1L80382-18	Water	12/03/18 12:30	12/06/18 12:50
18L0146-19	1L80382-19	Water	12/03/18 12:30	12/06/18 12:50
18L0146-20	1L80382-20	Water	12/03/18 12:30	12/06/18 12:50

CASE NARRATIVE

The samples received on 12/06/18 12:50 for Work Order 1L80382 were contained in client supplied containers.

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

Microbac Laboratories, Inc. - Chicagoland

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SUBCONTRACT ORDER

18L0146

1L80382

SENDING LABORATORY:
Microbac Laboratories, Inc. - Chicagoland
250 West 84th Drive
Merrillville, IN 46410
Phone: 219.769.8378
Project Manager: Ron Misiunas

RECEIVING LABORATORY:
Keystone Laboratories, Inc.
600 East 17th Street South
Newton, IA 50208
Phone: (800) 858-5227

Project Info:

Project Type: ENV-WasteAnalysis
Project Location:
Report TAT: 5
Due: 12/11/2018 23:59

Sample ID: 18L0146-01 **Matrix: Aqueous** **Sampled: 12/03/2018 11:30** -01

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 11:30

Containers Supplied:
B: 250 ml amber glass, preserved - H2SO4

Sample ID: 18L0146-02 **Matrix: Aqueous** **Sampled: 12/03/2018 11:30** -02

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 11:30

Containers Supplied:
B: 250 ml amber glass, preserved - H2SO4

Sample ID: 18L0146-03 **Matrix: Aqueous** **Sampled: 12/03/2018 11:30** -03

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 11:30

Containers Supplied:
B: 250 ml amber glass, preserved - H2SO4

Sample ID: 18L0146-04 **Matrix: Aqueous** **Sampled: 12/03/2018 11:30** -04

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 11:30

Containers Supplied:
B: 250 ml amber glass, preserved - H2SO4

Sample ID: 18L0146-05 **Matrix: Aqueous** **Sampled: 12/03/2018 10:15** -05

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 10:15

Containers Supplied:
B: 250 ml amber glass, preserved - H2SO4

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

Phone 641-792-8451
600 East 17th Street South
Newton, IA 50208
Fax 641-792-7989

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc
250 West 84th Drive
Merrillville, IN 46410

Project: Subcontract
Project Number: 18L0146
Project Manager: Project Manager

Reported
12/19/18 09:25

Microbac Laboratories, Inc. - Chicagoland

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IL8038:

SUBCONTRACT ORDER
18L0146

Analysis	Method	Analysis Due	Expires
Sample ID: 18L0146-06	**Matrix: Aqueous**		**Sampled: 12/03/2018 10:15** -06
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 10:15
Containers Supplied: B: 250 ml amber glass, preserved - H2SO4			
Sample ID: 18L0146-07	**Matrix: Aqueous**		**Sampled: 12/03/2018 10:15** -07
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 10:15
Containers Supplied: B: 250 ml amber glass, preserved - H2SO4			
Sample ID: 18L0146-08	**Matrix: Aqueous**		**Sampled: 12/03/2018 10:15** -08
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 10:15
Containers Supplied: B: 250 ml amber glass, preserved - H2SO4			
Sample ID: 18L0146-09	**Matrix: Aqueous**		**Sampled: 12/03/2018 14:45** -09
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 14:45
Containers Supplied: B: 250 ml amber glass, preserved - H2SO4			
Sample ID: 18L0146-10	**Matrix: Aqueous**		**Sampled: 12/03/2018 14:45** -10
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 14:45
Containers Supplied: B: 250 ml amber glass, preserved - H2SO4			
Sample ID: 18L0146-11	**Matrix: Aqueous**		**Sampled: 12/03/2018 14:45** -11
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 14:45
Containers Supplied: B: 250 ml amber glass, preserved - H2SO4			
Sample ID: 18L0146-12	**Matrix: Aqueous**		**Sampled: 12/03/2018 14:45** -12
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 14:45
Containers Supplied: B: 250 ml amber glass, preserved - H2SO4			

Page 2 of 4

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

Phone 641-792-8451
600 East 17th Street South
Newton, IA 50208
Fax 641-792-7989

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

Microbac Laboratories, Inc. - Chicagoland

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L180382

SUBCONTRACT ORDER

18L0146

Sample ID: 18L0146-13 **Matrix: Aqueous** **Sampled: 12/03/2018 13:00** -13

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 13:00

Containers Supplied:
B: 250 ml amber glass, preserved - H2SO4

Sample ID: 18L0146-14 **Matrix: Aqueous** **Sampled: 12/03/2018 13:00** -14

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 13:00

Containers Supplied:
B: 250 ml amber glass, preserved - H2SO4

Sample ID: 18L0146-15 **Matrix: Aqueous** **Sampled: 12/03/2018 13:00** -15

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 13:00

Containers Supplied:
B: 250 ml amber glass, preserved - H2SO4

Sample ID: 18L0146-16 **Matrix: Aqueous** **Sampled: 12/03/2018 13:00** -16

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 13:00

Containers Supplied:
B: 250 ml amber glass, preserved - H2SO4

Sample ID: 18L0146-17 **Matrix: Aqueous** **Sampled: 12/03/2018 12:30** -17

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 12:30

Containers Supplied:
B: 250 ml amber glass, preserved - H2SO4

Sample ID: 18L0146-18 **Matrix: Aqueous** **Sampled: 12/03/2018 12:30** -18

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 12:30

Containers Supplied:
B: 250 ml amber glass, preserved - H2SO4

Sample ID: 18L0146-19 **Matrix: Aqueous** **Sampled: 12/03/2018 12:30** -19

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 12:30

Containers Supplied:
B: 250 ml amber glass, preserved - H2SO4

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600 East 17th Street South
Newton, IA 50208
Fax 641-792-7989

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

Microbac Laboratories, Inc. - Chicagoland

MICROBAC®

IL80382

SUBCONTRACT ORDER

18L0146

Sample ID: 18L0146-20 **Matrix: Aqueous** **Sampled: 12/03/2018 12:30**

Analysis	Method	Analysis Due	Expires
TOX_SUB	SW-846 9020	12/11/2018 23:59	12/31/2018 12:30

-20

Containers Supplied:
B: 250 ml amber glass, preserved - H2SO4

Nicole Pawlowski 12-5-18/1700 Fedex
Released By Date Received By Date

Released By Date Received By Date 12-6-18 12:50

Page 4 of 4

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Keystone LABORATORIES, INC.

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-01

1L80382-01 (Water)

Date Sampled:12/3/2018 11:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.026**	0.010	mg/L	1	1BL0350	12/10/18	12/10/18 16:41	EPA 9020	

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-02

1L80382-02 (Water)

Date Sampled:12/3/2018 11:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.028	0.010	mg/L	1	1BL0350	12/10/18	12/10/18 16:41	EPA 9020	

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-03

1L80382-03 (Water)

Date Sampled:12/3/2018 11:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.033	0.010	mg/L	1	1BL0350	12/10/18	12/10/18 16:41	EPA 9020	

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-04

1L80382-04 (Water)

Date Sampled:12/3/2018 11:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.031**	0.010	mg/L	1	1BL0350	12/10/18	12/10/18 16:41	EPA 9020	

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-05

1L80382-05 (Water)

Date Sampled:12/3/2018 10:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.029	0.010	mg/L	1	18L0397	12/11/18	12/11/18 17:20	EPA 9020	

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-06

1L80382-06 (Water)

Date Sampled:12/3/2018 10:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.031**	0.010	mg/L	1	IBL0397	12/11/18	12/11/18 17:20	EPA 9020	

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-07

1L80382-07 (Water)

Date Sampled:12/3/2018 10:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.045	0.010	mg/L	1	IBL0397	12/11/18	12/11/18 17:20	EPA 9020	

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-08

1L80382-08 (Water)

Date Sampled:12/3/2018 10:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.045	0.010	mg/L	1	1BL0397	12/11/18	12/11/18 17:20	EPA 9020	

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-09

1L80382-09 (Water)

Date Sampled:12/3/2018 2:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.049**	0.010	mg/L	1	1BL0397	12/11/18	12/11/18 17:20	EPA 9020	

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-10

1L80382-10 (Water)

Date Sampled:12/3/2018 2:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.047	0.010	mg/L	1	18L0397	12/11/18	12/11/18 17:20	EPA 9020	

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-11

18L80382-11 (Water)

Date Sampled: 12/3/2018 2:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.031**	0.010	mg/L	1	18L0397	12/11/18	12/11/18 17:20	EPA 9020	

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-12

1L80382-12 (Water)

Date Sampled:12/3/2018 2:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.028**	0.010	mg/L	1	1BL0397	12/11/18	12/11/18 17:20	EPA 9020	

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-13

IL80382-13 (Water)

Date Sampled:12/3/2018 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.012	0.010	mg/L	1	IBL0447	12/12/18	12/12/18 13:57	EPA 9020	

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-14

1L80382-14 (Water)

Date Sampled:12/3/2018 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	IBL0447	12/12/18	12/12/18 13:57	EPA 9020	

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-15

IL80382-15 (Water)

Date Sampled:12/3/2018 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	0.014	0.010	mg/L	1	18L0447	12/12/18	12/12/18 13:57	EPA 9020	

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-16

1L80382-16 (Water)

Date Sampled:12/3/2018 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1BL0447	12/12/18	12/12/18 13:57	EPA 9020	

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-17

1L80382-17 (Water)

Date Sampled:12/3/2018 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1BL0447	12/12/18	12/12/18 13:57	EPA 9020	

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-18

1L80382-18 (Water)

Date Sampled:12/3/2018 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1BL0447	12/12/18	12/12/18 13:57	EPA 9020	

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

18L0146-19

IL80382-19 (Water)

Date Sampled:12/3/2018 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	18L0447	12/12/18	12/12/18 13:57	EPA 9020	

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Microbac Laboratories, Inc
250 West 84th Drive
Merrillville, IN 46410

Project: Subcontract
Project Number: 18L0146
Project Manager: Project Manager

Reported
12/19/18 09:25

18L0146-20

1L80382-20 (Water)

Date Sampled:12/3/2018 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1BL0447	12/12/18	12/12/18 13:57	EPA 9020	

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1BL0350 - TOX/TX/EOX										
Blank (1BL0350-BLK1)				Prepared & Analyzed: 12/10/18						
Total Organic Halogens (TOX)	ND	0.010	mg/L							
LCS (1BL0350-BS1)				Prepared & Analyzed: 12/10/18						
Total Organic Halogens (TOX)	0.1085	0.010	mg/L	0.0975400		111	76-133			QM-23
LCS Dup (1BL0350-BSD1)				Prepared & Analyzed: 12/10/18						
Total Organic Halogens (TOX)	0.1078	0.010	mg/L	0.0975400		110	76-133	0.697	28	QM-23
Reference (1BL0350-SRM1)				Prepared & Analyzed: 12/10/18						
Total Organic Halogens (TOX)	0.1008	0.010	mg/L	0.0978600		103	90-110			
Reference (1BL0350-SRM2)				Prepared & Analyzed: 12/10/18						
Total Organic Halogens (TOX)	0.1051	0.010	mg/L	0.0978600		108	90-110			
Reference (1BL0350-SRM3)				Prepared & Analyzed: 12/10/18						
Total Organic Halogens (TOX)	0.0885	0.010	mg/L	0.0978600		90.4	90-110			
Batch 1BL0397 - TOX/TX/EOX										
Blank (1BL0397-BLK1)				Prepared & Analyzed: 12/11/18						
Total Organic Halogens (TOX)	ND	0.010	mg/L							
LCS (1BL0397-BS1)				Prepared & Analyzed: 12/11/18						
Total Organic Halogens (TOX)	0.1095	0.010	mg/L	0.0975400		112	76-133			
LCS Dup (1BL0397-BSD1)				Prepared & Analyzed: 12/11/18						
Total Organic Halogens (TOX)	0.1133	0.010	mg/L	0.0975400		116	76-133	3.39	28	

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1BL0397 - TOX/TX/EOX										
Reference (1BL0397-SRM1)				Prepared & Analyzed: 12/11/18						
Total Organic Halogens (TOX)	0.1027	0.010	mg/L	0.0978600		105	90-110			
Reference (1BL0397-SRM2)				Prepared & Analyzed: 12/11/18						
Total Organic Halogens (TOX)	0.1045	0.010	mg/L	0.0978600		107	90-110			
Reference (1BL0397-SRM3)				Prepared & Analyzed: 12/11/18						
Total Organic Halogens (TOX)	0.1073	0.010	mg/L	0.0978600		110	90-110			
Batch 1BL0447 - TOX/TX/EOX										
Blank (1BL0447-BLK1)				Prepared & Analyzed: 12/12/18						
Total Organic Halogens (TOX)	ND	0.010	mg/L							
LCS (1BL0447-BS1)				Prepared & Analyzed: 12/12/18						
Total Organic Halogens (TOX)	0.1073	0.010	mg/L	0.0975400		110	76-133			QM-23
LCS Dup (1BL0447-BSD1)				Prepared & Analyzed: 12/12/18						
Total Organic Halogens (TOX)	0.1074	0.010	mg/L	0.0975400		110	76-133	0.168	28	QM-23
Reference (1BL0447-SRM1)				Prepared & Analyzed: 12/12/18						
Total Organic Halogens (TOX)	0.1038	0.010	mg/L	0.0978600		106	90-110			
Reference (1BL0447-SRM2)				Prepared & Analyzed: 12/12/18						
Total Organic Halogens (TOX)	0.1072	0.010	mg/L	0.0978600		110	90-110			
Reference (1BL0447-SRM3)				Prepared & Analyzed: 12/12/18						
Total Organic Halogens (TOX)	0.0919	0.010	mg/L	0.0978600		93.9	90-110			

Certified Analyses Included in This Report

Method/Matrix	Analyte	Certifications
EPA 9020 in Water		
	Total Organic Halogens (TOX)	KS-NT,SIA1X

Code	Certifying Authority	Certificate Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2019
KS-NT	Kansas Department of Health and Environment (NELAP	E-10287	10/31/2019
MO-KC	Missouri Department of Natural Resources	140	04/30/2019
SIA1X	Iowa Department of Natural Resources	95	02/01/2019

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Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

Notes and Definitions

QM-23	LCS/LCSD were analyzed in place of MS/MSD due to limited sample volume.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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Keystone
LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 West 84th Drive Merrillville, IN 46410	Project: Subcontract Project Number: 18L0146 Project Manager: Project Manager	Reported 12/19/18 09:25

Sue Thompson

Sue Thompson
Project Manager II

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1 of 2

CEI

CHAIN-OF-CUSTODY RECORD

No. 16741

CARLSON ENVIRONMENTAL, INC. 65 E. Wacker Place Chicago, IL 60601 (312)346-2140

PROJ. NO. 100.01

PROJECT NAME Robertson-Ceco

SAMPLERS: (Signature) [signature] Bruce Shabino

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	TOC	TOX	Spec Cond	pH					18L0146 REMARKS
1	MWD-1A	12-3-18	1130		X	Groundwater	4	X	X	X	X					01
2	MWD-1B															02
3	MWD-1C															03
4	MWD-1D															04
5	MWD-2A		1015													05
6	MWD-2B															06
7	MWD-2C															07
8	MWD-2D															08
9	MWD-3A		1445													09
10	MWD-3B		1445													10

Relinquished by (Signature)	Date/Time	Received by (Signature)
[signature]	12-4-18 1140	[signature]
Relinquished by (Signature)	Date/Time	Received by (Signature)
Relinquished by (Signature)	Date/Time	Received for Laboratory by (Signature)
[signature]	12-4-18 1628	[signature]

REMARKS Standard TAT

12-5-18 NC #1 0.8 ~~0.2~~ 0.6 0.2 °C 02

Distribution: White - Accompanies Shipment, Yellow - Laboratory File, Pink - Coordinator Field Files

18L0146 Ron Misiunas
Carlson - Chicago, IL
Ceco - Lemont, IL
12/04/2018

2 of 2

CEI

CHAIN-OF-CUSTODY RECORD

No. 16742

CARLSON ENVIRONMENTAL, INC. 65 E. Wacker Place Chicago, IL 60601 (312)346-2140

PROJ. NO. 100.01 | PROJECT NAME Robertson-Ceco

SAMPLERS: (Signature) Bruce Shabino

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) TAL / TCL / Spec Cond. / pH	REMARKS
1	MWD-3C	12-3-18	1445		X	Groundwater	4	X X X X	1926146 -11
2	MWD-3D		1445						-12
3	MWD-4A		1300						-13
4	MWD-4B		↓						-14
5	MWD-4C								-15
6	MWD-4D								-16
7	MWD-5A		1230						-17
8	MWD-5B		↓						-18
9	MWD-5C								-19
10	MWD-5D	↓	↓		↓	↓	↓	↓	-20

Relinquished by	Date/Time	Received by
	12-4-18 1740	
Relinquished by	Date/Time	Received by
Relinquished by	Date/Time 1629	Received for Laboratory by
12-4-18		

REMARKS: Standard TAT

0.8 -0.6 0.2°C

Distribution: White - Accompanies Shipment, Yellow - Laboratory File, Pink - Coordinator Field Files

ATTACHMENT D

Certification Statement

Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

ILD990785453
USEPA ID Number

RCH Newco II LLC
Site Name

1978030005
IEPA Number

RCH Newco II LLC
Site Owner/Operator

[signature] 04/18/2019
Signature of Owner/Operator Representative **Date**

Kevin J. Shady, VP
Name and Title of Owner/Operator Representative

06/14/2022 11:31AM L017033 1978030005 24C 3,208,793 170000174683 03/27/2020 L RCH NEWCO II LLC
B:44470 F:50497 I:00000139 L16-04122
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MEMORANDUM

Date 3/27/2020

To: BOL File Room

From: Pamela Ketchum

Re: LPC# 1978030005 - Will County
RCH Newco II LLC
Subpart F

The 2019 Annual Groundwater Monitoring Report for the above referenced facility was dated 3/26/2020 and was received by the Agency on 3/27/2020. A copy is attached.

cc:

IEPA - DIVISION OF RECORDS MANAGEMENT
RELEASABLE
JUL 10 2020
REVIEWER: JMR

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CARLSON ENVIRONMENTAL

March 26, 2020 PN 100.01

Ms. Deanne Virgin
Illinois Environmental Protection Agency
Bureau of Land #24
1021 N. Grand Avenue East
Springfield, Illinois 62702-3998

RE: 2019 Hazardous Waste Report
1978030005 -- Will County
Lemont/Ceco Corporation
ILD #990785453

RECEIVED
MAR 27 2020
IEPA-BOL
PERMIT SECTION

Dear Ms. Virgin:

On behalf of RCH Newco II LLC, please find enclosed the 2019 Hazardous Waste Report Form IC, for the RCRA Hazardous Waste Management Unit at the above-referenced site. In addition, a copy of the 2019 Annual Groundwater Monitoring Report is included. The original copy of this report has been submitted to the IEPA Division of Land Pollution Control Permits Section.

If you have any questions, please contact me at (312)346-2140.

Sincerely,

CARLSON ENVIRONMENTAL, INC.

Bruce A. Shabino, P.G.
Senior Project Manager

enclosure

cc: Mr. Kevin Shudy

85 East Wacker Place Suite 2210 Chicago, Illinois 60601 Phone (312) 346-2140 Fax (312) 346-8066 www.carlsonenv.com

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CARLSON ENVIRONMENTAL

RCRA - 2019 ANNUAL GROUNDWATER MONITORING REPORT

RCH Newco II LLC
EPA ID No. ILD990785453

Prepared For
RCH Newco II LLC

Prepared By
Carlson Environmental, Inc.

65 E. Wacker Place
Suite 2210
Chicago, IL 60601
(P) 312-346-2140
(F) 312-346-6956
www.carlsonenv.com

Project No. 100.01
March 26, 2020

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MAR 27 2020
IEPA-BOL
PERMIT SECTION

Bruce A. Shabino, P.G.
Senior Project Manager

Edward E. Garske
President

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CARLSON ENVIRONMENTAL

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1.0 INTRODUCTION 1

2.0 BACKGROUND 1

3.0 GROUNDWATER MONITORING 2
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3.2 Groundwater Sampling 2
3.3 Groundwater Analyses 4
3.4 Groundwater Analytical Results 5

4.0 POST-CLOSURE COST ESTIMATE 6

5.0 CONCLUSIONS 6

ATTACHMENTS

ATTACHMENT A - Figures
ATTACHMENT B - Tables
ATTACHMENT C - Laboratory Analytical Reports
ATTACHMENT D - Certification Statement

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CARLSON ENVIRONMENTAL

RCH Newco II LLC
ILD990785453

March 26, 2020

1.0 INTRODUCTION

This Annual Groundwater Monitoring Report summarizes the activities associated with the closed RCRA Hazardous Waste Management Unit (Closure Unit) at the former Robertson-Ceco Corporation Property (currently owned by RCH Newco II LLC) in accordance with 35 IAC 725.175, for the period of 2019. The report details the laboratory analytical results and the statistical analysis for the data collected in the twenty-sixth year of post-closure groundwater monitoring for the Closure Unit. This report was completed on behalf of our client, RCH Newco II LLC.

2.0 BACKGROUND

The RCH Newco II LLC property is located on New Avenue in Lemont, Will County, Illinois (Figure 1, Attachment A) and is approximately two-acres in size (Figure 2, Attachment A). The Closure Unit contains approximately 2,500 cubic yards of emission control dust (EAF dust) from off-site electric arc furnaces ("listed" hazardous waste K061 by the United States Environmental Protection Agency under RCRA) and approximately 29,500 cubic yards of miscellaneous non-hazardous steel plant by-products, primarily slag, which was co-excavated with the EAF dust. These materials, altogether comprising a volume of 32,000 cubic yards, were placed in a RCRA Interim-Status Closure Unit (landfill) constructed in accordance with an IEPA-approved Closure Plan. The hazardous waste management unit is completely enclosed within a 10-foot-high locking chain-link fence that was in good condition at the time of the recently completed sampling events.

Construction of the Closure Unit was completed in accordance with the IEPA-approved design in 1988. Since the completion of the construction of the Closure Unit, no hazardous waste management activity has occurred at the site other than the groundwater monitoring and inspection activities associated with the Closure Unit.

In April 1993, Halliburton NUS Corporation (NUS) installed five RCRA post-closure groundwater monitoring wells at the Closure Unit. Two wells were installed hydraulically

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up-gradient and three wells were located hydraulically down-gradient. The post-closure groundwater monitoring wells were installed in the uppermost aquifer, which is partly within the upper portion of the bedrock unit.

3.0 GROUNDWATER MONITORING

3.1 Monitoring Well Network

The groundwater monitoring well system, surrounding the Closure Unit, was designed to comply with applicable state regulations. The well network consists of five wells (Figure 3, Attachment A). Monitoring wells MWD-1 and MWD-5 are located hydraulically upgradient from the Closure Unit for the purpose of monitoring the "background" groundwater concentrations. Monitoring wells MWD-2, MWD-3, and MWD-4 are located hydraulically downgradient from the Closure Unit. The downgradient wells were installed at the limit of the waste management area to ensure the immediate detection of any hazardous constituent. The placement of the wells was designed based on the northeastern potentiometric groundwater flow in the uppermost aquifer as reported by NUS in previous reports.

3.2 Groundwater Sampling

A quarterly groundwater sampling program was started by NUS in April 1993 for the Closure Unit well network. Carlson began sampling the groundwater beginning with Round 9. The completion of Sample Round 12 marked the end of the quarterly groundwater monitoring and the start of a semi-annual sampling event pursuant to IEPA's February 7, 1996 correspondence reducing sampling frequency. The objective of the groundwater sampling is to collect data that would help determine whether the Closure Unit is impacting the groundwater.

On May 20 (Round 57), and November 20 (Round 58), 2019, Carlson visually inspected and measured the standing water levels in the five groundwater monitoring wells previously installed at the site for the Closure Unit. Inspection of the monitoring wells

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indicated that the stickup well-head protective covers were in good condition and were locked securely in place.

During Rounds 57 and 58, groundwater samples were collected from each of the five wells (MWD-1 through MWD-5), using a United States Environmental Protection Agency (USEPA) accepted low flow groundwater sampling method. The low flow sampling method was designed to obtain a representative sample from the well without requiring filtering of the sample. The objective is to collect a groundwater sample by eliminating turbidity that is common to bailing methods.

The well sampling procedures were as follows:

1.) The static water level was measured and recorded to 0.01 feet with an electric water level indicator (Solinist model 101). The probe was carefully lowered into the well to minimize disturbance of the water column. Water level measurements are shown in Table 1, Attachment B.

2.) If necessary, the required length of teflon tubing was calculated, measured and marked for attachment to a peristaltic pump, so that the intake was located at the mid-point of the saturated screen interval. A minimal length of tubing was used to minimize the temperature change from the collection point to the discharge point.

3.) If not already present, the tubing was inserted slowly to the measured depth and secured to the well casing to minimize disturbance to the water column. The tubing was dedicated to each well, secured to the cap, and left inside the protective casing to minimize disturbance to the water column during subsequent sampling events.

4.) The monitoring instruments were calibrated and assembled. The tubing was connected to the pump and a flow-through chamber in which the instrument probes were located.

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5.) The water level was measured and recorded on a data sheet and compared to the previous static water level.

6.) The pump was started at the minimum continuous flow rate attainable by the pump, between 0.02 to 0.05 liters per minute. A full round of measurements was recorded every five minutes including time, temperature, specific conductance, pH, turbidity and dissolved oxygen. All data and changes were recorded on the data sheets.

7.) After field parameters stabilized, groundwater samples were collected. Stabilization was defined by readings within a range of ten percent for three consecutive five-minute intervals.

8.) After stabilization was achieved, the flow-through chamber was disconnected and the sample was collected directly from the tubing.

9.) The samples were maintained at a temperature of approximately 4°C in an insulated container. Upon completion of the site sampling, the samples were shipped to Microbac Laboratories, Inc. (Microbac) for laboratory analysis. The samples were maintained under standard chain-of-custody procedures/documents.

3.3 Groundwater Analyses

In 2009, the sampling plan for the site was modified pursuant to IEPA's approval letter dated June 2, 2009. The sampling plan frequency and parameters to be analyzed are now as follows:

Samples Collected During the Quarter of the Calendar Year	Parameters to be Sampled
Second Quarter	Groundwater Quality Parameters Groundwater Contamination Parameters

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For Sample Rounds 57 & 58, four separate groundwater samples were collected from each of the five wells and analyzed for the indicators of groundwater contamination as listed below.

Groundwater collected during Sample Round 57 was also analyzed for the indicators of groundwater quality as listed below. A duplicate sample was collected from monitoring well MWD-2 during Round 57 and analyzed for all the parameters listed below. Laboratory analytical methods are indicated on Table 2, Attachment B.

Groundwater samples were analyzed at Microbac in accordance with IEPA and USEPA (SW-846 - Third Edition) methods. The groundwater samples were analyzed for the parameters establishing groundwater contamination (pH, specific conductance, non-purgeable organic carbon (TOC), total organic halogens (TOX)), and groundwater quality (chloride, iron, manganese, phenols, sodium and sulfate), as specified in applicable state regulations, the IEPA approved closure plan and IEPA correspondence.

3.4 Groundwater Analytical Results

Groundwater concentrations from the five monitoring wells were compared to the standards for the above referenced parameters as referenced in 35 IAC 725, Appendix C, *USEPA Interim Primary Drinking Water Standards* as shown in Tables 4 and 5 of Attachment B, for Rounds 57 and 58, respectively. The laboratory analytical reports for Round 57 and 58 are included in Attachment C.

The "background" concentrations from the upgradient wells, calculated during the first year of sampling activities, were compared to groundwater concentrations collected from the downgradient and upgradient wells to determine whether a statistically significant increase (or decrease in the case of pH) in the parameter concentration was present.

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Table 3 in Attachment B summarizes the "background" groundwater concentrations from the first year of groundwater monitoring. Carlson compared the sample means and variances of the indicator parameters for the upgradient and downgradient wells to the "background" concentrations using the Student's T-Test at the 0.01 level of significance in accordance with 35 IAC 725.193(b). The statistical evaluation of the upgradient and downgradient wells for Round 57 of RCRA post-closure groundwater sampling is contained in Tables 6 and 7, respectively. Tables 8 and 9, respectively, contain the statistical evaluation of the upgradient and downgradient wells for Round 58.

4.0 POST-CLOSURE COST ESTIMATE

The Closure Unit was closed in 1988 and groundwater monitoring began in 1993. The original cost to conduct 30 years of post-closure groundwater monitoring at the Closure Unit was estimated at $376,973. This cost was based on 120 quarterly sampling events at the present value of money. To date, 58 separate sampling events have been conducted, and the Illinois Environmental Protection Agency has changed the frequency of the required sampling to semi-annually. With the new sampling plan, approved by the IEPA in a letter dated June 2, 2009, the project cost for the remaining 4 years through 2023 is estimated at $66,400. This estimate is based on the current average yearly cost multiplied by the 4 remaining years of sampling events, not the present value of money.

5.0 CONCLUSIONS

Based on the analytical data for both sampling events in 2019, groundwater at the Closure Unit did not exceed the drinking water standards as referenced in 35 IAC 725, Appendix C, *USEPA Interim Primary Drinking Water Standards,* for the parameters identified in Section 3.3. For each indicator parameter, the arithmetic mean and variance were calculated for each well based on the groundwater analytical data collected during each sampling event in 2019. The arithmetic mean and variance were compared to the initial "background" arithmetic mean concentrations, as determined in the first year of post-

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closure groundwater monitoring, using the Student's T-Test at the 0.01 level of significance.

The analysis revealed that groundwater in upgradient monitoring wells MWD-5 contained a statistically significant increase in pH (initial background arithmetic mean of 7.36) during Sample Round 57. In Sample Round 58, there was a statistically significant decrease in pH in upgradient monitoring well MWD-1, as well as in downgradient monitoring well MWD-3.

Based on the statistically significant changes in groundwater for pH in both downgradient and upgradient monitoring wells, Carlson believes that the changes are naturally occurring or coming from some offsite source. If any single groundwater contamination parameter in subsequent groundwater monitoring events is elevated (or reduced in the case of pH) at a statistically significant level beyond "background" values in more than one downgradient well, without being elevated (or reduced in the case of pH) in an upgradient well, then an additional investigation will be initiated. Such an investigation to determine the extent and rate of migration of the regulated substance of concern would be conducted in accordance with applicable state regulations. No additional action is planned at this time.

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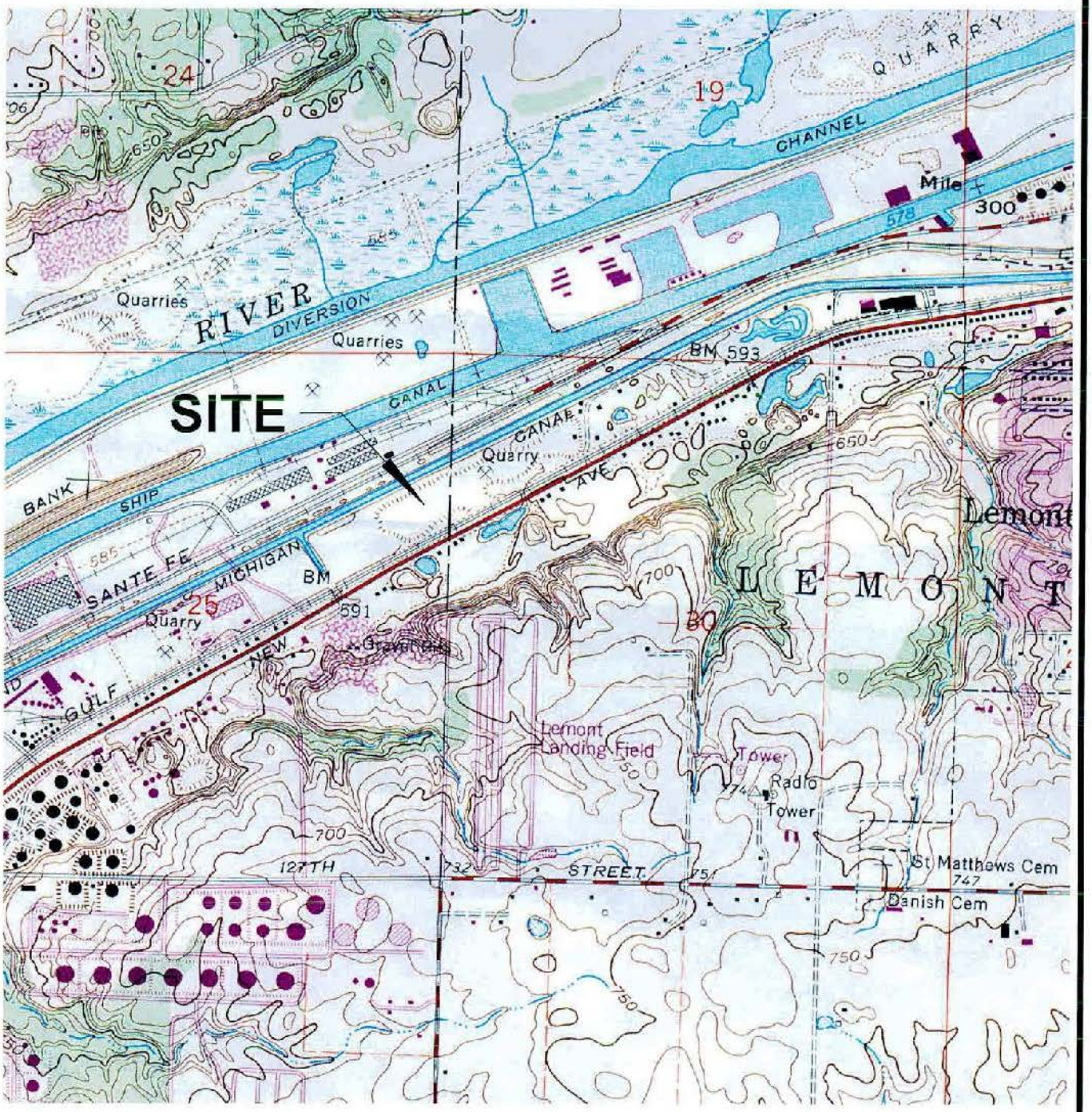
ATTACHMENT A

Figures



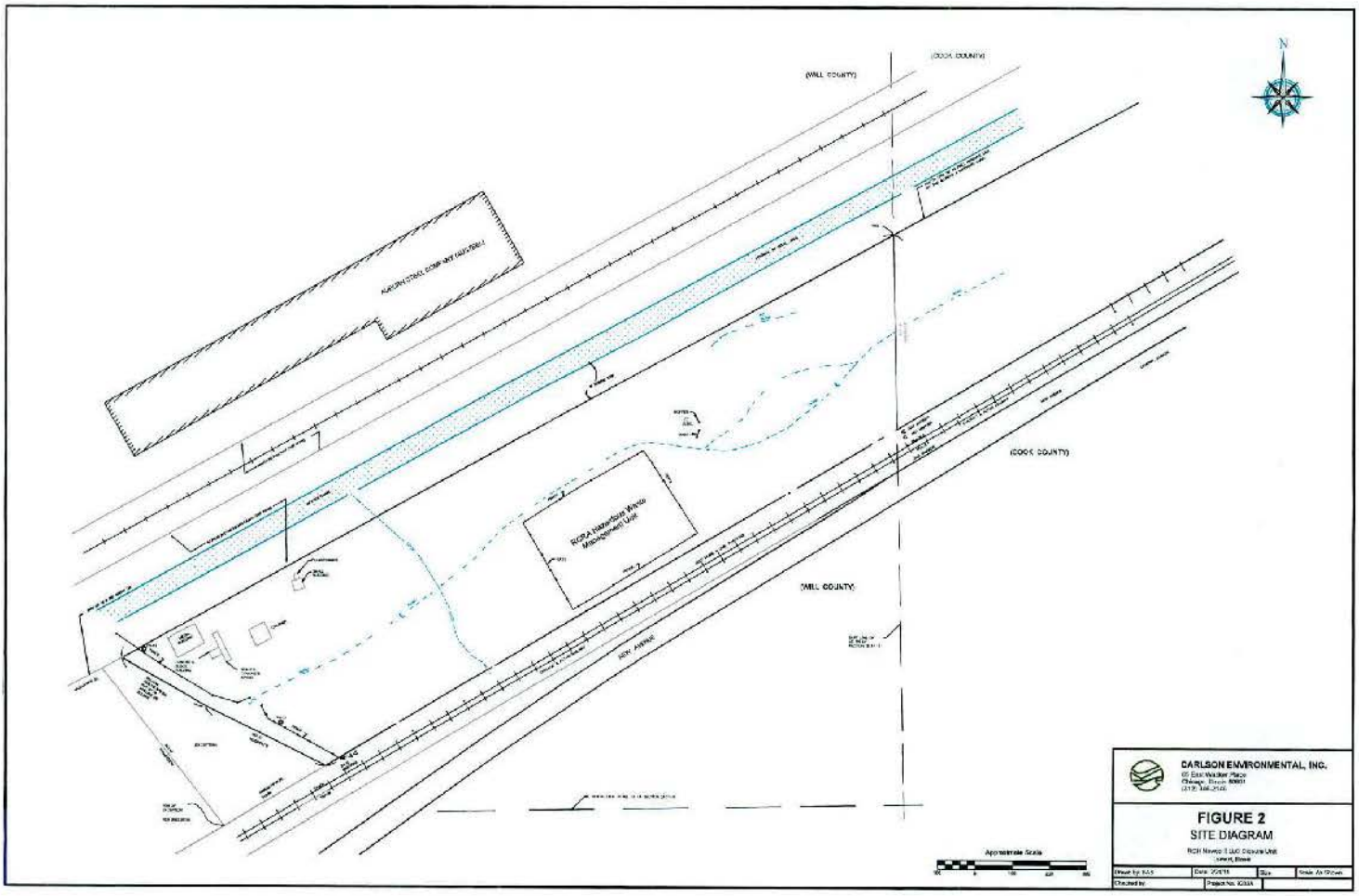
From USGS 7.5 Minute Series Topographical Quadrangel "Romeoville, Illinois" (1962--Photorevised 1973 & 1980)

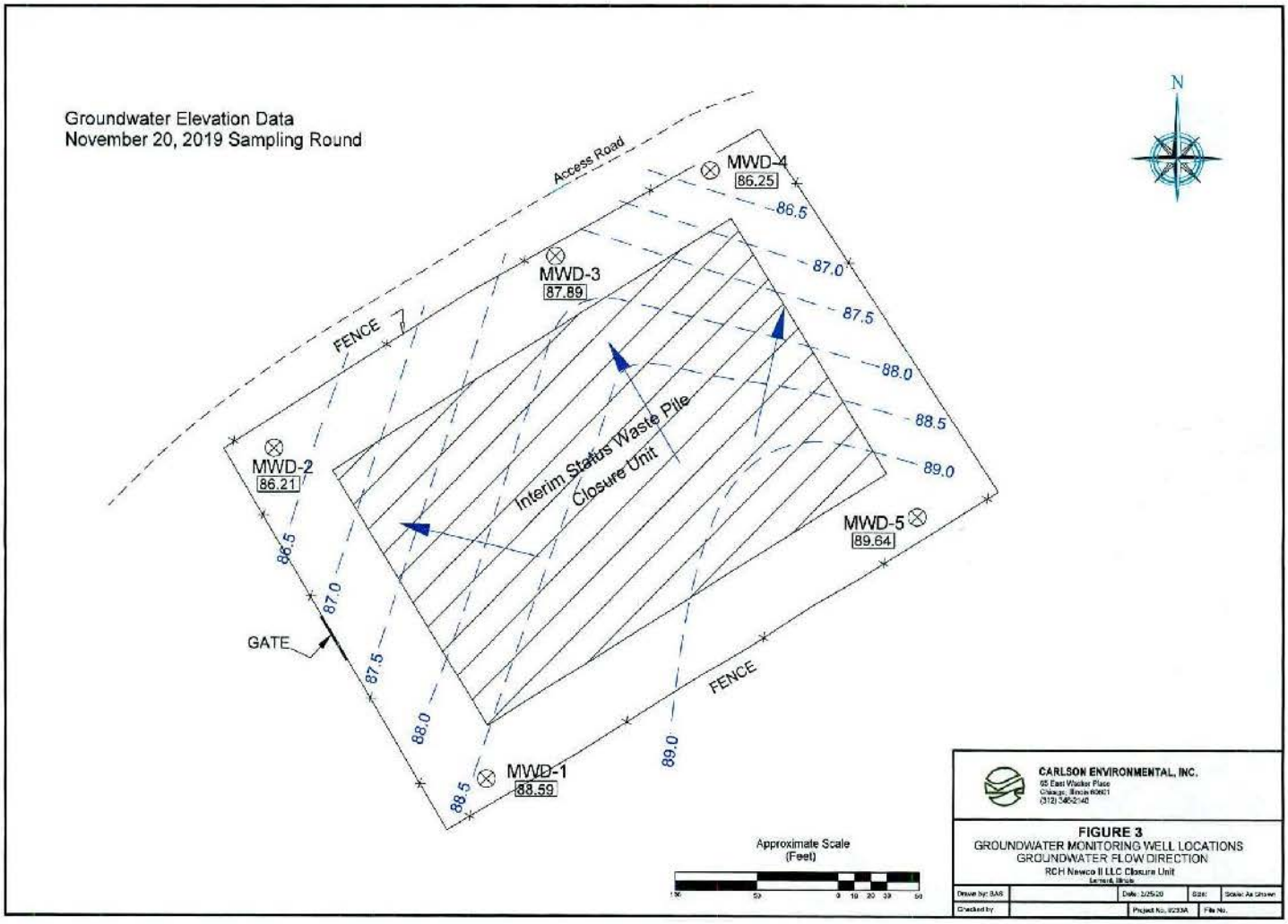
CARLSON ENVIRONMENTAL, INC.
65 East Wacker Place
Chicago, Illinois 60601
(312) 346-2140

PROJECT NO	9233A	
DRAWN BY		DATE
CHECKED BY		DATE
REVISION 1		DATE
REVISION 2		DATE

FIGURE 1
SITE MAP
RCH Newco II LLC Closure Unit
Lemont, Illinois

Drawing No.
1


N
(WILL COUNTY)
(COOK COUNTY)
(COOK COUNTY)
(WILL COUNTY)
RCRA Hazardous Waste Management Unit
Approximate Scale
CARLSON ENVIRONMENTAL, INC.
FIGURE 2
SITE DIAGRAM


Groundwater Elevation Data
November 20, 2019 Sampling Round
N
Access Road
MWD-4
86.25
MWD-3
87.89
MWD-2
86.21
MWD-5
89.64
MWD-1
88.59
FENCE
GATE
Interim Status Waste Pile
Closure Unit
86.5
87.0
87.5
88.0
88.5
89.0
Approximate Scale
(Feet)
CARLSON ENVIRONMENTAL, INC.
FIGURE 3
GROUNDWATER MONITORING WELL LOCATIONS
GROUNDWATER FLOW DIRECTION
RCH Newco II LLC Closure Unit

ATTACHMENT B

Tables

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TABLE 1: Water Level Measurements
RCH Newco II LLC
Lemont, Illinois
2019 Annual Report

DESCRIPTION	MW-D1	MW-D2	MW-D3	MW-D4	MW-D5
Diameter of Casing	2 in.	2 in.	2 in.	2 in.	2 in.
Total Length of Casing	31.72 ft.	28.60 ft.	27.91 ft.	26.94 ft.	27.99 ft.
Static Water Level - May 20, 2019	-11.06	-14.19	-12.75	-14.87	-12.35
Static Water Level - November 20, 2019	-11.41	-14.30	-12.76	-14.93	-12.58
Surveyed Elevation from Top of Casing	100.00	100.51	100.65	101.18	102.22
Relative Elevation - May 20, 2019	88.94	86.32	87.90	86.31	89.87
Relative Elevation - November 20, 2019	88.59	86.21	87.89	86.25	89.64
Distance from Top of Casing to Ground Surface [1]	1.65 ft.	2.42 ft.	1.70 ft.	2.00 ft.	2.25 ft.
Distance Between Top of Casing and Top of Riser [1]	0.10 ft.	0.27 ft.	0.20 ft.	0.30 ft.	0.40 ft.

[1] Measure by Halliburton NUS on August 3, 1993

TABLE 2: Summary of Analytical Methods
RCH Newco II LLC
Lemont, Illinois

PARAMETER	EPA METHOD	DETECTION LIMIT
Arsenic	SW7060A	0.01 mg/L
Barium	SW6010A	0.01 mg/L
Cadmium	SW6010A	0.001 mg/L
Chromium, total	SW6010A	0.01 mg/L
Chromium, hexavalent	SW7196A	0.005 mg/L
Iron	SW6010A	0.05 mg/L
Lead	SW7421	0.005 mg/L
Manganese	SW6010A	0.01 mg/L
Mercury	SW7470A	0.0002 mg/L
Selenium	3015/7740	0.005 mg/L
Silver	SW6010A	0.01 mg/L
Sodium	SW6010A	2.0 mg/L
Phenols	SW9066	0.01 mg/L
Sulfate	E375.4	10.0 mg/L
Chloride	M 4500-CL B	1.0 mg/L
Total Organic Halogens	SW9020	0.01 mg/L
Non-Purgeable Organic Carbon	E415.2	1.0 mg/L
pH	E150.1	0.02 pH units
Specific Conductance	E120.1	10 umhos/cm

mg/L = milligrams per liter

Table 3

Established Background Concentrations

RCH Newco II LLC ILD990785453

Lemont, Illinois

Parameter	Background Concentration[1] (Arithmetic Mean)
Total Organic Carbon (TOC)	2.766
Total Organic Halogens (TOX)	0.017
pH	7.363
Specific Conductance	1334.375
Arsenic	0.100
Barium	0.039
Cadmium	0.005
Chromium	0.019
Hexavalent Chromium	0.013
Lead	0.050
Mercury	0.0002
Selenium	0.100
Silver	0.010
Chloride	33.952
Iron	0.913
Manganese	0.196
Phenolics	0.009
Sodium	50.333
Sulfate	309.048

[1] Concentrations are in milligrams per liter (mg/L), except for Specific Conductance (umhos/cm) and pH (pH units)

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TABLE 4: Round 57 Analytical Results
RCH Newco II LLC
Lemont, Illinois
May 20, 2019

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D1A	MW-D1B	MW-D1C	MW-D1D
			Location	upgradient	upgradient	upgradient	upgradient
			Date	5/20/2019	5/20/2019	5/20/2019	5/20/2019
Iron	mg/L	---		.098	NA	NA	NA
Manganese	mg/L	---		.0061	NA	NA	NA
Sodium	mg/L	---		33	NA	NA	NA
Phenol	mg/L	---		ND	NA	NA	NA
Sulfate	mg/L	---		220	NA	NA	NA
Chloride	mg/L	---		58	NA	NA	NA
Total Organic Halogens	mg/L	---		ND	ND	ND	ND
Non-Purgeable Organic Carbon	mg/L	---		0.66	1.70	1.70	1.60
pH	---	6.5 - 9		7.41	7.44	7.38	7.31
Specific Conductance	umho/cm	---		1310	1280	1280	1300

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

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TABLE 4: Round 57 Analytical Results
RCH Newco II LLC
Lemont, Illinois
May 20, 2019

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D2A	MW-D2B	MW-D2C	MW-D2D
			Location	downgradient	downgradient	downgradient	downgradient
			Date	5/20/2019	5/20/2019	5/20/2019	5/20/2019
Iron	mg/L	---		2.7	2.8	NA	NA
Manganese	mg/L	---		0.14	0.14	NA	NA
Sodium	mg/L	---		20	20	NA	NA
Phenol	mg/L	---		ND	ND	NA	NA
Sulfate	mg/L	---		210	210	NA	NA
Chloride	mg/L	---		26	27	NA	NA
Total Organic Halogens	mg/L	---		ND	ND	ND	ND
Non-Purgeable Organic Carbon	mg/L	---		1.3	1.2	1.2	1.3
pH	---	6.5 - 9		7.25	7.36	7.27	7.23
Specific Conductance	umho/cm	---		1060	1080	1060	1050

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

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TABLE 4: Round 57 Analytical Results
RCH Newco II LLC
Lemont, Illinois
May 20, 2019

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D3A	MW-D3B	MW-D3C	MW-D3D
			Location	downgradient	downgradient	downgradient	downgradient
			Date	5/20/2019	5/20/2019	5/20/2019	5/20/2019
Iron	mg/L	---		ND	NA	NA	NA
Manganese	mg/L	---		ND	NA	NA	NA
Sodium	mg/L	---		36	NA	NA	NA
Phenol	mg/L	---		ND	NA	NA	NA
Sulfate	mg/L	---		220	NA	NA	NA
Chloride	mg/L	---		35	NA	NA	NA
Total Organic Halogens	mg/L	---		ND	ND	ND	ND
Non-Purgeable Organic Carbon	mg/L	---		1.4	1.4	1.3	ND
pH	---	6.5 - 9		7.38	7.41	7.27	7.42
Specific Conductance	umho/cm	---		1310	1320	1330	1340

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Electronic Filing: Received, Clerk's Office 07/19/2024

TABLE 4: Round 57 Analytical Results
RCH Newco II LLC
Lemont, Illinois
May 20, 2019

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D4A	MW-D4B	MW-D4C	MW-D4D
			Location	downgradient	downgradient	downgradient	downgradient
			Date	5/20/2019	5/20/2019	5/20/2019	5/20/2019
Iron	mg/L	---		.088	NA	NA	NA
Manganese	mg/L	---		.0049	NA	NA	NA
Sodium	mg/L	---		28	NA	NA	NA
Phenol	mg/L	---		ND	NA	NA	NA
Sulfate	mg/L	---		250	NA	NA	NA
Chloride	mg/L	---		4.0	NA	NA	NA
Total Organic Halogens	mg/L	---		ND	ND	ND	ND
Non-Purgeable Organic Carbon	mg/L	---		0.82	0.77	0.80	0.78
pH	---	6.5 - 9		7.37	7.48	7.38	7.39
Specific Conductance	umho/cm	---		1320	1330	1300	1300

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Electronic Filing: Received, Clerk's Office 07/19/2024

TABLE 4: Round 57 Analytical Results
RCH Newco II LLC
Lemont, Illinois
May 20, 2019

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D5A	MW-D5B	MW-D5C	MW-D5D
			Location	upgradient	upgradient	upgradient	upgradient
			Date	5/20/2019	5/20/2019	5/20/2019	5/20/2019
Iron	mg/L	---		ND	NA	NA	NA
Manganese	mg/L	---		ND	NA	NA	NA
Sodium	mg/L	---		23	NA	NA	NA
Phenol	mg/L	---		ND	NA	NA	NA
Sulfate	mg/L	---		260	NA	NA	NA
Chloride	mg/L	---		3.0	NA	NA	NA
Total Organic Halogens	mg/L	---		ND	ND	ND	ND
Non-Purgeable Organic Carbon	mg/L	---		0.78	0.58	0.78	0.79
pH	---	6.5 - 9		7.44	7.52	7.51	7.48
Specific Conductance	umho/cm	---		1310	1320	1330	1310

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Electronic Filing: Received, Clerk's Office 07/19/2024

TABLE 5: Round 58 Analytical Results
RCH Newco II LLC
Lemont, Illinois
November 20, 2019

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D1A	MW-D1B	MW-D1C	MW-D1D
			Location	upgradient	upgradient	upgradient	upgradient
			Date	11/20/2019	11/20/2019	11/20/2019	11/20/2019
Total Organic Halogens	mg/L	---		ND	ND	ND	ND
Non-Purgeable Organic Carbon	mg/L	---		1.70	1.70	1.60	1.70
pH	---	6.5 - 9		7.11	7.20	7.08	7.04
Specific Conductance	umho/cm	---		1250	1240	1250	1260

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

TABLE 5: Round 58 Analytical Results
RCH Newco II LLC
Lemont, Illinois
November 20, 2019

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D2A*	*MW-D2B*	*MW-D2C*	*MW-D2D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	11/20/2019	11/20/2019	11/20/2019	11/20/2019
Total Organic Halogens	mg/L	---		ND	0.012	ND	ND
Non-Purgeable Organic Carbon	mg/L	---		1.1	1.1	1.1	1.2
pH	---	6.5 - 9		7.22	7.14	7.13	7.29
Specific Conductance	umho/cm	---		1160	1190	1190	1200

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Electronic Filing: Received, Clerk's Office 07/19/2024

TABLE 5: Round 58 Analytical Results
RCH Newco II LLC
Lemont, Illinois
November 20, 2019

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D3A	MW-D3B	MW-D3C	MW-D3D
			Location	downgradient	downgradient	downgradient	downgradient
			Date	11/20/2019	11/20/2019	11/20/2019	11/20/2019
Total Organic Halogens	mg/L	---		ND	ND	0.026	0.023
Non-Purgeable Organic Carbon	mg/L	---		1.5	1.5	1.3	1.3
pH	---	6.5 - 9		7.09	7.13	7.11	7.14
Specific Conductance	umho/cm	---		1290	1270	1250	1280

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

TABLE 5: Round 58 Analytical Results
RCH Newco II LLC
Lemont, Illinois
November 20, 2019

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D4A	MW-D4B	MW-D4C	MW-D4D
			Location	downgradient	downgradient	downgradient	downgradient
			Date	11/20/2019	11/20/2019	11/20/2019	11/20/2019
Total Organic Halogens	mg/L	---		ND	ND	ND	0.011
Non-Purgeable Organic Carbon	mg/L	---		1.5	1.6	1.5	1.70
pH	---	6.5 - 9		7.21	7.10	7.17	7.35
Specific Conductance	umho/cm	---		1240	1240	1220	1250

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Electronic Filing: Received, Clerk's Office 07/19/2024

TABLE 5: Round 58 Analytical Results
RCH Newco II LLC
Lemont, Illinois
November 20, 2019

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	MW-D5A	MW-D5B	MW-D5C	MW-D5D
			Location	upgradient	upgradient	upgradient	upgradient
			Date	11/20/2019	11/20/2019	11/20/2019	11/20/2019
Total Organic Halogens	mg/L	---		0.017	0.016	0.02	0.016
Non-Purgeable Organic Carbon	mg/L	---		1.20	1.20	1.20	1.30
pH	---	6.5 - 9		7.4	7.37	7.38	7.46
Specific Conductance	umho/cm	---		1280	1280	1270	1270

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Electronic Filing: Received, Clerk's Office 07/19/2024

Table 6

Statistical Evaluation of Upgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 57 May 2019

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D1	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	TOC	2.766	2.484	1.42	0.26	4.541	-5.3	N
	pH	7.363	0.112	7.39	0.003	4.541/-4.541	0.79	N
	Spec. Cond.	1334.375	15,231.855	1293	225	4.541	-5.58	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D5	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	TOC	2.766	2.484	0.73	0.01	4.541	-39.86	N
	pH	7.363	0.112	7.49	0.001	4.541/-4.541	6.94	Y
	Spec. Cond.	1334.375	15,231.855	1318	91.67	4.541	-3.52	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

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Table 7

Statistical Evaluation of Downgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 57 May 2019

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D2	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	TOC	2.766	2.484	1.25	0.003	4.541	-52.41	N
	pH	7.363	0.112	7.28	0.007	4.541/-4.541	-3.04	N
	Spec. Cond.	1334.375	15,231.855	1063	158.33	4.541	-43.22	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D3	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	TOC	2.766	2.484	1.09	0.31	4.541	-5.99	N
	pH	7.363	0.112	7.37	0.005	4.541/-4.541	0.20	N
	Spec. Cond.	1334.375	15,231.855	1325	166.67	4.541	-1.45	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D4	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	TOC	2.766	2.484	0.79	0.0005	4.541	-179.36	N
	pH	7.363	0.112	7.41	0.003	4.541/-4.541	1.83	N
	Spec. Cond.	1334.375	15,231.855	1313	225	4.541	-2.92	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

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Table 8

Statistical Evaluation of Upgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 58 November 2019

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D1	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	TOC	2.766	2.484	1.68	0.0025	4.541	-43.64	N
	pH	7.363	0.112	7.11	0.005	4.541/-4.541	-7.50	Y
	Spec. Cond.	1334.375	15,231.855	1250	66.67	4.541	-20.68	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D5	TOX	0.017	0.097	0.017	0.000004	4.541	0.3	N
	TOC	2.766	2.484	1.23	0.0025	4.541	-61.64	N
	pH	7.363	0.112	7.40	0.002	4.541/-4.541	2.0	N
	Spec. Cond.	1334.375	15,231.855	1275	33.33	4.541	-20.76	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

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Table 9

Statistical Evaluation of Downgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 58 November 2019

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D2	TOX	0.017	0.097	0.007	0.00001	4.541	-5.0	N
	TOC	2.766	2.484	1.13	0.0025	4.541	-65.64	N
	pH	7.363	0.112	7.20	0.006	4.541/-4.541	-4.42	N
	Spec. Cond.	1334.375	15,231.855	1190	66.67	4.541	-35.39	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D3	TOX	0.017	0.097	0.015	0.0001	4.541	-0.36	N
	TOC	2.766	2.484	1.40	0.013	4.541	-23.55	N
	pH	7.363	0.112	7.12	0.0005	4.541/-4.541	-22.27	Y
	Spec. Cond.	1334.375	15,231.855	1273	291.67	4.541	-7.25	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D4	TOX	0.017	0.097	0.0065	0.000009	4.541	-7.0	N
	TOC	2.766	2.484	1.58	0.009	4.541	-24.81	N
	pH	7.363	0.112	7.21	0.012	4.541/-4.541	-2.92	N
	Spec. Cond.	1334.375	15,231.855	1238	158.33	4.541	-15.40	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

Electronic Filing: Received, Clerk's Office 07/19/2024

ATTACHMENT C

Laboratory Analytical Reports

MICROBAC®

June 6, 2019

Carlson Environmental, Inc.
65 East Wacker Place, Suite 2210
Chicago, IL 60601-

Work Order No.: 19E1155

Re: 100-01 / Robertson - Ceco / Lemont, IL

Dear Bruce Shabino:

Microbac Laboratories, Inc. - Chicagoland Division received 20 sample(s) on 5/21/2019 3:48:00PM for the analyses presented in the following report as Work Order 19E1155.

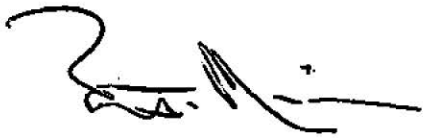
The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please contact your project manager. For any feedback, please contact Ron Misiunas, Division Manager, at ron.misiunas@microbac.com.

Sincerely,
Microbac Laboratories, Inc.



Ron Misiunas
Managing Director

MICROBAC®

WORK ORDER SAMPLE SUMMARY

Date: *Thursday, June 6, 2019*

Client: Carlson Environmental, Inc.
Project: 100-01 / Robertson - Ceco / Lemont, IL
Lab Order: 19E1155

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
19E1155-01	MWD-1A		05/20/2019 16:45	5/21/2019 3:48:00PM
19E1155-02	MWD-1B		05/20/2019 16:45	5/21/2019 3:48:00PM
19E1155-03	MWD-1C		05/20/2019 16:45	5/21/2019 3:48:00PM
19E1155-04	MWD-1D		05/20/2019 16:45	5/21/2019 3:48:00PM
19E1155-05	MWD-2A		05/20/2019 10:45	5/21/2019 3:48:00PM
19E1155-06	MWD-2B		05/20/2019 10:45	5/21/2019 3:48:00PM
19E1155-07	MWD-2C		05/20/2019 10:45	5/21/2019 3:48:00PM
19E1155-08	MWD-2D		05/20/2019 10:45	5/21/2019 3:48:00PM
19E1155-09	MWD-3A		05/20/2019 12:00	5/21/2019 3:48:00PM
19E1155-10	MWD-3B		05/20/2019 12:00	5/21/2019 3:48:00PM
19E1155-11	MWD-3C		05/20/2019 12:00	5/21/2019 3:48:00PM
19E1155-12	MWD-3D		05/20/2019 12:00	5/21/2019 3:48:00PM
19E1155-13	MWD-4A		05/20/2019 14:00	5/21/2019 3:48:00PM
19E1155-14	MWD-4B		05/20/2019 14:00	5/21/2019 3:48:00PM
19E1155-15	MWD-4C		05/20/2019 14:00	5/21/2019 3:48:00PM
19E1155-16	MWD-4D		05/20/2019 14:00	5/21/2019 3:48:00PM
19E1155-17	MWD-5A		05/20/2019 15:15	5/21/2019 3:48:00PM
19E1155-18	MWD-5B		05/20/2019 15:15	5/21/2019 3:48:00PM
19E1155-19	MWD-5C		05/20/2019 15:15	5/21/2019 3:48:00PM
19E1155-20	MWD-5D		05/20/2019 15:15	5/21/2019 3:48:00PM

Samples Subcontracted To: Keystone Laboratories, Inc.

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
19E1155-01	MWD-1A		05/20/2019 16:45	5/21/2019 3:48:00PM
19E1155-02	MWD-1B		05/20/2019 16:45	5/21/2019 3:48:00PM
19E1155-03	MWD-1C		05/20/2019 16:45	5/21/2019 3:48:00PM
19E1155-04	MWD-1D		05/20/2019 16:45	5/21/2019 3:48:00PM
19E1155-05	MWD-2A		05/20/2019 10:45	5/21/2019 3:48:00PM
19E1155-06	MWD-2B		05/20/2019 10:45	5/21/2019 3:48:00PM
19E1155-07	MWD-2C		05/20/2019 10:45	5/21/2019 3:48:00PM
19E1155-08	MWD-2D		05/20/2019 10:45	5/21/2019 3:48:00PM
19E1155-09	MWD-3A		05/20/2019 12:00	5/21/2019 3:48:00PM
19E1155-10	MWD-3B		05/20/2019 12:00	5/21/2019 3:48:00PM
19E1155-11	MWD-3C		05/20/2019 12:00	5/21/2019 3:48:00PM
19E1155-12	MWD-3D		05/20/2019 12:00	5/21/2019 3:48:00PM
19E1155-13	MWD-4A		05/20/2019 14:00	5/21/2019 3:48:00PM
19E1155-14	MWD-4B		05/20/2019 14:00	5/21/2019 3:48:00PM
19E1155-15	MWD-4C		05/20/2019 14:00	5/21/2019 3:48:00PM
19E1155-16	MWD-4D		05/20/2019 14:00	5/21/2019 3:48:00PM
19E1155-17	MWD-5A		05/20/2019 15:15	5/21/2019 3:48:00PM
19E1155-18	MWD-5B		05/20/2019 15:15	5/21/2019 3:48:00PM

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WORK ORDER SAMPLE SUMMARY **Date:** *Thursday, June 6, 2019*

19E1155-19	MWD-5C		05/20/2019 15:15	5/21/2019 3:48:00PM
19E1155-20	MWD-5D		05/20/2019 15:15	5/21/2019 3:48:00PM

Samples Subcontracted To: Microbac - KTL

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
19E1155-01	MWD-1A		05/20/2019 16:45	5/21/2019 3:48:00PM
19E1155-02	MWD-1B		05/20/2019 16:45	5/21/2019 3:48:00PM
19E1155-03	MWD-1C		05/20/2019 16:45	5/21/2019 3:48:00PM
19E1155-04	MWD-1D		05/20/2019 16:45	5/21/2019 3:48:00PM
19E1155-05	MWD-2A		05/20/2019 10:45	5/21/2019 3:48:00PM
19E1155-06	MWD-2B		05/20/2019 10:45	5/21/2019 3:48:00PM
19E1155-07	MWD-2C		05/20/2019 10:45	5/21/2019 3:48:00PM
19E1155-08	MWD-2D		05/20/2019 10:45	5/21/2019 3:48:00PM
19E1155-09	MWD-3A		05/20/2019 12:00	5/21/2019 3:48:00PM
19E1155-10	MWD-3B		05/20/2019 12:00	5/21/2019 3:48:00PM
19E1155-11	MWD-3C		05/20/2019 12:00	5/21/2019 3:48:00PM
19E1155-12	MWD-3D		05/20/2019 12:00	5/21/2019 3:48:00PM
19E1155-13	MWD-4A		05/20/2019 14:00	5/21/2019 3:48:00PM
19E1155-14	MWD-4B		05/20/2019 14:00	5/21/2019 3:48:00PM
19E1155-15	MWD-4C		05/20/2019 14:00	5/21/2019 3:48:00PM
19E1155-16	MWD-4D		05/20/2019 14:00	5/21/2019 3:48:00PM
19E1155-17	MWD-5A		05/20/2019 15:15	5/21/2019 3:48:00PM
19E1155-18	MWD-5B		05/20/2019 15:15	5/21/2019 3:48:00PM
19E1155-19	MWD-5C		05/20/2019 15:15	5/21/2019 3:48:00PM
19E1155-20	MWD-5D		05/20/2019 15:15	5/21/2019 3:48:00PM

MICROBAC®

Analytical Results

Date: Thursday, June 6, 2019

Client: Carlson Environmental, Inc.
Client Project: 100-01 / Robertson - Ceco / Lemont, IL
Client Sample ID: MWD-1A
Sample Description:
Matrix: Aqueous

Work Order/ID: 19E1155-01
Sampled: 05/20/2019 16:45
Received: 05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Metals by ICP			Method: SW-846 6010C Prep Method: SW846 3005A				Analyst: RPL Prep Date/Time: 05/23/2019 08:55	
Iron	di	A	*0.098*	0.050		mg/L	1	05/23/2019 16:44
Manganese	di	A	*0.0061*	0.0020		mg/L	1	05/23/2019 16:44
Sodium	di	A	*33*	0.50		mg/L	1	05/23/2019 16:44
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020				Analyst: Prep Date/Time: 05/20/2019 16:45	
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	05/29/2019 0:00
Chloride			Method: SM 4500-Cl B-1997 Prep Method: SM 4500-Cl B-1997				Analyst: EF Prep Date/Time: 05/27/2019 15:57	
Chloride	dij	A	*58*	1.0		mg/L	1	05/27/2019 15:57
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982				Analyst: EF Prep Date/Time: 05/27/2019 21:15	
Specific Conductance	di	A	*1310*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000				Analyst: DAT Prep Date/Time: 05/22/2019 11:11	
pH	dij	A	*7.41*	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Phenolics			Method: SW-846 9066 Prep Method: NA				Analyst: ABG Prep Date/Time: 05/22/2019 10:12	
Phenolics, Total Recoverable	di	A	*ND*	0.010		mg/L	1	05/24/2019 11:50
Sulfate, Turbidimetric			Method: SW-846 9038 Prep Method: SW-846 9038				Analyst: ABG Prep Date/Time: 05/29/2019 11:35	
Sulfate	i	A	*220*	10		mg/L	1	05/29/2019 12:24
Total Organic Carbon			Method: SM 5310C Prep Method: NA				Analyst: JGF Prep Date/Time: 05/24/2019 09:53	
Carbon, Total Organic	K	1/10	*0.66*	0.50		mg/L	1	05/24/2019 20:50

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Analytical Results

Date: Thursday, June 6, 2019

Client: Carlson Environmental, Inc.
Client Project: 100-01 / Robertson - Ceco / Lemont, IL
Client Sample ID: MWD-1B
Sample Description:
Matrix: Aqueous

Work Order/ID: 19E1155-02
Sampled: 05/20/2019 16:45
Received: 05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020				Analyst: Prep Date/Time: 05/20/2019 16:45	
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	05/30/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982				Analyst: EF Prep Date/Time: 05/27/2019 21:16	
Specific Conductance	di	A	*1280*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000				Analyst: DAT Prep Date/Time: 05/22/2019 11:11	
pH	dil	A	*7.44*	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Organic Carbon			Method: SM 5310C Prep Method: NA				Analyst: JGF Prep Date/Time: 05/24/2019 09:53	
Carbon, Total Organic	K	21/10	*1.7*	0.50		mg/L	1	05/24/2019 16:40

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Analytical Results

Date: Thursday, June 6, 2019

Client: Carlson Environmental, Inc.
Client Project: 100-01 / Robertson - Ceco / Lemont, IL
Client Sample ID: MWD-1C
Sample Description:
Matrix: Aqueous
Work Order/ID: 19E1155-03
Sampled: 05/20/2019 16:45
Received: 05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020				Analyst:	Prep Date/Time: 05/20/2019 16:45
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	05/31/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982				Analyst: EF	Prep Date/Time: 05/27/2019 21:15
Specific Conductance	di	A	*1280*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000				Analyst: DAT	Prep Date/Time: 05/22/2019 11:11
pH	dij	A	*7.38*	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Organic Carbon			Method: SM 5310C Prep Method: NA				Analyst: JGF	Prep Date/Time: 05/24/2019 09:53
Carbon, Total Organic	K	21/10	*1.7*	0.50		mg/L	1	05/24/2019 16:58

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Analytical Results

Date: *Thursday, June 6, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100-01 / Robertson - Ceco / Lemont, IL
Client Sample ID: MWD-1D
Sample Description:
Matrix: Aqueous

Work Order/ID: 19E1155-04
Sampled: 05/20/2019 16:45
Received: 05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020					Analyst: Prep Date/Time: 05/20/2019 16:45
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	06/01/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982					Analyst: EF Prep Date/Time: 05/27/2019 21:15
Specific Conductance	di	A	*1300*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 05/22/2019 11:11
pH	dij	A	*7.31*	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 05/24/2019 09:53
Carbon, Total Organic	K	21/10	*1.6*	0.50		mg/L	1	05/24/2019 17:16

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Analytical Results

Date: Thursday, June 6, 2019

Client: Carlson Environmental, Inc.
Client Project: 100-01 / Robertson - Ceco / Lemont, IL
Client Sample ID: MWD-2A
Sample Description:
Matrix: Aqueous
Work Order/ID: 19E1155-05
Sampled: 05/20/2019 10:45
Received: 05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Metals by ICP			Method: SW-846 6010C Prep Method: SW846 3005A				Analyst: RPL Prep Date/Time: 05/23/2019 08:55	
Iron	di	A	*2.7*	0.050		mg/L	1	05/23/2019 16:49
Manganese	di	A	*0.14*	0.0020		mg/L	1	05/23/2019 16:49
Sodium	di	A	*20*	0.50		mg/L	1	05/23/2019 16:49
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020				Analyst: Prep Date/Time: 05/20/2019 10:45	
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	06/02/2019 0:00
Chloride			Method: SM 4500-Cl B-1997 Prep Method: SM 4500-Cl B-1997				Analyst: EF Prep Date/Time: 05/27/2019 15:57	
Chloride	dil	A	*26*	1.0		mg/L	1	05/27/2019 15:57
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982				Analyst: EF Prep Date/Time: 05/27/2019 21:15	
Specific Conductance	di	A	*1060*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000				Analyst: DAT Prep Date/Time: 05/22/2019 11:11	
pH	dil	A	*7.25*	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Phenolics			Method: SW-846 9066 Prep Method: NA				Analyst: ABG Prep Date/Time: 05/22/2019 10:12	
Phenolics, Total Recoverable	di	A	*ND*	0.010		mg/L	1	05/24/2019 11:52
Sulfate, Turbidimetric			Method: SW-846 9038 Prep Method: SW-846 9038				Analyst: ABG Prep Date/Time: 05/29/2019 11:35	
Sulfate	i	A	*210*	10		mg/L	1	05/29/2019 12:26
Total Organic Carbon			Method: SM 5310C Prep Method: NA				Analyst: JGF Prep Date/Time: 05/24/2019 09:53	
Carbon, Total Organic	K	21/10	*1.3*	0.50		mg/L	1	05/24/2019 17:34

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Analytical Results

Date: *Thursday, June 6, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100-01 / Robertson - Ceco / Lemont, IL
Client Sample ID: MWD-2B
Sample Description:
Matrix: Aqueous

Work Order/ID: 19E1155-06
Sampled: 05/20/2019 10:45
Received: 05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Metals by ICP			Method: SW-846 6010C Prep Method: SW846 3005A				Analyst: RPL Prep Date/Time: 05/23/2019 08:55	
Iron	di	A	*2.8*	0.050		mg/L	1	05/23/2019 16:54
Manganese	di	A	*0.14*	0.0020		mg/L	1	05/23/2019 16:54
Sodium	di	A	*20*	0.50		mg/L	1	05/23/2019 16:54
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020				Analyst: Prep Date/Time: 05/20/2019 10:45	
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	06/03/2019 0:00
Chloride			Method: SM 4500-Cl B-1997 Prep Method: SM 4500-Cl B-1997				Analyst: EF Prep Date/Time: 05/27/2019 15:57	
Chloride	dil	A	*27*	1.0		mg/L	1	05/27/2019 15:57
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982				Analyst: EF Prep Date/Time: 05/27/2019 21:15	
Specific Conductance	di	A	*1080*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000				Analyst: DAT Prep Date/Time: 05/22/2019 11:11	
pH	dij	A	*7.36*	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Phenolics			Method: SW-846 9066 Prep Method: NA				Analyst: ABG Prep Date/Time: 05/22/2019 10:12	
Phenolics, Total Recoverable	di	A	*ND*	0.010		mg/L	1	05/24/2019 11:57
Sulfate, Turbidimetric			Method: SW-846 9038 Prep Method: SW-846 9038				Analyst: ABG Prep Date/Time: 05/29/2019 11:35	
Sulfate	i	A	*210*	10		mg/L	1	05/29/2019 12:28
Total Organic Carbon			Method: SM 5310C Prep Method: NA				Analyst: JGF Prep Date/Time: 05/24/2019 09:53	
Carbon, Total Organic	K	21/10	*1.2*	0.50		mg/L	1	05/24/2019 17:51

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Analytical Results

Date: *Thursday, June 6, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100-01 / Robertson - Ceco / Lemont, IL
Client Sample ID: MWD-2C
Sample Description:
Matrix: Aqueous

Work Order/ID: 19E1155-07
Sampled: 05/20/2019 10:45
Received: 05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020					Analyst: Prep Date/Time: 05/20/2019 10:45
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	06/04/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982					Analyst: EF Prep Date/Time: 05/27/2019 21:15
Specific Conductance	dl	A	*1060*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 05/22/2019 11:11
pH	dil	A	7.27	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 05/24/2019 09:53
Carbon, Total Organic	K	21/10	1.2	0.50		mg/L	1	05/24/2019 18:09

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Analytical Results

Date: Thursday, June 6, 2019

Client:	Carlson Environmental, Inc.		
Client Project:	100-01 / Robertson - Ceco / Lemont, IL		
Client Sample ID:	MWD-2D	**Work Order/ID:**	19E1155-08
Sample Description:		**Sampled:**	05/20/2019 10:45
Matrix:	Aqueous	**Received:**	05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SW-846 9020					Analyst:
Total Organic Halogens (TOX) (Subcontracted)								Prep Date/Time:05/20/2019 10:45
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	06/05/2019 0:00
			Method: SM 2510 B-1997					Analyst:EF
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time:05/27/2019 21:15
Specific Conductance	dl	A	*1050*	2.00		umhos/cm	1	05/27/2019 21:15
			Method: SM 4500 H+ B-2000					Analyst:DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time:05/22/2019 11:11
pH	dlj	A	*7.23*	2.00	H	pH at 25°C	1	05/22/2019 11:11
			Method: SM 5310C					Analyst:JGF
Total Organic Carbon			Prep Method: NA					Prep Date/Time:05/24/2019 09:53
Carbon, Total Organic	K	51/10	*1.3*	0.50		mg/L	1	05/24/2019 18:27

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Analytical Results

Date: Thursday, June 6, 2019

Client:	Carlson Environmental, Inc.		
Client Project:	100-01 / Robertson - Ceco / Lemont, IL		
Client Sample ID:	MWD-3A	**Work Order/ID:**	19E1155-09
Sample Description:		**Sampled:**	05/20/2019 12:00
Matrix:	Aqueous	**Received:**	05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Metals by ICP			Method: SW-846 6010C Prep Method: SW846 3005A				Analyst: RPL Prep Date/Time: 05/23/2019 08:55	
Iron	di	A	*ND*	0.050		mg/L	1	05/23/2019 16:59
Manganese	di	A	*ND*	0.0020		mg/L	1	05/23/2019 16:59
Sodium	di	A	*36*	0.50		mg/L	1	05/23/2019 16:59
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020				Analyst: Prep Date/Time: 05/20/2019 12:00	
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	06/06/2019 0:00
Chloride			Method: SM 4500-Cl B-1997 Prep Method: SM 4500-Cl B-1997				Analyst: EF Prep Date/Time: 05/27/2019 15:57	
Chloride	dij	A	*35*	1.0		mg/L	1	05/27/2019 15:57
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982				Analyst: EF Prep Date/Time: 05/27/2019 21:15	
Specific Conductance	di	A	*1310*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000				Analyst: DAT Prep Date/Time: 05/22/2019 11:11	
pH	dij	A	*7.38*	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Phenolics			Method: SW-846 9066 Prep Method: NA				Analyst: ABG Prep Date/Time: 05/29/2019 11:05	
Phenolics, Total Recoverable	di	A	*ND*	0.010		mg/L	1	05/29/2019 14:34
Sulfate, Turbidimetric			Method: SW-846 9038 Prep Method: SW-846 9038				Analyst: ABG Prep Date/Time: 05/29/2019 11:35	
Sulfate	I	A	*220*	100		mg/L	10	05/29/2019 13:24
Total Organic Carbon			Method: SM 5310C Prep Method: NA				Analyst: JGF Prep Date/Time: 05/24/2019 09:53	
Carbon, Total Organic	K	21/10	*1.4*	0.50		mg/L	1	05/24/2019 18:45

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Analytical Results

Date: Thursday, June 6, 2019

Client: Carlson Environmental, Inc.
Client Project: 100-01 / Robertson - Ceco / Lemont, IL
Client Sample ID: MWD-3B
Sample Description:
Matrix: Aqueous

Work Order/ID: 19E1155-10
Sampled: 05/20/2019 12:00
Received: 05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020					Analyst: Prep Date/Time: 05/20/2019 12:00
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	06/07/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982					Analyst: EF Prep Date/Time: 05/27/2019 21:15
Specific Conductance	di	A	*1320*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 05/22/2019 11:11
pH	dij	A	*7.41*	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 05/24/2019 09:53
Carbon, Total Organic	K	21/10	*1.4*	0.50		mg/L	1	05/24/2019 19:03

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Analytical Results

Date: *Thursday, June 6, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100-01 / Robertson - Ceco / Lemont, IL
Client Sample ID: MWD-3C
Sample Description:
Matrix: Aqueous

Work Order/ID: 19E1155-11
Sampled: 05/20/2019 12:00
Received: 05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020					Analyst: Prep Date/Time: 05/20/2019 12:00
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	06/08/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982					Analyst: EF Prep Date/Time: 05/27/2019 21:15
Specific Conductance	di	A	*1330*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 05/22/2019 11:11
pH	dlj	A	*7.27*	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 05/24/2019 09:53
Carbon, Total Organic	K	1/10	*1.3*	0.50		mg/L	1	05/24/2019 19:20

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Analytical Results

Date: *Thursday, June 6, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100-01 / Robertson - Ceco / Lemont, IL
Client Sample ID: MWD-3D
Sample Description:
Matrix: Aqueous

Work Order/ID: 19E1155-12
Sampled: 05/20/2019 12:00
Received: 05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020					Analyst: Prep Date/Time: 05/20/2019 12:00
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	06/09/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982					Analyst: EF Prep Date/Time: 05/27/2019 21:15
Specific Conductance	dl	A	*1340*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 05/22/2019 11:11
pH	dl	A	*7.42*	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 06/24/2019 09:53
Carbon, Total Organic	K	1/10	*ND*	0.50		mg/L	1	05/24/2019 21:25

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Analytical Results

Date: *Thursday, June 6, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100-01 / Robertson - Ceco / Lemont, IL
Client Sample ID: MWD-4A
Sample Description:
Matrix: Aqueous
Work Order/ID: 19E1155-13
Sampled: 05/20/2019 14:00
Received: 05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Metals by ICP			Method: SW-846 6010C Prep Method: SW846 3005A				Analyst: RPL Prep Date/Time: 05/23/2019 08:55	
Iron	di	A	*0.088*	0.050		mg/L	1	05/23/2019 17:04
Manganese	di	A	*0.0049*	0.0020		mg/L	1	05/23/2019 17:04
Sodium	di	A	*28*	0.50		mg/L	1	05/23/2019 17:04
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020				Analyst: Prep Date/Time: 05/20/2019 14:00	
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	06/10/2019 0:00
Chloride			Method: SM 4500-Cl B-1997 Prep Method: SM 4500-Cl B-1997				Analyst: EF Prep Date/Time: 05/27/2019 15:57	
Chloride	dij	A	*4.0*	1.0		mg/L	1	05/27/2019 15:57
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982				Analyst: EF Prep Date/Time: 05/27/2019 21:15	
Specific Conductance	di	A	*1320*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000				Analyst: DAT Prep Date/Time: 05/22/2019 11:11	
pH	dij	A	*7.37*	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Phenolics			Method: SW-846 9066 Prep Method: NA				Analyst: ABG Prep Date/Time: 05/22/2019 10:12	
Phenolics, Total Recoverable	di	A	*ND*	0.010		mg/L	1	05/24/2019 11:58
Sulfate, Turbidimetric			Method: SW-846 9038 Prep Method: SW-846 9038				Analyst: ABG Prep Date/Time: 05/29/2019 11:35	
Sulfate	I	A	*250*	100		mg/L	10	05/29/2019 13:26
Total Organic Carbon			Method: SM 5310C Prep Method: NA				Analyst: JGF Prep Date/Time: 05/24/2019 09:53	
Carbon, Total Organic	K	21/10	*0.82*	0.50		mg/L	1	05/24/2019 21:43

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Analytical Results

Date: *Thursday, June 6, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100-01 / Robertson - Ceco / Lemont, IL
Client Sample ID: MWD-4B
Sample Description:
Matrix: Aqueous

Work Order/ID: 19E1155-14
Sampled: 05/20/2019 14:00
Received: 05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020					Analyst: Prep Date/Time: 05/20/2019 14:00
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	06/11/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982					Analyst: EF Prep Date/Time: 05/27/2019 21:15
Specific Conductance	di	A	*1330*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 05/22/2019 11:11
pH	dij	A	*7.48*	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 05/24/2019 09:53
Carbon, Total Organic	K	C1/10	*0.77*	0.50		mg/L	1	05/24/2019 22:01

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Analytical Results

Date: *Thursday, June 6, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100-01 / Robertson - Ceco / Lemont, IL
Client Sample ID: MWD-4C
Sample Description:
Matrix: Aqueous

Work Order/ID: 19E1155-15
Sampled: 05/20/2019 14:00
Received: 05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020					Analyst: Prep Date/Time: 05/20/2019 14:00
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	06/12/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982					Analyst: EF Prep Date/Time: 05/27/2019 21:15
Specific Conductance	dl	A	*1300*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 05/22/2019 11:11
pH	dl	A	*7.38*	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 05/24/2019 09:53
Carbon, Total Organic	K	1/10	*0.80*	0.50		mg/L	1	05/24/2019 22:19

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Analytical Results

Date: Thursday, June 6, 2019

Client: Carlson Environmental, Inc.
Client Project: 100-01 / Robertson - Ceco / Lemont, IL
Client Sample ID: MWD-4D
Sample Description:
Matrix: Aqueous

Work Order/ID: 19E1155-16
Sampled: 05/20/2019 14:00
Received: 05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020					Analyst: Prep Date/Time: 05/20/2019 14:00
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	06/13/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982					Analyst: EF Prep Date/Time: 05/27/2019 21:15
Specific Conductance	di	A	*1300*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 05/22/2019 11:11
pH	dij	A	*7.39*	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 05/24/2019 09:53
Carbon, Total Organic	K	21/10	*0.78*	0.50		mg/L	1	05/24/2019 22:36

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Analytical Results

Date: *Thursday, June 6, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100-01 / Robertson - Ceco / Lemont, IL
Client Sample ID: MWD-5A
Sample Description:
Matrix: Aqueous

Work Order/ID: 19E1155-17
Sampled: 05/20/2019 15:15
Received: 05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Metals by ICP			Method: SW-846 6010C Prep Method: SW846 3005A				Analyst: RPL Prep Date/Time: 05/23/2019 08:55	
Iron	di	A	*ND*	0.050		mg/L	1	05/23/2019 17:09
Manganese	di	A	*ND*	0.0020		mg/L	1	05/23/2019 17:09
Sodium	di	A	*23*	0.50		mg/L	1	05/23/2019 17:09
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020				Analyst: Prep Date/Time: 05/20/2019 15:15	
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	06/14/2019 0:00
Chloride			Method: SM 4500-Cl B-1997 Prep Method: SM 4500-Cl B-1997				Analyst: EF Prep Date/Time: 05/27/2019 15:57	
Chloride	dil	A	*3.0*	1.0		mg/L	1	05/27/2019 15:57
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982				Analyst: EF Prep Date/Time: 05/27/2019 21:15	
Specific Conductance	di	A	*1310*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000				Analyst: DAT Prep Date/Time: 05/22/2019 11:11	
pH	dil	A	*7.44*	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Phenolics			Method: SW-846 9066 Prep Method: NA				Analyst: ABG Prep Date/Time: 05/29/2019 11:05	
Phenolics, Total Recoverable	di	A	*ND*	0.010		mg/L	1	05/29/2019 14:36
Sulfate, Turbidimetric			Method: SW-846 9038 Prep Method: SW-846 9038				Analyst: ABG Prep Date/Time: 05/29/2019 11:35	
Sulfate	I	A	*260*	100		mg/L	10	05/29/2019 13:28
Total Organic Carbon			Method: SM 5310C Prep Method: NA				Analyst: JGF Prep Date/Time: 05/24/2019 09:53	
Carbon, Total Organic	K	1/10	*0.78*	0.50		mg/L	1	05/24/2019 22:55

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Analytical Results

Date: *Thursday, June 6, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100-01 / Robertson - Ceco / Lemont, IL
Client Sample ID: MWD-5B
Sample Description:
Matrix: Aqueous

Work Order/ID: 19E1155-18
Sampled: 05/20/2019 15:15
Received: 05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020					Analyst: Prep Date/Time: 05/20/2019 15:15
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	06/15/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982					Analyst: EF Prep Date/Time: 05/27/2019 21:16
Specific Conductance	dl	A	*1320*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 05/22/2019 11:11
pH	dlj	A	*7.52*	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 05/24/2019 09:53
Carbon, Total Organic	K	21/10	*0.58*	0.50		mg/L	1	05/24/2019 23:13

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Analytical Results

Date: Thursday, June 6, 2019

Client:	Carlson Environmental, Inc.		
Client Project:	100-01 / Robertson - Ceco / Lemont, IL		
Client Sample ID:	MWD-5C	**Work Order/ID:**	19E1155-19
Sample Description:		**Sampled:**	05/20/2019 15:15
Matrix:	Aqueous	**Received:**	05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX) (Subcontracted)			Method: SW-846 9020					Analyst: Prep Date/Time: 05/20/2019 15:15
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	06/16/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: EPA 120.1 Rev 1982					Analyst: EF Prep Date/Time: 05/27/2019 21:15
Specific Conductance	di	A	*1330*	2.00		umhos/cm	1	05/27/2019 21:15
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 05/22/2019 11:11
pH	dij	A	*7.51*	2.00	H	pH at 25°C	1	05/22/2019 11:11
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 05/24/2019 09:53
Carbon, Total Organic	K	C1/10	*0.78*	0.50		mg/L	1	05/24/2019 23:30

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Analytical Results

Date: *Thursday, June 6, 2019*

Client:	Carlson Environmental, Inc.		
Client Project:	100-01 / Robertson - Ceco / Lemont, IL		
Client Sample ID:	MWD-5D	**Work Order/ID:**	19E1155-20
Sample Description:		**Sampled:**	05/20/2019 15:15
Matrix:	Aqueous	**Received:**	05/21/2019 15:48

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SW-846 9020					Analyst:
Total Organic Halogens (TOX) (Subcontracted)								Prep Date/Time: 05/20/2019 15:15
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	06/17/2019 0:00
			Method: SM 2510 B-1997					Analyst: EF
Specific Conductance			Prep Method: EPA 120.1 Rev 1982					Prep Date/Time: 05/27/2019 21:15
Specific Conductance	dl	A	*1310*	2.00		umhos/cm	1	05/27/2019 21:15
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 05/22/2019 11:11
pH	dl	A	*7.48*	2.00	H	pH at 25°C	1	05/22/2019 11:11
			Method: SM 5310C					Analyst: JGF
Total Organic Carbon			Prep Method: NA					Prep Date/Time: 06/24/2019 09:53
Carbon, Total Organic	K	21/10	*0.79*	0.50		mg/L	1	05/24/2019 23:46

ANALYTE TYPES: (AT)
A,B = Target Analyte
I = Internal Standard
M = Summation Analyte
S = Surrogate
T = Tentatively Identified Compound (TIC, concentration estimated)

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QC SAMPLE IDENTIFICATIONS

BLK = Method Blank	ICSA = Interference Check Standard "A"
DUP = Method Duplicate	ICSAB = Interference Check Standard "AB"
BS = Method Blank Spike	BSD = Method Blank Spike Duplicate
MS = Matrix Spike	MSD = Matrix Spike Duplicate
ICB = Initial Calibration Blank	ICV = Initial Calibration Verification
CCB = Continuing Calibration Blank	CCV = Continuing Calibration Verification
CRL = Client Required Reporting Limit	OPR = Ongoing Precision and Recovery Standard
PDS = Post Digestion Spike	SD = Serial Dilution
QCS = Quality Control Standard	

CERTIFICATIONS (Certs)

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.

[d] Illinois EPA drinking water, wastewater and solid waste analysis (#200064)
[i] Kansas Dept Health & Env. NELAP (#E-10397)
[j] Kentucky Wastewater Laboratory Certification Program (#108202)
[K] Kentucky Drinking Water Accreditation (#00074)

FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

H:	Sample was analyzed past holding time.
RL:	Reporting Limit
RPD:	Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler **Temp:** 4.3°C

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Cooler Inspection Checklist

Ice Present or not required?	Yes
Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes
Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes
Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes
Sample type identified on COC?	Yes
Correct type of Containers Received	Yes
Correct number of containers listed on COC?	Yes
Containers Intact?	Yes
COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes
Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes
Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes
Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes

Electronic Filing: Received, Clerk's Office 07/19/2024

CEI

CHAIN-OF-CUSTODY RECORD

No. 18345

CARLSON ENVIRONMENTAL, INC. 65 E. Wacker Place Chicago, IL 60601 (312)346-2140

PROJ. NO. 100.01 PROJECT NAME Robertson-Ceco

SAMPLERS: (Signature) Bruce Shabino

19E1155

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) Non-purgeable organic C	TOX	pH	Specific Conductance	Phenols	Sulfate	Chloride	Fe, Mn, Na	REMARKS
1	MWD-1A	5-21-19	1045		X	groundwater	6	X	X	X	X	X	X	X	X	
2	MWD-1B						4	X	X	X	X					
3	MWD-1C						4	X	X	X	X					
4	MWD-1D						4	X	X	X	X					
5	MWD-2A		1045				6	X	X	X	X	X	X	X	X	
6	MWD-2B						6	X	X	X	X	X	X	X	X	
7	MWD-2C						4	X	X	X	X					
8	MWD-2D						4	X	X	X	X					
9	MWD-3A		1200				6	X	X	X	X	X	X	X	X	
10	MWD-3B						4	X	X	X	X					

Relinquished by	Date/Time	Received by	REMARKS
[signature]	5-21-19 1100	[signature]	Standard TAT
Relinquished by:	Date/Time	Received by:	
Relinquished by: [signature] 5-21-19	1546	Received for Laboratory by: [signature] 5/21/19	1548

4.8
0.5
4.3 C cT

Distribution White - Accompanies Shipment, Yellow - Laboratory File Pink - Coordinator Field Files

19E1155 Ron Mislunas
Carlson - Chicago, IL
Ceco - Lemont, IL
05/21/2019

Electronic Filing: Received, Clerk's Office 07/19/2024

CEI

CHAIN-OF-CUSTODY RECORD

No. 18346

CARLSON ENVIRONMENTAL, INC. 65 E. Wacker Place Chicago, IL 60601 (312)346-2140

PROJ. NO. 100.01

PROJECT NAME Robertson - Ceco

SAMPLERS: (Signature) [signature] Bruce Shabino

19E1155

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	Non-purgeable organic C	TOX	pH	Specific Conductance	phenols	sulfate	chloride	Fe, Mn, Na	REMARKS
1	MWD-3C	5-20	1912	00	X	groundwater	4	X	X	X	X					
2	MWD-3D		1200				4	X	X	X	X					
3	MWD-4A		1400				6	X	X	X	X	X	X	X	X	
4	MWD-4B						4	X	X	X	X					
5	MWD-4C						4	X	X	X	X					
6	MWD-4D						4	X	X	X	X					
7	MWD-5A		1515				6	X	X	X	X	X	X	X	X	
8	MWD-5B						4	X	X	X	X					
9	MWD-5C						4	X	X	X	X					
10	MWD-5D						4	X	X	X	X					

Relinquished by (Signature)	Date/Time	Received by (Signature)
[signature]	5-21-19	[signature]
Relinquished by (Signature)	Date/Time	Received by (Signature)
Relinquished by (Signature)	Date/Time	Received for Laboratory by (Signature)
[signature]	5-21-19 1548	[signature] 5/21/19 1548

REMARKS Standard TAT

Distribution: White - Accompanies Shipment; Yellow - Laboratory File; Pink - Coordinator Field Files

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December 11, 2019

Carlson Environmental, Inc.
65 East Wacker Place, Suite 2210
Chicago, IL 60601-

Work Order No.: 19K1078

Re: 100.01 Former Robertson CECO

Dear Bruce Shabino:

Microbac Laboratories, Inc. - Chicagoland Division received 20 sample(s) on 11/21/2019 4:23:00PM for the analyses presented in the following report as Work Order 19K1078.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please contact your project manager. For any feedback, please contact Ron Misiunas, Division Manager, at ron.misiunas@microbac.com.

Sincerely,
Microbac Laboratories, Inc.

Kristen Gehlbach
Senior Project Manager

MICROBAC®

WORK ORDER SAMPLE SUMMARY

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Project: 100.01 Former Robertson CECO
Lab Order: 19K1078

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
19K1078-01	MWD-1A		11/21/2019 14:30	11/21/2019 4:23:00PM
19K1078-02	MWD-1B		11/21/2019 14:30	11/21/2019 4:23:00PM
19K1078-03	MWD-1C		11/21/2019 14:30	11/21/2019 4:23:00PM
19K1078-04	MWD-1D		11/21/2019 14:30	11/21/2019 4:23:00PM
19K1078-05	MWD-2A		11/21/2019 12:00	11/21/2019 4:23:00PM
19K1078-06	MWD-2B		11/21/2019 12:00	11/21/2019 4:23:00PM
19K1078-07	MWD-2C		11/21/2019 12:00	11/21/2019 4:23:00PM
19K1078-08	MWD-2D		11/21/2019 12:00	11/21/2019 4:23:00PM
19K1078-09	MWD-3A		11/20/2019 12:30	11/21/2019 4:23:00PM
19K1078-10	MWD-3B		11/20/2019 12:30	11/21/2019 4:23:00PM
19K1078-11	MWD-3C		11/20/2019 12:30	11/21/2019 4:23:00PM
19K1078-12	MWD-3D		11/20/2019 12:30	11/21/2019 4:23:00PM
19K1078-13	MWD-4A		11/20/2019 13:15	11/21/2019 4:23:00PM
19K1078-14	MWD-4B		11/20/2019 13:15	11/21/2019 4:23:00PM
19K1078-15	MWD-4C		11/20/2019 13:15	11/21/2019 4:23:00PM
19K1078-16	MWD-4D		11/20/2019 13:15	11/21/2019 4:23:00PM
19K1078-17	MWD-5A		11/20/2019 14:00	11/21/2019 4:23:00PM
19K1078-18	MWD-5B		11/20/2019 14:00	11/21/2019 4:23:00PM
19K1078-19	MWD-5C		11/20/2019 14:00	11/21/2019 4:23:00PM
19K1078-20	MWD-5D		11/20/2019 14:00	11/21/2019 4:23:00PM

Samples Subcontracted To: Keystone Laboratories, Inc.

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
19K1078-01	MWD-1A		11/21/2019 14:30	11/21/2019 4:23:00PM
19K1078-02	MWD-1B		11/21/2019 14:30	11/21/2019 4:23:00PM
19K1078-03	MWD-1C		11/21/2019 14:30	11/21/2019 4:23:00PM
19K1078-04	MWD-1D		11/21/2019 14:30	11/21/2019 4:23:00PM
19K1078-05	MWD-2A		11/21/2019 12:00	11/21/2019 4:23:00PM
19K1078-06	MWD-2B		11/21/2019 12:00	11/21/2019 4:23:00PM
19K1078-07	MWD-2C		11/21/2019 12:00	11/21/2019 4:23:00PM
19K1078-08	MWD-2D		11/21/2019 12:00	11/21/2019 4:23:00PM
19K1078-09	MWD-3A		11/20/2019 12:30	11/21/2019 4:23:00PM
19K1078-10	MWD-3B		11/20/2019 12:30	11/21/2019 4:23:00PM
19K1078-11	MWD-3C		11/20/2019 12:30	11/21/2019 4:23:00PM
19K1078-12	MWD-3D		11/20/2019 12:30	11/21/2019 4:23:00PM
19K1078-13	MWD-4A		11/20/2019 13:15	11/21/2019 4:23:00PM
19K1078-14	MWD-4B		11/20/2019 13:15	11/21/2019 4:23:00PM
19K1078-15	MWD-4C		11/20/2019 13:15	11/21/2019 4:23:00PM
19K1078-16	MWD-4D		11/20/2019 13:15	11/21/2019 4:23:00PM
19K1078-17	MWD-5A		11/20/2019 14:00	11/21/2019 4:23:00PM
19K1078-18	MWD-5B		11/20/2019 14:00	11/21/2019 4:23:00PM

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WORK ORDER SAMPLE SUMMARY **Date:** *Wednesday, December 11, 2019*

19K1078-19	MWD-5C		11/20/2019 14:00	11/21/2019 4:23:00PM
19K1078-20	MWD-5D		11/20/2019 14:00	11/21/2019 4:23:00PM

Samples Subcontracted To: Microbac - KTL

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
19K1078-01	MWD-1A		11/21/2019 14:30	11/21/2019 4:23:00PM
19K1078-02	MWD-1B		11/21/2019 14:30	11/21/2019 4:23:00PM
19K1078-03	MWD-1C		11/21/2019 14:30	11/21/2019 4:23:00PM
19K1078-04	MWD-1D		11/21/2019 14:30	11/21/2019 4:23:00PM
19K1078-05	MWD-2A		11/21/2019 12:00	11/21/2019 4:23:00PM
19K1078-06	MWD-2B		11/21/2019 12:00	11/21/2019 4:23:00PM
19K1078-07	MWD-2C		11/21/2019 12:00	11/21/2019 4:23:00PM
19K1078-08	MWD-2D		11/21/2019 12:00	11/21/2019 4:23:00PM
19K1078-09	MWD-3A		11/20/2019 12:30	11/21/2019 4:23:00PM
19K1078-10	MWD-3B		11/20/2019 12:30	11/21/2019 4:23:00PM
19K1078-11	MWD-3C		11/20/2019 12:30	11/21/2019 4:23:00PM
19K1078-12	MWD-3D		11/20/2019 12:30	11/21/2019 4:23:00PM
19K1078-13	MWD-4A		11/20/2019 13:15	11/21/2019 4:23:00PM
19K1078-14	MWD-4B		11/20/2019 13:15	11/21/2019 4:23:00PM
19K1078-15	MWD-4C		11/20/2019 13:15	11/21/2019 4:23:00PM
19K1078-16	MWD-4D		11/20/2019 13:15	11/21/2019 4:23:00PM
19K1078-17	MWD-5A		11/20/2019 14:00	11/21/2019 4:23:00PM
19K1078-18	MWD-5B		11/20/2019 14:00	11/21/2019 4:23:00PM
19K1078-19	MWD-5C		11/20/2019 14:00	11/21/2019 4:23:00PM
19K1078-20	MWD-5D		11/20/2019 14:00	11/21/2019 4:23:00PM

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CASE NARRATIVE **Date:** *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Project: 100.01 Former Robertson CECO
Lab Order: 19K1078

TOC Analysis:
Samples requiring TOC analysis were submitted to Microbac Laboratories Kentucky Testing Division in Louisville, KY. Their results are incorporated into this report.

TOX Analysis:
Samples requiring TOX analysis were submitted to Keystone Laboratories. Their results are incorporated into this report.

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-1A
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-01
Sampled: 11/21/2019 14:30
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX)			Method: SW-846 9020				Analyst: Prep Date/Time: 11/21/2019 14:30	
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	12/04/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: SM 2510 B-1997				Analyst: SCB Prep Date/Time: 11/25/2019 07:44	
Specific Conductance	di	A	*1250*	2.00		umhos/cm	1	11/25/2019 7:44
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000				Analyst: DAT Prep Date/Time: 11/22/2019 14:51	
pH	dlj	A	*7.11*	2.00	H	S.U.	1	11/22/2019 14:51
Sample Temperature at Analysis			Method: SM 4500 H+ B-2000 Prep Method: SW-846 9045D				Analyst: DAT Prep Date/Time: 11/22/2019 14:51	
Temperature			*13*			°C	1	11/22/2019 14:51
Total Organic Carbon			Method: SM 5310C Prep Method: NA				Analyst: JGF Prep Date/Time: 12/02/2019 09:49	
Carbon, Total Organic	K	21/10	*1.7*	0.50		mg/L	1	12/02/2019 14:29

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-1B
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-02
Sampled: 11/21/2019 14:30
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX)			Method: SW-846 9020					Analyst: Prep Date/Time: 11/21/2019 14:30
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	12/04/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: SM 2510 B-1997					Analyst: SCB Prep Date/Time: 11/25/2019 07:44
Specific Conductance	di	A	*1240*	2.00		umhos/cm	1	11/25/2019 7:44
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
pH	dij	A	*7.20*	2.00	H	S.U.	1	11/22/2019 14:51
Sample Temperature at Analysis			Method: SM 4500 H+ B-2000 Prep Method: SW-846 9045D					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
Temperature			*14*			°C	1	11/22/2019 14:51
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	21/10	*1.7*	0.50		mg/L	1	12/02/2019 14:47

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-1C
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-03
Sampled: 11/21/2019 14:30
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX)			Method: SW-846 9020					Analyst: Prep Date/Time: 11/21/2019 14:30
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	12/04/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: SM 2510 B-1997					Analyst: SCB Prep Date/Time: 11/25/2019 07:44
Specific Conductance	dl	A	*1250*	2.00		umhos/cm	1	11/25/2019 7:44
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
pH	dlj	A	*7.08*	2.00	H	S.U.	1	11/22/2019 14:51
Sample Temperature at Analysis			Method: SM 4500 H+ B-2000 Prep Method: SW-846 9045D					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
Temperature			*14*			°C	1	11/22/2019 14:51
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	21/10	*1.6*	0.50		mg/L	1	12/02/2019 15:04

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-1D
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-04
Sampled: 11/21/2019 14:30
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX)			Method: SW-846 9020					Analyst: Prep Date/Time: 11/21/2019 14:30
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	12/04/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: SM 2510 B-1997					Analyst: SCB Prep Date/Time: 11/25/2019 07:44
Specific Conductance	dl	A	*1260*	2.00		umhos/cm	1	11/25/2019 7:44
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
pH	dil	A	*7.04*	2.00	H	S.U.	1	11/22/2019 14:51
Sample Temperature at Analysis			Method: SM 4500 H+ B-2000 Prep Method: SW-846 9045D					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
Temperature			*14*			°C	1	11/22/2019 14:51
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	1/10	*1.7*	0.50		mg/L	1	12/02/2019 15:22

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-2A
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-05
Sampled: 11/21/2019 12:00
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX)			Method: SW-846 9020					Analyst: Prep Date/Time: 11/21/2019 12:09
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	12/04/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: SM 2510 B-1997					Analyst: SCB Prep Date/Time: 11/25/2019 07:44
Specific Conductance	dl	A	*1180*	2.00		umhos/cm	1	11/25/2019 7:44
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
pH	dlj	A	*7.22*	2.00	H	S.U.	1	11/22/2019 14:51
Sample Temperature at Analysis			Method: SM 4500 H+ B-2000 Prep Method: SW-846 9045D					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
Temperature			*15*			°C	1	11/22/2019 14:51
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	1/10	*1.1*	0.50		mg/L	1	12/02/2019 15:40

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-2B
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-06
Sampled: 11/21/2019 12:00
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX)			Method: SW-846 9020					Analyst: Prep Date/Time: 11/21/2019 12:00
Total Organic Halides (TOX)			*0.012*	0.01		mg/L	1	12/05/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: SM 2510 B-1997					Analyst: SCB Prep Date/Time: 11/25/2019 07:44
Specific Conductance	dl	A	*1190*	2.00		umhos/cm	1	11/25/2019 7:44
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
pH	dlj	A	*7.14*	2.00	H	S.U.	1	11/22/2019 14:51
Sample Temperature at Analysis			Method: SM 4500 H+ B-2000 Prep Method: SW-846 9045D					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
Temperature			*14*			°C	1	11/22/2019 14:51
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	S1/10	*1.1*	0.50		mg/L	1	12/02/2019 15:57

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-2C
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-07
Sampled: 11/21/2019 12:00
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX)			Method: SW-846 9020					Analyst: Prep Date/Time: 11/21/2019 12:00
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	12/05/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: SM 2510 B-1997					Analyst: SCB Prep Date/Time: 11/25/2019 07:44
Specific Conductance	di	A	*1190*	2.00		umhos/cm	1	11/25/2019 7:44
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
pH	dij	A	*7.13*	2.00	H	S.U.	1	11/22/2019 14:51
Sample Temperature at Analysis			Method: SM 4500 H+ B-2000 Prep Method: SW-846 9045D					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
Temperature			*14*			°C	1	11/22/2019 14:51
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	21/10	*1.1*	0.50		mg/L	1	12/02/2019 16:15

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-2D
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-08
Sampled: 11/21/2019 12:00
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SW-846 9020					Analyst:
Total Organic Halogens (TOX)								Prep Date/Time: 11/21/2019 12:00
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	12/05/2019 0:00
			Method: SM 2510 B-1997					Analyst: SCB
Specific Conductance			Prep Method: SM 2510 B-1997					Prep Date/Time: 11/25/2019 07:44
Specific Conductance	di	A	*1200*	2.00		umhos/cm	1	11/25/2019 7:44
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 11/22/2019 14:51
pH	dlj	A	*7.29*	2.00	H	S.U.	1	11/22/2019 14:51
			Method: SM 4500 H+ B-2000					Analyst: DAT
Sample Temperature at Analysis			Prep Method: SW-846 9045D					Prep Date/Time: 11/22/2019 14:51
Temperature			*15*			°C	1	11/22/2019 14:51
			Method: SM 5310C					Analyst: JGF
Total Organic Carbon			Prep Method: NA					Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	1/10	*1.2*	0.50		mg/L	1	12/02/2019 16:33

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client:	Carlson Environmental, Inc.		
Client Project:	100.01 Former Robertson CECO		
Client Sample ID:	MWD-3A	**Work Order/ID:**	19K1078-09
Sample Description:		**Sampled:**	11/20/2019 12:30
Matrix:	Aqueous	**Received:**	11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX)			Method: SW-846 9020					Analyst: Prep Date/Time: 11/20/2019 12:30
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	12/05/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: SM 2510 B-1997					Analyst: SCB Prep Date/Time: 11/25/2019 07:44
Specific Conductance	dl	A	*1290*	2.00		umhos/cm	1	11/25/2019 7:44
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
pH	dlj	A	*7.09*	2.00	H	S.U.	1	11/22/2019 14:51
Sample Temperature at Analysis			Method: SM 4500 H+ B-2000 Prep Method: SW-846 9045D					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
Temperature			*15*			°C	1	11/22/2019 14:51
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	21/10	*1.5*	0.50		mg/L	1	12/02/2019 16:51

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-3B
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-10
Sampled: 11/20/2019 12:30
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX)			Method: SW-846 9020					Analyst: Prep Date/Time: 11/20/2019 12:30
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	12/05/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: SM 2510 B-1997					Analyst: SCB Prep Date/Time: 11/25/2019 07:44
Specific Conductance	dl	A	*1270*	2.00		umhos/cm	1	11/25/2019 7:44
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
pH	dil	A	*7.13*	2.00	H	S.U.	1	11/22/2019 14:51
Sample Temperature at Analysis			Method: SM 4500 H+ B-2000 Prep Method: SW-846 9045D					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
Temperature			*15*			°C	1	11/22/2019 14:51
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	1/10	*1.5*	0.50		mg/L	1	12/02/2019 17:09

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-3C
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-11
Sampled: 11/20/2019 12:30
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX)			Method: SW-846 9020					Analyst: Prep Date/Time: 11/20/2019 12:30
Total Organic Halides (TOX)			*0.026*	0.01		mg/L	1	12/05/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: SM 2510 B-1997					Analyst: SCB Prep Date/Time: 11/25/2019 07:44
Specific Conductance	di	A	*1250*	2.00		umhos/cm	1	11/25/2019 7:44
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
pH	dij	A	*7.11*	2.00	H	S.U.	1	11/22/2019 14:51
Sample Temperature at Analysis			Method: SM 4500 H+ B-2000 Prep Method: SW-846 9045D					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
Temperature			*15*			°C	1	11/22/2019 14:51
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	21/10	*1.3*	0.50		mg/L	1	12/02/2019 18:02

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-3D
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-12
Sampled: 11/20/2019 12:30
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SW-846 9020					Analyst:
Total Organic Halogens (TOX)			Prep Method:					Prep Date/Time: 11/20/2019 12:30
Total Organic Halides (TOX)			*0.023*	0.01		mg/L	1	12/05/2019 0:00
			Method: SM 2510 B-1997					Analyst: SCB
Specific Conductance			Prep Method: SM 2510 B-1997					Prep Date/Time: 11/25/2019 07:44
Specific Conductance	dl	A	*1280*	2.00		umhos/cm	1	11/25/2019 7:44
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 11/22/2019 14:51
pH	dlj	A	*7.14*	2.00	H	S.U.	1	11/22/2019 14:51
			Method: SM 4500 H+ B-2000					Analyst: DAT
Sample Temperature at Analysis			Prep Method: SW-846 9045D					Prep Date/Time: 11/22/2019 14:51
Temperature			*15*			°C	1	11/22/2019 14:51
			Method: SM 5310C					Analyst: JGF
Total Organic Carbon			Prep Method: NA					Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	1/10	*1.3*	0.50		mg/L	1	12/02/2019 18:20

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-4A
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-13
Sampled: 11/20/2019 13:15
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX)			Method: SW-846 9020					Analyst: Prep Date/Time: 11/20/2019 13:15
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	12/05/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: SM 2510 B-1997					Analyst: SCB Prep Date/Time: 11/25/2019 07:44
Specific Conductance	dl	A	*1240*	2.00		umhos/cm	1	11/25/2019 7:44
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
pH	dlj	A	*7.21*	2.00	H	S.U.	1	11/22/2019 14:51
Sample Temperature at Analysis			Method: SM 4500 H+ B-2000 Prep Method: SW-846 9045D					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
Temperature			*15*			°C	1	11/22/2019 14:51
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	21/10	*1.5*	0.50		mg/L	1	12/02/2019 18:37

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-4B
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-14
Sampled: 11/20/2019 13:15
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX)			Method: SW-846 9020					Analyst: Prep Date/Time: 11/20/2019 13:15
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	12/05/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: SM 2510 B-1997					Analyst: SCB Prep Date/Time: 11/25/2019 07:44
Specific Conductance	dl	A	*1240*	2.00		umhos/cm	1	11/25/2019 7:44
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
pH	dlj	A	*7.10*	2.00	H	S.U.	1	11/22/2019 14:51
Sample Temperature at Analysis			Method: SM 4500 H+ B-2000 Prep Method: SW-846 9045D					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
Temperature			*16*			°C	1	11/22/2019 14:51
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	1/10	*1.6*	0.50		mg/L	1	12/02/2019 18:55

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-4C
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-15
Sampled: 11/20/2019 13:15
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX)			Method: SW-846 9020					Analyst: Prep Date/Time: 11/20/2019 13:15
Total Organic Halides (TOX)			*ND*	0.01		mg/L	1	12/05/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: SM 2510 B-1997					Analyst: SCB Prep Date/Time: 11/25/2019 07:44
Specific Conductance	dl	A	*1220*	2.00		umhos/cm	1	11/25/2019 7:44
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
pH	dl	A	*7.17*	2.00	H	S.U.	1	11/22/2019 14:51
Sample Temperature at Analysis			Method: SM 4500 H+ B-2000 Prep Method: SW-846 9045D					Analyst: DAT Prep Date/Time: 11/22/2019 14:51
Temperature			*16*			°C	1	11/22/2019 14:51
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	1/10	*1.5*	0.50		mg/L	1	12/02/2019 19:13

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-4D
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-16
Sampled: 11/20/2019 13:15
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX)			Method: SW-846 9020					Analyst: Prep Date/Time: 11/20/2019 13:15
Total Organic Halides (TOX)			*0.011*	0.01		mg/L	1	12/06/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: SM 2510 B-1997					Analyst: SCB Prep Date/Time: 11/25/2019 07:44
Specific Conductance	dl	A	*1250*	2.00		umhos/cm	1	11/25/2019 7:44
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 11/25/2019 12:11
pH	dlj	A	*7.35*	2.00	H	S.U.	1	11/25/2019 12:11
Sample Temperature at Analysis			Method: SM 4500 H+ B-2000 Prep Method: SW-846 9045D					Analyst: DAT Prep Date/Time: 11/25/2019 12:11
Temperature			*13*			°C	1	11/25/2019 12:11
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	31/10	*1.7*	0.50		mg/L	1	12/02/2019 19:31

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-5A
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-17
Sampled: 11/20/2019 14:00
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX)			Method: SW-846 9020					Analyst: Prep Date/Time: 11/20/2019 14:00
Total Organic Halides (TOX)			*0.017*	0.01		mg/L	1	12/06/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: SM 2510 B-1997					Analyst: SCB Prep Date/Time: 11/25/2019 07:44
Specific Conductance	dl	A	*1280*	2.00		umhos/cm	1	11/25/2019 7:44
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 11/25/2019 12:11
pH	dlj	A	*7.40*	2.00	H	S.U.	1	11/25/2019 12:11
Sample Temperature at Analysis			Method: SM 4500 H+ B-2000 Prep Method: SW-846 9045D					Analyst: DAT Prep Date/Time: 11/26/2019 12:11
Temperature			*13*			°C	1	11/25/2019 12:11
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	21/10	*1.2*	0.50		mg/L	1	12/02/2019 19:48

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-5B
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-18
Sampled: 11/20/2019 14:00
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX)			Method: SW-846 9020					Analyst: Prep Date/Time: 11/20/2019 14:00
Total Organic Halides (TOX)			*0.016*	0.01		mg/L	1	12/06/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: SM 2510 B-1997					Analyst: SCB Prep Date/Time: 11/25/2019 07:44
Specific Conductance	di	A	*1280*	2.00		umhos/cm	1	11/25/2019 7:44
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 11/25/2019 12:11
pH	dlj	A	7.37	2.00	H	S.U.	1	11/25/2019 12:11
Sample Temperature at Analysis			Method: SM 4500 H+ B-2000 Prep Method: SW-846 9045D					Analyst: DAT Prep Date/Time: 11/25/2019 12:11
Temperature			*13*			°C	1	11/25/2019 12:11
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	21/10	*1.2*	0.50		mg/L	1	12/02/2019 20:06

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-5C
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-19
Sampled: 11/20/2019 14:00
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
Total Organic Halogens (TOX)			Method: SW-846 9020					Analyst: Prep Date/Time: 11/20/2019 14:00
Total Organic Halides (TOX)			*0.02*	0.01		mg/L	1	12/06/2019 0:00
Specific Conductance			Method: SM 2510 B-1997 Prep Method: SM 2510 B-1997					Analyst: SCB Prep Date/Time: 11/25/2019 07:44
Specific Conductance	dl	A	*1270*	2.00		umhos/cm	1	11/25/2019 7:44
pH			Method: SM 4500 H+ B-2000 Prep Method: SM 4500 H+ B-2000					Analyst: DAT Prep Date/Time: 11/25/2019 12:11
pH	dlj	A	*7.38*	2.00	H	S.U.	1	11/25/2019 12:11
Sample Temperature at Analysis			Method: SM 4500 H+ B-2000 Prep Method: SW-846 9045D					Analyst: DAT Prep Date/Time: 11/25/2019 12:11
Temperature			*13*			°C	1	11/25/2019 12:11
Total Organic Carbon			Method: SM 5310C Prep Method: NA					Analyst: JGF Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	1/10	*1.2*	0.50		mg/L	1	12/02/2019 20:24

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Analytical Results

Date: *Wednesday, December 11, 2019*

Client: Carlson Environmental, Inc.
Client Project: 100.01 Former Robertson CECO
Client Sample ID: MWD-5D
Sample Description:
Matrix: Aqueous

Work Order/ID: 19K1078-20
Sampled: 11/20/2019 14:00
Received: 11/21/2019 16:23

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SW-846 9020					Analyst:
Total Organic Halogens (TOX)								Prep Date/Time: 11/20/2019 14:00
Total Organic Halides (TOX)			*0.016*	0.01		mg/L	1	12/06/2019 0:00
			Method: SM 2510 B-1997					Analyst: SCB
Specific Conductance			Prep Method: SM 2510 B-1997					Prep Date/Time: 11/25/2019 07:44
Specific Conductance	dl	A	*1270*	2.00		umhos/cm	1	11/25/2019 7:44
			Method: SM 4500 H+ B-2000					Analyst: DAT
pH			Prep Method: SM 4500 H+ B-2000					Prep Date/Time: 11/25/2019 12:11
pH	dlj	A	*7.46*	2.00	H	S.U.	1	11/25/2019 12:11
			Method: SM 4500 H+ B-2000					Analyst: DAT
Sample Temperature at Analysis			Prep Method: SW-846 9045D					Prep Date/Time: 11/25/2019 12:11
Temperature			*13*			°C	1	11/25/2019 12:11
			Method: SM 5310C					Analyst: JGF
Total Organic Carbon			Prep Method: NA					Prep Date/Time: 12/02/2019 09:49
Carbon, Total Organic	K	21/10	*1.3*	0.50		mg/L	1	12/02/2019 20:42

ANALYTE TYPES: (AT)
A,B = Target Analyte
I = Internal Standard
M = Summation Analyte
S = Surrogate
T = Tentatively Identified Compound (TIC, concentration estimated)

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QC SAMPLE IDENTIFICATIONS

BLK = Method Blank
DUP = Method Duplicate
BS = Method Blank Spike
MS = Matrix Spike
ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
CRL = Client Required Reporting Limit
PDS = Post Digestion Spike
QCS = Quality Control Standard
ICSA = Interference Check Standard "A"
ICSAB = Interference Check Standard "AB"
BSD = Method Blank Spike Duplicate
MSD = Matrix Spike Duplicate
ICV = Initial Calibration Verification
CCV = Continuing Calibration Verification
OPR = Ongoing Precision and Recovery Standard
SD = Serial Dilution

CERTIFICATIONS (Certs)

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.

d Illinois EPA drinking water, wastewater and solid waste analysis (#200084)
i Kansas Dept Health & Env. NELAP (#E-10397)
j Kentucky Wastewater Laboratory Certification Program (#108202)
k Kentucky Drinking Water Accreditation (#00074)

FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

°C:	Degrees Celsius
H:	Sample was analyzed past holding time.
MDL:	Minimum Detection Limit
mg/L:	Milligrams per Liter
RL:	Reporting Limit
RPD:	Relative Percent Difference
S.U.:	Standard Units
umhos/cm:	Umhos per Centimeter

Cooler Receipt Log

Cooler ID: Default Cooler **Temp:** 1.2°C

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Cooler Inspection Checklist

Ice Present or not required?	Yes
Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes
Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes
Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes
Sample type identified on COC?	Yes
Correct type of Containers Received	Yes
Correct number of containers listed on COC?	Yes
Containers Intact?	Yes
COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes
Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes
Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes
Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes

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CEI

CHAIN-OF-CUSTODY RECORD

No. 16969

CARLSON ENVIRONMENTAL, INC. 65 E. Wacker Place Chicago, IL 60601 (312)346-2140

PROJ. NO. 100.01 PROJECT NAME Former Robertson Ceco

SAMPLERS: (Signature) Bruce Shabino

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) TCL TCT SO4 Cond pH	REMARKS
1	MWD-1A	11-21-19	1430		X	Groundwater	4	XXXX	-01
2	MWD-1B								-02
3	MWD-1C								-03
4	MWD-1D								-04
5	MWD-2A		1200						-05
6	MWD-2B								-06
7	MWD-2C								-07
8	MWD-2D								-08
9	MWD-3A		1230						-09
10	MWD-3B								-10

19K1078 Kristen Gehlbach
Carlson - Chicago, IL
100.01 Former Robertson CECO
11/21/2019

19K1078

Relinquished by:	Date/Time	Received by:
[signature]	11-21-19	[signature]
Relinquished by:	Date/Time	Received by:
[signature]	11/21/19 1623	Received for Laboratory by: [signature] 11-21-19/1623

REMARKS: Standard TAT

01 1.5-03=1.2°C

Distribution White - Accompanies Shipment, Yellow - Laboratory File Pink - Coordinator Field Files

Page 1 of 2

CEI

CHAIN-OF-CUSTODY RECORD

No. 16968

CARLSON ENVIRONMENTAL, INC. 65 E. Wacker Place Chicago, IL 60601 (312)346-2140

PROJ. NO. 100.01

PROJECT NAME Former Robertson-Ceco

SAMPLERS: (Signature) [signature] Bruce Shelaho

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS): TOC, TOX, Spec. Cond., pH

19K1078

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	TOC	TOX	Spec. Cond.	pH					REMARKS
1	MWD-3C	11-20-19	1230		X	Groundwater	4	X	X	X	X					-11
2	MWD-3D															-12
3	MWD-4A		1315													-13
4	MWD-4B															-14
5	MWD-4C															-15
6	MWD-4D															-16
7	MWD-5A		1400													-17
8	MWD-5B															-18
9	MWD-5C															-19
10	MWD-5D															-20

Relinquished by (Signature)	Date/Time	Received by (Signature)
[signature]	11-21-19	[signature]
Relinquished by (Signature)	Date/Time	Received by (Signature)
Relinquished by (Signature)	Date/Time	Received for Laboratory by (Signature)
[signature]	11/21/19 1623	Nicole Rimato

REMARKS: Standard TAT

Distribution: White - Accompanies Shipment; Yellow - Laboratory File; Pink - Coordinator Field Files

Page 2 of 2

ATTACHMENT D

Certification Statement

Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

ILD990785453
USEPA ID Number

RCH Newco II LLC
Site Name

1978030005
IEPA Number

RCH Newco II LLC
Site Owner/Operator

Kevin J. Shady 3/17/20
Signature of Owner/Operator Representative **Date**

Kevin J. Shady, V.P.
Name and Title of Owner/Operator Representative

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April 13, 2021 PN 100.01

Mr. Rob Watson, P.E.
Illinois Environmental Protection Agency
Bureau of Land #24
Permit Section
1021 N. Grand Avenue East
Springfield, Illinois 62702-3998

RE: 2020 Annual Groundwater Monitoring Report
1978030005 -- Will County
RCH Newco II LLC
ILD #990785453
RCRA Log No. C-68

Dear Mr. Watson:

On behalf of RCH Newco II LLC, please find enclosed the 2020 Annual Groundwater Monitoring Report as required in 35 Ill. Adm. Code Part 725.175, for the RCRA Hazardous Waste Management Unit at the above-referenced site. The annual report details the facility activities for 2020, including a statistical analysis of the groundwater data.

If you have any questions, please contact me at (312)346-2140.

Sincerely,

CARLSON ENVIRONMENTAL, INC.

Bruce A. Shabino, P.G.
Senior Project Manager

enclosure

cc: Mr. Kevin Shudy

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RCRA - 2020 ANNUAL GROUNDWATER MONITORING REPORT

RCH Newco II LLC
EPA ID No. ILD990785453

Prepared For
RCH Newco II LLC

Prepared By
Carlson Environmental, Inc.

65 E. Wacker Place
Suite 2210
Chicago, IL 60601
(P) 312-346-2140
(F) 312-346-6956
www.carlsonenv.com

Project No. 100.01
April 13, 2021

Bruce A. Shabino, P.G.
Senior Project Manager

Edward E. Garske
President

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CARLSON ENVIRONMENTAL

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 BACKGROUND 1

3.0 GROUNDWATER MONITORING 2
3.1 Monitoring Well Network 2
3.2 Groundwater Sampling 2
3.3 Groundwater Analyses 4
3.4 Groundwater Analytical Results 5

4.0 POST-CLOSURE COST ESTIMATE 6

5.0 CONCLUSIONS 6

ATTACHMENTS

ATTACHMENT A - Figures
ATTACHMENT B - Tables
ATTACHMENT C - Laboratory Analytical Reports
ATTACHMENT D - Certification Statement

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RCH Newco II LLC
ILD990785453

April 13, 2021

1.0 INTRODUCTION

This Annual Groundwater Monitoring Report summarizes the activities associated with the closed RCRA Hazardous Waste Management Unit (Closure Unit) at the former Robertson-Ceco Corporation Property (currently owned by RCH Newco II LLC) in accordance with 35 IAC 725.175, for the period of 2020. The report details the laboratory analytical results and the statistical analysis for the data collected in the twenty-seventh year of post-closure groundwater monitoring for the Closure Unit. This report was completed on behalf of our client, RCH Newco II LLC.

2.0 BACKGROUND

The RCH Newco II LLC property is located on New Avenue in Lemont, Will County, Illinois (Figure 1, Attachment A) and is approximately two-acres in size (Figure 2, Attachment A). The Closure Unit contains approximately 2,500 cubic yards of emission control dust (EAF dust) from off-site electric arc furnaces ("listed" hazardous waste K061by the United States Environmental Protection Agency under RCRA) and approximately 29,500 cubic yards of miscellaneous non-hazardous steel plant by-products, primarily slag, which was co-excavated with the EAF dust. These materials, altogether comprising avolume of 32,000 cubic yards, were placed in a RCRA Interim-Status Closure Unit (landfill)constructed in accordance with an IEPA-approved Closure Plan. The hazardous waste management unit is completely enclosed within a 10-foot-high locking chain-link fence that was in good condition at the time of the recently completed sampling events.

Construction of the Closure Unit was completed in accordance with the IEPA-approved design in 1988. Since the completion of the construction of the Closure Unit, no hazardous waste management activity has occurred at the site other than the groundwater monitoring and inspection activities associated with the Closure Unit.

In April 1993, Halliburton NUS Corporation (NUS) installed five RCRA post-closure groundwater monitoring wells at the Closure Unit. Two wells were installed hydraulically

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up-gradient and three wells were located hydraulically down-gradient. The post-closure groundwater monitoring wells were installed in the uppermost aquifer, which is partly within the upper portion of the bedrock unit.

3.0 GROUNDWATER MONITORING

3.1 Monitoring Well Network

The groundwater monitoring well system, surrounding the Closure Unit, was designed to comply with applicable state regulations. The well network consists of five wells (Figure 3, Attachment A). Monitoring wells MWD-1 and MWD-5 are located hydraulically upgradient from the Closure Unit for the purpose of monitoring the "background" groundwater concentrations. Monitoring wells MWD-2, MWD-3, and MWD-4 are located hydraulically downgradient from the Closure Unit. The downgradient wells were installed at the limit of the waste management area to ensure the immediate detection of any hazardous constituent. The placement of the wells was designed based on the northeastern potentiometric groundwater flow in the uppermost aquifer as reported by NUS in previous reports.

3.2 Groundwater Sampling

A quarterly groundwater sampling program was started by NUS in April 1993 for the Closure Unit well network. Carlson began sampling the groundwater beginning with Round 9. The completion of Sample Round 12 marked the end of the quarterly groundwater monitoring and the start of a semi-annual sampling event pursuant to IEPA's February 7, 1996 correspondence reducing sampling frequency. The objective of the groundwater sampling is to collect data that would help determine whether the ClosureUnit is impacting the groundwater.

On May 13 (Round 59), and December 9 (Round 60), 2020, Carlson visually inspected and measured the standing water levels in the five groundwater monitoring wells previously installed at the site for the Closure Unit. Inspection of the monitoring wells

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indicated that the stickup well-head protective covers were in good condition and were locked securely in place.

During Rounds 59 and 60, groundwater samples were collected from each of the five wells (MWD-1 through MWD-5), using a United States Environmental Protection Agency (USEPA) accepted low flow groundwater sampling method. The low flow sampling method was designed to obtain a representative sample from the well without requiring filtering of the sample. The objective is to collect a groundwater sample by eliminating turbidity that is common to bailing methods.

The well sampling procedures were as follows:

1) The static water level was measured and recorded to 0.01 feet with an electric water level indicator (Solinist model 101). The probe was carefully lowered into the well to minimize disturbance of the water column. Water level measurements are shown in Table 1, Attachment B.

2) If necessary, the required length of teflon tubing was calculated, measured and marked for attachment to a peristaltic pump, so that the intake was located at the mid-point of the saturated screen interval. A minimal length of tubing was used to minimize the temperature change from the collection point to the discharge point.

3) If not already present, the tubing was inserted slowly to the measured depth and secured to the well casing to minimize disturbance to the water column. The tubing was dedicated to each well, secured to the cap, and left inside the protective casing to minimize disturbance to the water column during subsequent sampling events.

4) The monitoring instruments were calibrated and assembled. The tubing was connected to the pump and a flow-through chamber in which the instrument probes were located.

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5) The water level was measured and recorded on a data sheet and compared to the previous static water level.

6) The pump was started at the minimum continuous flow rate attainable by the pump, between 0.02 to 0.05 liters per minute. A full round of measurements was recorded every five minutes including time, temperature, specific conductance, pH, turbidity and dissolved oxygen. All data and changes were recorded on the data sheets.

7) After field parameters stabilized, groundwater samples were collected. Stabilization was defined by readings within a range of ten percent for three consecutive five-minute intervals.

8) After stabilization was achieved, the flow-through chamber was disconnected and the sample was collected directly from the tubing.

9) The samples were maintained at a temperature of approximately 4°C in an insulated container. Upon completion of the site sampling, the samples were shipped to Microbac Laboratories, Inc. (Microbac) for laboratory analysis. The samples were maintained under standard chain-of-custody procedures/documents.

3.3 Groundwater Analyses

In 2009, the sampling plan for the site was modified pursuant to IEPA's approval letter dated June 2, 2009. The sampling plan frequency and parameters to be analyzed are now as follows:

Samples Collected During the Quarter of the Calendar Year	Parameters to be Sampled
Second Quarter	Groundwater Quality Parameters Groundwater Contamination Parameters

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For Sample Rounds 59 & 60, four separate groundwater samples were collected from each of the five wells and analyzed for the indicators of groundwater contamination as listed below.

Groundwater collected during Sample Round 59 was also analyzed for the indicators of groundwater quality as listed below. A duplicate sample was collected from monitoring well MWD-5 during Round 59 and analyzed for all the parameters listed below. Laboratory analytical methods are indicated on Table 2, Attachment B.

Groundwater samples were analyzed at Microbac in accordance with IEPA and USEPA (SW-846 - Third Edition) methods. The groundwater samples were analyzed for the parameters establishing groundwater contamination (pH, specific conductance, non-purgeable organic carbon (TOC), total organic halogens (TOX)), and groundwater quality (chloride, iron, manganese, phenols, sodium and sulfate), as specified in applicable state regulations, the IEPA approved closure plan and IEPA correspondence.

3.4 Groundwater Analytical Results

Groundwater concentrations from the five monitoring wells were compared to the standards for the above referenced parameters as referenced in 35 IAC 725, Appendix C, *USEPA Interim Primary Drinking Water Standards* as shown in Tables 4 and 5 of Attachment B, for Rounds 59 and 60, respectively. The laboratory analytical reports for Round 59 and 60 are included in Attachment C.

The “background” concentrations from the upgradient wells, calculated during the first year of sampling activities, were compared to groundwater concentrations collected from the downgradient and upgradient wells to determine whether a statistically significant increase (or decrease in the case of pH) in the parameter concentration was present.

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Table 3 in Attachment B summarizes the "background" groundwater concentrations from the first year of groundwater monitoring. Carlson compared the sample means and variances of the indicator parameters for the upgradient and downgradient wells to the "background" concentrations using the Student's T-Test at the 0.01 level of significance in accordance with 35 IAC 725.193(b). The statistical evaluation of the upgradient anddowngradient wells for Round 59 of RCRA post-closure groundwater sampling is contained in Tables 6 and 7, respectively. Tables 8 and 9, respectively, contain thestatistical evaluation of the upgradient and downgradient wells for Round 60.

4.0 POST-CLOSURE COST ESTIMATE

The Closure Unit was closed in 1988 and groundwater monitoring began in 1993. The original cost to conduct 30 years of post-closure groundwater monitoring at the Closure Unit was estimated at $376,973. This cost was based on 120 quarterly sampling events at the present value of money. To date, 58 separate sampling events have been conducted, and the Illinois Environmental Protection Agency has changed the frequency of the required sampling to semi-annually. With the new sampling plan, approved by the IEPA in a letter dated June 2, 2009, the project cost for the remaining 3 years through 2023 is estimated at $49,800. This estimate is based on the current average yearly cost multiplied by the 3 remaining years of sampling events, not the present value of money.

5.0 CONCLUSIONS

Based on the analytical data for both sampling events in 2020, groundwater at the Closure Unit did not exceed the drinking water standards as referenced in 35 IAC 725, Appendix C, *USEPA Interim Primary Drinking Water Standards,* for the parameters identified in Section 3.3. For each indicator parameter, the arithmetic mean and variance were calculated for each well based on the groundwater analytical data collected during each sampling event in 2020. The arithmetic mean and variance were compared to the initial "background" arithmetic mean concentrations, as determined in the first year of post-closure

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groundwater monitoring, using the Student's T-Test at the 0.01 level of significance.

The analysis revealed that groundwater in upgradient monitoring well MWD-5, as well as downgradient monitoring wells MWD-3 and MWD-4, contained a statistically significant increase in pH (initial background arithmetic mean of 7.36)during Sample Round 59. In Sample Round 60, there was a statistically significant increase in pH in all three downgradient monitoring wells.

Based on the statistically significant changes in groundwater for pH in both downgradient and upgradient monitoring wells, Carlson believes that the changes are naturally occurring or coming from some offsite source. If any single groundwater contamination parameter in subsequent groundwater monitoring events is elevated (or reduced in the case of pH) at a statistically significant level beyond "background" values in more than one downgradient well, without being elevated (or reduced in the case of pH) in an upgradient well, then an additional investigation will be initiated. Such an investigation to determine the extent and rate of migration of the regulated substance of concern would be conducted in accordance with applicable state regulations. No additional action is planned at this time.

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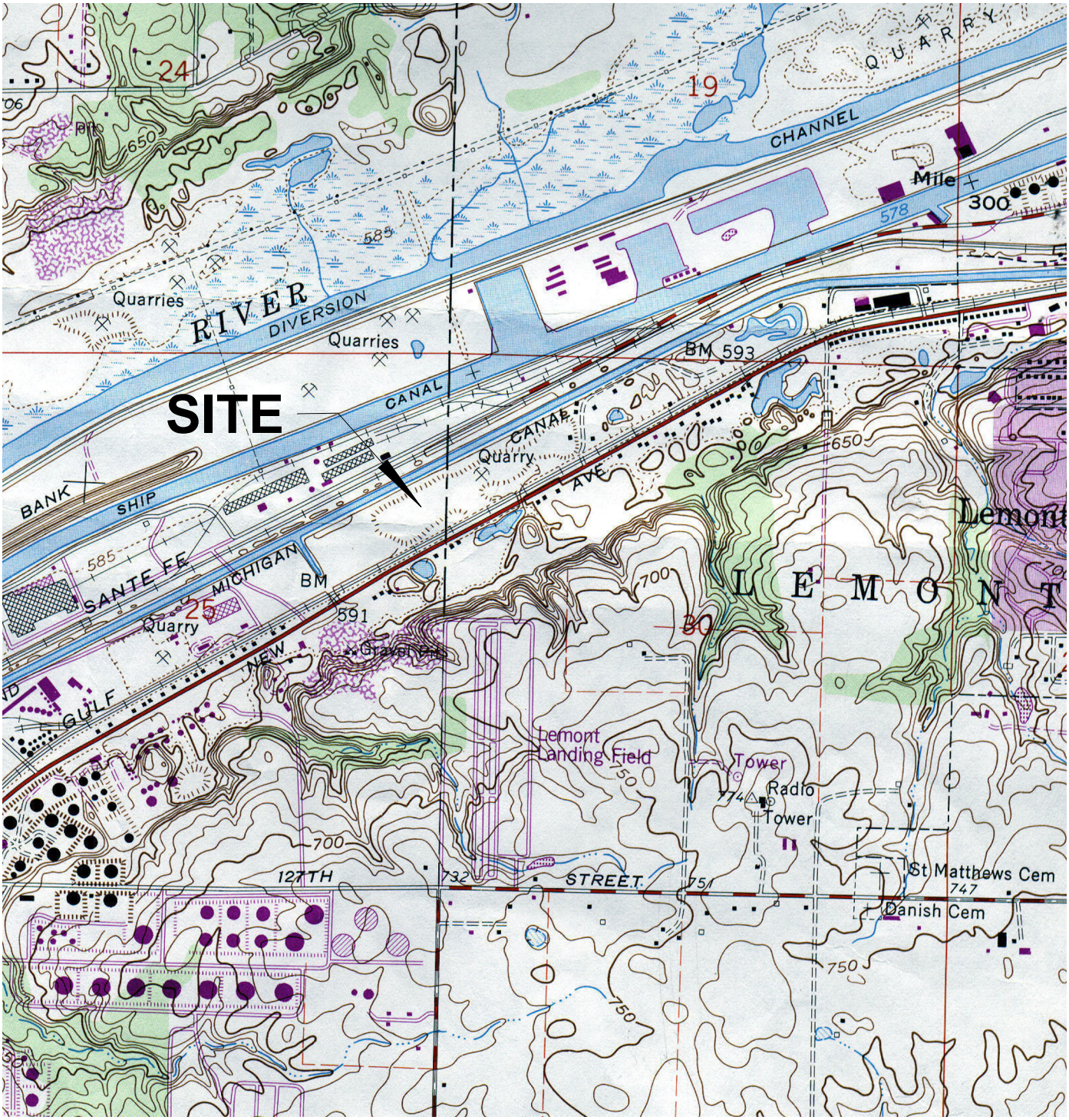
ATTACHMENT A

Figures



0 500 1000 2000

APPROXIMATE SCALE (FEET)

From USGS 7.5 Minute Series Topographical Quadrangel "Romeoville, Illinois" (1962-Photorevised 1973 & 1980)

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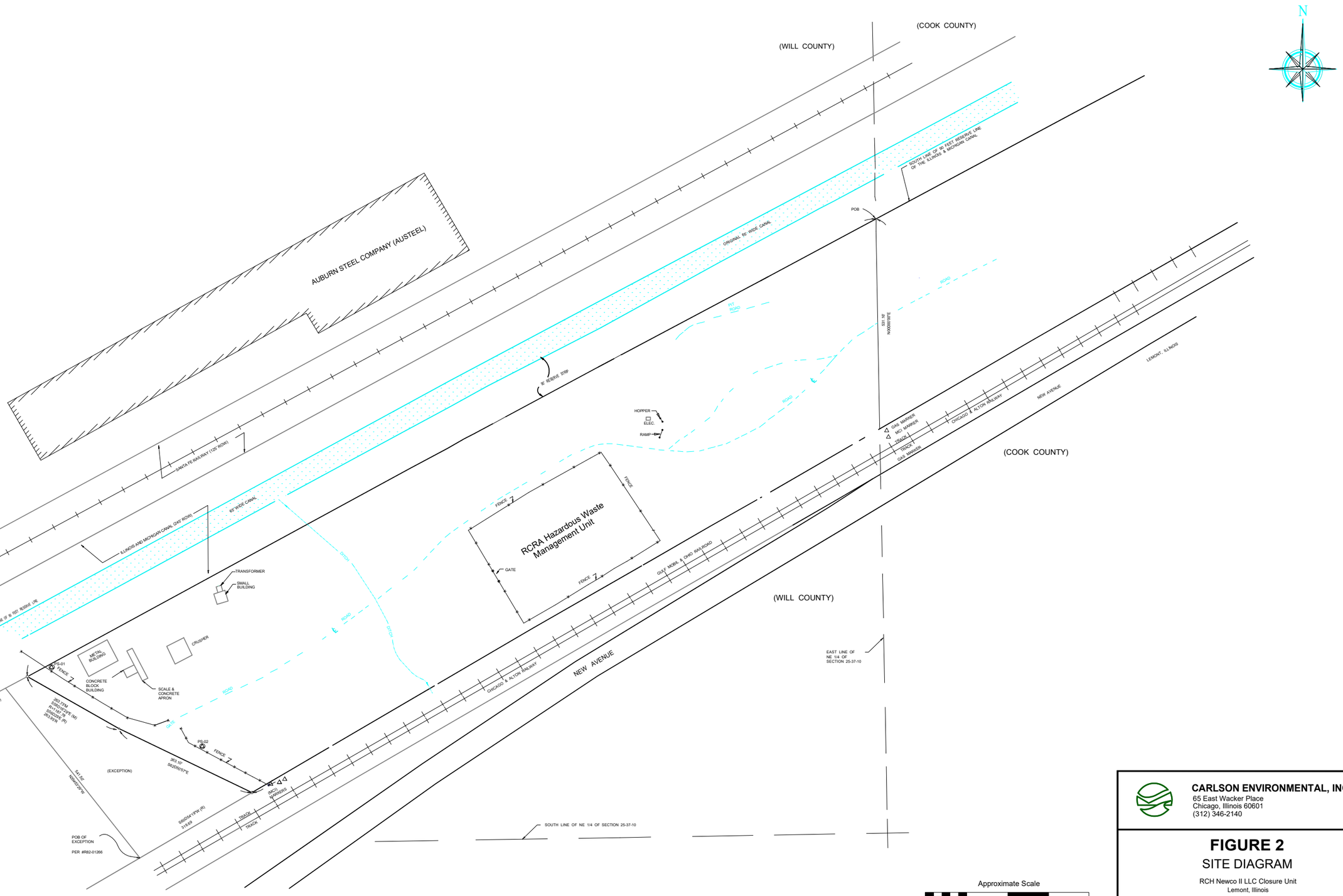
65 East Wacker Place
Chicago, Illinois 60601
(312) 346-2140

PROJECT NO.	9233A	
DRAWN BY		DATE
CHECKED BY		DATE
REVISION 1		DATE
REVISION 2		DATE

FIGURE 1
SITE MAP
RCH Newco II LLC Closure Unit
Lemont, Illinois

Drawing No.
1



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Chicago, Illinois 60601
(312) 346-2140

FIGURE 2
SITE DIAGRAM

RCH Newco II LLC Closure Unit
Lemont, Illinois

Drawn by: BAS	Date: 2/21/11	Size:	Scale: As Shown
Checked by:	Project No. 9233A		

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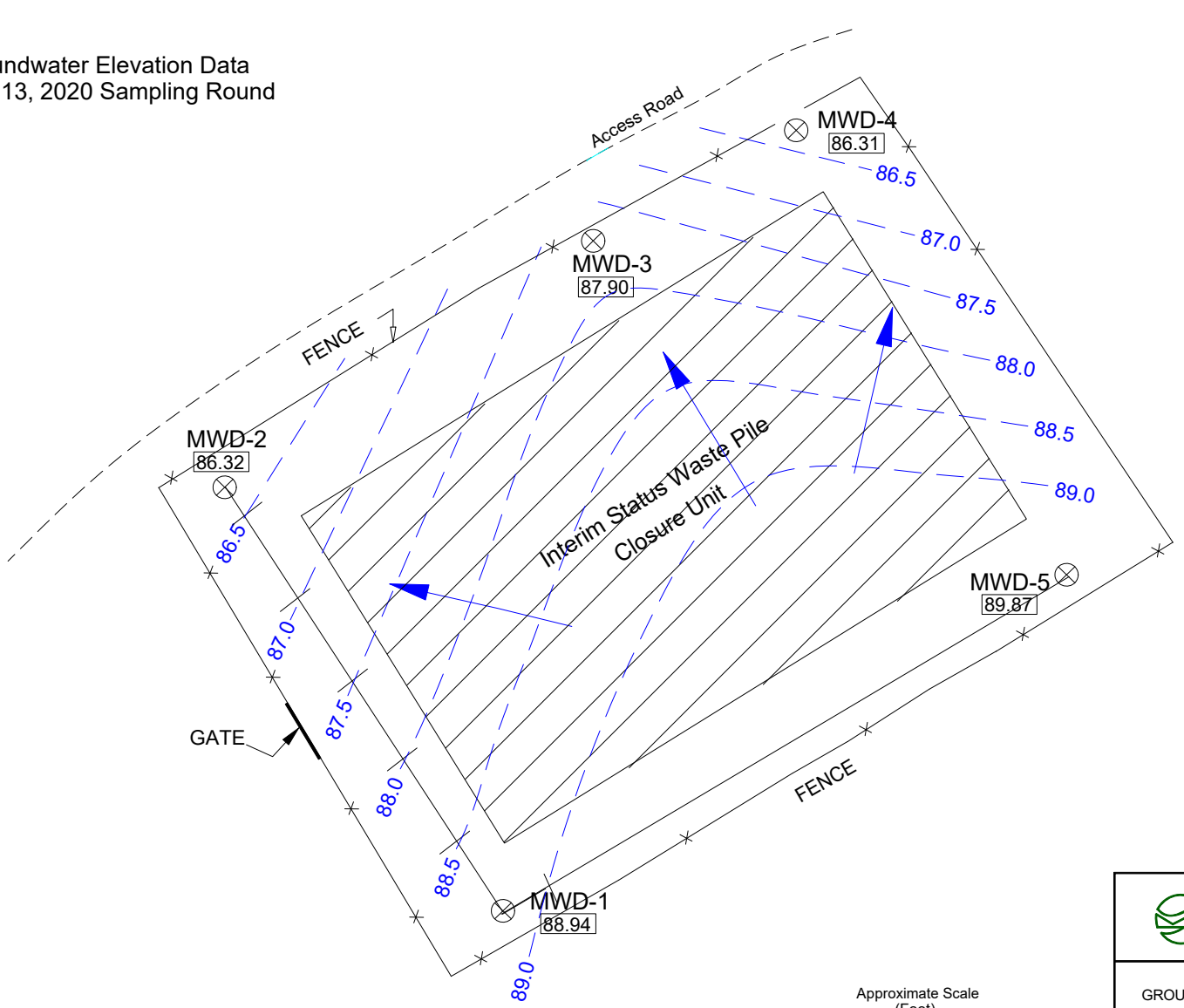
Groundwater Elevation Data
May 13, 2020 Sampling Round



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65 East Wacker Place
Chicago, Illinois 60601
(312) 346-2140

FIGURE 3
GROUNDWATER MONITORING WELL LOCATIONS
GROUNDWATER FLOW DIRECTION
RCH Newco II LLC Closure Unit
Lemont, Illinois

Drawn by: BAS		Date: 3/25/21	Size:	Scale: As Shown
Checked by		Project No. 9233A	File No.	

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CARLSON ENVIRONMENTAL

ATTACHMENT B

Tables

65 East Wacker Place - Suite 2210 - Chicago, Illinois 60601 - Phone (312) 346-2140 - Fax (312) 346-6956 - www.carlsonenv.com

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TABLE 1: Water Level Measurements
RCH Newco II LLC
Lemont, Illinois
2020 Annual Report

DESCRIPTION	MW-D1	MW-D2	MW-D3	MW-D4	MW-D5
Diameter of Casing	2 in.	2 in.	2 in.	2 in.	2 in.
Total Length of Casing	31.72 ft.	28.60 ft.	27.91 ft.	26.94 ft.	27.99 ft.
Static Water Level - May 13, 2020	-11.06	-14.19	-12.75	-14.87	-12.35
Static Water Level - December 9, 2020	-11.78	-14.38	-12.69	-14.82	-12.79
Surveyed Elevation from Top of Casing	100.00	100.51	100.65	101.18	102.22
Relative Elevation - May 13, 2020	88.94	86.32	87.90	86.31	89.87
Relative Elevation - December 9, 2020	88.22	86.13	87.96	86.36	89.43
Distance from Top of Casing to Ground Surface [1]	1.65 ft.	2.42 ft.	1.70 ft.	2.00 ft.	2.25 ft.
Distance Between Top of Casing and Top of Riser [1]	0.10 ft.	0.27 ft.	0.20 ft.	0.30 ft.	0.40 ft.

[1] Measure by Halliburton NUS on August 3, 1993

TABLE 2: Summary of Analytical Methods
RCH Newco II LLC
Lemont, Illinois

PARAMETER	*EPA METHOD*	*DETECTION LIMIT*
Arsenic	SW7060A	0.01 mg/L
Barium	SW6010A	0.01 mg/L
Cadmium	SW6010A	0.001 mg/L
Chromium, total	SW6010A	0.01 mg/L
Chromium, hexavalent	SW7196A	0.005 mg/L
Iron	SW6010A	0.05 mg/L
Lead	SW7421	0.005 mg/L
Manganese	SW6010A	0.01 mg/L
Mercury	SW7470A	0.0002 mg/L
Selenium	3015/7740	0.005 mg/L
Silver	SW6010A	0.01 mg/L
Sodium	SW6010A	2.0 mg/L
Phenols	SW9066	0.01 mg/L
Sulfate	E375.4	10.0 mg/L
Chloride	M 4500-CL B	1.0 mg/L
Total Organic Halogens	SW9020	0.01 mg/L
Non-Purgeable Organic Carbon	E415.2	1.0 mg/L
pH	E150.1	0.02 pH units
Specific Conductance	E120.1	10 umhos/cm

mg/L = milligrams per liter

Table 3

Established Background Concentrations

RCH Newco II LLC ILD990785453

Lemont, Illinois

Parameter	Background Concentration[1] (Arithmetic Mean)
Total Organic Carbon (TOC)	2.766
Total Organic Halogens (TOX)	0.017
pH	7.363
Specific Conductance	1334.375
Arsenic	0.100
Barium	0.039
Cadmium	0.005
Chromium	0.019
Hexavalent Chromium	0.013
Lead	0.050
Mercury	0.0002
Selenium	0.100
Silver	0.010
Chloride	33.952
Iron	0.913
Manganese	0.196
Phenolics	0.009
Sodium	50.333
Sulfate	309.048

[1] Concentrations are in milligrams per liter (mg/L), except for Specific Conductance (umhos/cm) and pH (pH units)

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TABLE 4: Round 59 Analytical Results

RCH Newco II LLC

Lemont, Illinois

May 13, 2020

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D1A*	*MW-D1B*	*MW-D1C*	*MW-D1D*
			Location	upgradient	upgradient	upgradient	upgradient
			Date	5/13/2020	5/13/2020	5/13/2020	5/13/2020
Iron	mg/L	---		0.19	NA	NA	NA
Manganese	mg/L	---		0.014	NA	NA	NA
Sodium	mg/L	---		34	NA	NA	NA
Phenol	mg/L	---		<0.01	NA	NA	NA
Sulfate	mg/L	---		230	NA	NA	NA
Chloride	mg/L	---		65	NA	NA	NA
Total Organic Halogens	mg/L	---		<0.01	<0.01	<0.01	<0.01
Non-Purgeable Organic Carbon	mg/L	---		1.40	1.30	1.30	1.30
pH	---	6.5 - 9		7.96	7.97	7.80	7.99
Specific Conductance	umho/cm	---		1310	1320	1320	1330

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

TABLE 4: Round 59 Analytical Results

RCH Newco II LLC

Lemont, Illinois

May 13, 2020

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D2A*	*MW-D2B*	*MW-D2C*	*MW-D2D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	5/13/2020	5/13/2020	5/13/2020	5/13/2020
Iron	mg/L	---		3.2	NA	NA	NA
Manganese	mg/L	---		0.23	NA	NA	NA
Sodium	mg/L	---		22	NA	NA	NA
Phenol	mg/L	---		<0.01	NA	NA	NA
Sulfate	mg/L	---		230	NA	NA	NA
Chloride	mg/L	---		28	NA	NA	NA
Total Organic Halogens	mg/L	---		<0.01	<0.01	<0.01	<0.01
Non-Purgeable Organic Carbon	mg/L	---		1.4	1.4	1.4	1.5
pH	---	6.5 - 9		7.91	7.91	7.8	7.5
Specific Conductance	umho/cm	---		1080	1080	1100	1080

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

TABLE 4: Round 59 Analytical Results

RCH Newco II LLC

Lemont, Illinois

May 13, 2020

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D3A*	*MW-D3B*	*MW-D3C*	*MW-D3D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	5/13/2020	5/13/2020	5/13/2020	5/13/2020
Iron	mg/L	---		<0.05	NA	NA	NA
Manganese	mg/L	---		0.033	NA	NA	NA
Sodium	mg/L	---		36	NA	NA	NA
Phenol	mg/L	---		<0.01	NA	NA	NA
Sulfate	mg/L	---		330	NA	NA	NA
Chloride	mg/L	---		34	NA	NA	NA
Total Organic Halogens	mg/L	---		<0.01	<0.01	<0.01	0.012
Non-Purgeable Organic Carbon	mg/L	---		1.1	1.1	1.1	1.1
pH	---	6.5 - 9		7.67	7.96	8.06	7.85
Specific Conductance	umho/cm	---		1330	1340	1350	1330

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

TABLE 4: Round 59 Analytical Results

RCH Newco II LLC

Lemont, Illinois

May 13, 2020

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D4A*	*MW-D4B*	*MW-D4C*	*MW-D4D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	5/13/2020	5/13/2020	5/13/2020	5/13/2020
Iron	mg/L	---		0.20	NA	NA	NA
Manganese	mg/L	---		0.018	NA	NA	NA
Sodium	mg/L	---		29	NA	NA	NA
Phenol	mg/L	---		<0.01	NA	NA	NA
Sulfate	mg/L	---		360	NA	NA	NA
Chloride	mg/L	---		4.5	NA	NA	NA
Total Organic Halogens	mg/L	---		<0.01	<0.01	<0.01	<0.01
Non-Purgeable Organic Carbon	mg/L	---		1.2	1.1	1.20	1.2
pH	---	6.5 - 9		7.90	7.95	8.10	7.98
Specific Conductance	umho/cm	---		1290	1300	1320	1320

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

TABLE 4: Round 59 Analytical Results

RCH Newco II LLC

Lemont, Illinois

May 13, 2020

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D5A*	*MW-D5B*	*MW-D5C*	*MW-D5D*
			Location	upgradient	upgradient	upgradient	upgradient
			Date	5/13/2020	5/13/2020	5/13/2020	5/13/2020
Iron	mg/L	---		0.06	<0.05	NA	NA
Manganese	mg/L	---		0.035	0.032	NA	NA
Sodium	mg/L	---		23	23	NA	NA
Phenol	mg/L	---		<0.01	<0.01	NA	NA
Sulfate	mg/L	---		370	370	NA	NA
Chloride	mg/L	---		5.0	5.0	NA	NA
Total Organic Halogens	mg/L	---		<0.01	0.01	<0.01	<0.01
Non-Purgeable Organic Carbon	mg/L	---		1.2	1.1	1.1	1.1
pH	---	6.5 - 9		8.07	7.92	7.84	7.61
Specific Conductance	umho/cm	---		1340	1320	1330	1310

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

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TABLE 5: Round 60 Analytical Results

RCH Newco II LLC

Lemont, Illinois

December 9, 2020

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D1A*	*MW-D1B*	*MW-D1C*	*MW-D1D*
			Location	upgradient	upgradient	upgradient	upgradient
			Date	12/9/2020	12/9/2020	12/9/2020	12/9/2020
Total Organic Halogens	mg/L	---		0.018	0.013	0.014	0.023
Non-Purgeable Organic Carbon	mg/L	---		1.30	1.40	1.30	1.30
pH	---	6.5 - 9		7.58	7.53	7.44	7.45
Specific Conductance	umho/cm	---		1270	1330	1300	1320

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

TABLE 5: Round 60 Analytical Results

RCH Newco II LLC

Lemont, Illinois

December 9, 2020

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D2A*	*MW-D2B*	*MW-D2C*	*MW-D2D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	12/9/2020	12/9/2020	12/9/2020	12/9/2020
Total Organic Halogens	mg/L	---		0.013	0.016	0.012	0.013
Non-Purgeable Organic Carbon	mg/L	---		1.3	1.3	1.3	1.3
pH	---	6.5 - 9		7.45	7.55	7.54	7.59
Specific Conductance	umho/cm	---		964	1020	979	983

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

TABLE 5: Round 60 Analytical Results

RCH Newco II LLC

Lemont, Illinois

December 9, 2020

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D3A*	*MW-D3B*	*MW-D3C*	*MW-D3D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	12/9/2020	12/9/2020	12/9/2020	12/9/2020
Total Organic Halogens	mg/L	---		<0.01	<0.01	0.01	0.012
Non-Purgeable Organic Carbon	mg/L	---		1.2	1.2	1.2	1.2
pH	---	6.5 - 9		7.81	7.60	7.89	7.90
Specific Conductance	umho/cm	---		1300	1190	1340	1320

mg/L = milligrams per liter

umho/cm = micro mhos per centimeter

--- = not established

ND = not detected above laboratory detection limits

NA = not applicable

TABLE 5: Round 60 Analytical Results

RCH Newco II LLC

Lemont, Illinois

December 9, 2020

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D4A*	*MW-D4B*	*MW-D4C*	*MW-D4D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	12/9/2020	12/9/2020	12/9/2020	12/9/2020
Total Organic Halogens	mg/L	---		<0.01	<0.01	<0.01	<0.01
Non-Purgeable Organic Carbon	mg/L	---		1.2	1.2	1.1	1.10
pH	---	6.5 - 9		7.63	7.67	7.68	7.52
Specific Conductance	umho/cm	---		1320	1360	1320	1270

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

TABLE 5: Round 60 Analytical Results

RCH Newco II LLC

Lemont, Illinois

December 9, 2020

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D5A*	*MW-D5B*	*MW-D5C*	*MW-D5D*
			Location	upgradient	upgradient	upgradient	upgradient
			Date	12/9/2020	12/9/2020	12/9/2020	12/9/2020
Total Organic Halogens	mg/L	---		<0.01	<0.01	<0.01	<0.01
Non-Purgeable Organic Carbon	mg/L	---		1.10	1.00	1.10	1.00
pH	---	6.5 - 9		7.42	7.49	7.80	7.73
Specific Conductance	umho/cm	---		1340	1370	1350	1330

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Table 6

Statistical Evaluation of Upgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 59 May 2020

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D1	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	TOC	2.766	2.484	1.33	0.0025	4.541	-57.64	N
	pH	7.363	0.112	7.93	0.008	4.541/-4.541	0.013	N
	Spec. Cond.	1334.375	15,231.855	1320	66.67	4.541	-3.52	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D5	TOX	0.017	0.097	0.0063	0.000006	4.541	-8.27	N
	TOC	2.766	2.484	1.125	0.0025	4.541	-65.64	N
	pH	7.363	0.112	7.86	0.037	4.541/-4.541	5.18	**Y**
	Spec. Cond.	1334.375	15,231.855	1325	166.67	4.541	=1.45	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

Table 7

Statistical Evaluation of Downgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 59 May 2020

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D2	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	TOC	2.766	2.484	1.425	0.0025	4.541	-53.64	N
	pH	7.363	0.112	7.78	0.038	4.541/-4.541	4.30	N
	Spec. Cond.	1334.375	15,231.855	1085	100	4.541	-49.88	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D3	TOX	0.017	0.097	0.007	0.00001	4.541	-5.69	N
	TOC	2.766	2.484	1.10	0	4.541	<0**	N
	pH	7.363	0.112	7.89	0.028	4.541/-4.541	6.21	**Y**
	Spec. Cond.	1334.375	15,231.855	1337.5	91.67	4.541	0.065	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D4	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	TOC	2.766	2.484	1.175	0.0025	4.541	-63.63	N
	pH	7.363	0.112	7.98	0.007	4.541/-4.541	14.59	**Y**
	Spec. Cond.	1334.375	15,231.855	1307.5	225	4.541	-3.58	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

Table 8

Statistical Evaluation of Upgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 60 December 2020

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D1	TOX	0.017	0.097	0.017	0.00002	4.541	0.04	N
	TOC	2.766	2.484	1.325	0.0025	4.541	-57.64	N
	pH	7.363	0.112	7.5	0.004	4.541/-4.541	3.97	N
	Spec. Cond.	1334.375	15,231.855	1305	700	4.541	-2.22	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D5	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	TOC	2.766	2.484	1.05	0.003	4.541	-5.92	N
	pH	7.363	0.112	7.61	0.034	4.541/-4.541	2.70	N
	Spec. Cond.	1334.375	15,231.855	1347.5	291.67	4.541	1.54	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

Table 9

Statistical Evaluation of Downgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 60 December 2020

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D2	TOX	0.017	0.097	0.014	0.000003	4.541	-3.5	N
	TOC	2.766	2.484	1.3	0	4.541	<0**	N
	pH	7.363	0.112	7.53	0.003	4.541/-4.541	5.76	**Y**
	Spec. Cond.	1334.375	15,231.855	986.5	565.67	4.541	-29.26	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D3	TOX	0.017	0.097	0.008	0,00001	4.541	-4.5	N
	TOC	2.766	2.484	1.2	0	4.541	<0**	N
	pH	7.363	0.112	7.80	0.02	4.541/-4.541	-6.29	**Y**
	Spec. Cond.	1334.375	15,231.855	1287.5	4491.67	4.541	-1.40	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D4	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	TOC	2.766	2.484	1.15	0.003	4.541	-55.72	N
	pH	7.363	0.112	7.63	0.005	4.541/-4.541	7.08	**Y**
	Spec. Cond.	1334.375	15,231.855	1317.5	1358.33	4.541	0.92	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

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CARLSON ENVIRONMENTAL

ATTACHMENT C

Laboratory Analytical Reports

65 East Wacker Place - Suite 2210 - Chicago, Illinois 60601 - Phone (312) 346-2140 - Fax (312) 346-6956 - www.carlsonenv.com

Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

20E0642

Project Description

Robertson CECO Lemont, IL

For:

Bruce Shabino

Carlson Environmental, Inc.

65 East Wacker Place, Suite 2210

Chicago, IL 60601-

Kristen Gehlbach

Senior Project Manager

Thursday, May 21, 2020

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Chicagoland. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request . This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

20E0642

Carlson Environmental, Inc.

Bruce Shabino
65 East Wacker Place, Suite 2210
Chicago, IL 60601-

Project Name: Robertson CECO Lemont, IL

Project / PO Number: N/A
Received: 05/13/2020
Reported: 05/21/2020

Case Narrative

TOC Analysis:
Samples requiring TOC analysis were submitted to Microbac Laboratories Kentucky Testing Division in Louisville , KY. Their results are incorporated into this report.

TOX Analysis:
The TOX samples in this work order were submitted to Keystone Laboratories for analysis . Their results are incorporated into this report.

The Matrix Spike and Matrix Spike Duplicate failed the accuracy criteria for phenol with a low bias. The precision criteria were met. A Post Digestion Spike was performed and the acceptance criteria met , indicating accurate measurement at the instrument. The following sample was spiked:

Laboratory ID	Sample Name
20E0642-01	MWD-1A

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
MWD-1A	20E0642-01	Aqueous			05/13/20 14:00	05/13/20 15:50
MWD-1B	20E0642-02	Aqueous			05/13/20 14:00	05/13/20 15:50
MWD-1C	20E0642-03	Aqueous			05/13/20 14:00	05/13/20 15:50
MWD-1D	20E0642-04	Aqueous			05/13/20 14:00	05/13/20 15:50
MWD-2A	20E0642-05	Aqueous			05/13/20 11:00	05/13/20 15:50
MWD-2B	20E0642-06	Aqueous			05/13/20 11:00	05/13/20 15:50
MWD-2C	20E0642-07	Aqueous			05/13/20 11:00	05/13/20 15:50
MWD-2D	20E0642-08	Aqueous			05/13/20 11:00	05/13/20 15:50
MWD-3A	20E0642-09	Aqueous			05/13/20 11:45	05/13/20 15:50
MWD-3B	20E0642-10	Aqueous			05/13/20 11:45	05/13/20 15:50
MWD-3C	20E0642-11	Aqueous			05/13/20 11:45	05/13/20 15:50
MWD-3D	20E0642-12	Aqueous			05/13/20 11:45	05/13/20 15:50
MWD-4A	20E0642-13	Aqueous			05/13/20 12:30	05/13/20 15:50
MWD-4B	20E0642-14	Aqueous			05/13/20 12:30	05/13/20 15:50
MWD-4C	20E0642-15	Aqueous			05/13/20 12:30	05/13/20 15:50
MWD-4D	20E0642-16	Aqueous			05/13/20 12:30	05/13/20 15:50
MWD-5A	20E0642-17	Aqueous			05/13/20 13:00	05/13/20 15:50
MWD-5B	20E0642-18	Aqueous			05/13/20 13:00	05/13/20 15:50
MWD-5C	20E0642-19	Aqueous			05/13/20 13:00	05/13/20 15:50
MWD-5D	20E0642-20	Aqueous			05/13/20 13:00	05/13/20 15:50

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CERTIFICATE OF ANALYSIS

20E0642

Analytical Testing Parameters

Client Sample ID:	MWD-1A		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-01	**Collection Date:**	05/13/2020 14:00

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SW-846 9038/EPA 9038								
Sulfate	**230**	10	mg/L	1		05/20/20 0956	05/20/20 1202	ABG
EPA 9066								
Phenolics, Total Recoverable	<0.010	0.010	mg/L	1		05/19/20 0928	05/19/20 1252	ABG
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1310**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**21**		°C	1	**H**	05/18/20 1015	05/18/20 1027	DAT
SM 4500-Cl B-2011/SM 4500-Cl B-2011								
Chloride	**65**	1.0	mg/L	1			05/17/20 1703	EF
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**7.96**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1027	DAT

Metals Total by ICP	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SW846 3005A/EPA 6010C								
Iron	**0.19**	0.050	mg/L	1		05/14/20 0905	05/14/20 1734	KMD
Manganese	**0.014**	0.0020	mg/L	1		05/14/20 0905	05/14/20 1734	KMD
Sodium	**34**	0.50	mg/L	1		05/14/20 0905	05/14/20 1734	KMD

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1400	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.4**	1.0	mg/L	1			05/18/20 1550	JGF

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CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-1B		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-02	**Collection Date:**	05/13/2020 14:00

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1320**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**22**		°C	1	**H**	05/18/20 1015	05/18/20 1029	DAT
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**7.97**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1029	DAT

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1400	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.3**	1.0	mg/L	1			05/18/20 1607	JGF

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CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-1C		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-03	**Collection Date:**	05/13/2020 14:00

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1320**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**21**		°C	1	**H**	05/18/20 1015	05/18/20 1030	DAT
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**7.80**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1030	DAT

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1400	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.3**	1.0	mg/L	1			05/18/20 1625	JGF

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CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-1D		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-04	**Collection Date:**	05/13/2020 14:00

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1330**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**21**		°C	1	**H**	05/18/20 1015	05/18/20 1031	DAT
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**7.99**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1031	DAT

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1400	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.3**	1.0	mg/L	1			05/18/20 1718	JGF

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CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-2A		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-05	**Collection Date:**	05/13/2020 11:00

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SW-846 9038/EPA 9038								
Sulfate	**230**	10	mg/L	1		05/20/20 0956	05/20/20 1209	ABG
EPA 9066								
Phenolics, Total Recoverable	<0.010	0.010	mg/L	1		05/19/20 0928	05/19/20 1258	ABG
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1080**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**21**		°C	1	**H**	05/18/20 1015	05/18/20 1033	DAT
SM 4500-Cl B-2011/SM 4500-Cl B-2011								
Chloride	**28**	1.0	mg/L	1			05/17/20 1703	EF
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**7.91**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1033	DAT

Metals Total by ICP	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SW846 3005A/EPA 6010C								
Iron	**3.2**	0.050	mg/L	1		05/14/20 0905	05/14/20 1739	KMD
Manganese	**0.23**	0.0020	mg/L	1		05/14/20 0905	05/14/20 1739	KMD
Sodium	**22**	0.50	mg/L	1		05/14/20 0905	05/14/20 1739	KMD

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1100	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.4**	1.0	mg/L	1			05/18/20 1736	JGF

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CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-2B		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-06	**Collection Date:**	05/13/2020 11:00

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1080**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**21**		°C	1	**H**	05/18/20 1015	05/18/20 1034	DAT
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**7.91**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1034	DAT

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1100	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.4**	1.0	mg/L	1			05/18/20 1754	JGF

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20E0642

Client Sample ID:	MWD-2C		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-07	**Collection Date:**	05/13/2020 11:00

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1100**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**21**		°C	1	**H**	05/18/20 1015	05/18/20 1035	DAT
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**7.80**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1035	DAT

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1100	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.4**	1.0	mg/L	1			05/18/20 1812	JGF

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CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-2D		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-08	**Collection Date:**	05/13/2020 11:00

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1080**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**22**		°C	1	**H**	05/18/20 1015	05/18/20 1036	DAT
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**7.50**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1036	DAT

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1100	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.5**	1.0	mg/L	1			05/18/20 1829	JGF

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CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-3A		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-09	**Collection Date:**	05/13/2020 11:45

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SW-846 9038/EPA 9038								
Sulfate	**330**	50	mg/L	5		05/20/20 0956	05/20/20 1231	ABG
EPA 9066								
Phenolics, Total Recoverable	<0.010	0.010	mg/L	1		05/19/20 0928	05/19/20 1259	ABG
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1330**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**22**		°C	1	**H**	05/18/20 1015	05/18/20 1037	DAT
SM 4500-Cl B-2011/SM 4500-Cl B-2011								
Chloride	**34**	1.0	mg/L	1			05/17/20 1703	EF
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**7.67**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1037	DAT

Metals Total by ICP	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SW846 3005A/EPA 6010C								
Iron	<0.050	0.050	mg/L	1		05/14/20 0905	05/14/20 1744	KMD
Manganese	**0.033**	0.0020	mg/L	1		05/14/20 0905	05/14/20 1744	KMD
Sodium	**36**	0.50	mg/L	1		05/14/20 0905	05/14/20 1744	KMD

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1145	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.1**	1.0	mg/L	1			05/18/20 1847	JGF

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CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-3B		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-10	**Collection Date:**	05/13/2020 11:45

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1340**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**21**		°C	1	**H**	05/18/20 1015	05/18/20 1039	DAT
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**7.96**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1039	DAT

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1145	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.1**	1.0	mg/L	1			05/18/20 1905	JGF

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CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-3C		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-11	**Collection Date:**	05/13/2020 11:45

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1350**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**21**		°C	1	**H**	05/18/20 1015	05/18/20 1042	DAT
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**8.06**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1042	DAT

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1145	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.1**	1.0	mg/L	1			05/18/20 1922	JGF

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CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-3D		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-12	**Collection Date:**	05/13/2020 11:45

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1330**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**22**		°C	1	**H**	05/18/20 1015	05/18/20 1043	DAT
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**7.85**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1043	DAT

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	**0.012**	0.01	mg/L	1		05/13/20 1145	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.1**	1.0	mg/L	1			05/18/20 1940	JGF

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CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-4A		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-13	**Collection Date:**	05/13/2020 12:30

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SW-846 9038/EPA 9038								
Sulfate	**360**	50	mg/L	5		05/20/20 0956	05/20/20 1233	ABG
EPA 9066								
Phenolics, Total Recoverable	<0.010	0.010	mg/L	1		05/19/20 0928	05/20/20 1659	ABG
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1290**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**21**		°C	1	**H**	05/18/20 1015	05/18/20 1044	DAT
SM 4500-Cl B-2011/SM 4500-Cl B-2011								
Chloride	**4.5**	1.0	mg/L	1			05/17/20 1703	EF
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**7.90**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1044	DAT

Metals Total by ICP	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SW846 3005A/EPA 6010C								
Iron	**0.20**	0.050	mg/L	1		05/14/20 0905	05/14/20 1823	KMD
Manganese	**0.018**	0.0020	mg/L	1		05/14/20 0905	05/14/20 1823	KMD
Sodium	**29**	0.50	mg/L	1		05/14/20 0905	05/14/20 1823	KMD

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1230	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.2**	1.0	mg/L	1			05/18/20 1958	JGF

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Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-4B		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-14	**Collection Date:**	05/13/2020 12:30

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1300**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**22**		°C	1	**H**	05/18/20 1015	05/18/20 1044	DAT
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**7.95**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1044	DAT

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1230	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.1**	1.0	mg/L	1			05/18/20 2109	JGF

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CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-4C		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-15	**Collection Date:**	05/13/2020 12:30

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1320**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**22**		°C	1	**H**	05/18/20 1015	05/18/20 1046	DAT
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**8.10**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1046	DAT

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1230	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.2**	1.0	mg/L	1			05/18/20 2144	JGF

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CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-4D		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-16	**Collection Date:**	05/13/2020 12:30

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1320**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**22**		°C	1	**H**	05/18/20 1015	05/18/20 1047	DAT
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**7.98**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1047	DAT

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1230	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.2**	1.0	mg/L	1			05/18/20 2202	JGF

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CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-5A		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-17	**Collection Date:**	05/13/2020 13:00

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SW-846 9038/EPA 9038								
Sulfate	**370**	50	mg/L	5		05/20/20 0956	05/20/20 1235	ABG
EPA 9066								
Phenolics, Total Recoverable	<0.010	0.010	mg/L	1		05/19/20 0928	05/20/20 1701	ABG
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1340**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**22**		°C	1	**H**	05/18/20 1015	05/18/20 1048	DAT
SM 4500-Cl B-2011/SM 4500-Cl B-2011								
Chloride	**5.0**	1.0	mg/L	1			05/17/20 1703	EF
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**8.07**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1048	DAT

Metals Total by ICP	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SW846 3005A/EPA 6010C								
Iron	**0.060**	0.050	mg/L	1		05/14/20 0905	05/14/20 1828	KMD
Manganese	**0.035**	0.0020	mg/L	1		05/14/20 0905	05/14/20 1828	KMD
Sodium	**23**	0.50	mg/L	1		05/14/20 0905	05/14/20 1828	KMD

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1300	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.2**	1.0	mg/L	1			05/18/20 2220	JGF

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CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-5B		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-18	**Collection Date:**	05/13/2020 13:00

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SW-846 9038/EPA 9038								
Sulfate	**370**	50	mg/L	5		05/20/20 0956	05/20/20 1238	ABG
EPA 9066								
Phenolics, Total Recoverable	<0.010	0.010	mg/L	1		05/19/20 0928	05/20/20 1702	ABG
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1320**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**22**		°C	1	**H**	05/18/20 1015	05/18/20 1049	DAT
SM 4500-Cl B-2011/SM 4500-Cl B-2011								
Chloride	**5.0**	1.0	mg/L	1			05/17/20 1703	EF
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**7.92**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1049	DAT

Metals Total by ICP	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SW846 3005A/EPA 6010C								
Iron	<0.050	0.050	mg/L	1		05/14/20 0905	05/14/20 1833	KMD
Manganese	**0.032**	0.0020	mg/L	1		05/14/20 0905	05/14/20 1833	KMD
Sodium	**23**	0.50	mg/L	1		05/14/20 0905	05/14/20 1833	KMD

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	**0.01**	0.01	mg/L	1		05/13/20 1300	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.1**	1.0	mg/L	1			05/18/20 2237	JGF

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CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-5C		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-19	**Collection Date:**	05/13/2020 13:00

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1330**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**21**		°C	1	**H**	05/18/20 1015	05/18/20 1050	DAT
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**7.84**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1050	DAT

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1300	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.1**	1.0	mg/L	1			05/18/20 2255	JGF

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CERTIFICATE OF ANALYSIS

20E0642

Client Sample ID:	MWD-5D		
Sample Matrix:	Aqueous	**Collected By:**	Dave Bryant
Lab Sample ID:	20E0642-20	**Collection Date:**	05/13/2020 13:00

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1310**	2.00	umhos/cm	1			05/19/20 0933	SCB
SW-846 9045D/SM 2550 B-2010								
Temperature	**21**		°C	1	**H**	05/18/20 1015	05/18/20 1051	DAT
SM 4500 H+ B-2011/SM 4500-H+ B-2011								
pH	**7.61**	2.00	S.U.	1	**H**	05/18/20 1015	05/18/20 1051	DAT

Analyses Subcontracted to: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		05/13/20 1300	05/19/20 0000	

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.1**	1.0	mg/L	1			05/18/20 2313	JGF

Definitions

°C:	Degrees Celsius
H:	Sample was analyzed past holding time.
MDL:	Minimum Detection Limit
mg/L:	Milligrams per Liter
RL:	Reporting Limit
S.U.:	Standard Units
umhos/cm:	Umhos per Centimeter

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 6.4°C

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Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

20E0642

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Kristen Gehlbach
Senior Project Manager
kristen.gehlbach@microbac.com
05/21/2020 09:57

MICROBAC

CHAIN OF CUSTODY RECORD

Number 156168

Instructions on back

Lab Report Address
Client Name: Carlson Env.
Address:
City, State, Zip:
Contact: Bruce Shabino
Telephone No.: 312-952-2552

Invoice Address
Client Name: Carlson Env.
Address:
City, State, Zip:
Contact:
Telephone No.:

Turnaround Time
☑ Routine (5 to 7 business days)
☐ RUSH* (notify lab)
(needed by)

Report Type
☑ Results Only ☐ Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ EDD

TO BE COMPLETED BY MICROBAC
Temperature Upon Receipt (°C) 7-0.6 = 6.4°C
Therm ID
Holding Time
Samples Received on Ice? ☒ Yes ☐ No ☐ N/A
Custody Seals Intact? ☐ Yes ☐ No ☒ N/A

Send Report via: ☐ Mail ☐ Fax ☑ e-mail (address)
Send Invoice via: ☐ Mail ☐ Fax ☑ e-mail (address)

Project: Robertson-Ceco
Location: Lemont, IL.
PO No.:
Compliance Monitoring? ☑ Yes ☐ No
☑ Agency/Program RCRA

Sampled by (PRINT): Bruce Shabino
Sampler Signature: BShabino
Sampler Phone No.: 312-952-2552

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)
** Preservative Types: (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

20E0642
Kristen Gehlbach
Carlson - Chicago, IL
Robertson CECO
05/13/2020

REQUESTED ANALYSIS

Client Sample ID	Time Collected	Date Collected	No. of Containers	Matrix	Grab / Comp	Preservative Types **	Non-purgeable organic Carbon*	TOX	pH	Spec Cond.	Sulfate	Chloride	Fe, Mn, Na	phenols			20E0642 Additional Notes
MWD-1A	1400	5/13/20	4	GW	G	1,2,U	X	X	X	X	X	X	X	X			01
MWD-1B	↓		2			2,U	X	X	X	X							02
MWD-1C			2				X	X	X	X							03
MWD-1D			2				X	X	X	X							04
MWD-2A	1100		4			1,2,U	X	X	X	X	X	X	X	X			05
MWD-2B			2			2,U	X	X	X	X							06
MWD-2C			2				X	X	X	X							07
MWD-2D			2				X	X	X	X							08
MWD-3A	1145		4			1,2,U	X	X	X	X	X	X	X	X			09
MWD-3B	↓		2			2,U	X	X	X	X							10

Possible Hazard Identification ☐ Hazardous ☑ Non-Hazardous ☐ Radioactive
Sample Disposition ☑ Dispose as appropriate ☐ Return ☐ Archive

Comments
* Please obtain sample from 1 liter unpreserved plastic for preservation with H_2SO_4

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
BShabino	5/13/20 1445	Daren Evans	5/13/2020 1445
Daren Evans	5/13/2020 1550		
		Micah Lamarte	5/13/20 1550

rev.12/26/2017

MICROBAC

CHAIN OF CUSTODY RECORD

Number 156167

Instructions on back

Lab Report Address
Client Name: Carlson Env.
Address:
City, State, Zip: Chicago IL.
Contact: Bruce Shabino
Telephone No.: 312-952-2552

Invoice Address
Client Name: Carlson Env.
Address:
City, State, Zip: Chicago, IL.
Contact:
Telephone No.:

Turnaround Time
☒ Routine (5 to 7 business days)
☐ RUSH* (notify lab)
(needed by)

Report Type
☒ Results Only ☐ Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ EDD

TO BE COMPLETED BY MICROBAC
Temperature Upon Receipt (°C)
Therm ID
Holding Time
Samples Received on Ice? ☐ Yes ☐ No ☐ N/A
Custody Seals Intact? ☐ Yes ☐ No ☐ N/A

Send Report via: ☐ Mail ☐ Fax ☒ e-mail (address)
Send Invoice via: ☐ Mail ☐ Fax ☐ e-mail (address)

Project: Robertson-Ceco
Location: Lemont, IL.
PO No.:
Compliance Monitoring? ☒ Yes ☐ No
☒ Agency/Program RCRA

Sampled by (PRINT): Bruce Shabino
Sampler Signature:
Sampler Phone No.: 312-952-2552

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)
** Preservative Types: (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

REQUESTED ANALYSIS

Lab ID	Client Sample ID	Date Collected	Time Collected	No. of Containers	Matrix	Grab / Comp	Preservative Types **	Non-purgable organic carbon*	TOX	pH	Spec Cond.	Sulfate	Chloride	Fe, Mg, Na	Phenols			20E0647 Additional Notes
	MWD-3C	5/13/20	1145	2	GW	G	2,U	X	X	X	X							11
	MWD-3D	↓	↓	2	↓	↓	2,U	X	X	X	X							12
	MWD-4A		1230	4			1,2,U	X	X	X	X	X	X	X	X			13
	MWD-4B		↓	2			2,U	X	X	X	X							14
	MWD-4C			2			↓	X	X	X	X							15
	MWD-4D			2				X	X	X	X							16
	MWD-5A		1300	4			1,2,U	X	X	X	X	X	X	X	X			17
	MWD-5B		↓	4			↓	X	X	X	X	X	X	X	X			18
	MWD-5C			2			2,U	X	X	X	X							19
	MWD-5D	↓	↓	2	↓	↓	↓	X	X	X	X							20

Possible Hazard Identification ☐ Hazardous ☒ Non-Hazardous ☐ Radioactive
Sample Disposition ☒ Dispose as appropriate ☐ Return ☐ Archive

Comments
* Please obtain sample from 1 liter unpreserved plastic for preservation with H_2SO_4

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	5/13/20 1445	Doreen Ferris	5/13/2020 1445
Doreen Ferris	5/13/2020 1550		
		Nicole Reinwald	5-13-20/1550

rev.12/26/2017

Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

20L0658

Project Description

100.01 / Former Robertson CECO

For:

Bruce Shabino

Carlson Environmental, Inc.

65 East Wacker Place, Suite 2210

Chicago, IL 60601-

Kristen Gehlbach

Senior Project Manager

Tuesday, December 22, 2020

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Chicagoland. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request . This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

20L0658

Carlson Environmental, Inc.

Bruce Shabino
65 East Wacker Place, Suite 2210
Chicago, IL 60601-

Project Name: 100.01 / Former Robertson CECO

Project / PO Number: N/A
Received: 12/10/2020
Reported: 12/22/2020

Case Narrative

TOX Analysis:
The TOX sample in this work order was submitted to Keystone Labs, Newton IA for analysis. Their results are attached to this report.

TOC Analysis:
Samples requiring TOC analysis were submitted to Microbac Laboratories Kentucky Testing Division in Louisville , KY. Their results are incorporated into this report.

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
MWD-1A	20L0658-01	Aqueous			12/09/20 14:00	12/10/20 11:15
MWD-1B	20L0658-02	Aqueous			12/09/20 14:00	12/10/20 11:15
MWD-1C	20L0658-03	Aqueous			12/09/20 14:00	12/10/20 11:15
MWD-1D	20L0658-04	Aqueous			12/09/20 14:00	12/10/20 11:15
MWD-2A	20L0658-05	Aqueous			12/09/20 09:15	12/10/20 11:15
MWD-2B	20L0658-06	Aqueous			12/09/20 09:15	12/10/20 11:15
MWD-2C	20L0658-07	Aqueous			12/09/20 09:15	12/10/20 11:15
MWD-2D	20L0658-08	Aqueous			12/09/20 09:15	12/10/20 11:15
MWD-3A	20L0658-09	Aqueous			12/09/20 10:30	12/10/20 11:15
MWD-3B	20L0658-10	Aqueous			12/09/20 10:30	12/10/20 11:15
MWD-3C	20L0658-11	Aqueous			12/09/20 10:30	12/10/20 11:15
MWD-3D	20L0658-12	Aqueous			12/09/20 10:30	12/10/20 11:15
MWD-4A	20L0658-13	Aqueous			12/09/20 11:45	12/10/20 11:15
MWD-4B	20L0658-14	Aqueous			12/09/20 11:45	12/10/20 11:15
MWD-4C	20L0658-15	Aqueous			12/09/20 11:45	12/10/20 11:15
MWD-4D	20L0658-16	Aqueous			12/09/20 11:45	12/10/20 11:15
MWD-5A	20L0658-17	Aqueous			12/09/20 13:00	12/10/20 11:15
MWD-5B	20L0658-18	Aqueous			12/09/20 13:00	12/10/20 11:15
MWD-5C	20L0658-19	Aqueous			12/09/20 13:00	12/10/20 11:15
MWD-5D	20L0658-20	Aqueous			12/09/20 13:00	12/10/20 11:15

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Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

20L0658

Analytical Testing Parameters

Client Sample ID: MWD-1A
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-01 **Collection Date:** 12/09/2020 14:00

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1270**	2.00	umhos/cm	1			12/11/20 1340	AMF
SW-846 9045D/SM 2550 B-2010								
Temperature	**17**		°C	1			12/14/20 1143	AMF
SM 4500-H+ B-2011								
pH	**7.58**	2.00	S.U.	1	**H**	12/14/20 1112	12/14/20 1143	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.3**	1.0	mg/L	1			12/14/20 1215	JGF

Client Sample ID: MWD-1B
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-02 **Collection Date:** 12/09/2020 14:00

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1330**	2.00	umhos/cm	1			12/11/20 1340	AMF
SW-846 9045D/SM 2550 B-2010								
Temperature	**17**		°C	1			12/14/20 1144	AMF
SM 4500-H+ B-2011								
pH	**7.53**	2.00	S.U.	1	**H**	12/14/20 1112	12/14/20 1144	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.4**	1.0	mg/L	1			12/14/20 1233	JGF

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CERTIFICATE OF ANALYSIS

20L0658

Client Sample ID: MWD-1C
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-03 **Collection Date:** 12/09/2020 14:00

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1300**	2.00	umhos/cm	1			12/11/20 1340	AMF
SW-846 9045D/SM 2550 B-2010								
Temperature	**17**		°C	1			12/14/20 1146	AMF
SM 4500-H+ B-2011								
pH	**7.44**	2.00	S.U.	1	**H**	12/14/20 1112	12/14/20 1146	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.3**	1.0	mg/L	1			12/14/20 1250	JGF

Client Sample ID: MWD-1D
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-04 **Collection Date:** 12/09/2020 14:00

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1320**	2.00	umhos/cm	1			12/11/20 1340	AMF
SW-846 9045D/SM 2550 B-2010								
Temperature	**18**		°C	1			12/14/20 1149	AMF
SM 4500-H+ B-2011								
pH	**7.45**	2.00	S.U.	1	**H**	12/14/20 1112	12/14/20 1149	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.3**	1.0	mg/L	1			12/14/20 1308	JGF

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CERTIFICATE OF ANALYSIS

20L0658

Client Sample ID: MWD-2A
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-05 **Collection Date:** 12/09/2020 9:15

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**964**	2.00	umhos/cm	1			12/11/20 1340	AMF
SW-846 9045D/SM 2550 B-2010								
Temperature	**19**		°C	1			12/14/20 1152	AMF
SM 4500-H+ B-2011								
pH	**7.45**	2.00	S.U.	1	**H**	12/14/20 1112	12/14/20 1152	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.3**	1.0	mg/L	1			12/14/20 1326	JGF

Client Sample ID: MWD-2B
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-06 **Collection Date:** 12/09/2020 9:15

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1020**	2.00	umhos/cm	1			12/11/20 1340	AMF
SW-846 9045D/SM 2550 B-2010								
Temperature	**18**		°C	1			12/14/20 1154	AMF
SM 4500-H+ B-2011								
pH	**7.55**	2.00	S.U.	1	**H**	12/14/20 1112	12/14/20 1154	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.3**	1.0	mg/L	1			12/14/20 1455	JGF

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CERTIFICATE OF ANALYSIS

20L0658

Client Sample ID: MWD-2C
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-07 **Collection Date:** 12/09/2020 9:15

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**979**	2.00	umhos/cm	1			12/11/20 1340	AMF
SW-846 9045D/SM 2550 B-2010								
Temperature	**18**		°C	1			12/14/20 1155	AMF
SM 4500-H+ B-2011								
pH	**7.54**	2.00	S.U.	1	**H**	12/14/20 1112	12/14/20 1155	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.3**	1.0	mg/L	1			12/14/20 1513	JGF

Client Sample ID: MWD-2D
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-08 **Collection Date:** 12/09/2020 9:15

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**983**	2.00	umhos/cm	1			12/11/20 1340	AMF
SW-846 9045D/SM 2550 B-2010								
Temperature	**18**		°C	1			12/14/20 1156	AMF
SM 4500-H+ B-2011								
pH	**7.59**	2.00	S.U.	1	**H**	12/14/20 1112	12/14/20 1156	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.3**	1.0	mg/L	1			12/14/20 1531	JGF

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CERTIFICATE OF ANALYSIS

20L0658

Client Sample ID: MWD-3A
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-09 **Collection Date:** 12/09/2020 10:30

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1300**	2.00	umhos/cm	1			12/11/20 1340	AMF
SW-846 9045D/SM 2550 B-2010								
Temperature	**18**		°C	1			12/14/20 1157	AMF
SM 4500-H+ B-2011								
pH	**7.81**	2.00	S.U.	1	**H**	12/14/20 1112	12/14/20 1157	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.2**	1.0	mg/L	1			12/14/20 1548	JGF

Client Sample ID: MWD-3B
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-10 **Collection Date:** 12/09/2020 10:30

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1190**	2.00	umhos/cm	1			12/11/20 1340	AMF
SW-846 9045D/SM 2550 B-2010								
Temperature	**18**		°C	1			12/14/20 1158	AMF
SM 4500-H+ B-2011								
pH	**7.60**	2.00	S.U.	1	**H**	12/14/20 1112	12/14/20 1158	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.2**	1.0	mg/L	1			12/14/20 1606	JGF

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CERTIFICATE OF ANALYSIS

20L0658

Client Sample ID: MWD-3C
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-11 **Collection Date:** 12/09/2020 10:30

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW-846 9045D/EPA 9045D								
Temperature	**17**		°C	1			12/16/20 0912	AMF
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1340**	2.00	umhos/cm	1			12/11/20 1340	AMF
SM 4500-H+ B-2011								
pH	**7.89**	2.00	S.U.	1	**H**	12/16/20 0845	12/16/20 0912	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.2**	1.0	mg/L	1			12/14/20 1624	JGF

Client Sample ID: MWD-3D
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-12 **Collection Date:** 12/09/2020 10:30

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW-846 9045D/EPA 9045D								
Temperature	**17**		°C	1			12/16/20 0922	AMF
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1320**	2.00	umhos/cm	1			12/11/20 1340	AMF
SM 4500-H+ B-2011								
pH	**7.90**	2.00	S.U.	1	**H**	12/16/20 0845	12/16/20 0922	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.2**	1.0	mg/L	1			12/14/20 1642	JGF

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CERTIFICATE OF ANALYSIS

20L0658

Client Sample ID: MWD-4A
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-13 **Collection Date:** 12/09/2020 11:45

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW-846 9045D/EPA 9045D								
Temperature	**17**		°C	1			12/16/20 0923	AMF
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1320**	2.00	umhos/cm	1			12/11/20 1340	AMF
SM 4500-H+ B-2011								
pH	**7.63**	2.00	S.U.	1	**H**	12/16/20 0845	12/16/20 0923	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.2**	1.0	mg/L	1			12/14/20 1700	JGF

Client Sample ID: MWD-4B
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-14 **Collection Date:** 12/09/2020 11:45

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW-846 9045D/EPA 9045D								
Temperature	**17**		°C	1			12/16/20 0924	AMF
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1360**	2.00	umhos/cm	1			12/11/20 1340	AMF
SM 4500-H+ B-2011								
pH	**7.67**	2.00	S.U.	1	**H**	12/16/20 0845	12/16/20 0924	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.2**	1.0	mg/L	1			12/14/20 1847	JGF

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20L0658

Client Sample ID: MWD-4C
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-15 **Collection Date:** 12/09/2020 11:45

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW-846 9045D/EPA 9045D								
Temperature	**17**		°C	1			12/16/20 0925	AMF
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1320**	2.00	umhos/cm	1			12/11/20 1340	AMF
SM 4500-H+ B-2011								
pH	**7.68**	2.00	S.U.	1	**H**	12/16/20 0845	12/16/20 0925	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.1**	1.0	mg/L	1			12/14/20 1905	JGF

Client Sample ID: MWD-4D
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-16 **Collection Date:** 12/09/2020 11:45

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW-846 9045D/EPA 9045D								
Temperature	**17**		°C	1			12/16/20 0926	AMF
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1270**	2.00	umhos/cm	1			12/16/20 1430	AMF
SM 4500-H+ B-2011								
pH	**7.52**	2.00	S.U.	1	**H**	12/16/20 0845	12/16/20 0926	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.1**	1.0	mg/L	1			12/14/20 1923	JGF

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CERTIFICATE OF ANALYSIS

20L0658

Client Sample ID: MWD-5A
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-17 **Collection Date:** 12/09/2020 13:00

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW-846 9045D/EPA 9045D								
Temperature	**18**		°C	1			12/16/20 0929	AMF
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1340**	2.00	umhos/cm	1			12/16/20 1430	AMF
SM 4500-H+ B-2011								
pH	**7.42**	2.00	S.U.	1	**H**	12/16/20 0845	12/16/20 0929	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.1**	1.0	mg/L	1			12/14/20 1940	JGF

Client Sample ID: MWD-5B
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-18 **Collection Date:** 12/09/2020 13:00

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW-846 9045D/EPA 9045D								
Temperature	**18**		°C	1			12/16/20 0932	AMF
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1370**	2.00	umhos/cm	1			12/16/20 1430	AMF
SM 4500-H+ B-2011								
pH	**7.49**	2.00	S.U.	1	**H**	12/16/20 0845	12/16/20 0932	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.0**	1.0	mg/L	1			12/14/20 1958	JGF

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CERTIFICATE OF ANALYSIS

20L0658

Client Sample ID: MWD-5C
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-19 **Collection Date:** 12/09/2020 13:00

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW-846 9045D/EPA 9045D								
Temperature	**18**		°C	1			12/16/20 0933	AMF
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1350**	2.00	umhos/cm	1			12/16/20 1430	AMF
SM 4500-H+ B-2011								
pH	**7.80**	2.00	S.U.	1	**H**	12/16/20 0845	12/16/20 0933	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.1**	1.0	mg/L	1			12/14/20 2016	JGF

Client Sample ID: MWD-5D
Sample Matrix: Aqueous
Lab Sample ID: 20L0658-20 **Collection Date:** 12/09/2020 13:00

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW-846 9045D/EPA 9045D								
Temperature	**18**		°C	1			12/16/20 0934	AMF
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1330**	2.00	umhos/cm	1			12/16/20 1430	AMF
SM 4500-H+ B-2011								
pH	**7.73**	2.00	S.U.	1	**H**	12/16/20 0845	12/16/20 0934	AMF

Analyses Subcontracted to: Microbac Laboratories, Inc., Louisville

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Carbon, Total Organic	**1.0**	1.0	mg/L	1			12/14/20 2034	JGF

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CERTIFICATE OF ANALYSIS

20L0658

Definitions

°C:	Degrees Celsius
DF:	Dilution Factor representing the amount the sample was diluted during analysis and may not represent preparation factors.
H:	Sample was analyzed past holding time.
MDL:	Minimum Detection Limit
mg/L:	Milligrams per Liter
RL:	Reporting Limit
S.U.:	Standard Units
umhos/cm:	Umhos per Centimeter

Cooler Receipt Log

Cooler ID:	Default Cooler	Temp:	5.3°C	**Cooler ID:**	New Cooler	Temp:	4.7°C
Cooler ID:	New Cooler [1]	Temp:	3.5°C				

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Report Comments

Reviewed and Approved By:

Kristen Gehlbach
Senior Project Manager
kristen.gehlbach@microbac.com
12/22/2020 15:31

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

CEI

CHAIN-OF-CUSTODY RECORD

No. 17352

CARLSON ENVIRONMENTAL, INC. 65 E. Wacker Place Chicago, IL 60601 (312)346-2140

PROJ. NO. 100.01 PROJECT NAME Former Robertson Ceco

SAMPLERS: (Signature) Bruce Shabino

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) TOC TOX Spec Cond pH	REMARKS
1	MWD-1A	12/9	1400		X	Groundwater	4	X X X X	01
2	MWD-1B								02
3	MWD-1C								03
4	MWD-1D								04
5	MWD-2A		915						05
6	MWD-2B								06
7	MWD-2C								07
8	MWD-2D								08
9	MWD-3A		1030						09
10	MWD-3B								10

20L0658

20L0658 Kristen Gehlbach
Carlson - Chicago, IL
Former Robertson CECO
12/10/2020

Relinquished by (Signature)	Date/Time	Received by (Signature)
	12/10 1:30	
Relinquished by (Signature)	Date/Time	Received by (Signature)
	12/16/2 1615	
Relinquished by (Signature)	Date/Time	Received for Laboratory by (Signature)
	12/10/20 1115	

REMARKS Standard TAT

01/TR#1

5.7-0.4 = 5.3°C
5.2-0.5 = 4.7°C
4.0-0.5 = 3.5°C

Distribution White - Accompanies Shipment, Yellow - Laboratory File Pink - Coordinator Field Files

CEI

CHAIN-OF-CUSTODY RECORD

No. 17351

CARLSON ENVIRONMENTAL, INC. 65 E. Wacker Place Chicago, IL 60601 (312)346-2140

PROJ. NO. 100.01

PROJECT NAME Former Robertson Ceco

SAMPLERS: (Signature) [signature] Bruce Shabino

20L0658

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	TOC	TOX	Spec Cond	pH				REMARKS
1	MWD-3C	1030	12/9		X	Groundwater	4	X	X	X	X				-11
2	MWD-3D	↓	↓		↓	↓	↓	↓	↓	↓	↓				12
3	MWD-4A	1145	↓		↓	↓	↓	↓	↓	↓	↓				13
4	MWD-4B	↓	↓		↓	↓	↓	↓	↓	↓	↓				14
5	MWD-4C	↓	↓		↓	↓	↓	↓	↓	↓	↓				15
6	MWD-4D	↓	↓		↓	↓	↓	↓	↓	↓	↓				16
7	MWD-5A	1300	↓		↓	↓	↓	↓	↓	↓	↓				17
8	MWD-5B	↓	↓		↓	↓	↓	↓	↓	↓	↓				18
9	MWD-5C	↓	↓		↓	↓	↓	↓	↓	↓	↓				19
10	MWD-5D	↓	↓		↓	↓	↓	↓	↓	↓	↓				20

Relinquished by (Signature)	Date/Time	Received by: (Signature)
[signature]	12/10 9:20	[signature]
Relinquished by: (Signature) [signature]	Date/Time 12/10 11:15	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature) [signature]

REMARKS Standard TAT

5.7-0.4=5.3°C
5.2-0.5=4.7°C
OI/IR#1 4-0.5=3.5°C

Distribution: White - Accompanies Shipment, Yellow - Laboratory File, Pink - Coordinator Field Files

Keystone LABORATORIES, INC.

December 22 2020

Kristen Gehlbach
Microbac Laboratories, Inc
250 W 84th Dr
Merrillville, IN 46410

RE: Subcontract-KG
20L0658

Enclosed are the results of analyses for samples received by the laboratory on 12/11/20 11:25. If you have any questions concerning this report, please feel free to contact me at 1-800-858-5227.

ANALYTICAL REPORT FOR SAMPLES

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
20L0658-01 (MWD-1A)	1L01201-01	Water	12/09/20 14:00	12/11/20 11:25
20L0658-02 (MWD-1B)	1L01201-02	Water	12/09/20 14:00	12/11/20 11:25
20L0658-03 (MWD-1C)	1L01201-03	Water	12/09/20 14:00	12/11/20 11:25
20L0658-04 (MWD-1D)	1L01201-04	Water	12/09/20 14:00	12/11/20 11:25
20L0658-05 (MWD-2A)	1L01201-05	Water	12/09/20 09:15	12/11/20 11:25
20L0658-06 (MWD-2B)	1L01201-06	Water	12/09/20 09:15	12/11/20 11:25
20L0658-07 (MWD-2C)	1L01201-07	Water	12/09/20 09:15	12/11/20 11:25
20L0658-08 (MWD-2D)	1L01201-08	Water	12/09/20 09:15	12/11/20 11:25
20L0658-09 (MWD-3A)	1L01201-09	Water	12/09/20 10:30	12/11/20 11:25
20L0658-10 (MWD-3B)	1L01201-10	Water	12/09/20 10:30	12/11/20 11:25
20L0658-11 (MWD-3C)	1L01201-11	Water	12/09/20 10:30	12/11/20 11:25
20L0658-12 (MWD-3D)	1L01201-12	Water	12/09/20 10:30	12/11/20 11:25
20L0658-13 (MWD-4A)	1L01201-13	Water	12/09/20 11:45	12/11/20 11:25
20L0658-14 (MWD-4B)	1L01201-14	Water	12/09/20 11:45	12/11/20 11:25
20L0658-15 (MWD-4C)	1L01201-15	Water	12/09/20 11:45	12/11/20 11:25
20L0658-16 (MWD-4D)	1L01201-16	Water	12/09/20 11:45	12/11/20 11:25

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

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Fax 641-792-7989

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Project Number: Project Manager:	Subcontract-KG 20L0658 Kristen Gehlbach
		Reported 12/22/20 13:03

20L0658-17 (MWD-5A)	1L01201-17	Water	12/09/20 13:00	12/11/20 11:25
20L0658-18 (MWD-5B)	1L01201-18	Water	12/09/20 13:00	12/11/20 11:25
20L0658-19 (MWD-5C)	1L01201-19	Water	12/09/20 13:00	12/11/20 11:25
20L0658-20 (MWD-5D)	1L01201-20	Water	12/09/20 13:00	12/11/20 11:25

CASE NARRATIVE

The samples received on 12/11/20 11:25 for Work Order 1L01201 were contained in client supplied containers.

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Keystone LABORATORIES, INC.

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MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

Microbac Laboratories, Inc. - Chicagoland

MICROBAC®

SUBCONTRACT ORDER

20L0658

1L01201

Temp 0.0

SENDING LABORATORY:

Microbac Laboratories, Inc. - Chicagoland
250 West 84th Drive
Merrillville, IN 46410
Phone: 219.769.8378
Lab Manager: Kristen Gehlbach
Email: kristen.gehlbach@microbac.com

RECEIVING LABORATORY:

Keystone Laboratories, Inc.
600 East 17th Street South
Newton, IA 50208
Phone: (800) 858-5227

Project Info:

Project Type: ENV-Remediation
Project Location: Illinois
Report TAT: 5
Due: **12/17/2020 23:59**

Sample ID: 20L0658-01 **Sampled: 12/09/2020 14:00**
Matrix: Aqueous **Sampler:**

-01

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 14:00

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 20L0658-02 **Sampled: 12/09/2020 14:00**
Matrix: Aqueous **Sampler:**

-02

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 14:00

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 20L0658-03 **Sampled: 12/09/2020 14:00**
Matrix: Aqueous **Sampler:**

-03

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 14:00

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 20L0658-04 **Sampled: 12/09/2020 14:00**
Matrix: Aqueous **Sampler:**

-04

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 14:00

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

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Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

Microbac Laboratories, Inc. - Chicagoland

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SUBCONTRACT ORDER

20L0658

IL01201
Temp 0.0

Sample ID: 20L0658-05 **Sampled: 12/09/2020 09:15**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 09:15

-05

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 20L0658-06 **Sampled: 12/09/2020 09:15**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 09:15

-06

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 20L0658-07 **Sampled: 12/09/2020 09:15**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 09:15

-07

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 20L0658-08 **Sampled: 12/09/2020 09:15**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 09:15

-08

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 20L0658-09 **Sampled: 12/09/2020 10:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 10:30

-09

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

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Keystone LABORATORIES, INC.

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SUBCONTRACT ORDER

20L0658

IL01201
Temp 0.0

Sample ID: 20L0658-10 **Sampled: 12/09/2020 10:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 10:30

-10

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 20L0658-11 **Sampled: 12/09/2020 10:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 10:30

-11

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 20L0658-12 **Sampled: 12/09/2020 10:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 10:30

-12

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 20L0658-13 **Sampled: 12/09/2020 11:45**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 11:45

-13

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 20L0658-14 **Sampled: 12/09/2020 11:45**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 11:45

-14

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

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Microbac Laboratories, Inc. - Chicagoland

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SUBCONTRACT ORDER

20L0658

IL01201
Temp 0.0

Sample ID: 20L0658-15 **Sampled: 12/09/2020 11:45**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 11:45

-15

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 20L0658-16 **Sampled: 12/09/2020 11:45**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 11:45

-16

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 20L0658-17 **Sampled: 12/09/2020 13:00**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 13:00

-17

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 20L0658-18 **Sampled: 12/09/2020 13:00**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 13:00

-18

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 20L0658-19 **Sampled: 12/09/2020 13:00**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 13:00

-19

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

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Electronic Filing: Received, Clerk's Office 07/19/2024

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Microbac Laboratories, Inc. - Chicagoland

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SUBCONTRACT ORDER

20L0658

1L01201
Temp 0.0

Sample ID: 20L0658-20
Matrix: Aqueous

Sampled: 12/09/2020 13:00
Sampler:

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	12/17/2020 23:59	01/06/2021 13:00

-20

Containers Supplied:
C: 250ml-Bottle Glass Amber-H2SO4

Nicole Rawater 12-10-20/1700 Fedex
Released By Date Received By Date

Dee Johnson 12/11/2020 11:25
Released By Date Received By Date

Page 5 of 5

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MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

20L0658-01 (MWD-1A)

1L01201-01 (Water)

Date Sampled:12/9/2020 2:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.018**	0.010	mg/L	1	1DL0787	12/17/20	12/17/20 16:06	EPA 9020	

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Keystone LABORATORIES, INC.

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20L0658-02 (MWD-1B)

1L01201-02 (Water)

Date Sampled:12/9/2020 2:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.013**	0.010	mg/L	1	1DL0787	12/17/20	12/17/20 16:06	EPA 9020	

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Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

20L0658-03 (MWD-1C)

1L01201-03 (Water)

Date Sampled:12/9/2020 2:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.014**	0.010	mg/L	1	1DL0787	12/17/20	12/17/20 16:06	EPA 9020	

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20L0658-04 (MWD-1D)

1L01201-04 (Water)

Date Sampled:12/9/2020 2:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.023**	0.010	mg/L	1	1DL0787	12/17/20	12/17/20 16:06	EPA 9020	

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Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

20L0658-05 (MWD-2A)

1L01201-05 (Water)

Date Sampled:12/9/2020 9:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.013**	0.010	mg/L	1	1DL0787	12/17/20	12/17/20 16:06	EPA 9020	

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Keystone LABORATORIES, INC.

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Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

20L0658-06 (MWD-2B)

1L01201-06 (Water)

Date Sampled:12/9/2020 9:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.016**	0.010	mg/L	1	1DL0787	12/17/20	12/17/20 16:06	EPA 9020	

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Keystone LABORATORIES, INC.

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Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

20L0658-07 (MWD-2C)

1L01201-07 (Water)

Date Sampled:12/9/2020 9:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.012**	0.010	mg/L	1	1DL0787	12/17/20	12/17/20 16:06	EPA 9020	

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Keystone LABORATORIES, INC.

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Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

20L0658-08 (MWD-2D)

1L01201-08 (Water)

Date Sampled:12/9/2020 9:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.013**	0.010	mg/L	1	1DL0787	12/17/20	12/17/20 16:06	EPA 9020	

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Keystone LABORATORIES, INC.

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Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

20L0658-09 (MWD-3A)

1L01201-09 (Water)

Date Sampled:12/9/2020 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1DL0857	12/18/20	12/18/20 16:15	EPA 9020	

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

20L0658-10 (MWD-3B)

1L01201-10 (Water)

Date Sampled:12/9/2020 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1DL0857	12/18/20	12/18/20 16:15	EPA 9020	

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Keystone LABORATORIES, INC.

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Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

20L0658-11 (MWD-3C)

1L01201-11 (Water)

Date Sampled:12/9/2020 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.010**	0.010	mg/L	1	1DL0857	12/18/20	12/18/20 16:15	EPA 9020	

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Keystone LABORATORIES, INC.

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Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

20L0658-12 (MWD-3D)

1L01201-12 (Water)

Date Sampled:12/9/2020 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.012**	0.010	mg/L	1	1DL0857	12/18/20	12/18/20 16:15	EPA 9020	

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Keystone LABORATORIES, INC.

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Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

20L0658-13 (MWD-4A)

1L01201-13 (Water)

Date Sampled:12/9/2020 11:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1DL0857	12/18/20	12/18/20 16:15	EPA 9020	

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Keystone LABORATORIES, INC.

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Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

20L0658-14 (MWD-4B)

1L01201-14 (Water)

Date Sampled:12/9/2020 11:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1DL0857	12/18/20	12/18/20 16:15	EPA 9020	

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20L0658-15 (MWD-4C)

1L01201-15 (Water)

Date Sampled:12/9/2020 11:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1DL0857	12/18/20	12/18/20 16:15	EPA 9020	

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Newton, IA 50208

Fax 641-792-7989

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

20L0658-16 (MWD-4D)

1L01201-16 (Water)

Date Sampled:12/9/2020 11:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1DL0857	12/18/20	12/18/20 16:15	EPA 9020	

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Newton, IA 50208

Fax 641-792-7989

Keystone LABORATORIES, INC.

MEMBER ACIL

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20L0658-17 (MWD-5A)

1L01201-17 (Water)

Date Sampled:12/9/2020 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1DL0857	12/18/20	12/18/20 16:15	EPA 9020	

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Keystone LABORATORIES, INC.

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Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

20L0658-18 (MWD-5B)

1L01201-18 (Water)

Date Sampled:12/9/2020 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1DL0857	12/18/20	12/18/20 16:15	EPA 9020	

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Keystone LABORATORIES, INC.

MEMBER ACIL

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20L0658-19 (MWD-5C)

1L01201-19 (Water)

Date Sampled:12/9/2020 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1DL0929	12/21/20	12/21/20 12:28	EPA 9020	

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

20L0658-20 (MWD-5D)

1L01201-20 (Water)

Date Sampled:12/9/2020 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1DL0929	12/21/20	12/21/20 12:28	EPA 9020	

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Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 20L0658 Project Manager: Kristen Gehlbach	Reported 12/22/20 13:03

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1DL0787 - TOX/TX/EOX										
Blank (1DL0787-BLK1)				Prepared & Analyzed: 12/17/20						
Total Organic Halogens (TOX)	ND	0.010	mg/L							
LCS (1DL0787-BS1)				Prepared & Analyzed: 12/17/20						
Total Organic Halogens (TOX)	0.1101	0.010	mg/L	0.109170		101	67-127			QM-23
LCS Dup (1DL0787-BSD1)				Prepared & Analyzed: 12/17/20						
Total Organic Halogens (TOX)	0.1182	0.010	mg/L	0.109170		108	67-127	7.16	30	QM-23
Reference (1DL0787-SRM1)				Prepared & Analyzed: 12/17/20						
Total Organic Halogens (TOX)	0.1070	0.010	mg/L	0.103570		103	80-120			
Reference (1DL0787-SRM2)				Prepared & Analyzed: 12/17/20						
Total Organic Halogens (TOX)	0.1073	0.010	mg/L	0.103570		104	80-120			
Reference (1DL0787-SRM3)				Prepared & Analyzed: 12/17/20						
Total Organic Halogens (TOX)	0.1050	0.010	mg/L	0.103570		101	80-120			
Batch 1DL0857 - TOX/TX/EOX										
Blank (1DL0857-BLK1)				Prepared & Analyzed: 12/18/20						
Total Organic Halogens (TOX)	ND	0.010	mg/L							
LCS (1DL0857-BS1)				Prepared & Analyzed: 12/18/20						
Total Organic Halogens (TOX)	0.1048	0.010	mg/L	0.109170		96.0	67-127			
LCS Dup (1DL0857-BSD1)				Prepared & Analyzed: 12/18/20						
Total Organic Halogens (TOX)	0.1102	0.010	mg/L	0.109170		101	67-127	4.98	30	

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

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Keystone LABORATORIES, INC.

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Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Project Number: Project Manager:	Subcontract-KG 20L0658 Kristen Gehlbach	Reported 12/22/20 13:03

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1DL0857 - TOX/TX/EOX										
Reference (1DL0857-SRM1)				Prepared & Analyzed: 12/18/20						
Total Organic Halogens (TOX)	0.1069	0.010	mg/L	0.103570		103	80-120			
Reference (1DL0857-SRM2)				Prepared & Analyzed: 12/18/20						
Total Organic Halogens (TOX)	0.1055	0.010	mg/L	0.103570		102	80-120			
Reference (1DL0857-SRM3)				Prepared & Analyzed: 12/18/20						
Total Organic Halogens (TOX)	0.1047	0.010	mg/L	0.103570		101	80-120			
Batch 1DL0929 - TOX/TX/EOX										
Blank (1DL0929-BLK1)				Prepared & Analyzed: 12/21/20						
Total Organic Halogens (TOX)	ND	0.010	mg/L							
LCS (1DL0929-BS1)				Prepared & Analyzed: 12/21/20						
Total Organic Halogens (TOX)	0.1108	0.010	mg/L	0.109170		102	67-127			QM-23
LCS Dup (1DL0929-BSD1)				Prepared & Analyzed: 12/21/20						
Total Organic Halogens (TOX)	0.1081	0.010	mg/L	0.109170		99.0	67-127	2.50	30	QM-23
Reference (1DL0929-SRM1)				Prepared & Analyzed: 12/21/20						
Total Organic Halogens (TOX)	0.1056	0.010	mg/L	0.103570		102	80-120			
Reference (1DL0929-SRM2)				Prepared & Analyzed: 12/21/20						
Total Organic Halogens (TOX)	0.1005	0.010	mg/L	0.103570		97.1	80-120			
Reference (1DL0929-SRM3)				Prepared & Analyzed: 12/21/20						
Total Organic Halogens (TOX)	0.1003	0.010	mg/L	0.103570		96.9	80-120			

Certified Analyses Included in This Report

Method/Matrix	Analyte	Certifications
EPA 9020 in Water		
	Total Organic Halogens (TOX)	KS-NT,SIA1X

Code	Certifying Authority	Certificate Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2021
KS-NT	Kansas Department of Health and Environment (NELAP	E-10287	10/31/2021
MO-KC	Missouri Department of Natural Resources	140	04/30/2021
SIA1X	Iowa Department of Natural Resources	95	02/01/2021

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Project Number: Project Manager:	Subcontract-KG 20L0658 Kristen Gehlbach	Reported 12/22/20 13:03

Notes and Definitions

QM-23	LCS/LCSD were analyzed in place of MS/MSD due to limited sample volume.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Project Number: Project Manager:	Subcontract-KG 20L0658 Kristen Gehlbach	Reported 12/22/20 13:03

Sue Thompson

Sue Thompson

Client Services Manager

Phone 641-792-8451

600 East 17th Street South
Newton, IA 50208

Fax 641-792-7989

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ATTACHMENT D

Certification Statement

65 East Wacker Place - Suite 2210 - Chicago, Illinois 60601 - Phone (312) 346-2140 - Fax (312) 346-6956 - www.carlsonenv.com

Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

ILD990785453
USEPA ID Number

RCH Newco II LLC
Site Name

1978030005
IEPA Number

RCH Newco II LLC
Site Owner/Operator

Kevin J. Shudy 4/6/21
Signature of Owner/Operator Representative **Date**

Kevin J. Shudy, V.P.
Name and Title of Owner/Operator Representative

Electronic Filing: Received, Clerk's Office 07/19/2024

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April 8, 2022 PN 100.01

Mr. Rob Watson, P.E.
Illinois Environmental Protection Agency
Bureau of Land #24
Permit Section
1021 N. Grand Avenue East
Springfield, Illinois 62702-3998

RE: 2021 Annual Groundwater Monitoring Report
1978030005 -- Will County
RCH Newco II LLC
ILD #990785453
RCRA Log No. C-68

Dear Mr. Watson:

On behalf of RCH Newco II LLC, please find enclosed the 2021 Annual Groundwater Monitoring Report as required in 35 Ill. Adm. Code Part 725.175, for the RCRA Hazardous Waste Management Unit at the above-referenced site. The annual report details the facility activities for 2021, including a statistical analysis of the groundwater data.

If you have any questions, please contact me at (312)346-2140.

Sincerely,

CARLSON ENVIRONMENTAL, INC.

Bruce A. Shabino, P.G.
Senior Project Manager

enclosure

cc: Mr. Kevin Shudy

CARLSON ENVIRONMENTAL
A Nova Group, GBC Company

RCRA - 2021 ANNUAL GROUNDWATER MONITORING REPORT

RCH Newco II LLC
EPA ID No. ILD990785453

Prepared For
RCH Newco II LLC

Prepared By
Carlson Environmental, Inc.

65 E. Wacker Place
Suite 2210
Chicago, IL 60601
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(F) 312-346-6956
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Project No. 100.01
April 8, 2022

Bruce A. Shabino, P.G.
Senior Project Manager

Edward E. Garske
President

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 BACKGROUND 1

3.0 GROUNDWATER MONITORING 2
3.1 Monitoring Well Network 2
3.2 Groundwater Sampling 2
3.3 Groundwater Analyses 4
3.4 Groundwater Analytical Results 5

4.0 POST-CLOSURE COST ESTIMATE 6

5.0 CONCLUSIONS 6

ATTACHMENTS

ATTACHMENT A - Figures
ATTACHMENT B - Tables
ATTACHMENT C - Laboratory Analytical Reports
ATTACHMENT D - Certification Statement

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RCH Newco II LLC
ILD990785453

April 8, 2022

1.0 INTRODUCTION

This Annual Groundwater Monitoring Report summarizes the activities associated with the closed RCRA Hazardous Waste Management Unit (Closure Unit) at the former Robertson-Ceco Corporation Property (currently owned by RCH Newco II LLC) in accordance with 35 IAC 725.175, for the period of 2021. The report details the laboratory analytical results and the statistical analysis for the data collected in the twenty-eighth year of post-closure groundwater monitoring for the Closure Unit. This report was completed on behalf of our client, RCH Newco II LLC.

2.0 BACKGROUND

The RCH Newco II LLC property is located on New Avenue in Lemont, Will County, Illinois (Figure 1, Attachment A) and is approximately two-acres in size (Figure 2, Attachment A). The Closure Unit contains approximately 2,500 cubic yards of emission control dust (EAF dust) from off-site electric arc furnaces ("listed" hazardous waste K061by the United States Environmental Protection Agency under RCRA) and approximately 29,500 cubic yards of miscellaneous non-hazardous steel plant by-products, primarily slag, which was co-excavated with the EAF dust. These materials, altogether comprising a volume of 32,000 cubic yards, were placed in a RCRA Interim-Status Closure Unit (landfill) constructed in accordance with an IEPA-approved Closure Plan. The hazardous waste management unit is completely enclosed within a 10-foot-high locking chain-link fence that was in good condition at the time of the recently completed sampling events.

Construction of the Closure Unit was completed in accordance with the IEPA-approved design in 1988. Since the completion of the construction of the Closure Unit, no hazardous waste management activity has occurred at the site other than the groundwater monitoring and inspection activities associated with the Closure Unit.

In April 1993, Halliburton NUS Corporation (NUS) installed five RCRA post-closure groundwater monitoring wells at the Closure Unit. Two wells were installed hydraulically

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up-gradient and three wells were located hydraulically down-gradient. The post-closure groundwater monitoring wells were installed in the uppermost aquifer, which is partly within the upper portion of the bedrock unit.

3.0 GROUNDWATER MONITORING

3.1 Monitoring Well Network

The groundwater monitoring well system, surrounding the Closure Unit, was designed to comply with applicable state regulations. The well network consists of five wells (Figure 3, Attachment A). Monitoring wells MWD-1 and MWD-5 are located hydraulically upgradient from the Closure Unit for the purpose of monitoring the "background" groundwater concentrations. Monitoring wells MWD-2, MWD-3, and MWD-4 are located hydraulically downgradient from the Closure Unit. The downgradient wells were installed at the limit of the waste management area to ensure the immediate detection of any hazardous constituent. The placement of the wells was designed based on the northeastern potentiometric groundwater flow in the uppermost aquifer as reported by NUS in previous reports.

3.2 Groundwater Sampling

A quarterly groundwater sampling program was started by NUS in April 1993 for the Closure Unit well network. Carlson began sampling the groundwater beginning with Round 9. The completion of Sample Round 12 marked the end of the quarterly groundwater monitoring and the start of a semi-annual sampling event pursuant to IEPA's February 7, 1996 correspondence reducing sampling frequency. The objective of the groundwater sampling is to collect data that would help determine whether the ClosureUnit is impacting the groundwater.

On June 165 (Round 61), and December 1 (Round 62), 2021, Carlson visually inspected and measured the standing water levels in the five groundwater monitoring wells previously installed at the site for the Closure Unit. Inspection of the monitoring well indicated that the stickup well-head protective covers were in good condition and were locked securely in

place.

During Rounds 61 and 62, groundwater samples were collected from each of the five wells (MWD-1 through MWD-5), using a United States Environmental Protection Agency (USEPA) accepted low flow groundwater sampling method. The low flow sampling method was designed to obtain a representative sample from the well without requiring filtering of the sample. The objective is to collect a groundwater sample by eliminating turbidity that is common to bailing methods.

The well sampling procedures were as follows:

1) The static water level was measured and recorded to 0.01 feet with an electric water level indicator (Solinist model 101). The probe was carefully lowered into the well to minimize disturbance of the water column. Water level measurements are shown in Table 1, Attachment B.

2) If necessary, the required length of teflon tubing was calculated, measured and marked for attachment to a peristaltic pump, so that the intake was located at the mid-point of the saturated screen interval. A minimal length of tubing was used to minimize the temperature change from the collection point to the discharge point.

3) If not already present, the tubing was inserted slowly to the measured depth and secured to the well casing to minimize disturbance to the water column. The tubing was dedicated to each well, secured to the cap, and left inside the protective casing to minimize disturbance to the water column during subsequent sampling events.

4) The monitoring instruments were calibrated and assembled. The tubing was connected to the pump and a flow-through chamber in which the instrument probes were located.

5) The water level was measured and recorded on a data sheet and compared to the previous static water level.

6) The pump was started at the minimum continuous flow rate attainable by the pump, between 0.02 to 0.05 liters per minute. A full round of measurements was recorded every five minutes including time, temperature, specific conductance, pH, turbidity and dissolved oxygen. All data and changes were recorded on the data sheets.

7) After field parameters stabilized, groundwater samples were collected. Stabilization was defined by readings within a range of ten percent for three consecutive five-minute intervals.

8) After stabilization was achieved, the flow-through chamber was disconnected and the sample was collected directly from the tubing.

9) The samples were maintained at a temperature of approximately 4°C in an insulated container. Upon completion of the site sampling, the samples were sent to Microbac Laboratories, Inc. (Microbac) for laboratory analysis. The samples were maintained under standard chain-of-custody procedures/documents.

3.3 Groundwater Analyses

In 2009, the sampling plan for the site was modified pursuant to IEPA's approval letter dated June 2, 2009. The sampling plan frequency and parameters to be analyzed are now as follows:

Samples Collected During the Quarter of the Calendar Year	Parameters to be Sampled
Second Quarter	Groundwater Quality Parameters Groundwater Contamination Parameters

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ILD990785453

April 8, 2022

Fourth Quarter Groundwater Contamination Parameters

For Sample Rounds 61 & 62, four separate groundwater samples were collected from each of the five wells and analyzed for the indicators of groundwater contamination as listed below.

Groundwater collected during Sample Round 61 was also analyzed for the indicators of groundwater quality as listed below. A duplicate sample was collected from monitoring well MWD-2 during Round 61 and analyzed for all the parameters listed below. Laboratory analytical methods are indicated on Table 2, Attachment B.

Groundwater samples were analyzed at Microbac in accordance with IEPA and USEPA (SW-846 - Third Edition) methods. The groundwater samples were analyzed for the parameters establishing groundwater contamination (pH, specific conductance, non-purgeable organic carbon (TOC), total organic halogens (TOX)), and groundwater quality (chloride, iron, manganese, phenols, sodium and sulfate), as specified in applicable state regulations, the IEPA approved closure plan and IEPA correspondence.

3.4 Groundwater Analytical Results

Groundwater concentrations from the five monitoring wells were compared to the standards for the above referenced parameters as referenced in 35 IAC 725, Appendix C, *USEPA Interim Primary Drinking Water Standards* as shown in Tables 4 and 5 of Attachment B, for Rounds 61 and 62, respectively. The laboratory analytical reports for Rounds 61 and 62 are included in Attachment C.

The “background” concentrations from the upgradient wells, calculated during the first year of sampling activities, were compared to groundwater concentrations collected from the downgradient and upgradient wells to determine whether a statistically significant increase (or decrease in the case of pH) in the parameter concentration was present.

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Table 3 in Attachment B summarizes the "background" groundwater concentrations from the first year of groundwater monitoring. Carlson compared the sample means and variances of the indicator parameters for the upgradient and downgradient wells to the "background" concentrations using the Student's T-Test at the 0.01 level of significance in accordance with 35 IAC 725.193(b). The statistical evaluation of the upgradient and downgradient wells for Round 61 of RCRA post-closure groundwater sampling is contained in Tables 6 and 7, respectively. Tables 8 and 9, respectively, contain thestatistical evaluation of the upgradient and downgradient wells for Round 62.

4.0 POST-CLOSURE COST ESTIMATE

The Closure Unit was closed in 1988 and groundwater monitoring began in 1993. The original cost to conduct 30 years of post-closure groundwater monitoring at the Closure Unit was estimated at $376,973. This cost was based on 120 quarterly sampling events at the present value of money. To date, 60 separate sampling events have been conducted, and the Illinois Environmental Protection Agency has changed the frequency of the required sampling to semi-annually. With the new sampling plan, approved by the IEPA in a letter dated June 2, 2009, the project cost for the remaining 2 years through 2023 is estimated at $33,200. This estimate is based on the current average yearly cost multiplied by the 2 remaining years of sampling events, not the present value of money.

5.0 CONCLUSIONS

Based on the analytical data for both sampling events in 2021, groundwater at the Closure Unit did not exceed the drinking water standards as referenced in 35 IAC 725, Appendix C, *USEPA Interim Primary Drinking Water Standards,* for the parameters identified in Section 3.3. For each indicator parameter, the arithmetic mean and variance were calculated for each well based on the groundwater analytical data collected during each sampling event in 2021. The arithmetic mean and variance were compared to the initial "background" arithmetic mean concentrations, as determined in the first year of post-closure

groundwater monitoring, using the Student's T-Test at the 0.01 level of significance.

The analysis revealed that groundwater in downgradient monitoring well MWD-2 had a statistically significant decrease in pH (initial background arithmetic mean of 7.36) during Sample Round 61. In Sample Round 62, there was a statistically significant decrease in pH in downgradient monitoring wells MWD-2 and MWD-4, as well as upgradient monitoring wells MWD-1 and MWD-5. In addition, groundwater in upgradient monitoring well MWD-5 was found to have a statistically significant increase in specific conductance beyond the background mean of 1334 umho/cm during Sample Round 62.

Based on the statistically significant changes in groundwater for pH in both downgradient and upgradient monitoring wells and for specific conductance in upgradient monitoring well MWD-5, Carlson believes that the changes are naturally occurring or coming from some offsite source. If any single groundwater contamination parameter in subsequent groundwater monitoring events is elevated (or reduced in the case of pH) at a statistically significant level beyond "background" values in more than one downgradient well, without being elevated (or reduced in the case of pH) in an upgradient well, then an additional investigation will be initiated. Such an investigation to determine the extent andrate of migration of the regulated substance of concern would be conducted in accordance with applicable state regulations. No additional action is planned at this time.

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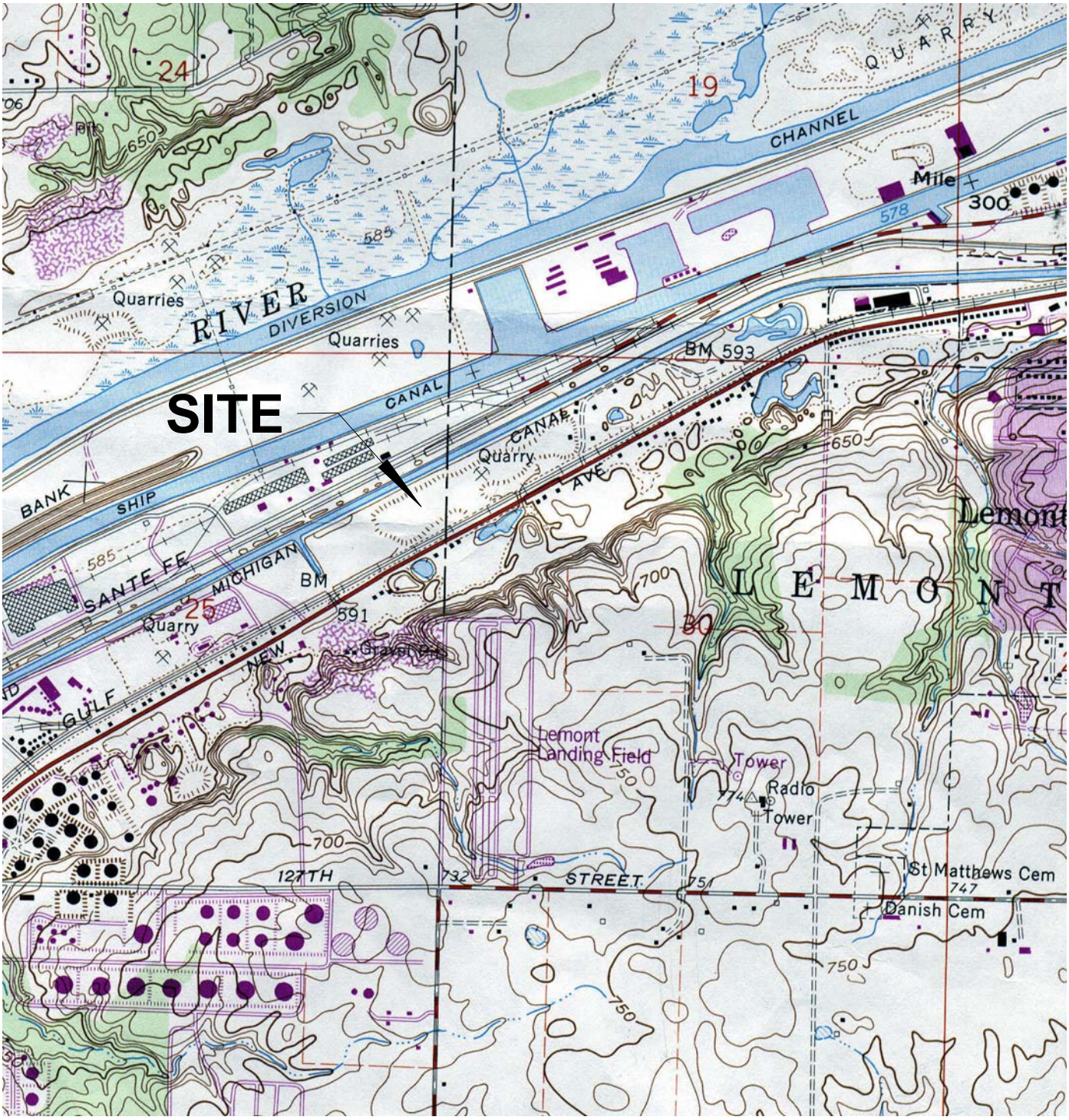
ATTACHMENT A

Figures



0 500 1000 2000

APPROXIMATE SCALE (FEET)

From USGS 7.5 Minute Series Topographical Quadrangel "Romeoville, Illinois" (1962-Photorevised 1973 & 1980)

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Chicago, Illinois 60601
(312) 346-2140

PROJECT NO.	9233A	
DRAWN BY		DATE
CHECKED BY		DATE
REVISION 1		DATE
REVISION 2		DATE

FIGURE 1
SITE MAP
RCH Newco II LLC Closure Unit
Lemont, Illinois

Drawing No.
1

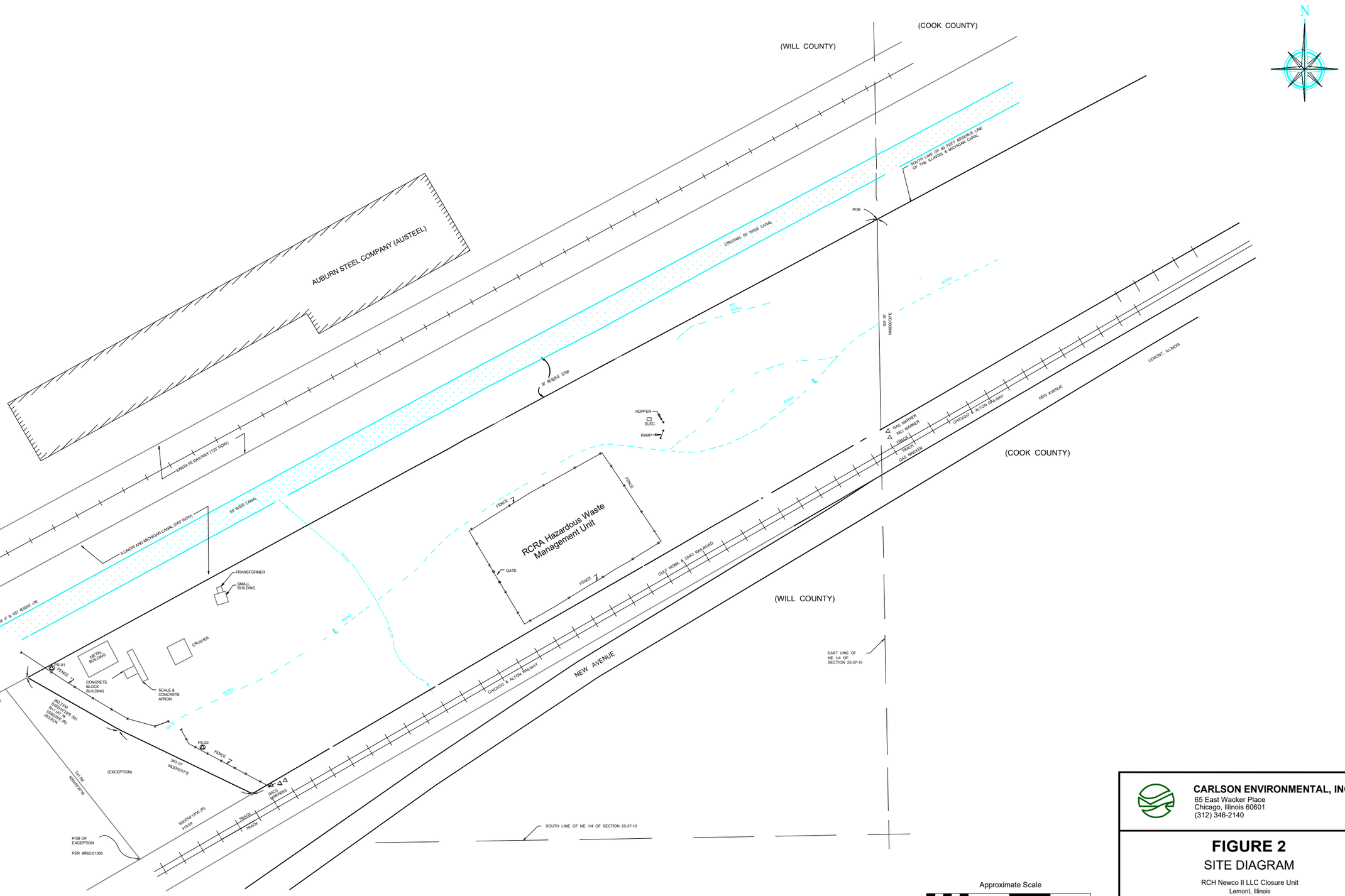

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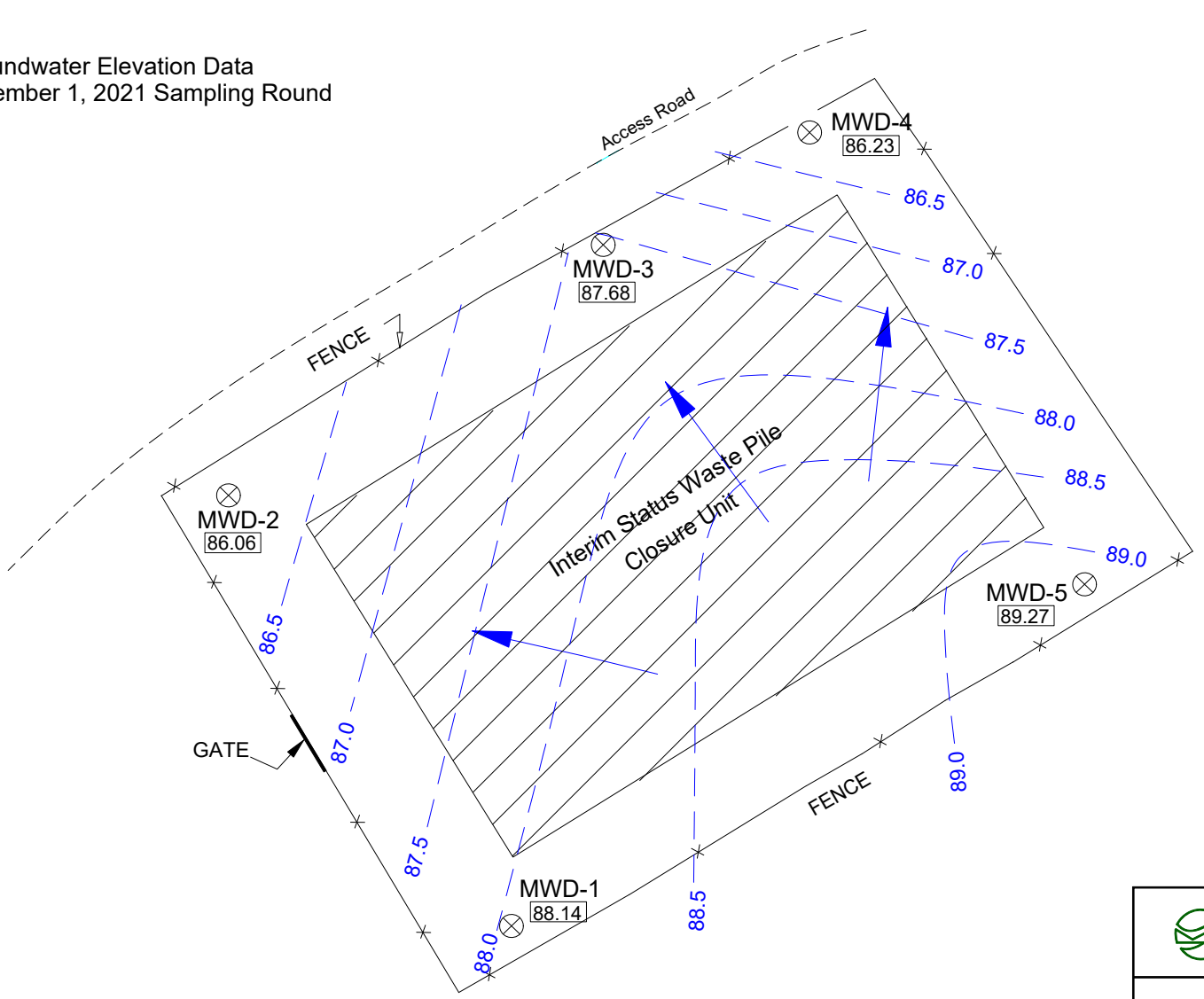
FIGURE 2
SITE DIAGRAM

RCH Newco II LLC Closure Unit
Lemont, Illinois

Drawn by: BAS	Date: 2/21/11	Size:	Scale: As Shown
Checked by:	Project No. 9233A		

Groundwater Elevation Data
December 1, 2021 Sampling Round



Approximate Scale
(Feet)

100 50 0 10 20 30 50

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Chicago, Illinois 60601
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FIGURE 3
GROUNDWATER MONITORING WELL LOCATIONS
GROUNDWATER FLOW DIRECTION
RCH Newco II LLC Closure Unit
Lemont, Illinois

Drawn by: BAS		Date: 1/6/22	Size:	Scale: As Shown
Checked by		Project No. 9233A	File No.	

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ATTACHMENT B
Tables

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TABLE 1: Water Level Measurements
RCH Newco II LLC
Lemont, Illinois
2021 Annual Report

DESCRIPTION	MW-D1	MW-D2	MW-D3	MW-D4	MW-D5
Diameter of Casing	2 in.	2 in.	2 in.	2 in.	2 in.
Total Length of Casing	31.72 ft.	28.60 ft.	27.91 ft.	26.94 ft.	27.99 ft.
Static Water Level - June 15, 2021	-	-	-	-	-
Static Water Level - December 1, 2021	-11.86	-14.45	-12.96	-14.95	-12.95
Surveyed Elevation from Top of Casing	100.00	100.51	100.65	101.18	102.22
Relative Elevation - June 15, 2021	-	-	-	-	-
Relative Elevation - December 1, 2021	88.14	86.06	87.69	86.23	89.27
Distance from Top of Casing to Ground Surface [1]	1.65 ft.	2.42 ft.	1.70 ft.	2.00 ft.	2.25 ft.
Distance Between Top of Casing and Top of Riser [1]	0.10 ft.	0.27 ft.	0.20 ft.	0.30 ft.	0.40 ft.

- No reading due to instument error

[1] Measure by Halliburton NUS on August 3, 1993

TABLE 2: Summary of Analytical Methods
RCH Newco II LLC
Lemont, Illinois

PARAMETER	*EPA METHOD*	*DETECTION LIMIT*
Arsenic	SW7060A	0.01 mg/L
Barium	SW6010A	0.01 mg/L
Cadmium	SW6010A	0.001 mg/L
Chromium, total	SW6010A	0.01 mg/L
Chromium, hexavalent	SW7196A	0.005 mg/L
Iron	SW6010A	0.05 mg/L
Lead	SW7421	0.005 mg/L
Manganese	SW6010A	0.01 mg/L
Mercury	SW7470A	0.0002 mg/L
Selenium	3015/7740	0.005 mg/L
Silver	SW6010A	0.01 mg/L
Sodium	SW6010A	2.0 mg/L
Phenols	SW9066	0.01 mg/L
Sulfate	E375.4	10.0 mg/L
Chloride	M 4500-CL B	1.0 mg/L
Total Organic Halogens	SW9020	0.01 mg/L
Non-Purgeable Organic Carbon	E415.2	1.0 mg/L
pH	E150.1	0.02 pH units
Specific Conductance	E120.1	10 umhos/cm

mg/L = milligrams per liter

Table 3

Established Background Concentrations

RCH Newco II LLC ILD990785453

Lemont, Illinois

Parameter	Background Concentration[1] (Arithmetic Mean)
Total Organic Carbon (TOC)	2.766
Total Organic Halogens (TOX)	0.017
pH	7.363
Specific Conductance	1334.375
Arsenic	0.100
Barium	0.039
Cadmium	0.005
Chromium	0.019
Hexavalent Chromium	0.013
Lead	0.050
Mercury	0.0002
Selenium	0.100
Silver	0.010
Chloride	33.952
Iron	0.913
Manganese	0.196
Phenolics	0.009
Sodium	50.333
Sulfate	309.048

[1] Concentrations are in milligrams per liter (mg/L), except for Specific Conductance (umhos/cm) and pH (pH units)

TABLE 4: Round 61 Analytical Results

RCH Newco II LLC

Lemont, Illinois

June 15, 2021

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D1A*	*MW-D1B*	*MW-D1C*	*MW-D1D*
			Location	upgradient	upgradient	upgradient	upgradient
			Date	6/15/2021	6/15/2021	6/15/2021	6/15/2021
Iron	mg/L	---		1.9	NA	NA	NA
Manganese	mg/L	---		0.05	NA	NA	NA
Sodium	mg/L	---		33	NA	NA	NA
Phenol	mg/L	---		<0.01	NA	NA	NA
Sulfate	mg/L	---		220	NA	NA	NA
Chloride	mg/L	---		49	NA	NA	NA
Total Organic Halogens	mg/L	---		<0.01	<0.01	<0.01	0.013
Non-Purgeable Organic Carbon	mg/L	---		2.73	2.90	2.80	2.64
pH	---	6.5 - 9		7.34	7.34	7.25	7.30
Specific Conductance	umho/cm	---		1290	1270	1280	1260

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

TABLE 4: Round 61 Analytical Results

RCH Newco II LLC

Lemont, Illinois

June 15, 2021

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D2A*	*MW-D2B*	*MW-D2C*	*MW-D2D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	6/15/2021	6/15/2021	6/15/2021	6/15/2021
Iron	mg/L	---		0.87	0.86	NA	NA
Manganese	mg/L	---		0.096	0.1	NA	NA
Sodium	mg/L	---		16	16	NA	NA
Phenol	mg/L	---		<0.01	<0.01	NA	NA
Sulfate	mg/L	---		150	160	NA	NA
Chloride	mg/L	---		21	22	NA	NA
Total Organic Halogens	mg/L	---		<0.01	<0.01	<0.01	<0.01
Non-Purgeable Organic Carbon	mg/L	---		2.01	2.31	2.31	2.08
pH	---	6.5 - 9		7.20	7.20	7.17	7.16
Specific Conductance	umho/cm	---		796	808	827	854

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

TABLE 4: Round 61 Analytical Results

RCH Newco II LLC

Lemont, Illinois

June 15, 2021

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D3A*	*MW-D3B*	*MW-D3C*	*MW-D3D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	6/15/2021	6/15/2021	6/15/2021	6/15/2021
Iron	mg/L	---		0.07	NA	NA	NA
Manganese	mg/L	---		0.012	NA	NA	NA
Sodium	mg/L	---		34	NA	NA	NA
Phenol	mg/L	---		<0.01	NA	NA	NA
Sulfate	mg/L	---		310	NA	NA	NA
Chloride	mg/L	---		34	NA	NA	NA
Total Organic Halogens	mg/L	---		<0.01	<0.01	0.014	<0.01
Non-Purgeable Organic Carbon	mg/L	---		1.90	1.73	1.79	1.86
pH	---	6.5 - 9		7.37	7.45	7.43	NR
Specific Conductance	umho/cm	---		1300	1270	1160	1250

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable
NR = not reported due to laboratory error

TABLE 4: Round 61 Analytical Results

RCH Newco II LLC

Lemont, Illinois

June 15, 2021

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D4A*	*MW-D4B*	*MW-D4C*	*MW-D4D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	6/15/2021	6/15/2021	6/15/2021	6/15/2021
Iron	mg/L	---		0.12	NA	NA	NA
Manganese	mg/L	---		0.0097	NA	NA	NA
Sodium	mg/L	---		27	NA	NA	NA
Phenol	mg/L	---		<0.01	NA	NA	NA
Sulfate	mg/L	---		350	NA	NA	NA
Chloride	mg/L	---		5.0	NA	NA	NA
Total Organic Halogens	mg/L	---		<0.01	<0.01	<0.01	<0.01
Non-Purgeable Organic Carbon	mg/L	---		1.61	1.66	1.75	1.66
pH	---	6.5 - 9		7.36	7.23	7.22	7.37
Specific Conductance	umho/cm	---		1210	1290	1240	1220

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

TABLE 4: Round 61 Analytical Results

RCH Newco II LLC

Lemont, Illinois

June 15, 2021

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D5A*	*MW-D5B*	*MW-D5C*	*MW-D5D*
			Location	upgradient	upgradient	upgradient	upgradient
			Date	6/15/2021	6/15/2021	6/15/2021	6/15/2021
Iron	mg/L	---		<0.05	NA	NA	NA
Manganese	mg/L	---		<0.002	NA	NA	NA
Sodium	mg/L	---		22	NA	NA	NA
Phenol	mg/L	---		<0.01	NA	NA	NA
Sulfate	mg/L	---		360	NA	NA	NA
Chloride	mg/L	---		4.5	NA	NA	NA
Total Organic Halogens	mg/L	---		<0.01	<0.01	<0.01	<0.01
Non-Purgeable Organic Carbon	mg/L	---		1.50	1.74	1.31	1.25
pH	---	6.5 - 9		7.37	7.38	7.38	7.36
Specific Conductance	umho/cm	---		1260	1270	1280	1260

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

TABLE 5: Round 62 Analytical Results

RCH Newco II LLC

Lemont, Illinois

December 1, 2021

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D1A*	*MW-D1B*	*MW-D1C*	*MW-D1D*
			Location	upgradient	upgradient	upgradient	upgradient
			Date	12/1/2021	12/1/2021	12/1/2021	12/1/2021
Total Organic Halogens	mg/L	---		< 0.01	0.011	0.014	0.02
Non-Purgeable Organic Carbon	mg/L	---		15	3.92	41.6	3.98
pH	---	6.5 - 9		7.03	7.05	7.06	7.05
Specific Conductance	umho/cm	---		1320	1300	1310	1320

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

TABLE 5: Round 62 Analytical Results

RCH Newco II LLC

Lemont, Illinois

December 1, 2021

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D2A*	*MW-D2B*	*MW-D2C*	*MW-D2D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	12/1/2021	12/1/2021	12/1/2021	12/1/2021
Total Organic Halogens	mg/L	---		< 0.01	< 0.01	< 0.01	< 0.01
Non-Purgeable Organic Carbon	mg/L	---		6.77	3.76	2.98	3.54
pH	---	6.5 - 9		7.19	7.21	7.19	7.21
Specific Conductance	umho/cm	---		958	965	983	995

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

TABLE 5: Round 62 Analytical Results

RCH Newco II LLC

Lemont, Illinois

December 1, 2021

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D3A*	*MW-D3B*	*MW-D3C*	*MW-D3D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	12/1/2021	12/1/2021	12/1/2021	12/1/2021
Total Organic Halogens	mg/L	---		0.024	0.023	0.014	< 0.01
Non-Purgeable Organic Carbon	mg/L	---		6.58	2.74	3.58	3.26
pH	---	6.5 - 9		7.39	7.42	7.23	7.21
Specific Conductance	umho/cm	---		1220	1230	1330	1340

mg/L = milligrams per liter

umho/cm = micro mhos per centimeter

--- = not established

ND = not detected above laboratory detection limits

NA = not applicable

TABLE 5: Round 62 Analytical Results

RCH Newco II LLC

Lemont, Illinois

December 1, 2021

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D4A*	*MW-D4B*	*MW-D4C*	*MW-D4D*
			Location	downgradient	downgradient	downgradient	downgradient
			Date	12/1/2021	12/1/2021	12/1/2021	12/1/2021
Total Organic Halogens	mg/L	---		< 0.01	< 0.01	< 0.01	0.01
Non-Purgeable Organic Carbon	mg/L	---		14.8	5.62	2.72	< 2
pH	---	6.5 - 9		7.05	7.11	7.08	7.1
Specific Conductance	umho/cm	---		1330	1320	1330	1350

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

TABLE 5: Round 62 Analytical Results

RCH Newco II LLC

Lemont, Illinois

December 1, 2021

Analyte	Units	USEPA Primary Drinking Water Standards	Well ID	*MW-D5A*	*MW-D5B*	*MW-D5C*	*MW-D5D*
			Location	upgradient	upgradient	upgradient	upgradient
			Date	12/1/2021	12/1/2021	12/1/2021	12/1/2021
Total Organic Halogens	mg/L	---		<0.01	<0.01	<0.01	<0.01
Non-Purgeable Organic Carbon	mg/L	---		5.08	15.9	< 2	2.3
pH	---	6.5 - 9		7.3	7.21	7.22	7.19
Specific Conductance	umho/cm	---		1370	1350	1350	1360

mg/L = milligrams per liter
umho/cm = micro mhos per centimeter
--- = not established
ND = not detected above laboratory detection limits
NA = not applicable

Table 6

Statistical Evaluation of Upgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 61 June 2021

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D1	TOX	0.017	0.097	0.007	0.00002	4.541	-5.0	N
	TOC	2.766	2.484	2.77	0.012	4.541	0.036	N
	pH	7.363	0.112	7.31	0.002	4.541/-4.541	-2.56	N
	Spec. Cond.	1334.375	15,231.855	1275	166.67	4.541	-9.13	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D5	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	TOC	2.766	2.484	1.45	0.049	4.541	-12.0	N
	pH	7.363	0.112	7.37	0.00009	4.541/-4.541	2.0	N
	Spec. Cond.	1334.375	15,231.855	1267.5	91.67	4.541	-13.97	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

Table 7

Statistical Evaluation of Downgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 61 June 2021

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D2	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	TOC	2.766	2.484	2.18	0.024	4.541	-2.37	N
	pH	7.363	0.112	7.18	0.0004	4.541/-4.541	-16.36	**Y**
	Spec. Cond.	1334.375	15,231.855	821.25	639	4.541	-99.03	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D3	TOX	0.017	0.097	0.007	0.00002	4.541	-5	N
	TOC	2.766	2.484	1.82	0.006	4.541	-25.33	N
	pH	7.363	0.112	7.42	0.002	5.841/-5.841	2.50	N
	Spec. Cond.	1334.375	15,231.855	1245	3633	4.541	-2.95	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D4	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	TOC	2.766	2.484	1.67	0.0034	4.541	-37.93	N
	pH	7.363	0.112	7.30	0.007	4.541/-4.541	-1.66	N
	Spec. Cond.	1334.375	15,231.855	1240	1266	4.541	-5.28	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

Table 8

Statistical Evaluation of Upgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 62 December 2021

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D1	TOX	0.017	0.097	0.013	0.00004	4.541	-0.15	N
	TOC	2.766	2.484	16.13	316	4.541	1.5	N
	pH	7.363	0.112	7.05	0.0002	4.541/-4.541	-47.69	**Y**
	Spec. Cond.	1334.375	15,231.855	1312.5	91.67	4.541	-4.57	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Upgradient Concentration[1] (Arithmetic Mean)	Upgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D5	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	TOC	2.766	2.484	6.07	45.84	4.541	0.97	N
	pH	7.363	0.112	7.23	0.002	4.541/-4.541	-5.42	**Y**
	Spec. Cond.	1334.375	15,231.855	1357.5	91.67	4.541	4.82	**Y**

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

Table 9

Statistical Evaluation of Downgradient Wells

RCH Newco II LLC ILD990785453

Lemont, Illinois

Round 62 December 2021

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D2	TOX	0.017	0.097	0.005	0	4.541	<0**	N
	TOC	2.766	2.484	4.26	2.90	4.541	1.76	N
	pH	7.363	0.112	7.20	0.0001	4.541/-4.541	-27.67	**Y**
	Spec. Cond.	1334.375	15,231.855	975.25	284	4.541	-42.60	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D3	TOX	0.017	0.097	0.0165	0.00008	4.541	-0.11	N
	TOC	2.766	2.484	4.04	2.99	4.541	1.46	N
	pH	7.363	0.112	7.31	0.012	4.541/-4.541	-0.91	N
	Spec. Cond.	1334.375	15,231.855	1280	4067	4.541	-1.69	N

Monitoring Well Number	Parameter	Background Concentration[1] (Arithmetic Mean)	Background Concentration[1] (Variance)	Downgradient Concentration[1] (Arithmetic Mean)	Downgradient Concentration[1] (Variance)	t*	t_{calc}	Significant Change at 99% Level?
MW-D4	TOX	0.017	0.097	0.006	0.000006	4.541	-0.88	N
	TOC	2.766	2.484	6.04	37.78	4.541	1.06	N
	pH	7.363	0.112	7.09	0.0007	4.541/-4.541	-21.38	**Y**
	Spec. Cond.	1334.375	15,231.855	1332.5	158	4.541	-0.30	N

[1] Concentrations are in milligrams per liter (mg/L), except Specific Conductance (umho/cm) and pH (pH units).

t* = critical value of t at the 99% level of significance.

t_{calc} = calculated value of t.

<0** = t_{calc} cannot be determined precisely due to the sample variance equaling zero. Since the sample mean is less than the background mean, t_{calc} would be less than zero.

Bolded area indicates a statistically significant change in concentration.

CARLSON ENVIRONMENTAL
A Nova Group, GBC Company

ATTACHMENT C

Laboratory Analytical Reports

Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

21F1298

Project Description

Ceco - Lemont, IL

For:

Bruce Shabino

Carlson Environmental, Inc.

65 East Wacker Place, Suite 2210

Chicago, IL 60601-

Ron Misiunas

Lab Director

Tuesday, July 6, 2021

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Chicagoland. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request . This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

21F1298

Carlson Environmental, Inc.

Bruce Shabino
65 East Wacker Place, Suite 2210
Chicago, IL 60601-

Project Name: Ceco - Lemont, IL

Project / PO Number: N/A
Received: 06/17/2021
Reported: 07/06/2021

Case Narrative

TOX Analysis:
The TOX sample in this work order was submitted to Keystone Labs , Newton IA for analysis. Their results are attached to this report.

TOC Analysis:
Samples requiring TOC analysis were submitted to Microbac Laboratories Ohio Valley Division in Marietta , OH. Their results are incorporated into this report.

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
MWD-1A	21F1298-01	Aqueous			06/15/21 09:30	06/17/21 16:00
MWD-1B	21F1298-02	Aqueous			06/15/21 09:30	06/17/21 16:00
MWD-1C	21F1298-03	Aqueous			06/15/21 09:30	06/17/21 16:00
MWD-1D	21F1298-04	Aqueous			06/15/21 09:30	06/17/21 16:00
MWD-2A	21F1298-05	Aqueous			06/15/21 14:30	06/17/21 16:00
MWD-2B	21F1298-06	Aqueous			06/15/21 14:30	06/17/21 16:00
MWD-2C	21F1298-07	Aqueous			06/15/21 14:30	06/17/21 16:00
MWD-2D	21F1298-08	Aqueous			06/15/21 14:30	06/17/21 16:00
MWD-3A	21F1298-09	Aqueous			06/15/21 13:15	06/17/21 16:00
MWD-3B	21F1298-10	Aqueous			06/15/21 13:15	06/17/21 16:00
MWD-3C	21F1298-11	Aqueous			06/15/21 13:15	06/17/21 16:00
MWD-3D	21F1298-12	Aqueous			06/15/21 13:15	06/17/21 16:00
MWD-4A	21F1298-13	Aqueous			06/15/21 12:00	06/17/21 16:00
MWD-4B	21F1298-14	Aqueous			06/15/21 12:00	06/17/21 16:00
MWD-4C	21F1298-15	Aqueous			06/15/21 12:00	06/17/21 16:00
MWD-4D	21F1298-16	Aqueous			06/15/21 12:00	06/17/21 16:00
MWD-5A	21F1298-17	Aqueous			06/15/21 10:30	06/17/21 16:00
MWD-5B	21F1298-18	Aqueous			06/15/21 10:30	06/17/21 16:00
MWD-5C	21F1298-19	Aqueous			06/15/21 10:30	06/17/21 16:00
MWD-5D	21F1298-20	Aqueous			06/15/21 10:30	06/17/21 16:00

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Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

21F1298

Analytical Testing Parameters

Client Sample ID: MWD-1A
Sample Matrix: Aqueous
Lab Sample ID: 21F1298-01 **Collection Date:** 06/15/2021 9:30

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**2.73**	1.00	mg/L	1		06/21/21 1103	06/22/21 0552	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW-846 9038/EPA 9038								
Sulfate	**220**	10	mg/L	1		06/28/21 1004	06/28/21 1154	ABG
EPA 9066								
Phenolics, Total Recoverable	<0.010	0.010	mg/L	1		06/22/21 0953	06/22/21 1515	ABG
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1290**	2.00	umhos/cm	1			06/21/21 1609	ABG
SM 2550 B-2010								
Temperature	**13**		°C	1			06/21/21 1121	WEH
SM 4500-Cl B-2011/SM 4500-Cl B-2011								
Chloride	**49**	1.0	mg/L	1			06/29/21 1732	AMR
SM 4500-H+ B-2011								
pH	**7.34**	2.00	S.U.	1	**H4**		06/21/21 1121	WEH

Metals Total by ICP	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW846 3005A/EPA 6010C								
Iron	**1.9**	0.050	mg/L	1		06/18/21 1213	06/23/21 1951	KMD
Manganese	**0.050**	0.0020	mg/L	1		06/18/21 1213	06/23/21 1951	KMD
Sodium	**33**	0.50	mg/L	1		06/18/21 1213	06/23/21 1951	KMD

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CERTIFICATE OF ANALYSIS

21F1298

Client Sample ID: MWD-1B
Sample Matrix: Aqueous
Lab Sample ID: 21F1298-02 **Collection Date:** 06/15/2021 9:30

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**2.90**	1.00	mg/L	1		06/21/21 1103	06/22/21 0635	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1270**	2.00	umhos/cm	1			06/21/21 1609	ABG
SM 2550 B-2010								
Temperature	**12**		°C	1			06/21/21 1123	WEH
SM 4500-H+ B-2011								
pH	**7.34**	2.00	S.U.	1	**H4**		06/21/21 1123	WEH

Client Sample ID: MWD-1C
Sample Matrix: Aqueous
Lab Sample ID: 21F1298-03 **Collection Date:** 06/15/2021 9:30

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**2.80**	1.00	mg/L	1		06/21/21 1103	06/22/21 0657	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1280**	2.00	umhos/cm	1			06/21/21 1609	ABG
SM 2550 B-2010								
Temperature	**13**		°C	1			06/21/21 1124	WEH
SM 4500-H+ B-2011								
pH	**7.25**	2.00	S.U.	1	**H4**		06/21/21 1124	WEH

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CERTIFICATE OF ANALYSIS

21F1298

Client Sample ID:	MWD-1D		
Sample Matrix:	Aqueous		
Lab Sample ID:	21F1298-04	**Collection Date:**	06/15/2021 9:30

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**2.64**	1.00	mg/L	1		06/21/21 1103	06/22/21 0719	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1260**	2.00	umhos/cm	1			06/21/21 1609	ABG
SM 2550 B-2010								
Temperature	**13**		°C	1			06/21/21 1127	WEH
SM 4500-H+ B-2011								
pH	**7.30**	2.00	S.U.	1	**H4**		06/21/21 1127	WEH

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CERTIFICATE OF ANALYSIS

21F1298

Client Sample ID:	MWD-2A		
Sample Matrix:	Aqueous		
Lab Sample ID:	21F1298-05	**Collection Date:**	06/15/2021 14:30

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**2.01**	1.00	mg/L	1		06/21/21 1103	06/22/21 0741	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW-846 9038/EPA 9038								
Sulfate	**150**	10	mg/L	1		06/28/21 1004	06/28/21 1156	ABG
EPA 9066								
Phenolics, Total Recoverable	<0.010	0.010	mg/L	1		06/22/21 0953	06/22/21 1517	ABG
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**796**	2.00	umhos/cm	1			06/21/21 1609	ABG
SM 2550 B-2010								
Temperature	**12**		°C	1			06/21/21 1129	WEH
SM 4500-Cl B-2011/SM 4500-Cl B-2011								
Chloride	**21**	1.0	mg/L	1			06/29/21 1732	AMR
SM 4500-H+ B-2011								
pH	**7.20**	2.00	S.U.	1	**H4**		06/21/21 1129	WEH

Metals Total by ICP	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW846 3005A/EPA 6010C								
Iron	**0.87**	0.050	mg/L	1		06/18/21 1213	06/23/21 2005	KMD
Manganese	**0.096**	0.0020	mg/L	1		06/18/21 1213	06/23/21 2005	KMD
Sodium	**16**	0.50	mg/L	1		06/18/21 1213	06/23/21 2005	KMD

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CERTIFICATE OF ANALYSIS

21F1298

Client Sample ID:	MWD-2B		
Sample Matrix:	Aqueous		
Lab Sample ID:	21F1298-06	**Collection Date:**	06/15/2021 14:30

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**2.31**	1.00	mg/L	1		06/21/21 1103	06/22/21 0803	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW-846 9038/EPA 9038								
Sulfate	**160**	10	mg/L	1		06/28/21 1004	06/28/21 1159	ABG
EPA 9066								
Phenolics, Total Recoverable	<0.010	0.010	mg/L	1		06/22/21 0953	06/22/21 1519	ABG
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**808**	2.00	umhos/cm	1			06/21/21 1609	ABG
SM 2550 B-2010								
Temperature	**13**		°C	1			06/21/21 1131	WEH
SM 4500-Cl B-2011/SM 4500-Cl B-2011								
Chloride	**22**	1.0	mg/L	1			06/29/21 1732	AMR
SM 4500-H+ B-2011								
pH	**7.20**	2.00	S.U.	1	**H4**		06/21/21 1131	WEH

Metals Total by ICP	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW846 3005A/EPA 6010C								
Iron	**0.86**	0.050	mg/L	1		06/18/21 1213	06/23/21 2010	KMD
Manganese	**0.10**	0.0020	mg/L	1		06/18/21 1213	06/23/21 2010	KMD
Sodium	**16**	0.50	mg/L	1		06/18/21 1213	06/23/21 2010	KMD

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CERTIFICATE OF ANALYSIS

21F1298

Client Sample ID: MWD-2C
Sample Matrix: Aqueous
Lab Sample ID: 21F1298-07 **Collection Date:** 06/15/2021 14:30

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**2.31**	1.00	mg/L	1		06/21/21 1103	06/22/21 0824	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**827**	2.00	umhos/cm	1			06/21/21 1609	ABG
SM 2550 B-2010								
Temperature	**15**		°C	1			06/21/21 1133	WEH
SM 4500-H+ B-2011								
pH	**7.17**	2.00	S.U.	1	**H4**		06/21/21 1133	WEH

Client Sample ID: MWD-2D
Sample Matrix: Aqueous
Lab Sample ID: 21F1298-08 **Collection Date:** 06/15/2021 14:30

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**2.08**	1.00	mg/L	1		06/21/21 1103	06/22/21 0845	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**854**	2.00	umhos/cm	1			06/21/21 1609	ABG
SM 2550 B-2010								
Temperature	**13**		°C	1			06/21/21 1135	WEH
SM 4500-H+ B-2011								
pH	**7.16**	2.00	S.U.	1	**H4**		06/21/21 1135	WEH

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CERTIFICATE OF ANALYSIS

21F1298

Client Sample ID:	MWD-3A		
Sample Matrix:	Aqueous		
Lab Sample ID:	21F1298-09	**Collection Date:**	06/15/2021 13:15

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**1.90**	1.00	mg/L	1		06/21/21 1103	06/22/21 0907	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW-846 9038/EPA 9038								
Sulfate	**310**	50	mg/L	5		06/28/21 1004	06/28/21 1223	ABG
EPA 9066								
Phenolics, Total Recoverable	<0.010	0.010	mg/L	1		06/22/21 0953	06/22/21 1520	ABG
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1300**	2.00	umhos/cm	1			06/21/21 1609	ABG
SM 2550 B-2010								
Temperature	**14**		°C	1			06/21/21 1136	WEH
SM 4500-Cl B-2011/SM 4500-Cl B-2011								
Chloride	**34**	1.0	mg/L	1			06/29/21 1732	AMR
SM 4500-H+ B-2011								
pH	**7.37**	2.00	S.U.	1	**H4**		06/21/21 1136	WEH

Metals Total by ICP	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW846 3005A/EPA 6010C								
Iron	**0.070**	0.050	mg/L	1		06/18/21 1213	06/23/21 2015	KMD
Manganese	**0.012**	0.0020	mg/L	1		06/18/21 1213	06/23/21 2015	KMD
Sodium	**34**	0.50	mg/L	1		06/18/21 1213	06/23/21 2015	KMD

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CERTIFICATE OF ANALYSIS

21F1298

Client Sample ID: MWD-3B
Sample Matrix: Aqueous
Lab Sample ID: 21F1298-10 **Collection Date:** 06/15/2021 13:15

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**1.73**	1.00	mg/L	1		06/21/21 1103	06/22/21 0928	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1270**	2.00	umhos/cm	1			06/21/21 1609	ABG
SM 2550 B-2010								
Temperature	**13**		°C	1			06/21/21 1138	WEH
SM 4500-H+ B-2011								
pH	**7.45**	2.00	S.U.	1	**H4**		06/21/21 1138	WEH

Client Sample ID: MWD-3C
Sample Matrix: Aqueous
Lab Sample ID: 21F1298-11 **Collection Date:** 06/15/2021 13:15

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**1.79**	1.00	mg/L	1		06/21/21 1103	06/22/21 0949	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1160**	2.00	umhos/cm	1			06/24/21 1600	ABG
SM 2550 B-2010								
Temperature	**14**		°C	1			06/21/21 1151	WEH
SM 4500-H+ B-2011								
pH	**7.43**	2.00	S.U.	1	**H4**		06/21/21 1151	WEH

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CERTIFICATE OF ANALYSIS

21F1298

Client Sample ID:	MWD-3D		
Sample Matrix:	Aqueous		
Lab Sample ID:	21F1298-12	**Collection Date:**	06/15/2021 13:15

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**1.86**	1.00	mg/L	1		06/21/21 1103	06/22/21 1032	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1250**	2.00	umhos/cm	1			06/24/21 1600	ABG
SM 2550 B-2010								
Temperature	**14**		°C	1			06/21/21 1153	WEH
SM 4500-H+ B-2011								
pH	**14.3**	2.00	S.U.	1	**H4**		06/21/21 1153	WEH

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CERTIFICATE OF ANALYSIS

21F1298

Client Sample ID:	MWD-4A		
Sample Matrix:	Aqueous		
Lab Sample ID:	21F1298-13	**Collection Date:**	06/15/2021 12:00

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**1.61**	1.00	mg/L	1		06/21/21 1103	06/22/21 1053	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW-846 9038/EPA 9038								
Sulfate	**350**	50	mg/L	5		06/28/21 1004	06/28/21 1225	ABG
EPA 9066								
Phenolics, Total Recoverable	<0.010	0.010	mg/L	1		06/22/21 0953	06/22/21 1526	ABG
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1210**	2.00	umhos/cm	1			06/24/21 1600	ABG
SM 2550 B-2010								
Temperature	**15**		°C	1			06/21/21 1155	WEH
SM 4500-Cl B-2011/SM 4500-Cl B-2011								
Chloride	**5.0**	1.0	mg/L	1			06/29/21 1732	AMR
SM 4500-H+ B-2011								
pH	**7.36**	2.00	S.U.	1	**H4**		06/21/21 1155	WEH

Metals Total by ICP	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW846 3005A/EPA 6010C								
Iron	**0.12**	0.050	mg/L	1		06/18/21 1213	06/23/21 2020	KMD
Manganese	**0.0097**	0.0020	mg/L	1		06/18/21 1213	06/23/21 2020	KMD
Sodium	**27**	0.50	mg/L	1		06/18/21 1213	06/23/21 2020	KMD

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CERTIFICATE OF ANALYSIS

21F1298

Client Sample ID:	MWD-4B
Sample Matrix:	Aqueous
Lab Sample ID:	21F1298-14
Collection Date:	06/15/2021 12:00

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**1.66**	1.00	mg/L	1		06/21/21 1103	06/22/21 1114	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1290**	2.00	umhos/cm	1			06/24/21 1600	ABG
SM 2550 B-2010								
Temperature	**16**		°C	1			06/21/21 1158	WEH
SM 4500-H+ B-2011								
pH	**7.23**	2.00	S.U.	1	**H4**		06/21/21 1158	WEH

Client Sample ID:	MWD-4C
Sample Matrix:	Aqueous
Lab Sample ID:	21F1298-15
Collection Date:	06/15/2021 12:00

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**1.75**	1.00	mg/L	1		06/21/21 1103	06/22/21 1136	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1240**	2.00	umhos/cm	1			06/24/21 1600	ABG
SM 2550 B-2010								
Temperature	**15**		°C	1			06/21/21 1200	WEH
SM 4500-H+ B-2011								
pH	**7.22**	2.00	S.U.	1	**H4**		06/21/21 1200	WEH

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CERTIFICATE OF ANALYSIS

21F1298

Client Sample ID:	MWD-4D		
Sample Matrix:	Aqueous		
Lab Sample ID:	21F1298-16	**Collection Date:**	06/15/2021 12:00

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**1.66**	1.00	mg/L	1		06/21/21 1103	06/22/21 1157	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1220**	2.00	umhos/cm	1			06/24/21 1600	ABG
SM 2550 B-2010								
Temperature	**15**		°C	1			06/21/21 1202	WEH
SM 4500-H+ B-2011								
pH	**7.37**	2.00	S.U.	1	**H4**		06/21/21 1202	WEH

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CERTIFICATE OF ANALYSIS

21F1298

Client Sample ID:	MWD-5A		
Sample Matrix:	Aqueous		
Lab Sample ID:	21F1298-17	**Collection Date:**	06/15/2021 10:30

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**1.50**	1.00	mg/L	1		06/21/21 1103	06/22/21 1218	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW-846 9038/EPA 9038								
Sulfate	**360**	50	mg/L	5		06/28/21 1004	06/28/21 1228	ABG
EPA 9066								
Phenolics, Total Recoverable	<0.010	0.010	mg/L	1		06/22/21 0953	06/22/21 1527	ABG
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1260**	2.00	umhos/cm	1			06/24/21 1600	ABG
SM 2550 B-2010								
Temperature	**14**		°C	1			06/21/21 1203	WEH
SM 4500-Cl B-2011/SM 4500-Cl B-2011								
Chloride	**4.5**	1.0	mg/L	1			06/29/21 1732	AMR
SM 4500-H+ B-2011								
pH	**7.37**	2.00	S.U.	1	**H4**		06/21/21 1203	WEH

Metals Total by ICP	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SW846 3005A/EPA 6010C								
Iron	<0.050	0.050	mg/L	1		06/18/21 1213	06/23/21 2025	KMD
Manganese	<0.0020	0.0020	mg/L	1		06/18/21 1213	06/23/21 2025	KMD
Sodium	**22**	0.50	mg/L	1		06/18/21 1213	06/23/21 2025	KMD

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CERTIFICATE OF ANALYSIS

21F1298

Client Sample ID: MWD-5B
Sample Matrix: Aqueous
Lab Sample ID: 21F1298-18 **Collection Date:** 06/15/2021 10:30

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**1.74**	1.00	mg/L	1		06/21/21 1103	06/22/21 1239	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1270**	2.00	umhos/cm	1			06/24/21 1600	ABG
SM 2550 B-2010								
Temperature	**15**		°C	1			06/21/21 1205	WEH
SM 4500-H+ B-2011								
pH	**7.38**	2.00	S.U.	1	**H4**		06/21/21 1205	WEH

Client Sample ID: MWD-5C
Sample Matrix: Aqueous
Lab Sample ID: 21F1298-19 **Collection Date:** 06/15/2021 10:30

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**1.31**	1.00	mg/L	1		06/21/21 1103	06/22/21 1300	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1280**	2.00	umhos/cm	1			06/24/21 1600	ABG
SM 2550 B-2010								
Temperature	**15**		°C	1			06/21/21 1209	WEH
SM 4500-H+ B-2011								
pH	**7.38**	2.00	S.U.	1	**H4**		06/21/21 1209	WEH

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Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

21F1298

Client Sample ID:	MWD-5D		
Sample Matrix:	Aqueous		
Lab Sample ID:	21F1298-20	**Collection Date:**	06/15/2021 10:30

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**1.25**	1.00	mg/L	1		06/21/21 1103	06/22/21 1321	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1260**	2.00	umhos/cm	1			06/24/21 1600	ABG
SM 2550 B-2010								
Temperature	**16**		°C	1			06/21/21 1211	WEH
SM 4500-H+ B-2011								
pH	**7.36**	2.00	S.U.	1	**H4**		06/21/21 1211	WEH

Definitions

°C:	Degrees Celsius
DF:	Dilution Factor representing the amount the sample was diluted during analysis and may not represent preparation factors.
H4:	The test was performed outside of the EPA recommended holding time of 15 minutes.
MDL:	Minimum Detection Limit
mg/L:	Milligrams per Liter
RL:	Reporting Limit
S.U.:	Standard Units
umhos/cm:	Umhos per Centimeter

Cooler Receipt Log

Cooler ID:	Default Cooler	Temp:	5.4°C	**Cooler ID:**	New Cooler	Temp:	5.7°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories Inc., - Marietta, OH	
004319	Illinois Environmental Protection Agency

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CERTIFICATE OF ANALYSIS

21F1298

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Ron Misiunas
Lab Director
ron.misiunas@microbac.com
07/06/2021 10:58

Electronic Filing: Received, Clerk's Office 07/19/2024

CARLSON ENVIRONMENTAL
65 East Wacker Place • Suite 2210 • Chicago, IL 60601
Phone (312) 346-2140 • Fax (312) 346-6956

CHAIN-OF-CUSTODY RECORD

No. 18651

Page 1 of 1

PROJECT NO.: 100.01
PROJECT NAME: Former Robertson-Ceco
SAMPLERS: (Signed) Bruce Shabino
REPORT TO: B. Shabino
PHONE:
EMAIL: bshabino@carlsonenv.com
TURNAROUND REQUESTED: Standard TAI

21F1298

ANALYSIS DESIRED: Non Purgeable Organic C; TOX; pH; Specific Conductance; phenols; sulfate; Chloride; Fe, Mn, Na

CLIENT SAMPLE NUMBER/DESCRIPTION	DATE TAKEN	TIME TAKEN	MATRIX	COMP.	GRAB	NO. OF CONTAINERS	Non Purgeable Organic C	TOX	pH	Specific Conductance	phenols	sulfate	Chloride	Fe, Mn, Na	HOLD	REMARKS
MWD-1A	6-15-21	930	GW		X	7	X	X	X	X	X	X	X	X		-01
MWD-1B						4	X	X	X	X						-02
MWD-1C						4	X	X	X	X						-03
MWD-1D						4	X	X	X	X						-04
MWD-2A		1430				7	X	X	X	X	X	X	X	X		-05
MWD-2B						7	X	X	X	X	X	X	X	X		-06
MWD-2C						4	X	X	X	X						-07
MWD-2D						4	X	X	X	X						-08
MWD-3A		1315				7	X	X	X	X	X	X	X	X		-09
MWD-3B						4	X	X	X	X						-10
MWD-3C						4	X	X	X	X						-11
MWD-3D						4	X	X	X	X						-12
MWD-4A		1200				7	X	X	X	X	X	X	X	X		-13
MWD-4B						4	X	X	X	X						-14
MWD-4C						4	X	X	X	X						-15
MWD-4D						4	X	X	X	X						-16
MWD-5A		1030				7	X	X	X	X	X	X	X	X		-17
MWD-5B						4	X	X	X	X						-18
MWD-5C						4	X	X	X	X						-19
MWD-5D						4	X	X	X	X						-20

	Date/Time	
Relinquished by (Signature) / Received by (Signature)	6-16-21	[signature]
Relinquished by (Signature) / Received by (Signature)	6-17-21 1600	[signature]
Relinquished by (Signature) / Received for Laboratory by (Signature)	6/17/21 1600	[signature]

COMMENTS:

5.7-0.3=5.4 / 6.0-0.3=5.7°C CI

RESULTS NEEDED: / / AM / PM

21F1298
Carlson - Chicago, IL
PM: Kristen Gehlbach

Electronic Filing: Received, Clerk's Office 07/19/2024

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21F1298

SENDING LABORATORY:

Microbac Laboratories, Inc. - Chicagoland
250 West 84th Drive
Merrillville, IN 46410
Phone: 219.769.8378
Lab Manager: Kristen Gehlbach
Email: kristen.gehlbach@microbac.com

RECEIVING LABORATORY:

Microbac - OVD
158 Starlite Dr.
Marietta, OH 45750-
Phone: (800) 373-4071

Project Info:

Project Name:	Ceco - Lemont, IL	Client:	Carlson - Chicago, IL		
Project No:	Ceco - Lemont, IL	Project Type:	ENV-Remediation	Report TAT:	**5**
		Project Location:	Illinois	Due:	**06/24/2021 23:59**

Sample ID: 21F1298-01

Sampled: 06/15/2021 00:00

Matrix: Aqueous

Sampler:

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	**SM 5310 C-2011** 0.5 mg/L	**06/24/2021 23:59**	**07/13/2021 00:00**	**$ 62.40**

Containers Supplied:
F: 40ml-Vial Amber-H2SO4 G: 40ml-Vial Amber-H2SO4

Sample ID: 21F1298-02

Sampled: 06/15/2021 09:30

Matrix: Aqueous

Sampler:

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	**SM 5310 C-2011** 0.5 mg/L	**06/24/2021 23:59**	**07/13/2021 09:30**	**$ 62.40**

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21F1298-03

Sampled: 06/15/2021 09:30

Matrix: Aqueous

Sampler:

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	**SM 5310 C-2011** 0.5 mg/L	**06/24/2021 23:59**	**07/13/2021 09:30**	**$ 62.40**

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21F1298-04

Sampled: 06/15/2021 09:30

Matrix: Aqueous

Sampler:

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	**SM 5310 C-2011** 0.5 mg/L	**06/24/2021 23:59**	**07/13/2021 09:30**	**$ 62.40**

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Electronic Filing: Received, Clerk's Office 07/19/2024

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21F1298

Sample ID: 21F1298-05 **Sampled: 06/15/2021 14:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	SM 5310 C-2011 0.5 mg/L	06/24/2021 23:59	07/13/2021 14:30	$ 62.40

Containers Supplied:
F: 40ml-Vial Amber-H2SO4 G: 40ml-Vial Amber-H2SO4

Sample ID: 21F1298-06 **Sampled: 06/15/2021 14:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	SM 5310 C-2011 0.5 mg/L	06/24/2021 23:59	07/13/2021 14:30	$ 62.40

Containers Supplied:
F: 40ml-Vial Amber-H2SO4 G: 40ml-Vial Amber-H2SO4

Sample ID: 21F1298-07 **Sampled: 06/15/2021 14:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	SM 5310 C-2011 0.5 mg/L	06/24/2021 23:59	07/13/2021 14:30	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21F1298-08 **Sampled: 06/15/2021 14:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	SM 5310 C-2011 0.5 mg/L	06/24/2021 23:59	07/13/2021 14:30	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21F1298-09 **Sampled: 06/15/2021 13:15**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	SM 5310 C-2011 0.5 mg/L	06/24/2021 23:59	07/13/2021 13:15	$ 62.40

Containers Supplied:
F: 40ml-Vial Amber-H2SO4 G: 40ml-Vial Amber-H2SO4

SUBCONTRACT ORDER

21F1298

Sample ID: 21F1298-10 **Sampled: 06/15/2021 13:15**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	SM 5310 C-2011 0.5 mg/L	06/24/2021 23:59	07/13/2021 13:15	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21F1298-11 **Sampled: 06/15/2021 13:15**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	SM 5310 C-2011 0.5 mg/L	06/24/2021 23:59	07/13/2021 13:15	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21F1298-12 **Sampled: 06/15/2021 13:15**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	SM 5310 C-2011 0.5 mg/L	06/24/2021 23:59	07/13/2021 13:15	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21F1298-13 **Sampled: 06/15/2021 12:00**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	SM 5310 C-2011 0.5 mg/L	06/24/2021 23:59	07/13/2021 12:00	$ 62.40

Containers Supplied:
F: 40ml-Vial Amber-H2SO4 G: 40ml-Vial Amber-H2SO4

Sample ID: 21F1298-14 **Sampled: 06/15/2021 12:00**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	SM 5310 C-2011 0.5 mg/L	06/24/2021 23:59	07/13/2021 12:00	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Electronic Filing: Received, Clerk's Office 07/19/2024

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21F1298

Sample ID: 21F1298-15 **Sampled: 06/15/2021 12:00**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	SM 5310 C-2011 0.5 mg/L	06/24/2021 23:59	07/13/2021 12:00	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21F1298-16 **Sampled: 06/15/2021 12:00**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	SM 5310 C-2011 0.5 mg/L	06/24/2021 23:59	07/13/2021 12:00	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21F1298-17 **Sampled: 06/15/2021 10:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	SM 5310 C-2011 0.5 mg/L	06/24/2021 23:59	07/13/2021 10:30	$ 62.40

Containers Supplied:
F: 40ml-Vial Amber-H2SO4 G: 40ml-Vial Amber-H2SO4

Sample ID: 21F1298-18 **Sampled: 06/15/2021 10:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	SM 5310 C-2011 0.5 mg/L	06/24/2021 23:59	07/13/2021 10:30	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21F1298-19 **Sampled: 06/15/2021 10:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	SM 5310 C-2011 0.5 mg/L	06/24/2021 23:59	07/13/2021 10:30	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

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21F1298

Sample ID: 21F1298-20 **Sampled: 06/15/2021 10:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires	Network $
TOTAL ORGANIC CARBON-KTL Carbon, Total Organic	**SM 5310 C-2011** 0.5 mg/L	**06/24/2021 23:59**	**07/13/2021 10:30**	**$ 62.40**

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Ref:
Dep:

Date: 18Jun21
Wgt: 51.55 LBS

DV:

Svcs: PRIORITY OVERNIGHT
TRCK: 6806 6721 3520

SHIPPING:	47.88
SPECIAL:	52.35
HANDLING:	0.00
0.00 TOTAL:	100.23

Released By	Date	Received By	Date
	6/18/2021 1500	FedEx	
Released By	Date	Received By	Date

Microbac Laboratories, Inc. - Chicagoland

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SUBCONTRACT ORDER

21F1298

SENDING LABORATORY:

Microbac Laboratories, Inc. - Chicagoland
250 West 84th Drive
Merrillville, IN 46410
Phone: 219.769.8378
Lab Manager: Kristen Gehlbach
Email: kristen.gehlbach@microbac.com

RECEIVING LABORATORY:

Keystone Laboratories, Inc.
600 East 17th Street South
Newton, IA 50208
Phone: (800) 858-5227

Project Info:

Project Type: ENV-Remediation
Project Location: Illinois
Report TAT: **5**
Due: **06/24/2021 23:59**

Sample ID: 21F1298-01 **Sampled: 06/15/2021 00:00**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	**EPA 9020** mg/L	**06/24/2021 23:59**	**07/13/2021 00:00**

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-02 **Sampled: 06/15/2021 09:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	**EPA 9020** mg/L	**06/24/2021 23:59**	**07/13/2021 09:30**

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-03 **Sampled: 06/15/2021 09:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	**EPA 9020** mg/L	**06/24/2021 23:59**	**07/13/2021 09:30**

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-04 **Sampled: 06/15/2021 09:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	**EPA 9020** mg/L	**06/24/2021 23:59**	**07/13/2021 09:30**

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Ref:
Dep:

Date: 21Jun21
Wgt: 47.10 LBS

DV:

SHIPPING: 78.62
SPECIAL: 10.21
HANDLING: 0.00
0.00 TOTAL: 88.83

Svcs: PRIORITY OVERNIGHT
TRCK: 6806 5721 3704

Microbac Laboratories, Inc. - Chicagoland

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SUBCONTRACT ORDER

21F1298

Sample ID: 21F1298-05 **Sampled: 06/15/2021 14:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 14:30

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-06 **Sampled: 06/15/2021 14:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 14:30

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-07 **Sampled: 06/15/2021 14:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 14:30

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-08 **Sampled: 06/15/2021 14:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 14:30

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-09 **Sampled: 06/15/2021 13:15**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 13:15

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

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SUBCONTRACT ORDER

21F1298

Sample ID: 21F1298-10 **Sampled: 06/15/2021 13:15**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 13:15

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-11 **Sampled: 06/15/2021 13:15**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 13:15

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-12 **Sampled: 06/15/2021 13:15**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 13:15

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-13 **Sampled: 06/15/2021 12:00**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 12:00

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-14 **Sampled: 06/15/2021 12:00**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 12:00

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Electronic Filing: Received, Clerk's Office 07/19/2024

Microbac Laboratories, Inc. - Chicagoland

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SUBCONTRACT ORDER

21F1298

Sample ID: 21F1298-15 **Sampled: 06/15/2021 12:00**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 12:00

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-16 **Sampled: 06/15/2021 12:00**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 12:00

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-17 **Sampled: 06/15/2021 10:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 10:30

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-18 **Sampled: 06/15/2021 10:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 10:30

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-19 **Sampled: 06/15/2021 10:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 10:30

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Electronic Filing: Received, Clerk's Office 07/19/2021

Microbac Laboratories, Inc. - Chicagoland

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SUBCONTRACT ORDER

21F1298

Sample ID: 21F1298-20 **Sampled: 06/15/2021 10:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	**EPA 9020** mg/L	**06/24/2021 23:59**	**07/13/2021 10:30**

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Released By	Date	Received By	Date
[signature]	6/21/21 1600	[signature]	
Released By	Date	Received By	Date

Microbac Laboratories, Inc. - Chicagoland

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SUBCONTRACT ORDER

21F1298

SENDING LABORATORY:

Microbac Laboratories, Inc. - Chicagoland
250 West 84th Drive
Merrillville, IN 46410
Phone: 219.769.8378
Lab Manager: Kristen Gehlbach
Email: kristen.gehlbach@microbac.com

RECEIVING LABORATORY:

Keystone Laboratories, Inc.
600 East 17th Street South
Newton, IA 50208
Phone: (800) 858-5227

Project Info:

Project Type: ENV-Remediation
Project Location: Illinois
Report TAT: **6**
Due: **06/25/2021 23:59**

Sample ID: 21F1298-01 **Sampled: 06/15/2021 09:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 09:30

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-02 **Sampled: 06/15/2021 09:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 09:30

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-03 **Sampled: 06/15/2021 09:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 09:30

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-04 **Sampled: 06/15/2021 09:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 09:30

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

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21F1298

Sample ID: 21F1298-05 **Sampled: 06/15/2021 14:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 14:30

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-06 **Sampled: 06/15/2021 14:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 14:30

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-07 **Sampled: 06/15/2021 14:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 14:30

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-08 **Sampled: 06/15/2021 14:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 14:30

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-09 **Sampled: 06/15/2021 13:15**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 13:15

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

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SUBCONTRACT ORDER

21F1298

Sample ID: 21F1298-10 **Sampled: 06/15/2021 13:15**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 13:15

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-11 **Sampled: 06/15/2021 13:15**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 13:15

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-12 **Sampled: 06/15/2021 13:15**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 13:15

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-13 **Sampled: 06/15/2021 12:00**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 12:00

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-14 **Sampled: 06/15/2021 12:00**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 12:00

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

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21F1298

Sample ID: 21F1298-15 **Sampled: 06/15/2021 12:00**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 12:00

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-16 **Sampled: 06/15/2021 12:00**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 12:00

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-17 **Sampled: 06/15/2021 10:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 10:30

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-18 **Sampled: 06/15/2021 10:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 10:30

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-19 **Sampled: 06/15/2021 10:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 10:30

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

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Electronic Filing: Received, Clerk's Office 07/19/2024

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21F1298

Sample ID: 21F1298-20 **Sampled: 06/15/2021 10:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	06/25/2021 23:59	07/13/2021 10:30

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

ALREADY SENT

Ref:
Dep:

Date: 22Jun21
Wgt: 6.60 LBS
DV: 0.00

SHIPPING: 26.61
SPECIAL: 5.79
HANDLING: 0.00
TOTAL: 32.40

Svcs: PRIORITY OVERNIGHT
TRCK: 6806 6721 3781

Released By	Date	Received By	Date
[signature]	6/22/2021 1450	FedEx	
Released By	Date	Received By	Date

Keystone LABORATORIES, INC.

June 25 2021

Kristen Gehlbach
Microbac Laboratories, Inc
250 W 84th Dr
Merrillville, IN 46410

RE: Subcontract-KG
21F1298

Enclosed are the results of analyses for samples received by the laboratory on 06/22/21 11:15. If you have any questions concerning this report, please feel free to contact me at 1-800-858-5227.

ANALYTICAL REPORT FOR SAMPLES

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
21F1298-01	1EF2017-01	Water	06/15/21 00:00	06/22/21 11:15
21F1298-02	1EF2017-02	Water	06/15/21 09:30	06/22/21 11:15
21F1298-03	1EF2017-03	Water	06/15/21 09:30	06/22/21 11:15
21F1298-04	1EF2017-04	Water	06/15/21 09:30	06/22/21 11:15
21F1298-05	1EF2017-05	Water	06/15/21 14:30	06/22/21 11:15
21F1298-06	1EF2017-06	Water	06/15/21 14:30	06/22/21 11:15
21F1298-07	1EF2017-07	Water	06/15/21 14:30	06/22/21 11:15
21F1298-08	1EF2017-08	Water	06/15/21 14:30	06/22/21 11:15
21F1298-09	1EF2017-09	Water	06/15/21 13:15	06/22/21 11:15
21F1298-10	1EF2017-10	Water	06/15/21 13:15	06/22/21 11:15
21F1298-11	1EF2017-11	Water	06/15/21 13:15	06/22/21 11:15
21F1298-12	1EF2017-12	Water	06/15/21 13:15	06/22/21 11:15
21F1298-13	1EF2017-13	Water	06/15/21 12:00	06/22/21 11:15
21F1298-14	1EF2017-14	Water	06/15/21 12:00	06/22/21 11:15
21F1298-15	1EF2017-15	Water	06/15/21 12:00	06/22/21 11:15
21F1298-16	1EF2017-16	Water	06/15/21 12:00	06/22/21 11:15

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

Phone 641-792-8451
600 East 17th Street South
Newton, IA 50208
Fax 641-792-7989

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Project Number: Project Manager:	Subcontract-KG 21F1298 Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-17	1EF2017-17	Water	06/15/21 10:30	06/22/21 11:15
21F1298-18	1EF2017-18	Water	06/15/21 10:30	06/22/21 11:15
21F1298-19	1EF2017-19	Water	06/15/21 10:30	06/22/21 11:15
21F1298-20	1EF2017-20	Water	06/15/21 10:30	06/22/21 11:15

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

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Newton, IA 50208
Fax 641-792-7989

Keystone LABORATORIES, INC.

NELAP ACCREDITED TNI LABORATORY

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

Microbac Laboratories, Inc. - Chicagoland

MICROBAC®

SUBCONTRACT ORDER 21F1298

1EF2017

Temp 1.1

SENDING LABORATORY:
Microbac Laboratories, Inc. - Chicagoland
250 West 84th Drive
Merrillville, IN 46410
Phone: 219.769.8378
Lab Manager: Kristen Gehlbach
Email: kristen.gehlbach@microbac.com

RECEIVING LABORATORY:
Keystone Laboratories, Inc.
600 East 17th Street South
Newton, IA 50208
Phone: (800) 858-5227

Project Info:

Project Type: ENV-Remediation
Project Location: Illinois
Report TAT: 5
Due: **06/24/2021 23:59**

Sample ID: 21F1298-01 **Sampled: 06/15/2021 00:00**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 00:00

01

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-02 **Sampled: 06/15/2021 09:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 09:30

02

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-03 **Sampled: 06/15/2021 09:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 09:30

03

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-04 **Sampled: 06/15/2021 09:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 09:30

04

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Keystone LABORATORIES, INC.

NELAP ACCREDITED TNI LABORATORY

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

Microbac Laboratories, Inc. - Chicagoland

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SUBCONTRACT ORDER

21F1298

1EF2017
Temp 1.1

Sample ID: 21F1298-05 **Sampled: 06/15/2021 14:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 14:30

05

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-06 **Sampled: 06/15/2021 14:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 14:30

06

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-07 **Sampled: 06/15/2021 14:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 14:30

07

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-08 **Sampled: 06/15/2021 14:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 14:30

08

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-09 **Sampled: 06/15/2021 13:15**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 13:15

09

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

Phone 641-792-8451
600 East 17th Street South
Newton, IA 50208
Fax 641-792-7989

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

Microbac Laboratories, Inc. - Chicagoland

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SUBCONTRACT ORDER

21F1298

IEF2017
Temp 1.1

Sample ID: 21F1298-10 **Sampled: 06/15/2021 13:15**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 13:15

10

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-11 **Sampled: 06/15/2021 13:15**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 13:15

11

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-12 **Sampled: 06/15/2021 13:15**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 13:15

12

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-13 **Sampled: 06/15/2021 12:00**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 12:00

13

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-14 **Sampled: 06/15/2021 12:00**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 12:00

14

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Keystone LABORATORIES, INC.

NELAP ACCREDITED TNI LABORATORY

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

Microbac Laboratories, Inc. - Chicagoland

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SUBCONTRACT ORDER

21F1298

IEF2017
Temp 1.1

Sample ID: 21F1298-15 **Sampled: 06/15/2021 12:00**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 12:00

15

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-16 **Sampled: 06/15/2021 12:00**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 12:00

16

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-17 **Sampled: 06/15/2021 10:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 10:30

17

Containers Supplied:
E: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-18 **Sampled: 06/15/2021 10:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 10:30

18

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21F1298-19 **Sampled: 06/15/2021 10:30**
Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	EPA 9020 mg/L	06/24/2021 23:59	07/13/2021 10:30

19

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Phone 641-792-8451
600 East 17th Street South
Newton, IA 50208
Fax 641-792-7989

Keystone LABORATORIES, INC.

NELAP ACCREDITED TNI LABORATORY

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

Microbac Laboratories, Inc. - Chicagoland

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SUBCONTRACT ORDER

21F1298

1EF2017
Temp 1.1

Sample ID: 21F1298-20 **Sampled: 06/15/2021 10:30**

Matrix: Aqueous **Sampler:**

Analysis	Method	Analysis Due	Expires
TOX_SUB Total Organic Halides (TOX)	**EPA 9020** mg/L	**06/24/2021 23:59**	**07/13/2021 10:30**

20

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Released By	Date		Received By	Date
6/21/21	1600	Fedex		
Released By	Date		Received By	Date
		Linda Mahoon	6-22-2021	11:15

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-01

1EF2017-01 (Water)

Date Sampled:6/15/2021 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1121	06/23/21	06/23/21 10:51	EPA 9020	

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

Phone 641-792-8451
600 East 17th Street South
Newton, IA 50208
Fax 641-792-7989

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-02

1EF2017-02 (Water)

Date Sampled:6/15/2021 9:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1121	06/23/21	06/23/21 10:51	EPA 9020	

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

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600 East 17th Street South
Newton, IA 50208
Fax 641-792-7989

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-03

1EF2017-03 (Water)

Date Sampled:6/15/2021 9:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1121	06/23/21	06/23/21 10:51	EPA 9020	

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-04

1EF2017-04 (Water)

Date Sampled:6/15/2021 9:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.013**	0.010	mg/L	1	1EF1121	06/23/21	06/23/21 10:51	EPA 9020	

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-05

1EF2017-05 (Water)

Date Sampled:6/15/2021 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1121	06/23/21	06/23/21 10:51	EPA 9020	

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-06

1EF2017-06 (Water)

Date Sampled:6/15/2021 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1121	06/23/21	06/23/21 15:57	EPA 9020	

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-07

1EF2017-07 (Water)

Date Sampled:6/15/2021 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1121	06/23/21	06/23/21 15:57	EPA 9020	

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-08

1EF2017-08 (Water)

Date Sampled:6/15/2021 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1121	06/23/21	06/23/21 15:57	EPA 9020	

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-09

1EF2017-09 (Water)

Date Sampled:6/15/2021 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1121	06/23/21	06/23/21 15:57	EPA 9020	

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-10

1EF2017-10 (Water)

Date Sampled:6/15/2021 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1246	06/24/21	06/24/21 16:40	EPA 9020	

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-11

1EF2017-11 (Water)

Date Sampled:6/15/2021 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	**0.014**	0.010	mg/L	1	1EF1121	06/23/21	06/23/21 15:57	EPA 9020	

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-12

1EF2017-12 (Water)

Date Sampled:6/15/2021 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1246	06/24/21	06/24/21 13:57	EPA 9020	

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-13

1EF2017-13 (Water)

Date Sampled:6/15/2021 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1246	06/24/21	06/24/21 13:57	EPA 9020	

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-14

1EF2017-14 (Water)

Date Sampled:6/15/2021 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1246	06/24/21	06/24/21 13:57	EPA 9020	

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-15

1EF2017-15 (Water)

Date Sampled:6/15/2021 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1246	06/24/21	06/24/21 13:57	EPA 9020	

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-16

1EF2017-16 (Water)

Date Sampled:6/15/2021 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1246	06/24/21	06/24/21 13:57	EPA 9020	

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-17

1EF2017-17 (Water)

Date Sampled:6/15/2021 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1246	06/24/21	06/24/21 16:40	EPA 9020	

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-18

1EF2017-18 (Water)

Date Sampled:6/15/2021 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1246	06/24/21	06/24/21 16:40	EPA 9020	

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-19

1EF2017-19 (Water)

Date Sampled:6/15/2021 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1246	06/24/21	06/24/21 16:40	EPA 9020	

Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

21F1298-20

1EF2017-20 (Water)

Date Sampled:6/15/2021 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Conventional Chemistry Parameters									
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1EF1246	06/24/21	06/24/21 16:40	EPA 9020	

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Subcontract-KG Project Number: 21F1298 Project Manager: Kristen Gehlbach	Reported 06/25/21 13:18

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1EF1121 - TOX/TX/EOX										
Blank (1EF1121-BLK1)				Prepared & Analyzed: 06/23/21						
Total Organic Halogens (TOX)	ND	0.010	mg/L							
LCS (1EF1121-BS1)				Prepared & Analyzed: 06/23/21						
Total Organic Halogens (TOX)	0.1074	0.010	mg/L	0.109170		98.4	66-122			QM-23
LCS Dup (1EF1121-BSD1)				Prepared & Analyzed: 06/23/21						
Total Organic Halogens (TOX)	0.1073	0.010	mg/L	0.109170		98.3	66-122	0.121	19	QM-23
Reference (1EF1121-SRM1)				Prepared & Analyzed: 06/23/21						
Total Organic Halogens (TOX)	0.1069	0.010	mg/L	0.103570		103	90-110			
Reference (1EF1121-SRM2)				Prepared & Analyzed: 06/23/21						
Total Organic Halogens (TOX)	0.1063	0.010	mg/L	0.103570		103	90-110			
Reference (1EF1121-SRM3)				Prepared & Analyzed: 06/23/21						
Total Organic Halogens (TOX)	0.1117	0.010	mg/L	0.103570		108	90-110			
Batch 1EF1246 - TOX/TX/EOX										
Blank (1EF1246-BLK1)				Prepared & Analyzed: 06/24/21						
Total Organic Halogens (TOX)	ND	0.010	mg/L							
LCS (1EF1246-BS1)				Prepared & Analyzed: 06/24/21						
Total Organic Halogens (TOX)	0.1118	0.010	mg/L	0.109170		102	66-122			QM-23
LCS Dup (1EF1246-BSD1)				Prepared & Analyzed: 06/24/21						
Total Organic Halogens (TOX)	0.1015	0.010	mg/L	0.109170		93.0	66-122	9.66	19	QM-23

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Project Number: Project Manager:	Subcontract-KG 21F1298 Kristen Gehlbach	Reported 06/25/21 13:18

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1EF1246 - TOX/TX/EOX										
Reference (1EF1246-SRM1)				Prepared & Analyzed: 06/24/21						
Total Organic Halogens (TOX)	0.1136	0.010	mg/L	0.103570		110	90-110			
Reference (1EF1246-SRM2)				Prepared & Analyzed: 06/24/21						
Total Organic Halogens (TOX)	0.1121	0.010	mg/L	0.103570		108	90-110			
Reference (1EF1246-SRM3)				Prepared & Analyzed: 06/24/21						
Total Organic Halogens (TOX)	0.1003	0.010	mg/L	0.103570		96.9	90-110			

Certified Analyses Included in This Report

Method/Matrix	Analyte	Certifications
EPA 9020 in Water		
	Total Organic Halogens (TOX)	KS-NT,SIA1X

Code	Certifying Authority	Certificate Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2022
KS-NT	Kansas Department of Health and Environment (NELAP	E-10287	10/31/2021
MO-KC	Missouri Department of Natural Resources	140	04/30/2022
SIA1X	Iowa Department of Natural Resources	95	02/01/2021

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Keystone LABORATORIES, INC.

MEMBER ACIL

Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Project Number: Project Manager:	Subcontract-KG 21F1298 Kristen Gehlbach	Reported 06/25/21 13:18

Notes and Definitions

QM-23	LCS/LCSD were analyzed in place of MS/MSD due to limited sample volume.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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Keystone LABORATORIES, INC.

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Microbac Laboratories, Inc 250 W 84th Dr Merrillville, IN 46410	Project: Project Number: Project Manager:	Subcontract-KG 21F1298 Kristen Gehlbach	Reported 06/25/21 13:18

Sue Thompson

Sue Thompson

Client Services Manager

Phone 641-792-8451

600 East 17th Street South
Newton, IA 50208

Fax 641-792-7989

Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

21L0164

Project Description

100.01 / Ceco - Lemont, IL

For:

Bruce Shabino

Carlson Environmental, Inc.

65 E Wacker PL STE 2210

Chicago, IL 60601

Kristen Gehlbach

Senior Project Manager

Saturday, December 11, 2021

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Chicagoland. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request . This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

21L0164

Carlson Environmental, Inc.

Bruce Shabino
65 E Wacker PL STE 2210
Chicago, IL 60601

Project Name: 100.01 / Ceco - Lemont, IL

Project / PO Number: N/A
Received: 12/02/2021
Reported: 12/11/2021

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
MWD-1A	21L0164-01	Aqueous			12/01/21 15:20	12/02/21 11:00
MWD-1B	21L0164-02	Aqueous			12/01/21 15:20	12/02/21 11:00
MWD-1C	21L0164-03	Aqueous			12/01/21 15:20	12/02/21 11:00
MWD-1D	21L0164-04	Aqueous			12/01/21 15:20	12/02/21 11:00
MWD-2A	21L0164-05	Aqueous			12/01/21 10:20	12/02/21 11:00
MWD-2B	21L0164-06	Aqueous			12/01/21 10:20	12/02/21 11:00
MWD-2C	21L0164-07	Aqueous			12/01/21 10:20	12/02/21 11:00
MWD-2D	21L0164-08	Aqueous			12/01/21 10:20	12/02/21 11:00
MWD-3A	21L0164-09	Aqueous			12/01/21 11:30	12/02/21 11:00
MWD-3B	21L0164-10	Aqueous			12/01/21 11:30	12/02/21 11:00
MWD-3C	21L0164-11	Aqueous			12/01/21 11:30	12/02/21 11:00
MWD-3D	21L0164-12	Aqueous			12/01/21 11:30	12/02/21 11:00
MWD-4A	21L0164-13	Aqueous			12/01/21 13:00	12/02/21 11:00
MWD-4B	21L0164-14	Aqueous			12/01/21 13:00	12/02/21 11:00
MWD-4C	21L0164-15	Aqueous			12/01/21 13:00	12/02/21 11:00
MWD-4D	21L0164-16	Aqueous			12/01/21 13:00	12/02/21 11:00
MWD-5A	21L0164-17	Aqueous			12/01/21 14:00	12/02/21 11:00
MWD-5B	21L0164-18	Aqueous			12/01/21 14:00	12/02/21 11:00
MWD-5C	21L0164-19	Aqueous			12/01/21 14:00	12/02/21 11:00
MWD-5D	21L0164-20	Aqueous			12/01/21 14:00	12/02/21 11:00

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Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

21L0164

Analytical Testing Parameters

Client Sample ID:	MWD-1A		
Sample Matrix:	Aqueous		
Lab Sample ID:	21L0164-01	**Collection Date:**	12/01/2021 15:20

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**15.0**	3.00	mg/L	3		12/07/21 1108	12/08/21 1109	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1320**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.03**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1001	BSB
Temperature	**7.2**		°C	1		12/06/21 0925	12/06/21 1001	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		12/01/21 1520	12/07/21 0000	

MICROBAC®

Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

21L0164

Client Sample ID: MWD-1B
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-02 **Collection Date:** 12/01/2021 15:20

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**3.92**	3.00	mg/L	3		12/07/21 1108	12/08/21 1130	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1300**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.05**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1003	BSB
Temperature	**6.4**		°C	1		12/06/21 0925	12/06/21 1003	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	**0.011**	0.01	mg/L	1		12/01/21 1520	12/07/21 0000	

Client Sample ID: MWD-1C
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-03 **Collection Date:** 12/01/2021 15:20

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**41.6**	3.00	mg/L	3		12/07/21 1108	12/08/21 1151	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1310**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.06**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1005	BSB
Temperature	**7.3**		°C	1		12/06/21 0925	12/06/21 1005	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	**0.014**	0.01	mg/L	1		12/01/21 1520	12/07/21 0000	

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CERTIFICATE OF ANALYSIS

21L0164

Client Sample ID: MWD-1D
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-04 **Collection Date:** 12/01/2021 15:20

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**3.98**	3.00	mg/L	3		12/07/21 1108	12/08/21 1212	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1320**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.05**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1006	BSB
Temperature	**6.8**		°C	1		12/06/21 0925	12/06/21 1006	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	**0.02**	0.01	mg/L	1		12/01/21 1520	12/07/21 0000	

Client Sample ID: MWD-2A
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-05 **Collection Date:** 12/01/2021 10:20

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**6.77**	1.00	mg/L	1		12/07/21 1108	12/07/21 1652	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**958**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.19**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1007	BSB
Temperature	**6.5**		°C	1		12/06/21 0925	12/06/21 1007	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		12/01/21 1020	12/07/21 0000	

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CERTIFICATE OF ANALYSIS

21L0164

Client Sample ID: MWD-2B
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-06 **Collection Date:** 12/01/2021 10:20

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**3.76**	2.00	mg/L	2		12/07/21 1108	12/07/21 1804	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**965**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.21**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1010	BSB
Temperature	**6.8**		°C	1		12/06/21 0925	12/06/21 1010	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		12/01/21 1020	12/07/21 0000	

Client Sample ID: MWD-2C
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-07 **Collection Date:** 12/01/2021 10:20

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**2.98**	2.00	mg/L	2		12/07/21 1108	12/07/21 1827	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**983**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.19**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1011	BSB
Temperature	**6.8**		°C	1		12/06/21 0925	12/06/21 1011	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		12/01/21 1020	12/07/21 0000	

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CERTIFICATE OF ANALYSIS

21L0164

Client Sample ID: MWD-2D
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-08 **Collection Date:** 12/01/2021 10:20

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**3.54**	2.00	mg/L	2		12/07/21 1108	12/07/21 1849	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**995**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.21**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1013	BSB
Temperature	**7.2**		°C	1		12/06/21 0925	12/06/21 1013	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		12/01/21 1020	12/08/21 0000	

Client Sample ID: MWD-3A
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-09 **Collection Date:** 12/01/2021 11:30

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**6.58**	2.00	mg/L	2		12/07/21 1108	12/07/21 1911	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1220**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.39**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1014	BSB
Temperature	**7.3**		°C	1		12/06/21 0925	12/06/21 1014	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	**0.024**	0.01	mg/L	1		12/01/21 1130	12/08/21 0000	

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CERTIFICATE OF ANALYSIS

21L0164

Client Sample ID: MWD-3B
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-10 **Collection Date:** 12/01/2021 11:30

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**2.74**	2.00	mg/L	2		12/07/21 1108	12/07/21 1933	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1230**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.42**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1016	BSB
Temperature	**6.9**		°C	1		12/06/21 0925	12/06/21 1016	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	**0.023**	0.01	mg/L	1		12/01/21 1130	12/08/21 0000	

Client Sample ID: MWD-3C
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-11 **Collection Date:** 12/01/2021 11:30

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**3.58**	2.00	mg/L	2		12/07/21 1108	12/07/21 1955	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1330**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.23**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1017	BSB
Temperature	**6.8**		°C	1		12/06/21 0925	12/06/21 1017	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	**0.014**	0.01	mg/L	1		12/01/21 1130	12/08/21 0000	

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CERTIFICATE OF ANALYSIS

21L0164

Client Sample ID: MWD-3D
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-12 **Collection Date:** 12/01/2021 11:30

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**3.26**	2.00	mg/L	2		12/07/21 1108	12/07/21 2016	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1340**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.21**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1018	BSB
Temperature	**7.0**		°C	1		12/06/21 0925	12/06/21 1018	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		12/01/21 1130	12/08/21 0000	

Client Sample ID: MWD-4A
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-13 **Collection Date:** 12/01/2021 13:00

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**14.8**	2.00	mg/L	2		12/07/21 1108	12/07/21 2038	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1330**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.05**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1020	BSB
Temperature	**7.7**		°C	1		12/06/21 0925	12/06/21 1020	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		12/01/21 1300	12/08/21 0000	

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CERTIFICATE OF ANALYSIS

21L0164

Client Sample ID: MWD-4B
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-14 **Collection Date:** 12/01/2021 13:00

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**5.62**	2.00	mg/L	2		12/07/21 1108	12/07/21 2100	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1320**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.11**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1021	BSB
Temperature	**7.9**		°C	1		12/06/21 0925	12/06/21 1021	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		12/01/21 1300	12/08/21 0000	

Client Sample ID: MWD-4C
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-15 **Collection Date:** 12/01/2021 13:00

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**2.72**	2.00	mg/L	2		12/07/21 1108	12/07/21 2122	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1330**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.08**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1022	BSB
Temperature	**7.6**		°C	1		12/06/21 0925	12/06/21 1022	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		12/01/21 1300	12/08/21 0000	

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CERTIFICATE OF ANALYSIS

21L0164

Client Sample ID: MWD-4D
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-16 **Collection Date:** 12/01/2021 13:00

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	<2.00	2.00	mg/L	2		12/07/21 1108	12/07/21 2204	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1350**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.10**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1025	BSB
Temperature	**6.9**		°C	1		12/06/21 0925	12/06/21 1025	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	**0.01**	0.01	mg/L	1		12/01/21 1300	12/08/21 0000	

Client Sample ID: MWD-5A
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-17 **Collection Date:** 12/01/2021 14:00

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**5.08**	2.00	mg/L	2		12/07/21 1108	12/07/21 2225	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1370**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.30**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1027	BSB
Temperature	**8.4**		°C	1		12/06/21 0925	12/06/21 1027	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		12/01/21 1400	12/08/21 0000	

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CERTIFICATE OF ANALYSIS

21L0164

Client Sample ID: MWD-5B
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-18 **Collection Date:** 12/01/2021 14:00

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**15.9**	2.00	mg/L	2		12/07/21 1108	12/07/21 2247	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1350**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.21**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1028	BSB
Temperature	**9.0**		°C	1		12/06/21 0925	12/06/21 1028	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		12/01/21 1400	12/08/21 0000	

Client Sample ID: MWD-5C
Sample Matrix: Aqueous
Lab Sample ID: 21L0164-19 **Collection Date:** 12/01/2021 14:00

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	<2.00	2.00	mg/L	2		12/07/21 1111	12/08/21 0151	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1350**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.22**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1029	BSB
Temperature	**9.1**		°C	1		12/06/21 0925	12/06/21 1029	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		12/01/21 1400	12/09/21 0000	

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CERTIFICATE OF ANALYSIS

21L0164

Client Sample ID:	MWD-5D		
Sample Matrix:	Aqueous		
Lab Sample ID:	21L0164-20	**Collection Date:**	12/01/2021 14:00

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 5310 C-2011								
Total Organic Carbon - TOC	**2.30**	2.00	mg/L	2		12/07/21 1111	12/08/21 0212	DIH

Analyses Performed by: Microbac Laboratories, Inc. - Chicagoland

Inorganics Total	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
SM 2510 B-2011/SM 2510 B-2011								
Specific Conductance	**1360**	2.00	umhos/cm	1			12/08/21 2120	EF
SM 4500-H+ B-2011								
pH	**7.19**	2.00	S.U.	1	**H4**	12/06/21 0925	12/06/21 1030	BSB
Temperature	**8.5**		°C	1		12/06/21 0925	12/06/21 1030	BSB

Analyses Performed by: Keystone Laboratories, Inc.

n-Hexane Extractable Material by Gravametric	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9020								
Total Organic Halides (TOX)	<0.01	0.01	mg/L	1		12/01/21 1400	12/09/21 0000	

Definitions

°C:	Degrees Celsius
DF:	Dilution Factor representing the amount the sample was diluted during analysis and may not represent preparation factors.
H4:	The test was performed outside of the EPA recommended holding time of 15 minutes.
MDL:	Minimum Detection Limit
mg/L:	Milligrams per Liter
RL:	Reporting Limit
S.U.:	Standard Units
umhos/cm:	Umhos per Centimeter

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.1°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

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CERTIFICATE OF ANALYSIS

21L0164

Project Requested Certification(s)

Microbac Laboratories Inc., - Marietta, OH

004319	Illinois Environmental Protection Agency
E-10290	Kansas Department of Health and Environment

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Kristen Gehlbach

Senior Project Manager

kristen.gehlbach@microbac.com

12/11/2021 12:20

Electronic Filing: Received, Clerk's Office 07/19/2024

Microbac Laboratories, Inc. - Chicagoland

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SUBCONTRACT ORDER

21L0164

SENDING LABORATORY:	RECEIVING LABORATORY:
Microbac Laboratories, Inc. - Chicagoland	Keystone Laboratories, Inc.
250 West 84th Drive	600 E 17th ST S
Merrillville, IN 46410	Newton, IA 50208
Phone: 219.769.8378	Phone: (800) 858-5227
Lab Manager: Kristen Gehlbach	
Email: kristen.gehlbach@microbac.com	

Project Info:

Project Type: ENV-Remediation
Project Location: Illinois
Report TAT: **5**
Due: **12/09/2021 23:59**

Sample ID: 21L0164-01 **Sampled: 12/01/2021 15:20** Sampler:
Matrix: Aqueous Description: MWD-1A

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 15:20

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21L0164-02 **Sampled: 12/01/2021 15:20** Sampler:
Matrix: Aqueous Description: MWD-1B

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 15:20

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21L0164-03 **Sampled: 12/01/2021 15:20** Sampler:
Matrix: Aqueous Description: MWD-1C

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 15:20

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21L0164-04 **Sampled: 12/01/2021 15:20** Sampler:
Matrix: Aqueous Description: MWD-1D

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 15:20

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

SUBCONTRACT ORDER

21L0164

Sample ID: 21L0164-05 **Sampled: 12/01/2021 10:20** Sampler:
Matrix: Aqueous Description: MWD-2A

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 10:20

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21L0164-06 **Sampled: 12/01/2021 10:20** Sampler:
Matrix: Aqueous Description: MWD-2B

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 10:20

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21L0164-07 **Sampled: 12/01/2021 10:20** Sampler:
Matrix: Aqueous Description: MWD-2C

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 10:20

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21L0164-08 **Sampled: 12/01/2021 10:20** Sampler:
Matrix: Aqueous Description: MWD-2D

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 10:20

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21L0164-09 **Sampled: 12/01/2021 11:30** Sampler:
Matrix: Aqueous Description: MWD-3A

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 11:30

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21L0164-10 **Sampled: 12/01/2021 11:30** Sampler:
Matrix: Aqueous Description: MWD-3B

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 11:30

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

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21L0164

Sample ID: 21L0164-11 **Sampled: 12/01/2021 11:30** Sampler:
Matrix: Aqueous Description: MWD-3C

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 11:30

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21L0164-12 **Sampled: 12/01/2021 11:30** Sampler:
Matrix: Aqueous Description: MWD-3D

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 11:30

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21L0164-13 **Sampled: 12/01/2021 13:00** Sampler:
Matrix: Aqueous Description: MWD-4A

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 13:00

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21L0164-14 **Sampled: 12/01/2021 13:00** Sampler:
Matrix: Aqueous Description: MWD-4B

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 13:00

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21L0164-15 **Sampled: 12/01/2021 13:00** Sampler:
Matrix: Aqueous Description: MWD-4C

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 13:00

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21L0164-16 **Sampled: 12/01/2021 13:00** Sampler:
Matrix: Aqueous Description: MWD-4D

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 13:00

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

SUBCONTRACT ORDER

21L0164

Sample ID: 21L0164-17 **Sampled: 12/01/2021 14:00** Sampler:
Matrix: Aqueous Description: MWD-5A

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 14:00

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21L0164-18 **Sampled: 12/01/2021 14:00** Sampler:
Matrix: Aqueous Description: MWD-5B

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 14:00

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21L0164-19 **Sampled: 12/01/2021 14:00** Sampler:
Matrix: Aqueous Description: MWD-5C

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 14:00

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Sample ID: 21L0164-20 **Sampled: 12/01/2021 14:00** Sampler:
Matrix: Aqueous Description: MWD-5D

Analysis	Method	Analysis Due	Expires
TOX_SUB	EPA 9020	12/09/2021 23:59	12/29/2021 14:00

Containers Supplied:
B: 250ml-Bottle Glass Amber-H2SO4

Ref:
Dep:

Date: 02Dec21
Wgt: 49.55 LBS

DV: 0.00

SHIPPING: 95.10
SPECIAL: 15.05
HANDLING: 0.00
TOTAL: 110.15

Svcs: PRIORITY OVERNIGHT
TRCK: 6806 5722 6925

Released By	Date	Received By	Date
[signature]	12/2/2021 1700	FEDEX	
Released By	Date	Received By	Date

CARLSON ENVIRONMENTAL
65 East Wacker Place • Suite 2210 • Chicago, IL 60601
Phone (312) 346-2140 • Fax (312) 346-6956

CHAIN-OF-CUSTODY RECORD

No. 18444

Page 1 of 1

PROJECT NO.: 100.01
PROJECT NAME: Former Ceco Site
SAMPLERS: (Signed) [signature]
REPORT TO: Bruce Shabino
PHONE: 312-952-2552
EMAIL:

ANALYSIS DESIRED: Non Purgeable Organic Carbon; TOX; pH; Specific Conductivity

TURNAROUND REQUESTED: Standard TAT

21L0164

CLIENT SAMPLE NUMBER/DESCRIPTION	DATE TAKEN	TIME TAKEN	MATRIX	COMP.	GRAB	NO. OF CONTAINERS	Non Purgeable Organic Carbon	TOX	pH	Specific Conductivity	HOLD	REMARKS
MWD-1A	12-1-21	1520	GW		X	4	X	X	X	X		01
MWD-1B												02
MWD-1C												03
MWD-1D												04
MWD-2A		1020										05
MWD-2B												06
MWD-2C												07
MWD-2D												08
MWD-3A		1130										09
MWD-3B												10
MWD-3C												11
MWD-3D												12
MWD-4A		1300										13
MWD-4B												14
MWD-4C												15
MWD-4D												16
MWD-5A		1400										17
MWD-5B												18
MWD-5C												19
MWD-5D												20

	Date/Time	
Relinquished by (Signature) / Received by (Signature)	12-2-21 11:00	[signature]
Relinquished by (Signature) / Received by (Signature)	12/2/21 11:00	
Relinquished by (Signature) / Received for Laboratory by (Signature)	12/2/21 1100	[signature]

COMMENTS: 3.9+02=4.1 cI

RESULTS NEEDED: / / AM / PM

21L0164
Carlson - Chicago, IL
PM: Kristen Gehlbach

Microbac Laboratories, Inc. - Chicagoland

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21L0164

SENDING LABORATORY:

Microbac Laboratories, Inc. - Chicagoland
250 West 84th Drive
Merrillville, IN 46410
Phone: 219.769.8378
Lab Manager: Kristen Gehlbach
Email: kristen.gehlbach@microbac.com

RECEIVING LABORATORY:

Microbac - OVD
158 Starlite DR
Marietta, OH 45750
Phone: (800) 373-4071

Project Info:

Client Name: Client:Carlson - Chicago, IL
Project Name: Ceco - Lemont, IL
Project No: Ceco - Lemont, IL
Project Type: ENV-Remediation
Project Location: Illinois
Report TAT: 5
Due: **12/09/2021 23:59**

Sample ID: 21L0164-01 **Sampled: 12/01/2021 15:20** Sampler:
Matrix: Aqueous Description: MWD-1A

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 15:20	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21L0164-02 **Sampled: 12/01/2021 15:20** Sampler:
Matrix: Aqueous Description: MWD-1B

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 15:20	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21L0164-03 **Sampled: 12/01/2021 15:20** Sampler:
Matrix: Aqueous Description: MWD-1C

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 15:20	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21L0164-04 **Sampled: 12/01/2021 15:20** Sampler:
Matrix: Aqueous Description: MWD-1D

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 15:20	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

SUBCONTRACT ORDER

21L0164

Sample ID: 21L0164-05 **Sampled: 12/01/2021 10:20** Sampler:
Matrix: Aqueous Description: MWD-2A

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 10:20	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21L0164-06 **Sampled: 12/01/2021 10:20** Sampler:
Matrix: Aqueous Description: MWD-2B

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 10:20	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21L0164-07 **Sampled: 12/01/2021 10:20** Sampler:
Matrix: Aqueous Description: MWD-2C

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 10:20	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21L0164-08 **Sampled: 12/01/2021 10:20** Sampler:
Matrix: Aqueous Description: MWD-2D

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 10:20	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21L0164-09 **Sampled: 12/01/2021 11:30** Sampler:
Matrix: Aqueous Description: MWD-3A

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 11:30	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21L0164-10 **Sampled: 12/01/2021 11:30** Sampler:
Matrix: Aqueous Description: MWD-3B

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 11:30	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

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SUBCONTRACT ORDER

21L0164

Sample ID: 21L0164-11 **Sampled: 12/01/2021 11:30** Sampler:
Matrix: Aqueous Description: MWD-3C

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 11:30	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21L0164-12 **Sampled: 12/01/2021 11:30** Sampler:
Matrix: Aqueous Description: MWD-3D

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 11:30	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21L0164-13 **Sampled: 12/01/2021 13:00** Sampler:
Matrix: Aqueous Description: MWD-4A

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 13:00	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21L0164-14 **Sampled: 12/01/2021 13:00** Sampler:
Matrix: Aqueous Description: MWD-4B

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 13:00	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21L0164-15 **Sampled: 12/01/2021 13:00** Sampler:
Matrix: Aqueous Description: MWD-4C

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 13:00	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21L0164-16 **Sampled: 12/01/2021 13:00** Sampler:
Matrix: Aqueous Description: MWD-4D

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 13:00	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

SUBCONTRACT ORDER

21L0164

Sample ID: 21L0164-17 **Sampled: 12/01/2021 14:00** Sampler:
Matrix: Aqueous Description: MWD-5A

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 14:00	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21L0164-18 **Sampled: 12/01/2021 14:00** Sampler:
Matrix: Aqueous Description: MWD-5B

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 14:00	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21L0164-19 **Sampled: 12/01/2021 14:00** Sampler:
Matrix: Aqueous Description: MWD-5C

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 14:00	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Sample ID: 21L0164-20 **Sampled: 12/01/2021 14:00** Sampler:
Matrix: Aqueous Description: MWD-5D

Analysis	Method	Analysis Due	Expires	Network $
TOC SM5310	SM 5310 C-2011	12/09/2021 23:59	12/29/2021 14:00	$ 62.40

Containers Supplied:
C: 40ml-Vial Amber-H2SO4 D: 40ml-Vial Amber-H2SO4

Released By	Date	Received By	Date
[signature]	12/3/2021 1700	FedEx	
Released By	Date	Received By	Date

CARLSON ENVIRONMENTAL
A Nova Group, GBC Company

ATTACHMENT D
Certification Statement

Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

ILD990785453
USEPA ID Number

RCH Newco II LLC
Site Name

1978030005
IEPA Number

RCH Newco II LLC
Site Owner/Operator

Kevin J. Shudy 4/1/22
Signature of Owner/Operator Representative **Date**

Kevin J. Shudy, V.P.
Name and Title of Owner/Operator Representative

EXHIBIT I

Electronic Filing: Received, Clerk's Office 07/19/2024

FILE COPY

19-68910
1978035011-Will
Lemont/Former Fiala Property
SR/TECH

Weaver Consultants Group

March 8, 2019

Mr. Joseph Dombrowski
Illinois Environmental Protection Agency
Bureau of Land
Remedial Project Management Section
Site Remediation Program
1021 N. Grand Avenue East
PO Box 19276
Springfield, IL 62794-9276

IEPA, DIVISION OF RECORDS MANAGEMENT
APR 25 2019
REVIEWER: EMI

Re: 1978035011 – Will County
Lemont / Former Fiala Property
Site Remediation / Technical Reports

Dear Mr. Dombrowski:

On behalf of the Remediation Applicant (RA), RLF I-C SPE, LLC, **Weaver Consultants Group North Central, LLC** (Weaver Consultants) is herein submitting the enclosed materials to the Illinois Environmental Protection Agency (IEPA) Site Remediation Program (SRP) in support of obtaining a Comprehensive No Further Remediation Letter for the above referenced property (the Property). Specifically, the following items are enclosed:

- Comprehensive Site Investigation/Remediation Objectives/Remedial Action Plan (CSI/RO/RAP) dated March 8, 2019 (original and one copy); and
- Site Remediation Program Form (Form DRM-2) (original and one copy).

We trust that the enclosed will meet with your expectations. If you should have any questions or require additional information, please feel free to contact our office at 312-922-1030.

Sincerely,

Weaver Consultants Group North Central, LLC

RECEIVED
MAR 12 2019
IEPA/BOL

Peter Cambouris, LPG
Project Director

Paul Gruca
Project Manager

Electronic Filing: Received, Clerk's Office 07/19/2024
FILE COPY

19-68910
1978035011-Will
Lemont/Former Fiala Property
SR/TECH

Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Site Remediation Program Form (DRM-2)
(To be Submitted with all Plans and Reports)

You may complete this form online, save a copy, print, sign and mail it to the address above.

I. Site Identification:

Site Name: Former Fiala Property
Street Address: 12300 New Avenue P.O. Box:
City: Lemont State: IL Zip Code: 60439 Phone:
Illinois Inventory ID Number: 1978035011 IEMA Incident Number:

II. Remediation Applicant:

Applicant's Name: Mr./Ms. Mr. Brian Dowling
Company: RLF I-C SPE, LLC
Street Address: 201 West Street P.O. Box:
City: Annapolis State: MD Zip Code: 21401 Phone: 410-216-6139
Email Address: bdowling@realterm.com

I hereby request that the Illinois EPA review and evaluate the attached project documents in accordance with the terms and conditions of the Environmental Protection Act (415 ILCS 5), implementing regulations, and the review and evaluation services agreement.

Remediation Applicant's Signature: B K. Dowling Date: 2/11/19

III. Contact Person for Remediation Applicant:

Contact's Name: Mr./Ms.
Company:
Street Address: P.O. Box:
City: State: Zip Code: Phone:
Email Address:

IEPA-DIVISION OF RECORDS MANAGEMENT
RELEASABLE
REVIEWER: EMI
APR 25 2019

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IV. Review & Evaluation Licensed Professional Engineer or Geologist ("RELPEG"), if applicable:

RELPEG's Name: Mr./Ms.
Company:
Street Address: P.O. Box:
City: State: Zip Code: Phone:
Email Address:

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IEPA/BOL

IL 532-2547
LPC 566 June 2012

V. Project Documents Being Submitted:

Electronically Filed - Received, Clerk's Office 07/19/2024

Document Title: Comprehensive Site Investigation/Remediation Objectives/Rem
Date of Preparation of Plan or Report: March 8, 2019
Prepared by: Weaver Consultants Group North Central, LLC
Prepared For: Illinois EPA

Type of Document Submitted:

- [x] Site Investigation Report - Comprehensive
- [ ] Site Investigation Report - Focused
- [x] Remediation Objectives Report - Tier 1 or 2
- [ ] Remediation Objectives Report - Tier 3
- [x] Remedial Action Plan
- [ ] Remedial Action Completion Report
- [ ] Sampling Plan
- [ ] Health and Safety Plan
- [ ] Community Relations Plan
- [ ] Risk Assessment
- [ ] Containment Fate & Transport Modeling
- [ ] Other: _____

Document Title: _____
Date of Preparation of Plan or Report: _____
Prepared by: _____
Prepared For: _____

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- [ ] Site Investigation Report - Comprehensive
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- [ ] Remedial Action Completion Report
- [ ] Sampling Plan
- [ ] Health and Safety Plan
- [ ] Community Relations Plan
- [ ] Risk Assessment
- [ ] Containment Fate & Transport Modeling
- [ ] Other: _____

VI. Professional Engineer's or Geologist's Seal or Stamp:

I attest that all site investigations or remedial activities that are subject of this plan(s) or report(s) were performed under my direction, and this document and all attachments were prepared under my direction or reviewed by me, and to the best of my knowledge and belief, the work described in the plan and report has been designed or completed in accordance with the Illinois Environmental Protection Act (415 ILCS 5), 35 Ill. Adm. Code 740, and generally accepted engineering practices or principles of professional geology, and the information presented is accurate and complete.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Professional Engineer's or Geologist's Seal or Stamp:

Engineer's or Geologist's Name: John Talbot, PE, JD, LEED AP

Company: Weaver Consultants Group North Central, LLC

Registration Number: 062-041022 Phone: 312-922-1030

License Expiration Date: 11-30-19

Signature: John J. Talbot Date: 2-13-19

Note: The authority of a Licensed Professional Geologist to certify documents submitted to the Illinois Environmental Protection Agency for review and evaluation pursuant to Title XVII of the Environmental Protection Act is limited to Site Investigation Reports (415 ILCS 58.7(f), as amended by P. A. 92-0735, effective July 25, 2002. A Licensed Professional Geologist cannot certify Remediation Objectives Reports, Remedial Action Plans or Remedial Action Completion Reports.

All information submitted is available to the public except when specifically designated by the Remediation Applicant to be treated confidentially as a trade secret or secret process in accordance with the Illinois Compiled Statutes, Section 7(a) of the Environmental Protection Act, applicable Rules and Regulations of the Illinois Pollution Control Board and applicable Illinois EPA rules and guidelines. The Illinois EPA is authorized to require this information under Sections 415 ILCS 5/58 - 58.12 of the Environmental Protection Act and regulations proumulgated thereunder. Disclosure of this information is required as a condition of participation in the Site Remediation Program. Failure to do so may prevent this form from being processed and could result in your plan(s) or report(s) being rejected. This form has been approved by the Forms Management Center.

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1978035011-Will
Lemont/Former Fiala Property
SR/TECH

March 8, 2019

Project No.: 3747-302-04-01

COMPREHENSIVE SITE INVESTIGATION / REMEDIATION OBJECTIVES / REMEDIAL ACTION PLAN

IEPA-DIVISION OF RECORDS MANAGEMENT
APR 25 2019
REVIEWER: LAT

RLF I-C SPE, LLC

LPC# 1978035011

Former Fiala Property

12300 New Avenue

Lemont, Illinois

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PREPARED BY

Weaver Consultants Group

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EXECUTIVE SUMMARY

On behalf of RLF I-C SPE, LLC, the Remediation Applicant (RA), **Weaver Consultants Group North Central, LLC** (Weaver Consultants) is submitting this Comprehensive Site Investigation (CSI) / Remediation Objectives (RO) / Remedial Action Plan (RAP) Report (CSI/RO/RAP) pursuant to the requirements of 35 Illinois Administrative Code (IAC) 740.425, 740.445, and 740.450 for the property located at 12300 New Avenue in Lemont, Illinois (the Property). It is the intention of the RA to secure a Comprehensive No Further Remediation (NFR) Letter from the Illinois Environmental Protection Agency (IEPA) Site Remediation Program (SRP) demonstrating the Property is compliant with remediation objectives under the industrial/commercial land use scenario. The DRM-2 Form for document review has been provided with this report.

The Property consists of three parcels of land totaling 46.9 acres with approximately 4,219 feet of frontage along New Avenue and the Gulf, Mobile, & Ohio Railroad and approximately 620 feet of frontage along Ceco Road (refer to **Figure 1 – Site Location Map**). The Property generally lies north of the Gulf, Mobile, & Ohio Railroad and New Avenue, south of the Illinois & Michigan Canal (I&M Canal), east of Ceco Road, and west of Industrial Drive (refer to **Figure 2 – Site Base Map**). The surrounding area primarily consists of a salt and steel warehouse to the north across the Historic Illinois & Michigan (I&M) Canal, a scrap yard and recycling facility to the east, various industrial property uses, residences, and a commercial business center to the south, and a petroleum processing facility to the west (refer to **Figure 3 – Surrounding Land Use Map**).

The Property is utilized as a distribution and logistics yard and truck and trailer storage and is improved with one, single-story commercial building. The building is approximately 4,850 square-feet and consists of a concrete slab-on grade with steel frame, metal exterior, metal walls and concrete floors. In addition, at least three mobile/temporary structures are located on the western portion of the Property. The mobile/temporary structures are constructed with wood frames and metal exteriors and raised above the ground surface. There are asphalt and gravel driveways and parking lots at various locations across the Property. Decorative landscaping consisting of trees and shrubs is located east of Ceco Road in the western portion of the Property. For purposes of this Comprehensive NFR request, the "Remediation Site", also referenced herein as the "Property", consists of the entire Property as depicted on **Figure 2 – Site Base Map**.

In support of acquisition due diligence efforts for the RA, Weaver Consultants was retained to conduct a preliminary document review for the Property. The documents and a summary of the

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APR 25 2019

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preliminary findings was included in a January 7, 2016 Preliminary Document Review Summary Correspondence. The following information was identified during the preliminary document review:

- According to the historical reports reviewed, the Property was formerly owned by The Ceco Corporation, a predecessor to Robertson-Ceco Corporation (EPA ID ILD990785453; IEPA ID 1978030005). The Property was utilized in support of the management of steel-making byproduct from a Ceco Corporation-owned electric arc furnace (EAF) steel production facility located north of the Property. In 1980, the EAF dust was designated as a listed hazardous waste (K061) under the Resource Conservation and Recovery Act (RCRA). Based on the information reviewed, approximately 12,500 cubic yards of EAF dust was deposited at the Property, including approximately 10,000 cubic yards in a bermed storage area. According to a RCRA Closure Documentation Report, the remaining 2,500 cubic yards of EAF dust were believed to be deposited at undocumented locations within the eastern portion of the Property. The EAF dust deposition activities ceased in 1980, before the RCRA hazardous waste management regulations became effective.

  In 1981 to 1982, Ceco Corporation reportedly excavated and disposed the approximately 10,000 cubic yards of EAF dust from the bermed storage area at an offsite permitted hazardous waste disposal facility. In 1983, NUS Corporation (NUS), on behalf of Ceco Corporation, performed an investigation to locate and remove the remaining 2,500 cubic yards of fine grained EAF dust. In 1985, the locations of observed fine grained material believed to be EAF dust mixed with approximately 29,500 cubic yards of non-hazardous steel plant by-product (slag) and non-hazardous mill scale were excavated. The slag and mill scale were also excavated to ensure removal of all EAF dust.

  In support of RCRA Closure, approximately 29,500 cubic yards of slag and approximately 2,500 cubic yards of EAF dust were placed within an excavation with dimensions of approximately 300 feet by 220 to bedrock at a depth of 10 feet below ground surface (bgs) as a RCRA interim-status waste pile closure unit (RCH Newco II LLC parcel located south, east, and west of the Property). The IEPA approved the closure activities designating the area as a hazardous waste landfill in the 2.69-acre RCH Newco II LLC parcel, which is not included within the Remediation Site Boundary (refer to **Figure 2** for location).

Since 1993, the waste pile has been under inspection and groundwater has been monitored. From 1993 to 2007 biannual groundwater monitoring and subsurface sampling has taken place. According to the RCRA Closure Documentation Report, post-closure groundwater monitoring of the hazardous waste landfill revealed "no significant impact on the quality of the groundwater in the uppermost aquifer. The hazardous constituents for which EAF dust is a listed hazardous waste (i.e. lead, cadmium, and hexavalent chromium) are either non-detectable or present in extremely low concentrations in the groundwater."

- On December 20, 1999, the IEPA determined the slag material identified on 26.6-acres of the Property can be addressed using an Environmental Land Use Control (ELUC). The proposed ELUC dated May 31, 2008 was prepared by Carlson in support of the closure for the 26.6-acres of land containing slag. According to communications with the IEPA, various conditions were proposed within two ELUCs, one for Cook County and one for Will County, associated with the management of the remaining slag material. The ELUCs' conditions include implementation of a Site Safety Plan, an industrial/commercial land use restriction, and the covering of the slag material with asphalt, gravel, concrete, or vegetation. In addition, any slag material removed from the Property must be managed as a waste in accordance with 35 IAC Subtitle G: Waste Disposal. The ELUCs were recorded within their respective counties in March 2009.
- A Phase II Subsurface Soil Investigation (Phase II SSI) dated April 18, 2014 was conducted by Environmental Group Services Ltd. (EGSL) to evaluate subsurface environmental conditions on the Property and eastern adjoining property. Eighteen (18) soil borings were advanced, with two soil borings advanced on the eastern adjoining property, and two temporary wells were installed across the Property (refer to **Figure 4 – Approximate Soil Probe/Well Location Map**). Analytical results from the Phase II SSI were compared to IEPA Tiered Approach to Corrective Action Objectives (TACO) Tier 1 Soil Remediation Objectives (SROs) listed in 35 Illinois Admn Code (IAC) 742, Appendix B, Table B and Tier 1 Groundwater Remediation Objectives (GROs) listed in 35 IAC 742, Appendix B, Tables E and H. The Phase II SSI identified concentrations of inorganics across the Property above Tier 1 SROs and concentrations of total inorganics in excess of Tier 1 GROs. In addition, concentrations of polychlorinated biphenyls (PCBs) in excess of Tier 1 SROs were identified a surficial sample and a sample collected from 0-2' feet below ground surface

(bgs) within one soil probe (GP-16) in the vicinity of scrap metal operations on the eastern adjoining property.

Weaver Consultants conducted a Phase I Environmental Site Assessment (ESA) of the Property in March 2016. The Phase I ESA Report dated April 8, 2016 identified the following recognized environmental conditions (RECs):

- *REC-1: The known presence of subsurface impacts identified during EGSL's Phase II Subsurface Soil Investigation*;
- *REC-2: The potential presence of subsurface impacts associated with the current operations including the presence of aboveground storage tanks (ASTs) and storage drums*; and
- *REC-3: The potential presence of subsurface impacts associated with the historical presence of a steel mill on the northern adjoining property, a quarry on the southern adjoining property, and industrial operations on the eastern and western adjoining properties.*

In addition, the April 8, 2016 Phase I ESA Report identified the following controlled recognized environmental condition (CREC):

- *CREC-1: The portion of the Property with United States Environmental Protection Agency (USEPA) issued RCRA closure with an ELUC that requires property use controls including an industrial/commercial land use restriction, a Site Safety Plan, and maintenance of an asphalt, gravel, concrete, or vegetation cap over slag material.*

As a result, Weaver Consultants conducted a March 2016 Phase II ESA to assess subsurface environmental conditions related to the above RECs, assess further the previously identified impacts, and assess data gap areas and prepared a Phase II ESA Report dated April 8, 2016. Eighteen (18) soil probes were advanced and four temporary wells were installed across the Property (refer to **Figure 4**). Samples collected to assess subsurface conditions related to the ASTs and stored drums did not exhibit concentrations of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), or PCBs in excess of the applicable Tier 1 SROs. Samples collected to characterize previously identified metal impacts exhibited similar impacts in excess of applicable Tier 1 SROs and were determined to be related to the slag material. However, samples collected to characterize the historical PCB impacts in the northeastern portion of the Property were below Tier 1 SROs. Samples collected to assess data

gap areas exhibited concentrations of inorganics in excess of Tier 1 SROs, with the exception of two soil probes advanced on the eastern portion of the Property. In addition, TCLP inorganic results were below hazardous waste standards. Groundwater samples exhibited total inorganics in excess of Tier 1 GROs for Class II Groundwater; however, concentrations of dissolved inorganics were below Tier 1 GROs.

Following enrollment of the Property into the SRP on January 11, 2018, Weaver Consultants prepared a CSI Work Plan dated March 9, 2018 in support of addressing the subsurface impacts. The IEPA issued a May 29, 2018 correspondence requesting additional Target Compound List sampling as a result of the Property size. An Updated CSI Work Plan dated August 16, 2018 was prepared with an increased scope of work than previously proposed in response to the IEPA comments. The IEPA conditionally approved the Updated CSI Work Plan in a September 11, 2018 correspondence.

Weaver Consultants implemented CSI activities for purposes of characterizing subsurface environmental conditions and the extent of impacts previously detected as well as assessing data gaps in accordance with SRP CSI requirements (35 IAC 740.415, 740.420, and 740.425). Soil and groundwater are considered the media of concern for this Property. Soil and groundwater samples were submitted for laboratory analysis of various Target Compound List (TCL) parameters as presented in 35 IAC 740 Appendix A, Tables A-D, which are the Contaminants of Concern (COCs) for this Property.

The CSI activities were conducted by Weaver Consultants on October 25-26 and 30-31, 2018 and December 7, 2018. Laboratory analytical results were compared to Tier 1 SROs for Industrial/Commercial Properties and Tier 1 GROs for Class II Groundwater and the Indoor Inhalation Exposure Route for Industrial/Commercial Properties described further in **Section 2.0** of this Report. Soil analytical results were below laboratory reporting limits or Tier 1 SROs for Industrial/Commercial Properties, with the exception of various polynuclear aromatic hydrocarbons (PNAs), PCBs, and various inorganics. Groundwater analytical results were below laboratory reporting limits or Tier 1 GROs, with the exception of various PNAs, pentachlorophenol, various total inorganics, and dissolved iron. With the exception of PCBs, these impacts generally appear to be associated with the imported fill and slag material, not the result of a release from the current or historical use of the Property.

The CSI Report, **Section 2.0**, identifies the COCs at the Property, summarizes the site investigation activities and characterizes of the horizontal and vertical extent of observed impacts. The RO

Report, **Section 3.0**, describes the evaluation completed to establish the appropriate remediation objectives for the COCs. The RAP Report, **Section 4.0**, proposes Hot Spot removal in conjunction with site-specific contaminant averaging and institutional controls to achieve the proposed remediation objectives. **Section 5.0** provides conclusions and **Section 6.0** includes the signatures and certifications of the RA and Professional Engineer. **Section 7.0** includes sources consulted or reviewed in connection with this report.

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COMPREHENSIVE SITE INVESTIGATION/REMEDIATION OBJECTIVES/REMEDIAL ACTION PLAN
FORMER FIALA PROPERTY / LPC# 1978035011
12300 NEW AVENUE
LEMONT, ILLINOIS

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COMPREHENSIVE SITE INVESTIGATION/REMEDIATION OBJECTIVES/REMEDIAL ACTION PLAN
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1 INTRODUCTION

The following presents the information required by 35 IAC 740.425, 740.445, and 740.450 for submission of a Comprehensive Site Investigation (CSI) / Remediation Objectives (RO) / Remedial Action Plan (RAP) Report (CSI/RO/RAP). It is the intention of the Remediation Applicant (RA) to secure a Comprehensive No Further Remediation (NFR) Letter from the Illinois Environmental Protection Agency (IEPA) Site Remediation Program (SRP) demonstrating the Property is compliant with remediation objectives under an Industrial/Commercial land use scenario. The DRM-2 Form for document review has been provided with this report.

The Property consists of three parcels of land totaling 46.9 acres with approximately 4,219 feet of frontage along New Avenue and the Gulf, Mobile, & Ohio Railroad and approximately 620 feet of frontage along Ceco Road. The Property generally lies north of the Gulf, Mobile, & Ohio Railroad and New Avenue, south of the Illinois & Michigan Canal (I&M Canal), east of Ceco Road, and west of Industrial Drive (refer to **Figure 1 – Site Location Map**). The surrounding area primarily consists of a salt and steel warehouse to the north across the Historic Illinois & Michigan (I&M) Canal, a scrap yard and recycling facility to the east, various industrial property uses, residences, and a commercial business center to the south, and a petroleum processing facility to the west.

The Property is improved with one, single-story commercial building. The building is approximately 4,850 square-feet and consists of a concrete slab-on grade with steel frame, metal exterior, metal walls and concrete floors. In addition, at least three mobile/temporary structures are located on the western portion of the Property. The mobile/temporary structures are constructed with wood frames and metal exteriors and raised above the ground surface. There are asphalt and gravel driveways and parking lots at various locations across the Property. Decorative landscaping consisting of trees and shrubs is located east of Ceco Road in the western portion of the Property. For purposes of this Comprehensive NFR request, the "Remediation Site", also referenced herein as the "Property", consists of the entire Property as depicted on **Figure 2 – Site Base Map**.

The Property is located within a mixed-use area of Cook and Will Counties in Illinois. The surrounding area consists of industrial and commercial property uses, with some residential property uses southeast of the Property (refer to **Figure 3 – Surrounding Land Use Map**).

A Phase II Subsurface Soil Investigation (Phase II SSI) dated April 18, 2014 was conducted by Environmental Group Services Ltd. (EGSL) to evaluate subsurface environmental conditions on

the Property and eastern adjoining property. Analytical results from the Phase II SSI were compared to IEPA Tiered Approach to Corrective Action Objectives (TACO) Tier 1 Soil Remediation Objectives (SROs) listed in 35 Illinois Admn Code (IAC) 742, Appendix B, Table B and Tier 1 Groundwater Remediation Objectives (GROs) listed in 35 IAC 742, Appendix B, Tables E and H. The Phase II SSI identified concentrations of inorganics across the Property above Tier 1 SROs and concentrations of total inorganics in excess of Tier 1 GROs. In addition, concentrations of polychlorinated biphenyls (PCBs) in excess of Tier 1 SROs were identified a surficial sample and a sample collected from 0-2' feet below ground surface (bgs) within one soil probe (GP-16) in the vicinity of scrap metal operations on the eastern adjoining property.

Weaver Consultants conducted a Phase I Environmental Site Assessment (ESA) of the Property in March 2016. The Phase I ESA Report dated April 8, 2016 identified recognized environmental conditions (RECs) associated with the use of the Property and adjoining properties and known presence of impacts. In addition, a controlled recognized environmental condition (CREC) was identified based on the historical importation of fill and slag materials. As a result, Weaver Consultants conducted a March 2016 Phase II ESA to assess subsurface environmental conditions related to the above RECs, assess further the previously identified impacts, and assess data gap areas and prepared a Phase II ESA Report dated April 8, 2016. Analytical results from the Phase II ESA were compared to Tier 1 SROs listed in 35 IAC 742, Appendix B, Table B and Tier 1 GROs listed in 35 IAC 742, Appendix B, Tables E and H. The Phase II ESA identified concentrations of polynuclear aromatic hydrocarbons (PNAs) and various inorganics above Tier 1 SROs. The Phase II ESA groundwater analytical results exhibited total inorganics in excess of Tier 1 GROs for Class II Groundwater; however, concentrations of dissolved inorganics were below Tier 1 GROs.

To address subsurface impacts, the RA, RLF I-C SPE, LLC, enrolled the Property into the SRP on January 11, 2018 in support of obtaining a Comprehensive NFR Letter. Weaver Consultants prepared a CSI Work Plan dated March 9, 2018 in support of addressing the subsurface impacts. The IEPA issued a May 29, 2018 correspondence requesting additional Target Compound List sampling as a result of the Property size. An Updated CSI Work Plan dated August 16, 2018 was prepared and conditionally approved by the IEPA in a September 11, 2018 correspondence.

CSI activities were conducted for purposes of characterizing subsurface environmental conditions and assessing data gaps in accordance with SRP CSI requirements (35 IAC 740.415, 740.420, and 740.425). Soil and groundwater are considered the media of concern for this Property. Soil and groundwater samples were submitted for laboratory analysis of various Target Compound List (TCL) parameters as presented in 35 IAC 740 Appendix A, Tables A-D, which are the Contaminants

of Concern (COCs) for this Property. Subsurface characterization is presented below in accordance with SRP CSI requirements (35 IAC 740.415, 740.420, and 740.425).

1.1 Report Purpose

It is the intention of the RA to secure a Comprehensive NFR Letter for the Property. This Report is being submitted to address the following SRP requirements:

1. Submission of a CSI Report for a CSI in accordance with 35 IAC Section 740.425.
2. Submission of a RO Report in accordance with 35 IAC Section 740.445.
3. Submission of a RAP Report in accordance with 35 IAC Section 740.450.

The CSI Report, **Section 2.0**, identifies the COCs at the Property associated with the historical use of the Property. The CSI Report summarizes the Property investigation activities and includes a characterization of the horizontal and vertical extent of observed impacts. The RO Report, **Section 3.0**, describes the evaluation completed to establish the appropriate remediation objectives for the COCs. The RAP Report, **Section 4.0**, includes a remedial strategy to achieve the proposed remediation objectives. **Section 5.0** provides conclusions and **Section 6.0** includes the Signatures and Certifications of the RA and Professional Engineer. **Section 7.0** includes sources consulted or reviewed in connection with this report.

1.2 User Reliance

This report has been prepared on behalf of the RA, RLF I-C SPE, LLC, for submission to the IEPA SRP. No additional parties may use the information contained in this report without obtaining the written permission of Weaver Consulting and RLF I-C SPE, LLC. Weaver Consultants' duties and obligations extend only to RLF I-C SPE, LLC. Weaver Consultants' duties and obligations to such parties are not transferable to any person, corporation, or organization without the express written consent of Weaver Consultants and RLF I-C SPE, LLC.

1.3 Project Background

The following presents a general summary of the available information concerning historical site assessments/investigations from the reports identified below. This summary is intended to provide a general understanding of the timing, scope and findings of the historical documents and site investigation activities, as well as providing information from relevant government agencies. Copies of the historical environmental reports have been provided in Attachment 1 of the March 9, 2018 CSI Work Plan, which was updated June 6, 2018 and August 16, 2018 based on IEPA comments and approved in correspondence dated September 11, 2018.

The following historical environmental documents were reviewed in support of SRP activities:

1. *Preliminary Document Review Summary Correspondence* dated January 7, 2016. Prepared for Realterm Nat and prepared by Weaver Consultants;
2. *Phase II dated SSI* April 18, 2014. Prepared for Mahoney, Silverman, & Cross, LLC and prepared by EGSL;
3. *Phase I ESA* dated April 8, 2016. Prepared for Realterm Nat and prepared by Weaver Consultants; and
4. *Phase II ESA* dated April 8, 2016. Prepared for Realterm Nat and prepared by Weaver Consultants.

The following sections summarize the findings from the above referenced documents prepared for the Property.

1.3.1 *2016 WCG Preliminary Document Review*

In support of acquisition due diligence efforts for the RA, Weaver Consultants was retained to conduct a preliminary document review of records associated with the Property. The documents and a summary of the preliminary findings was included in a January 7, 2016 Preliminary Document Review Summary Correspondence. In support of this effort, Weaver Consultants reviewed the following environmental reports and historical documents:

1. *RCRA Closure Documentation Report, Robertson-Ceco Corporation* dated March 2008. Prepared for Robertson-Ceco Corporation and prepared by Carlson Environmental (Carlson);
2. *Environmental Land Use Control* dated May 31, 2008. Prepared for James Moore of the IEPA Bureau of Land and prepared by Carlson;
3. *Modified Hazardous Waste Part A Permit* dated January 9, 2009. Prepared for James Moore of the IEPA Bureau of Land and prepared by Carlson;
4. *Approval Letter of Modified Hazardous Waste Part A Permit* dated February 24, 2009. Prepared for James Fiala and prepared by IEPA Bureau of Land;
5. *Recorded Environmental Land Use Control-Will County Recorder of Deeds* dated March 5, 2009. Prepared for James Fiala and prepared by Carlson;
6. *Recorded Environmental Land Use Control-Cook County Recorder of Deeds* dated March 30, 2009. Prepared for James Fiala and prepared by Carlson;
7. *Approval Letter of Recorded Environmental Land Use Controls* dated September 2, 2009. Prepared for James Fiala and prepared by IEPA Bureau of Land;

8. *Phase II SSI* dated April 18, 2014. Prepared for Sean Bradley of Mahoney, Silverman, & Cross, LLC and prepared by EGSL;
9. *ALTA/ACSM Land Title Survey* dated January 13, 2015. Prepared for Mahoney, Silverman, & Cross, LLC and prepared by Ruettiger, Tonelli & Associates, Inc. (RTA); and
10. *Wetland Resource Investigation, Fiala Property* dated April 17, 2015. Prepared for First Midwest Bank and prepared by RTA.

With the exception of the Phase II SSI that is discussed in **Section 1.3.2**, the remaining environmental reports and historical documents reviewed are summarized below.

- According to the March 2008 RCRA Closure Documentation Report provided, the Property was formerly owned by The Ceco Corporation, whom is a predecessor to Robertson-Ceco Corporation (EPA ID ILD990785453; IEPA ID 1978030005). The Property was utilized in support of the management of steel-making byproduct from a Ceco Corporation-owned EAF steel production facility located north of the Property. In 1980, the EAF dust was designated as a listed hazardous waste (K061) under RCRA. Based on information presented within the RCRA Closure Documentation Report, approximately 12,500 cubic yards of EAF dust was deposited at the Property, including approximately 10,000 cubic yards in a bermed storage area. According to the RCRA Closure Documentation Report, the remaining 2,500 cubic yards of EAF dust were believed to be deposited at undocumented locations within the eastern portion of the Property. The EAF dust deposition activities ceased in 1980 before the RCRA hazardous waste management regulations became effective.

  In 1981 to 1982, Ceco Corporation excavated and disposed the approximately 10,000 cubic yards of EAF dust from the bermed storage area at an offsite permitted hazardous waste disposal facility. In 1983, NUS, on behalf of Ceco Corporation, performed an investigation to locate and remove the remaining 2,500 cubic yards of fine grained EAF dust. In 1985, the locations of observed fine grained material believed to be EAF dust mixed with approximately 29,500 cubic yards of non-hazardous steel plant by-product (slag) and non-hazardous mill scale were excavated. The slag and mill scale were also excavated to ensure removal of all EAF dust. These activities were conducted in accordance with an IEPA-approved Final Closure Plan for Waste Storage Area dated January 1985 and the Amendment to Closure Plan for Waste Storage Area dated March 1986.

In support of RCRA Closure, approximately 29,500 cubic yards of slag and approximately 2,500 cubic yards of EAF dust were placed within an excavation with dimensions of approximately 300 feet by 220 to bedrock at a depth of 10 feet as a RCRA interim-status waste pile closure unit (RCH Newco II LLC parcel located south, east, and west of the Property) in accordance with the IEPA approved Closure Plan. The IEPA approved the closure activities designating the area as a hazardous waste landfill in the 2.69-acre RCH Newco II LLC parcel, which is not included within the Remediation Site Boundary (refer to **Figure 2** for location). Since 1993, the waste pile has been under inspection and groundwater has been monitored. From 1993 to 2007, biannual groundwater monitoring and subsurface sampling has taken place.

Five groundwater monitoring wells were installed partially within the upper portion of the bedrock in support of post-closure monitoring. According to the RCRA Closure Documentation Report, post-closure groundwater monitoring of the hazardous waste landfill revealed *"no significant impact on the quality of the groundwater in the uppermost aquifer. The hazardous constituents for which EAF dust is a listed hazardous waste (i.e. lead, cadmium, and hexavalent chromium) are either non-detectable or present in extremely low concentrations in the groundwater."*

- On December 20, 1999, the IEPA determined the slag material identified on 26.6-acres of the Property can be addressed using an ELUC. The proposed ELUC dated May 31, 2008 was prepared by Carlson in support of the closure for the 26.6-acres of land containing slag (refer to **Figure 2** for approximate ELUC location). According to communications with the IEPA, various conditions were proposed within two ELUCs, one for Cook County and one for Will County, associated with the management of the remaining slag material. The ELUCs' conditions include implementation of a Site Safety Plan, an industrial/commercial land use restriction, and the covering of the slag material with asphalt, gravel, concrete, or vegetation. In addition, any slag material removed from the Property must be managed as a waste in accordance with 35 IAC Subtitle G: Waste Disposal. The ELUCs were recorded within their respective counties in March 2009.
- The January 9, 2009 Revised Hazardous Waste Part A Application Documentation prepared by Carlson includes Closure/Post-Closure forms. The revised forms modified the ownership and reduced the facility size to include only the two-acre landfill area (RCH Newco II LLC parcel).

- The February 24, 2009 IEPA correspondence includes a response to the submittal of the May 31, 2008 RCRA Closure Plan and ELUCs. According to the correspondence, the January 9, 2009 submittal to modify the Property's existing closure plan was approved by the IEPA. The approval states that following the recording of the ELUCs, the closure activities at the Property have been completed. The post closure activities at the RCH Newco II LLC parcel must be carried out in accordance with current plans approved by the IEPA.
- The March 5 and March 30, 2009 ELUCs prepared by Carlson were recorded in Will and Cook Counties (refer to **Figure 2** for approximate ELUC location).
- The September 2, 2009 IEPA correspondence was prepared in response to two January 9, 2009 submittals and one March 30, 2009 submittal to the IEPA regarding closure plans for the landfill. Based on a June 24, 2009 IEPA inspection of the Property and RCH Newco II LLC parcel and review of the aforementioned submittals, the IEPA indicated that the RCRA closure activities had been carried out in accordance with IEPA-approved plans. The correspondence outlines land use regulations, groundwater sampling procedures, and standards that the post closure care of the RCH Newco II LLC parcel must meet in regards to the condition of its cover and vegetation present. Post closure activities for the landfill began January 1, 1993.

1.3.2 *2014 EGSL Phase II SSI*

As part of the Preliminary Document Review, Weaver Consultants also reviewed an April 18, 2014 Phase II SSI prepared by EGSL. The Phase II SSI was conducted to evaluate subsurface environmental conditions across the Property and the eastern adjoining property. A total of eighteen (18) soil borings were advanced and two temporary monitoring wells were installed as part of the Phase II SSI, with two soil borings (GP-17 and GP-18) advanced on the eastern adjoining property (refer to **Figure 4 – Approximate Soil Probe/Well Location Map** for locations). Ten (10) soil samples and two groundwater samples were analyzed for the TCL, including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, PCBs, Target Analyte List (TAL), and pH. One sample was also analyzed for Toxicity Characteristic Leaching Procedure (TCLP) RCRA metals. In addition, one surficial soil sample was collected and analyzed for SVOCs and PCBs.

Analytical results from the Phase II SSI were compared to IEPA TACO Tier 1 SROs listed in 35 IAC 742, Appendix B, Table B and Tier 1 GROs listed in 35 IAC 742, Appendix B, Tables E and H.

The soil analytical results indicated total chromium, lead, manganese, mercury, and PCB concentrations were detected in excess of Tier 1 SROs for the Soil Ingestion and/or Outdoor Soil Inhalation Exposure Routes for Industrial/Commercial Properties and/or the Construction Worker Scenario and the Soil Component for the Groundwater Ingestion Exposure Route for Class II Groundwater (refer to **Table 1 – Historical Soil Analytical Summary** and **Table 2 – Historical pH-Specific Inorganic SROs Analytical Summary**). It should be noted PCB impacts were also detected in one soil probe (GP-16), in a surficial soil sample and a sample collected between 0 to 2 feet bgs in the northeastern corner of the Property. The groundwater analytical results indicated total aluminum and total iron concentrations were detected in excess of the Tier 1 GROs for Class II Groundwater (refer to **Table 3 – Historical Groundwater Analytical Summary**). EGSL did not collect filtered groundwater samples for dissolved inorganics analysis.

1.3.3 *2016 WCG Phase I ESA*

Weaver Consultants conducted a Phase I ESA for the Property and prepared a report dated April 8, 2016. According to the Phase I ESA, the Property had been used for equipment, truck, and trailer storage for approximately fifteen (15) years. The Property was previously occupied by Ceco Steel from 1950 until the 1990s where it was used as a facility to store steel by-products, according to key site manager Mr. Jamie Wallace of MDS Properties. The Property was used as a quarry beginning in the 1940s until Ceco Steel occupied the Property.

The following recognized environmental conditions (RECs) were identified in connection with the Property during the Phase I ESA:

- *REC-1: The known presence of subsurface impacts identified during EGSL's Phase II SSI.*
- *REC-2: The potential presence of subsurface impacts associated with the current operations including the presence of ASTs and storage drums; and*
- *REC-3: The potential presence of subsurface impacts associated with the historical presence of a steel mill on the northern adjoining property, a quarry on the southern adjoining property, and industrial operations on the eastern and western adjoining properties.*

Additionally, the following Controlled REC (CREC) was identified in connection with the Property:

- *CREC-1: The portion of the Property with USEPA-issued RCRA closure with an ELUC that requires property use controls including an industrial/commercial land use restriction, a Site Safety Plan, and maintenance of an asphalt, gravel, concrete, or vegetation cap over slag material.*

Based on the groundwater sampling, inspection activities, and associated findings of the March 2008 RCRA Closure Documentation Report approved by the IEPA, the adjoining RCH Newco II LLC parcel was not identified as a REC in connection with the Property.

1.3.4 *2016 WCG Phase II ESA*

Weaver Consultants conducted a Phase II ESA on March 2-3, 2016 to assess subsurface environmental conditions related to previously identified impacts, data gap areas, and the aforementioned RECs. Weaver Consultants advanced eighteen (18) soil probes and installed four temporary monitoring wells (refer to **Figure 4**). The table below indicates the areas of exploration and rationale for each of the eighteen (18) soil probes and four temporary monitoring wells as part of the Phase II ESA:

Soil Probe/ Monitoring Well Location	Areas of Exploration
SP-1	Western-southwestern portion of Property: Characterize previous soil impacts; in the vicinity of a transformer
SP-2	Western portion of the Property: In the vicinity of three diesel fuel ASTs
SP-3	Western portion of the Property: In the vicinity of one diesel fuel AST, one trailer-mounted diesel fuel AST, and stored materials
SP-4; SP-5/TW-4; SP-7; SP-12	Western-central portion of Property: Characterize previous soil impacts; in the vicinity of the offsite hazardous landfill closure
SP-6/TW-2	Western-central portion of Property: In the vicinity of stored materials and drums
SP-8	Western-central portion of Property: Not sampled; 2-3 feet bgs refusal following four attempts
SP-9	Central portion of the Property: Assess data gap area

Soil Probe/ Monitoring Well Location	Areas of Exploration
SP-10	Northwestern portion of Property within Ceco workshop building: In the vicinity of one motor oil AST, stored drums and materials, surficial staining
SP-11/TW-3	Central portion of the Property: Characterize previous groundwater impacts;
SP-13	Eastern-central portion of Property: Assess data gap area
SP-14; SP-16	Northeastern portion of Property: Characterize previous soil impacts
SP-15	Northwestern portion of Property: Characterize previous soil impacts
SP-17	Northwestern portion of Property east of Ceco workshop building: In the vicinity of three diesel fuel ASTs, stored materials and drums
SP-18/TW-1	Northwestern portion of Property south of Ceco workshop building: In the vicinity of one motor oil AST, stored materials and drums, surficial staining

A total of nineteen (19) soil samples and four groundwater samples were submitted for laboratory analysis. Soil and groundwater sample results were compared to the TACO Tier 1 SROs for Industrial/Commercial Properties and Tier 1 GROs for Class II Groundwater.

Soil samples collected to assess subsurface environmental conditions related to the RECs were analyzed for various TCL parameters including VOCs, benzene, toluene, ethylbenzene, xylenes (BTEX), SVOCs, PNAs, pesticides, PCBs, TAL inorganics, and pH. In addition, select samples were analyzed for total petroleum hydrocarbons (TPH) and TCLP RCRA metals.

Soil samples collected to assess subsurface conditions related to the ASTs and stored drums did not exhibit VOC, SVOC, or PCB impacts in excess of the corresponding Tier 1 SROs (refer to **Table 1** and **Table 2**). Samples collected to characterize previously identified various inorganic impacts

exhibited similar impacts in excess of corresponding Tier 1 SROs. These inorganic impacts were detected in the shallow subsurface likely related to the fill and slag material. Samples collected to assess data gap areas exhibited inorganics in excess of Tier 1 SROs, with the exception of SP-11 and SP-13 collected on the eastern portion of the Property (refer to **Figure 4**). However, samples collected to characterize previously identified PCB impacts in the northeastern portion of the Property were below Tier 1 SROs. In addition, TCLP inorganics results were below hazardous waste standards (refer to **Table 1**).

Groundwater samples collected from the four temporary wells were analyzed for various TCL parameters. One groundwater sample exhibited total lead in excess of Tier 1 GROs for Class II Groundwater. Dissolved inorganics did not exhibit concentrations in excess of Tier 1 GROs (refer to **Table 3**).

Following enrollment of the Property into the SRP on January 11, 2018, Weaver Consultants prepared a CSI Work Plan dated March 9, 2018 in support of addressing the subsurface impacts. The IEPA issued a May 29, 2018 correspondence requesting additional Target Compound List sampling as a result of the Property size. An Updated CSI Work Plan dated August 16, 2018 was prepared with an increased scope of work than previously proposed in response to the IEPA comments. The IEPA conditionally approved the Updated CSI Work Plan in a September 11, 2018 correspondence.

Based on the site investigation findings, a remedial strategy consisting of Hot Spot removal in conjunction with site-specific contaminant averaging and institutional controls is proposed to address impacts in excess of Tier 1 SROs and Tier 1 GROs.

The report contained herein documents implementation of the site investigation pursuant to IEPA SRP CSI requirements (**Section 2.0**). The RO section of the report (**Section 3.0**) describes the evaluation completed to establish the appropriate remediation objectives for the COCs. The RAP section (**Section 4.0**) includes a remedial strategy to achieve the proposed remediation objectives. The following section provides additional detail with regard to the CSI activities completed at the Property.

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2 COMPREHENSIVE SITE INVESTIGATION

2.1 Site Characterization

2.1.1 *Sources Consulted or Reviewed*

Sources consulted or reviewed in preparation of this report are included in **Section 7.0**. This section includes select information on historical site assessment and investigation activities as summarized in the above **Section 1.3**.

2.1.2 *Site Historical Uses*

Weaver Consultants' Phase I ESA for the Property included the following historical sources:

- Historical aerial photographs dated 1939, 1946, 1954, 1962, 1967, 1973, 1978, 1983, 1988, 1993, 1998, 2005, 2009, and 2015;
- Historical topographic maps dated 1892, 1923, 1954, 1962, 1973, 1980, 1993, 1998, 2009, and 2012; and
- Local Street Directories dated 1999, 2004, and 2009.

According to historical records, the Property was unimproved land by at least 1892. By 1923, the Property appeared improved with ten (10) buildings and a depression in the center of the Property, where land disturbing activities appeared to be taking place. Between 1939 and 1954, a quarry was depicted in the central portion of the Property, a road was depicted extending north from New Avenue through the Property, a pond was observed on the northwestern portion of the Property, a water feature was depicted extending south from the I&M Canal to the center of the Property, and additional land disturbing activities were observed throughout the Property. In addition, at least three buildings appeared to have been razed. The Property appeared generally unchanged through at least 1962. Between 1962 and 1980, land disturbing activities took place on various portions of the Property. Between 1980 and 1983, land disturbing activities on the western portion of the Property were no longer occurring. Between 1983 and 1988, additional land disturbing activities were taking place eastern portion of the Property. Between 1988 and 1993, two additional water features, vegetated areas, and additional excavation and/or dumping areas appear in the eastern portion of the Property while four buildings appeared to have been razed. Between 1993 and 1998, the Property was improved with a road extending east and west through its approximate center, and one building on the southwestern portion of the Property appeared to have been razed. The western portion of the Property appeared vacant and the two water features were no longer present. Between 1998 and 2005, the Property appeared graded with trucks stored onsite. One of the buildings in the western portion of the

Property appeared to have been razed and previous land disturbances appeared to have been filled in. Between 2005 and 2009, a 6-lane highway was constructed over the central portion of the Property, which appears vacant while truck trailers appeared to be stored in the western and eastern portions of the Property. Between 2009 and 2015, the Property appeared largely unchanged and in its general current configuration.

According to local street directories, in 1999, the Property was listed as Connect Inc., Kaiser Inc., Noramco Terminals, Rebar Express and Tie and Track Systems Inc. In 2004, the Property was listed as Rebar Express, Liberty Truck and Trailer LLC, Noramco Terminals, Tie and Track Systems Inc., Resource Utility Supply and Republic Trailer Services Inc. In 2009, the Property was listed as Republic Trailer Services Inc., Keith's Construction, and Illinois Bulk Carrier.

2.1.3 *Site Description*

2.1.3.1 General Site Features

The Property consists of approximately 46.9 acres of land with approximately 4,219 feet of frontage along New Avenue and the Gulf, Mobile, & Ohio Railroad and approximately 620 feet of frontage along Ceco Road. The Property generally lies north of the Gulf, Mobile, & Ohio Railroad and New Avenue, south of the I&M Canal, east of Ceco Road, and west of Industrial Drive (refer to **Figure 1**). The Property is described as three parcels of land within the northeast quarter of Section 25, Township 37 North, Range 10 East of the Third Principal Meridian in Will County, Illinois continuing into the northwest quarter of Section 30, Township 37 North, Range 11 East of the Third Principal Meridian in Cook County, Illinois.

The Property is utilized as a distribution and logistics yard and truck and trailer storage and is improved with one, single-story commercial building. The building is approximately 4,850 square-feet and consists of a concrete slab-on grade with steel frame, metal exterior, metal walls and concrete floors. In addition, at least three mobile/temporary structures are located on the western portion of the Property. The mobile/temporary structures are constructed with wood frames and metal exteriors and raised above the ground surface. There are asphalt and gravel driveways and parking lots at various locations across the Property. Decorative landscaping consisting of trees and shrubs is located east of Ceco Road in the western portion of the Property (refer to **Figure 2**).

2.1.3.2 Surrounding Land Uses

The Property is located within a mixed-use area of Will County and Cook County, Illinois. The surrounding area primarily consists of a salt and steel warehouse to the north across the Historic I&M Canal, a scrap yard and recycling facility to the east, various industrial property uses, residences, and a commercial business center to the south, and a petroleum processing facility to the west (see **Figure 3 – Surrounding Land Use Map**). In addition, as discussed in **Section 1.3.1**, a hazardous waste landfill (RCH Newco II LLC) is located to the adjacent south, east, and west of the southern-central portion of the Property. Based upon historical and current development practices at and near the Property, the current uses are not anticipated to undergo significant change in the future.

The following table includes a summary of the uses of adjoining properties:

CURRENT ADJOINING PROPERTIES			
Property Name/Occupant	**Address**	**Operation/Use**	**Direction from the Property**
Noramco Terminal Corporation	12300 New Avenue Lemont, Illinois	Warehouse/Trucking Company	North across the Historic I&M Canal
Lemont Scrap Processing	16229 New Avenue Lemont, Illinois	Industrial	East
RCH Newco II LLC	Ceco Road and New Avenue Lemont, Illinois	Industrial Waste Landfill	South, East, and West
Residences	Along New Avenue Lemont, Illinois	Residential	South across New Avenue
Casey Equipment	16754 New Avenue Lemont, Illinois	Commercial	South across New Avenue
Aggreko	16748 New Avenue Lemont, Illinois	Industrial/ Commercial	South across New Avenue
Lemont Public Works	16680 New Avenue Lemont, Illinois	Government/ Commercial	South across New Avenue

CURRENT ADJOINING PROPERTIES			
Property Name/Occupant	**Address**	**Operation/Use**	**Direction from the Property**
Kromray Hydraulic Machinery	16640 New Avenue Lemont, Illinois	Industrial	South across New Avenue
Resicom Business Park	12305 New Avenue Lemont, Illinois	Commercial	South Across New Avenue
Oxbow Midwest Calcining	12308 New Avenue Lemont, Illinois	Industrial	West across Ceco Road

2.1.3.3 Physiography

A review of the 1998 Romeoville, Illinois, 7.5-minute quadrangle, topographic map published by the United States Geological Survey (USGS) (see **Figure 1**) suggests that the Property is at an elevation of approximately 591 feet above mean sea level (msl) and slopes to the north towards the Historic I&M Canal, Chicago Sanitary and Ship Canal, and Des Plaines River.

2.1.3.4 Regional Geology/Hydrogeology

Based on Weaver Consultants' review of certain ISGS documents (Berg et al. 1988; Berg et al. 1984; Willman and Lineback 1970), the Property is underlain by Silurian and Devonian age Dolomite bedrock of the Racine (top), Waukesha, Joliet, Kankakee, and Edgewood formations. The Racine (top), Waukesha, Joliet, Kankakee, and Edgewood formations are described as largely dolomites, slightly to moderately argillaceous with scattered chert nodules. The Racine Formation contains large reefs of massive to well-bedded pure dolomite; minor beds of shale and shaly dolomite in lower part and locally bordering reefs in upper part; partly limestone in places near Kankakee Valley; and fills pre-Silurian valleys as much as 100 feet in Maquoketa Shale in some areas. Published information suggests bedrock is encountered at or within twenty (20) feet of the surface in the vicinity of the Property.

The regional near-surface hydrostratigraphic units can be generalized into two aquifers: a shallow aquifer zone in more permeable soil (not always present) that may be present in the glacial drift, and deep aquifer in the underlying bedrock aquifers. The ISGS documents (Berg et al. 1984) also indicate that the potential for groundwater contamination associated with the land burial of

waste is high and classified as "A1" due to the presence of permeable bedrock at or within twenty (20) feet of land surface with variable overlying materials.

2.1.3.5 Site Geology/Hydrogeology

The following interpretation of the subsurface conditions is based upon the sixty-two (62) soil probes advanced at the Property as part of the 2014 Phase II SSI, Phase II ESA, and CSI activities. **Appendix A – Soil Probe/Monitoring Well Logs** contains the soil probe and monitoring well logs for the probes and wells advanced as part of the CSI activities. The following stratigraphic units were generally observed within the subsurface:

- Asphalt or concrete was observed from the ground surface to approximately 4 to 6 inches bgs in the vicinity of the building located in northwestern portion of the Property;
- Fill materials consisting of gravels, sands, and silts were generally observed from the ground surface to bedrock, which was encountered between 3.5 to 6 feet bgs on the eastern portion and 6 to 14 feet bgs on the western portion of the Property. In addition, little to some bluish gray slag was encountered within the fill material in the majority of the probes advanced within the footprint of the ELUC on the eastern portion of the Property;
    - Little debris consisting of liner/tarp material or rubber and rope was observed in soil probes SP-29 and SP-44, respectively;
    - Dark gray native silt, clayey silt, to silty clay was encountered above bedrock in some soil probes and in the vicinity of the adjoining RCH Newco II LLC landfill; and
- Carbonate bedrock consisting of limestone or dolomite was generally encountered at depths between 3.5 to 6 feet bgs on the eastern portion and 6 to 14 feet bgs on the western portion of the Property.

A consistent saturated unit was not observed across the Property. Intermittent saturated soil conditions were encountered between 3.5 and 13 feet bgs in ten (10) of the sixty-two (62) soil probes. As a result, it is believed that a continuous water bearing unit is not present across the Property.

2.1.3.6 Groundwater Classification

Pursuant to 35 IAC 620.220, the shallow subsurface groundwater in the unconsolidated soils is considered to be Class II Groundwater. This determination was made because the conditions

observed at the Property do not meet the following provisions of 35 IAC 620.210 for Class I Potable Resource Groundwater:

a) Groundwater located 10 feet or more below the land surface and within:

1) The minimum setback zone of a well which serves as a potable water supply and to the bottom of such well;

2) Unconsolidated sand, gravel or sand and gravel which is 5 feet or more in thickness and that contains 12 percent or less of fines (i.e. fines which pass through a No. 200 sieve tested according to ASTM Standard Practice D2488-84, incorporated by reference at Section 620.125);

3) Sandstone which is 10 feet or more in thickness, or fractured carbonate which is 15 feet or more in thickness; or

4) Any geologic material which is capable of a:

A) Sustained groundwater yield, from up to a 12 inch borehole, of 150 gallons per day or more from a thickness of 15 feet or less; or

B) Hydraulic conductivity of 1 x 10(-4) cm/sec or greater using one of the following test methods or its equivalent:

i. Permeameter;

ii. Slug test; or

iii. Pump test.

As presented below, the shallow groundwater conditions at the Property are believed to be Class II Groundwater based on the following:

a) Based on the soil probe logs (refer to **Appendix A** for soil probe logs), intermittent saturated conditions were generally observed between 3.5 and 13 feet bgs in ten (10) of the sixty-two (62) soil probes and between 0.5 and 4 feet bgs in the monitoring wells in the eastern portion and 5 to 10 feet bgs in the western portion of the Property.

1. As described in **Section 2.1.5**, the Property is not located within a minimum or maximum setback zone of a water supply well.

2. Based on the soil probe logs (see **Appendix A**) and the information provided above in **Section 2.1.3.5**, a consistent water bearing unit of sand, gravel, or sand and gravel that is more than five feet in thickness was not encountered at the Property. Saturated

conditions were encountered within fill material between 3.5 and 13 feet bgs in ten (10) of the sixty-two (62) soil probes.

3. Carbonate bedrock was encountered in forty-five (45) of the forty-six (46) soil probes advanced by Weaver Consultants at depths ranging from 3.5 to 14 feet bgs (see **Appendix A**). In addition, EGSL encountered carbonate bedrock between 6 and 14 feet bgs in five of the sixteen (16) soil probes advanced.

4. B)(ii) As detailed in **Section 2.2.4**, hydraulic conductivity evaluations were performed in the form of slug testing on December 7, 2018. Due to the limited volume of groundwater, hydraulic conductivity evaluations were unable to be conducted in six of the seven two-inch monitoring wells. Results of the hydraulic conductivity evaluations yielded values between $1.11x10^{-4}$ centimeters per second (cm/sec) and $2.31x10^{-4}$ cm/sec (refer to **Appendix B - AQTESolv v4.5 Pro Data Output**).

As a result of the above, subsurface conditions at the Property do not meet the above criteria for Class I Potable Resource Groundwater and the groundwater classification for the Property is considered to be Class II Groundwater.

2.1.3.7 Groundwater Elevations

Following installation, the seven two-inch monitoring wells were surveyed. The Illinois State Plane East Coordinates were utilized for the horizontal coordinates. NAVD88 GEOID12A was utilized as the vertical datum to survey the elevation of the monitoring wells. Msl was utilized as the datum to survey the elevation of the monitoring wells to assess the flow characteristics of a shallow water bearing unit. A survey point was indicated by placing a notch on top of the PVC well casing. The depth to groundwater measurements were taken from the survey point to obtain the groundwater elevation. The depth to groundwater and survey information is presented in **Table 4 – Groundwater Elevation Measurements**.

As shown on **Figure 5 – Groundwater Elevation Map**, the groundwater elevations ranged from 594.42 feet above msl in MW-7 in the northern-central portion to 584.27 feet above msl in MW-1 in the northwest corner of the Property. Monitoring wells MW-4 and TW-12 were dry upon installation and monitoring wells MW-2 and MW-7 did not produce sufficient water for groundwater sample collection (refer to **Figure 4** for locations). Due to the presence of intermittent saturated conditions, dry monitoring wells, and shallow depth to bedrock, the groundwater flow direction could not be determined based on the groundwater elevation

measurements. However, based on the Property's proximity to the Chicago Sanitary and Ship Canal and Des Plaines River, groundwater is believed to flow to the north.

2.1.4 *Site Base Map*

Attached as **Figure 2** is the Site Base Map denoting the following information as required by 35 IAC 740.435(b)(2)(C):

1. The sources or potential sources of COCs, spill areas, and other suspected areas for COCs.
2. On-site and off-site injection and withdrawal wells.
3. All buildings, tanks, piles, utilities, paved areas, easements, rights-of-way and other features, including all known past and current product and waste underground tanks or piping.

2.1.5 *Water Well Search*

Weaver Consultants has contacted each of the below referenced sources to assess the location of wells within a 2,500 foot radius of the Property. Weaver Consultants also reviewed water well information from the Illinois State Geological Survey (ISGS) online database using their "ILWATER" Interactive Map and the IEPA online database using their "Source Water Assessment Program" (SWAP) Web Mapping Tool. Based on the information reviewed using the SWAP and ILWATER databases, twenty-five (25) water wells, three engineering test wells, and one mineral test well were identified within 2,500 feet of the Property (refer to **Figure 6 – Approximate Water Well Location and Identification Map**). The following includes a summary of the information available from applicable governmental agencies:

- ISGS: The "ILWATER" database identified one ISGS water well, API number 120313065400 and owned by Tiedt, Norm, located on the Property. However, Weaver Consultants did not observe evidence of this water well on the Property during the 2016 Phase I and Phase II ESAs or 2018 CSI activities. In addition, the January 16, 2019 ISWS FOIA response included an Illinois Department of Public Health (IDPH) water well sealing form indicating a water well identified on the Property was abandoned October 23, 1991. It is unclear if these are the same water well, however, previous assessment and investigation activities did not identify the presence of water wells on the Property.

  The ISGS ILWATER database identified the following water wells within 2,500 feet of the Property:

Electronic Filing: Received, Clerk's Office 07/19/2024

Illinois EPA FOIA Exemption Reference Sheet

SID: 42218

Agency ID: 170001424803
Bureau ID: 1978035011
Site Name: Former Fiala Property
Site Address1: 12300 New Ave
Site Address2:
Site City: Lemont
Media File Type: LAND
State: IL
Zip: 60439-

This record has been determined to be partially or wholly exempt from public disclosure

Exemption Type:

Redaction

Exempt Doc #: 2
Document Date: 3 /12/2019
Staff: EMI

Document Description: COMPREHENSIVE SITE INVESTIGATION/RO/RAP -- PAGES 2-9 AND 2-10; ISGS WELL INFORMATION PAGES; QUESTOR DATA EXTRACTION PAGES

Category ID: 31A
Category Description: SITE REMEDIATION - TECHNICAL
Exempt Type: Redaction
Permit ID:
Date of Determination: 4 /25/2019

API Number	Distance and Direction from Property	Owner
120313001500	160 feet south	(Abandoned)
120313001600	160 feet south	
121973054300	220 feet west	Simpson Well & Pump
121973575100	353 feet south	Roth's Reliable Construction
120313042500	375 feet south	(Abandoned)
120312934300	375 feet east	
120312750600	386 feet east	
121973649300	521 feet south	Roth's Reliable Construction Co
121973856200	570 feet south	Warehouse on Wheels
121973694900	596 feet southwest	Fleet Equipment
120310425900	637 feet south	
121970211300	678 feet south	
121974605800	690 feet northwest	Noramco
121973991200	760 feet southwest	AV Steel
120312473300	800 feet southeast	Chmielewski, Edmund C.
120312580900	1,307 feet north	Lamont Shipbuilding & Repair Co.
121970149400	1,037 feet southwest	Hydrocarbon Corporation

REVIEWER: EAA
APR 25 2019
IEPA-DIVISION OF RECORDS MANAGEMENT
RELEASABLE

API Number	Distance and Direction from Property	Owner
120312867900	1,050 feet east	Wohead, J.W. Inc.
121970033000	1,337 feet southwest	Lemont Manufacturing Co.
121970032900	1,520 feet southwest	Lemont Manufacturing
120312928500	1,760 feet east	[redacted]
120312725100	1,815 feet northeast	[redacted]
120312928600	1,815 feet east	[redacted]
121973633600	2,171 feet west	Ceco Steel
121973700900	2,175 feet west	Korall Corporation

Furthermore, the ISGS ILWATER database identified an ISGS mineral test well (API 121972924000) owned by Tiedt, Norm, located 676 feet south of the Property. In addition, the following ISGS engineering test wells were identified within 2,500 feet of the Property:

API Number	Distance and Direction from Property	Owner
120312530700	150 feet south	MSD Chicago-Lemont Interceptor Sewe
120313657600	900 feet east	MSD Chicago-Lemont Interceptor Sewe
120312529700	1,888 feet northeast	MSD Chicago-Lemont Interceptor Sewe

A copy of the information acquired from ILWATER database is included in **Appendix C – Water Well Information**.

In addition, Weaver Consultants submitted a Freedom of Information Act (FOIA) request to the ISGS on November 26, 2018 requesting additional information concerning water wells. According to a December 12, 2018 response, the ISGS provided well records publicly available on the ISGS ILWATER database. Copies of the FOIA request and response are included in **Appendix C**.

- IEPA: The IEPA SWAP database appeared to be generally consistent with the findings of the ISGS ILWATER database. The SWAP database identified twenty (20) water wells, three engineering test wells, and one mineral test well within a 2,500 foot radius of the Property. According to the SWAP database, none of the water wells within a 2,500 foot radius of the Property are identified as community supply wells. In addition, the Property is not located within a minimum or maximum setback zone or wellhead protection area of a well. A copy of the information acquired from the SWAP database is included in **Appendix C**.

  In addition, Weaver Consultants submitted a FOIA request to the IEPA Division of Public Water Supplies on November 26, 2018 to obtain information for water wells within a 2,500 foot radius of the Property. According to a December 13, 2018 response, the IEPA indicated that they have no information regarding the Property and referred Weaver Consultants to the SWAP database. Copies of the FOIA request and response are included in **Appendix C**.

- Illinois State Water Survey (ISWS): Weaver Consultants reviewed the ISWS Domestic Wells database to obtain further information of water wells within a 2,500 foot radius of the Property. According to the Domestic Wells database, three domestic water wells were identified within Section 25, Township 37 North, Range 10 East. One well within Section 25 was drilled to a depth of 110 feet bgs in 1971. The remaining two wells within Section 25 were drilled to 60 feet bgs and 205 feet bgs. No additional information was provided. Furthermore, nineteen (19) domestic water wells were identified within Section 30, Township 37 North, Range 11 East. However, the exact locations of these water wells were not provided. The ISWS Domestic Wells database identified the following domestic water wells within Section 30:

ISWS Well ID	Depth (feet bgs)	Date Drilled
25806	100	08/21/1974

ISWS Well ID	Depth (feet bgs)	Date Drilled
25807	300	04/28/1977
25808	280	04/01/1974
25809	280	05/31/1974
25810	280	12/20/1973
25811	147	1956
25812	300	12/13/1974
25813	330	12/16/1974
25814	320	11/22/1976
25815	320	03/04/1974
25816	90	01/30/1975
25817	165	11/21/1986
25818	40	Not reported
25819	145	11/20/1972
189233	100	09/08/1989
218415	130	07/28/1988
218644	240	11/26/1990
218711	305	10/08/1991
235290	170	08/25/1992

A copy of the information acquired from ISWS Domestic Wells database is included in **Appendix C**.

In addition, Weaver Consultants submitted a FOIA request to the ISWS on November 26, 2018 to obtain information for water wells within a 2,500 foot radius of the Property. According to a January 16, 2019 response, the ISWS provided well construction reports and permits, chemical analysis reports, well sealing forms, water level elevation data, and well yield information for the region. Specifically, IDPH water well sealing forms were provided for five water wells located within 2,500 feet of the Property, two of which are identified on the databases. In addition, a water well log (API 120313042500) at the Lemont Water Department located at 16680 New Avenue (approximately 375 feet south of the Property) indicated the well was abandoned on October 8, 1991. The three abandoned water wells identified on the databases within 2,500 feet of the Property are denoted on **Figure 6**. Copies of the FOIA request and response are provided in **Appendix C**.

- IDPH Division of Environmental Health: Weaver Consultants submitted a request to the IDPH on November 25, 2018 FOIA to obtain information for water wells within a 2,500 foot radius of the Property. According to a January 18, 2018 response, the IDPH provided a list of non-community water supply wells with a Lemont address. According to the IDPH information, twenty (20) active and fifteen (15) inactive water wells were identified and associated with commercial/industrial water supply wells and the Illinois Tollway Authority. The IDPH did not provide information exclusively for water wells within a 2,500 foot radius of the Property. Copies of the FOIA request and response are provided in **Appendix C**.
- Cook County Departments of Public Health (CCDPH): Weaver Consultants submitted FOIA requests to the CCDPH on November 26, 2018 to obtain information for water wells within a 2,500 foot radius of the Property. Weaver Consultants has not received the FOIA response from the CCDPH as of the date of this report. Weaver Consultants will forward any information of interest after it becomes available for review, if it significantly impacts our conclusions presented herein. A copy of the FOIA request is provided in **Appendix C**.
- Will County Departments of Public Health (WCDPH): Weaver Consultants submitted FOIA requests to the WCDPH on November 26, 2018 to obtain information for water wells within a 2,500 foot radius of the Property. According to a December 10, 2018 response, the WCDPH indicated that they have no information regarding water wells or the Property. Copies of the FOIA request and response are provided in **Appendix C**.

- Village of Lemont: Weaver Consultants submitted a FOIA request to the Village of Lemont on November 25, 2018 to obtain information for water wells within a 2,500 foot radius of the Property. According to a December 12, 2018 response, the Village of Lemont indicated that they have no information regarding water wells. Copies of the FOIA request and response are provided in **Appendix C**.

Based on the information presented above, twenty-five (25) water wells, three engineering test wells, and one mineral well were identified within 2,500 feet of the Property, including one water well identified on the Property (refer to **Figure 6**). However, Weaver Consultants did not observe evidence of a water well on the Property. In addition, the January 16, 2019 ISWS FOIA response and ILWATER database well logs identified three water wells as abandoned or sealed, including the water well identified on the Property.

The water wells within 2,500 feet of the Property are not identified as community water supply wells and therefore, the Property is not located within a minimum or maximum setback zone or wellhead protection area. Based on information provided by IDPH, the water supply wells identified within 2,500 feet of the Property are inactive, abandoned, or associated with commercial/industrial water supply wells.

2.1.6 *Legal Description*

The Property currently consists of three parcels that comprise the Remediation Site Boundary. According to the Cook County Assessor's CookViewer online database and the Will County Assessor's Property Search online database, the current parcel identification numbers (PINs) for the Property are as follows:

- 12-02-25-200-019-0000 (Will County);
- 22-30-100-017-0000 (Cook County); and
- 22-30-100-011-0000 (Cook County).

A legal description of the Property will be included in the forthcoming submittal of the Remedial Action Completion Report (RAC Report).

2.2 Field Activities

The following sections describe the CSI activities conducted by Weaver Consultants in October and December 2018, which included soil and groundwater sample collection and analysis. On October 25 and 26, 2018, Weaver Consultants advanced twenty-eight (28) soil probes and installed seven two-inch and eight temporary monitoring wells in support of characterizing

previously identified impacts, assessing data gap areas, and evaluating groundwater flow direction and gradient. The wells were sampled on October 26, 30, and 31, 2018 and hydraulic conductivity evaluation was conducted on December 7, 2018.

2.2.1 *Areas of Exploration*

Weaver Consultants conducted CSI activities for purposes of evaluating subsurface soil and groundwater conditions associated with the previously identified impacts, as well as to assess data gap areas. As shown on **Figure 4**, the soil probe and monitoring well locations were advanced within the following general areas:

Soil Probe/ Monitoring Well	Areas of Exploration
SP-19/MW-1; SP-20; SP-24/MW-2; SP-26	Northwestern portion of the Property: Characterize previously identified impacts; assess data gap area
SP-21/MW-3; SP-23	Western portion of the Property: Characterize previously identified impacts; assess data gap area
SP-22/TW-12; SP-25	Southwestern portion of the Property: Characterize previously identified impacts; assess data gap area
SP-27/MW-4; SP-29; SP-38/TW-5; SP-42/MW-7; SP-43; SP-45/TW-10	Northern-central portion of the Property: Characterize previously identified impacts; assess data gap area
SP-28; SP-30; SP-39/MW-5; SP-40/MW-6; SP-44/TW-9	Southern-central portion of the Property: Characterize previously identified impacts; assess data gap area
SP-31/TW-6; SP-33/TW-8; SP-36; SP-37; SP-41; SP-46	Northeastern portion of the Property: Characterize previously identified impacts; assess data gap area
SP-32/TW-7; SP-34/TW-11; SP-35	Southeastern portion of the Property: Characterize previously identified impacts; assess data gap area

2.2.2 *Soil Probe Activities*

Soil probes were advanced by Environmental Soil Probing Corporation (ESP) of St. Charles, Illinois utilizing a Geoprobe® 6600 track-mounted drill rig (e.g. direct-push technology) on October 25 and 26, 2018. Prior to drilling activities, ESP contacted JULIE to locate public utilities at the Property. Weaver Consultants coordinated with Ground Penetrating Radar System, Inc. (GPRS) of Chicago, Illinois to locate private utilities at the Property.

A Weaver Consultants representative was present during soil probing activities to observe and document field conditions and collect the soil samples. Soil samples were obtained by the direct push of five-foot long, two-inch diameter probe rods into the undisturbed subsurface. Soil samples were continuously collected via individual five-foot long, two-inch diameter acrylic liners. ESP decontaminated the sampler between soil probe locations. In addition, Weaver Consultants decontaminated the re-usable soil sampling equipment between samples. The decontamination process consisted of an initial wash with a Liquinox/water solution, followed by a clean water rinse.

Upon retrieval, each split sample was placed into a zip-locked bag for field screening by a RAE Systems™ Mini-Rae 3000 photoionization detector (PID) with an 11.4 eV lamp. According to manufacturer specifications, this device is capable of detecting up to 15,000 parts per million (ppm) of VOCs. The PID provides a qualitative field measurement of VOCs contained in the sample. The field screening process involved placing a portion of the soil sample in a zip-lock plastic bag. The headspace was then sampled and soil-gas VOC concentrations were measured and recorded. In addition to PID screening, visual and olfactory observations were used to assess the presence of impacted soil and selection of the appropriate sample interval for laboratory analysis as described further below. Each soil probe location was described and logged by a Weaver Consultants representative. The color, soil type, moisture content, and other applicable characteristics for each location were recorded and the data was then used to construct a log of the subsurface conditions encountered (refer to **Appendix A**). Upon completion, the soil probe locations were backfilled using soil cuttings and/or granular bentonite.

2.2.2.1 Soil Sample Collection

Twenty-eight (28) soil probes were advanced by Weaver Consultants to depths of approximately 3.5 to 14 feet bgs (refer to **Figure 4**). Of the twenty-eight (28) soil probes, seven were converted to two-inch monitoring wells and eight were converted to one-inch temporary wells as described further in **Section 2.2.3** below.

A summary of the historical soil analytical results are included as **Table 1** and **Table 2**. A summary of the soil analytical results from the CSI activities are included as **Table 5 - Soil Analytical Summary** and **Table 6 – Inorganic pH-Specific SROs Analytical Summary** and discussed in **Section 2.5**. Sample selection was based on the following methodology to characterize subsurface environmental conditions:

1. One discrete soil sample was collected for laboratory analysis from the two-foot interval exhibiting the greatest indication of environmental impact based on field screening results (i.e., visual/olfactory observations, PID results) as described in **Section 2.2.2**. If there were no indications of environmental impacts in the field, then a soil sample was submitted from the approximate depth that would be expected to exhibit impacts (i.e. below the surface, interval exhibiting fill and slag materials, etc.).
2. To characterize the horizontal extent of impacts, soil samples were collected from soil probes surrounding previously identified impacts at the Property. One discrete soil sample was collected for laboratory analysis from a consistent two-foot depth interval of previously identified impacts.
3. To characterize the vertical extent of COC migration at soil probe locations exhibiting impacts in the field, a second sample, where applicable, was collected from a deeper interval appearing free of impacts. These samples were placed on hold pending results of the shallower sample intervals. However, due to the presence of fill and slag materials overlying limestone/dolomite bedrock, deeper samples appearing free of impacts were generally unable to be collected in support of characterizing the vertical extent of impacts.

Based on the above criteria, soil samples were placed into pre-cleaned, laboratory-supplied sample containers preserved as necessary for subsequent laboratory analysis. Soil samples were obtained as quickly as practicable upon opening the Geoprobe® sample liner. Soil samples collected for VOC analysis had sample containers with chemical preservative and were collected using SW-846 Method 5035. The sample containers were tightly capped, labeled, and placed in a cooler and surrounded with ice in order to maintain their temperature near 4°C. Each sample was logged onto a chain of custody form which is used to track the samples from the point of collection to receipt by the laboratory. The chain of custody is included with the laboratory analysis reports in **Appendix D – Laboratory Analytical Reports**. After completion of sampling at each probe location, the probe hole was backfilled to the ground surface with soil cuttings and bentonite chips.

A total of sixty-two (62) soil probes were advanced at the Property as part of the Weaver Consultants CSI (28 soil probes) and Phase II ESA (18 soil probes) activities and the EGSL 2014 Phase II SSI (16 soil probes). Based on the Property size of approximately 46.9 acres, approximately one soil probe per 0.75-acres was advanced. In addition, seven two-inch monitoring wells and eight one-inch temporary wells were installed as part of the CSI activities, four temporary wells installed as part of the Phase II ESA, and two temporary wells installed as part of the EGSL 2014 Phase II SSI. Based on the Property size of approximately 46.9 acres, approximately one monitoring well per 2.23-acres was installed.

2.2.3 *Groundwater Sampling Activities*

Monitoring wells were installed by ESP utilizing a Geoprobe® drilling rig (e.g., direct-push technology). On October 25 and 26, 2018, the ESP representatives utilized a Geoprobe® 6600 track-mounted drill rig to install seven two-inch monitoring wells and eight one-inch temporary wells at soil probe locations (refer to **Figure 4**). The monitoring wells were intended to assess the shallow subsurface groundwater conditions and evaluate groundwater flow direction and gradient as discussed in **Section 2.2.1**. A summary of the historical groundwater analytical results are included as **Table 3** and a summary of the groundwater analytical results from the CSI activities are included as **Table 7 – Groundwater Analytical Summary**.

Prior to drilling activities, ESP contacted JULIE to locate public utilities. Weaver Consultants also coordinated with GPRS to locate private utilities at the Property. The monitoring wells were constructed of two-inch diameter Schedule 40 PVC risers and 0.010-inch slotted five to ten-foot PVC well screens. The temporary wells were constructed of one-inch diameter Schedule 40 PVC risers and 0.010-inch five to ten-foot PVC well screens. The monitoring wells were screened from various intervals depending on the depth to bedrock encountered during soil probe advancement. The PVC screens and risers were lowered into the completed auger or bore holes. The annulus space from the bottom of the soil probe holes to approximately two feet above the well screen was backfilled with Global #5 quartz sand, where applicable. The annulus space from the ground surface to the sand pack was then backfilled with ¾" bentonite pellets. The two-inch monitoring well risers were cut flush with the ground surface and covered with flush-mounted protective steel covers and concrete pads.

Upon completion of the monitoring well installation activities, the two-inch monitoring wells were developed. Development activities included utilizing a whale pump and a disposable length of ½-inch diameter low density polyethylene (LDPE) tubing to purge the monitoring wells until the purge water exhibited stable conditions based upon field measurements of pH, specific

conductivity, and temperature or until the wells were dry (refer to **Appendix E – Groundwater Sampling and Development Forms**). Following development, the monitoring wells were allowed to remain open for a period of at least eighteen (18) hours prior to assessing the groundwater levels utilizing a water level indicator. Weaver Consultants allowed the wells to recharge and groundwater samples were collected from each of the monitoring wells exhibiting sufficient groundwater volume for laboratory analysis of the applicable COCs on October 26, 30, and 31, 2018.

2.2.3.1 Groundwater Sample Collection

Groundwater samples were collected from the monitoring wells on December October 26, 30, and 31, 2018 using a Geotech Series I peristaltic pump, Tygon® tubing, and a disposable length of ¼" diameter polyethylene tubing. The pump was adjusted for low flow methodology to minimize sediment disturbance (e.g., less than 100 mL/minute). Prior to sample collection, the wells were purged until purge water exhibited stable conditions based upon field measurements of pH, specific conductivity, and temperature and remove sediment that may have accumulated in the monitoring wells (refer to **Appendix E**).

To assess particulate effect on groundwater quality, unfiltered and filtered groundwater samples were collected for laboratory analysis of total and dissolved inorganic parameters. Therefore, the metal analyses represent total and dissolved inorganic concentrations. Groundwater samples collected for total and dissolved inorganics were collected concurrently at each monitoring well location. In-line high capacity disposable filter cartridges with a maximum pore size of 0.45-microns were utilized for field filtration. The Quickfilter model# FF8200 in-line disposable filter, manufactured by QED Groundwater Specialists, located in Ann Arbor, Michigan, or equivalent, was used to field filter dissolved inorganic samples. The Geotech Series II peristaltic pump was used to transfer groundwater samples through the filter membrane and into the nitric acid (HNO_3) preserved sample containers.

Collection of groundwater samples in this manner was designed to represent a complete characterization of shallow groundwater conditions. Groundwater samples were collected in containers provided by the laboratory and preserved as necessary for their respective analyses. The sample containers were tightly capped, labeled, and placed in a cooler and surrounded with ice in order to maintain their temperature near 4°C. Each sample was logged onto a chain of custody form which is used to track the samples from the point of collection to receipt by the laboratory. The chain of custody is included with the laboratory analysis reports in **Appendix D**.

2.2.4 *Hydraulic Conductivity Evaluation*

Weaver Consultants conducted an in-situ hydraulic conductivity evaluation on monitoring well MW-5 on December 7, 2018 (refer to **Figure 4** for location). Due to the absence of an interconnected saturated unit and the limited amount of groundwater within most of the monitoring wells (less than two feet), Weaver Consultants was unable to obtain representative hydraulic conductivity data from the remaining six two-inch monitoring wells.

For this evaluation, Weaver Consultants instantaneously displaced water using a twelve-inch solid slug. Weaver Consultants recorded the water level changes over time until the water returned to equilibrium utilizing a Solinst® Level TROLL® 700 pressure transducer. The Level TROLL® data was input into AQTESOLV™ v4.50 Professional to calculate a hydraulic conductivity (K) value based on the Unconfined Bower-Rice solution method equation. Results of the K evaluation yielded hydraulic conductivity values between $1.11x10^{-4}$ cm/sec and $2.31x10^{-4}$ cm/sec. The hydraulic conductivity data is included in **Appendix B**.

2.3 Project Quality Assurance

Sample collection and laboratory analysis procedures were conducted in accordance with appropriate SRP requirements to enhance project data quality. Samples were submitted to Pace Analytical Services, LLC (PACE) of Green Bay, Wisconsin, a National Environmental Laboratory Accreditation Program (NELAP) approved laboratory as required by the IEPA SRP (see **Appendix D**). Sampling and laboratory analysis were performed in general accordance with approved techniques and methods as outlined in *USEPA SW-846, Test Methods For Evaluating Solid Waste, Third Edition*, and other published sources.

2.4 Sample Analysis

2.4.1 *Soil Sample Analysis*

Soil samples were collected and submitted for laboratory analysis as follows:

COC	USEPA Method	Sample ID
TCL	8260; 3546/8270; 3541/8082; 3550/8081; 3050/6020/7471/ 9012B	SP-21/6-8'; SP-27/9-11', SP-31/1.5-3.5'; SP-35/2-4'; SP-36/1-3'; SP-37/2.5-4.5'; SP-38/1.5-3.5'; SP-39/3-5'; SP-40/9-11'; SP-41/3-5'; SP-42/5-7'; SP-43/4-6'; SP-44/5-7'; SP-45/3-5'; SP-46/3-5'
VOCs	8260	SP-29/5.5-7.5'

COC	USEPA Method	Sample ID
BTEX	8260	SP-24/6-8'; SP-28/9-11'; SP-30/3-5'
SVOCs	3546/8270	SP-30/3-5'
PNAs	3546/8270	SP-24/6-8'; SP-28/9-11'; SP-29/5.5-7.5'
TPH	3546/5035A/5035B/ 8015D Modified	SP-19/5.5-7.5'; SP-20/5.5-7.5'
PCBs	3541/8082	SP-32/3-5; SP-33/1-3'
Target Analyte List (TAL)	3050/6020	SP-19/5.5-7.5'; SP-20/5.5-7.5'; SP-23/4-6'; SP-30/3-5'; SP-33/1-3'
Total Arsenic	3050/6020	SP-20/1-3'; SP-22/1-3'; SP-23/1-3'; SP-24/1-3'; SP-24/6-8'; SP-25/1-3'; SP-32/3-5'; SP-34/3-5'
Total Chromium	3050/6020	SP-22/5-7'; SP-24/6-8'; SP-25/5-10'; SP-26/8-10'; SP-28/9-11'; SP-29/5.5-7.5'
Hexavalent Chromium	3060A/7196A	SP-19/5.5-7.5'; SP-21/6-8'; SP-22/5-7'; SP-24/6-8'; SP-25/5-10'; SP-28/9-11'
Total Cobalt	3050/6020	SP-25/5-10'; SP-32/3-5'; SP-34/3-5'
Total Iron	3050/6020	SP-22/5-7'; SP-25/5-10'; SP-26/8-10'; SP-28/9-11'; SP-29/5.5-7.5'; SP-32/3-5'; SP-34/3-5'
Total Lead	3050/6020	SP-19/1-3'; SP-20/1-3'; SP-21/1-3'; SP-22/5-7; SP-23/1-3'; SP-24/1-3'; SP-24/6-8'; SP-25/5-10'
Total Manganese	3050/6020	SP-25/5-10'

COC	USEPA Method	Sample ID
Total Selenium	3050/6020	SP-22/5-7'; SP-24/6-8'; SP-25/5-10'; SP-26/8-10'; SP-28/9-11'; SP-29/5.5-7.5'
TCLP RCRA Metals	3010/6010/1311/ 7470	SP-20/5.5-7.5'
TCLP Aluminum	1311/3010/6010	SP-19/5.5-7.5'; SP-20/5.5-7.5'; SP-38/1.5-3.5'; SP-39/3-5'; SP-45/3-5'
TCLP Iron	1311/3010/6010	SP-19/5.5-7.5'; SP-20/5.5-7.5'; SP-22/5-7'; SP-23/4-6'; SP-25/5-10'
TCLP Lead	1311/3010/6010	SP-23/4-6'; SP-25/5-10'
SPLP Chromium	1312/3010/6010	SP-19/5.5-7.5'; SP-22/5-7'; SP-24/6-8'; SP-25/5-10'; SP-28/9-11'
SPLP Cobalt	1312/3010/6010	SP-20/5.5-7.5'; SP-22/1-3'; SP-23/4-6'; SP-35/2-4'
SPLP Lead	1312/3010/6010	SP-19/1-3'; SP-20/5.5-7.5'; SP-23/4-6'; SP-25/5-10'
SPLP Manganese	1312/3010/6010	SP-19/5.5-7.5'; SP-23/4-6'; SP-25/5-10'; SP-35/2-4'; SP-42/5-7'
SPLP Selenium	1312/3010/6010	SP-24/6-8'; SP-25/5-10'; SP-28/9-11'; SP-42/5-7'
Reactive Cyanide	7.3.3.2/9014	SP-20/5.5-7.5'
Reactive Sulfide	7.3.4.2/SM4500S2F-00	SP-20/5.5-7.5'

COC	USEPA Method	Sample ID
pH	9045	SP-19/1-3'; SP-19/5.5-7.5'; SP-20/1-3'; SP-20/5.5-7.5'; SP-21/1-3'; SP-21/6-8'; SP-22/1-3'; SP-22/5-7'; SP-23/1-3'; SP-23/4-6'; SP-24/1-3'; SP-24/6-8'; SP-25/1-3'; SP-25/5-10'; SP-26/8-10'; SP-27/9-11'; SP-28/9-11'; SP-29/5.5-7.5'; SP-30/3-5'; SP-31/1.5-3.5'; SP-32/3-5'; SP-33/1-3'; SP-34/3-5'; SP-35/2-4'; SP-36/1-3'; SP-37/2.5-4.5'; SP-38/1.5-3.5'; SP-39/3-5' SP-40/9-11'; SP-41/3-5'; SP-42/5-7'; SP-43/4-6'; SP-44/5-7'; SP-45/3-5'; SP-46/3-5'
Organic Carbon Content	D2974-87	SP-21/6-8'; SP-31/1.5-3.5'; SP-39/3-5'; SP-40/9-11'; SP-44/5-7'; SP-46/3-5'

2.4.2 *Groundwater Sample Analysis*

Groundwater samples were collected and submitted for laboratory analysis as follows:

COC	USEPA Method	Sample ID
TCL	8260; 3510/8270; 3510/8082; 3510/8081; 3010/6020/7470; 335.4	MW-3; MW-5; TW-5; TW-6; TW-9; TW-10; TW-11
VOCs	8260	TW-8
PNAs	3510/8270	TW-8
PCBs	3510/8082	TW-8
Pesticides	3510/8081	TW-8
Total TAL	3010/6020/7470	MW-1; MW-6; TW-7; TW-8

COC	USEPA Method	Sample ID
Dissolved TAL	3010/6020/7470	MW-1; MW-3; MW-5; MW-6; TW-5; TW-6; TW-9; TW-10; TW-11
Cyanide	335.4	TW-8

2.5 Soil Analytical Results

Historical soil analytical results collected during the 2014 EGSL Phase II SSI and the Weaver Consultants' Phase II ESA and CSI have been tabulated and presented in **Table 1, Table 2, Table 5,** and **Table 6**. Soil sample results were compared to the following:

- Tier 1 SROs for Industrial/Commercial Properties listed in 35 IAC 742, Appendix B, Table B;
- Tier 1 SROs for the Construction Worker Scenario listed in 35 IAC 742, Appendix B, Table B;
- Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater listed in 35 IAC Section 742, Appendix B, Table B;
- pH-Specific SROs for Inorganics and Ionizing Organics for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater (pH-Specific SROs) listed in 35 IAC 742, Appendix B, Table D; and
- Concentrations of Inorganic and PNA Chemicals in Background Soils within Metropolitan Statistical Areas (Backgrounds within MSAs) listed in 35 IAC 742, Appendix A, Tables G-H.

As part of the EGSL 2014 Phase II SSI, ten (10) soil samples were collected and analyzed for the TCL parameters. Of these ten (10) soil samples, two soil samples were collected between 0-3 feet bgs, three soil samples were collected between 3-7 feet bgs, and four soil samples were collected from 7-12 feet bgs. Based upon the analytical results and findings during the Phase II SSI, concentrations of SVOCs, PCBs, and inorganics were detected in excess of applicable Tier 1 SROs. In addition, two groundwater samples were collected from two temporary wells and analyzed for the TCL parameters, but not dissolved TAL inorganics.

As part of the Phase II ESA, nineteen (19) soil samples were collected and analyzed for various VOCs, SVOCs, TPH, PCBs, RCRA metals, and pH with two samples analyzed for the TCL parameters. Of these nineteen (19) soil samples, eight soil samples were collected between 0-3 feet bgs, two

samples were collected between 2-4 feet bgs, two soil samples were collected from 4-7 feet bgs, and seven soil samples were collected from 7-13 feet bgs with one sample collected from 18-20 feet bgs. Based upon the analytical results and findings during the Phase II ESA, concentrations of various inorganics were detected in excess of applicable Tier 1 SROs. In addition, four groundwater samples were collected from four temporary wells and analyzed for various VOCs, SVOCs, PCBs, and total and dissolved RCRA metals with one sample analyzed for the TCL parameters and dissolved TAL inorganics.

As part of the CSI activities, thirty-five (35) soil samples were collected from twenty-eight (28) soil probes and generally analyzed for BTEX, PNAs, TAL inorganics, and pH and/or various inorganics with fifteen (15) samples analyzed for the TCL parameters. Of these twenty-eight (28) soil samples, eleven (11) soil samples were collected from 0-3 feet bgs, two soil samples were collected from 2-4 feet bgs, sixteen (16) soil samples were collected from 3-7 feet bgs, and six soil samples were collected from 6-11 feet bgs. In addition, three groundwater samples were analyzed for total and/or dissolved TAL inorganics and eight groundwater samples were submitted for laboratory analysis of the TCL parameters and dissolved TAL inorganics. Four monitoring wells did not yield sufficient groundwater volume for sample collection.

As identified above, twenty-seven (27) soil samples were analyzed for the TCL parameters across the 46.9 acre Property (1 TCL sample per 1.74 acres) consistent with the IEPA approved Work Plan. In addition, eleven (11) groundwater samples were analyzed for the TCL parameters across the 46.9 acre Property (1 TCL sample per 4.26 acres). As a result, sufficient investigation has been completed across the Property for the various constituents comprising the TCL.

Concentrations of COCs observed above applicable Tier 1 SROs are denoted on the tables. Laboratory analytical reports are included in **Appendix D**. The following presents a summary of the soil analytical results for each COC analyzed in support of the CSI activities.

2.5.1 *Target Compound List*

Fifteen (15) soil samples were submitted for TCL laboratory analysis. The concentrations of TCL parameters were below laboratory reporting limits and/or Tier 1 SROs, with the exception of the following:

- Soil sample SP-38/1.5-3.5' exhibited concentrations of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene (20.1 milligrams per kilogram [mg/kg], 18.6 mg/kg, 22.1 mg/kg, and 12.8 ng/kg, respectively) in excess of the Backgrounds within MSAs (1.8 mg/kg, 2.1 mg/kg, 2.1 mg/kg, and 1.6 mg/kg, respectively)

and the Tier 1 SROs for the Soil Ingestion Exposure Route for Industrial/Commercial Properties (8 mg/kg, 0.8 mg/kg, 8 mg/kg, and 8 mg/kg, respectively). In addition, the concentration of benzo(a)anthracene (20.1 mg/kg) was above the Tier 1 SRO for the Soil Ingestion Exposure Route for Class II Groundwater (8 mg/kg) and the concentration of benzo(a)pyrene (18.6 mg/kg) was above the Tier 1 SRO for the Soil Ingestion Exposure Route for the Construction Worker Scenario (17 mg/kg);

- Soil sample SP-38/1.5-3.5' exhibited a concentration of carbazole (5.2 mg/kg) in excess of the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater (2.8 mg/kg);

- Soil samples SP-21/6-8', SP-38/1.5-3.5', SP-39/3-5', SP-43/4-6', and SP-45/3-5' exhibited concentrations of aluminum (9,650 mg/kg, 12,900 mg/kg, 16,000 mg/kg, 10,300 mg/kg, and 11,500 mg/kg, respectively) in excess of the Background within MSAs (9,500 mg/kg);

- Soil samples SP-27/9-11', SP-31/1.5-3.5', SP-36/1-3', SP-42/5-7', SP-43/4-6', SP-45/3-5', and SP-46/3-5' exhibited concentrations of total chromium (170 mg/kg, 36.9 mg/kg, 86.4 mg/kg, 945 mg/kg, 314 mg/kg, 163 mg/kg, and 47.1 mg/kg, respectively) in excess of the Background within MSAs (16.2 mg/kg) and the pH-Specific Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route for Class I Groundwater (21 mg/kg, 24 mg/kg, 21 mg/kg, 21 mg/kg, 21 mg/kg, 24 mg/kg, and 32 mg/kg. In addition, the concentration of chromium in soil sample SP-42/5-7' (945 mg/kg) was above the Tier 1 SROs for the Soil Inhalation Exposure Route for Industrial/Commercial Properties (420 mg/kg) and the Construction Worker Scenario (690 mg/kg);

- Soil samples SP-35/2-4' and SP-41/3-5' exhibited concentrations of cobalt (53.4 mg/kg and 9.0 mg/kg, respectively) in excess of the Background within MSAs (8.9 mg/kg);

- Soil samples SP-27/9-11', SP-31/1.5-3.5', SP-39/3-5', SP-41/3-5', SP-42/5-7', SP-43/4-6', and SP-45/3-5'exhibited concentrations of iron (24,300 mg/kg, 17,700 mg/kg, 23,100 mg/kg, 19,900 mg/kg, 84,700 mg/kg, 31,700 mg/kg, and 24,400 mg/kg, respectively) in excess of the Background within MSAs (15,900 mg/kg);

- Soil samples SP-27/9-11', SP-31/1.5-3.5', SP-35/2-4', SP-36/1-3' SP-41/3-5', SP-42/5-7', SP-43/4-6', SP-45/3-5', and SP-46/3-5' exhibited concentrations of manganese (2,020 mg/kg, 906 mg/kg, 37,000 mg/kg, 2,400 mg/kg, 716 mg/kg, 52,400 mg/kg, 4,290 mg/kg,

1,940 mg/kg, and 658 mg/kg, respectively) in excess of the Background within MSAs (636 mg/kg). In addition, the concentrations of manganese in soil samples SP-35/2-4', SP-42/5-7', and SP-43/4-6' (37,000 mg/kg, 52,400 mg/kg, and 4,290 mg/kg, respectively) were above the Tier 1 SROs for the Soil Ingestion and/or Inhalation Exposure Routes for the Construction Worker Scenario (4,100 mg/kg and 8,700 mg/kg, respectively);

- Soil samples SP-27/9-11', SP-37/2.5-4.5', SP-38/1.5-3.5', SP-42/5-7', and SP-43/4-6' exhibited concentrations of mercury (0.13 mg/kg, 0.13 mg/kg, 0.3 mg/kg, 0.23 mg/kg, and 0.15 mg/kg, respectively) in excess of the Background within MSAs (0.06 mg/kg) and the Tier 1 SRO for the Soil Inhalation Exposure Route for the Construction Worker Scenario (0.1 mg/kg); and

- Soil samples SP-41/3-5', SP-42/5-7', and SP-45/3-5' exhibited concentrations of selenium (1.7 mg/kg, 3.2 mg/kg, and 2.0 mg/kg, respectively) in excess of the Background within MSAs (0.48 mg/kg) and the pH-Specific Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater (1.3 mg/kg, 1.3 mg/kg, and 1.8 mg/kg, respectively).

2.5.2 *Volatile Organic Compounds*

One soil sample was submitted for VOC laboratory analysis. The concentrations of VOCs were below laboratory reporting limits or Tier 1 SROs.

2.5.3 *Benzene, Toluene, Ethylbenzene, & Xylenes*

Three soil samples were submitted for BTEX laboratory analysis. The concentrations of BTEX were below laboratory reporting limits.

2.5.4 *Semi-Volatile Organic Compounds*

One soil sample was submitted for VOC laboratory analysis. The concentrations of SVOCs were below laboratory reporting limits.

2.5.5 *Polynuclear Aromatic Hydrocarbons*

Three soil samples were submitted for PNA laboratory analysis. The concentrations of PNAs were below laboratory reporting limits or Tier 1 SROs.

2.5.6 *Total Petroleum Hydrocarbons*

Two soil samples were submitted for TPH laboratory analysis for Diesel Range Organics (DRO), Gasoline Range Organics (GRO), and Oil, or Extended, Range Organics (ERO). In accordance with

35 IAC 742.215, a default value of 6,000 mg/kg for soils within the top meter and 2,000 mg/kg for soils below one meter of the surface was used for the soil attenuation capacity. The concentrations of TPH were below the laboratory reporting limits or the default soil attenuation capacity as follows:

Sample ID	TPH (mg/kg)
SP-19/5.5-7.5'	10.8
SP-20/5.5-7.5'	115

2.5.7 *Polychlorinated Biphenyls*

Two soil samples were submitted for PCB laboratory analysis. The concentrations of PCBs were below laboratory reporting limits.

2.5.8 *Target Analyte List*

Five soil samples were submitted for TAL laboratory analysis. The concentrations of TAL inorganics were below laboratory reporting limits or Tier 1 SROs, with the exception of the following:

- Soil samples SP-19/5.5-7.5', SP-20/5.5-7.5', and SP-23/4-6'exhibited concentrations of aluminum (13,600 mg/kg, 13,600 mg/kg, and 10,200 mg/kg, respectively) in excess of the Background within MSAs (9,500 mg/kg);

- Soil samples SP-19/5.5-7.5', SP-20/5.5-7.5', SP-23/4-6', and SP-30/3-5' exhibited concentrations of total chromium (1,650 mg/kg, 128 mg/kg, 888 mg/kg, and 435 mg/kg, respectively) in excess of the Background within MSAs (16.2 mg/kg) and the pH-Specific Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route for Class I Groundwater (21 mg/kg). The concentrations of chromium in soil samples SP-19/5.5-7.5', SP-23/4-6', and SP-30/3-5' (1,650 mg/kg, 888 mg/kg, and 435 mg/kg, respectively) were above the Tier 1 SRO for the Soil Inhalation Exposure Route for Industrial/Commercial Properties (420 mg/kg). In addition, the concentrations of chromium in soil samples SP-19/5.5-7.5' and SP-23/4-6' (1,650 mg/kg and 888 mg/kg, respectively) were above the Tier 1 SRO for the Soil Inhalation Exposure Route for the Construction Worker Scenario (690 mg/kg);

- Soil samples SP-20/5.5-7.5' and SP-23/4-6' exhibited concentrations of cobalt (30.4 mg/kg and 133 mg/kg, respectively) in excess of the Background within MSAs (8.9 mg/kg);

- Soil samples SP-19/5.5-7.5', SP-20/5.5-7.5', SP-23/4-6', and SP-30/3-5' exhibited concentrations of iron (116,000 mg/kg, 149,000 mg/kg, 110,000 mg/kg, and 19,100 mg/kg, respectively) in excess of the Background within MSAs (15,900 mg/kg);

- Soil samples SP-20/5.5-7.5' and SP-23/4-6' exhibited concentrations of lead (1,770 mg/kg and 3,140 mg/kg, respectively) in excess of the Tier 1 SROs for the Soil Ingestion Exposure Route for Industrial/Commercial Properties and the Construction Worker Scenario (800 mg/kg and 700 mg/kg, respectively) and the Background within MSAs (36 mg/kg);

- Soil samples SP-19/5.5-7.5', SP-20/5.5-7.5', SP-23/4-6', and SP-30/3-5' exhibited concentrations of manganese (35,400 mg/kg, 2,660 mg/kg, 14,500 mg/kg, 5,120 mg/kg, respectively) in excess of the Background within MSAs (636 mg/kg). In addition, the concentrations of manganese in soil samples SP-19/5.5-7.5', SP-23/4-6', and SP-30/3-5' (35,400 mg/kg, 14,500 mg/kg, and 5,120 mg/kg, respectively) were above the Tier 1 SROs for the Soil Ingestion and Inhalation Exposure Routes for the Construction Worker Scenario (4,100 mg/kg and 8,700 mg/kg, respectively);

- Soil sample SP-20/5.5-7.5' exhibited a mercury concentration (2.5 mg/kg) in excess of the Background within MSAs (0.06 mg/kg) and the Tier 1 SRO for the Soil Inhalation Exposure Route for the Construction Worker Scenario (0.1 mg/kg);

- Soil samples SP-19/5.5-7.5' and SP-20/5.5-7.5' exhibited concentrations of selenium (1.4 mg/kg and 1.6 mg/kg, respectively) in excess of the pH-Specific Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater (1.3 mg/kg) the Background within MSAs (0.48 mg/kg).

2.5.9 *Total Arsenic*

Eight soil samples were submitted for total arsenic laboratory analysis. The concentrations of arsenic were below Tier 1 SROs, with the exception of the following:

- Soil samples SP-22/1-3', SP-23/1-3', and SP-34/3-5' exhibited concentrations of arsenic (27.9 mg/kg, 14.9 mg/kg, and 22.6 mg/kg, respectively) in excess of the Tier 1 SRO for

the Soil Ingestion Exposure Route for Industrial/Commercial Properties (13 mg/kg) and the Background within MSAs (13 mg/kg).

2.5.10 *Total Chromium*

Six soil samples were submitted for total chromium laboratory analysis. The concentrations of total chromium were below Tier 1 SROs, with the exception of the following:

- Soil samples SP-22/5-7', SP-24/6-8', SP-25/5-10', SP-26/8-10', and SP-28/9-11' exhibited concentrations of total chromium (2,010 mg/kg, 1,080 mg/kg, 1,790 mg/kg, 175 mg/kg, and 1,220 mg/kg, respectively) in excess of the Background within MSAs (16.2 mg/kg) and the pH-Specific Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route for Class I Groundwater (21 mg/kg, 21 mg/kg, 21 mg/kg, 24 mg/kg, and 21 mg/kg, respectively). The concentrations of chromium in soil samples SP-22/5-7', SP-24/6-8', SP-25/5-10', and SP-28/9-11' (2,010 mg/kg, 1,080 mg/kg, 1,790 mg/kg, 1,220 mg/kg, respectively) were above the Tier 1 SROs for the Soil Inhalation Exposure Routes for Industrial/Commercial Properties and the Construction Worker Scenario (420 mg/kg and 690 mg/kg. respectively);

2.5.11 *Hexavalent Chromium*

To further evaluate total chromium concentrations exceeding Tier 1 SROs, six soil samples were submitted for hexavalent chromium laboratory analysis. The concentrations of hexavalent chromium were below laboratory reporting limits or Tier 1 SROs.

2.5.12 *Total Cobalt*

Three soil samples were submitted for total cobalt laboratory analysis. The concentrations of total cobalt were below Tier 1 SROs, with the exception of the following:

- Soil sample SP-34/2-4' exhibited a cobalt concentration (53.4 mg/kg) in excess of the Background within MSAs (8.9 mg/kg).

2.5.13 *Total Iron*

Seven soil samples were submitted for total iron laboratory analysis. The concentrations of total iron were below Tier 1 SROs, with the exception of the following:

- Soil samples SP-22/5-7', SP-25/5-10', SP-26/8-10', SP-28/9-11', SP-32/3-5', and SP-34/3-5' exhibited concentrations of iron (127,000 mg/kg, 112,000 mg/kg, 43,900 mg/kg, 85,000

mg/kg, 21,200 mg/kg, and 24,700 mg/kg, respectively) in excess of the Background within MSAs (15,900 mg/kg).

2.5.14 *Total Lead*

Eight soil samples were submitted for total lead laboratory analysis. The concentrations of total iron were below Tier 1 SROs, with the exception of the following:

- Soil samples SP-19/1-3' and SP-25/5-10' exhibited concentrations of lead (863 mg/kg and 3,290 mg/kg, respectively) in excess of the Tier 1 SROs for the Soil Ingestion Exposure Route for Industrial/Commercial Properties and the Construction Worker Scenario (800 mg/kg and 700 mg/kg, respectively) and the Background within MSAs (36 mg/kg).

2.5.15 *Total Manganese*

One soil sample was submitted for total manganese laboratory analysis. The concentration of total manganese in soil sample SP-25/5-10' (40,700 mg/kg) was above the Tier 1 SROs for the Soil Ingestion and Inhalation Exposure Routes for the Construction Worker Scenario (4,100 mg/kg and 8,700 mg/kg, respectively) and the Background within MSAs (636 mg/kg).

2.5.16 *Total Selenium*

Six soil samples were submitted for total selenium laboratory analysis. The concentrations of total selenium were below Tier 1 SROs, with the exception of the following:

- Soil samples SP-22/5-7', SP-24/6-8' SP-25/5-10', and SP-28/9-11' exhibited concentrations of selenium (2.0 mg/kg, 2.4 mg/kg, 3.7 mg/kg, and 3.1 mg/kg, respectively) in excess of the pH-Specific Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater (1.3 mg/kg) the Background within MSAs (0.48 mg/kg).

2.5.17 *TCLP Inorganics*

The following leaching laboratory analyses were conducted to further assess the Soil Component of the Groundwater Ingestion Exposure Route for inorganic sample results that exhibited impacts in excess of the pH-Specific Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater or the Backgrounds within MSAs for those inorganics without pH-Specific SROs. The following sections provide the results of the TCLP inorganics analyses.

2.5.17.1 TCLP RCRA Metals

One soil sample was submitted for TCLP RCRA metal laboratory analysis. The concentrations of TCLP RCRA metals were below laboratory reporting limits or Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater. In addition, the TCLP RCRA metals were below the Regulatory Levels for the Toxicity Characteristic.

2.5.17.2 TCLP Aluminum

Five soil samples were submitted for TCLP aluminum laboratory analysis. The concentrations of TCLP aluminum were below the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater.

2.5.17.3 TCLP Iron

Five soil samples were submitted for TCLP iron laboratory analysis. The concentrations of TCLP iron were below laboratory reporting limits.

2.5.17.4 TCLP Lead

Two soil samples were submitted for TCLP lead laboratory analysis. The concentrations of TCLP lead were below laboratory reporting limits.

2.5.18 *SPLP Inorganics*

Soil samples exhibiting the highest total metal concentrations were selected for various SPLP inorganic analyses in support of assessing the Soil Component of the Groundwater Ingestion Exposure Route. The following sections provide the results of the SPLP inorganic analyses.

2.5.18.1 SPLP Chromium

Five soil samples were submitted for SPLP chromium laboratory analysis. The concentrations of SPLP chromium were below the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater.

2.5.18.2 SPLP Cobalt

Three soil samples were submitted for SPLP cobalt laboratory analysis. The concentrations of SPLP cobalt were below laboratory reporting limits.

2.5.18.3 SPLP Lead

Four soil samples were submitted for SPLP lead laboratory analysis. The concentrations of SPLP lead were below the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater or laboratory reporting limits, with the exception of the following:

- Soil sample SP-23/4-6' exhibited an SPLP lead concentration (0.13 milligrams per liter [mg/L]) in excess of the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater (0.1 mg/L).

2.5.18.4 SPLP Manganese

Five soil samples were submitted for SPLP manganese laboratory analysis. The concentrations of SPLP manganese were below laboratory reporting limits.

2.5.18.5 SPLP Selenium

Four soil samples were submitted for SPLP selenium laboratory analysis. The concentrations of SPLP selenium were below laboratory reporting limits.

2.5.19 *Reactive Sulfide and Reactive Cyanide*

One soil sample was submitted for reactive sulfide and reactive cyanide laboratory analysis. Concentrations of reactive sulfide and reactive cyanide were below laboratory reporting limits.

2.5.20 *pH*

Thirty-five (35) soil samples were submitted for pH analysis. Analytical results from the soil samples exhibited pH values ranging from 5.2 to 12.4 standard units (s.u.).

2.5.21 *Organic Carbon Content*

Six soil samples were submitted for Organic Carbon Content laboratory analysis. Following the Nelson and Sommers (1982) conversion factor of 0.58, Fractional Organic Carbon Content (F_{oc}) values were calculated as shown below:

Sample ID	Geologic Unit	Organic Carbon Content	Fractional Organic Carbon Content
SP-21/6-8'	Fill Material	1.8%	1.044%
SP-31/1.5-3.5'	Fill Material	2%	1.08%

Sample ID	Geologic Unit	Organic Carbon Content	Fractional Organic Carbon Content
SP-38/1.5-3.5'	Fill Material	3.9%	2.106%
SP-40/9-11'	Fill Material	1.9%	1.026%
SP-44/5-7'	Fill Material	1.7%	0.918%
SP-46/3-5'	Fill Material	2%	1.08%

2.6 Groundwater Analytical Results

Historical groundwater analytical results collected during the 2014 EGSL Phase II SSI and the Weaver Consultants Phase II ESA and CSI have been tabulated and presented in **Table 3** and **Table 7**. Groundwater sample analytical results were compared to the following:

- Tier 1 GROs for the Groundwater Component of the Groundwater Ingestion Exposure Route for Class II Groundwater listed in 35 IAC 742, Appendix B, Table E; and
- Tier 1 GROs for the Indoor Inhalation Exposure Route for Industrial/Commercial Properties – Diffusion & Advection listed in 35 IAC 742, Appendix B, Table H.

Laboratory analytical reports from the CSI activities are included in **Appendix D**. The following presents a summary of the groundwater analytical results for each parameter analyzed as part of the CSI activities.

2.6.1 *Target Compound List*

Seven groundwater samples were submitted for TCL laboratory analysis. Concentrations of TCL parameters were below laboratory reporting limits or Tier 1 GROs, with the exception of the following:

- Groundwater sample TW-9 exhibited concentrations of benzo(a)anthracene and benzo(b)fluoranthene (0.0011 mg/L and 0.0013 mg/L, respectively) in excess of the Tier 1 GROs for the Groundwater Ingestion Exposure Route for Class II Groundwater (0.00065 mg/L and 0.0009 mg/L, respectively);

- Groundwater sample TW-5 exhibited a pentachlorophenol concentration (0.007 mg/L) in excess of the Tier 1 GRO for the Groundwater Ingestion Exposure Route for Class II Groundwater (0.005 mg/L);

- Groundwater samples MW-5, TW-5, TW-6, TW-9, TW-10, and TW-11 exhibited concentrations of total iron (8.6 mg/L, 15.1 mg/L, 11.7 mg/L, 7.3 mg/L, 10.6 mg/L, and 40.0 mg/L, respectively) in excess of the Tier 1 GRO for the Groundwater Ingestion Exposure Route for Class II Groundwater (5 mg/L); and

- Groundwater sample TW-5 exhibited a total vanadium concentration (0.11 mg/L) in excess of the Tier 1 GRO for the Groundwater Ingestion Exposure Route for Class II Groundwater (0.1 mg/L).

2.6.1 *Volatile Organic Compounds*

One groundwater sample was submitted for VOC laboratory analysis. The concentrations of VOCs were below laboratory reporting limits or Tier 1 GROs.

2.6.2 *Polynuclear Aromatic Hydrocarbons*

One groundwater sample was submitted for PNA laboratory analysis. The concentrations of PNAs were below laboratory reporting limits or Tier 1 GROs.

2.6.3 *Polychlorinated Biphenyls*

One groundwater sample was submitted for PCB laboratory analysis. The concentrations of PCBs were below laboratory reporting limits or Tier 1 GROs.

2.6.4 *Pesticides*

One groundwater sample was submitted for pesticides laboratory analysis. The concentrations of pesticides were below laboratory reporting limits or Tier 1 GROs.

2.6.5 *Total Target Analyte List*

Four groundwater samples were submitted for total TAL laboratory analysis. Concentrations of total TAL inorganics were below laboratory reporting limits or Tier 1 GROs, with the exception of the following:

- Groundwater samples MW-1, MW-6, and TW-7 exhibited concentrations of total aluminum (6.7 mg/L, 61.8 mg/L, and 34.7 mg/L) in excess of the Tier 1 GRO for the Groundwater Ingestion Exposure Route for Class II Groundwater (5 mg/L);

- Groundwater samples MW-1, MW-6, and TW-7 exhibited concentrations of total iron (14.7 mg/L, 86.3 mg/L, and 35.7 mg/L, respectively) in excess of the Tier 1 GRO for the Groundwater Ingestion Exposure Route for Class II Groundwater (5 mg/L);
- Groundwater samples MW-1 and MW-6 exhibited concentrations of total lead (0.13 mg/L and 0.23 mg/L, respectively) in excess of the Tier 1 GRO for the Groundwater Ingestion Exposure Route for Class II Groundwater (0.1 mg/L);
- Groundwater sample TW-7 exhibited a total manganese concentration (11.2 mg/L) in excess of the Tier 1 GRO for the Groundwater Ingestion Exposure Route for Class II Groundwater (10 mg/L); and
- Groundwater sample MW-6 exhibited a total vanadium concentration (0.15 mg/L) in excess of the Tier 1 GRO for the Groundwater Ingestion Exposure Route for Class II Groundwater (0.1 mg/L).

2.6.6 *Dissolved Target Analyte List*

Nine groundwater samples were submitted for dissolved TAL laboratory analysis. Concentrations of dissolved TAL inorganics were below laboratory reporting limits or Tier 1 GROs, with the exception of the following:

- Groundwater samples MW-5, TW-6, TW-10, and TW-11 exhibited concentrations of dissolved iron (8.4 mg/L, 11.2 mg/L, 6.9 mg/L, and 40.8 mg/L, respectively) in excess of the Tier 1 GRO for the Groundwater Ingestion Exposure Route for Class II Groundwater (5 mg/L).

2.6.7 *Cyanide*

One groundwater sample was submitted for cyanide laboratory analysis. The concentration of cyanide was below the laboratory reporting limit.

2.7 Endangerment Assessment

2.7.1 *Recognized Environmental Conditions*

The ASTM E 1527-13 defines a REC as follows:

"the presence, or likely presence, of any hazardous substances or petroleum products under conditions that would indicate an existing release, a past release, or a material threat of a release of such substances into structures on the Property or into the ground, groundwater, or surface water of the Property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions

that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not recognized environmental conditions."

According to the April 8, 2016 Phase I ESA, the following RECs have been identified in connection with the Property:

- REC-1: The known presence of subsurface impacts identified during EGSL's Phase II SSI.
- REC-2: The potential presence of subsurface impacts associated with the current operations including the presence of ASTs and storage drums; and
- REC-3: The potential presence of subsurface impacts associated with the historical presence of a steel mill on the northern adjoining property, a quarry on the southern adjoining property, and industrial operations on the eastern and western adjoining properties.

In addition, the following CREC was identified in the April 2016 Phase I ESA:

- CREC-1: The portion of the Property with USEPA issued RCRA closure with an ELUC that requires property use controls including an industrial/commercial land use restriction, a Site Safety Plan, and maintenance of an asphalt, gravel, concrete, or vegetation cap over slag material.

As described in **Section 2.2.1**, soil and groundwater samples were collected for purposes of characterizing previously identified impacts and assessing data gap areas. Based on the EGSL 2014 Phase II SSI, Phase II ESA, and CSI, the subsurface soil and groundwater exhibited COCs exceeding applicable Tier 1 SROs and Tier 1 GROs. The COCs exceeding applicable Tier 1 SROs include the SVOCs benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, indeno(1,2,3-c,d)pyrene, and carbazole, the PCBs Aroclor 1248 and Aroclor 1254, and the inorganics aluminum, arsenic, chromium, cobalt, iron, lead, manganese, mercury, and selenium within the fill material. The SVOC and PCB impacts are believed to be associated with current and historical uses of the Property and eastern adjoining property, respectively. The inorganic impacts are believed to be associated with the placement of the fill and slag materials across the western portion of the Property.

The COCs exceeding the applicable Tier 1 GROs for the Groundwater Ingestion Exposure Route include the SVOCs benzo(a)anthracene, benzo(b)fluoranthene, and pentachlorophenol and the inorganics total aluminum, total and dissolved iron, and total manganese. COCs did not exceed

the applicable Tier 1 GROs for the Indoor Inhalation Exposure Route. The SVOC impacts are believed to be associated with current and historical uses of the Property. The inorganic impacts are believed to be associated with the placement of the fill and slag materials across the western portion of the Property.

The IEPA has identified various potential exposure routes to be evaluated at sites for which TACO remediation objectives are established. These exposure routes include Outdoor Soil Inhalation, Soil Ingestion, Indoor Inhalation, and the Soil and Groundwater Components of Groundwater Ingestion for Class I or Class II Groundwater. The applicability of these exposure routes was undertaken by evaluating physical site conditions encountered during the CSI.

2.7.2 *Nature, Concentration and Extent of Contaminants of Concern*

The following presents a summary of the COCs observed at the Property associated with the RECs. COCs are defined under 35 IAC 740.120 as:

> *"any contaminant that is expected to be present at the site based upon past and current land uses and associated releases that are known to the remediation applicant based upon reasonable inquiry."*

The COCs have been assessed from the results of analytical testing of soil and groundwater samples collected at the Property. The COCs for the Property consist of the IEPA SRP TCL. Soil and groundwater are the media of concern.

The nature and extent of COC impacts is based on the data gathered during EGSL's 2014 Phase II SSI and Weaver Consultants' 2016 Phase II ESA and 2018 CSI. As a result, COCs exhibiting concentrations exceeding Tier 1 Remediation Objectives at the Property are presented below.

2.7.3 *Outdoor Soil Inhalation Exposure Route*

Various soil samples located across the Property exhibited total chromium impacts exceeding the Tier 1 SRO for the Outdoor Soil Inhalation Exposure Route and Background within MSAs. Total chromium is comprised of trivalent and hexavalent chromium ions. A laboratory method for chromium ion speciation has not been established; however, standard laboratory practice to determine chromium ion species includes analysis of total chromium and hexavalent chromium, which are subtracted to calculate trivalent chromium. As listed in 35 IAC 742, Appendix B, Table B, Tier 1 SROs for the Outdoor Soil Inhalation Exposure Route for trivalent chromium are not established, and noted that toxicity criteria are not available for this exposure route. In addition, the total chromium and hexavalent chromium Tier 1 SROs are the same. As a result, the Tier 1

SROs for total chromium assume the chromium ion present consists entirely of hexavalent chromium.

Based on this information, the CSI samples exhibiting the highest concentrations of total chromium were selected for hexavalent chromium analysis. The following table summarizes the samples that exhibited total chromium exceeding the Tier 1 SRO for the Outdoor Soil Inhalation Exposure Route and Backgrounds within MSAs, the subsequent hexavalent chromium results, and the corresponding Tier 1 SRO for the Outdoor Soil Inhalation Exposure Route.

Sample ID	Total Chromium Concentration (mg/kg)	Hexavalent Chromium Concentration (mg/kg)	Tier 1 SRO for Total and Hexavalent Chromium (mg/kg)
SP-19/5.5-7.5'	1,650	8.8	420
SP-22/5-7'	2,010	2.9	
SP-24/6-8'	1,080	<0.89	
SP-25/5-10'	1,790	<0.88	
SP-28/9-11'	1,220	7.4	

Based on these results, the total chromium concentrations on the Property consist of trivalent chromium and not hexavalent chromium for which the Tier 1 SROs for the Outdoor Inhalation Exposure Route were established. Therefore, chromium is not considered to be in excess of Tier 1 SROs for the Outdoor Soil Inhalation Exposure Route.

2.7.4 *Indoor Inhalation Exposure Route*

The parameters applicable to the Indoor Inhalation Exposure Route, as presented in 35 IAC 742, Appendix A, Table J, have been analyzed within the TCL analysis of groundwater samples TW-1 (EGSL), TW-2 (EGSL), TW-4, MW-3, MW-5, TW-5, TW-6, TW-9, TW-10, and TW-11; VOC analysis of groundwater samples TW-1 (Weaver Consultants), TW-3, and TW-8; BTEX analysis of groundwater samples TW-2 (Weaver Consultants); total and dissolved mercury analysis of groundwater samples TW-1 (Weaver Consultants), TW-2 (Weaver Consultants), TW-3, MW-1, and MW-6; and total mercury analysis of groundwater samples TW-7 and TW-8. The COCs listed

in 35 IAC 742, Appendix A, Table J were not detected above laboratory reporting limits or Tier 1 GROs for the Indoor Inhalation Exposure Route obtained from 35 IAC 742, Appendix B, Table H within these groundwater samples (refer to **Table 3** and **Table 7**).

2.7.5 *Soil Ingestion Exposure Route*

2.7.5.1 Benzo(a)anthracene

CSI soil sample SP-38/1.5-3.5', collected from the fill material and located in the central-northern to eastern-northern portion of the Property, exhibited a concentration of benzo(a)anthracene in excess of the Tier 1 SRO for the Soil Ingestion Exposure Route and the Background within MSAs. As shown on **Figure 7A – Organic Impacts In Excess of Tier 1 SROs for Soil Ingestion**, the approximate horizontal extent of impacts associated with this soil sample has been characterized. Specifically, soil samples SP-45/3-5', SP-41/3-5', and SP-13/1-3', collected from the fill material and located to the west, south, and east of soil sample SP-38/1.5-3.5', exhibited concentrations of benzo(a)anthracene below the Tier 1 SRO for the Soil Ingestion Exposure Route and the Background within MSAs.

As discussed in **Section 2.1.3.5**, the site geology generally consists of fill material overlying bedrock, with the exception of native material encountered at soil probes SP-5, SP-6, and SP-7. Bedrock consisting of limestone was generally encountered at depths between 3 to 6 feet bgs on the eastern portion and 6 to 14 feet bgs on the western portion of the Property. Therefore, the depth at which deeper samples appearing free of impacts could be collected was limited due to refusal at bedrock. As shown on **Table 1**, soil samples SP-5/18-20' and SP-7/9-11', collected from the native material, did not exhibit concentrations of benzo(a)anthracene above the Tier 1 SRO for the Soil Ingestion Exposure Route or Background within MSAs. Therefore, benzo(a)anthracene impacts appear isolated to the shallow fill material in the central-northern to eastern-northern portion of the Property in the vicinity of soil probe SP-38.

Furthermore, soil sample SP-38/1.5-3.5' is proposed for removal as part of the "Hot Spot" removal remediation action, as discussed in **Section 4.0** below.

2.7.5.2 Benzo(a)pyrene

CSI soil sample SP-38/1.5-3.5', collected from the fill material and located in the central-northern to eastern-northern portion of the Property, exhibited a concentration of benzo(a)pyrene in excess of the Tier 1 SRO for the Soil Ingestion Exposure Route and the Background within MSAs. As shown on **Figure 7A**, the approximate horizontal extent of impacts associated with this soil sample has been characterized. Specifically, soil samples SP-45/3-5', SP-41/3-5', and SP-13/1-3',

collected from the fill material and located to the west, south, and east of soil sample SP-38/1.5-3.5', exhibited concentrations of benzo(a)pyrene below the Tier 1 SRO for the Soil Ingestion Exposure Route and the Background within MSAs.

As discussed in **Section 2.1.3.5**, the site geology generally consists of fill material overlying bedrock, with the exception of native material encountered at soil probes SP-5, SP-6, and SP-7. Bedrock consisting of limestone was generally encountered at depths between 3 to 6 feet bgs on the eastern portion and 6 to 14 feet bgs on the western portion of the Property. Therefore, the depth at which deeper samples appearing free of impacts could be collected was limited due to refusal at bedrock. As shown on **Table 1**, soil samples SP-5/18-20' and SP-7/9-11', collected from the native material, did not exhibit concentrations of benzo(a)pyrene above the Tier 1 SRO for the Soil Ingestion Exposure Route or Background within MSAs. Therefore, benzo(a)pyrene impacts appear isolated to the shallow fill material in the central-northern to eastern-northern portion of the Property in the vicinity of soil probe SP-38.

Furthermore, soil sample SP-38/1.5-3.5' is proposed for removal as part of the Hot Spot removal remediation action, as discussed in **Section 4.0** below.

2.7.5.3 Benzo(b)fluoranthene

CSI soil sample SP-38/1.5-3.5', collected from the fill material and located in the central-northern to eastern-northern portion of the Property, exhibited a concentration of benzo(b)fluoranthene in excess of the Tier 1 SRO for the Soil Ingestion Exposure Route and the Background within MSAs. As shown on **Figure 7A**, the approximate horizontal extent of impacts associated with this soil sample has been characterized. Specifically, soil samples SP-45/3-5', SP-41/3-5', and SP-13/1-3', collected from the fill material and located to the west, south, and east of soil sample SP-38/1.5-3.5', exhibited concentrations of benzo(b)fluoranthene below the Tier 1 SRO for the Soil Ingestion Exposure Route and the Background within MSAs.

As discussed in **Section 2.1.3.5**, the site geology generally consists of fill material overlying bedrock, with the exception of native material encountered at soil probes SP-5, SP-6, and SP-7. Bedrock consisting of limestone was generally encountered at depths between 3 to 6 feet bgs on the eastern portion and 6 to 14 feet bgs on the western portion of the Property. Therefore, the depth at which deeper samples appearing free of impacts could be collected was limited due to refusal at bedrock. As shown on **Table 1**, soil samples SP-5/18-20' and SP-7/9-11', collected from the native material, did not exhibit concentrations of benzo(b)fluoranthene above the Tier 1 SRO for the Soil Ingestion Exposure Route or Background within MSAs. Therefore,

benzo(b)fluoranthene impacts appear isolated to the shallow fill material in the central-northern to eastern-northern portion of the Property in the vicinity of soil probe SP-38.

Furthermore, soil sample SP-38/1.5-3.5' is proposed for removal as part of the Hot Spot removal remediation action, as discussed in **Section 4.0** below.

2.7.5.4 Indeno(1,2,3-cd)pyrene

CSI soil sample SP-38/1.5-3.5', collected from the fill material and located in the central-northern to eastern-northern portion of the Property, exhibited a concentration of indeno(1,2,3-cd)pyrene in excess of the Tier 1 SRO for the Soil Ingestion Exposure Route and the Background within MSAs. As shown on **Figure 7A**, the approximate horizontal extent of impacts associated with this soil sample has been characterized. Specifically, soil samples SP-45/3-5', SP-41/3-5', and SP-13/1-3', collected from the fill material and located to the west, south, and east of soil sample SP-38/1.5-3.5', exhibited concentrations of indeno(1,2,3-cd)pyrene below the Tier 1 SRO for the Soil Ingestion Exposure Route and the Background within MSAs.

As discussed in **Section 2.1.3.5**, the site geology generally consists of fill material overlying bedrock, with the exception of native material encountered at soil probes SP-5, SP-6, and SP-7. Bedrock consisting of limestone was generally encountered at depths between 3 to 6 feet bgs on the eastern portion and 6 to 14 feet bgs on the western portion of the Property. Therefore, the depth at which deeper samples appearing free of impacts could be collected was limited due to refusal at bedrock. As shown on **Table 1**, soil samples SP-5/18-20' and SP-7/9-11', collected from the native material, did not exhibit concentrations of indeno(1,2,3-cd)pyrene above the Tier 1 SRO for the Soil Ingestion Exposure Route or the Background within MSAs. Therefore, indeno(1,2,3-cd)pyrene impacts appear isolated to the shallow fill material in the central-northern to eastern-northern portion of the Property in the vicinity of soil probe SP-38.

Furthermore, soil sample SP-38/1.5-3.5' is proposed for removal as part of the Hot Spot removal remediation action, as discussed in **Section 4.0** below.

2.7.5.5 Aroclor 1248

Historical soil sample GP-16/Surface, collected from the fill material and located in the northeastern corner of the Property, exhibited a concentration of Aroclor 1248 in excess of the Tier 1 SRO for the Soil Ingestion Exposure Route. As shown on **Figure 7A**, the approximate horizontal extent of impacts associated with this soil sample has been characterized. Specifically, soil samples SP-16/0-2', SP-33/1-3', and SP-14/1-3', collected from the fill material and located

to the west-northwest, west-southwest, and south of soil sample GP-16/Surface, did not exhibit concentrations of Aroclor 1248 above the Tier 1 SRO for the Soil Ingestion Exposure Route.

As discussed in **Section 2.1.3.5**, the site geology generally consists of fill material overlying bedrock, with the exception of native material encountered at soil probes SP-5, SP-6, and SP-7. Bedrock consisting of limestone was generally encountered at depths between 3 to 6 feet bgs on the eastern portion of the Property. Therefore, the depth at which deeper samples could be collected was limited due to refusal at bedrock. However, based on PCB data collected at deeper sample locations from other portions of the Property (i.e., concentrations below the Tier 1 SRO for the Soil Ingestion Exposure Route in soil samples SP-15/6.5-8.5', SP-27/9-11', SP-32/3-5', SP-39/3-5', SP-40/9-11', SP-41/3-5', SP-42/5-7', SP-43/4-6', SP-44/5-7', SP-45/3-5', and SP-46/3-5'), the Aroclor 1248 impacts appear isolated to the shallow fill material in the northeastern corner of the Property in the vicinity of soil sample GP-16/Surface.

Furthermore, historical soil samples GP-16/Surface and GP-16/0-2' are proposed for removal as part of the Hot Spot removal remediation action, as discussed in **Section 4.0** below.

2.7.5.6 Aroclor 1254

Historical soil samples GP-16/Surface and GP-16/0-2', collected from the fill material and located in the northeastern corner of the Property, exhibited concentrations of Aroclor 1254 in excess of the Tier 1 SRO for the Soil Ingestion Exposure Route. As shown on **Figure 7A**, the approximate horizontal extent of impacts associated with these soil samples has been characterized. Specifically, soil samples SP-16/0-2', SP-33/1-3', and SP-14/1-3', collected from the fill material and located to the west-northwest, west-southwest, and south of soil samples GP-16/Surface and GP-16/0-2', did not exhibit concentrations of Aroclor 1254 above the Tier 1 SRO for the Soil Ingestion Exposure Route.

As discussed in **Section 2.1.3.5**, the site geology generally consists of fill material overlying bedrock, with the exception of native material encountered at soil probes SP-5, SP-6, and SP-7. Bedrock consisting of limestone was generally encountered at depths between 3 to 6 feet bgs on the eastern portion of the Property. Therefore, the depth at which deeper samples could be collected was limited due to refusal at bedrock. However, based on PCB data collected at deeper sample locations from other portions of the Property (i.e., concentrations below the Tier 1 SRO for the Soil Ingestion Exposure Route in soil samples SP-15/6.5-8.5', SP-27/9-11', SP-32/3-5', SP-39/3-5', SP-40/9-11', SP-41/3-5', SP-42/5-7', SP-43/4-6', SP-44/5-7', SP-45/3-5', and SP-46/3-5'), the Aroclor 1254 impacts appear isolated to the shallow fill material in the northeastern corner of the Property in the vicinity of soil probe GP-16. Furthermore, historical soil samples GP-

16/Surface and GP-16/0-2' are proposed for removal as part of the Hot Spot removal remediation action, as discussed in **Section 4.0** below.

2.7.5.7 Arsenic

Historical soil samples GP-2/7-9', GP-5/5-7', SP-3/0-2', and SP-15/6.5-8.5' and CSI soil samples SP-20/5.5-7.5', SP-22/1-3', and SP-23/1-3', collected from the fill material and located in the western portion of the Property, exhibited concentrations of arsenic in excess of the Tier 1 SRO for the Soil Ingestion Exposure Route and the Background within MSAs. As shown on **Figure 7B – Arsenic Impacts In Excess of Tier 1 SRO for Soil Ingestion**, the approximate horizontal extent of impacts associated with these soil samples has been characterized. Specifically, soil samples SP-24/6-8', SP-4/7-9', SP-4/11-13', and SP-25/1-3', collected from the fill material and located to the northeast, east, and southeast, respectively of samples GP-2/7-9', GP-5/5-7', SP-3/0-2', SP-15/6.5-8.5', SP-20/5.5-7.5', SP-22/1-3', and SP-23/1-3, did not exhibit concentrations of arsenic above the Tier 1 SRO for the Soil Ingestion Exposure Route and the Background within MSAs.

Historical sample GP-8/10-12', collected from the fill material and located in the central-western portion of the Property, exhibited a concentration of arsenic above the Tier 1 GRO for the Soil Ingestion Exposure Route and the Background within MSAs. As shown on **Figure 7B**, the approximate horizontal extent of impacts associated with this soil sample has been characterized. Specifically, soil samples SP-12/9-11', SP-40/9-11', SP-28/9-11', and SP-7/9-11', collected from the fill material and located to the north, northeast, southeast, and south of soil sample GP-8/0-12', did not exhibit concentrations of arsenic above the Tier 1 SRO for the Soil Ingestion Exposure Route and the Background within MSAs.

Historical soil sample GP-14/4-5' and CSI soil sample SP-34/3-5', collected from the fill material and located in the eastern-southern portion of the Property, exhibited concentrations of arsenic in excess of the Tier 1 SRO for the Soil Ingestion Exposure Route and the Background within MSAs. As shown on **Figure 7B**, the approximate horizontal extent of impacts associated with these soil samples has been characterized. Specifically, soil samples SP-30/3-5', SP-41/3-5', SP-13/1-3', SP-37/2.5-4.5', SP-46/3-5', and SP-32/3-5', collected from the fill material and located to the west, northwest, north, northeast, and east, respectively of soil samples GP-14/4-5' and SP-34/3-5', did not exhibit concentrations of arsenic above the Tier 1 SRO for the Soil Ingestion Exposure Route and the Background within MSAs.

As discussed in **Section 2.1.3.5**, the site geology generally consists of fill material overlying bedrock, with the exception of native material encountered at soil probes SP-5, SP-6, and SP-7. Bedrock consisting of limestone was generally encountered at depths between 3 to 6 feet bgs on

the eastern portion and 6 to 14 feet bgs on the western portion of the Property. Therefore, the depth at which deeper samples could be collected was limited due to refusal at bedrock. As shown on **Table 1**, soil samples SP-5/18-20' and SP-7/9-11', collected from the native material, did not exhibit concentrations of arsenic above the Tier 1 SRO for the Soil Ingestion Exposure Route or the Background within MSAs. Therefore, arsenic impacts appear isolated to the fill material in the western, central-western, and eastern-southern portions of the Property.

Furthermore, three soil samples are proposed for removal as part of the Hot Spot removal remediation action in conjunction with site-specific arsenic averaging, as discussed in **Section 4.0** below.

2.7.5.8 Lead

Historical soil samples GP-5/5-7', SP-3/0-2', SP-4/7-9, and SP-18/0-2' and CSI soil samples SP-19/1-3', SP-20/5.5-7.5', SP-23/4-6', and SP-25/5-10', collected from the fill material and located in the western portion of the Property, exhibited concentrations of lead in excess of the Tier 1 SROs for the Soil Ingestion Exposure Route and the Background within MSAs. As shown on **Figure 7C – Lead Impacts In Excess of Tier 1 SRO for Soil Ingestion**, the approximate horizontal extent of impacts associated with these soil samples has been characterized. Specifically, soil samples SP-24/1-3', SP-24/6-8', SP-6/2-4', GP-6/8-10', SP-5/7-9', SP-22/5-7', and SP-1/5-7', collected from the fill material and located to the east, northeast, east, south, and southwest, respectively of soil samples GP-5/5-7', SP-3/0-2', SP-4/7-9, and SP-18/0-2' and CSI soil samples SP-19/1-3', SP-20/5.5-7.5', SP-23/4-6', and SP-25/5-10', did not exhibit concentrations of lead in excess of the Tier 1 SRO for the Soil Ingestion Exposure Route of the Background within MSAs.

As discussed in **Section 2.1.3.5**, the site geology generally consists of fill material overlying bedrock, with the exception of native material encountered at soil probes SP-5, SP-6, and SP-7. Bedrock consisting of limestone was generally encountered at depths between 6 to 13.5 feet bgs on the western portion of the Property. Therefore, the depth at which deeper samples could be collected was limited due to refusal at bedrock. As shown on **Table 1**, soil samples SP-5/18-20' and SP-7/9-11', collected from the native material, did not exhibit concentrations of lead above the Tier 1 SRO for the Soil Ingestion Exposure Route and the Background within MSAs. Therefore, lead impacts appear isolated to the fill material in the western portion of the Property.

2.7.6 *Soil Component of the Groundwater Ingestion Exposure Route (Class II Groundwater)*

2.7.6.1 Benzo(a)anthracene

CSI soil sample SP-38/1.5-3.5', collected from the fill material and located in the central-northern to eastern-northern portion of the Property, exhibited a concentration of benzo(a)anthracene in excess of the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route and the Background within MSAs. As shown on **Figure 8 – Impacts In Excess of Tier 1 SROs for the Soil Component**, the approximate horizontal extent of impacts associated with this soil sample has been characterized. Specifically, soil samples SP-45/3-5', SP-41/3-5', and SP-13/1-3', collected from the fill material and located to the west, south, and east of soil sample SP-38/1.5-3.5', exhibited concentrations of benzo(a)anthracene below the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route and the Background within MSAs.

As discussed in **Section 2.1.3.5**, the site geology generally consists of fill material overlying bedrock, with the exception of native material encountered at soil probes SP-5, SP-6, and SP-7. Bedrock consisting of limestone was generally encountered at depths between 3 to 6 feet bgs on the eastern portion of the Property. Therefore, the depth at which deeper samples could be collected was limited due to refusal at bedrock. As shown on **Table 1**, soil samples SP-5/18-20' and SP-7/9-11', collected from the native material, did not exhibit concentrations of benzo(a)anthracene above the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route or the Background within MSAs. Therefore, benzo(a)anthracene impacts appear isolated to the shallow fill material in the central-northern to eastern-northern portion of the Property in the vicinity of soil probe SP-38.

Furthermore, soil sample SP-38/1.5-3.5' is proposed for removal as part of the Hot Spot removal remediation action, as discussed in **Section 4.0** below.

2.7.6.2 Carbazole

CSI soil sample SP-38/1.5-3.5', collected from the fill material and located in the central-northern to eastern-northern portion of the Property, exhibited a concentration of carbazole in excess of the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route. As shown on **Figure 8**, the approximate horizontal extent of impacts associated with this soil sample has been characterized. Specifically, soil samples SP-45/3-5', SP-41/3-5', and SP-31/1.5-3.5', collected from the fill material and located to the west, south, and east of soil sample SP-38/1.5-3.5', exhibited concentrations of carbazole below the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route.

As discussed in **Section 2.1.3.5**, the site geology generally consists of fill material overlying bedrock, with the exception of native material encountered at soil probes SP-5, SP-6, and SP-7. Bedrock consisting of limestone was generally encountered at depths between 3 to 6 feet bgs on the eastern portion of the Property. Therefore, the depth at which deeper samples could be collected was limited due to refusal at bedrock. As shown on **Table 1**, soil sample SP-7/9-11', collected from the native material, did not exhibit a carbazole concentration above the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route. Therefore, carbazole impacts appear isolated to the shallow fill material in the central-northern to eastern-northern portion of the Property in the vicinity of soil probe SP-38.

Furthermore, soil sample SP-38/1.5-3.5' is proposed for removal as part of the Hot Spot removal remediation action, as discussed in **Section 4.0** below.

2.7.6.3 Inorganics

Various soil samples located across the Property exhibited inorganic impacts exceeding the Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater, or Backgrounds within MSAs for inorganics that do not have established Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater. Based on these results, various samples were analyzed for TCLP and/or SPLP inorganics analysis. The samples with the highest total inorganic concentrations from the CSI activities were chosen for TCLP/SPLP analysis. The following table summarizes the samples that exhibited inorganic exceedances of the Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater and/or Backgrounds within MSAs, the subsequent TCLP and/or SPLP results, where applicable, and the corresponding Tier 1 SROs.

COC	Sample ID	Total Inorganic Concentration (mg/kg)	TCLP/SPLP Concentration (mg/L)	Tier 1 SRO (mg/L)
Aluminum	SP-19/5.5-7.5'	13,600	0.25	5
	SP-20/5.5-7.5'	13,600	0.27	
	SP-38/1.5-3.5'	12,900	0.27	
	SP-39/3-5'	16,000	0.17	

COC	Sample ID	Total Inorganic Concentration (mg/kg)	TCLP/SPLP Concentration (mg/L)	Tier 1 SRO (mg/L)
	SP-45/3-5'	11,500	0.26	
Chromium	GP-5/5-7'	1,070	0.04	1.0
	SP-4/7-9'	1,890	0.092	
	SP-19/5.5-7.5'	1,650	0.029	
	SP-20/5.5-7.5'	128	<0.0025	
	SP-22/5-7'	2,010	0.13	
	SP-24/6-8'	1,080	0.012	
	SP-25/5-10'	1,790	0.0079	
	SP-28/9-11'	1,220	0.082	
Cobalt	SP-20/5.5-7.5'	30.4	<0.0014	1
	SP-23/4-6'	133	<0.0014	
	SP-35/2-4'	53.4	<0.0014	
Iron	SP-19/5.5-7.5'	116,000	<0.074	5
	SP-20/5.5-7.5'	149,000	<0.074	
	SP-22/5-7'	127.000	<0.074	
	SP-23/4-6'	110,000	<0.074	
	SP-25/5-10'	112,000	<0.074	

COC	Sample ID	Total Inorganic Concentration (mg/kg)	TCLP/SPLP Concentration (mg/L)	Tier 1 SRO (mg/L)
Lead	SP-19/1-3'	863	<0.0059	0.1
	SP-20/5.5-7.5'	1,770	<0.0059	
	SP-20/5.5-7.5'	1,770	0.0065	
	SP-23/4-6'	3,140	<0.0059	
	SP-25/5-10'	3,290	<0.0059	
	SP-25/5-10'	3,290	0.055	
Manganese	SP-19/5.5-7.5'	35,400	<0.0015	10
	SP-23/4-6'	14,500	<0.0015	
	SP-25/5-10'	40,700	<0.0015	
	SP-35/2-4'	37,000	<0.0015	
	SP-42/5-7'	52,400	<0.0015	
Selenium	GP-5/5-7'	9.6	<0.01	0.05
	SP-4/7-9'	1.6	<0.025	
	SP-20/5.5-7.5'	1.6	<0.012	
	SP-24/6-8'	2.4	<0.012	
	SP-25/5-10'	3.7	<0.012	
	SP-28/9-11'	3.1	<0.012	
	SP-42/5-7'	3.2	<0.012	

As shown in the above table, the TCLP and SPLP inorganics results were below applicable Tier 1 SROs. It should be noted that historical soil sample GP-5/5-7' exhibited a concentration of antimony above the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route. The samples collected during Weaver Consultants' CSI activities did not exhibit antimony above Tier 1 SROs; therefore, TCLP or SPLP antimony analyses were not requested. The historical antimony soil exceedance is discussed below.

2.7.6.3.1 Antimony

Historical soil sample GP-5/5-7', located in the western portion of the Property, exhibited a concentration of antimony in excess of the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route. As shown on **Figure 8**, the approximate horizontal extent of impacts associated with this soil sample has been characterized. Specifically, soil samples SP-21/6-8', SP-20/5.5-7.5', and SP-23/4-6', exhibited concentrations of antimony below the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route.

As discussed in **Section 2.1.3.5**, the site geology generally consists of fill material overlying bedrock, with the exception of native material encountered at soil probes SP-5, SP-6, and SP-7. Bedrock consisting of limestone/dolomite was generally encountered at depths between 6 to 13.5 feet bgs on the western portion of the Property. Therefore, the depth at which deeper samples could be collected was limited due to refusal at bedrock. The soil samples collected from native material at soil probes SP-5, SP-6, and SP-7 were not analyzed for antimony; however, based on the absence of antimony impacts at other locations on the Property, antimony impacts appear isolated to the fill material in the western portion of the Property in the vicinity of soil probe GP-5.

Fate and transport modeling could not be conducted for antimony as there is no Henry's Law Constant or Organic Carbon Partition Coefficient (K_{oc}) for this COC. However, antimony was not detected above laboratory reporting limits or Tier 1 GROs in the groundwater samples collected during the Phase II SSI, Phase II ESA, or CSI activities including monitoring wells MW-1 and MW-3 located in the vicinity of soil probe GP-5. Therefore, it is not believed antimony is migrating to groundwater.

2.7.7 Groundwater Component of the Groundwater Ingestion Exposure Route (Class II Groundwater)

2.7.7.1 Benzo(a)anthracene

CSI groundwater sample TW-9, located in the southern-central portion of the Property, exhibited a concentration of benzo(a)anthracene in excess of the Tier 1 GRO for the Groundwater Ingestion Exposure Route. As shown on **Figure 9A – Organic Impacts in Excess of Tier 1 GROs for Groundwater Ingestion**, the approximate horizontal extent of impacts associated with this groundwater sample has been characterized. Specifically, groundwater samples TW-4, TW-1 (EGSL), TW-2 (EGSL), TW-3, and MW-5, located to the west, northwest, northeast, northeast, and east, respectively of groundwater sample TW-9, exhibited concentrations of benzo(a)anthracene below the Tier 1 GRO for the Groundwater Ingestion Exposure Route. As a result, benzo(a)anthracene impacts exceeding the Tier 1 GRO for the Groundwater Ingestion Exposure Route appear isolated to the southern-central portion of the Property.

In addition, fate and transport modeling was performed using TACO Equation R26 for the benzo(a)anthracene concentration at TW-9. Equation R26 was utilized to calculate an approximate modeled extent of future theoretical impacts exceeding the Tier 1 GRO at TW-9. As presented in **Section 3.3.4.2.1** below, the future theoretical impacts meet Tier 1 GROs prior to reaching the downgradient Property boundary (refer to **Figure 9A** for the modeled extent of future theoretical impacts).

2.7.7.2 Benzo(b)fluoranthene

CSI groundwater sample TW-9, located in the southern-central portion of the Property, exhibited a concentration of benzo(b)fluoranthene in excess of the Tier 1 GRO for the Groundwater Ingestion Exposure Route. As shown on **Figure 9A**, the approximate horizontal extent of impacts associated with this groundwater sample has been characterized. Specifically, groundwater samples TW-4, TW-1 (EGSL), TW-2 (EGSL), TW-3, and MW-5, located to the west, northwest, northeast, northeast, and east, respectively of groundwater sample TW-9, exhibited concentrations of benzo(b)fluoranthene below the Tier 1 GRO for the Groundwater Ingestion Exposure Route. As a result, benzo(b)fluoranthene impacts exceeding the Tier 1 GRO for the Groundwater Ingestion Exposure Route appear isolated to the southern-central portion of the Property.

In addition, fate and transport modeling was performed using TACO Equation R26 for the benzo(b)fluoranthene concentration at TW-9. Equation R26 was utilized to calculate an

approximate modeled extent of future theoretical impacts exceeding the Tier 1 GRO at TW-9. As presented in **Section 3.3.4.2.1** below, the future theoretical impacts meet Tier 1 GROs prior to reaching the downgradient Property boundary (refer to **Figure 9A** for the modeled extent of future theoretical impacts).

2.7.7.3 Pentachlorophenol

CSI groundwater sample TW-5, located in the northern-central portion of the Property, exhibited a concentration of pentachlorophenol in excess of the Tier 1 GRO for the Groundwater Ingestion Exposure Route. As shown on **Figure 9A**, the approximate horizontal extent of impacts associated with this groundwater sample has been characterized. Specifically, groundwater samples TW-10, TW-2 (EGSL), TW-3, MW-5, TW-11, and TW-6, located to the west, southwest, southwest, southwest, southeast, and east, respectively of groundwater sample TW-5, exhibited concentrations of pentachlorophenol below the Tier 1 GRO for the Groundwater Ingestion Exposure Route. As a result, pentachlorophenol impacts exceeding the Tier 1 GRO for the Groundwater Ingestion Exposure Route appear isolated to the northern-central portion of the Property.

In addition, fate and transport modeling was performed using TACO Equation R26 for the pentachlorophenol concentration at TW-5. Equation R26 was utilized to calculate an approximate modeled extent of future theoretical impacts exceeding the Tier 1 GRO at TW-9. As presented in **Section 3.3.4.2.1** below, the future theoretical impacts meet Tier 1 GROs prior to reaching the downgradient Property boundary (refer to **Figure 9A** for the modeled extent of future theoretical impacts).

2.7.7.4 Inorganics

Historical groundwater sample TW-4 and CSI groundwater samples MW-1, MW-5, MW-6, TW-5, TW-6, TW-9, TW-10, and TW-11 exhibited various total inorganics concentrations exceeding Tier 1 GROs for the Groundwater Ingestion Exposure Route. However, groundwater samples were collected for field filtration and direct containerizing concurrently from each of the monitoring wells for laboratory analysis of total and dissolved inorganics. The dissolved inorganics concentrations, which are believed more representative of subsurface groundwater conditions, were below the Tier 1 GROs for the Groundwater Ingestion Exposure Route with the exception of dissolved iron in samples MW-5, TW-6, TW-10, and TW-11. As a result, it is believed the total inorganic impacts, with the exception of iron, detected in excess of Tier 1 GROs are attributed to the suspended solids within the groundwater and not the result of a release at the Property.

Historical groundwater samples TW-1 (EGSL) and TW-2 (EGSL) exhibited concentrations of total aluminum and total iron in excess of the Tier 1 GROs for the Groundwater Ingestion Exposure Route. However, EGSL did not collect groundwater samples for dissolved laboratory analysis. CSI groundwater sample TW-7 exhibited concentrations of total aluminum, total iron, and total manganese in excess of the Tier 1 GROs for the Groundwater Ingestion Exposure Route. Due to poor recharge in the well, Weaver Consultants was unable to obtain sufficient volume for dissolved inorganics analysis. As a result, the total aluminum, total iron, and total manganese impacts are likely associated with suspended solids within the groundwater. As a result, these total inorganic impacts were not modeled in **Section 3.3.4.2.1** below. This approach is typical and has been approved by the IEPA SRP at numerous properties in the past. The following sections describe the extent of total iron and dissolved iron impacts identified at the Property.

2.7.7.4.1 Total and Dissolved Iron

Historical groundwater sample TW-1 (EGSL), located in the central-western portion of the Property, exhibited a concentration of total iron in excess of the Tier 1 GRO for the Groundwater Ingestion Exposure Route. As shown on **Figure 9B – Iron Impacts in Excess of Tier 1 GRO for Groundwater Ingestion**, the approximate horizontal extent of impacts associated with this groundwater sample has been characterized. Specifically, groundwater samples TW-4, MW-3, and MW-6, located to the southwest, northwest, and southeast, respectively of groundwater sample TW-1 (EGLS), exhibited concentrations of total or dissolved iron below the Tier 1 GRO for the Groundwater Ingestion Exposure Route. As a result, total iron impacts exceeding the Tier 1 GRO for the Groundwater Ingestion Exposure Route appear isolated to the central-western portion of the Property.

In addition, historical groundwater sample TW-2 (EGSL) and CSI groundwater sample TW-7, located in the central to eastern portion of the Property, exhibited concentrations of total iron in excess of the Tier 1 GRO for the Groundwater Ingestion Exposure Route and CSI groundwater samples MW-5, TW-6, TW-10, and TW-11, located in the eastern portion of the Property, exhibited concentrations of dissolved iron in excess of the Tier 1 GROs for the Groundwater Ingestion Exposure Route. As shown on **Figure 9B**, the approximate horizontal extent of impacts associated with these groundwater samples has been characterized. Specifically, groundwater samples MW-6, TW-9, and TW-8, located to the west-southwest, southwest, and east-northeast, respectively of groundwater samples TW-2 (EGSL) MW-5, TW-6, TW-7, TW-10, and TW-11, exhibited concentrations of total or dissolved iron below the Tier 1 GRO for the Groundwater

Ingestion Exposure Route. As a result, total and/or dissolved iron impacts appear isolated to the central to eastern portions of the Property.

In addition, fate and transport modeling was performed using TACO Equation R26 for the dissolved iron impacts. Equation R26 was utilized to calculate an approximate modeled extent of future theoretical dissolved iron impacts exceeding the Tier 1 GRO. As presented in **Section 3.3.4.2.1** below, the future theoretical impacts meet Tier 1 GROs prior to reaching the downgradient Property boundary (refer to **Figure 9B** for the modeled extent of future theoretical impacts), with the exception of TW-6 and TW-10 (refer to **Section 3.3.4.2.1**).

2.8 Significant Physical Features of Remediation Site

The Property is located within a mixed-use area of Cook and Will Counties in Illinois. The surrounding area primarily consists of a salt and steel warehouse to the north across the Historic I&M Canal, a scrap yard and recycling facility to the east, various industrial property uses, residences, and a commercial business center to the south, and a petroleum processing facility to the west (refer to **Figure 3**). The Property consists of three parcels of land totaling 46.9 acres. The Property generally lies north of the Gulf, Mobile, & Ohio Railroad and New Avenue, south of the Historic I&M Canal, east of Ceco Road, and west of Industrial Drive (refer to **Figure 1**).

The Property is utilized as a distribution and logistics yard and truck and trailer storage and is improved with one, single-story commercial building. The building is approximately 4,850 square-feet and consists of a concrete slab-on grade with steel frame, metal exterior, metal walls and concrete floors. In addition, at least three mobile/temporary structures are located on the western portion of the Property. The mobile/temporary structures are constructed with wood frames and metal exteriors and raised above the ground surface. There are asphalt and gravel driveways and parking lots at various locations across the Property. Decorative landscaping consisting of trees and shrubs is located east of Ceco Road in the western portion of the Property (refer to **Figure 2**).

As discussed in **Section 2.1.3.5**, site geology consists predominately of fill material consisting of gravels, sands, and silts. Little to some bluish gray slag was encountered within the fill material in the majority of the probes advanced on the eastern portion and little debris consisting of liner/tarp material or rubber and rope was observed in soil probes SP-29 and SP-44, respectively. The fill material is underlain by limestone/dolomite bedrock that was generally encountered at depths between 3 to 6 feet bgs on the eastern portion and 6 to 14 feet bgs on the western portion of the Property. In addition, dark gray native silt or lean clay was

encountered above bedrock in three soil probes (SP-5, SP-6, and SP-7) in the vicinity of the adjoining RCH Newco II LLC landfill.

2.8.1 *Comparisons to Remediation Objectives*

Analytical data from the 2014 EGSL Phase II SSI, the 2016 Weaver Consultants Phase II ESA, and the 2018 Weaver Consultants CSI activities has been compared to baseline remediation objectives for each applicable exposure route contained in 35 IAC 742, Appendix B, Table B, and other relevant sources. **Table 1** through **Table 3** and **Table 5** through **Table 7** present the soil and groundwater analytical results derived from completed site investigations with comparisons to the following:

1. Tier 1 SROs for Industrial/Commercial Properties (35 IAC 742, Appendix B, Table B);
2. Tier 1 SROs for the Construction Worker Scenario (35 IAC 742, Appendix B, Table B);
3. Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route (35 IAC Section 742, Appendix B, Table B);
4. pH-Specific SROs (Class II Groundwater) (35 IAC 742, Appendix B, Table D);
5. Backgrounds within MSAs (35 IAC 742, Appendix A, Tables G and H);
6. Tier 1 GROs for the Groundwater Component of the Groundwater Ingestion Exposure Route (35 IAC 742, Appendix B, Table E); and
7. Tier 1 GROs for the Indoor Inhalation Exposure Route – Diffusion & Advection (35 IAC 742, Appendix B, Table H).

In summary, based on these comparisons, the COCs generally appear to be associated with the imported fill material and not the result of a release from the current or historical use of the Property. As presented above, the Property has undergone appropriate investigation for purposes of characterizing the nature and extent of the COCs in accordance with the CSI requirements set forth within 35 IAC 742.425.

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3 REMEDIATION OBJECTIVES

3.1 Introduction

The following presents the proposed Remediation Objectives for the Property developed in accordance with the procedures outlined at 35 IAC 740.440 and 740.445. Analytical data has been compared to Tier 1 SROs for Industrial/Commercial Properties and the Construction Worker Scenario listed in 35 IAC 742, Appendix B, Table B; pH-specific Tier 1 SROs for the Soil Component of the Groundwater Ingestion Route for Class II Groundwater listed in 35 IAC 742, Appendix B, Table C; Backgrounds within MSAs listed in 35 IAC 742, Appendix A, Tables G and H; Tier 1 GROs for Industrial/Commercial Properties for Class II Groundwater listed in 35 IAC 742, Appendix B, Table E; and Tier 1 GROs for the Indoor Inhalation Exposure Route for Industrial/Commercial Properties listed in 35 IAC, 742, Appendix B, Table H.

3.2 TACO Exposure Route Evaluation

The IEPA has identified five potential exposure routes to be evaluated under TACO (35 IAC 742). These routes are as follows:

a) Outdoor Soil Inhalation Exposure Route;

b) Indoor Inhalation Exposure Route;

c) Soil Ingestion Exposure Route;

d) Soil Component of the Groundwater Ingestion Exposure Route for Class I or II Groundwater; and

e) Groundwater Ingestion Exposure Route for Class I or Class II Groundwater.

TACO allows the evaluation of each of the exposure routes for potential exclusion from consideration. If institutional controls are used to exclude exposure routes, then the institutional controls will be maintained and recorded onto the Property deed. Within this document, support is being provided demonstrating that each of the applicable TACO exposure routes can be excluded from consideration at the Property.

3.3 Remediation Objectives

Tier 1 SROs and GROs were developed in accordance with IEPA's TACO regulations (35 IAC 742). These remediation objectives are designed to protect human health and take into account site conditions and land use. Remediation objectives generated by TACO are risk-based and site-

specific. TACO provides flexibility to site owners and operators in developing site-specific remediation objectives.

The following options are available under TACO:

- Exclusion of exposure routes;
- Use of area background concentrations as screening tools or remediation objectives; and
- Three tiers for developing remediation objectives.

The following includes a comparison of analytical data to Tier 1 SROs and GROs and a risk-based evaluation for those COCs that exhibited concentrations in excess of Tier 1 remediation objectives.

3.3.1 *Tier 1 Evaluation*

Table 1, **Table 2**, **Table 5**, and **Table 6** present analytical results of EGSL's 2014 Phase II SSI, Weaver Consultants' 2016 Phase II ESA, and Weaver Consultants' 2018 CSI activities with comparisons to the following:

1. Tier 1 SROs for Industrial/Commercial Properties (35 IAC 742, Appendix B, Table B);
2. Tier 1 SROs for the Construction Worker Scenario (35 IAC 742, Appendix B, Table B);
3. Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route (35 IAC Section 742, Appendix B, Table B);
4. pH-Specific SROs for Class II Groundwater (35 IAC 742, Appendix B, Table D);
5. Backgrounds within MSAs (35 IAC 742, Appendix A, Tables G and H);
6. Tier 1 GROs for the Groundwater Component of the Groundwater Ingestion Exposure Route (35 IAC 742, Appendix B, Table E); and
7. Tier 1 GROs for the Indoor Inhalation Exposure Route – Diffusion & Advection (35 IAC 742, Appendix B, Table H).

3.3.1.1 Soil

Under Tier 1, available soil analytical data has been compared to baseline remediation objectives, contained in tables listed in 35 IAC 742, Appendix B. Based on these comparisons, COC concentrations are below Tier 1 SROs except for the following constituents (refer to **Tables 1-2** and **Tables 5-6**):

- Benzo(a)anthracene;
- Benzo(a)pyrene;

- Benzo(b)fluoranthene;
- Indeno(1,2,3-cd)pyrene;
- Carbazole;
- Aroclor 1248;
- Aroclor 1254;
- Aluminum;
- Antimony;
- Arsenic;
- Chromium;
- Cobalt;
- Iron;
- Lead;
- Manganese;
- Mercury; and
- Selenium.

Based on these comparisons to Tier 1 SROs, COCs exceeding the Soil Ingestion and Outdoor Soil Inhalation Exposure Routes for the Construction Worker Scenario (**Section 3.3.4** and **Section 3.3.6**) and the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater are proposed for exclusion (**Section 3.3.4** and **Section 3.3.5**). COCs exceeding the Soil Ingestion Exposure Route are proposed for Hot Spot removal remedial action in conjunction with site-specific contaminant averaging to meet Tier 1 SROs (**Section 3.3.3**).

3.3.1.2 Groundwater

Under Tier 1, available groundwater analytical data have been compared to baseline remediation objectives, contained in tables listed in 35 IAC 742, Appendix B. Based on these comparisons, COC concentrations are below Tier 1 SROs except for the following constituents (refer to **Table 3** and **Table 7**):

- Benzo(a)anthracene;
- Benzo(b)fluoranthene;
- Pentachlorophenol;
- Total aluminum;
- Total iron;
- Dissolved iron; and
- Total manganese.

Based on these comparisons to Tier 1 GROs, COCs exceeding the Groundwater Ingestion Exposure Route for Class II Groundwater are proposed for exclusion (**Section 3.3.4** and **Section 3.3.5**).

3.3.2 *Remediation Strategy*

In summary, the following is being proposed in accordance with TACO requirements to address COCs exceeding Tier 1 SROs and GROs:

- Hot Spot removal in conjunction with site-specific contaminant averaging is proposed to address impacts exceeding Tier 1 SROs for the Soil Ingestion Exposure Route in accordance with 35 IAC 742.315 (**Section 3.3.3**).

- The Soil and Groundwater Components of the Groundwater Ingestion Exposure Route are proposed for exclusion by demonstrating compliance with 35 IAC 742.320 (**Section 3.3.4**).
- Groundwater sampling results are below the Tier 1 GROs for the Indoor Inhalation Exposure Route, as presented in **Section 2.7.4** (refer to **Table 3** and **Table 7**). Institutional controls will be used in support of relying on the applicable TACO tables in support of the Indoor Inhalation Exposure Route.
- COC impacts exceeding Tier 1 SROs for the Soil Inhalation and/or Ingestion Exposure Route for the Construction Worker Scenario will be addressed through construction worker safety provisions (**Section 3.3.5**).

The following includes the proposed remediation objectives for each of the applicable exposure routes.

3.3.3 *Soil Ingestion Exposure Route*

Hot Spot removal in conjunction with site-specific contaminant averaging is proposed to address impacts exceeding Tier 1 SROs for the Soil Ingestion Exposure Route in accordance with 35 IAC 742.315. In accordance with 35 IAC 742.225(d), TACO allows for the site-specific averaging of COCs in excess of Tier 1 SROs for comparison to applicable Tier 1 SROs in accordance with the USEPA Office of Emergency and Remedial Response publication "Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites" (OSWER 9285.6-10 December 2002).

Hot Spot removal and off-site disposal is proposed for soil samples GP-16/Surface, GP-16/0-2', SP-25/5-10', and SP-38/1.5-3.5'. The site-specific average concentrations for arsenic and lead have been calculated assuming the above sample locations have been removed. Additionally, upon removal of PNA-impacted soil at soil probe location SP-38 and PCB-impacted soil at soil probe location GP-16, concentrations of PNAs and PCBs in remaining soil samples are below Tier 1 SROs for the Soil Ingestion Exposure Route. Therefore, site-specific averaging is not necessary for benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and indeno(1,2,3-c,d)pyrene.

As referenced by the guidance document and 35 IAC 742.225(d), the USEPA's Statistical Software ProUCL 5.1.002 for Environmental Applications for Data Sets with and without Non-Detect Observations was used to calculate the site-specific averages for soil samples collected from the fill material on the Property. Upon inputting the data set within ProUCL 5.1.002, Shapiro-Wilk and Lilliefors Normality Testing was performed to evaluate the data set for the appropriate statistical methodology to be applied. As shown on **Table 8 – ProUCL Averaging Summary**, the

normality testing for the arsenic and lead included fifty (50) and fifty-one (51) data points, respectively, as represented by the soil samples and the analytical summary tables (**Table 1** and **Table 5**).

The results of the normality testing indicated that the data set for arsenic appears to follow a Gamma Distribution at a 5% significance level. As a result, guidance suggested that the Kaplan Meier (KM) Approximate Gamma method be used to calculate an Upper Confidence Limit (UCL) at 95% confidence. The data set for lead did not appear to follow a discernible distribution pattern. As a result, guidance suggested that the Chebyshev (Mean, Sd) method be used to calculate an Upper Confidence Limit (UCL) at 95% confidence.

According to the ProUCL site-specific averaging results, the average site-specific arsenic and lead concentrations are below the applicable Tier 1 SROs for the Soil Ingestion Exposure Route and/or Backgrounds within MSA. In addition to **Table 8**, the following summary table presents the calculated site-specific COC averages compared to the applicable Tier 1 SROs and Backgrounds within MSAs:

COC	Distribution	UCL Statistical Method	Tier 1 SRO/ Background within MSAs (mg/kg)	UCL Results* (mg/kg)
Arsenic	Gamma	95% KM Approximate Gamma	13.0 / 13.0	9.866
Lead	Nonparametric	95%	800 / 36	787.5

* Assuming Hot Spot removal of soil samples GP-16/Surface, GP-16/0-2', SP-25/5-10', and SP-38/1.5-3.5'.

Based on the above results, it is calculated that the proposed site-specific average arsenic and lead concentrations are below Tier 1 SROs and/or Backgrounds within MSAs, as presented on **Table 8**. Therefore, no additional evaluation is necessary for these COCs. In addition, based on the site-specific averaging and following the proposed Hot Spot removal activities, COC concentrations are below Tier 1 SROs for the Soil Ingestion Exposure Route. The ProUCL data outputs and calculations are included in **Appendix F**.

3.3.4 *Groundwater Ingestion Exposure Route (Soil and Groundwater Components)*

To address COCs exceeding both components of the Groundwater Ingestion Exposure Route for Class II Groundwater, it is proposed that the Groundwater Ingestion Exposure Route be excluded from further consideration. The following provides a listing of the general exposure route exclusion requirements, followed by the specific requirements for the exclusion of the

Groundwater Ingestion Exposure Route, along with an explanation of how each requirement has been satisfied.

3.3.4.1 General Exposure Route Exclusion Requirements

To exclude the above applicable exposure routes, the general requirements listed in 35 IAC 742.300 and 742.305 must be satisfied. The following presents these general requirements, followed by an explanation of how the applicable criteria have been satisfied.

35 IAC Section 742.300(b): "No exposure route may be excluded from consideration until characterization of the extent and concentrations of contaminants of concern at the site have been performed. The actual steps and methods taken to characterize a site shall be determined by the specific program requirements under which the site remediation is being addressed."

As detailed in the CSI Report in **Section 2.0**, the Property has undergone appropriate investigation for purposes of characterizing the nature and extent of the COC impacts in excess of Tier 1 SROs and Tier 1 GROs. The CSI activities resulted in analysis of the TCL parameters as presented in 35 IAC 740, Appendix A, Tables A-D, which are the COCs for this Property. Based upon the scope and analytical results of the completed CSI, soil impacts exceeding Tier 1 SROs for Industrial/Commercial Properties, the Construction Worker Scenario, and the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater were detected in the subsurface soil present at the Property. The COC concentrations exceeding Tier 1 SROs appear to be isolated to the fill and slag materials across the Property as described in **Section 2.7**. Therefore, Section 742.300(b) has been satisfied.

35 IAC Section 742.305(a): "The sum of the concentrations of all organic contaminants of concern shall not exceed the attenuation capacity of the soil as determined under Section 742.215."

Section 742.215(b) states that the soil attenuation capacity will not be exceeded if:

1. *The sum of the organic contaminant residual concentrations analyzed for the purposes of the remediation program for which the analysis is performed, at each discrete sampling point, is less than the natural organic carbon fraction (f_{oc}) of the soil.*
   - A. *A default value of 6,000 mg/kg for soils within the top meter and 2,000 mg/kg for soils below one meter of the surface; or*
   - B. *A site-specific value as measured by the analytical method referenced in Appendix C, Table F, multiplied by 0.58 to estimate the fraction of organic carbon, as stated in Nelson and Sommers (1982), as incorporated by reference in Section 742.210;*

2. *The total petroleum hydrocarbon concentration is less than the natural organic carbon fraction of the soil as demonstrated using a method approved by the Agency. The method selected shall be appropriate for the contaminants of concern to be addressed; or*
3. *Another method, approved by the Agency, shows that the soil attenuation capacity is not exceeded.*

Weaver Consultants collected two soil samples during the 2016 Phase II ESA and two soil samples during the CSI for TPH laboratory analysis. As shown on **Table 1** and **Table 5**, soil samples were below the default soil attenuation capacity value for soil below one meter of 2,000 mg/kg. In addition, the sum of organic COCs within the soils samples is below the default soil attenuation capacity value for soil below one meter. Therefore, Section 742.305(a) has been satisfied.

35 IAC Section 742.305(b): "The concentrations of any organic contaminants of concern remaining in the soil shall not exceed the soil saturation limit as determined under Section 742.220."

Section 742.220 – Determination of Soil Saturation Limit states:

a) *For any organic contaminant that has a melting point below 30°C, the remediation objective for the outdoor inhalation exposure route developed under Tier 2 shall not exceed the soil saturation limit, as determined under subsection (c).*
b) *For any organic contaminant that has a melting point below 30°C, the remediation objective under Tier 2 for the soil component of the groundwater ingestion exposure route shall not exceed the soil saturation limit, as determined under subsection (c).*
c) *The soil saturation limit shall be:*
    1. *The value listed in Appendix A, Table A (of the TACO regulations) for that specific contaminant;*
    2. *A value derived from Equation S29 in Appendix C, Table A (of the TACO regulations); or*
    3. *A value derived from another method approved by the Agency.*

As shown on **Table 1** and **Table 5**, soil samples exhibited concentrations of COCs below their respective default soil saturation limits as listed in TACO Section 742, Appendix A, Table A. Therefore, Section 742.305(b) has been satisfied.

35 IAC Section 742.305(c): "Any soil which contains contaminants of concern shall not exhibit any of the characteristics of reactivity for hazardous waste as determined under 35 Ill. Adm Code 721.123."

Results of reactive cyanide and reactive sulfide analysis from soil sample SP-20/5.5-7.5', as shown on **Table 5**, were not detected above laboratory reporting limits indicating that the soils do not have reactive characteristics. Therefore, Section 742.305(c) has been satisfied.

35 IAC Section 742.305(d): Any soil which contains contaminants of concern shall not exhibit a pH less than or equal to 2.0 or greater than or equal to 12.5, as determined by SW-846 Method 9040B: pH Electrometric for soils with 20% or greater aqueous (moisture) content or by SW-846 Method 9045C: Soil pH for soils with less than 20% aqueous (moisture) content as incorporated by reference in Section 742.210."

As shown on **Table 1** and **Table 5**, sixty-two (62) soil samples were submitted for pH analysis. Based on these results, soil samples exhibited pH ranges from 5.2 to 12.4 s.u. and did not exhibit a pH of less than or equal to 2.0 s.u., or greater than or equal to 12.5 s.u. Therefore, Section 742.305(d) has been satisfied.

35 IAC Section 742.305(e): "Any soil which contains contaminants of concern in the following list of inorganic chemicals or their salts shall not exhibit any of the characteristics of toxicity for hazardous waste as determined by 35 Ill. Adm. Code 721.124: arsenic, barium, cadmium, chromium, lead, mercury, selenium, or silver."

As shown on **Table 1** and **Table 5**, soil samples GP-5/5-7', SP-4/7-9', and SP-20/5.5-7.5' exhibited concentrations of TCLP RCRA metals below the Regulatory Levels for the Toxicity Characteristic listed in Title 40 Code of Federal Regulations (CFR) Section 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic. In addition, the TCLP lead concentrations for soil samples SP-23/4-6' and SP-25/5-10' were also below the Regulatory Levels for the Toxicity Characteristic. Therefore, Section 742.305(e) has been satisfied.

35 IAC Section 742.305(f): "If contaminants of concern include polychlorinated biphenyls (PCBs), the concentration of any PCBs in the soil shall not exceed 50 parts per million as determined by SW-846 Methods."

As shown on **Table 1** and **Table 5**, the concentrations of the soil samples submitted for PCB laboratory analysis from historical soil samples GP-2/7-9', GP-5/5-7', GP-6/8-10', GP-9/7-9', GP-11/4-6', GP-14/4-5', GP-16/Surface, GP-16/0-2', SP-10/1-3', SP-14/1-3', SP-15/6.5-8.5', and SP-16/0-2' and CSI soil samples SP-21/6-8', SP-27/9-11', SP-31/1.5-3.5', SP-32/3-5', SP-33/1-3', SP-35/2-4', SP-36/1-3', SP-37/2.5-4.5', SP-38/1.5-3.5', SP-39/3-5', SP-40/9-11', SP-41/3-5', SP-42/5-7', SP-43/4-6', SP-44/5-7', SP-45/3-5', and SP-46/3-5' were below laboratory reporting limits or Tier 1 SROs, with the exception of soil samples GP-16/0-2' and GP-16/Surface which were below

fifty (50) ppm. These soil samples are proposed for Hot Spot removal remedial action. Therefore, Section 742.305(f) has been satisfied.

35 IAC Section 742.305(g): "The concentration of any contaminant of concern in soil-gas shall not exceed 10% of its Lower Explosive Limit (LEL) as measured by a hand held combustible gas indicator that has been calibrated to manufacturer specifications."

As discussed in **Section 2.2.2**, PID measurements were taken during soil probing activities performed by Weaver Consultants. The PID was calibrated in the field on a daily basis before use in accordance with the manufacturer's specifications. For most VOCs, the toxic exposure limit (in ppm) as measured by a PID would be exceeded long before you reach a concentration sufficient to reach the LEL (in parts per hundred). As shown in **Appendix A**, PID measurements obtained during soil probing activities did not reach the instrument measurement ceiling (15,000 ppm). In addition, VOCs were not detected across the Property. Therefore, Section 742.305(g) has been satisfied.

The information presented above demonstrates that the above generic requirements for exclusion of an exposure route have been met. In addition to the above generic requirements, specific requirements must also be achieved for each individual exposure route that is proposed for exclusion. The following sections describe how each of these specific requirements has been met.

3.3.4.2 Groundwater Ingestion Exposure Route Exclusion Requirements

In addition to the above generic requirements, specific requirements must also be achieved for each individual exposure route that is proposed for exclusion. The following describes how each of the specific requirements has been met.

The groundwater ingestion exposure route may be excluded from consideration if:

a) The requirements of Sections 742.300 and 742.305 are met;

The requirements of Sections 742.300 and 742.305 have been met, as discussed in **Section 3.3.4.1**. Therefore, Section 742.320(a) has been satisfied.

b) The corrective action measures have been completed to remove any free product to the maximum extent practicable;

Free product was not encountered during the Phase II SSI, Phase II ESA, or CSI activities conducted at the Property. Therefore, Section 742.320(b) has been satisfied.

c) *The source of the release is not located within the minimum or designated maximum setback zone or within a regulated recharge area of a potable water supply well;*

As discussed in **Section 2.1.5**, twenty-five (25) water wells, three engineering test wells, and one mineral testing well were identified within 2,500 feet of the Property, including one water well identified on the Property. However, Weaver Consultants did not observe evidence of a water well on the Property. The identified water wells within 2,500 feet of the Property are not identified as community supply wells and are likely inactive or industrial supply wells. In addition, the Property is not located within a minimum or maximum setback zone or within a regulated recharge area of a potable water supply well. Therefore, Section 742.320(c) has been satisfied.

d) *As demonstrated in accordance with Section 742.1015, for any area within the measured and modeled extent of groundwater contamination above what would otherwise be the applicable Tier 1 groundwater remediation objectives, an ordinance adopted by a unit of local government is in place that effectively prohibits the installation of potable water supply wells (and the use of such wells);*

Although the Village of Lemont does not maintain an ordinance that prohibits the installation and use of new potable water wells, Weaver Consultants proposes the use of an onsite groundwater use restriction in support of excluding the Groundwater Ingestion Exposure Route. Furthermore, as shown below, RBCA equation R26 demonstrates that the theoretical COC concentrations will meet Tier 1 GROs before reaching the downgradient Property boundary, with the exception of dissolved iron. However, as discussed in **Section 3.3.4.2.1**, a dietary intake evaluation of iron demonstrated that ingestion of shallow groundwater containing the highest total or dissolved iron concentrations reported at each of the above-mentioned monitoring wells will pose no adverse health effects to the human population. Therefore, Section 742.320(d) has been satisfied.

e) *As demonstrated using Equation R26 in Appendix C, Table C, in accordance with Section 742.810, the concentration of any contaminant of concern in groundwater within the minimum or designated maximum setback zone of an existing potable water supply will meet the applicable Tier 1 groundwater remediation objective*

As identified in **Section 2.1.5**, the Property is not located within a minimum or designated maximum setback zone of an existing potable water supply well. According to the Village of Lemont 2017 Water Quality Report, the Village of Lemont acquires its potable water from groundwater obtained from four deep wells and one shallow emergency well. Based on information obtained from the SWAP database, the closest Community Water Supply Well is

located approximately 4,300 feet southwest of the Property and the closest Village of Lemont Community Water Supply Well is located approximately 9,500 feet southeast of the Property. As shown below, RBCA equation R26 demonstrates that COC concentrations in excess of the Soil Component of the Groundwater Ingestion Exposure Route will meet Tier 1 GROs within the nearest setback zone. Therefore, Section 742.320(e) has been satisfied.

f) As demonstrated using Equation R26, in Appendix C, Table C, in accordance with Section 742.810, the concentration of any contaminant of concern in groundwater discharging into a surface water will meet the applicable surface water quality standard under 35 Ill. Adm. Code 302.

The nearest surface water feature is the Historic I&M Canal, which is located approximately fifty (50) feet north of the Property. As discussed in **Section 3.3.4.2.1**, the theoretical COC concentrations will meet Tier 1 GROs before reaching the downgradient Property boundary and surface water quality standards prior to reaching surface water bodies, with the exception of dissolved iron. However, the Historic I&M Canal was constructed within the surficial Racine dolomite bedrock prior to 1900. As a result, the banks and bed of the Historic I&M Canal consist of generally uniform massive to well-bedded pure dolomite (Willman and Lineback, 1970). In addition, the depth of the Historic I&M Canal from the bank along the Property boundary to the bed is approximately three to four feet and containing approximately one foot of water in the vicinity of the Property. Based on this information, it is not believed groundwater is discharging to the Historic I&M Canal. Therefore, Section 742.320(f) has been satisfied.

3.3.4.2.1 RBCA Evaluation

Weaver Consultants conducted a RBCA evaluation utilizing equation R26 that are listed in 35 IAC 742, Appendix C, Table C to assess the theoretical migration of COCs observed in the groundwater above Tier 1 GROs. Equation R26 was utilized to model the possible extent migration in the groundwater based on a starting concentration. The modeling was conducted on groundwater samples TW-6, TW-10, TW-11, and MW-5 that exhibited concentrations of dissolved iron in excess of the Tier 1 GROs for the Groundwater Ingestion Exposure Route. In addition, the modeling was conducted on groundwater samples TW-9 and TW-5 that exhibited concentrations of various SVOCs in excess of Tier 1 GROs for the Groundwater Ingestion Exposure Route.

Various sample results that exhibited concentrations in excess of Tier 1 SROs or GROs were not modeled based on the following rationale:

- Representative TCLP and SPLP results for inorganics detected in excess of the Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater, pH-Specific SROs, and/or Backgrounds within MSAs were below applicable Tier 1 SROs. Therefore, the total inorganic soil results were not modeled.
- Although TCLP or SPLP data was not available for the antimony impacts within historical soil sample GP-5/5-7', a Henry's Law Constant and K_{oc} value were not available for this COC; therefore, the antimony result was not modeled. In addition, antimony was not detected above laboratory reporting limits or Tier 1 GROs in the groundwater samples collected during the Phase II SSI, Phase II ESA, or CSI activities including monitoring wells MW-1 and MW-3 that are located in the vicinity of soil probe GP-5. Therefore, antimony does not appear to be migrating to groundwater.
- Although benzo(a)anthracene and carbazole at soil sample SP-38/1.5-3.5' exhibited concentrations in excess of the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route, this location is proposed for Hot Spot removal. Therefore, these impacts were not modeled.
- Groundwater samples exhibited various total inorganics concentrations exceeding Tier 1 GROs for the Groundwater Ingestion Exposure Route. However, dissolved inorganics concentrations, which are believed more representative of subsurface groundwater conditions, were below the Tier 1 GROs for the Groundwater Ingestion Exposure Route with the exception of dissolved iron. As a result, it is believed the total inorganic impacts, with the exception of iron, detected in excess of Tier 1 GROs are attributed to the suspended solids within the groundwater and not the result of a release at the Property. Therefore, total inorganic impacts were not modeled.

For parameters where site-specific data was not available, allowable conservative default values were utilized. Based on the site-specific subsurface physical soil conditions, the following parameters were used for the RBCA calculations presented in **Table 9 – R26 Calculations and Graphs**:

- As discussed in **Section 2.2.4**, Weaver Consultants performed a hydraulic conductivity (K) evaluation utilizing a Solinst® Level TROLL® 700 pressure transducer. The Level TROLL® data was input into AQTESolv v4.50 Professional to calculate a K value based on the Unconfined Bower-Rice solution method equation. Results of the K evaluations yielded hydraulic conductivity values between $1.11x10^{-4}$ cm/sec and $2.31x10^{-4}$ cm/sec. To be

conservative, Weaver Consultants utilized the higher hydraulic conductivity value of $2.31x10^{-4}$.

- As discussed in **Section 2.1.3.7**, the two-inch monitoring wells at the Property were surveyed as part of the CSI activities. Weaver Consultants obtained depth to water measurements to obtain groundwater elevations in the wells. Due to the presence of intermittent saturated conditions, dry monitoring wells, and shallow depth to bedrock, the groundwater flow direction could not be determined based on the groundwater elevation measurements. Based on the presumed groundwater flow direction to the north, Weaver Consultants utilized ground surface elevation data from monitoring wells MW-1 and MW-3 and calculated a hydraulic gradient (i) at the Property. Based on a distance of approximately 90 feet between the two monitoring wells locations, (MW-1 and MW-3) with a change in ground elevation of 0.7 feet, the hydraulic gradient has been calculated to be 0.0078 feet/feet.
- Weaver Consultants utilized the conservative default value presented within TACO for the thickness of the water bearing unit, which is approximately two meters (S_d).
- The groundwater flow direction could not be determined based on the groundwater elevation data. However, based on the Property's proximity to the Chicago Sanitary and Ship Canal and Des Plaines River, groundwater flow direction is likely to the north. Therefore, COC concentrations were modeled from the sample locations to the presumed downgradient Property boundary as the point of compliance (refer to **Figure 9A** and **Figure 9B** for points of compliance for sample locations).
- The maximum source width (S_w) perpendicular to the groundwater flow direction in the horizontal plane was estimated based on the groundwater analytical results. Constituent concentration source widths were interpolated using the distance between an impacted sample location and a sample location with COC concentrations below the Tier 1 GROs for the Groundwater Ingestion Exposure Route. The source widths were further reduced due to the size of the Property and the likeliness that these impacts are associated with the fill and slag material placed on the Property. As shown on **Figure 9A** and **Figure 9B**, source width areas were interpolated for various COCs based on the above methodology.

The following table includes the COCs that were detected in excess of the Tier 1 GROs for Class II Groundwater. As indicated above, fate and transport modeling was not conducted on soil samples located in the areas being proposed for Hot Spot removal. Results of the R26 RBCA evaluation are provided on **Table 9** and summarized below:

Sample Location	Constituent [1]	Groundwater Concentration (mg/L)	Class II Groundwater Remediation Objective (mg/L)	Approximate Distance to the Downgradient Property Boundary (cm)	Theoretical Concentration at Compliance Boundary (mg/L)
TW-9	Benzo(a) anthracene	0.0011	0.00065	1,829	$1.40x10^{-4}$
TW-9	Benzo(b) fluoranthene	0.0013	0.0009	1,829	$1.40x10^{-4}$
TW-5	Pentachloro-phenol	0.0070	0.005	914	$3.01x10^{-3}$
MW-5	Dissolved Iron	8.4	5	11,887	0.177
TW-6	Dissolved Iron	11.2	5	457	11.2
TW-10	Dissolved Iron	6.9	5	1,372	5.40
TW-11	Dissolved Iron	40.8	5	10,058	1.19

[1] COC concentrations exceed the Tier 1 GROs for the Groundwater Ingestion Exposure Route for Class II Groundwater.

Based on these calculations, the theoretical future groundwater concentrations modeled from the sample locations will be below Tier 1 GROs for the Groundwater Ingestion Exposure Route at the downgradient Property boundary, with the exception of dissolved iron within groundwater samples TW-6 and TW-10. This is due to a lack of degradation constants for inorganics and the monitoring wells' proximity to the Property boundary. However, a dietary intake evaluation was conducted for iron within the groundwater samples as discussed in **Section 3.3.4.3** below.

3.3.4.3 Dietary Intake Evaluation of Iron

To address the dissolved iron concentrations in excess of the Tier 1 GRO for the Groundwater Ingestion Exposure Route and the total iron concentrations in excess of the Tier 1 GRO for the Groundwater Ingestion Exposure Route where samples were not collected for dissolved iron,

Weaver Consultants conducted a Nutritional-Based Comparison evaluation by comparing the dissolved iron concentrations with the corresponding dietary intake values. Iron is a naturally occurring inorganic mineral abundant in the Earth's crust. The amount of total iron intake was calculated assuming the shallow groundwater was ingested at a rate consistent with default TACO values for Industrial/Commercial properties which is the general property use of the surrounding area. The dietary intake values shown on **Table 10 – Summary of Nutritional-Based Comparison – Iron** and used for these comparisons were obtained from the following available health-based standards:

- IEPA Toxicity Values (Updated November 2017);
- IEPA SSL Parameters listed in 35 IAC 742, Appendix C, Table B; and
- USEPA Health Effects Assessment Summary Tables (HEAST).

As shown on the attached **Table 10**, this evaluation demonstrated that ingestion of shallow groundwater containing the total and dissolved iron concentrations reported at each of the above-mentioned monitoring wells will pose no adverse health effects to the human population.

3.3.5 *Construction Worker Scenario*

The lead, manganese, and mercury concentrations detected in excess of the Soil Ingestion and/or Soil Inhalation Exposure Routes for the Construction Worker Scenario are proposed to be addressed with a construction worker safety provision as follows:

- The construction workers will be notified by the Property owner/operator in advance of intrusive activities in areas where COCs exceed the Tier 1 SROs for the Construction Worker Scenario. Such notification will enumerate the COCs known to be present; and
- The site owner/operator will require construction workers to implement protective measures consistent with good industrial hygiene practice.

Construction worker safety precautions will only be required for work involving excavation or contact with soils at the location and observed depth of impacts exceeding the Tier 1 SROs for the Soil Ingestion and/or Soil Inhalation Exposure Routes for the Construction Worker Scenario.

It should be noted that although soil sample SP-38/1.5-3.5' exhibited a concentration of benzo(a)pyrene in excess of the Tier 1 SRO for the Soil Ingestion Exposure Route for the Construction Worker Scenario, this location is proposed for "Hot Spot" removal and off-site disposal. Therefore, this location will not be included in the construction worker safety precaution notification.

Furthermore, as discussed in **Section 2.7.3**, various soil samples located across the Property exhibited total chromium impacts in excess of the Tier 1 SRO for the Soil Inhalation Exposure Route for the Construction Worker Scenario. Based on these results, the CSI samples exhibiting the highest concentrations of total chromium were selected for hexavalent chromium analysis. The concentrations of hexavalent chromium were below Tier 1 SROs (refer to **Section 2.5.11**). Based on these results, the total chromium concentrations on the Property appear to be associated with trivalent chromium and not hexavalent chromium. Based upon the rationale provided in **Section 2.7.3**, the Tier 1 SROs for total chromium were established assuming hexavalent chromium represents the chromium species comprising the total chromium concentration. Therefore, chromium will not be included in the construction worker safety precaution notification.

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4 REMEDIAL ACTION PLAN

The following discusses the proposed remediation technology and implementation approaches anticipated to achieve compliance with the proposed remediation objectives. This RAP has been prepared in accordance with the IEPA SRP 35 IAC 740.450 requirements. Specifically, the following are presented to address the SRP RAP requirements:

1. Technical approach of proposed remediation activities;
2. Scope of remedial action; and
3. Schedule of proposed remediation activities.

The following details the remediation activities that are proposed for implementation to address soils exhibiting concentrations of SVOCs, PCBs, and inorganics and groundwater exhibiting concentrations of PNA and inorganics in excess of the applicable remediation objectives for the Property. The following is being submitted to fulfill the requirements of 35 IAC Section 740.450 detailing submittal of a Remedial Action Plan. The RO Report presented an evaluation of appropriate remediation objectives applicable to the project. The primary purpose of this section of the report is to demonstrate how the RA will fulfill the requirements necessary to attain the remediation objectives proposed for the Property.

4.1 Proposed Remediation Activities

The proposed remediation activities were developed based on results of the Phase II SSI, Phase II ESA, and CSI activities conducted at the Property. In general, data collected from these investigations have been used to develop a remedial plan of action for soil exhibiting various SVOC, PCB, and inorganic impacts in excess of the applicable Tier 1 SROs on the Property. The proposed remedial effort includes Hot Spot removal and off-site disposal of sample locations GP-16/Surface, GP-16/0-2', SP-25/5-10', and SP-38/1.5-3.5'. **Figure 10 – Proposed Hot Spot Removal Locations** depicts the approximate locations of the proposed Hot Spot removal excavations.

4.2 Scope of Remedial Action

The Phase II SSI activities were conducted in 2014, the Phase II ESA activities were conducted in 2016, and the CSI activities were conducted in 2018. Soil and groundwater samples were collected and submitted for laboratory analysis of various TCL parameters as presented in 35 IAC

740 Appendix A, Table A-D, which are the COCs for this Property. Laboratory analytical results were compared to Tier 1 SROs for Industrial/Commercial Properties, Backgrounds within MSAs, pH-Specific SROs, and Tier 1 GROs for Class II Groundwater (refer to **Section 2.1.3.6** for Class II Groundwater demonstration). In general, the fill material exhibited concentrations of various SVOCs, PCBs, and inorganics above the Tier 1 SROs for the Soil Ingestion Exposure Route and/or the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater. To address the subsurface impacts, the following COCs and corresponding sample locations are proposed for Hot Spot removal and off-site disposal:

- Excavation 1 (EX1) – PCBs within sample locations GP-16/Surface and GP-16/0-2';
- Excavation 2 (EX2) – Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene within soil sample location SP-38/1.5-3.5'; and
- Excavation 3 (EX3) – Lead within soil sample location SP-25/5-10'.

Remaining arsenic and lead concentrations are proposed for site-specific contaminant averaging in support of demonstrating compliance with the Tier 1 SROs for the Soil Ingestion Exposure Route. In addition, lead, manganese, and mercury concentrations that were detected in excess of the Tier 1 SROs for the Soil Ingestion Exposure Route and/or Soil Inhalation Exposure Routes for the Construction Worker Scenario are proposed to be addressed through a construction worker safety precaution.

4.3 Schedule of Activities

According to the RA, the following schedule of activities is planned for the remediation activities:

- Upon IEPA approval, conduct Hot Spot removal activities in July 2019; and
- Preparation of the Remedial Action Completion (RAC) Report in August 2019.

As noted above, upon completion of the remediation activities, Weaver Consultants will prepare a RAC Report. The RAC Report will demonstrate that remediation activities are in compliance with applicable remediation objectives. The RAC Report may be submitted for IEPA review approximately three to four weeks after completion of the remedial and development activities.

4.4 Remediation Technology

Remediation technologies will include use of machinery, such as backhoe excavators and hauling trucks, in support of the Hot Spot removal activities. Weaver Consultants is providing the following in support of implementing remediation activities at the Property. In general, the

remedial efforts will be conducted to address the impacts of various COCs exceeding the Tier 1 SROs on the Property.

4.4.1 *GP-16 Hot Spot Removal*

Soil samples GP-16/Surface and GP-16/0-2' are located in the northeastern corner of the Property. Weaver Consultants will notify the United States EPA (USEPA) of the proposed Hot Spot removal activities in accordance with the notification requirement of 40 CFR 761.61(a)(3). The USEPA approval correspondence will be included within the RAC Report following completion of the Hot Spot removal activities.

The horizontal extent of the excavation is estimated to be approximately fifteen (15) feet by fifteen (15) feet (refer to **Figure 10**). PCB-impacted soil above the Tier 1 SROs for the Soil Ingestion Exposure Route at this location appears to extend approximately two (2) feet bgs. Soils from the ground surface to approximately three (3) feet bgs will be excavated for offsite disposal. Based on these dimensions, approximately 25 cubic yards (45 tons) of soil will be excavated for offsite disposal as non-hazardous waste.

Confirmation samples will be collected from the bottom and sidewalls of the excavation, as further described in **Section 4.5**. Should concentrations of PCBs not meet applicable Tier 1 SROs, the excavation may be extended approximately two to three feet in the applicable direction until confirmation soil sample results are attained that meet the applicable Tier 1 SROs. A Cleanup Completion Report documenting that the cleanup activities were conducted in accordance with applicable regulatory requirements will be submitted to USEPA within six months of completion.

4.4.2 *SP-38 Hot Spot Removal*

Soil sample SP-38/1.5-3.5' is located in the northern-central portion of the Property. The horizontal extent of the excavation is estimated to be approximately twenty (20) feet by twenty (20) feet (refer to **Figure 10**). Refusal was encountered at approximately 3.5 feet bgs at this location. Therefore, soils from the ground surface to approximately four feet bgs (or bedrock) will be excavated for offsite disposal. Based on these dimensions, approximately 60 cubic yards (95 tons) of soil will be excavated for offsite disposal as non-hazardous waste.

Confirmation samples will be collected, when applicable, from the bottom and sidewalls of the excavation, as further described in **Section 4.5**. Should concentrations of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene not meet applicable Tier 1 SROs, the excavation may be extended approximately two to three feet in the applicable

direction until confirmation soil sample results are attained that meet the applicable Tier 1 SROs. Upon completion, the excavations will be backfilled with imported clean stone.

4.4.3 *SP-25 Hot Spot Removal*

Soil sample SP-25/5-10' is located in the southwestern portion of the Property. The horizontal extent of the excavation is estimated to be approximately twenty (20) feet by twenty (20) feet (refer to **Figure 10**). Lead-impacted soil above the Tier 1 SRO for the Soil Ingestion Exposure Route appears to extend approximately from 5 feet bgs to ten (10) feet bgs. Soils from the ground surface to approximately five feet bgs will be stockpiled as overburden and returned to the same depth interval as backfill. Soils from five feet bgs to eleven (11) feet bgs (or bedrock) will be excavated for offsite disposal. Based on these dimensions, approximately 90 cubic yards (145 tons) of soil will be excavated for offsite disposal as non-hazardous waste.

Confirmation samples will be collected from the bottom and sidewalls of the excavation, as further described in **Section 4.5**. Lead confirmation sample laboratory analytical results will be used within the contaminant averaging population in support of demonstrating compliance with the Tier 1 SRO for the Soil Ingestion Exposure Route. Should the average not meet the Tier 1 SRO for the Soil Ingestion Exposure Route, the excavation may be extended approximately two to three feet in the applicable direction until additional confirmation soil sample results are attained.

4.5 Confirmation Sampling Plan

Confirmation samples will be collected from the bottom and sidewalls of the excavations when applicable. Based on the anticipated size of each excavation, one soil sample will be collected from each excavation sidewall, or one per twenty (20) linear feet of sidewall. The soil samples will be collected directly from a backhoe bucket with decontaminated stainless steel sampling equipment. Sidewall samples will be collected from a depth that corresponds to the previously identified impacts in each area. In addition, confirmation samples will be collected from the approximate center of the floor of the excavations every twenty (20) feet, or one per 400 square feet of excavation floor.

Soil samples will be placed in a cooler and packed with ice in an effort to maintain a constant temperature near 4°C, and submitted to a NELAP certified laboratory for analyses. Sampling and laboratory analysis will be performed in general accordance with approved techniques and methods as outlined in USEPA *SW-846, Test Methods for Evaluating Solid Waste, Third Edition.*

4.6 Current and Post-remediation Site Use

As stated in **Section 2.1.3.2**, the Property is located within a mixed-use area of Cook and Will Counties, Illinois. The surrounding area primarily consists of a salt and steel warehouse to the north across the Historic I&M Canal, a scrap yard and recycling facility to the east, various industrial property uses, residences, and a commercial business center to the south, and a petroleum processing facility to the west. Based upon historical and current development practices at and near the Property, the current uses are not anticipated to undergo significant change in the future. It is anticipated that the Property will continue to be utilized for similar commercial purposes for the foreseeable future.

4.6.1 *Engineered Barriers*

Approved engineered barriers that meet the requirements of 35 IAC 742.1100 and 742.1200, Subpart K and Subpart L, are not proposed for the Property.

4.6.2 *Institutional Controls*

In accordance with 35 IAC 742.1000, Subpart J, institutional controls will be applied to the Property in the form of deed restrictions. One of the deed restrictions will require the presence of a full concrete slab-on-grade or a full concrete basement floor and walls with no sumps for any existing and future buildings. Weaver Consultants also proposes the use of an onsite groundwater use deed restriction in support of excluding the Groundwater Ingestion Exposure Route.

Another of the deed restrictions will require a construction worker safety precaution be applied to the Property for work involving excavation or contact with the soils exceeding Tier 1 SROs for the Construction Worker Scenario. This deed restriction will provide measures to be taken to ensure safety for construction workers during intrusive activities in areas where concentrations of COCs in soil exceed the applicable construction worker remediation objectives. In accordance with Subpart J, an institutional control in the form of an industrial/commercial land use restriction will be applied to the Property.

5 CONCLUSIONS

On behalf of the RA, RLF I-C SPE, LLC, Weaver Consultants has prepared this CSI/RO/RAP Report in accordance with applicable SRP requirements listed in 35 IAC 740.425, 740.445, and 740.450. It is the intention of the RA to secure a Comprehensive NFR Letter from the IEPA SRP demonstrating the Property is compliant with remediation objectives under the Industrial/Commercial land use scenario.

As detailed in the CSI section (**Section 2.0**) of this document, appropriate assessment and subsurface investigations of environmental conditions at the Property have been undertaken. The scope of these investigations included soil and groundwater sample collection and analysis for the various COCs at the Property, which include the TCL constituents. The CSI activities were performed to assess the horizontal and vertical distribution of COC concentrations in excess of Tier 1 SROs for Industrial/Commercial Properties. The number of samples collected and analyzed in vicinity of the impacted areas is believed to be sufficient to characterize the vertical and horizontal extent of COCs above Tier 1 SROs and/or Backgrounds within MSAs and Tier 1 GROs.

In summary, concentrations of various PNAs, carbazole, pentachlorophenol, and various inorganics have been detected at the Property above applicable Tier 1 SROs for Industrial/Commercial Properties and/or Backgrounds within MSAs and Tier 1 GROs. As detailed in the Remediation Objectives section (**Section 3.0**), the following is proposed to address COC impacts at the Property:

- Soil analytical results are below the Tier 1 SROs for the Outdoor Inhalation Exposure Route as presented in **Section 2.7.3** (refer to **Table 1** and **Table 5**);
- Groundwater analytical results are below the Tier 1 GROs for the Indoor Inhalation Exposure Route, as presented in **Section 2.7.4** (refer to **Table 3** and **Table 7**). Institutional controls will be used in support of relying on the applicable TACO tables for the Indoor Inhalation Exposure Route.
- The Soil Ingestion Exposure Route is proposed to be addressed through Hot Spot removal remedial action in conjunction with site-specific contaminant averaging in accordance with 35 IAC 742.315 (**Section 3.3.3**).
- The Soil and Groundwater Components of the Groundwater Ingestion Exposure Route are proposed for exclusion by demonstrating compliance with 35 IAC 742.320 (**Section 3.3.4**).

- COC impacts exceeding Tier 1 SROs for the Soil Ingestion and/or Soil Inhalation Exposure Routes for the Construction Worker Scenario will be addressed through construction worker safety provisions (**Section 3.3.5**).

Following execution of the items outlined within the RAP (**Section 4.0**), Weaver Consultants will prepare a RAC Report requesting the issuance of a Comprehensive NFR Letter for the Property, with the following restrictions:

- Restricting the Property to industrial/commercial land use in accordance with 35 IAC 742.1010;
- Existing and any future buildings constructed must contain a full concrete slab-on-grade floor or full concrete basement floor and walls with no sumps;
- Use of a construction worker safety precaution to provide measures be taken to ensure safety for construction workers during intrusive activities in areas where concentrations of COCs in soil exceed the construction worker remediation objectives; and
- Reliance on an onsite groundwater use restriction prohibiting the installation and use of potable groundwater wells on the Property.

6 SIGNATORIES AND CERTIFICATIONS

Pursuant to 35 IAC Section 740.410, the following presents the information required concerning the Remediation Applicant, to whom inquiries may be addressed; the Remediation Applicant signature; and the affirmation and signature of the Licensed Professional Engineer responsible for preparation of this Report.

Remediation Applicant

Mr. Brian Dowling
RLF I-C SPE, LLC
201 West Street
Annapolis, Maryland 21401

BRIAN DOWLING — By (print):

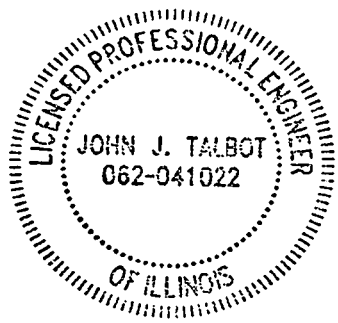
VP — Title:

By (signature):

2/11/19 — Date:

Licensed Professional Engineer Affirmation

I attest that all site investigations or remedial activities that are the subject of this plan(s) or report(s) were performed under my direction, and this document and all attachments were prepared under my direction or reviewed by me, and to the best of my knowledge and belief, the work described in the plan and report has been designed or completed in accordance with the Illinois Environmental Protection Act (415 ILCS 5), 35 Ill. Adm. Code 740, and generally accepted engineering practices or principles of professional geology, and the information presented is accurate and complete.

John Talbot, P.E., JD, LEED AP	062-041022
By (print):	Registration Number:
John J. Talbot	11-30-19
By (signature):	Expiration Date:
2-13-2019	
Date:	

7 REFERENCES

Regulatory Resources

35 Illinois Administrative Code Part 740, Site Remediation Program.

35 Illinois Administrative Code Part 742, Tiered Approach to Corrective Action Objectives.

Technical Resources

Berg, R.C. and Kempton, J.P. *Stack-Unit Mapping of Geologic Materials in Illinois to a Depth of 15 Meters:* Illinois State Geological Survey Circular 542. 1988.

Berg, R.C. and Kempton, J.P. *Potential for Contamination of Shallow Aquifers from Land Burial of Municipal Waste:* Illinois State Geological Survey Circular 532. 1984.

Howard, P.H. et al. *Handbook of Environmental Degradation Rates*. Lewis Publishers, Inc. 1991.

Willman, H.B. and Lineback, J.A. *Surficial Geology of the Chicago Region*: Illinois State Geological Survey Circular 460. 1970.

Property Related Documentation

CSI Work Plan dated March 9, 2018. Prepared for the IEPA SRP and prepared by Weaver Consultants.

CSI Work Plan Disapproval Correspondence dated May 29, 2018. Prepared for the IEPA SRP and prepared by Weaver Consultants.

Preliminary Document Review Summary Correspondence dated January 7, 2016. Prepared for Realterm Nat and prepared by Weaver Consultants.

Phase I ESA dated April 8, 2016. Prepared for Realterm Nat and prepared by Weaver Consultants.

Phase II ESA dated April 8, 2016. Prepared for Realterm Nat and prepared by Weaver Consultants.

Phase II SSI dated April 18, 2014. Prepared for Mahoney, Silverman, & Cross, LLC and prepared by EGSL.

SRP Enrollment Approval Correspondence dated January 17, 2018. Prepared for the IEPA SRP and prepared by Weaver Consultants.

SRP Enrollment Submittal dated January 10, 2018. Prepared for the IEPA SRP and prepared by Weaver Consultants.

Property Related Documentation (cont.)

Updated CSI Work Plan dated June 6, 2018. Prepared for the IEPA SRP and prepared by Weaver Consultants.

Updated CSI Work Plan dated August 16, 2018. Prepared for the IEPA SRP and prepared by Weaver Consultants.

Updated CSI Work Plan Approval dated September 11, 2018. Prepared for the IEPA SRP and prepared by Weaver Consultants.

TABLES

Electronic Filing: Received, Clerk's Office 07/19/2024

Table 1
Historical Soil Analytical Summary
12300 New Avenue
Lemont, Illinois

Parameter	Units	Exposure Route-Specific Values for Soils [a]						Soil Background Concentrations in Metropolitan Statistical Areas [c, d]	Environmental Group Services, Ltd. Phase II Subsurface Soil Investigation March 18, 2014								
		Industrial/Commercial		Construction Worker		Soil Component of the Groundwater Ingestion Exposure Route [b]			GP-2	GP-5	GP-6	GP-8	GP-9	GP-11	GP-14	GP-16	
		Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II		7-9'	5-7'	8-10'	10-12'	7-9'	4-6'	4-5'	0-2'	Surface
Benzene, Toluene, Ethylbenzene, Xylenes																	
Benzene	mg/kg	100	1.6	2,300	2.2	0.03	0.17	--	<0.005	<0.005	0.0109	0.0072	<0.005	<0.005	<0.005	<0.005	NA
Toluene	mg/kg	410,000	650	410,000	42	12	29	--	<0.005	<0.005	0.0072	0.0059	<0.005	<0.005	<0.005	<0.005	NA
Ethylbenzene	mg/kg	200,000	400	20,000	58	13	19	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA
Xylenes, Total	mg/kg	410,000	320	41,000	5.6	150	150	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA
Volatile Organic Compounds [e]																	
Acetone	mg/kg	-----	100,000	-----	100,000	25	25	--	<0.1	<0.1	<0.1	0.101	<0.1	<0.1	<0.1	<0.1	NA
2-Butanone (MEK)	mg/kg	*1,000,000*	*25,000*	*120,000*	*730*	*17*	*17*	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
Carbon disulfide	mg/kg	200,000	720	20,000	9.0	32	160	--	<0.005	<0.005	<0.005	0.0107	<0.005	<0.005	<0.005	<0.005	NA
Polynuclear Aromatic Compounds																	
Acenaphthene	mg/kg	120,000	---	120,000	---	570	2,900	0.13	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<0.33	<0.33	NA
Acenaphthylene	*mg/kg*	*61,000*	---	*61,000*	---	*85*	*420*	0.07	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<0.33	<0.33	NA
Anthracene	mg/kg	610,000	---	610,000	---	12,000	59,000	0.4	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<0.33	<0.33	NA
Benzo(a)anthracene	mg/kg	8	---	170	---	2	8	1.8	<0.33	<0.33	<0.33	<0.33	1.36	<0.33	<0.33	<0.33	NA
Benzo(a)pyrene	mg/kg	0.8	---	17	---	8	82	2.1	<0.09	<0.09	<0.09	<0.09	1.4	<0.09	<0.09	0.109	NA
Benzo(b)fluoranthene	mg/kg	8	---	170	---	5	25	2.1	<0.33	<0.33	<0.33	<0.33	1.17	<0.33	<0.33	<0.33	NA
Benzo(g,h,i)perylene	*mg/kg*	*61,000*	---	*61,000*	---	*27,000*	*130,000*	1.7	<0.33	<0.33	<0.33	<0.33	0.634	<0.33	<0.33	<0.33	NA
Benzo(k)fluoranthene	mg/kg	78	---	1,700	---	49	250	1.7	<0.33	<0.33	<0.33	<0.33	1.79	<0.33	<0.33	<0.33	NA
Chrysene	mg/kg	780	---	17,000	---	160	800	2.7	<0.33	<0.33	<0.33	<0.33	1.38	<0.33	<0.33	<0.33	NA
Dibenz(a,h)anthracene	mg/kg	0.8	---	17	---	2	7.6	0.42	<0.09	<0.09	<0.09	<0.09	0.158	<0.09	<0.09	<0.09	NA
Fluoranthene	mg/kg	82,000	---	82,000	---	4,300	21,000	4.1	<0.33	<0.33	<0.33	<0.33	2.91	<0.33	<0.33	<0.33	NA
Fluorene	mg/kg	82,000	---	82,000	---	560	2,800	0.18	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<0.33	<0.33	NA
Indeno(1,2,3-c,d)pyrene	mg/kg	8	---	170	---	14	69	1.6	<0.33	<0.33	<0.33	<0.33	0.646	<0.33	<0.33	<0.33	NA
Naphthalene	mg/kg	41,000	270	4,100	1.8	12	18	0.2	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<0.33	<0.33	NA
Phenanthrene	*mg/kg*	*61,000*	---	*61,000*	---	*210*	*1,100*	2.5	<0.33	<0.33	<0.33	<0.33	1.05	<0.33	<0.33	<0.33	NA
Pyrene	mg/kg	61,000	---	61,000	---	4,200	21,000	3.0	<0.33	<0.33	<0.33	<0.33	2.41	<0.33	<0.33	<0.33	NA
Semi-Volatile Organic Compounds [e]																	
Bis(2-ethylhexyl)phthalate	mg/kg	410	31,000	4,100	31,000	3,600	31,000	--	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<0.33	<0.33	NA
Butyl benzyl phthalate	mg/kg	410,000	930	410,000	930	930	930	--	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<0.33	<0.33	NA
Carbazole	mg/kg	290	---	6,200	---	0.6	2.8	--	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<0.33	<0.33	NA
Total Petroleum Hydrocarbons																	
Gasoline (C05-C12)	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oil (C08-C36)	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diesel (C10-C28)	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH (C05-C36)	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyls																	
Aroclor 1016	mg/kg	1	---	1	---	---	---	--	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Aroclor 1221	mg/kg	1	---	1	---	---	---	--	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Aroclor 1232	mg/kg	1	---	1	---	---	---	--	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Aroclor 1242	mg/kg	1	---	1	---	---	---	--	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Aroclor 1248	mg/kg	1	---	1	---	---	---	--	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.598	[16.5]
Aroclor 1254	mg/kg	1	---	1	---	---	---	--	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	[1.99]	[10.2]
Aroclor 1260	mg/kg	1	---	1	---	---	---	--	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
Total PCBs	mg/kg	1	---	1	---	---	---	--	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	[2.588]	[26.7]

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Table 1
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12300 New Avenue
Lemont, Illinois

Parameter	Units	Exposure Route-Specific Values for Soils [a]						Soil Background Concentrations in Metropolitan Statistical Areas [c, d]	Environmental Group Services, Ltd. Phase II Subsurface Soil Investigation March 18, 2014								
		Industrial/Commercial		Construction Worker		Soil Component of the Groundwater Ingestion Exposure Route [b]			GP-2	GP-5	GP-6	GP-8	GP-9	GP-11	GP-14	GP-16	
		Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II		7-9'	5-7'	8-10'	10-12'	7-9'	4-6'	4-5'	0-2'	Surface
Pesticides [e]																	
beta-BHC	mg/kg	---	---	---	---	---	---	--	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	NA
alpha-Chlordane	mg/kg	---	---	---	---	---	---	--	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	NA
4,4'-DDE	mg/kg	17	---	370	---	54	270	--	<0.016	<0.016	<0.016	<0.016	0.0213	<0.016	<0.016	<0.016	NA
4,4'-DDT	mg/kg	17	1,500	100	2,100	32	160	--	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	NA
Dieldrin	mg/kg	0.4	2.2	7.8	3.1	0.004	0.02	--	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	NA
Endosulfan II	mg/kg	---	---	1,200	---	---	---	--	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	NA
Endrin aldehyde	mg/kg	---	---	---	---	---	---	--	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	NA
Endrin ketone	mg/kg	---	---	---	---	---	---	--	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	NA
Methoxychlor	mg/kg	10,000	---	1,000	---	160	780	--	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	NA
Toxaphene	mg/kg	5.2	170	110	240	31	150	--	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	NA
Inorganics																	
Aluminum	*mg/kg*	*1,000,000*	*1,000,000*	*200,000*	*870,000*	---	---	9,500	6,400	**10,000**	7,550	**14,800**	8,980	3,590	8,650	13.7	NA
Antimony	mg/kg	820	---	82	---	---*	---*	4.0	18.5	**43.2**	6.2	14.4	2.5	2.1	3.0	**20.2**	NA
Arsenic	mg/kg	13	1,200	61	25,000	---*	---*	13.0	13.2	15.8	12.1	14.2	6.7	3.9	17.6	1.4	NA
Barium	mg/kg	140,000	910,000	14,000	870,000	---*	---*	110	169	256	68.2	226	53	22.9	88.2	373	NA
Beryllium	mg/kg	4,100	2,100	410	44,000	---*	---*	0.59	<0.5	<0.5	0.6	1.5	<0.5	<0.5	0.8	0.6	NA
Cadmium	mg/kg	2,000	2,800	200	59,000	---*	---*	0.6	3.9	45.3	5.4	6.4	<0.5	<0.5	0.9	5.1	NA
Calcium	mg/kg	---	---	---	---	---	---	9,300	63,600	170,000	77,900	85,900	49,400	79,600	27,900	194,000	NA
Chromium, Total	mg/kg	6,100	420	4,100	690	---[1]	---	16.2	**580**	**[1,070]**	**108**	**169**	15.2	7.0	15.0	**[1,090]**	NA
Cobalt	mg/kg	120,000	---	12,000	---	---	---	8.9	**18**	**11.6**	**85.4**	**13.8**	7.4	4.8	**11.4**	7.5	NA
Copper	mg/kg	82,000	---	8,200	---	---*	---*	19.6	291	320	48.9	188	19.4	10.4	19.7	164	NA
Cyanide, Total	mg/kg	41,000	---	4,100	---	---	---	0.51	<0.10	0.3	<0.10	0.16	<0.10	<0.10	0.13	0.11	NA
Iron	mg/kg	---	---	---	---	---	---	15,900	**205,000**	**207,000**	**29,100**	**158,000**	**16,100**	9,020	**25,300**	**116,000**	NA
Lead	mg/kg	800	---	700	---	---*	---*	36	252	[1,720]	211	385	21.8	15.8	27.3	199	NA
Magnesium	mg/kg	---	---	730,000	---	---	---	4,820	18,800	41,300	30,400	19,600	24,100	40,700	15,500	40,300	NA
Manganese	mg/kg	41,000	91,000	4,100	8,700	---	---	636	**[7,190]**	**[27,900]**	**1,960**	**3,890**	299	286	505	**[30,100]**	NA
Mercury	mg/kg	610	16	61	0.1	---*	---*	0.06	[0.12]	[0.22]	[0.11]	0.08	<0.05	<0.05	<0.05	[0.22]	NA
Nickel	mg/kg	41,000	21,000	4,100	440,000	---*	---*	18.0	168	106	28.4	70.3	19.3	10.4	23.7	51	NA
Potassium	mg/kg	---	---	---	---	---	---	1,268	543	673	1,430	3,130	1,210	703	1,410	205	NA
Selenium	mg/kg	10,000	---	1,000	---	---*	---*	0.48	**2.1**	**9.6**	<1.0	<1.0	<1.0	<1.0	<1.0	**12.9**	NA
Silver	mg/kg	10,000	---	1,000	---	---*	---	0.55	1.3	6	0.7	1.1	<0.2	<0.2	<0.2	2.6	NA
Sodium	mg/kg	---	---	---	---	---	---	130	139	345	165	718	364	83	52	342	NA
Thallium	mg/kg	160	---	160	---	---*	---*	0.32	8.3	20.3	2.1	3.4	<1.0	<1.0	<1.0	23.8	NA
Vanadium	mg/kg	14,000	---	1,400	---	---*	---	25.2	96	147	29.7	58	20	10.2	24.8	207	NA
Zinc	mg/kg	610,000	---	61,000	---	---*	---*	95.0	466	5,720	691	5,610	92.5	56.5	94.7	684	NA
TCLP RCRA Metals																	
Arsenic	mg/L	---	---	---	---	0.05	0.2	--	NA	<0.01	NA	NA	NA	NA	NA	NA	NA
Barium	mg/L	---	---	---	---	2	2	--	NA	<1.0	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	---	---	---	---	0.005	0.05	--	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	---	---	---	---	0.1	1	--	NA	0.04	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	---	---	---	---	0.0075	0.1	--	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
Mercury	mg/L	---	---	---	---	0.002	0.01	--	NA	<0.0005	NA	NA	NA	NA	NA	NA	NA
Selenium	mg/L	---	---	---	---	0.05	0.05	--	NA	<0.01	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	---	---	---	---	0.05	---	--	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
General Chemistry																	
pH	s.u.	---	---	---	---	---	---	--	11.90	11.16	7.88	9.80	8.47	7.90	7.32	11.48	NA
Moisture	%	---	---	---	---	---	---	--	13.48	10.24	27.38	26.18	14.95	16.07	23.35	12.24	47.21

18	Concentration exceeds the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater
13.2	Concentration exceeds the Tier 1 SRO for the Soil Ingestion Exposure Route for Industrial/Commercial Properties
580	Concentration exceeds the Tier 1 SRO for the Soil Inhalation Exposure Route for Industrial/Commercial Properties
[0.12]	Concentration exceeds the Tier 1 SROs for the Soil Ingestion and/or Inhalation Exposure Route for the Construction Worker Scenario

Notes:

[a] Tier 1 Soil Remediation Objectives obtained from Tiered Approach to Corrective Action Objectives (TACO) 35 IAC 742, Appendix B, Table

[b] Remediation Objectives for the Soil Component of Groundwater Ingestion Route obtained from TACO 35 IAC 742, Appendix B, Table B. S**Table 2** for pH-Specific SROs for Soil Component of Groundwater Ingestion Exposure Route.

[c] TACO Concentrations of Chemicals in Background Soils used for concentrations of PNAs/Inorganics in Background Soils within MSAs obtained from 35 IAC 742, Appendix A, Tables C

[d] Metropolitan Statistical Area (MSA) means a populated area that is located within various counties listed in Appendix A, Table G, footnote a; which includes Will and Cook Count

[e] Only Constituents Detected above Laboratory Reporting Limits are show

[f] pH-Specific Remediation Objectives obtained from 35 IAC 742, Appendix B, Tables C-D are presented i**Table 2**.

Italics indicates a Non-TACO Chemical - Remediation Objectives calculated using calculations listed in 35 IAC Part 742

- Not Analyzed

"<" - Indicates the parameter was not detected above the laboratory reporting limit.

--- Not listed in 35 IAC 742, Appendix B, Table B - TACO Tier 1 Remediation Objectives or unable to be calculated using calculations listed in 35 IAC Part 742

-- Not listed in 35 IAC 742, Appendix A, Tables G-H - Backgrounds within Metropolitan Areas.

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Table 1
Historical Soil Analytical Summary
12300 New Avenue
Lemont, Illinois

Parameter	Units	Exposure Route-Specific Values for Soils [a]						Soil Background Concentrations in Metropolitan Statistical Areas [c, d]	Weaver Consultants Group Phase II Environmental Site Assessment March 2-3, 2016																				
		Industrial/Commercial		Construction Worker		Soil Component of the Groundwater Ingestion Exposure Route [b]			SP-1	SP-2	SP-3	SP-4		SP-5		SP-6		SP-7		SP-9	SP-10	SP-11	SP-12		SP-13	SP-14	SP-15	SP-16	SP-17		SP-18
		Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II		5-7'	0-2'	0-2'	7-9'	11-13'	7-9'	18-20'	2-4'	9-11'	12-14'	9-11'	4-6'	1-3'	2-4'	9-11'	12-14'	1-3'	1-3'	6.5-8.5'	0-2'	0-2'	8-10'	0-2'
Benzene, Toluene, Ethylbenzene, Xylenes																														
Benzene	mg/kg	100	1.6	2,300	2.2	0.03	0.17	--	<0.0123	<0.0099	<0.0116	<0.0142	NA	<0.0060	NA	<0.0106	NA	NA	<0.0052	<0.0038	<0.0062	<0.0051	<0.0139	NA	<0.0132	<0.0135	<0.0045	<0.0051	<0.0127	NA	<0.0054
Toluene	mg/kg	410,000	650	410,000	42	12	29	--	<0.0149	<0.012	<0.0142	<0.0172	NA	<0.0045	NA	<0.0129	NA	NA	<0.0039	<0.0029	<0.0047	<0.0000039	0.0635	NA	<0.016	<0.0164	<0.0034	<0.0038	<0.0155	NA	<0.0041
Ethylbenzene	mg/kg	200,000	400	20,000	58	13	19	--	<0.0165	<0.0133	<0.0157	<0.0191	NA	<0.0047	NA	0.0904	NA	NA	<0.0041	<0.0030	<0.0049	<0.0000041	0.0206	NA	<0.0177	<0.0182	<0.0036	<0.004	<0.0172	NA	<0.0043
Xylenes, Total	mg/kg	410,000	320	41,000	5.6	150	150	--	<0.0644	<0.0519	<0.0611	<0.0744	NA	<0.0152	NA	0.57	NA	NA	<0.0133	<0.0097	<0.0159	<0.000013	<0.073	NA	<0.0692	<0.0709	<0.0116	<0.0129	<0.0669	NA	<0.0138
Volatile Organic Compounds [e]																														
Acetone	mg/kg	-----	100,000	-----	100,000	25	25	--	NA	NA	NA	NA	NA	0.385	NA	NA	NA	NA	<0.0105	<0.0077	0.0976	0.0423	NA	NA	NA	NA	0.0312	<0.0103	NA	NA	0.0474
2-Butanone (MEK)	mg/kg	*1,000,000*	*25,000*	*120,000*	*730*	*17*	*17*	--	NA	NA	NA	NA	NA	<0.0059	NA	NA	NA	NA	<0.0051	<0.0038	<0.0062	0.0055	NA	NA	NA	NA	<0.0045	<0.005	NA	NA	<0.0054
Carbon disulfide	mg/kg	200,000	720	20,000	9.0	32	160	--	NA	NA	NA	NA	NA	<6.1	NA	NA	NA	NA	<5.3	<3.9	<6.4	<5.2	NA	NA	NA	NA	<4.6	<5.2	NA	NA	<5.5
Polynuclear Aromatic Compounds																														
Acenaphthene	mg/kg	120,000	---	120,000	---	570	2,900	0.13	<0.0093	<0.0089	<0.0093	<0.0092	NA	<0.0672	NA	<0.0090	NA	NA	<0.140	<0.0627	<2.60	<0.339	0.031	NA	0.0454	<0.050	<0.0678	<0.322	<0.009	NA	<0.265
Acenaphthylene	*mg/kg*	*61,000*	---	*61,000*	---	*85*	*420*	0.07	<0.0083	<0.008	<0.0083	<0.0083	NA	<0.0676	NA	<0.0080	NA	NA	<0.141	<0.0631	<2.62	<0.341	<0.0085	NA	<0.0315	<0.0448	<0.0682	<0.324	<0.008	NA	<0.267
Anthracene	mg/kg	610,000	---	610,000	---	12,000	59,000	0.4	<0.0096	<0.0093	0.0106	<0.0096	NA	<0.0303	NA	<0.0093	NA	NA	0.0967	<0.0283	<1.17	<0.153	0.0564	NA	0.123	<0.0519	0.034	<0.145	<0.0093	NA	<0.120
Benzo(a)anthracene	mg/kg	8	---	170	---	2	8	1.8	<0.0065	<0.0062	0.025	0.0249	NA	0.0299	NA	0.0093	NA	NA	0.61	<0.0274	<1.14	0.173	0.0726	NA	0.377	0.0457	0.121	<0.141	0.0207	NA	<0.116
Benzo(a)pyrene	mg/kg	0.8	---	17	---	8	82	2.1	<0.0067	<0.0064	0.0294	0.0368	NA	0.0408	NA	0.023	NA	NA	0.686	0.0284	<1.10	0.159	0.0794	NA	0.488	0.149	0.154	0.206	0.0293	NA	<0.113
Benzo(b)fluoranthene	mg/kg	8	---	170	---	5	25	2.1	<0.0093	0.0107	0.0492	0.0447	NA	0.0465	NA	0.0209	NA	NA	0.881	0.038	<1.26	0.181	0.0888	NA	0.597	0.167	0.218	0.196	0.04	NA	0.156
Benzo(g,h,i)perylene	*mg/kg*	*61,000*	---	*61,000*	---	*27,000*	*130,000*	1.7	<0.0071	<0.0068	0.0168	0.0318	NA	<0.0496	NA	0.0195	NA	NA	0.488	<0.0463	<1.920	<0.250	0.0507	NA	0.185	0.107	0.147	<0.237	0.0144	NA	<0.196
Benzo(k)fluoranthene	mg/kg	78	---	1,700	---	49	250	1.7	<0.0103	0.0115	0.0272	0.0621	NA	<0.0454	NA	0.0216	NA	NA	0.465	<0.0424	<1.760	<0.229	0.0707	NA	0.448	0.0902	0.0803	<0.217	0.024	NA	<0.179
Chrysene	mg/kg	780	---	17,000	---	160	800	2.7	<0.0086	0.0159	0.0414	0.0714	NA	0.0325	NA	0.0203	NA	NA	0.829	<0.0265	<1.100	0.248	0.104	NA	0.546	0.12	0.161	0.162	0.0634	NA	0.152
Dibenz(a,h)anthracene	mg/kg	0.8	---	17	---	2	7.6	0.42	<0.0068	<0.0066	<0.0068	0.0165	NA	<0.0515	NA	0.0078	NA	NA	0.109	<0.0481	<1.990	<0.260	0.0173	NA	0.0818	0.139	<0.0519	<0.246	<0.0066	NA	<0.203
Fluoranthene	mg/kg	82,000	---	82,000	---	4,300	21,000	4.1	<0.0093	0.0174	0.0829	0.134	NA	0.0462	NA	0.0158	NA	NA	1.71	0.0344	<1.040	0.328	0.243	NA	1.26	0.101	0.257	<0.128	0.0322	NA	0.293
Fluorene	mg/kg	82,000	---	82,000	---	560	2,800	0.18	<0.0093	<0.0089	<0.0093	<0.0092	NA	<0.0222	NA	<0.009	NA	NA	<0.046	<0.0207	<0.857	<0.112	0.0257	NA	0.0707	<0.050	<0.0223	<0.106	<0.009	NA	<0.0875
Indeno(1,2,3-c,d)pyrene	mg/kg	8	---	170	---	14	69	1.6	<0.0071	<0.0068	0.0149	0.0276	NA	<0.041	NA	0.0124	NA	NA	0.43	<0.0383	<1.59	<0.207	0.0428	NA	0.192	0.0767	0.109	<0.196	0.0087	NA	<0.162
Naphthalene	mg/kg	41,000	270	4,100	1.8	12	18	0.2	<0.0093	<0.0089	0.0466	<0.0092	NA	<0.0663	NA	<0.0090	NA	NA	<0.138	<0.0619	<2.56	<0.334	0.0372	NA	<0.0352	<0.050	<0.0668	<0.317	<0.009	NA	<0.262
Phenanthrene	*mg/kg*	*61,000*	---	*61,000*	---	*210*	*1,100*	2.5	<0.0093	0.0103	0.0862	0.0709	NA	0.0305	NA	0.0092	NA	NA	0.604	<0.0227	<0.941	0.198	0.193	NA	0.593	<0.050	0.146	<0.116	0.0315	NA	0.164
Pyrene	mg/kg	61,000	---	61,000	---	4,200	21,000	3.0	<0.0093	0.0221	0.0439	0.0382	NA	0.0433	NA	0.0132	NA	NA	1.21	<0.0392	<1.63	0.295	0.132	NA	0.885	0.168	0.224	<0.201	0.0356	NA	0.23
Semi-Volatile Organic Compounds [e]																														
Bis(2-ethylhexyl)phthalate	mg/kg	410	31,000	4,100	31,000	3,600	31,000	--	NA	NA	NA	NA	NA	<0.0315	NA	NA	NA	NA	7.65	0.0629	<1.220	0.481	NA	NA	NA	NA	<0.0318	0.17	NA	NA	<0.124
Butyl benzyl phthalate	mg/kg	410,000	930	410,000	930	930	930	--	NA	NA	NA	NA	NA	<0.0304	NA	NA	NA	NA	0.156	<0.0284	<1.180	<0.153	NA	NA	NA	NA	<0.0306	<0.146	NA	NA	<0.120
Carbazole	mg/kg	290	---	6,200	---	0.6	2.8	--	NA	NA	NA	NA	NA	<0.0297	NA	NA	NA	NA	0.0774	<0.0277	<1.150	<0.150	NA	NA	NA	NA	<0.0299	<0.142	NA	NA	<0.117
Total Petroleum Hydrocarbons																														
Gasoline (C05-C12)	mg/kg	---	---	---	---	---	---	--	NA	26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.8	NA	NA
Oil (C08-C36)	mg/kg	---	---	---	---	---	---	--	NA	536	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	380	NA	NA
Diesel (C10-C28)	mg/kg	---	---	---	---	---	---	--	NA	420	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	244	NA	NA
TPH (C05-C36)	mg/kg	---	---	---	---	---	---	--	NA	982	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	633.8	NA	NA
Polychlorinated Biphenyls																														
Aroclor 1016	mg/kg	1	---	1	---	---	---	--	<0.0279	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0275	NA	NA	NA	NA	<0.150	<0.0286	<0.136	NA	NA	NA
Aroclor 1221	mg/kg	1	---	1	---	---	---	--	<0.0279	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0275	NA	NA	NA	NA	<0.150	<0.0286	<0.136	NA	NA	NA
Aroclor 1232	mg/kg	1	---	1	---	---	---	--	<0.0279	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0275	NA	NA	NA	NA	<0.150	<0.0286	<0.136	NA	NA	NA
Aroclor 1242	mg/kg	1	---	1	---	---	---	--	<0.0279	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0275	NA	NA	NA	NA	<0.150	0.0571	<0.136	NA	NA	NA
Aroclor 1248	mg/kg	1	---	1	---	---	---	--	<0.0279	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0275	NA	NA	NA	NA	<0.150	<0.0286	<0.136	NA	NA	NA
Aroclor 1254	mg/kg	1	---	1	---	---	---	--	<0.0279	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0523	NA	NA	NA	NA	<0.150	0.0398	<0.136	NA	NA	NA
Aroclor 1260	mg/kg	1	---	1	---	---	---	--	<0.0279	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0275	NA	NA	NA	NA	<0.150	<0.0286	<0.136	NA	NA	NA
Total PCBs	mg/kg	1	---	1	---	---	---	--	<0.0279	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0523	NA	NA	NA	NA	<0.150	0.0969	<0.136	NA	NA	NA

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Table 1
Historical Soil Analytical Summary
12300 New Avenue
Lemont, Illinois

Parameter	Units	Exposure Route-Specific Values for Soils [a]						Soil Background Concentrations in Metropolitan Statistical Areas [c, d]	Weaver Consultants Group Phase II Environmental Site Assessment March 2-3, 2016																				
		Industrial/Commercial		Construction Worker		Soil Component of the Groundwater Ingestion Exposure Route [b]			SP-1	SP-2	SP-3	SP-4		SP-5		SP-6		SP-7		SP-9	SP-10	SP-11	SP-12		SP-13	SP-14	SP-15	SP-16	SP-17		SP-18
		Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II		5-7'	0-2'	0-2'	7-9'	11-13'	7-9'	18-20'	2-4'	9-11'	12-14'	9-11'	4-6'	1-3'	2-4'	9-11'	12-14'	1-3'	1-3'	6.5-8.5'	0-2'	0-2'	8-10'	0-2'
Pesticides [e]																														
beta-BHC	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0011	NA	NA	NA	NA	NA	<0.00063	NA	NA	NA	NA
alpha-Chlordane	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0028	NA	NA	NA	NA	NA	<0.00043	NA	NA	NA	NA
4,4'-DDE	mg/kg	17	---	370	---	54	270	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00079	NA	NA	NA	NA	NA	0.00093	NA	NA	NA	NA
4,4'-DDT	mg/kg	17	1,500	100	2,100	32	160	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.004	NA	NA	NA	NA	NA	<0.00088	NA	NA	NA	NA
Dieldrin	mg/kg	0.4	2.2	7.8	3.1	0.004	0.02	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0018	NA	NA	NA	NA	NA	<0.00089	NA	NA	NA	NA
Endosulfan II	mg/kg	---	---	1,200	---	---	---	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0055	NA	NA	NA	NA	NA	<0.00085	NA	NA	NA	NA
Endrin aldehyde	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0157	NA	NA	NA	NA	NA	<0.0018	NA	NA	NA	NA
Endrin ketone	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0058	NA	NA	NA	NA	NA	<0.00082	NA	NA	NA	NA
Methoxychlor	mg/kg	10,000	---	1,000	---	160	780	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0151	NA	NA	NA	NA	NA	<0.0063	NA	NA	NA	NA
Toxaphene	mg/kg	5.2	170	110	240	31	150	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.209	NA	NA	NA	NA	NA	<0.0161	NA	NA	NA	NA
Inorganics																														
Aluminum	*mg/kg*	*1,000,000*	*1,000,000*	*200,000*	*870,000*	---	---	9,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**11,800**	NA	NA	NA	NA	NA	9,390	NA	NA	NA	NA
Antimony	mg/kg	820	---	82	---	---*	---*	4.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.4	NA	NA	NA	NA	NA	5.2	NA	NA	NA	NA
Arsenic	mg/kg	13	1,200	61	25,000	---*	---*	13.0	2.5	5.2	15.1	5.9	<33.4	3.8	5.1	3.2	NA	NA	7.6	4.7	7.9	2.8	6.5	NA	2.5	4.7	25.1	10.7	7.4	NA	7.7
Barium	mg/kg	140,000	910,000	14,000	870,000	---*	---*	110	739	238	391	253	360	79.5	22.4	326	NA	NA	143	608	493	17.4	453	NA	16.4	157	240	46.9	360	NA	341
Beryllium	mg/kg	4,100	2,100	410	44,000	---*	---*	0.59	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.9	NA	NA	NA	NA	NA	0.7	NA	NA	NA	NA
Cadmium	mg/kg	2,000	2,800	200	59,000	---*	---*	0.6	0.34	4.3	5.2	54.2	<3.5	4.1	1.3	2.8	NA	NA	0.39	4.4	6	0.11	15.9	NA	0.082	0.83	3.1	0.22	10.8	NA	10.8
Calcium	mg/kg	---	---	---	---	---	---	9,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	179,000	NA	NA	NA	NA	NA	167,000	NA	NA	NA	NA
Chromium, Total	mg/kg	6,100	420	4,100	690	---[1]	---	16.2	**[1,860]**	**[1,960]**	**[1,390]**	**[1,890]**	**[1,880]**	**[993]**	11.4	**[1,750]**	NA	NA	36.2	**[700]**	**[1,620]**	7.2	**[1,180]**	NA	4.7	**[913]**	**524**	**25.7**	**[1,380]**	NA	**[1,500]**
Cobalt	mg/kg	120,000	---	12,000	---	---	---	8.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**9**	NA	NA	NA	NA	NA	**27.5**	NA	NA	NA	NA
Copper	mg/kg	82,000	---	8,200	---	---*	---*	19.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	228	NA	NA	NA	NA	NA	2,370	NA	NA	NA	NA
Cyanide, Total	mg/kg	41,000	---	4,100	---	---	---	0.51	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.13	NA	NA	NA	NA	NA	0.31	NA	NA	NA	NA
Iron	mg/kg	---	---	---	---	---	---	15,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**139,000**	NA	NA	NA	NA	NA	**137,000**	NA	NA	NA	NA
Lead	mg/kg	800	---	700	---	---*	---*	36	43.9	415	[884]	[2,320]	332	179	37.7	180	NA	NA	26.9	[758]	561	12.4	[774]	NA	6.2	34.8	349	29.8	694	NA	[1,160]
Magnesium	mg/kg	---	---	730,000	---	---	---	4,820	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41,900	NA	NA	NA	NA	NA	54,100	NA	NA	NA	NA
Manganese	mg/kg	41,000	91,000	4,100	8,700	---	---	636	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**[30,600]**	NA	NA	NA	NA	NA	**[11,700]**	NA	NA	NA	NA
Mercury	mg/kg	610	16	61	0.1	---*	---*	0.06	<0.0031	0.012	0.014	0.012	<0.0031	0.010	0.0089	0.0078	NA	NA	0.032	0.029	0.0045	0.012	0.057	NA	0.005	0.0051	0.012	0.0066	0.0081	NA	0.016
Nickel	mg/kg	41,000	21,000	4,100	440,000	---*	---*	18.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.2	NA	NA	NA	NA	NA	160	NA	NA	NA	NA
Potassium	mg/kg	---	---	---	---	---	---	1,268	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,150	NA	NA	NA	NA	NA	1,280	NA	NA	NA	NA
Selenium	mg/kg	10,000	---	1,000	---	---*	---*	0.48	1.3	0.67	**1.4**	**1.6**	<40.4	0.76	0.81	**1.5**	NA	NA	0.88	**2.4**	1.2	0.44	**2.0**	NA	0.35	1.2	0.86	0.75	**2.6**	NA	**2.4**
Silver	mg/kg	10,000	---	1,000	---	---*	---	0.55	0.13	0.58	0.6	5.3	<14.6	0.42	<0.29	0.96	NA	NA	<0.095	0.62	0.74	<0.11	1.5	NA	<0.11	0.11	0.84	<0.10	2.2	NA	16
Sodium	mg/kg	---	---	---	---	---	---	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	567	NA	NA	NA	NA	NA	531	NA	NA	NA	NA
Thallium	mg/kg	160	---	160	---	---*	---*	0.32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.063	NA	NA	NA	NA	NA	0.084	NA	NA	NA	NA
Vanadium	mg/kg	14,000	---	1,400	---	---*	---	25.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	272	NA	NA	NA	NA	NA	125	NA	NA	NA	NA
Zinc	mg/kg	610,000	---	61,000	---	---*	---*	95.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,160	NA	NA	NA	NA	NA	594	NA	NA	NA	NA
TCLP RCRA Metals																														
Arsenic	mg/L	---	---	---	---	0.05	0.2	--	NA	NA	NA	<0.025	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	mg/L	---	---	---	---	2	2	--	NA	NA	NA	0.36	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	---	---	---	---	0.005	0.05	--	NA	NA	NA	<0.0025	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	---	---	---	---	0.1	1	--	NA	NA	NA	0.092	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	---	---	---	---	0.0075	0.1	--	NA	NA	NA	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	mg/L	---	---	---	---	0.002	0.01	--	NA	NA	NA	0.00011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	mg/L	---	---	---	---	0.05	0.05	--	NA	NA	NA	<0.025	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	---	---	---	---	0.05	---	--	NA	NA	NA	<0.025	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																														
pH	s.u.	---	---	---	---	---	---	--	10.4	10.7	11.5	11.9	10.4	10.3	8.37	11.2	NA	NA	8.12	10.5	10.8	8.94	11.8	NA	8.78	8.78	10.3	9.3	11.0	NA	11.5
Moisture	%	---	---	---	---	---	---	--	10.4	6.7	10	9.6	11.5	12.0	15.4	7.3	9.4	10.9	15.4	5.7	9.0	12.7	12.7	15.8	5.4	16.7	12.6	8.0	7.1	15.4	10.8

18	Concentration exceeds the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater
13.2	Concentration exceeds the Tier 1 SRO for the Soil Ingestion Exposure Route for Industrial/Commercial Properties
580	Concentration exceeds the Tier 1 SRO for the Soil Inhalation Exposure Route for Industrial/Commercial Properties
[0.12]	Concentration exceeds the Tier 1 SROs for the Soil Ingestion and/or Inhalation Exposure Route for the Construction Worker Scenario

Notes:

[a] Tier 1 Soil Remediation Objectives obtained from Tiered Approach to Corrective Action Objectives (TACO) 35 IAC 742, Appendix B, Table

[b] Remediation Objectives for the Soil Component of Groundwater Ingestion Route obtained from TACO 35 IAC 742, Appendix B, Table B. S**Table 2** for pH-Specific SROs for Soil Component of Groundwater Ingestion Exposure Route.

[c] TACO Concentrations of Chemicals in Background Soils used for concentrations of PNAs/Inorganics in Background Soils within MSAs obtained from 35 IAC 742, Appendix A, Tables C

[d] Metropolitan Statistical Area (MSA) means a populated area that is located within various counties listed in Appendix A, Table G, footnote a; which includes Will and Cook Count

[e] Only Constituents Detected above Laboratory Reporting Limits are show

[f] pH-Specific Remediation Objectives obtained from 35 IAC 742, Appendix B, Tables C-D are presented i**Table 2**.

Italics indicates a Non-TACO Chemical - Remediation Objectives calculated using calculations listed in 35 IAC Part 742

NA - Not Analyzed

"<" - Indicates the parameter was not detected above the laboratory reporting limit.

--- Not listed in 35 IAC 742, Appendix B, Table B - TACO Tier 1 Remediation Objectives or unable to be calculated using calculations listed in 35 IAC Part 742

-- Not listed in 35 IAC 742, Appendix A, Tables G-H - Backgrounds within Metropolitan Areas.

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Table 2
Historical Inorganic pH-Specific SROs Analytical Summary
12300 New Avenue
Lemont, Illinois

Parameter	Units	pH-Specific Soil Remediation Objectives for Inorganics for the Soil Component of the Groundwater Ingestion Exposure Route [a,b]										Soil Background Concentrations in Metropolitan Statistical Areas [c,d]	Environmental Group Services, Ltd. Phase II Subsurface Soil Investigation March 18, 2014							
		pH=7.25-7.74		pH = 7.25 - 7.74		pH = 7.75 - 8.24		pH = 8.25 - 8.74		pH = 8.75 - 9			GP-2	GP-5	GP-6	GP-8	GP-9	GP-11	GP-14	GP-16
		Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II		7-9'	5-7'	8-10'	10-12'	7-9'	4-6'	4-5'	0-2'
Inorganics																				
Aluminum [1]	mg/kg	---	---	---	---	---	---	---	---	---	---	9,500	6,400	**10,000**	7,550	**14,800**	8,980	3,590	8,650	13.7
Antimony	mg/kg	5	20	5	20	5	20	5	20	5	20	4	18.5	43.2	6.2	14.4	2.5	2.1	3.0	20.2
Arsenic	mg/kg	30	120	30	120	31	120	32	130	33	130	13.0	13.2	15.8	12.1	14.2	6.7	3.9	17.6	1.4
Barium	mg/kg	1,800	1,800	1,800	1,800	2,100	2,100	---	---	---	---	110	169	256	68.2	226	53	22.9	88.2	373
Beryllium	mg/kg	1,000	130,000	59	1,800	430	2,100	---	---	---	---	0.59	< 0.5	< 0.5	0.6	1.5	<0.5	< 0.5	0.8	0.6
Cadmium [1]	mg/kg	59	590	59	590	430	4,300	---	---	---	---	0.6	3.9	45.3	5.4	6.4	< 0.5	< 0.5	0.9	5.1
Calcium	mg/kg	---	---	---	---	---	---	---	---	---	---	9,300	63,600	170,000	77,900	85,900	49,400	79,600	27,900	194,000
Chromium, Total [1]	mg/kg	32	---	32	---	28	---	24	---	21	---	16.2	**580**	**1,070**	**108**	**169**	15.2	7.0	15.0	**1,090**
Cobalt	mg/kg	---	---	---	---	---	---	---	---	---	---	8.9	**18**	**11.6**	**85.4**	**13.8**	7.4	4.8	**11.4**	7.5
Copper	mg/kg	330,000	330,000	330,000	330,000	330,000	330,000	---	---	---	---	19.6	291	320	48.9	**188**	19.4	10.4	19.7	164
Cyanide, Total	mg/kg	40	120	40	120	40	120	40	120	40	120	0.51	< 0.10	0.3	< 0.10	0.16	< 0.10	< 0.10	0.13	0.11
Iron	mg/kg	---	---	---	---	---	---	---	---	---	---	15,900	**205,000**	**207,000**	**29,100**	**158,000**	**16,100**	9,020	**25,300**	**116,000**
Lead	mg/kg	107	1,420	107	1,420	107	1,420	107	1,420	282	3,760	36	252	1,720	211	385	21.8	15.8	27.3	199
Magnesium	mg/kg	---	---	---	---	---	---	---	---	---	---	4,820	18,800	41,300	30,400	19,600	24,100	40,700	15,500	40,300
Manganese	mg/kg	---	---	---	---	---	---	---	---	---	---	636	**7,190**	**27,900**	**1,960**	**3,890**	299	286	505	**30,100**
Mercury	mg/kg	6.4	32	6.4	32	8	40	---	---	---	---	0.06	0.12	0.22	0.11	0.08	< 0.05	< 0.05	< 0.05	0.22
Nickel	mg/kg	700	14,000	700	14,000	3,800	76,000	---	---	---	---	18	168	106	28.4	70.3	19.3	10.4	23.7	51
Potassium	mg/kg	---	---	---	---	---	---	---	---	---	---	1,268	543	673	1,430	3,130	1,210	703	1,410	205
Selenium	mg/kg	3.3	3.3	3.3	3.3	2.4	2.4	1.8	1.8	1.3	1.3	0.48	**2.1**	**9.6**	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**12.9**
Silver	mg/kg	39	---	39	---	110	---	---	---	---	---	0.55	1.3	6	0.7	1.1	< 0.2	< 0.2	< 0.2	2.6
Sodium	mg/kg	---	---	---	---	---	---	---	---	---	---	130	139	345	165	718	364	83	52	342
Thallium	mg/kg	3.4	34	3.4	34	3.8	38	4.4	44	4.9	49	0.32	8.3	20.3	2.1	3.4	< 1.0	< 1.0	< 1.0	23.8
Vanadium	mg/kg	980	---	980	---	980	---	980	---	980	---	25.2	96	147	29.7	58	20	10.2	24.8	207
Zinc	mg/kg	16,000	32,000	16,000	32,000	53,000	110,000	---	---	---	---	95	466	5,720	691	5,610	92.5	56.5	94.7	684
General Chemistry																				
pH	S.U.	---	---	---	---	---	---	---	---	---	---	--	11.90	11.16	7.88	9.80	8.47	7.90	7.32	11.48

10,000 Concentration exceeds the Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater and/or Backgrounds within MSAs

Notes:
[a] pH-Specific Tier 1 Soil Remediation Objectives obtained from Tiered Approach to Corrective Action Objectives (TACO) 35 IAC 742, Appendix B, Tables C-D.
[b] For samples with pH greater than 9, data compared to SROs for pH between 8.75 - 9 (or highest pH range available). If Class II SROs are not available, data compared to Class I SROs.
[c] TACO Concentrations of Chemicals in Background Soils used for concentrations of Inorganics in Background Soils within MSAs obtained from 35 IAC 742, Appendix A, Table G (units - mg/kg).
[d] Metropolitan Statistical Area (MSA) means a populated area that is located within various counties listed in Appendix A, Table G, footnote a; which includes Cook County.
[1] pH-Specific SROs not established for pH values greater than 8.24. Results with pH greater than 8.24 compared to pH-Specific SROs for highest available pH range (7.75-8.24)
[2] pH-Specific SRO assumes Hexavalent Chromium.
NA - Not Analyzed
"<" - Indicates the parameter was not detected above the laboratory reporting limit.
--- Not listed in 35 IAC 742, Appendix B, Tables C or D - TACO Tier 1 Remediation Objectives
-- Not listed in 35 IAC 742, Appendix A, Tables G-H - Backgrounds within MSAs.

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Table 2
Historical Inorganic pH-Specific SROs Analytical Summary
12300 New Avenue
Lemont, Illinois

Parameter	Units	pH-Specific Soil Remediation Objectives for Inorganics for the Soil Component of the Groundwater Ingestion Exposure Route [a,b]										Soil Background Concentrations in Metropolitan Statistical Areas [c,d]	Weaver Consultants Group Phase II Environmental Site Assessment March 2-3, 2016																				
		pH=7.25-7.74		pH = 7.25 - 7.74		pH = 7.75 - 8.24		pH = 8.25 - 8.74		pH = 8.75 - 9			SP-1	SP-2	SP-3	SP-4	SP-4	SP-5	SP-5	SP-6	SP-6	SP-7	SP-7	SP-12	SP-9	SP-10	SP-11	SP-12	SP-13	SP-14	SP-15	SP-16	SP-17	SP-17	SP-18
		Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II		5-7'	0-2'	0-2'	7-9'	11-13'	7-9'	18-20'	2-4'	9-11'	12-14'	9-11'	12-14'	4-6'	1-3'	2-4'	9-11'	1-3'	1-3'	6.5-8.5'	0-2'	0-2'	8-10'	0-2'
Inorganics																																			
Aluminum	mg/kg	---	---	---	---	---	---	---	---	---	---	9,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**11,800**	NA	NA	NA	NA	9,390	NA	NA	NA	NA
Antimony	mg/kg	5	20	5	20	5	20	5	20	5	20	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.4	NA	NA	NA	NA	5.2	NA	NA	NA	NA
Arsenic	mg/kg	30	120	30	120	31	120	32	130	33	130	13.0	2.5	5.2	15.1	5.9	<33.4	3.8	5.1	3.2	NA	NA	7.6	NA	4.7	7.9	2.8	6.5	2.5	4.7	25.1	10.7	7.4	NA	7.7
Barium	mg/kg	1,800	1,800	1,800	1,800	2,100	2,100	---	---	---	---	110	739	238	391	253	360	79.5	22.4	326	NA	NA	143	NA	608	493	17.4	453	16.4	157	240	46.9	360	NA	341
Beryllium	mg/kg	1,000	130,000	59	1,800	430	2,100	---	---	---	---	0.59	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.9	NA	NA	NA	NA	0.7	NA	NA	NA	NA
Cadmium	mg/kg	59	590	59	590	430	4,300	---	---	---	---	0.6	0.34	4.3	5.2	54.2	<3.5	4.1	1.3	2.8	NA	NA	0.39	NA	4.4	6	0.11	15.9	0.082	0.83	3.1	0.22	10.8	NA	10.8
Calcium	mg/kg	---	---	---	---	---	---	---	---	---	---	9,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	179,000	NA	NA	NA	NA	167,000	NA	NA	NA	NA
Chromium, Total [1]	mg/kg	32	---	32	---	28	---	24	---	21	---	16.2	**1,860**	**1,960**	**1,390**	**1,890**	**1,880**	**993**	11.4	**1,750**	NA	NA	**36.2**	NA	**700**	**1,620**	7.2	**1,180**	4.7	**913**	**524**	**25.7**	**1,380**	NA	**1,500**
Cobalt	mg/kg	---	---	---	---	---	---	---	---	---	---	8.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	27.5	NA	NA	NA	NA
Copper	mg/kg	330,000	330,000	330,000	330,000	330,000	330,000	---	---	---	---	19.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	228	NA	NA	NA	NA	2,370	NA	NA	NA	NA
Cyanide, Total	mg/kg	40	120	40	120	40	120	40	120	40	120	0.51	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.13	NA	NA	NA	NA	0.31	NA	NA	NA	NA
Iron	mg/kg	---	---	---	---	---	---	---	---	---	---	15,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**139,000**	NA	NA	NA	NA	**137,000**	NA	NA	NA	NA
Lead	mg/kg	107	1,420	107	1,420	107	1,420	107	1,420	282	3,760	36	43.9	415	884	2,320	332	179	37.7	180	NA	NA	26.9	NA	758	561	12.4	774	6.2	34.8	349	29.8	694	NA	1,160
Magnesium	mg/kg	---	---	---	---	---	---	---	---	---	---	4,820	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41,900	NA	NA	NA	NA	54,100	NA	NA	NA	NA
Manganese	mg/kg	---	---	---	---	---	---	---	---	---	---	636	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**30,600**	NA	NA	NA	NA	**11,700**	NA	NA	NA	NA
Mercury	mg/kg	6.4	32	6.4	32	8	40	---	---	---	---	0.06	<0.0031	0.012	0.014	0.012	<0.0031	0.010	0.0089	0.0078	NA	NA	0.032	NA	0.029	0.0045	0.012	0.057	0.005	0.0051	0.012	0.0066	0.0081	NA	0.016
Nickel	mg/kg	700	14,000	700	14,000	3,800	76,000	---	---	---	---	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.2	NA	NA	NA	NA	160	NA	NA	NA	NA
Potassium	mg/kg	---	---	---	---	---	---	---	---	---	---	1,268	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,150	NA	NA	NA	NA	1,280	NA	NA	NA	NA
Selenium	mg/kg	3.3	3.3	3.3	3.3	2.4	2.4	1.8	1.8	1.3	1.3	0.48	1.3	0.67	1.4	1.6	<40.4	0.76	0.81	1.5	NA	NA	0.88	NA	2.4	1.2	0.44	2.0	0.35	1.2	0.86	0.75	2.6	NA	2.4
Silver	mg/kg	39	---	39	---	110	---	---	---	---	---	0.55	0.13	0.58	0.6	5.3	<14.6	0.42	<0.29	0.96	NA	NA	<0.095	NA	0.62	0.74	<0.11	1.5	<0.11	0.11	0.84	<0.10	2.2	NA	16
Sodium	mg/kg	---	---	---	---	---	---	---	---	---	---	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	567	NA	NA	NA	NA	531	NA	NA	NA	NA
Thallium	mg/kg	3.4	34	3.4	34	3.8	38	4.4	44	4.9	49	0.32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.063	NA	NA	NA	NA	0.084	NA	NA	NA	NA
Vanadium	mg/kg	980	---	980	---	980	---	980	---	980	---	25.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	272	NA	NA	NA	NA	125	NA	NA	NA	NA
Zinc	mg/kg	16,000	32,000	16,000	32,000	53,000	110,000	---	---	---	---	95	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,160	NA	NA	NA	NA	594	NA	NA	NA	NA
General Chemistry																																			
pH	S.U.	---	---	---	---	---	---	---	---	---	---	--	10.4	10.7	11.5	11.9	10.4	10.3	8.37	11.2	NA	NA	8.12	NA	10.5	10.8	8.94	11.8	8.78	8.78	10.3	9.3	11.0	NA	11.5

10,000	Concentration exceeds the Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater and/or Backgrounds within MSAs

Notes:
[a] pH-Specific Tier 1 Soil Remediation Objectives obtained from Tiered Approach to Corrective Action Objectives (TACO) 35 IAC 742, Appendix B, Tables C-D.
[b] For samples with pH greater than 9, data compared to SROs for pH between 8.75 - 9 (or highest pH range available). If Class II SROs are not available, data compared to Class I SROs.
[c] TACO Concentrations of Chemicals in Background Soils used for concentrations of Inorganics in Background Soils within MSAs obtained from 35 IAC 742, Appendix A, Table G (units - mg/kg).
[d] Metropolitan Statistical Area (MSA) means a populated area that is located within various counties listed in Appendix A, Table G, footnote a; which includes Cook County.
[1] pH-Specific SROs not established for pH values greater than 8.24. Results with pH greater than 8.24 compared to pH-Specific SROs for highest available pH range (7.75-8.24)
[2] pH-Specific SRO assumes Hexavalent Chromium.
NA - Not Analyzed
"<" - Indicates the parameter was not detected above the laboratory reporting limit.
--- Not listed in 35 IAC 742, Appendix B, Tables C or D - TACO Tier 1 Remediation Objectives
-- Not listed in 35 IAC 742, Appendix A, Tables G-H - Backgrounds within MSAs.

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Table 3
Historical Groundwater Analytical Summary
12300 New Avenue
Lemont, Illinois

Parameter	Units	Exposure Route-Specific Values for Groundwater [a]				EGSL Phase II SSI March 17, 2014		Weaver Consultants Group Phase II Environmental Site Assessment March 2-3, 2016			
		Groundwater Ingestion Exposure Route [b]		Indoor Inhalation Exposure Route [c]							
		Class I	Class II	Residential	Industrial/ Commercial	TW-1	TW-2	TW-1	TW-2	TW-3	TW-4
Benzene, Toluene, Ethylbenzene, Xylenes											
Benzene	mg/L	0.005	0.025	0.11	0.41	<0.005	<0.005	<0.00050	<0.00050	<0.00050	<0.00050
Ethylbenzene	mg/L	0.7	1	0.37	1.4	0.0739	<0.005	<0.00050	0.00085	<0.00050	<0.00050
Toluene	mg/L	1	2.5	530	530	<0.005	<0.005	<0.00050	<0.00050	<0.00050	<0.00050
Xylenes, Total	mg/L	10	10	30	93	<0.005	<0.005	<0.0015	0.0056	<0.0015	<0.0015
Volatile Organic Compounds [d]											
2-Butanone (MEK)	mg/L	---	---	10,000	48,000	<0.01	<0.01	<0.003	NA	0.0053	<0.003
Acetone	mg/L	6.3	6.3	1,000,000	1,000,000	<1.0	<1.0	<0.003	NA	0.0344	<0.003
Carbon disulfide	mg/L	0.7	3.5	67	210	0.0581	0.0273	<0.00061	NA	<0.00061	<0.00061
Semi-Volatile Organic Compounds [d]											
Phenol	mg/L	0.1	0.1	28,000	83,000	<0.01	<0.01	<0.00057	NA	0.009	<0.00057
Polynuclear Aromatic Hydrocarbons											
Acenaphthene	mg/L	0.42	2.1	---	---	<0.01	<0.01	0.000032	<0.0000050	0.0000062	<0.0000050
Acenaphthylene	*mg/L*	*0.21*	*1.05*	---	---	<0.01	<0.01	<0.0049	<0.0000049	<0.0000046	<0.0049
Anthracene	mg/L	2.1	10.5	---	---	<0.005	<0.005	0.000016	0.000014	0.0000096	<0.0000040
Benzo(a)anthracene	mg/L	0.00013	0.00065	---	---	<0.00013	<0.00013	<0.0000051	<0.0000051	0.000013	0.0000062
Benzo(a)pyrene	mg/L	0.0002	0.002	---	---	<0.0002	<0.0002	0.0000051	<0.0000044	0.000015	<0.0000044
Benzo(b)fluoranthene	mg/L	0.00018	0.0009	---	---	<0.00018	<0.00018	0.000011	0.0000063	0.000026	0.0000055
Benzo(g,h,i)perylene	*mg/L*	*0.00021*	*0.00105*	---	---	<0.0004	<0.0004	0.0000074	0.0000038	0.000022	0.000008
Benzo(k)fluoranthene	mg/L	0.00017	0.00085	---	---	<0.00017	<0.00017	0.0000057	<0.0000056	0.0000089	<0.0000056
Chrysene	mg/L	0.0015	0.0075	---	---	<0.0015	<0.0015	0.000014	0.000011	0.000024	0.000011
Dibenzo(a,h)anthracene	mg/L	0.0003	0.0015	---	---	<0.0003	<0.0003	<0.0000056	<0.0000056	<0.0000052	0.000011
Fluoranthene	mg/L	0.28	1.4	---	---	<0.002	<0.002	0.000028	0.000025	0.000032	<0.0000094
Fluorene	mg/L	0.28	1.4	---	---	<0.002	<0.002	0.000017	<0.0000040	<0.0000038	<0.0000040
Indeno(1,2,3-cd)pyrene	mg/L	0.0043	0.0022	---	---	<0.0003	<0.0003	0.0000046	<0.0000036	0.000011	0.0000076
Naphthalene	mg/L	0.14	0.22	0.075	0.32	<0.01	<0.01	0.000025	0.000014	0.000033	0.000016
Phenanthrene	*mg/L*	*0.00021*	*0.00105*	---	---	<0.005	<0.005	0.000073	0.000031	0.000032	<0.0000077
Pyrene	mg/L	0.21	1.05	---	---	<0.002	<0.002	0.000047	0.000018	0.000032	<0.0000077
Pesticides [d]											
Total Pesticides	mg/L	---	---	---	---	<0.00005	<0.00005	NA	NA	NA	<0.000048
Polychlorinated Biphenyls [d]											
Total PCBs	mg/L	0.0005	0.0025	---	---	<0.0005	<0.0005	<0.00024	NA	NA	<0.00024
Total Inorganics											
Aluminum	*mg/L*	*3.5*	*5*	---	---	8.18	3.64	NA	NA	NA	0.767
Antimony	mg/L	0.006	0.024	---	---	<0.006	<0.006	NA	NA	NA	0.00069
Arsenic	mg/L	0.05	0.2	---	---	<0.01	<0.01	0.0012	0.0025	0.014	0.0029
Barium	mg/L	2	2	---	---	0.843	0.45	0.0504	0.343	0.167	0.0508
Beryllium	mg/L	0.004	0.5	---	---	0.004	<0.004	NA	NA	NA	0.000073
Cadmium	mg/L	0.005	0.05	---	---	0.006	<0.005	0.00011	0.001	0.00027	0.0046
Calcium	mg/L	---	---	---	---	234	257	NA	NA	NA	121
Chromium	mg/L	0.1	1	---	---	0.048	0.014	0.0054	0.217	0.0068	0.0057
Cobalt	mg/L	1	1	---	---	0.006	0.009	NA	NA	NA	0.0012
Copper	mg/L	0.65	0.65	---	---	<0.005	<0.005	NA	NA	NA	0.0066
Cyanide	mg/L	.2	---	---	---	<0.005	<0.005	NA	NA	NA	<0.0000068
Iron	mg/L	5	5	---	---	36.2	50.6	NA	NA	NA	1.93
Lead	mg/L	0.0075	0.1	---	---	0.04	0.009	0.0146	0.0724	0.0321	0.181
Magnesium	mg/L	---	---	---	---	47	125	NA	NA	NA	48.3
Manganese	mg/L	0.15	10	---	---	2.73	3.44	NA	NA	NA	0.17
Mercury	mg/L	2	---	0.053	0.06	<0.0005	<0.0006	<0.00010	0.00022	0.00019	0.00014
Nickel	mg/L	0.1	2	---	---	0.039	0.018	NA	NA	NA	0.0049
Potassium	mg/L	---	---	---	---	44	5.9	NA	NA	NA	6.43
Selenium	mg/L	0.005	0.005	---	---	<0.01	<0.01	0.0015	0.0036	0.002	0.00041
Silver	mg/L	0.005	---	---	---	<0.005	<0.005	<0.00015	<0.00015	<0.00015	<0.00015
Sodium	mg/L	---	---	---	---	73	248	NA	NA	NA	64.4
Thallium	mg/L	0.002	0.02	---	---	<0.01	<0.02	NA	NA	NA	0.000048
Vanadium	mg/L	0.049	0.1	---	---	0.06	0.04	NA	NA	NA	0.003.4
Zinc	mg/L	5	10	---	---	1.18	0.232	NA	NA	NA	0.733
Dissolved Inorganics											
Aluminum	*mg/L*	*3.5*	*5*	---	---	NA	NA	NA	NA	NA	0.0172
Antimony	mg/L	0.006	0.024	---	---	NA	NA	NA	NA	NA	0.00086
Arsenic	mg/L	0.05	0.2	---	---	NA	NA	0.001	0.00074	0.008	0.0018
Barium	mg/L	0.002	0.002	---	---	NA	NA	0.0485	0.229	0.119	0.0431
Beryllium	mg/L	0.004	0.5	---	---	NA	NA	NA	NA	NA	<0.000067
Cadmium	mg/L	0.005	0.05	---	---	NA	NA	<0.000024	<0.000024	<0.000024	0.00012
Calcium	mg/L	---	---	---	---	NA	NA	NA	NA	NA	106
Chromium	mg/L	0.1	1	---	---	NA	NA	0.00089	0.15	0.0031	0.00034
Cobalt	mg/L	1	1	---	---	NA	NA	NA	NA	NA	0.00057
Copper	mg/L	0.65	0.65	---	---	NA	NA	NA	NA	NA	0.0016
Iron	mg/L	5	5	---	---	NA	NA	NA	NA	NA	0.89
Lead	mg/L	0.0075	0.1	---	---	NA	NA	0.00014	0.0022	0.0003	0.00079
Magnesium	mg/L	---	---	---	---	NA	NA	NA	NA	NA	45.6
Manganese	mg/L	0.15	10	---	---	NA	NA	NA	NA	NA	0.135
Mercury	mg/L	0.002	0.01	0.053	0.06	NA	NA	<0.00010	<0.00010	<0.00010	<0.00010
Nickel	mg/L	0.1	2	---	---	NA	NA	NA	NA	NA	0.0016
Potassium	mg/L	---	---	---	---	NA	NA	NA	NA	NA	6.41
Selenium	mg/L	0.05	0.05	---	---	NA	NA	0.0015	0.0035	0.0018	0.00042
Silver	mg/L	50	---	---	---	NA	NA	<0.00015	<0.00015	<0.00015	<0.00015
Sodium	mg/L	---	---	---	---	NA	NA	NA	NA	NA	63.5
Thallium	mg/L	0.002	0.02	---	---	NA	NA	NA	NA	NA	0.000022
Vanadium	mg/L	0.049	0.1	---	---	NA	NA	NA	NA	NA	0.00056
Zinc	mg/L	5	10	---	---	NA	NA	NA	NA	NA	0.0927
General Chemistry											
pH	s.u.	---	---	---	---	10.43	7.54	NA	NA	NA	7.3

3.64	Concentration exceeds the Tier 1 GRO for the Groundwater Ingestion Exposure Route for Class I Groundwater
8.18	Concentration exceeds the Tier 1 GRO for the Groundwater Ingestion Exposure Route for Class I and Class II Groundwater
<0.00015	Concentration not detected in excess of Laboratory Detection Limits

Notes:

[a] Tier 1 Groundwater Remediation Objectives obtained from Tiered Approach to Corrective Action Objectives (TACO) 35 IAC 742 (Effective February 27, 2007).

[b] Remediation Objectives obtained from 35 IAC 742, Appendix B, Table E: Groundwater Remediation Objectives for the Groundwater Component of the Groundwater Ingestion Exposure Route.

[c] Remediation Objectives obtained from 35 IAC 742, Appendix B, Table H: Groundwater Remediation Objectives for the Indoor Inhalation Exposure Route.

[d] Only Constituents Detected above Laboratory Reporting Limits are shown.

Italics indicates a Non-TACO Chemical - Remediation Objectives as listed in the IEPA's summary table as prepared by the IEPA Toxicity Assessment Unit revised October 30, 2012.

--- Not listed within 35 IAC 742, Appendix B, Table E and Table H - TACO Tier 1 Remediation Objectives.

NA - Not Analyzed.

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Table 4
Groundwater Elevation Measurements
Former Fiala Property
12300 New Avenue
Lemont, Illinois

Monitoring Well	Northing	Easting	Depth to Water - TOC (feet)		Depth to Bottom of Screen (feet)	Ground Elevation (ft-msl)	TOC Elevation (ft-msl)	Screen Length (ft)	Top of Screen Elevation (ft-msl)	Bottom of Screen Elevation (ft-msl)	Groundwater Elevation (ft-msl)
			October 31, 2018	December 7, 2018							
MW-1	1820461.622	1065532.271	6.11	5.77	7.01	590.22	590.044	5	588.034	583.034	584.27
MW-2	1820665.784	1066064.305	Dry	6.59	6.81	592.47	592.354	5	590.544	585.544	585.76
MW-3	1820341.331	1065616.392	6.32	5.56	8.13	590.92	590.756	5	587.626	582.626	585.20
MW-4	1821161.169	1066820.757	Dry	Dry	13.31	598.28	597.946	10	594.636	584.636	---
MW-5	1821456.198	1068179.286	5.25	4.30	8.71	591.95	591.528	5	587.818	582.818	587.23
MW-6	1821103.135	1067185.266	7.42	7.45	7.60	599.8	599.317	5	596.717	591.717	591.87
MW-7	1821439.994	1067484.918	Dry	6.42	6.61	601.06	600.842	5	599.232	594.232	594.42

Notes:
This survey was completed utilizing the Illinois State Plane East in units of US Survey Feet, NAVD 88 vertical datum, and GEOID 12A.
TOC - Top of Casing
ft-msl - Feet above Mean Sea Level
"---" - Groundwater elevation not calculated due to no water in well

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Table 5
Soil Analytical Summary
12300 New Avenue
Lemont, Illinois

Parameter	Units	Exposure Route-Specific Values for Soils [a]						Soil Background Concentration in Metropolitan Statistical Areas [c,d]	Weaver Consultants Group Comprehensive Site Investigation October 25-26 & 30-31, 2018																	
		Industrial/Commercial		Construction Worker		Soil Component of the Groundwater Ingestion Exposure Route [b]			SP-19		SP-20		SP-21		SP-22		SP-23		SP-24		SP-25		SP-26	SP-27	SP-28	SP-29	SP-30
		Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II		1-3'	5.5-7.5'	1-3'	5.5-7.5'	1-3'	6-8'	1-3'	5-7'	1-3'	4-6'	1-3'	6-8'	1-3'	5-10'	8-10'	9-11'	9-11'	5.5-7.5'	3-5'
Benzene, Toluene, Ethylbenzene, Xylenes																										
Benzene	mg/kg	100	1.6	2,300	2.2	0.03	0.17	--	NA	NA	NA	NA	NA	<0.0026	NA	NA	NA	NA	NA	<0.0034	NA	NA	NA	<0.0027	<0.0032	<0.0023	<0.0027
Toluene	mg/kg	410,000	650	410,000	42	12	29	--	NA	NA	NA	NA	NA	<0.0030	NA	NA	NA	NA	NA	<0.0039	NA	NA	NA	<0.0031	<0.0036	<0.0027	<0.0031
Ethylbenzene	mg/kg	200,000	400	20,000	58	13	19	--	NA	NA	NA	NA	NA	<0.0034	NA	NA	NA	NA	NA	<0.0044	NA	NA	NA	<0.0035	<0.0041	<0.0030	<0.0035
Xylenes, Total	mg/kg	410,000	320	41,000	5.6	150	150	--	NA	NA	NA	NA	NA	<0.0084	NA	NA	NA	NA	NA	<0.011	NA	NA	NA	<0.0087	<0.010	<0.0074	<0.0087
Volatile Organic Compounds [a]																										
Acetone	mg/kg	---	100,000	---	100,000	25	25	--	NA	NA	NA	NA	NA	<0.046	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.047	NA	<0.041	NA
2-Butanone (MEK)	mg/kg	*1,000,000*	*25,000*	*120,000*	*730*	*17*	*17*	--	NA	NA	NA	NA	NA	<0.0072	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0074	NA	<0.0063	NA
Polynuclear Aromatic Compounds																										
Acenaphthene	mg/kg	120,000	---	120,000	---	570	2,900	0.13	NA	NA	NA	NA	NA	<0.062	NA	NA	NA	NA	NA	<0.0048	NA	NA	NA	<0.29	<0.0040	0.029	<0.33
Acenaphthylene	mg/kg	---	---	---	---	---	---	0.07	NA	NA	NA	NA	NA	<0.062	NA	NA	NA	NA	NA	<0.0041	NA	NA	NA	<0.29	<0.0034	0.035	<0.33
Anthracene	mg/kg	610,000	---	610,000	---	12,000	59,000	0.4	NA	NA	NA	NA	NA	<0.028	NA	NA	NA	NA	NA	<0.0071	NA	NA	NA	<0.13	<0.0059	0.053	<0.15
Benzo(a)anthracene	mg/kg	8	---	170	---	2	8	1.8	NA	NA	NA	NA	NA	<0.027	NA	NA	NA	NA	NA	0.0071	NA	NA	NA	0.33	0.036	0.17	<0.14
Benzo(a)pyrene	mg/kg	0.8	---	17	---	8	82	2.1	NA	NA	NA	NA	NA	<0.026	NA	NA	NA	NA	NA	0.011	NA	NA	NA	0.35	0.045	0.25	<0.14
Benzo(b)fluoranthene	mg/kg	8	---	170	---	5	25	2.1	NA	NA	NA	NA	NA	<0.030	NA	NA	NA	NA	NA	0.011	NA	NA	NA	0.46	0.058	0.31	<0.16
Benzo(g,h,i)perylene	mg/kg	---	---	---	---	---	---	1.7	NA	NA	NA	NA	NA	<0.045	NA	NA	NA	NA	NA	0.0098	NA	NA	NA	<0.21	0.038	0.14	<0.24
Benzo(k)fluoranthene	mg/kg	78	---	1,700	---	49	250	1.7	NA	NA	NA	NA	NA	<0.042	NA	NA	NA	NA	NA	0.012	NA	NA	NA	<0.19	0.034	0.19	<0.22
Chrysene	mg/kg	780	---	17,000	---	160	800	2.7	NA	NA	NA	NA	NA	<0.026	NA	NA	NA	NA	NA	0.01	NA	NA	NA	0.45	0.065	0.25	<0.14
Dibenz(a,h)anthracene	mg/kg	0.8	---	17	---	2	7.6	0.42	NA	NA	NA	NA	NA	<0.047	NA	NA	NA	NA	NA	<0.0028	NA	NA	NA	<0.22	0.011	0.047	<0.25
Fluoranthene	mg/kg	82,000	---	82,000	---	4,300	21,000	4.1	NA	NA	NA	NA	NA	0.035	NA	NA	NA	NA	NA	0.018	NA	NA	NA	0.76	0.055	0.50	<0.13
Fluorene	mg/kg	82,000	---	82,000	---	560	2,800	0.18	NA	NA	NA	NA	NA	<0.020	NA	NA	NA	NA	NA	<0.0051	NA	NA	NA	<0.094	<0.0043	0.057	<0.11
Indeno(1,2,3-c,d)pyrene	mg/kg	8	---	170	---	14	69	1.6	NA	NA	NA	NA	NA	<0.038	NA	NA	NA	NA	NA	0.0066	NA	NA	NA	0.24	0.024	0.12	<0.20
Naphthalene	mg/kg	41,000	270	4,100	1.8	12	18	0.2	NA	NA	NA	NA	NA	<0.061	NA	NA	NA	NA	NA	<0.010	NA	NA	NA	<0.28	<0.0088	0.013	<0.32
Phenanthrene	mg/kg	---	---	---	---	---	---	2.5	NA	NA	NA	NA	NA	0.033	NA	NA	NA	NA	NA	<0.014	NA	NA	NA	0.38	0.031	0.24	<0.12
Pyrene	mg/kg	61,000	---	61,000	---	4,200	21,000	3	NA	NA	NA	NA	NA	<0.039	NA	NA	NA	NA	NA	0.013	NA	NA	NA	0.59	0.056	0.36	<0.20
Semi-Volatile Organic Compounds [a]																										
Butylbenzylphthalate	mg/kg	410,000	930	410,000	930	930	930	--	NA	NA	NA	NA	NA	<0.028	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.13	NA	NA	<0.15
Carbazole	mg/kg	290	---	6,200	---	0.6	2.8	--	NA	NA	NA	NA	NA	<0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.13	NA	NA	<0.14
Dibenzofuran	mg/kg	*204*	---	*81.62*	---	*0.99*	*4.94*	--	NA	NA	NA	NA	NA	<0.021	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.097	NA	NA	<0.11
bis(2-Ethylhexyl)phthalate	mg/kg	410	31,000	4,100	31,000	3,600	31,000	--	NA	NA	NA	NA	NA	<0.029	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.13	NA	NA	<0.15
Phenol	mg/kg	610,000	---	61,000	---	100	100	--	NA	NA	NA	NA	NA	<0.041	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.19	NA	NA	<0.22
Total Petroleum Hydrocarbons																										
Gasoline Range Organics (C06-C10)	mg/kg	---	---	---	---	---	---	--	NA	<6.5	NA	<6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diesel Range Organics (C10-C28)	mg/kg	---	---	---	---	---	---	--	NA	4.2	NA	48.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Extended Range Organics (C08-C36)	mg/kg	---	---	---	---	---	---	--	NA	6.4	NA	67.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH (C06-C36)	mg/kg	---	---	---	---	---	---	--	NA	10.8	NA	115	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyls [a]																										
Aroclor 1242	mg/kg	1	---	1	---	---	---	--	NA	NA	NA	NA	NA	<0.026	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.030	NA	NA	NA
Aroclor 1254	mg/kg	1	---	1	---	---	---	--	NA	NA	NA	NA	NA	<0.026	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.030	NA	NA	NA
Aroclor 1260	mg/kg	1	---	1	---	---	---	--	NA	NA	NA	NA	NA	<0.026	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.030	NA	NA	NA
Total PCBs	mg/kg	1	---	1	---	---	---	--	NA	NA	NA	NA	NA	<0.026	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.030	NA	NA	NA
Pesticides [a]																										
Aldrin	mg/kg	0.3	6.6	6.1	9.3	0.5	2.5	--	NA	NA	NA	NA	NA	<0.00057	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00066	NA	NA	NA
alpha-BHC	mg/kg	0.9	1.5	20	2.1	0.0005	0.003	--	NA	NA	NA	NA	NA	<0.00048	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00056	NA	NA	NA
beta-BHC	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	<0.00056	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00065	NA	NA	NA
delta-BHC	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	<0.00053	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00061	NA	NA	NA
gamma-BHC (Lindane)	mg/kg	4	---	96	---	0.009	0.047	--	NA	NA	NA	NA	NA	<0.0011	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0013	NA	NA	NA
Chlordane (Technical)	mg/kg	16	140	100	22	10,000	48	--	NA	NA	NA	NA	NA	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.013	NA	NA	NA
alpha-Chlordane	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	<0.00058	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00067	NA	NA	NA
gamma-Chlordane	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	<0.00066	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00077	NA	NA	NA
4,4'-DDD	mg/kg	24	---	520	---	16	80	--	NA	NA	NA	NA	NA	<0.0011	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0012	NA	NA	NA
4,4'-DDE	mg/kg	17	---	370	---	54	270	--	NA	NA	NA	NA	NA	<0.0011	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.002	NA	NA	NA
4,4'-DDT	mg/kg	17	1,500	100	2,100	32	160	--	NA	NA	NA	NA	NA	<0.0017	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0028	NA	NA	NA
Dieldrin	mg/kg	0.4	2.2	7.8	3.1	0.004	0.02	--	NA	NA	NA	NA	NA	<0.0011	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0013	NA	NA	NA
Endosulfan I	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	<0.00055	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00063	NA	NA	NA
Endosulfan II	mg/kg	---	---	1,200	---	---	---	--	NA	NA	NA	NA	NA	<0.0014	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0016	NA	NA	NA
Endosulfan sulfate	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	<0.0013	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0015	NA	NA	NA
Endrin	mg/kg	610	---	61	---	1	5	--	NA	NA	NA	NA	NA	<0.0012	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0014	NA	NA	NA
Endrin aldehyde	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	<0.0012	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0014	NA	NA	NA
Endrin ketone	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	<0.0018	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0021	NA	NA	NA
Heptachlor	mg/kg	1	11	28	16	23	110	--	NA	NA	NA	NA	NA	<0.00061	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00070	NA	NA	NA
Heptachlor epoxide	mg/kg	0.6	9.2	2.7	13	0.7	3.3	--	NA	NA	NA	NA	NA	<0.00051	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00059	NA	NA	NA
Methoxychlor	mg/kg	10,000	---	1,000	---	160	780	--	NA	NA	NA	NA	NA	<0.0078	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0091	NA	NA	NA
Toxaphene	mg/kg	5.2	170	110	240	31	150	--	NA	NA	NA	NA	NA	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.027	NA	NA	NA

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Table 5
Soil Analytical Summary
12300 New Avenue
Lemont, Illinois

Parameter	Units	Exposure Route-Specific Values for Soils [a]						Soil Background Concentration in Metropolitan Statistical Areas [c, d]	Weaver Consultants Group Comprehensive Site Investigation October 25-26 & 30-31, 2018																			
		Industrial/Commercial		Construction Worker		Soil Component of the Groundwater Ingestion Exposure Route [b]			SP-19		SP-20		SP-21		SP-22		SP-23		SP-24		SP-25		SP-26	SP-27	SP-28	SP-29	SP-30
		Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II		1-3'	5.5-7.5'	1-3'	5.5-7.5'	1-3'	6-8'	1-3'	5-7'	1-3'	4-6'	1-3'	6-8'	1-3'	5-10'	8-10'	9-11'	9-11'	5.5-7.5'	3-5'
Inorganics																												
Aluminum	mg/kg	---	---	---	---	---	---	9,500	NA	**13,600**	NA	**13,600**	NA	**9,650**	NA	NA	NA	**10,200**	NA	NA	NA	NA	NA	4,240	NA	NA	4,720
Antimony	mg/kg	820	---	82	---	---[f]	---[f]	4	NA	1.4	NA	14.9	NA	<0.16	NA	NA	NA	1.4	NA	NA	NA	NA	NA	0.43	NA	NA	0.35
Arsenic	mg/kg	13	1,200	61	25,000	---[f]	---[f]	13	NA	9.1	9.2	14.3	NA	4.5	27.9	NA	14.9	7.7	10.8	3.2	5.5	NA	NA	4.3	NA	NA	2.4
Barium	mg/kg	140,000	910,000	14,000	870,000	---[f]	---[f]	110	NA	230	NA	580	NA	65.8	NA	NA	NA	709	NA	NA	NA	NA	NA	52.5	NA	NA	88.6
Beryllium	mg/kg	4,100	2,100	410	44,000	---[f]	---[f]	0.59	NA	0.89	NA	0.17	NA	0.56	NA	NA	NA	<0.52	NA	NA	NA	NA	NA	<0.16	NA	NA	0.14
Cadmium	mg/kg	2,000	2,800	200	59,000	---[f]	---[f]	0.6	NA	3.0	NA	17.2	NA	0.37	NA	NA	NA	1.3	NA	NA	NA	NA	NA	0.43	NA	NA	0.52
Calcium	mg/kg	---	---	---	---	---	---	9,300	NA	161,000	NA	54,000	NA	64,000	NA	NA	NA	136,000	NA	NA	NA	NA	NA	184,000	NA	NA	141,000
Chromium	mg/kg	6,100	420	4,100	690	---[f]	---	16.2	NA	**[1,650]**	NA	**128**	NA	16.4	NA	**[2,010]**	NA	**[888]**	NA	**[1,080]**	NA	**[1,790]**	**175**	**170**	**[1,220]**	8.5	**435**
Chromium, Hexavalent	mg/kg	6,100	420	4,100	690	---	---	--	NA	8.8	NA	NA	NA	<3.7	NA	2.9	NA	NA	NA	<0.89	NA	<0.88	NA	NA	7.4	NA	NA
Cobalt	mg/kg	120,000	---	12,000	---	---	---	8.9	NA	6.9	NA	**30.4**	NA	5.6	NA	NA	NA	**133**	NA	NA	NA	6.5	NA	3.6	NA	NA	4.5
Copper	mg/kg	82,000	---	8,200	---	---[f]	---[f]	19.6	NA	184	NA	1,940	NA	20.2	NA	NA	NA	127	NA	NA	NA	NA	NA	32.7	NA	NA	30.2
Cyanide	mg/kg	41,000	---	4,100	---	---[f]	---[f]	0.51	NA	0.46	NA	0.71	NA	<0.094	NA	NA	NA	0.38	NA	NA	NA	NA	NA	0.49	NA	NA	0.12
Iron	mg/kg	---	---	---	---	---	---	15,900	NA	**116,000**	NA	**149,000**	NA	14,200	NA	**127,000**	NA	**110,000**	NA	NA	NA	**112,000**	**43,900**	**24,300**	**85,000**	12,700	**19,100**
Lead	mg/kg	800	---	700	---	---[f]	---[f]	36	[863]	301	40.6	[1,770]	123	28.4	NA	58.3	661	[3,140]	662	58.8	NA	[3,290]	NA	43.1	NA	NA	30.7
Magnesium	mg/kg	---	---	730,000	---	---	---	4,820	NA	43,600	NA	10,800	NA	38,800	NA	NA	NA	49,800	NA	NA	NA	NA	NA	85,300	NA	NA	68,000
Manganese	mg/kg	41,000	91,000	4,100	8,700	---	---	636	NA	**[35,400]**	NA	**2,660**	NA	218	NA	NA	NA	**[14,500]**	NA	NA	NA	**[40,700]**	NA	**2,020**	NA	NA	**[5,120]**
Mercury	mg/kg	610	16	61	0.1	---[f]	---[f]	0.06	NA	<0.038	NA	[2.5]	NA	<0.035	NA	NA	NA	<0.040	NA	NA	NA	NA	NA	[0.13]	NA	NA	0.052
Nickel	mg/kg	41,000	21,000	4,100	440,000	---[f]	---[f]	18	NA	76.2	NA	171	NA	16.6	NA	NA	NA	114	NA	NA	NA	NA	NA	16.9	NA	NA	12.3
Potassium	mg/kg	---	---	---	---	---	---	1,268	NA	<1060	NA	1,050	NA	1,500	NA	NA	NA	<1150	NA	NA	NA	NA	NA	980	NA	NA	472
Selenium	mg/kg	10,000	---	1,000	---	---[f]	---[f]	0.48	NA	**1.4**	NA	**1.6**	NA	1.6	NA	**2.0**	NA	<0.67	NA	**2.4**	NA	**3.7**	1.6	0.71	**3.1**	0.67	0.84
Silver	mg/kg	10,000	---	1,000	---	---[f]	---	0.55	NA	0.4	NA	2.6	NA	<0.092	NA	NA	NA	<0.35	NA	NA	NA	NA	NA	<0.11	NA	NA	<0.094
Sodium	mg/kg	---	---	---	---	---	---	130	NA	379	NA	4,830	NA	253	NA	NA	NA	296	NA	NA	NA	NA	NA	238	NA	NA	163
Thallium	mg/kg	160	---	160	---	---[f]	---[f]	0.32	NA	<0.39	NA	<0.13	NA	0.17	NA	NA	NA	0.16	NA	NA	NA	NA	NA	<0.13	NA	NA	<0.11
Vanadium	mg/kg	14,000	---	1,400	---	---[f]	---[f]	25.2	NA	288	NA	29.1	NA	20.8	NA	NA	NA	106	NA	NA	NA	NA	NA	63.4	NA	NA	74.6
Zinc	mg/kg	610,000	---	61,000	---	---[f]	---[f]	95	NA	702	NA	8,800	NA	88.1	NA	NA	NA	1,620	NA	NA	NA	NA	NA	97.5	NA	NA	151
TCLP Inorganics																												
Aluminum	mg/L	---	---	---	---	*3.5*	*5*	--	NA	0.25	NA	0.27	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	mg/L	---	---	---	---	0.006	0.024	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	---	---	---	---	0.05	0.2	--	NA	NA	NA	0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	mg/L	---	---	---	---	2	2	--	NA	NA	NA	0.84	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	---	---	---	---	0.005	0.05	--	NA	NA	NA	<0.0013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	---	---	---	---	0.1	1.0	--	NA	NA	NA	<0.0025	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	mg/L	---	---	---	---	5	5	--	NA	<0.074	NA	<0.074	NA	ND	NA	<0.074	NA	<0.074	NA	NA	NA	<0.074	NA	NA	NA	NA	ND
Lead	mg/L	---	---	---	---	0.0075	0.1	--	NA	NA	NA	<0.0059	NA	ND	NA	NA	NA	<0.0059	NA	NA	NA	<0.0059	NA	NA	NA	NA	ND
Mercury	mg/L	---	---	---	---	0.002	0.01	--	NA	NA	NA	0.00016	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Selenium	mg/L	---	---	---	---	0.05	0.05	--	NA	NA	NA	<0.012	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Silver	mg/L	---	---	---	---	0.05	---	--	NA	NA	NA	<0.0033	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
SPLP Inorganics																												
Chromium	mg/L	---	---	---	---	0.1	1.0	--	NA	0.029	NA	NA	NA	NA	NA	0.13	NA	NA	NA	0.012	NA	0.0079	NA	NA	0.082	NA	NA
Cobalt	mg/L	---	---	---	---	1	1	--	NA	NA	NA	<0.0014	NA	NA	NA	NA	NA	<0.0014	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	---	---	---	---	0.0075	0.1	--	<0.0059	NA	NA	0.0065	NA	NA	NA	NA	<0.0059	NA	NA	NA	NA	0.055	NA	NA	NA	NA	NA
Manganese	mg/L	---	---	---	---	0.15	10	--	NA	<0.0015	NA	NA	NA	NA	NA	NA	NA	<0.0015	NA	NA	NA	<0.0015	NA	NA	NA	NA	NA
Selenium	mg/L	---	---	---	---	0.05	0.05	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.012	NA	<0.012	NA	NA	<0.012	NA	NA
General Chemistry																												
Reactive Cyanide	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	<0.47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Reactive Sulfide	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	<11.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH	S.U.	---	---	---	---	---	---	--	11.2	11.3	8.18	11.5	8.67	8.36	11.1	12.4	11.6	11.6	11.8	11.1	10.2	11.5	8.72	9.70	10.6	8.78	11.6
Moisture	%	---	---	---	---	---	---	--	6.5	12.5	18.5	14.9	16.0	3.9	7.2	12.0	9.3	19.3	12.4	19.1	19.3	17.9	10.2	17.1	3.7	3.9	9.3
Fractional Organic Carbon Content	%	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	1.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

13,600	Concentration exceeds the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater
14.3	Concentration exceeds the Tier 1 SRO for the Soil Ingestion Exposure Route for Industrial/Commercial Properties
1,650	Concentration exceeds the Tier 1 SRO for the Soil Inhalation Exposure Route for Industrial/Commercial Properties
[2.5]	Concentration exceeds the Tier 1 SROs for the Soil Ingestion and/or Soil Inhalation Exposure Route for the Construction Worker Scenario

Notes:

[a] Tier 1 Soil Remediation Objectives obtained from Tiered Approach to Corrective Action Objectives (TACO) 35 IAC 742, Appendix B, Table B.

[b] Remediation Objectives for the Soil Component of Groundwater Ingestion Route obtained from TACO 35 IAC 742, Appendix B, Table B. See **Table 6** for pH-Specific SROs for Soil Component of Groundwater Ingestion Exposure Route.

[c] TACO Concentrations of Chemicals in Background Soils used for concentrations of PNAs/Inorganics in Background Soils within MSAs obtained from 35 IAC 742, Appendix A, Tables G-H (units - mg/kg).

[d] Metropolitan Statistical Area (MSA) means a populated area that is located within various counties listed in Appendix A, Table G, footnote a; which includes Will and Cook Counties.

[e] Only Constituents Detected above Laboratory Reporting Limits are shown.

[f] pH-Specific Remediation Objectives obtained from 35 IAC 742, Appendix B, Tables C-D are presented in **Table 6**

Italics indicates a Non-TACO Chemical - Remediation Objectives calculated using calculations listed in 35 IAC Part 742

NA - Not Analyzed

"<" - Indicates the parameter was not detected above the laboratory reporting limit.

--- Not listed in 35 IAC 742, Appendix B, Table B - TACO Tier 1 Remediation Objectives or unable to be calculated using calculations listed in 35 IAC Part 742

-- Not listed in 35 IAC 742, Appendix A, Tables G-H - Backgrounds within Metropolitan Areas.

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Table 5
Soil Analytical Summary
12300 New Avenue
Lemont, Illinois

Parameter	Units	Exposure Route-Specific Values for Soils [a]						Soil Background Concentration in Metropolitan Statistical Areas [c, d]	Weaver Consultants Group Comprehensive Site Investigation October 25-26 & 30-31, 2018															
		Industrial/Commercial		Construction Worker		Soil Component of the Groundwater Ingestion Exposure Route [b]			SP-31	SP-32	SP-33	SP-34	SP-35	SP-36	SP-37	SP-38	SP-39	SP-40	SP-41	SP-42	SP-43	SP-44	SP-45	SP-46
		Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II		1.5-3.5'	3-5'	1-3'	3-5'	2-4'	1-3'	2.5-4.5'	1.5-3.5'	3-5'	9-11'	3-5'	5-7'	4-6'	5-7'	3-5'	3-5'
Benzene, Toluene, Ethylbenzene, Xylenes																								
Benzene	mg/kg	100	1.6	2,300	2.2	0.03	0.17	--	<0.0027	NA	NA	NA	<0.0023	<0.0030	<0.0024	<0.0024	<0.0031	<0.0031	<0.0024	<0.0024	<0.0026	<0.0023	<0.0026	<0.0025
Toluene	mg/kg	410,000	650	410,000	42	12	29	--	<0.0030	NA	NA	NA	<0.0026	<0.0034	<0.0027	<0.0027	<0.0035	<0.0035	<0.0027	<0.0027	<0.0029	<0.0026	<0.0029	<0.0028
Ethylbenzene	mg/kg	200,000	400	20,000	58	13	19	--	<0.0034	NA	NA	NA	<0.0029	<0.0038	<0.0030	<0.0031	<0.0039	<0.0039	<0.0030	<0.0030	<0.0033	<0.0029	<0.0033	<0.0031
Xylenes, Total	mg/kg	410,000	320	41,000	5.6	150	150	--	<0.0085	NA	NA	NA	<0.0072	<0.0095	<0.0075	<0.0076	<0.0098	<0.0097	<0.0076	<0.0075	<0.0083	<0.0072	<0.0082	<0.0078
Volatile Organic Compounds [e]																								
Acetone	mg/kg	---	100,000	---	100,000	25	25	--	<0.046	NA	NA	NA	<0.039	<0.052	<0.041	0.076	0.13	<0.053	<0.041	<0.041	<0.045	<0.039	<0.045	0.059
2-Butanone (MEK)	mg/kg	*1,000,000*	*25,000*	*120,000*	*730*	*17*	*17*	--	<0.0072	NA	NA	NA	<0.0061	<0.0080	<0.0064	0.02	0.033	<0.0083	<0.0064	<0.0064	<0.0070	<0.0061	<0.0069	0.016
Polynuclear Aromatic Compounds																								
Acenaphthene	mg/kg	120,000	---	120,000	---	570	2,900	0.13	<0.64	NA	NA	NA	<0.31	<1.4	0.29	<5.8	<0.077	<0.13	<0.24	<0.24	<0.067	<0.62	<0.28	<0.63
Acenaphthylene	mg/kg	---	---	---	---	---	---	0.07	<0.65	NA	NA	NA	<0.31	<1.4	<0.27	<5.8	<0.077	<0.13	<0.25	<0.24	<0.067	<0.62	<0.28	<0.63
Anthracene	mg/kg	610,000	---	610,000	---	12,000	59,000	0.4	<0.29	NA	NA	NA	0.58	<0.64	1.6	13.5	<0.035	0.15	0.39	<0.11	0.044	0.38	0.28	<0.28
Benzo(a)anthracene	mg/kg	8	---	170	---	2	8	1.8	<0.28	NA	NA	NA	1.6	<0.62	1.9	**20.1**	<0.033	0.56	0.98	<0.10	0.17	1.1	0.90	<0.28
Benzo(a)pyrene	mg/kg	0.8	---	17	---	8	82	2.1	<0.27	NA	NA	NA	1.5	<0.61	1.4	[18.6]	<0.033	0.49	0.82	<0.10	0.21	0.99	1.1	<0.27
Benzo(b)fluoranthene	mg/kg	8	---	170	---	5	25	2.1	<0.31	NA	NA	NA	1.8	<0.69	1.7	22.1	<0.037	0.73	1.1	<0.12	0.27	1.3	1.3	<0.31
Benzo(g,h,i)perylene	mg/kg	---	---	---	---	---	---	1.7	<0.47	NA	NA	NA	1.1	<1.1	0.70	11.3	<0.057	0.35	0.65	<0.18	0.17	1.1	0.86	<0.47
Benzo(k)fluoranthene	mg/kg	78	---	1,700	---	49	250	1.7	<0.43	NA	NA	NA	0.66	<0.97	0.71	9.8	<0.052	0.26	0.44	<0.16	0.099	0.55	0.53	<0.43
Chrysene	mg/kg	780	---	17,000	---	160	800	2.7	<0.27	NA	NA	NA	1.5	0.72	1.7	18.5	<0.032	0.62	1.2	<0.10	0.22	1.3	0.94	<0.27
Dibenz(a,h)anthracene	mg/kg	0.8	---	17	---	2	7.6	0.42	<0.49	NA	NA	NA	0.24	<1.1	0.21	<4.4	<0.059	0.099	0.22	<0.18	<0.051	<0.47	<0.21	<0.48
Fluoranthene	mg/kg	82,000	---	82,000	---	4,300	21,000	4.1	<0.26	NA	NA	NA	3.8	0.95	4.4	48.1	<0.031	1.3	2.5	<0.095	0.35	2.6	1.7	<0.25
Fluorene	mg/kg	82,000	---	82,000	---	560	2,800	0.18	<0.21	NA	NA	NA	0.12	<0.47	0.62	7.0	<0.025	0.051	0.14	<0.079	<0.022	<0.20	0.11	<0.21
Indeno(1,2,3-c,d)pyrene	mg/kg	8	---	170	---	14	69	1.6	<0.39	NA	NA	NA	1.1	<0.87	0.80	12.8	<0.047	0.38	0.69	<0.15	0.16	0.88	0.85	<0.38
Naphthalene	mg/kg	41,000	270	4,100	1.8	12	18	0.2	<0.63	NA	NA	NA	<0.30	<1.4	<0.27	<5.7	<0.076	<0.12	<0.24	<0.24	<0.066	<0.61	<0.28	<0.62
Phenanthrene	mg/kg	---	---	---	---	---	---	2.5	<0.23	NA	NA	NA	1.8	0.54	3.6	37.3	<0.028	0.49	1.6	<0.086	0.15	1.6	0.74	<0.23
Pyrene	mg/kg	61,000	---	61,000	---	4,200	21,000	3	<0.40	NA	NA	NA	3.1	<0.89	3.1	34.9	<0.048	0.95	1.8	<0.15	0.32	2.1	1.4	<0.39
Semi-Volatile Organic Compounds [e]																								
Butylbenzylphthalate	mg/kg	410,000	930	410,000	930	930	930	--	<0.29	NA	NA	NA	<0.14	<0.65	<0.12	<2.6	<0.035	<0.057	<0.11	<0.11	0.054	<0.28	<0.13	<0.29
Carbazole	mg/kg	290	---	6,200	---	0.6	2.8	--	<0.28	NA	NA	NA	<0.14	<0.63	0.3	**5.2**	<0.034	<0.056	0.13	<0.11	<0.029	<0.27	<0.12	<0.28
Dibenzofuran	mg/kg	*204*	---	*81.62*	---	*0.99*	*4.94*	--	<0.22	NA	NA	NA	<0.10	<0.49	0.22	2.7	<0.026	<0.043	<0.083	<0.082	<0.023	<0.21	<0.096	<0.22
bis(2-Ethylhexyl)phthalate	mg/kg	410	31,000	4,100	31,000	3,600	31,000	--	<0.30	NA	NA	NA	0.23	<0.67	<0.13	<2.7	<0.036	<0.059	<0.11	<0.11	0.07	<0.29	<0.13	<0.30
Phenol	mg/kg	610,000	---	61,000	---	100	100	--	<0.43	NA	NA	NA	<0.21	<0.96	<0.18	<3.9	<0.051	<0.085	<0.16	<0.16	0.055	<0.41	<0.19	<0.42
Total Petroleum Hydrocarbons																								
Gasoline Range Organics (C06-C10)	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diesel Range Organics (C10-C28)	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Extended Range Organics (C08-C36)	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH (C06-C36)	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyls [e]																								
Aroclor 1242	mg/kg	1	---	1	---	---	---	--	<0.027	<0.030	<0.032	NA	<0.026	<0.027	<0.029	<0.029	<0.032	<0.027	<0.026	0.15	0.40	<0.026	0.033	<0.027
Aroclor 1254	mg/kg	1	---	1	---	---	---	--	0.056	<0.030	<0.032	NA	<0.026	<0.027	<0.029	<0.029	<0.032	<0.027	<0.026	0.13	0.25	<0.026	0.041	<0.027
Aroclor 1260	mg/kg	1	---	1	---	---	---	--	<0.027	<0.030	<0.032	NA	<0.026	<0.027	<0.029	<0.029	<0.032	<0.027	<0.026	0.029	0.037	<0.026	<0.030	<0.027
Total PCBs	mg/kg	1	---	1	---	---	---	--	0.056	<0.030	<0.032	NA	<0.026	<0.027	<0.029	<0.029	<0.032	<0.027	<0.026	0.32	0.69	<0.026	0.074	<0.027
Pesticides [e]																								
Aldrin	mg/kg	0.3	6.6	6.1	9.3	0.5	2.5	--	<0.00057	NA	NA	NA	<0.00057	<0.00060	<0.00063	<0.00064	<0.00071	<0.00058	<0.00056	<0.00055	<0.00062	<0.00057	<0.00065	<0.00058
alpha-BHC	mg/kg	0.9	1.5	20	2.1	0.0005	0.003	--	<0.00048	NA	NA	NA	<0.00048	<0.00051	<0.00054	<0.00054	<0.00060	<0.00050	<0.00048	<0.00047	<0.00052	<0.00049	<0.00055	<0.00050
beta-BHC	mg/kg	---	---	---	---	---	---	--	<0.00056	NA	NA	NA	<0.00056	<0.00059	<0.00062	<0.00063	<0.00070	<0.00058	<0.00056	0.0006	0.0011	<0.00056	<0.00064	<0.00057
delta-BHC	mg/kg	---	---	---	---	---	---	--	<0.00053	NA	NA	NA	<0.00053	<0.00056	<0.00058	<0.00059	<0.00066	<0.00054	<0.00052	<0.00051	<0.00057	<0.00053	<0.00060	<0.00054
gamma-BHC (Lindane)	mg/kg	4	---	96	---	0.009	0.047	--	<0.0011	NA	NA	NA	<0.0011	<0.0012	<0.0012	<0.0012	<0.0014	<0.0011	<0.0011	<0.0011	<0.0012	<0.0011	<0.0012	<0.0011
Chlordane (Technical)	mg/kg	16	140	100	22	10.000	48	--	<0.010	NA	NA	NA	<0.010	0.016	<0.011	<0.011	<0.013	0.047	<0.010	0.017	0.11	0.013	<0.012	<0.010
alpha-Chlordane	mg/kg	---	---	---	---	---	---	--	<0.00058	NA	NA	NA	<0.00058	<0.00061	0.00076	0.0012	<0.00072	0.013	<0.00057	<0.00056	0.0068	<0.00058	<0.00066	<0.00059
gamma-Chlordane	mg/kg	---	---	---	---	---	---	--	<0.00066	NA	NA	NA	<0.00066	<0.00070	<0.00073	<0.00074	<0.00083	0.0069	<0.00066	<0.00065	0.0070	<0.00067	<0.00076	<0.00068
4,4'-DDD	mg/kg	24	---	520	---	16	80	--	<0.0011	NA	NA	NA	<0.0011	<0.0011	0.0023	0.0037	<0.0013	0.016	0.0021	<0.0010	0.0017	0.015	0.002	<0.0011
4,4'-DDE	mg/kg	17	---	370	---	54	270	--	<0.0011	NA	NA	NA	<0.0011	<0.0012	<0.0012	0.0046	<0.0014	0.073	0.0024	<0.0011	0.014	0.0037	0.0039	<0.0012
4,4'-DDT	mg/kg	17	1,500	100	2,100	32	160	--	<0.0017	NA	NA	NA	<0.0017	<0.0018	<0.0018	0.0036	<0.0021	0.0090	<0.0017	<0.0016	0.0026	0.002	<0.0019	<0.0017
Dieldrin	mg/kg	0.4	2.2	7.8	3.1	0.004	0.02	--	<0.0011	NA	NA	NA	<0.0011	<0.0011	<0.0012	<0.0012	<0.0014	<0.0011	<0.0011	0.0014	<0.0012	<0.0011	<0.0012	<0.0011
Endosulfan I	mg/kg	---	---	---	---	---	---	--	<0.00055	NA	NA	NA	<0.00055	<0.00058	<0.00060	<0.00061	<0.00068	<0.00056	<0.00054	<0.00053	<0.00059	<0.00055	<0.00062	<0.00056
Endosulfan II	mg/kg	---	---	1,200	---	---	---	--	<0.0014	NA	NA	NA	<0.0014	<0.0015	<0.0015	<0.0015	<0.0017	<0.0014	<0.0014	<0.0013	<0.0015	<0.0014	<0.0016	<0.0014
Endosulfan sulfate	mg/kg	---	---	---	---	---	---	--	<0.0013	NA	NA	NA	<0.0013	<0.0014	<0.0015	<0.0015	<0.0017	<0.0014	<0.0013	<0.0013	<0.0014	<0.0013	<0.0015	<0.0014
Endrin	mg/kg	610	---	61	---	1	5	--	<0.0012	NA	NA	NA	<0.0012	<0.0013	<0.0014	<0.0014	<0.0015	<0.0013	<0.0012	<0.0012	<0.0013	<0.0012	<0.0014	<0.0013
Endrin aldehyde	mg/kg	---	---	---	---	---	---	--	<0.0012	NA	NA	NA	<0.0012	0.0018	0.0023	<0.0014	<0.0015	<0.0013	<0.0012	0.0014	0.0023	<0.0012	<0.0014	<0.0012
Endrin ketone	mg/kg	---	---	---	---	---	---	--	<0.0018	NA	NA	NA	<0.0018	<0.0019	<0.0020	<0.0020	<0.0023	<0.0019	<0.0018	<0.0018	<0.0020	<0.0018	<0.0021	<0.0019
Heptachlor	mg/kg	1	11	28	16	23	110	--	<0.00061	NA	NA	NA	<0.00061	<0.00064	<0.00067	<0.00068	<0.00076	<0.00062	<0.00060	<0.00059	<0.00066	<0.00061	<0.00069	<0.00062
Heptachlor epoxide	mg/kg	0.6	9.2	2.7	13	0.7	3.3	--	<0.00051	NA	NA	NA	<0.00051	<0.00054	<0.00057	<0.00057	<0.00064	0.00087	<0.00051	<0.00050	0.0006	<0.00051	<0.00058	<0.00052
Methoxychlor	mg/kg	10,000	---	1,000	---	160	780	--	<0.0078	NA	NA	NA	<0.0078	<0.0083	<0.0086	<0.0088	<0.0097	<0.0080	<0.0078	<0.0076	<0.0085	<0.0078	<0.0089	<0.0080
Toxaphene	mg/kg	5.2	170	110	240	31	150	--	<0.015	NA	NA	NA	<0.015	<0.015	0.029	<0.016	<0.018	<0.015	<0.015	<0.014	0.15	<0.015	0.03	0.016

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Table 5
Soil Analytical Summary
12300 New Avenue
Lemont, Illinois

Parameter	Units	Exposure Route-Specific Values for Soils [a]						Soil Background Concentration in Metropolitan Statistical Areas [c, d]	Weaver Consultants Group Comprehensive Site Investigation October 25-26 & 30-31, 2018													
		Industrial/Commercial		Construction Worker		Soil Component of the Groundwater Ingestion Exposure Route [b]			SP-31	SP-32	SP-33	SP-34	SP-35	SP-36	SP-37	SP-38	SP-39	SP-40	SP-41	SP-42	SP-43	SP-44	SP-45	SP-46
		Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II		1.5-3.5'	3-5'	1-3'	3-5'	2-4'	1-3'	2.5-4.5'	1.5-3.5'	3-5'	9-11'	3-5'	5-7'	4-6'	5-7'	3-5'	3-5'
Inorganics																								
Aluminum	mg/kg	---	---	---	---	---	---	9,500	1,820	NA	3,890	NA	2,550	4,000	5,310	**12,900**	**16,000**	5,580	9,160	8,740	**10,300**	2,160	**11,500**	4,320
Antimony	mg/kg	820	---	82	---	---[f]	---[f]	4	<0.18	NA	<0.20	NA	0.35	<0.17	0.3	<0.19	<0.21	<0.16	<0.16	0.92	0.65	<0.17	0.3	<0.17
Arsenic	mg/kg	13	1,200	61	25,000	---[f]	---[f]	13	2.3	10.7	3.4	22.6	4.2	1.6	4.0	8.6	8.4	2.8	9.8	3.9	5.2	2.6	8.7	4.1
Barium	mg/kg	140,000	910,000	14,000	870,000	---[f]	---[f]	110	27.6	NA	23.4	NA	99.6	10.6	40.8	90.1	102	36.9	62.1	501	259	18.3	79.1	43.9
Beryllium	mg/kg	4,100	2,100	410	44,000	---[f]	---[f]	0.59	<0.15	NA	<0.16	NA	<0.14	<0.14	<0.15	0.72	0.6	0.14	0.46	0.46	0.22	<0.14	0.57	0.36
Cadmium	mg/kg	2,000	2,800	200	59,000	---[f]	---[f]	0.6	0.17	NA	0.14	NA	0.51	<0.10	0.78	1.9	0.45	0.1	0.15	2.3	1.5	<0.10	1.2	0.21
Calcium	mg/kg	---	---	---	---	---	---	9,300	120,000	NA	115,000	NA	132,000	170,000	155,000	68,500	55,400	192,000	43,300	204,000	178,000	145,000	70,300	103,000
Chromium	mg/kg	6,100	420	4,100	690	---[f]	---	16.2	**36.9**	NA	23.5	NA	7.9	**86.4**	16.6	25.9	22.6	12.7	16.1	**[945]**	**314**	5.4	**163**	**47.1**
Chromium, Hexavalent	mg/kg	6,100	420	4,100	690	---	---	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/kg	120,000	---	12,000	---	---	---	8.9	1.9	6.6	3.5	**11.1**	**53.4**	1.3	3.4	7.2	8.4	2.3	**9.0**	3.6	4.9	2.0	8.6	3.1
Copper	mg/kg	82,000	---	8,200	---	---[f]	---[f]	19.6	9.4	NA	9.3	NA	27.5	3.4	16.5	29.4	21.2	6.0	19.2	108	73.5	7.0	45.1	12.6
Cyanide	mg/kg	41,000	---	4,100	---	---[f]	---[f]	0.51	<0.072	NA	<0.075	NA	<0.078	<0.10	0.44	<0.071	<0.10	<0.077	<0.090	0.26	0.21	<0.078	0.17	0.12
Iron	mg/kg	---	---	---	---	---	---	15,900	6,140	**21,200**	7,550	**24,700**	5,880	13,100	12,000	**17,700**	**23,100**	6,960	**19,900**	**84,700**	**31,700**	5,020	**24,400**	9,900
Lead	mg/kg	800	---	700	---	---[f]	---[f]	36	13.9	NA	67.7	NA	8.4	5.7	39.2	43.4	20.1	10.4	17.8	186	86.4	12.3	48.2	15.1
Magnesium	mg/kg	---	---	730,000	---	---	---	4,820	66,000	NA	64,400	NA	75,800	90,300	80,900	34,300	31,800	72,000	25,900	43,200	62,300	82,600	33,500	55,300
Manganese	mg/kg	41,000	91,000	4,100	8,700	---	---	636	**906**	NA	438	NA	**[37,000]**	**2,400**	453	328	235	416	**716**	**[52,400]**	**[4,290]**	244	**1,940**	**658**
Mercury	mg/kg	610	16	61	0.1	---[f]	---[f]	0.06	<0.035	NA	<0.044	NA	0.049	<0.038	[0.13]	[0.3]	<0.043	<0.034	<0.033	[0.23]	[0.15]	<0.036	0.068	<0.037
Nickel	mg/kg	41,000	21,000	4,100	440,000	---[f]	---[f]	18	8.0	NA	10.4	NA	22.9	4.5	11.5	20.9	23.0	6.6	19.7	42.1	25.5	6.4	23.4	10.1
Potassium	mg/kg	---	---	---	---	---	---	1,268	568	NA	981	NA	1,030	516	1,540	2,210	2,930	868	1,590	546	1,600	653	2,580	934
Selenium	mg/kg	10,000	---	1,000	---	---[f]	---[f]	0.48	0.4	NA	0.91	NA	1.2	0.48	0.73	1.8	1.8	0.47	**1.7**	**3.2**	1.3	0.62	**2.0**	1.1
Silver	mg/kg	10,000	---	1,000	---	---[f]	---	0.55	<0.10	NA	<0.11	NA	<0.094	<0.093	<0.10	0.12	<0.12	<0.092	<0.089	0.24	0.15	<0.096	<0.11	<0.097
Sodium	mg/kg	---	---	---	---	---	---	130	134	NA	144	NA	352	180	171	193	195	285	317	580	988	178	306	145
Thallium	mg/kg	160	---	160	---	---[f]	---[f]	0.32	<0.12	NA	<0.13	NA	0.38	<0.11	<0.12	0.28	0.34	<0.11	0.38	<0.11	<0.12	<0.12	0.47	0.14
Vanadium	mg/kg	14,000	---	1,400	---	---[f]	---[f]	25.2	26.4	NA	25.7	NA	14.9	91.7	19.4	29.1	33.0	12.5	26.3	590	83.6	15.1	37.9	22.7
Zinc	mg/kg	610,000	---	61,000	---	---[f]	---[f]	95	57.5	NA	37.7	NA	49.4	11.7	194	179	62.4	21.3	58.9	500	332	17.4	327	50.9
TCLP Inorganics																								
Aluminum	mg/L	---	---	---	---	*3.5*	*5*	--	NA	NA	NA	NA	NA	NA	NA	0.25	0.17	NA	NA	NA	NA	NA	0.26	NA
Antimony	mg/L	---	---	---	---	0.006	0.024	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	---	---	---	---	0.05	0.2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	mg/L	---	---	---	---	2	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	---	---	---	---	0.005	0.05	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	---	---	---	---	0.1	1.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	mg/L	---	---	---	---	*5*	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	---	---	---	---	0.0075	0.1	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	mg/L	---	---	---	---	0.002	0.01	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	mg/L	---	---	---	---	0.05	0.05	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	---	---	---	---	0.05	---	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SPLP Inorganics																								
Chromium	mg/L	---	---	---	---	0.1	1.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	---	---	---	---	1	1	--	NA	NA	NA	NA	<0.0014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	---	---	---	---	0.0075	0.1	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	mg/L	---	---	---	---	0.15	10	--	NA	NA	NA	NA	<0.0015	NA	NA	NA	NA	NA	NA	<0.0015	NA	NA	NA	NA
Selenium	mg/L	---	---	---	---	0.05	0.05	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.012	NA	NA	NA	NA
General Chemistry																								
Reactive Cyanide	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Reactive Sulfide	mg/kg	---	---	---	---	---	---	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH	S.U.	---	---	---	---	---	---	--	8.42	7.55	7.8	7.3	8.79	11.2	7.85	8.10	5.2	11.5	9.26	11.3	11.1	7.94	8.44	7.43
Moisture	%	---	---	---	---	---	---	--	7.8	15.6	22.6	21.5	3.9	8.9	13.0	14.1	22.8	6.3	3.1	0.99	11.2	4.1	15.6	5.9
Fractional Organic Carbon Content	%	---	---	---	---	---	---	--	2	NA	NA	NA	NA	NA	NA	NA	3.9	1.9	NA	NA	NA	1.7	NA	2

13,600	Concentration exceeds the Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater
14.3	Concentration exceeds the Tier 1 SRO for the Soil Ingestion Exposure Route for Industrial/Commercial Properties
1,650	Concentration exceeds the Tier 1 SRO for the Soil Inhalation Exposure Route for Industrial/Commercial Properties
[2.5]	Concentration exceeds the Tier 1 SROs for the Soil Ingestion and/or Soil Inhalation Exposure Route for the Construction Worker Scenario

Notes:

[a] Tier 1 Soil Remediation Objectives obtained from Tiered Approach to Corrective Action Objectives (TACO) 35 IAC 742, Appendix B, Table B.

[b] Remediation Objectives for the Soil Component of Groundwater Ingestion Route obtained from TACO 35 IAC 742, Appendix B, Table B. See **Table 6** for pH-Specific SROs for Soil Component of Groundwater Ingestion Exposure Route.

[c] TACO Concentrations of Chemicals in Background Soils used for concentrations of PNAs/Inorganics in Background Soils within MSAs obtained from 35 IAC 742, Appendix A, Tables G-H (units - mg/kg).

[d] Metropolitan Statistical Area (MSA) means a populated area that is located within various counties listed in Appendix A, Table G, footnote a; which includes Will and Cook Counties.

[e] Only Constituents Detected above Laboratory Reporting Limits are shown.

[f] pH-Specific Remediation Objectives obtained from 35 IAC 742, Appendix B, Tables C-D are presented in **Table 6**.

Italics indicates a Non-TACO Chemical - Remediation Objectives calculated using calculations listed in 35 IAC Part 742

NA - Not Analyzed

"<" - Indicates the parameter was not detected above the laboratory reporting limit.

--- Not listed in 35 IAC 742, Appendix B, Table B - TACO Tier 1 Remediation Objectives or unable to be calculated using calculations listed in 35 IAC Part 742

-- Not listed in 35 IAC 742, Appendix A, Tables G-H - Backgrounds within Metropolitan Areas.

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Table 6
Inorganic pH-Specific SROs Analytical Summary
12300 New Avenue
Lemont, Illinois

Parameter	Units	pH-Specific Soil Remediation Objectives for Inorganics for the Soil Component of the Groundwater Ingestion Exposure Route [a,b]																				Soil Background Concentration in Metropolitan Statistical Areas [c,d]	Weaver Consultants Group Comprehensive Site Investigation October 25-26 & 30-31, 2018													
		pH=4.75-5.24		pH=5.25-5.74		pH=5.75-6.24		pH=6.25-6.64		pH=6.65-6.89		pH=6.9-7.24		pH=7.25-7.74		pH=7.75-8.24		pH=8.25-8.74		pH=8.75-9			SP-19		SP-20		SP-21		SP-22		SP-23		SP-24		SP-25	
		Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II		1-3'	5.5-7.5'	1-3'	5.5-7.5'	1-3'	6-8'	1-3'	5-7'	1-3'	4-6'	1-3'	6-8'	1-3'	5-10'
Inorganics																																				
Aluminum	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9,500	NA	13,600	NA	13,600	NA	9,650	NA	NA	NA	10,200	NA	NA	NA	NA
Antimony	mg/kg	5	20	5	20	5	20	5	20	5	20	5	20	5	20	5	20	5	20	5	20	4	NA	1.4	NA	14.9	NA	<0.16	NA	NA	NA	1.4	NA	NA	NA	NA
Arsenic	mg/kg	26	100	27	100	28	110	29	110	29	120	29	120	30	120	31	120	32	130	33	130	13	NA	9.1	9.2	14.3	NA	4.5	27.9	NA	14.9	7.7	10.8	3.2	5.5	NA
Barium [1]	mg/kg	490	490	850	850	1,200	1,200	1,500	1,500	1,600	1,600	1,700	1,700	1,800	1,800	2,100	2,100	---	---	---	---	110	NA	230	NA	580	NA	65.8	NA	NA	NA	709	NA	NA	NA	NA
Beryllium	mg/kg	2.1	260	3.4	420	6.6	820	22	2,800	63	7,900	140	17,000	1,000	130,000	8,000	1,000,000	---	---	---	---	0.59	NA	0.89	NA	0.17	NA	0.56	NA	NA	NA	<0.52	NA	NA	NA	NA
Cadmium [1]	mg/kg	1.7	17	2.7	27	3.7	37	5.2	52	7.5	75	11	110	59	590	430	4,300	---	---	---	---	0.6	NA	3.0	NA	17.2	NA	0.37	NA	NA	NA	1.3	NA	NA	NA	NA
Calcium	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9,300	NA	161,000	NA	54,000	NA	64,000	NA	NA	NA	136,000	NA	NA	NA	NA
Chromium [2]	mg/kg	62	---	54	---	46	---	40	---	38	---	36	---	32	---	28	---	24	---	21	---	16.2	NA	1,650	NA	128	NA	16.4	NA	2,010	NA	888	NA	1,080	NA	1,790
Chromium, Hexavalent	mg/kg	62	---	54	---	46	---	40	---	38	---	36	---	32	---	28	---	24	---	21	---	16.2	NA	8.8	NA	NA	NA	<3.7	NA	2.9	NA	NA	NA	<0.89	NA	<0.88
Cobalt	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	8.9	NA	6.9	NA	30.4	NA	5.6	NA	NA	NA	133	NA	NA	NA	6.5
Copper [1]	mg/kg	580	580	2,100	2,100	11,000	11,000	59,000	59,000	130,000	130,000	200,000	200,000	330,000	330,000	330,000	330,000	---	---	---	---	19.6	NA	184	NA	1,940	NA	20.2	NA	NA	NA	127	NA	NA	NA	NA
Cyanide	mg/kg	40	120	40	120	40	120	40	120	40	120	40	120	40	120	40	1,002	40	120	40	120	0.51	NA	0.46	NA	0.71	NA	<0.094	NA	NA	NA	0.38	NA	NA	NA	NA
Iron	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	15,900	NA	116,000	NA	149,000	NA	14,200	NA	127,000	NA	110,000	NA	NA	NA	112,000
Lead	mg/kg	23	300	23	300	23	300	107	1,420	107	1,420	107	1,420	107	1,420	107	1,420	107	1,420	282	3,760	36	863	301	40.6	1,770	123	28.4	NA	58.3	661	3,140	662	58.8	NA	3,290
Magnesium	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4,820	NA	43,600	NA	10,800	NA	38,800	NA	NA	NA	49,800	NA	NA	NA	NA
Manganese	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	636	NA	35,400	NA	2,660	NA	218	NA	NA	NA	14,500	NA	NA	NA	40,700
Mercury [1]	mg/kg	0.01	0.06	0.03	0.14	0.15	0.75	0.89	4.4	2.1	10	3.3	16	6.4	32	8	40	---	---	---	---	0.06	NA	<0.038	NA	2.5	NA	<0.035	NA	NA	NA	<0.040	NA	NA	NA	NA
Nickel [1]	mg/kg	36	730	56	1,100	76	1,500	100	2,000	130	2,600	180	3,500	700	14,000	3,800	76,000	---	---	---	---	18	NA	76.2	NA	171	NA	16.6	NA	NA	NA	114	NA	NA	NA	NA
Potassium	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1,268	NA	<1060	NA	1,050	NA	1,500	NA	NA	NA	<1150	NA	NA	NA	NA
Selenium	mg/kg	17	17	12	12	8.8	8.8	6.3	6.3	5.2	5.2	4.5	4.5	3.3	3.3	2.4	2.4	1.8	1.8	1.3	1.3	0.48	NA	1.4	NA	1.6	NA	1.6	NA	2.0	NA	<0.67	NA	2.4	NA	3.7
Silver	mg/kg	0.33	---	0.62	---	1.5	---	4.4	---	8.5	---	13	---	39	---	110	---	---	---	---	---	0.55	NA	0.4	NA	2.6	NA	<0.092	NA	NA	NA	<0.35	NA	NA	NA	NA
Sodium	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	130	NA	379	NA	4,830	NA	253	NA	NA	NA	296	NA	NA	NA	NA
Thallium	mg/kg	1.8	18	2	20	2.4	24	2.6	26	2.8	28	3	30	3.4	34	3.8	38	4.4	44	4.9	49	0.32	NA	<0.39	NA	<0.13	NA	0.17	NA	NA	NA	0.16	NA	NA	NA	NA
Vanadium	mg/kg	980	---	980	---	980	---	980	---	980	---	980	---	980	---	980	---	980	---	980	---	25.2	NA	288	NA	29.1	NA	20.8	NA	NA	NA	106	NA	NA	NA	NA
Zinc [1]	mg/kg	1,800	3,600	2,600	5,200	3,600	7,200	5,100	10,000	6,200	12,000	7,500	15,000	16,000	32,000	53,000	110,000	---	---	---	---	95	NA	702	NA	8,800	NA	88.1	NA	NA	NA	1,620	NA	NA	NA	NA
General Chemistry																																				
pH	S.U.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--	11.2	11.3	8.18	11.5	8.67	8.36	11.1	12.4	11.6	11.6	11.8	11.1	10.2	11.5

12N Concentration exceeds the Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater and/or Backgrounds within MSAs

Notes:
[a] pH-Specific Tier 1 Soil Remediation Objectives obtained from Tiered Approach to Corrective Action Objectives (TACO) 35 IAC 742, Appendix B, Tables C-D.
[b] For samples with pH greater than 9, data compared to SROs for pH between 8.75 - 9 (or highest pH range available). If Class II SROs are not available, data compared to Class I SROs.
[c] TACO Concentrations of Chemicals in Background Soils used for concentrations of Inorganics in Background Soils within MSAs obtained from 35 IAC 742, Appendix A, Table G (units - mg/kg).
[d] Metropolitan Statistical Area (MSA) means a populated area that is located within various counties listed in Appendix A, Table G, footnote a; which includes Cook County.
[1] pH-Specific SROs not established for pH values greater than 8.24. Results with pH greater than 8.24 compared to pH-Specific SROs for highest available pH range (7.75-8.24)
[2] pH-Specific SRO assumes Hexavalent Chromium.
NA - Not Analyzed
"<" - Indicates the parameter was not detected above the laboratory reporting limit.
--- Not listed in 35 IAC 742, Appendix B, Tables C or D - TACO Tier 1 Remediation Objectives
-- Not listed in 35 IAC 742, Appendix A, Tables G-H - Backgrounds within MSAs.

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Table 6
Inorganic pH-Specific SROs Analytical Summary
12300 New Avenue
Lemont, Illinois

Parameter	Units	pH-Specific Soil Remediation Objectives for Inorganics for the Soil Component of the Groundwater Ingestion Exposure Route [a,b]																				Soil Background Concentration in Metropolitan Statistical Areas [c,d]	Weaver Consultants Group Comprehensive Site Investigation October 25-26 & 30-31, 2018													
		pH=4.75-5.24		pH=5.25-5.74		pH=5.75-6.24		pH=6.25-6.64		pH=6.65-6.89		pH=6.9-7.24		pH=7.25-7.74		pH=7.75-8.24		pH=8.25-8.74		pH=8.75-9			SP-26	SP-27	SP-28	SP-29	SP-30	SP-31	SP-32	SP-33	SP-34	SP-35	SP-36	SP-37	SP-38	SP-39
		Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II		8-10'	9-11'	9-11'	5.5-7.5'	3-5'	1.5-3.5'	3-5'	1-3'	3-5'	2-4'	1-3'	2.5-4.5'	1.5-3.5'	3-5'
Inorganics																																				
Aluminum	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9,500	NA	4,240	NA	NA	4,720	1,820	NA	3,890	NA	2,550	4,000	5,310	12,900	16,000
Antimony	mg/kg	5	20	5	20	5	20	5	20	5	20	5	20	5	20	5	20	5	20	5	20	4	NA	0.43	NA	NA	0.35	<0.18	NA	<0.20	NA	0.35	<0.17	0.3	<0.19	<0.21
Arsenic	mg/kg	26	100	27	100	28	110	29	110	29	120	29	120	30	120	31	120	32	130	33	130	13	NA	4.3	NA	NA	2.4	2.3	10.7	3.4	22.6	4.2	1.6	4.0	8.6	8.4
Barium [1]	mg/kg	490	490	850	850	1,200	1,200	1,500	1,500	1,600	1,600	1,700	1,700	1,800	1,800	2,100	2,100	---	---	---	---	110	NA	52.5	NA	NA	88.6	27.6	NA	23.4	NA	99.6	10.6	40.8	90.1	102
Beryllium	mg/kg	2.1	260	3.4	420	6.6	820	22	2,800	63	7,900	140	17,000	1,000	130,000	8,000	1,000,000	---	---	---	---	0.59	NA	<0.16	NA	NA	0.14	<0.15	NA	<0.16	NA	<0.14	<0.14	<0.15	0.72	0.6
Cadmium [1]	mg/kg	1.7	17	2.7	27	3.7	37	5.2	52	7.5	75	11	110	59	590	430	4,300	---	---	---	---	0.6	NA	0.43	NA	NA	0.52	0.17	NA	0.14	NA	0.51	<0.10	0.78	1.9	0.45
Calcium	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9,300	NA	184,000	NA	NA	141,000	120,000	NA	115,000	NA	132,000	170,000	155,000	68,500	55,400
Chromium [2]	mg/kg	62	---	54	---	46	---	40	---	38	---	36	---	32	---	28	---	24	---	21	---	16.2	175	170	1,220	8.5	435	36.9	NA	23.5	NA	7.9	86.4	16.6	25.9	22.6
Chromium, Hexavalent	mg/kg	62	---	54	---	46	---	40	---	38	---	36	---	32	---	28	---	24	---	21	---	16.2	NA	NA	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	8.9	NA	3.6	NA	NA	4.5	1.9	6.6	3.5	11.1	53.4	1.3	3.4	7.2	8.4
Copper [1]	mg/kg	580	580	2,100	2,100	11,000	11,000	59,000	59,000	130,000	130,000	200,000	200,000	330,000	330,000	330,000	330,000	---	---	---	---	19.6	NA	32.7	NA	NA	30.2	9.4	NA	9.3	NA	27.5	3.4	16.5	29.4	21.2
Cyanide	mg/kg	40	120	40	120	40	120	40	120	40	120	40	120	40	120	40	1,002	40	120	40	120	0.51	NA	0.49	NA	NA	0.12	<0.072	NA	<0.075	NA	<0.078	<0.10	0.44	<0.071	<0.10
Iron	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	15,900	43,900	24,300	85,000	12,700	19,100	6,140	21,200	7,550	24,700	5,880	13,100	12,000	17,700	23,100
Lead	mg/kg	23	300	23	300	23	300	107	1,420	107	1,420	107	1,420	107	1,420	107	1,420	107	1,420	282	3,760	36	NA	43.1	NA	NA	30.7	13.9	NA	67.7	NA	8.4	5.7	39.2	43.4	20.1
Magnesium	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4,820	NA	85,300	NA	NA	68,000	66,000	NA	64,400	NA	75,800	90,300	80,900	34,300	31,800
Manganese	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	636	NA	2,020	NA	NA	5,120	906	NA	438	NA	37,000	2,400	453	328	235
Mercury [1]	mg/kg	0.01	0.06	0.03	0.14	0.15	0.75	0.89	4.4	2.1	10	3.3	16	6.4	32	8	40	---	---	---	---	0.06	NA	0.13	NA	NA	0.052	<0.035	NA	<0.044	NA	0.049	<0.038	0.13	0.3	<0.043
Nickel [1]	mg/kg	36	730	56	1,100	76	1,500	100	2,000	130	2,600	180	3,500	700	14,000	3,800	76,000	---	---	---	---	18	NA	16.9	NA	NA	12.3	8.0	NA	10.4	NA	22.9	4.5	11.5	20.9	23.0
Potassium	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1,268	NA	980	NA	NA	472	568	NA	981	NA	1,030	516	1,540	2,210	2,930
Selenium	mg/kg	17	17	12	12	8.8	8.8	6.3	6.3	5.2	5.2	4.5	4.5	3.3	3.3	2.4	2.4	1.8	1.8	1.3	1.3	0.48	1.6	0.71	3.1	0.67	0.84	0.4	NA	0.91	NA	1.2	0.48	0.73	1.8	1.8
Silver	mg/kg	0.33	---	0.62	---	1.5	---	4.4	---	8.5	---	13	---	39	---	110	---	---	---	---	---	0.55	NA	<0.11	NA	NA	<0.094	<0.10	NA	<0.11	NA	<0.094	<0.093	<0.10	0.12	<0.12
Sodium	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	130	NA	238	NA	NA	163	134	NA	144	NA	352	180	171	193	195
Thallium	mg/kg	1.8	18	2	20	2.4	24	2.6	26	2.8	28	3	30	3.4	34	3.8	38	4.4	44	4.9	49	0.32	NA	<0.13	NA	NA	<0.11	<0.12	NA	<0.13	NA	0.38	<0.11	<0.12	0.28	0.34
Vanadium	mg/kg	980	---	980	---	980	---	980	---	980	---	980	---	980	---	980	---	980	---	980	---	25.2	NA	63.4	NA	NA	74.6	26.4	NA	25.7	NA	14.9	91.7	19.4	29.1	33.0
Zinc [1]	mg/kg	1,800	3,600	2,600	5,200	3,600	7,200	5,100	10,000	6,200	12,000	7,500	15,000	16,000	32,000	53,000	110,000	---	---	---	---	95	NA	97.5	NA	NA	151	57.5	NA	37.7	NA	49.4	11.7	194	179	62.4
General Chemistry																																				
pH	S.U.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--	8.72	9.70	10.6	8.78	11.6	8.42	7.55	7.8	7.3	8.79	11.2	7.85	8.10	5.2

128 Concentration exceeds the Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater and/or Backgrounds within MSAs

Notes:
[a] pH-Specific Tier 1 Soil Remediation Objectives obtained from Tiered Approach to Corrective Action Objectives (TACO) 35 IAC 742, Appendix B, Tables C-D.
[b] For samples with pH greater than 9, data compared to SROs for pH between 8.75 - 9 (or highest pH range available). If Class II SROs are not available, data compared to Class I SROs.
[c] TACO Concentrations of Chemicals in Background Soils used for concentrations of Inorganics in Background Soils within MSAs obtained from 35 IAC 742, Appendix A, Table G (units - mg/kg).
[d] Metropolitan Statistical Area (MSA) means a populated area that is located within various counties listed in Appendix A, Table G, footnote a; which includes Cook County.
[1] pH-Specific SROs not established for pH values greater than 8.24. Results with pH greater than 8.24 compared to pH-Specific SROs for highest available pH range (7.75-8.24)
[2] pH-Specific SRO assumes Hexavalent Chromium.
NA - Not Analyzed
"<" - Indicates the parameter was not detected above the laboratory reporting limit.
--- Not listed in 35 IAC 742, Appendix B, Tables C or D - TACO Tier 1 Remediation Objectives
-- Not listed in 35 IAC 742, Appendix A, Tables G-H - Backgrounds within MSAs.

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Table 6
Inorganic pH-Specific SROs Analytical Summary
12300 New Avenue
Lemont, Illinois

Parameter	Units	pH-Specific Soil Remediation Objectives for Inorganics for the Soil Component of the Groundwater Ingestion Exposure Route [a,b]																				Soil Background Concentration in Metropolitan Statistical Areas [c,d]	Weaver Consultants Group Comprehensive Site Investigation October 25-26 & 30-31, 2018						
		pH=4.75-5.24		pH=5.25-5.74		pH=5.75-6.24		pH=6.25-6.64		pH=6.65-6.89		pH=6.9-7.24		pH=7.25-7.74		pH=7.75-8.24		pH=8.25-8.74		pH=8.75-9			SP-40	SP-41	SP-42	SP-43	SP-44	SP-45	SP-46
		Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II		9-11'	3-5'	5-7'	4-6'	5-7'	3-5'	3-5'
Inorganics																													
Aluminum	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9,500	5,580	9,160	8,740	10,300	2,160	11,500	4,320
Antimony	mg/kg	5	20 [e]	5	20	5	20	5	20	5	20	5	20	5	20	5	20	5	20	5	20	4	<0.16	<0.16	0.92	0.65	<0.17	0.3	<0.17
Arsenic	mg/kg	26	100	27	100	28	110	29	110	29	120	29	120	30	120	31	120	32	130	33	130	13	2.8	9.8	3.9	5.2	2.6	8.7	4.1
Barium [f]	mg/kg	490	490	850	850	1,200	1,200	1,500	1,500	1,600	1,600	1,700	1,700	1,800	1,800	2,100	2,100	---	---	---	---	110	36.9	62.1	501	259	18.3	79.1	43.9
Beryllium	mg/kg	2.1	260	3.4	420	6.6	820	22	2,800	63	7,900	140	17,000	1,000	130,000	8,000	1,000,000	---	---	---	---	0.59	0.14	0.46	0.46	0.22	<0.14	0.57	0.36
Cadmium [f]	mg/kg	1.7	17	2.7	27	3.7	37	5.2	52	7.5	75	11	110	59	590	430	4,300	---	---	---	---	0.6	0.1	0.15	2.3	1.5	<0.10	1.2	0.21
Calcium	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9,300	192,000	43,300	204,000	178,000	145,000	70,300	103,000
Chromium [g]	mg/kg	62	---	54	---	46	---	40	---	38	---	36	---	32	---	28	---	24	---	21	---	16.2	12.7	16.1	945	314	5.4	163	47.1
Chromium, Hexavalent	mg/kg	62	---	54	---	46	---	40	---	38	---	36	---	32	---	28	---	24	---	21	---	16.2	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	8.9	2.3	9.0	3.6	4.9	2.0	8.6	3.1
Copper [f]	mg/kg	580	580	2,100	2,100	11,000	11,000	59,000	59,000	130,000	130,000	200,000	200,000	330,000	330,000	330,000	330,000	---	---	---	---	19.6	6.0	19.2	108	73.5	7.0	45.1	12.6
Cyanide	mg/kg	40	120	40	120	40	120	40	120	40	120	40	120	40	120	40	1,002	40	120	40	120	0.51	<0.077	<0.090	0.26	0.21	<0.078	0.17	0.12
Iron	mg/kg	---	--- [e]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	15,900	6,960	19,900	84,700	31,700	5,020	24,400	9,900
Lead	mg/kg	23	300	23	300	23	300	107	1,420	107	1,420	107	1,420	107	1,420	107	1,420	107	1,420	282	3,760	36	10.4	17.8	186	86.4	12.3	48.2	15.1
Magnesium	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4,820	72,000	25,900	43,200	62,300	82,600	33,500	55,300
Manganese	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	636	416	716	52,400	4,290	244	1,940	658
Mercury [f]	mg/kg	0.01	0.06	0.03	0.14	0.15	0.75	0.89	4.4	2.1	10	3.3	16	6.4	32	8	40	---	---	---	---	0.06	<0.034	<0.033	0.23	0.15	<0.036	0.068	<0.037
Nickel [f]	mg/kg	36	730	56	1,100	76	1,500	100	2,000	130	2,600	180	3,500	700	14,000	3,800	76,000	---	---	---	---	18	6.6	19.7	42.1	25.5	6.4	23.4	10.1
Potassium	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1,268	868	1,590	546	1,600	653	2,580	934
Selenium	mg/kg	17	17	12	12	8.8	8.8	6.3	6.3	5.2	5.2	4.5	4.5	3.3	3.3	2.4	2.4	1.8	1.8	1.3	1.3	0.48	0.47	1.7	3.2	1.3	0.62	2.0	1.1
Silver	mg/kg	0.33	---	0.62	---	1.5	---	4.4	---	8.5	---	13	---	39	---	110	---	---	---	---	---	0.55	<0.092	<0.089	0.24	0.15	<0.096	<0.11	<0.097
Sodium	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	130	285	317	580	988	178	306	145
Thallium	mg/kg	1.8	18	2	20	2.4	24	2.6	26	2.8	28	3	30	3.4	34	3.8	38	4.4	44	4.9	49	0.32	<0.11	0.38	<0.11	<0.12	<0.12	0.47	0.14
Vanadium	mg/kg	980	---	980	---	980	---	980	---	980	---	980	---	980	---	980	---	980	---	980	---	25.2	12.5	26.3	590	83.6	15.1	37.9	22.7
Zinc [f]	mg/kg	1,800	3,600	2,600	5,200	3,600	7,200	5,100	10,000	6,200	12,000	7,500	15,000	16,000	32,000	53,000	110,000	---	---	---	---	95	21.3	58.9	500	332	17.4	327	50.9
General Chemistry																													
pH	S.U.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--	11.5	9.26	11.3	11.1	7.94	8.44	7.43

128 Concentration exceeds the Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route for Class II Groundwater and/or Backgrounds within MSAs

Notes:

[a] pH-Specific Tier 1 Soil Remediation Objectives obtained from Tiered Approach to Corrective Action Objectives (TACO) 35 IAC 742. Appendix B, Tables C-D.

[b] For samples with pH greater than 9, data compared to SROs for pH between 8.75 - 9 (or highest pH range available). If Class II SROs are not available, data compared to Class I SROs.

[c] TACO Concentrations of Chemicals in Background Soils used for concentrations of Inorganics in Background Soils within MSAs obtained from 35 IAC 742. Appendix A. Table G (units - mg/kg).

[d] Metropolitan Statistical Area (MSA) means a populated area that is located within various counties listed in Appendix A. Table G, footnote a; which includes Cook County.

[e] pH-Specific SROs not established for pH values greater than 8.24. Results with pH greater than 8.24 compared to pH-Specific SROs for highest available pH range (7.75-8.24)

[f] pH-Specific SRO assumes Hexavalent Chromium.

NA - Not Analyzed

"<" - Indicates the parameter was not detected above the laboratory reporting limit.

--- Not listed in 35 IAC 742, Appendix B, Tables C or D - TACO Tier 1 Remediation Objectives

-- Not listed in 35 IAC 742, Appendix A, Tables G-H - Backgrounds within MSAs.

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Table 7
Groundwater Analytical Summary
12300 New Avenue
Lemont, Illinois

Parameter	Units	Exposure Route-Specific Values for Groundwater [a]				Weaver Consultants Group Comprehensive Site Investigation October 25-26 & 30-31, 2018										
		Groundwater Ingestion Exposure Route [b]		Indoor Inhalation Exposure Route [c]												
		Class I	Class II	Residential	Industrial/ Commercial	MW-1	MW-3	MW-5	MW-6	TW-5	TW-6	TW-7	TW-8	TW-9	TW-10	TW-11
Benzene, Toluene, Ethylbenzene, Xylenes																
Benzene	mg/L	0.005	0.025	0.11	0.41	NA	<0.00025	<0.00025	NA	<0.00025	<0.00025	NA	<0.00025	<0.00025	<0.00025	<0.00025
Toluene	mg/L	1	2.5	530	530	NA	<0.00017	<0.00017	NA	<0.00017	<0.00017	NA	<0.00017	<0.00017	<0.00017	<0.00017
Ethylbenzene	mg/L	0.7	1	0.37	1.4	NA	<0.00022	<0.00022	NA	<0.00022	<0.00022	NA	<0.00022	<0.00022	<0.00022	0.0036
Xylenes, Total	mg/L	10	10	30	93	NA	<0.0015	<0.0015	NA	<0.0015	<0.0015	NA	<0.0015	<0.0015	<0.0015	0.028
Volatile Organic Compounds [d]																
Acetone	mg/L	6.3	6.3	1,000,000	1,000,000	NA	<0.0027	<0.0027	NA	<0.0027	<0.0027	NA	0.019	0.033	<0.0027	0.012
Carbon disulfide	mg/L	0.7	3.5	67	210	NA	<0.00037	<0.00037	NA	<0.00037	<0.00037	NA	<0.00037	<0.00037	0.00041	0.00084
Polynuclear Aromatic Hydrocarbons																
Acenaphthene	mg/L	0.42	2.1	---	---	NA	0.0000076	<0.0000057	NA	0.000040	0.000031	NA	0.000013	0.00030	0.000026	0.000014
Acenaphthylene	mg/L	*0.21*	*1.05*	---	---	NA	<0.0000045	<0.0000047	NA	0.000023	<0.0000045	NA	0.0000079	0.000095	<0.0000048	<0.0000045
Anthracene	mg/L	2.1	10.5	---	---	NA	<0.0000094	<0.0000098	NA	0.000033	0.000013	NA	0.000031	0.00045	0.000027	<0.0000095
Benzo(a)anthracene	mg/L	0.00013	0.00065	---	---	NA	<0.0000068	0.0000085	NA	0.000018	<0.0000068	NA	0.00016	0.0011	0.000015	0.000022
Benzo(a)pyrene	mg/L	0.0002	0.002	---	---	NA	<0.0000095	<0.0000098	NA	<0.000010	<0.0000095	NA	0.00017	0.00099	<0.000010	0.000014
Benzo(b)fluoranthene	mg/L	0.00018	0.0009	---	---	NA	<0.0000052	0.0000078	NA	0.000041	<0.0000052	NA	0.00016	0.0013	0.000012	0.000027
Benzo(g,h,i)perylene	mg/L	*0.21*	*1.05*	---	---	NA	<0.0000061	<0.0000063	NA	0.0000066	<0.0000061	NA	0.00027	0.0010	0.0000096	0.000017
Benzo(k)fluoranthene	mg/L	0.00017	0.00085	---	---	NA	<0.0000068	0.0000082	NA	<0.0000072	<0.0000068	NA	0.000053	0.00046	0.0000094	0.000011
Chrysene	mg/L	0.0015	0.0075	---	---	NA	<0.000012	<0.000012	NA	0.000013	<0.000012	NA	0.00018	0.0010	0.000015	0.00002
Dibenz(a,h)anthracene	mg/L	0.0003	0.0015	---	---	NA	<0.0000090	<0.0000094	NA	<0.0000095	<0.0000090	NA	0.000057	0.00018	<0.0000097	<0.0000091
Fluoranthene	mg/L	0.28	1.4	---	---	NA	<0.0000096	<0.000010	NA	0.000049	<0.0000096	NA	0.00017	0.0022	0.000032	0.000062
Fluorene	mg/L	0.28	1.4	---	---	NA	<0.0000072	<0.0000074	NA	0.000011	<0.0000072	NA	0.000021	0.00025	0.000024	0.000011
Indeno(1,2,3-cd)pyrene	mg/L	0.00043	0.0022	---	---	NA	<0.000016	<0.000016	NA	<0.000017	<0.000016	NA	0.000092	0.00059	<0.000017	<0.000016
Naphthalene	mg/L	0.14	0.22	0.075	0.32	NA	0.00002	<0.000017	NA	0.000034	<0.000017	NA	0.00010	0.00027	0.000078	0.000027
Phenanthrene	mg/L	*0.21*	*1.05*	---	---	NA	<0.000012	0.000014	NA	0.000031	<0.000012	NA	0.00012	0.0015	0.000055	0.000072
Pyrene	mg/L	0.21	1.1	---	---	NA	<0.0000069	<0.0000071	NA	0.000053	<0.0000069	NA	0.00019	0.0023	0.000034	0.000049
Semivolatile Organic Compounds [d]																
Pentachlorophenol	mg/L	0.001	0.005	---	---	NA	<0.0014	<0.0014	NA	0.0070	0.0029	NA	NA	<0.013	<0.0014	<0.0014
Polychlorinated Biphenyls [d]																
PCB-1242 (Aroclor 1242)	mg/L	0.0005	0.0025	---[1]	---[1]	NA	<0.00024	<0.00024	NA	<0.00025	<0.00024	NA	0.00037	0.00025	<0.00024	<0.00024
PCB, Total	mg/L	0.0005	0.0025	---[1]	---[1]	NA	<0.00024	<0.00024	NA	<0.00025	<0.00024	NA	0.00037	0.00025	<0.00024	<0.00024
Pesticides [d]																
alpha-BHC	mg/L	0.00011	0.00055	---	---	NA	<0.0000075	<0.0000075	NA	<0.0000077	<0.0000075	NA	0.00001	<0.0000075	<0.0000077	<0.0000074
Chlordane (Technical)	mg/L					NA	<0.00021	<0.00021	NA	<0.00021	<0.00021	NA	0.00043	<0.00021	<0.00021	<0.00021
gamma-Chlordane	mg/L	---	---	---	---	NA	<0.0000065	<0.0000065	NA	<0.0000067	<0.0000065	NA	0.000021	<0.0000065	<0.0000066	<0.0000064
4,4'-DDD	mg/L	0.014	0.07	---	---	NA	<0.000013	<0.000013	NA	<0.000014	<0.000013	NA	0.000029	<0.000013	<0.000014	<0.000013
4,4'-DDE	mg/L	0.01	0.05	---	---	NA	<0.000018	<0.000018	NA	<0.000018	<0.000018	NA	0.000083	<0.000018	0.000019	<0.000017
4,4'-DDT	mg/L	0.006	0.03	---	---	NA	<0.000014	<0.000014	NA	<0.000014	<0.000014	NA	0.000087	<0.000014	<0.000014	<0.000013
Endosulfan I	mg/L	---	---	---	---	NA	<0.0000092	<0.0000092	NA	<0.0000095	0.0000096	NA	0.000012	<0.0000092	<0.0000094	<0.0000091
Endrin aldehyde	mg/L	---	---	---	---	NA	<0.000015	<0.000015	NA	<0.000015	<0.000015	NA	0.000019	<0.000015	<0.000015	<0.000015
Heptachlor epoxide	mg/L	0.0002	0.001	---	---	NA	<0.000012	<0.000012	NA	<0.000013	<0.000012	NA	0.000012	<0.000012	<0.000013	<0.000012
Inorganics, Total																
Aluminum	mg/L	*3.5*	*5*	---	---	6.7	<0.059	0.13	61.8	2.1	<0.059	34.7	1.6	3.5	2.5	0.093
Antimony	mg/L	0.006	0.024	---	---	0.0046	0.00041	0.00021	0.0037	0.00058	0.00056	0.0031	0.0050	0.013	0.00022	<0.00015
Arsenic	mg/L	0.05	0.2	---	---	0.0055	0.0042	0.011	0.052	0.0027	0.026	0.024	0.0030	0.012	0.021	0.11
Barium	mg/L	2	2	---	---	0.30	0.068	0.12	0.42	0.047	0.13	1.8	0.18	0.17	0.11	0.14
Beryllium	mg/L	0.004	0.5	---	---	<0.00018	<0.00018	0.00019	0.0032	0.00027	<0.00018	0.0021	<0.00018	0.0026	<0.00018	<0.00018
Cadmium	mg/L	0.005	0.05	---	---	0.0014	<0.00015	<0.00015	0.0022	0.00034	0.00034	0.00088	0.00081	0.00088	0.00029	<0.00015
Calcium	mg/L	---	---	---	---	176	83.5	147	204	88.8	89.7	210	180	72.0	95.2	163
Chromium	mg/L	0.1	1	---	---	0.27	<0.0010	<0.0010	0.098	0.11	<0.0010	0.038	0.0085	0.020	0.0064	<0.0010
Cobalt	mg/L	1	1	---	---	0.0029	0.0011	0.0017	0.038	0.0012	0.0015	0.038	0.0023	0.0028	0.0026	0.0054
Copper	mg/L	0.65	0.65	---	---	0.074	0.0014	<0.0011	0.095	0.010	<0.0011	0.040	0.037	0.046	0.0048	<0.0011
Cyanide	mg/L	0.2	0.6	---	---	NA	<0.0068	<0.0068	NA	<0.0068	<0.0068	NA	<0.0068	<0.0068	0.011	0.01
Iron	mg/L	5	5	---	---	14.7	1.1	8.6	86.3	15.1	11.7	35.7	3.5	7.3	10.6	40.0
Lead	mg/L	0.0075	0.1	---	---	0.13	0.00037	0.00048	0.23	0.0065	0.00055	0.068	0.047	0.091	0.0063	0.014
Magnesium	mg/L	---	---	---	---	11.4	33.9	59.0	100	34.7	43.7	304	99.5	26.0	56.3	37.6
Manganese	mg/L	0.15	10	---	---	2.0	0.73	0.85	2.0	1.8	0.75	11.2	0.26	0.41	0.38	1.3
Mercury	mg/L	0.002	0.01	0.053	0.06	<0.000084	<0.000084	<0.000084	0.0001	<0.000084	<0.000084	<0.000084	<0.000084	0.00013	0.00024	<0.000084
Nickel	mg/L	0.1	2	---	---	0.022	0.0032	0.0029	0.10	0.0042	0.0030	0.038	0.019	0.018	0.0065	0.0058
Potassium	mg/L	---	---	---	---	36.5	8.0	2.4	16.7	4.7	5.6	20.3	16.6	13.2	4.0	3.7
Selenium	mg/L	0.05	0.05	---	---	0.0070	0.00047	<0.00032	0.012	0.00063	0.00064	0.0075	0.0035	0.0029	0.00082	<0.00032
Silver	mg/L	0.05	---	---	---	0.00018	<0.00010	<0.00010	<0.00050	0.00016	0.00015	<0.00050	0.00012	<0.00010	<0.00010	<0.00010
Sodium	mg/L	---	---	---	---	53.9	134	185	51.8	38.0	37.4	242	97.2	401	196	26.5
Thallium	mg/L	0.002	0.02	---	---	<0.00014	<0.00014	0.00016	0.0023	0.00042	0.00046	<0.00070	0.00016	0.00014	<0.00014	<0.00014
Vanadium	mg/L	0.049	0.1	---	---	0.047	0.0016	0.00065	0.15	0.11	0.0016	0.055	0.026	0.033	0.0079	0.0021
Zinc	mg/L	5	10	---	---	0.28	0.0096	0.0088	0.35	0.015	0.0065	0.20	0.25	0.38	0.027	0.081
Inorganics, Dissolved																
Aluminum	mg/L	*3.5*	*5*	---	---	3.1	<0.059	<0.059	1.1	<0.059	<0.059	NA	NA	0.32	<0.059	<0.059
Antimony	mg/L	0.006	0.024	---	---	0.00097	0.00033	0.00022	0.0010	0.00058	0.00051	NA	NA	0.0091	0.00032	0.00029
Arsenic	mg/L	0.05	0.2	---	---	0.0029	0.0039	0.010	0.0072	0.0016	0.025	NA	NA	0.012	0.019	0.12
Barium	mg/L	2	2	---	---	0.14	0.066	0.12	0.019	0.037	0.13	NA	NA	0.069	0.088	0.15
Beryllium	mg/L	0.004	0.5	---	---	<0.00018	<0.00018	0.00058	<0.00018	<0.00018	<0.00018	NA	NA	0.0069	<0.00018	<0.00018
Cadmium	mg/L	0.005	0.05	---	---	<0.00015	<0.00015	<0.00015	<0.00015	0.00021	<0.00015	NA	NA	<0.00015	<0.00015	<0.00015
Calcium	mg/L	---	---	---	---	119	85.3	154	47.9	61.4	90.5	NA	NA	47.5	80.9	173
Chromium	mg/L	0.1	1	---	---	0.21	<0.0010	<0.0010	0.0016	<0.0010	<0.0010	NA	NA	0.0015	<0.0010	<0.0010
Cobalt	mg/L	1	1	---	---	0.00026	0.0011	0.0016	0.00071	0.00038	0.0012	NA	NA	0.00076	0.0012	0.0055
Copper	mg/L	0.65	0.65	---	---	0.025	<0.0011	<0.0011	0.0047	<0.0011	<0.0011	NA	NA	0.0026	<0.0011	<0.0011
Iron	mg/L	5	5	---	---	<0.11	1.0	8.4	0.97	2.9	11.2	NA	NA	0.51	6.9	40.8
Lead	mg/L	0.0075	0.1	---	---	0.0029	<0.00024	<0.00024	0.0019	0.00037	<0.00024	NA	NA	0.0030	<0.00024	0.0075
Magnesium	mg/L	---	---	---	---	0.07	36.6	65.0	1.2	22.7	45.3	NA	NA	16.3	51.3	40.7
Manganese	mg/L	0.15	10	---	---	0.0085	0.73	0.89	0.021	0.24	0.74	NA	NA	0.082	0.27	1.4
Mercury	mg/L	0.002	0.01	0.053	0.06	<0.000084	<0.000084	<0.000084	<0.000084	<0.000084	<0.000084	NA	NA	<0.000084	<0.000084	<0.000084
Nickel	mg/L	0.1	2	---	---	0.0016	0.0033	0.0031	0.0061	0.0016	0.0028	NA	NA	0.0084	0.0023	0.0064
Potassium	mg/L	---	---	---	---	25.5	7.0	2.4	5.4	4.0	5.4	NA	NA	9.6	3.2	3.8
Selenium	mg/L	0.05	0.05	---	---	0.0069	0.00042	<0.00032	0.0011	0.00043	0.00041	NA	NA	0.0021	0.00071	0.00037
Silver	mg/L	0.05	---	---	---	<0.00010	<0.00010	<0.00010	<0.00010	0.00012	<0.00010	NA	NA	<0.00010	<0.00010	<0.00010
Sodium	mg/L	---	---	---	---	53.0	151	215	39.0	36.9	37.1	NA	NA	383	186	27.6
Thallium	mg/L	0.002	0.02	---	---	<0.00014	<0.00014	0.00023	<0.00014	0.00026	<0.00014	NA	NA	<0.00014	<0.00014	<0.00014
Vanadium	mg/L	0.049	0.1	---	---	0.0044	0.0017	0.00037	0.017	0.0039	0.0013	NA	NA	0.017	0.0013	0.0019
Zinc	mg/L	5	10	---	---	0.0095	0.014	0.016	0.01	0.007	0.012	NA	NA	0.018	0.0083	0.085

0.00016	Concentration exceeds the Tier 1 GRO for the Groundwater Ingestion Exposure Route for Class I Groundwater
8.4	Concentration exceeds the Tier 1 GROs for the Groundwater Ingestion Exposure Route for Class I and Class II Groundwater

Notes:

[a] Tier 1 Groundwater Remediation Objectives obtained from Tiered Approach to Corrective Action Objectives (TACO) 35 IAC 742 (Effective February 27, 2007).

[b] Remediation Objectives obtained from 35 IAC 742, Appendix B, Table E: Groundwater Remediation Objectives for the Groundwater Component of the Groundwater Ingestion Exposure Route.

[c] Remediation Objectives obtained from 35 IAC 742, Appendix B, Table H: Groundwater Remediation Objectives for the Indoor Inhalation Exposure Route.

[d] Only Constituents Detected above Laboratory Reporting Limits are shown.

Italics indicates Non-TACO Chemicals - Remediation Objectives as listed in the IEPA's summary table as prepared by the IEPA Toxicity Assessment Unit.

[1] PCBs are a mixture of different congeners. The appropriate values to use for the physical/chemical and toxicity parameters to calculate a site-specific GRO depend on the congeners present.

* Indicates pH values obtained from field measurements at time of sampling.

--- Not listed within 35 IAC 742, Appendix B, Table E and Table H - TACO Tier 1 Remediation Objectives.

NA - Not Analyzed.

"<" - Indicates the parameter was not detected above the laboratory reporting limit.

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Table 8
ProUCL Averaging Summary
12300 New Avenue
Lemont, Illinois

Geologic Unit	Sample IDs		Constituent - Concentration (mg/kg)			
			Arsenic	D/ND	Lead	D/ND
Fill Material	GP-2	7-9'	13.2	1	252	1
	GP-5	5-7'	15.8	1	1,720	1
	GP-6	8-10'	12.1	1	211	1
	GP-8	10-12'	14.2	1	385	1
	GP-9	7-9'	6.7	1	21.8	1
	GP-14	4-5'	17.6	1	27.3	1
	GP-16	0-2'	1.4	1	199	1
	SP-1	5-7'	2.5	1	43.9	1
	SP-2	0-2'	5.2	1	415	1
	SP-3	0-2'	15.1	1	884	1
	SP-4	7-9'	5.9	1	2,320	1
	SP-4	11-13'	<33.4	0	332	1
	SP-5	18-20'	5.1	1	37.7	1
	SP-6	2-4'	3.2	1	180	1
	SP-7	9-11'	7.6	1	26.9	1
	SP-9	4-6'	4.7	1	758	1
	SP-10	1-3'	7.9	1	561	1
	SP-11	2-4'	2.8	1	12.4	1
	SP-12	9-11'	6.5	1	774	1
	SP-13	1-3'	2.5	1	6.2	1
	SP-14	1-3'	4.7	1	34.8	1
	SP-15	6.5-8.5'	25.1	1	349	1
	SP-16	0-2'	10.7	1	29.8	1
	SP-17	0-2'	7.4	1	694	1
	SP-18	0-2'	7.7	1	1,160	1
	SP-19	1-3'	NA	NA	863	1
	SP-19	5.5-7.5'	9.1	1	301	1
	SP-20	1-3'	9.2	1	40.6	1
	SP-20	5.5-7.5'	14.3	1	1,770	1
	SP-21	1-3'	NA	NA	123	1
	SP-21	6-8'	4.5	1	28.4	1
	SP-22	1-3'	27.9	1	NA	NA
	SP-22	5-7'	NA	NA	58.3	1
	SP-23	1-3'	14.9	1	661	1
	SP-23	4-6'	7.7	1	3,140	1
	SP-24	1-3'	10.8	1	662	1
	SP-24	6-8'	3.2	1	58.8	1
	SP-25	1-3'	5.5	1	NA	NA
	SP-25	5-10'	NA	NA	3,290	1
	SP-26	8-10'	NA	NA	NA	NA
	SP-27	9-11'	4.3	1	43.1	1
	SP-28	9-11'	NA	NA	NA	NA
	SP-29	5.5-7.5'	NA	NA	NA	NA
	SP-30	3-5'	2.4	1	30.7	1
	SP-31	1.5-3.5'	2.3	1	13.9	1
	SP-32	3-5'	10.7	1	NA	1
	SP-33	1-3'	3.4	1	67.7	1
	SP-34	3-5'	22.6	1	NA	NA
	SP-35	2-4'	4.2	1	8.4	1
	SP-36	1-3'	1.6	1	5.7	1
	SP-37	2.5-4.5'	4.0	1	39.2	1
	SP-38	1.5-3.5'	8.6	1	43.4	1
	SP-39	3-5'	8.4	1	20.1	1
	SP-40	9-11'	2.8	1	10.4	1
	SP-41	3-5'	9.8	1	17.8	1
	SP-42	5-7'	3.9	1	186	1
	SP-43	4-6'	5.2	1	86.4	1
	SP-44	5-7'	2.6	1	12.3	1
	SP-45	3-5'	8.7	1	48.2	1
	SP-46	3-5'	4.1	1	15.1	1
UCL at 95% Confidence			9.866		787.5	
Tier 1 SRO for Soil Ingestion Exposure Route [1] / Below SRO			13	YES	800	YES
Background within MSAs [2] / Below Background			13	YES	36	NO

3.1	Concentration exceeds the Tier 1 SRO for the Soil Ingestion Exposure Route for Industrial/Commercial Properties
SP-1	Sample locations removed during "Hot Spot" remediation; therefore, results removed from averaging population

Notes:

[1] Tier 1 Soil Remediation Objectives obtained from Tiered Approach to Corrective Action Objectives (TACO) 35 IAC 742, Appendix B, Table B.

[2] TACO Concentrations of Chemicals in Background Soils used for concentrations of Inorganics in Background Soils within MSAs obtained from 35 IAC 742, Appendix A, Table G (units - mg/kg).

[3] Metropolitan Statistical Area (MSA) means a populated area that is located within various counties listed in Appendix A, Table G, footnote a; which includes Cook County.

NA - Not Analyzed

Table 9
R26 Calculations
12300 New Avenue
Lemont, Illinois

Sample ID	Parameter	Leaching Factor	Concentration of Constituent Observed in Soil	Concentration in Groundwater at Source of Contamination	Degradation Constant	Source Width	Source Depth	Hydraulic Conductivity	Hydraulic Gradient
		LF_{sw}	C_{soil}	C_{source}	λ	S_w	S_d	K	i
		Equation R14	Sample Concentration	Leaching Factor x Sample Result	Default Value [1]	Approximate Width Perpendicular to GW Flow (see **Figure 9B**)	Approximate Height Perpendicular to GW Flow	Site-Specific Value	Calculated Site-Specific
		(mg/L water) / (mg/kg soil)	mg/kg	mg/L	day^{-1}	cm	cm	cm/d	unitless
TW-9	Benzo(a)anthracene	--	--	1.10E-03	5.10E-04	1,829	200.00	2.00E+01	0.00780
TW-9	Benzo(b)fluoranthene	--	--	1.30E-03	5.70E-04	1,829	200.00	2.00E+01	0.00780
TW-5	Pentachlorophenol	--	--	7.00E-03	4.50E-04	1,219	200.00	2.00E+01	0.00780
MW-5	Dissolved Iron	--	--	8.40E+00	0.00E+00	1,219	200.00	2.00E+01	0.00780
TW-6	Dissolved Iron	--	--	1.12E+01	0.00E+00	1,219	200.00	2.00E+01	0.00780
TW-10	Dissolved Iron	--	--	6.90E+00	0.00E+00	1,219	200.00	2.00E+01	0.00780
TW-11	Dissolved Iron	--	--	4.08E+01	0.00E+00	1,219	200.00	2.00E+01	0.00780

Sample ID	Parameter	Dispersivity	Dispersivity	Dispersivity	Total Porosity	Specific Discharge	Distance to Downgradient Property Boundary	Class II Groundwater Remediation Objective	Dissolved Concentration along Centerline at X-Distance
		α_x	α_y	α_z	θ	U	X - Distance	Class II GRO	C_x
		Equation R16 (0.10 x Distance along the centerline of plume)	Equation R17 (αx / 3)	Equation R18 (αx / 20)	Appendic C, Table D (Default Value)	Equation R19 (K x i / θ)	Distance to Downgradient Property Boundary (see **Figure 9B**)	Section 742 Appendix B	Equation R26
		cm	cm	cm	unitless	cm/d	cm	mg/L	mg/L
TW-9	Benzo(a)anthracene	182.88	60.96	9.14	0.43	3.62E-01	1,829	6.50E-04	**9.03E-05**
TW-9	Benzo(b)fluoranthene	182.88	60.96	9.14	0.43	3.62E-01	1,829	9.00E-04	**8.66E-05**
TW-5	Pentachlorophenol	91.44	30.48	4.57	0.43	3.62E-01	914	5.00E-03	**2.40E-03**
MW-5	Dissolved Iron	1188.72	396.24	59.44	0.43	3.62E-01	11,887	5.00E+00	**1.77E-01**
TW-6	Dissolved Iron	45.72	15.24	2.29	0.43	3.62E-01	457	5.00E+00	**1.12E+01**
TW-10	Dissolved Iron	137.16	45.72	6.86	0.43	3.62E-01	1,372	5.00E+00	**5.40E+00**
TW-11	Dissolved Iron	1005.84	335.28	50.29	0.43	3.62E-01	10,058	5.00E+00	**1.19E+00**

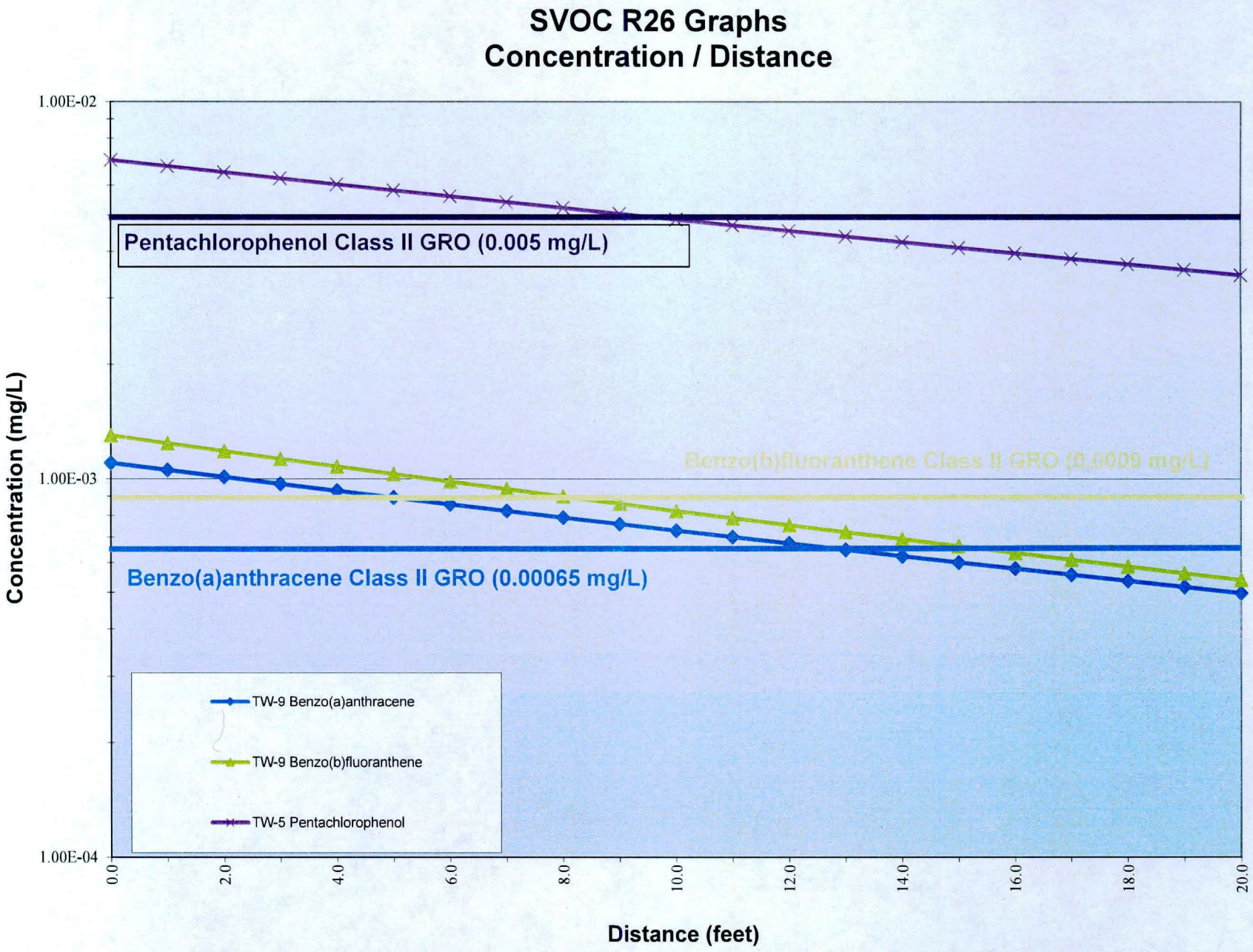
Variables

ρs	Soil Particle Density (Default Value for sand and gravel)	g soil/cm3 soil	1.9
θws	Volumetric Water Content in Vadose Zone Soils (Default for sand and gravel)	cm^3 water/cm^3 total volume	0.19
foc (SP-44)	Fraction of Organic Carbon in Soil (SP-44/5-7')	g Carbon/g soil	0.00918
foc (SP-46)	Fraction of Organic Carbon in Soil (SP-46/3-5')	g Carbon/g soil	0.0108
koc	Organic Carbon Partition Coefficient (Found in Appendix C, Table E)	cm^3 water/g Carbon	Chemical Specific
ks	Soil-Water Sorption Coefficient (Equation R20 - foc x koc)	cm^3 water/g soil	Calculated Above
H'	Henry's Constant (Found in Appendix C, Table E)	mg/L water/mg/L air	Chemical Specific
θas	Volumetric Air Content in Vadose Zone Soils (Default for sand and gravel)	cm^3 air/cm^3 total volume	0.095
K	Hydraulic Conductivity (Site-Specific Value)	cm/day	19.958
i	Hydraulic Gradient (Site-Specific Value)	unitless	0.00780
Ugw	Darcy Groundwater Velocity (K x i)	cm/year	5.682E+01
δgw	Groundwater Mixing Zone Thickness (Default Value)	cm	200
I	Infiltration Rate (Default Value)	cm/year	30

Equation R26

$$C_{(x)} = C_{source} \bullet \exp\left[\left(\frac{X}{2\alpha_x}\right)\bullet\left(1-\sqrt{1+\frac{4\lambda\bullet\alpha_x}{U}}\right)\right]\bullet erf\left[\frac{S_w}{4\bullet\sqrt{\alpha_y\bullet X}}\right]\bullet erf\left[\frac{S_d}{2\bullet\sqrt{\alpha_z\bullet X}}\right]$$

Notes:
RBCA Equations derived from 35 IAC 742 Appendix C, Table C.
[1] Default degredation constant unavailable; assumes degredation constant of 0 day^{-1}


SVOC R26 Graphs
Concentration / Distance
1.00E-02
1.00E-03
1.00E-04
Concentration (mg/L)
Pentachlorophenol Class II GRO (0.005 mg/L)
Benzo(b)fluoranthene Class II GRO (0.0009 mg/L)
Benzo(a)anthracene Class II GRO (0.00065 mg/L)
TW-9 Benzo(a)anthracene
TW-9 Benzo(b)fluoranthene
TW-5 Pentachlorophenol
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
16.0
18.0
20.0
Distance (feet)

Iron R26 Graph
Concentration / Distance

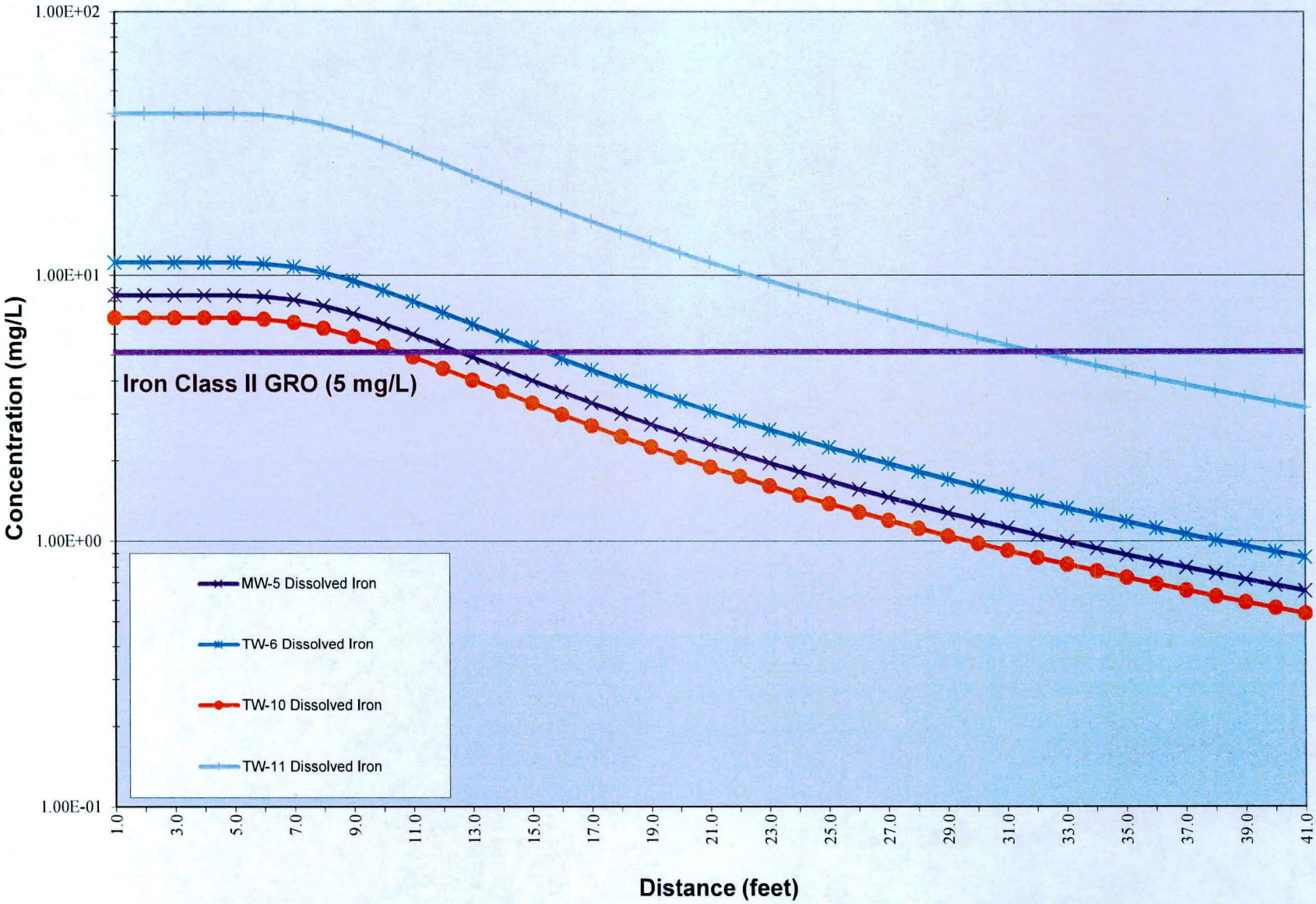


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Table 10
Summary of Nutritional-Based Comparison - Iron
12300 New Avenue
Lemont, Illinois

Monitoring Well ID	Applicable Dietary Threshold [a, b] (mg/kg-day)	Applicable Dietary Threshold [c] (mg/L)	Groundwater Concentration (mg/L)	Daily Ingestion Rate (L/day)	Total Ingestion per Day (mg/day) [e]
				Industrial/Commercial[d]	Industrial/Commercial
TW-6	0.7	49	11.2	1	0.0000112
TW-10	0.7	49	6.9	1	0.0000069

Notes:

[a] Oral Reference Dose (RfD) for iron as publishd in the IEPA's Toxicity Values Summary Table, updated November 2017.

[b] Oral Reference Dose (RfD) of 0.7 mg/kg-day, assuming a body weight of 70 kg (TACO default body weight for Industrial/Commercial use, noncarcinogen).

[c] Conversion of RfD values (mg/kg-day) to a concentration in water (mg/L) obtained from Health Effects Assessment Summary Tables prepared by USEPA Solid Waste and Emergency Response, July 1997 Update via USEPA National Service Center for Environmental Publications.

[d] Daily Water Ingestion Rate (IR_W) presented in 35 IAC Section 742, Table B: SSL Parameters.

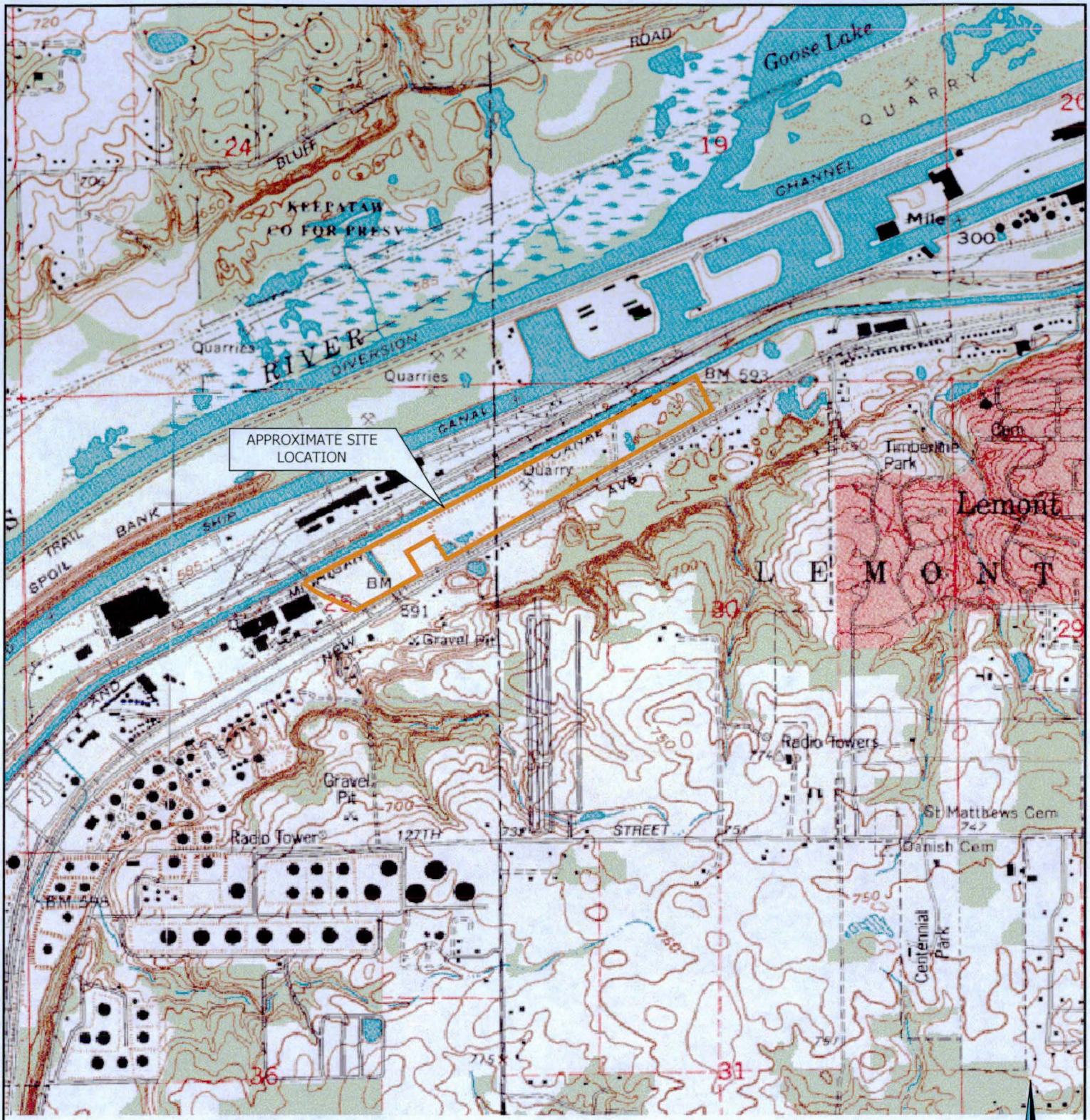
[e] Assuming the maximum detected concentration of dissovlved iron is ingested.

$$\text{Dietary Threshold (mg/L)} = \frac{\text{oral RfD (mg/kg-day) x Body Weight (kg)}}{\text{Daily Ingestion Rate (L/day)}}$$

$$\text{mg/L in water} = \frac{0.7 \text{ mg/kg-day} \times 70 \text{ kg}}{1 \text{ L/day}}$$

$$\text{mg/L in water} = 49$$

FIGURES



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SITE LOCATION MAP

12300 NEW AVENUE
LEMONT, IL

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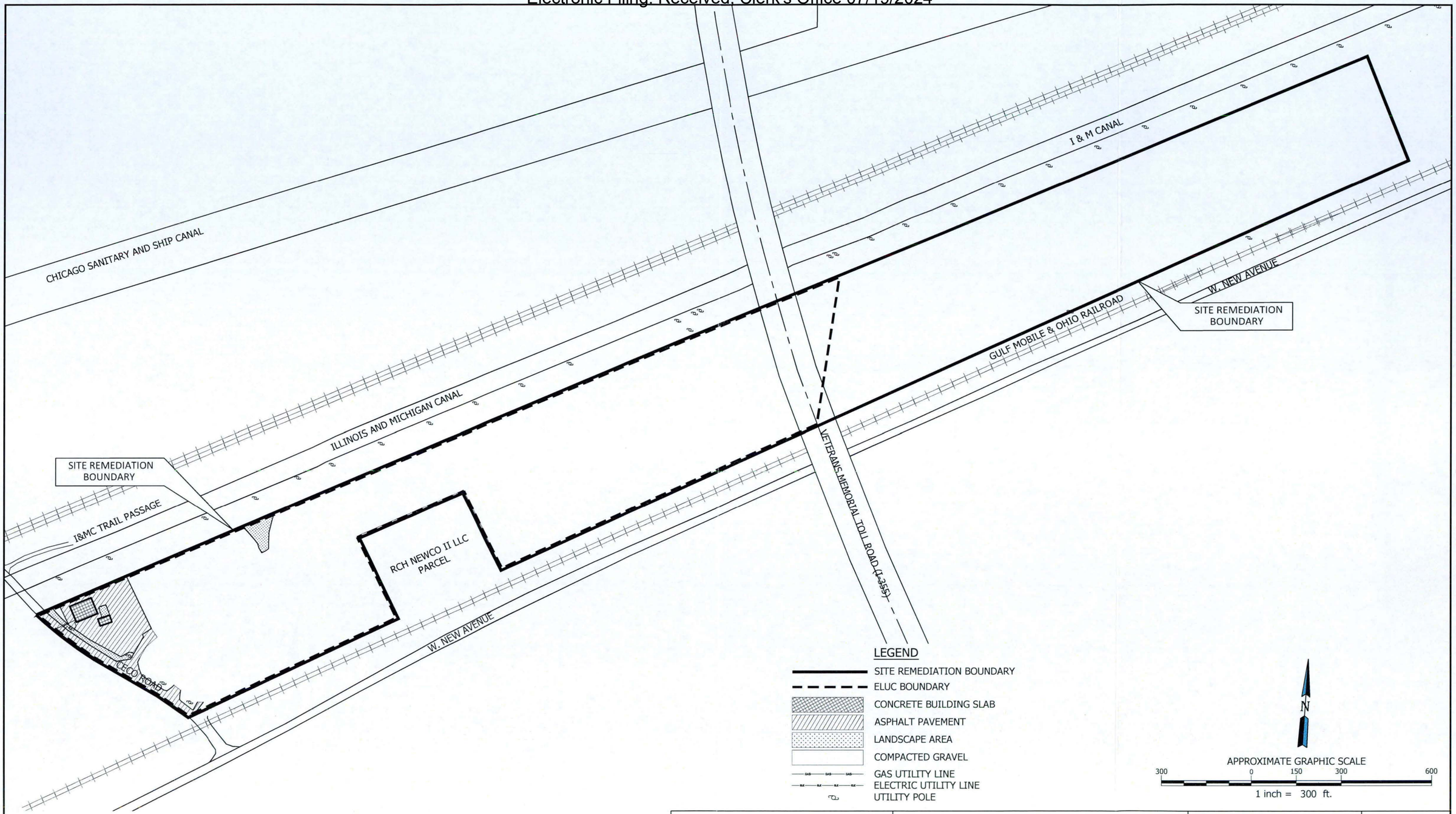
FIGURE 1



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SITE BASE MAP

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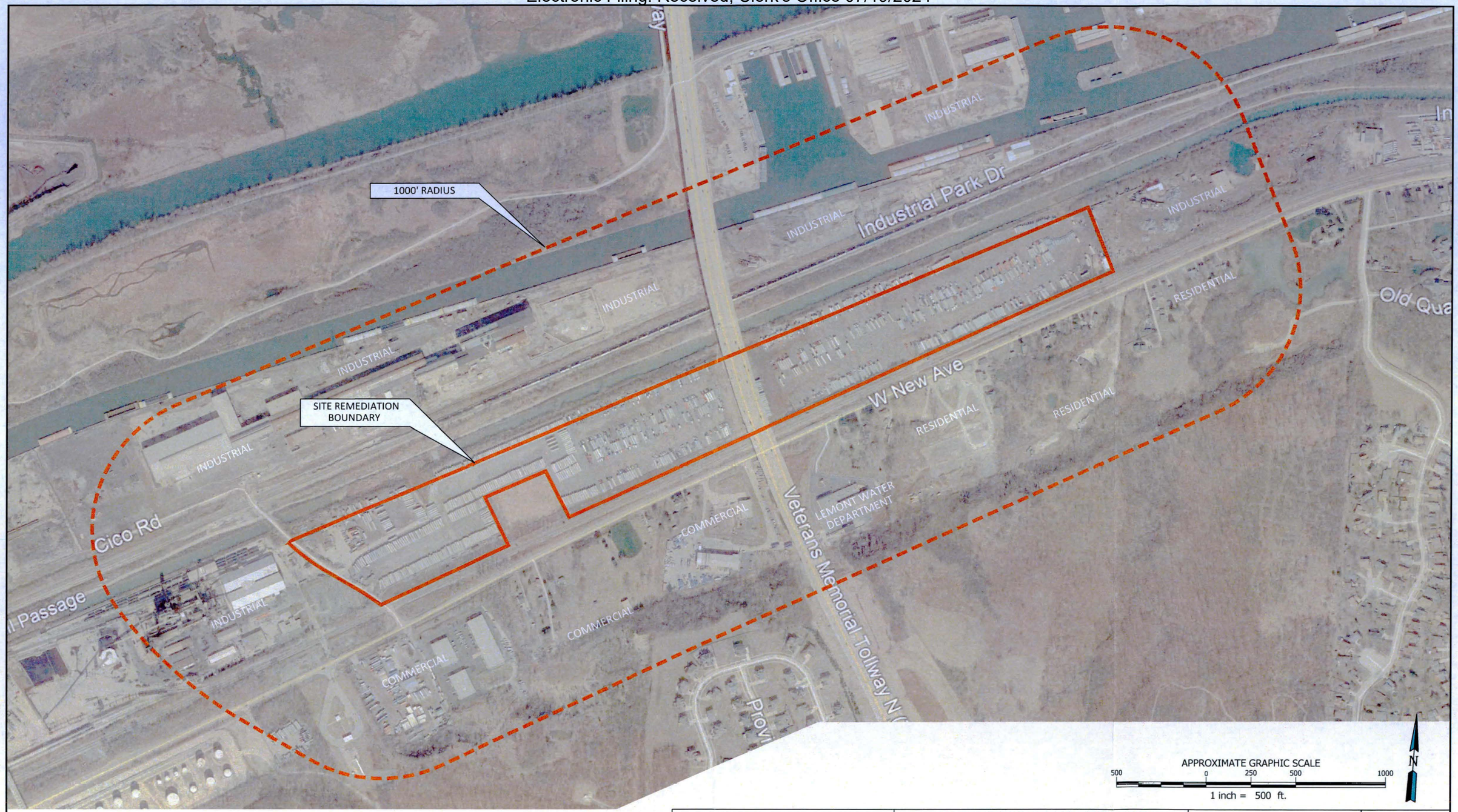
FIGURE 2



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SURROUNDING LAND USE MAP

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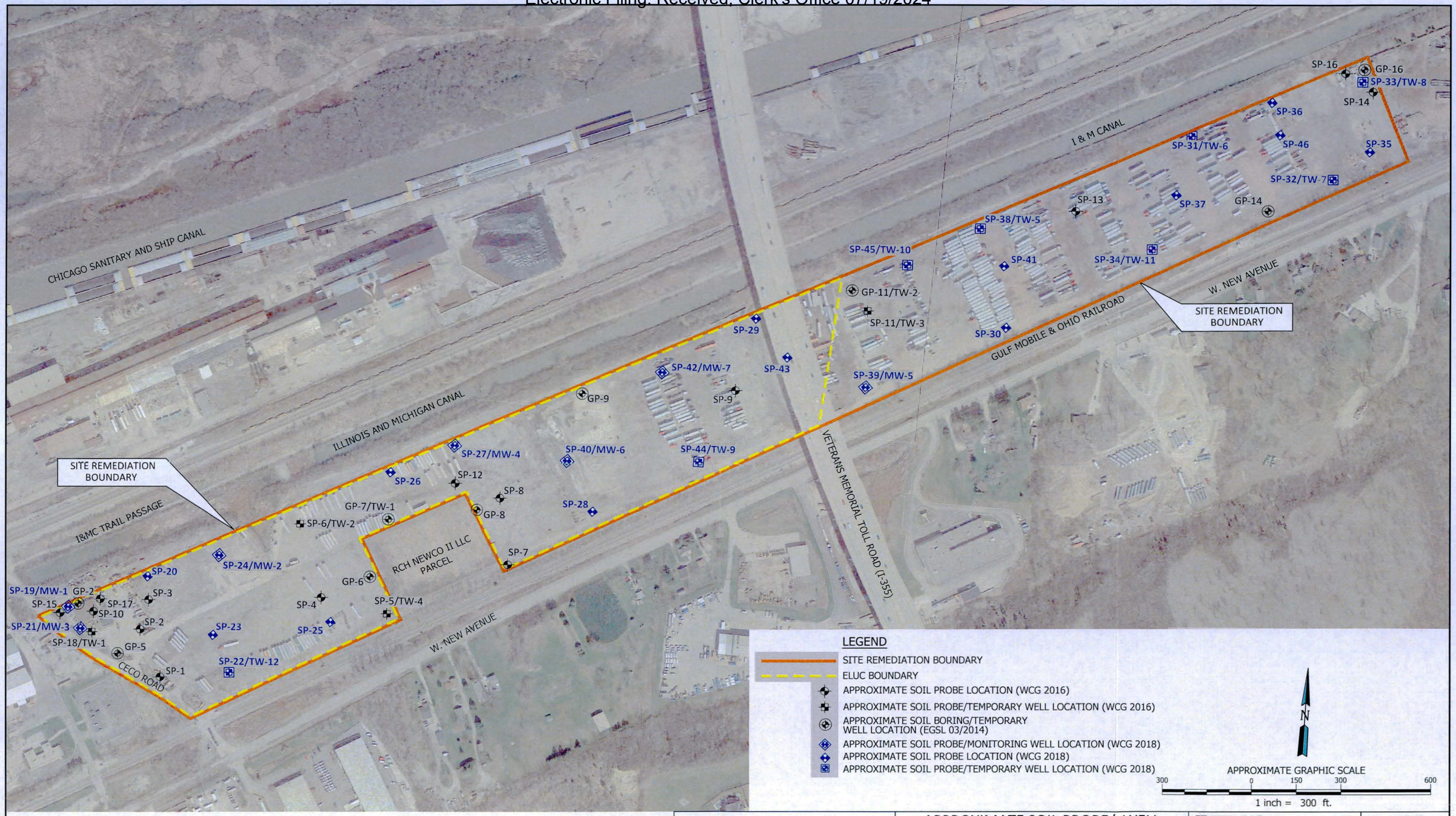
FIGURE 3



LEGEND

- SITE REMEDIATION BOUNDARY
- ELUC BOUNDARY
- APPROXIMATE SOIL PROBE LOCATION (WCG 2016)
- APPROXIMATE SOIL PROBE/TEMPORARY WELL LOCATION (WCG 2016)
- APPROXIMATE SOIL BORING/TEMPORARY WELL LOCATION (EGSL 03/2014)
- APPROXIMATE SOIL PROBE/MONITORING WELL LOCATION (WCG 2018)
- APPROXIMATE SOIL PROBE LOCATION (WCG 2018)
- APPROXIMATE SOIL PROBE/TEMPORARY WELL LOCATION (WCG 2018)

N

APPROXIMATE GRAPHIC SCALE

300 0 150 300 600

1 inch = 300 ft.

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APPROXIMATE SOIL PROBE/ WELL LOCATION MAP

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LEMONT, IL

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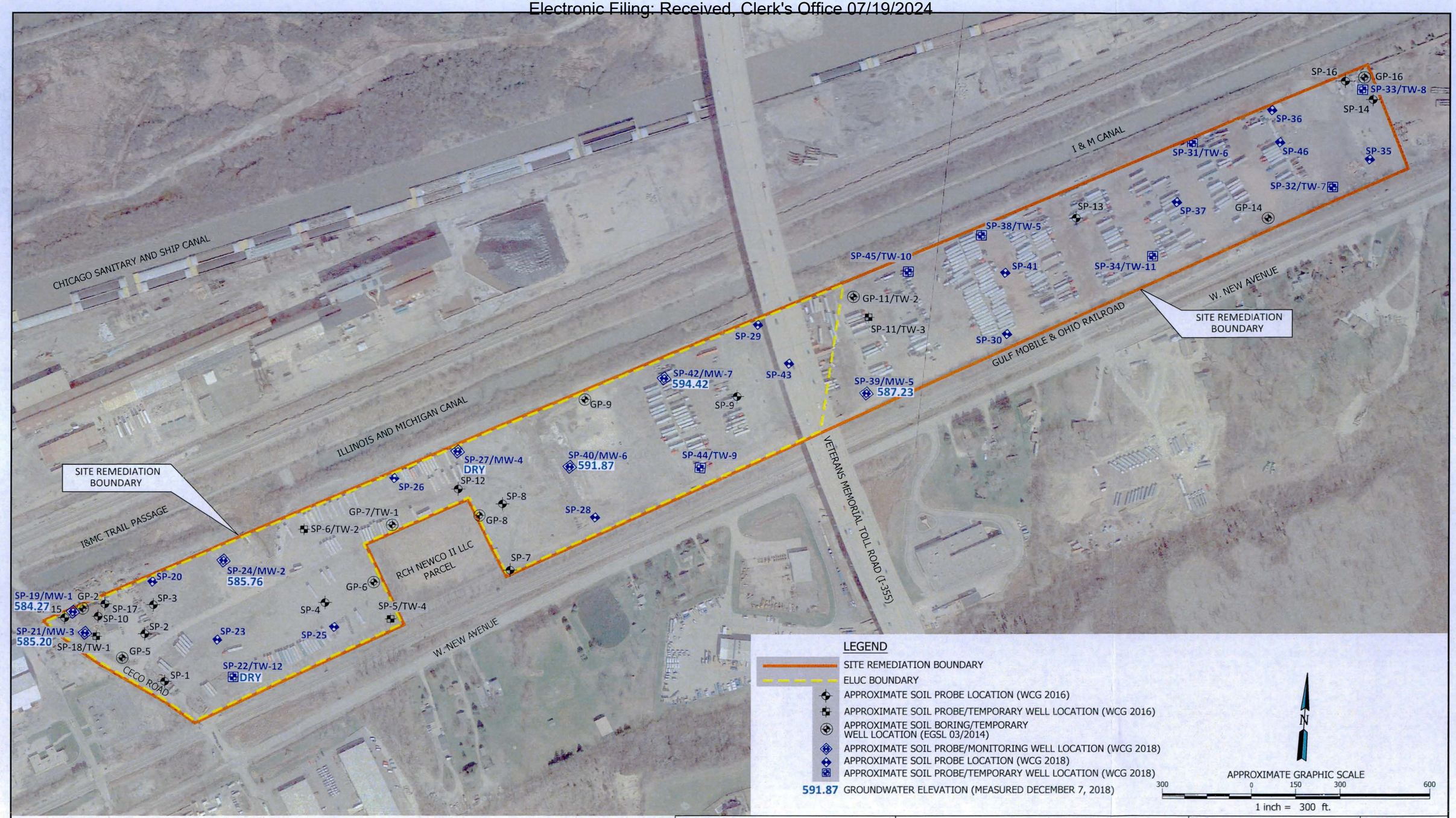
FIGURE 4



LEGEND

- SITE REMEDIATION BOUNDARY
- ELUC BOUNDARY
- APPROXIMATE SOIL PROBE LOCATION (WCG 2016)
- APPROXIMATE SOIL PROBE/TEMPORARY WELL LOCATION (WCG 2016)
- APPROXIMATE SOIL BORING/TEMPORARY WELL LOCATION (EGSL 03/2014)
- APPROXIMATE SOIL PROBE/MONITORING WELL LOCATION (WCG 2018)
- APPROXIMATE SOIL PROBE LOCATION (WCG 2018)
- APPROXIMATE SOIL PROBE/TEMPORARY WELL LOCATION (WCG 2018)
- 591.87 GROUNDWATER ELEVATION (MEASURED DECEMBER 7, 2018)

N

APPROXIMATE GRAPHIC SCALE

300 0 150 300 600

1 inch = 300 ft.

NOTE: MONITORING WELLS MW-2, MW-7, AND TW-7 DID NOT PRODUCE SUFFICIENT WATER FOR GROUNDWATER SAMPLE COLLECTION.

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GROUNDWATER ELEVATION MAP

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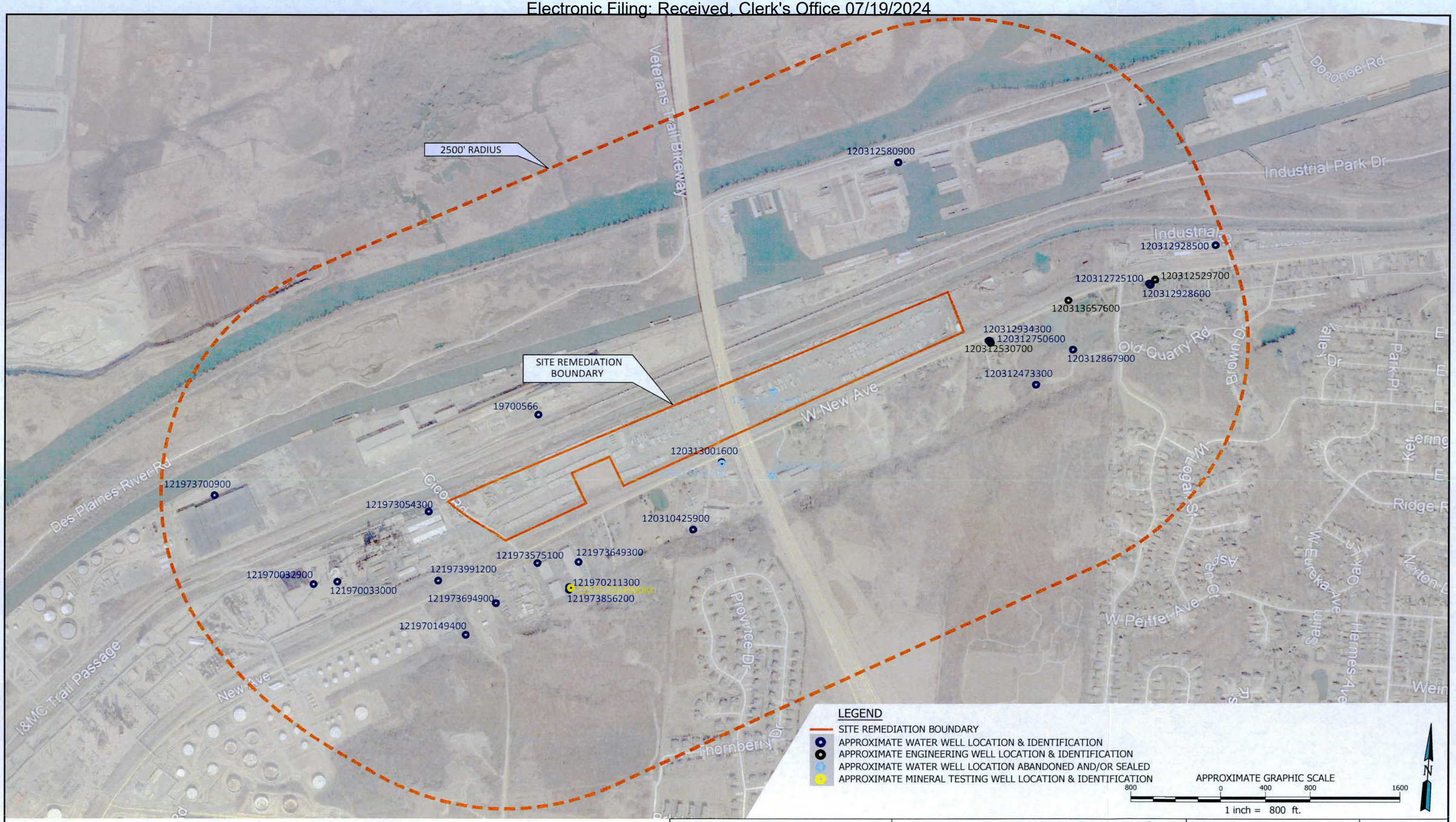
FIGURE 5



LEGEND

- SITE REMEDIATION BOUNDARY
- APPROXIMATE WATER WELL LOCATION & IDENTIFICATION
- APPROXIMATE ENGINEERING WELL LOCATION & IDENTIFICATION
- APPROXIMATE WATER WELL LOCATION ABANDONED AND/OR SEALED
- APPROXIMATE MINERAL TESTING WELL LOCATION & IDENTIFICATION

APPROXIMATE GRAPHIC SCALE

800 0 400 800 1600

1 inch = 800 ft.

N

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APPROXIMATE WELL LOCATION & IDENTIFICATION MAP

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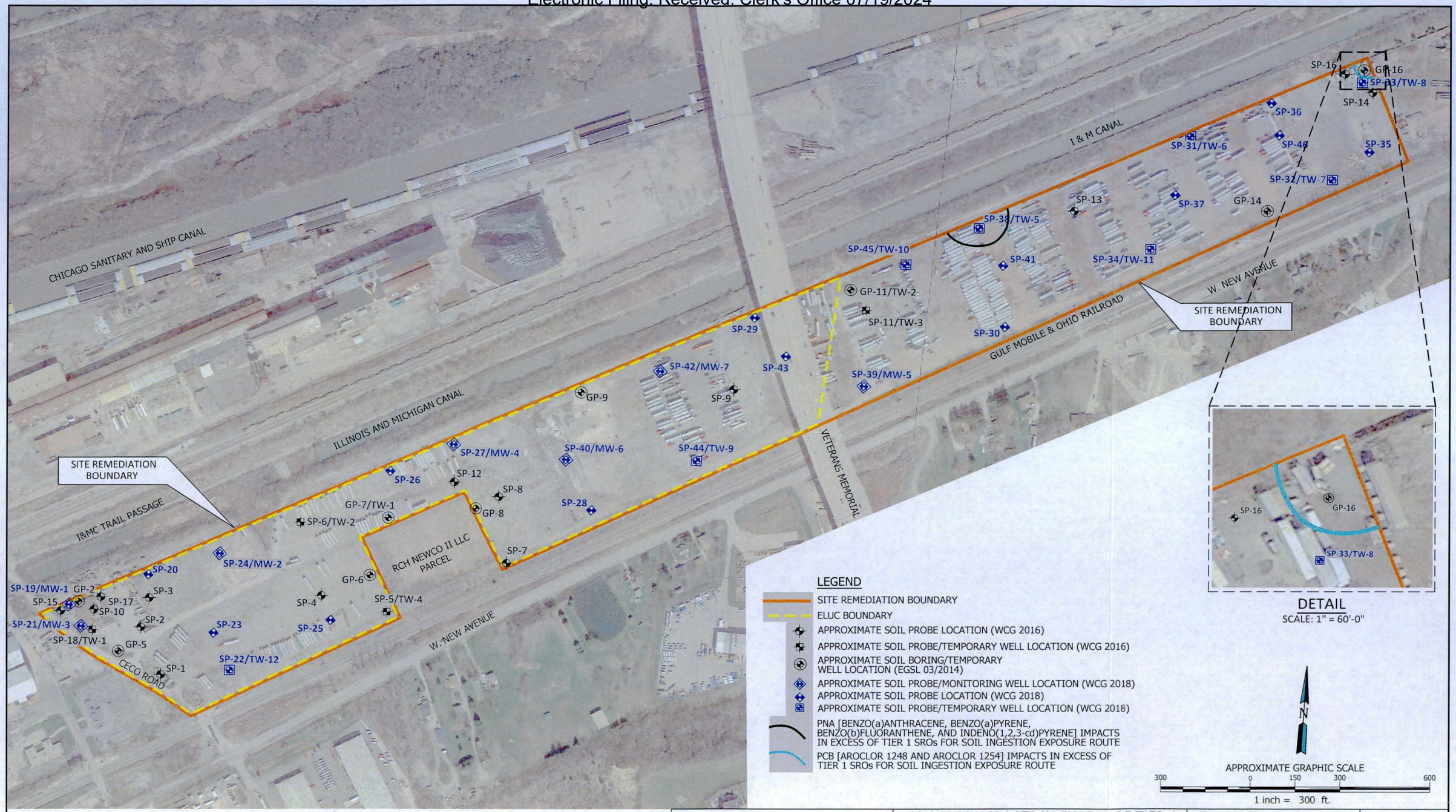
FIGURE 6



DETAIL
SCALE: 1" = 60'-0"

LEGEND

- SITE REMEDIATION BOUNDARY
- ELUC BOUNDARY
- APPROXIMATE SOIL PROBE LOCATION (WCG 2016)
- APPROXIMATE SOIL PROBE/TEMPORARY WELL LOCATION (WCG 2016)
- APPROXIMATE SOIL BORING/TEMPORARY WELL LOCATION (EGSL 03/2014)
- APPROXIMATE SOIL PROBE/MONITORING WELL LOCATION (WCG 2018)
- APPROXIMATE SOIL PROBE LOCATION (WCG 2018)
- APPROXIMATE SOIL PROBE/TEMPORARY WELL LOCATION (WCG 2018)
- PNA [BENZO(a)ANTHRACENE, BENZO(a)PYRENE, BENZO(b)FLUORANTHENE, AND INDENO(1,2,3-cd)PYRENE] IMPACTS IN EXCESS OF TIER 1 SROs FOR SOIL INGESTION EXPOSURE ROUTE
- PCB [AROCLOR 1248 AND AROCLOR 1254] IMPACTS IN EXCESS OF TIER 1 SROs FOR SOIL INGESTION EXPOSURE ROUTE

N

APPROXIMATE GRAPHIC SCALE

300 0 150 300 600

1 inch = 300 ft.

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ORGANIC IMPACTS IN EXCESS OF TIER 1 SROs FOR SOIL INGESTION

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LEMONT, IL

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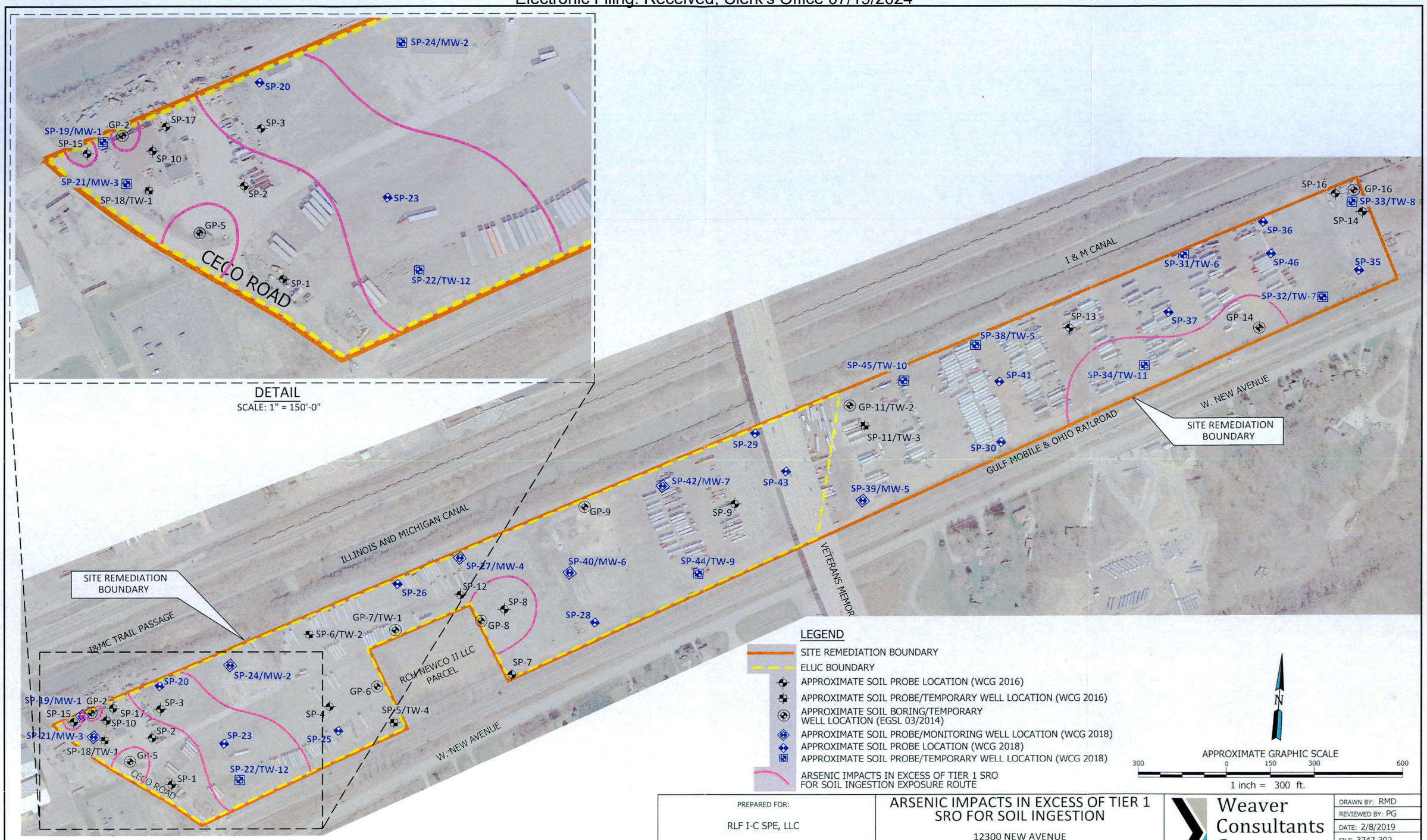
FIGURE 7A



DETAIL
SCALE: 1" = 150'-0"

LEGEND

- SITE REMEDIATION BOUNDARY
- ELUC BOUNDARY
- APPROXIMATE SOIL PROBE LOCATION (WCG 2016)
- APPROXIMATE SOIL PROBE/TEMPORARY WELL LOCATION (WCG 2016)
- APPROXIMATE SOIL BORING/TEMPORARY WELL LOCATION (EGSL 03/2014)
- APPROXIMATE SOIL PROBE/MONITORING WELL LOCATION (WCG 2018)
- APPROXIMATE SOIL PROBE LOCATION (WCG 2018)
- APPROXIMATE SOIL PROBE/TEMPORARY WELL LOCATION (WCG 2018)
- ARSENIC IMPACTS IN EXCESS OF TIER 1 SRO FOR SOIL INGESTION EXPOSURE ROUTE

N

APPROXIMATE GRAPHIC SCALE
300 0 150 300 600
1 inch = 300 ft.

PREPARED FOR:
RLF I-C SPE, LLC

ARSENIC IMPACTS IN EXCESS OF TIER 1 SRO FOR SOIL INGESTION

12300 NEW AVENUE
LEMONT, IL

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REVIEWED BY:	PG
DATE:	2/8/2019
FILE:	3747-302
CAD:	workplan.dwg

FIGURE 7B

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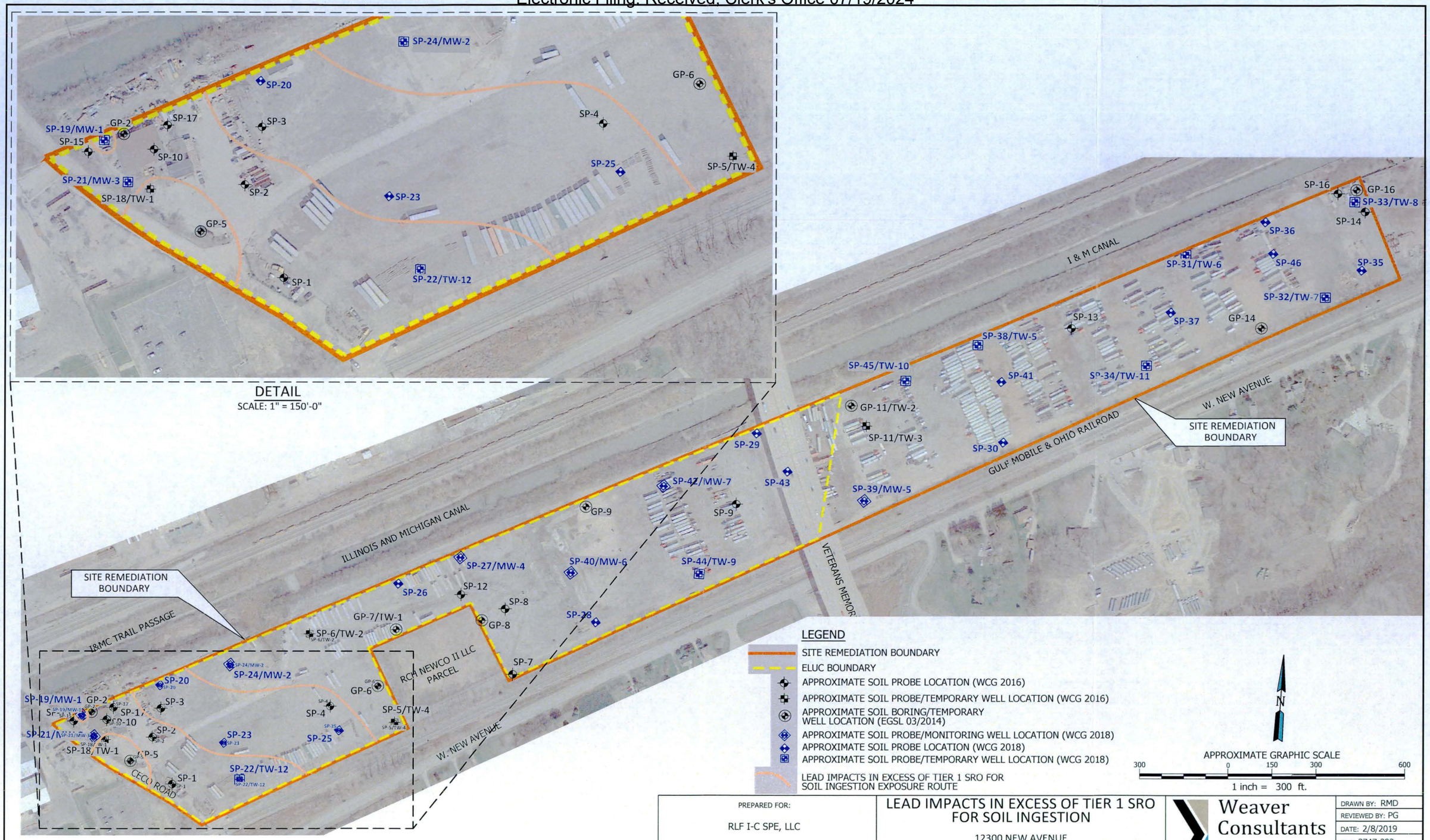

LEGEND

- SITE REMEDIATION BOUNDARY
- ELUC BOUNDARY
- APPROXIMATE SOIL PROBE LOCATION (WCG 2016)
- APPROXIMATE SOIL PROBE/TEMPORARY WELL LOCATION (WCG 2016)
- APPROXIMATE SOIL BORING/TEMPORARY WELL LOCATION (EGSL 03/2014)
- APPROXIMATE SOIL PROBE/MONITORING WELL LOCATION (WCG 2018)
- APPROXIMATE SOIL PROBE LOCATION (WCG 2018)
- APPROXIMATE SOIL PROBE/TEMPORARY WELL LOCATION (WCG 2018)
- LEAD IMPACTS IN EXCESS OF TIER 1 SRO FOR SOIL INGESTION EXPOSURE ROUTE

N

APPROXIMATE GRAPHIC SCALE

300 0 150 300 600

1 inch = 300 ft.

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LEAD IMPACTS IN EXCESS OF TIER 1 SRO FOR SOIL INGESTION

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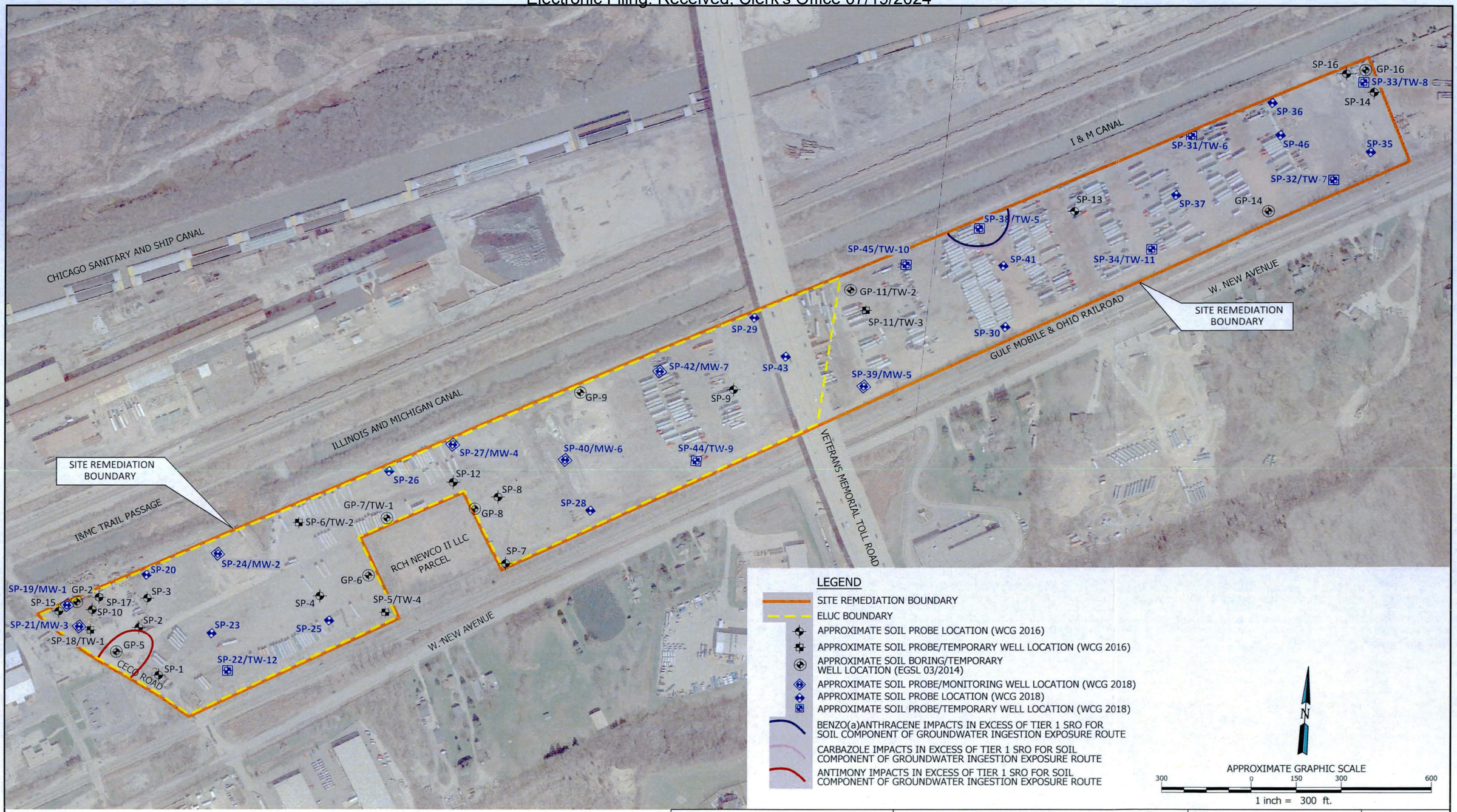
FIGURE 7C



LEGEND

- SITE REMEDIATION BOUNDARY
- ELUC BOUNDARY
- APPROXIMATE SOIL PROBE LOCATION (WCG 2016)
- APPROXIMATE SOIL PROBE/TEMPORARY WELL LOCATION (WCG 2016)
- APPROXIMATE SOIL BORING/TEMPORARY WELL LOCATION (EGSL 03/2014)
- APPROXIMATE SOIL PROBE/MONITORING WELL LOCATION (WCG 2018)
- APPROXIMATE SOIL PROBE LOCATION (WCG 2018)
- APPROXIMATE SOIL PROBE/TEMPORARY WELL LOCATION (WCG 2018)
- BENZO(a)ANTHRACENE IMPACTS IN EXCESS OF TIER 1 SRO FOR SOIL COMPONENT OF GROUNDWATER INGESTION EXPOSURE ROUTE
- CARBAZOLE IMPACTS IN EXCESS OF TIER 1 SRO FOR SOIL COMPONENT OF GROUNDWATER INGESTION EXPOSURE ROUTE
- ANTIMONY IMPACTS IN EXCESS OF TIER 1 SRO FOR SOIL COMPONENT OF GROUNDWATER INGESTION EXPOSURE ROUTE

N

APPROXIMATE GRAPHIC SCALE

300 0 150 300 600

1 inch = 300 ft.

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IMPACTS IN EXCESS OF TIER 1 SROs FOR SOIL COMPONENT

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LEMONT, IL

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FIGURE 8

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ORGANIC IMPACTS IN EXCESS OF TIER 1 GROs FOR GROUNDWATER INGESTION

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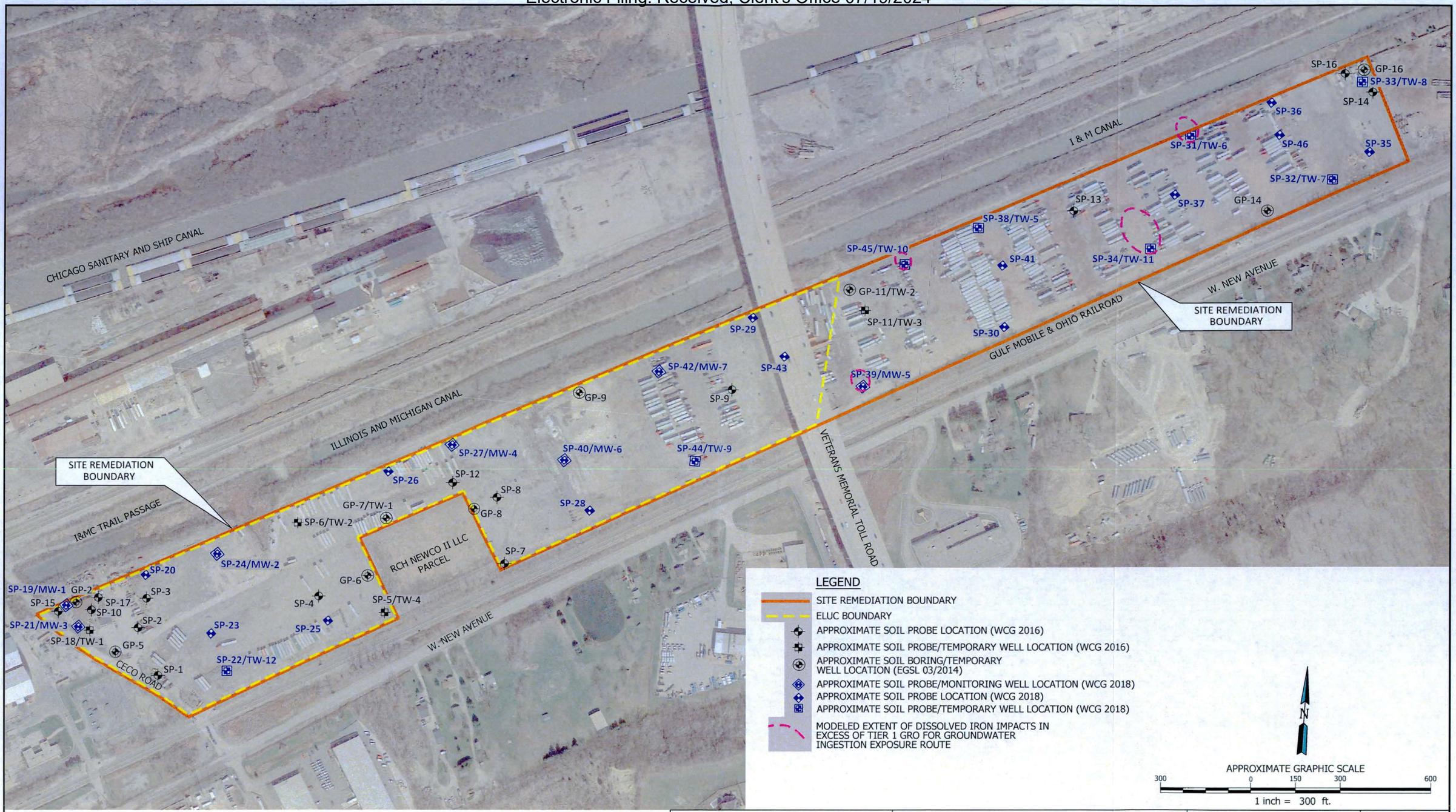
FIGURE 9A



LEGEND

- SITE REMEDIATION BOUNDARY
- ELUC BOUNDARY
- APPROXIMATE SOIL PROBE LOCATION (WCG 2016)
- APPROXIMATE SOIL PROBE/TEMPORARY WELL LOCATION (WCG 2016)
- APPROXIMATE SOIL BORING/TEMPORARY WELL LOCATION (EGSL 03/2014)
- APPROXIMATE SOIL PROBE/MONITORING WELL LOCATION (WCG 2018)
- APPROXIMATE SOIL PROBE LOCATION (WCG 2018)
- APPROXIMATE SOIL PROBE/TEMPORARY WELL LOCATION (WCG 2018)
- MODELED EXTENT OF DISSOLVED IRON IMPACTS IN EXCESS OF TIER 1 GRO FOR GROUNDWATER INGESTION EXPOSURE ROUTE

N

APPROXIMATE GRAPHIC SCALE

300 0 150 300 600

1 inch = 300 ft.

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IRON IMPACTS IN EXCESS OF TIER 1 GRO FOR GROUNDWATER INGESTION

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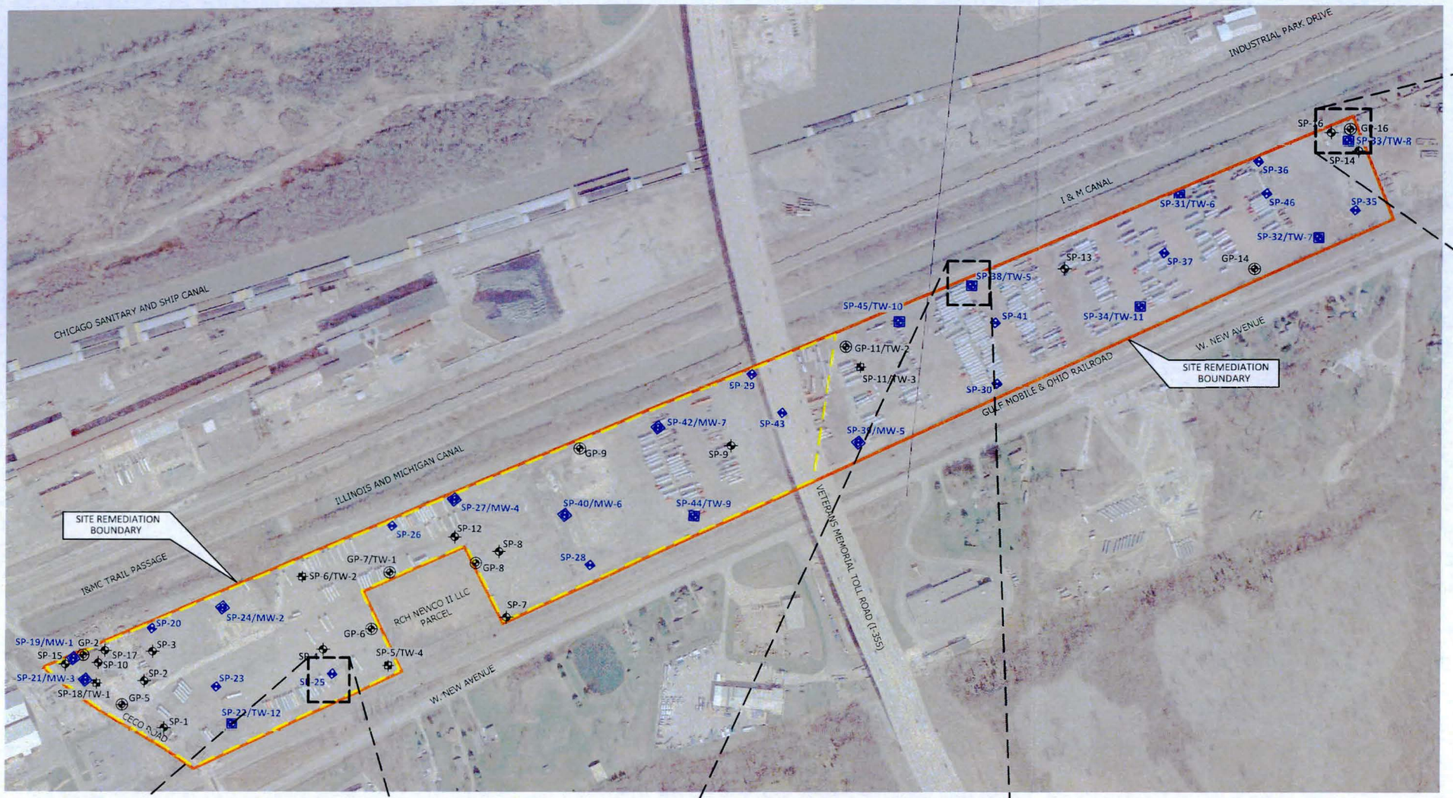
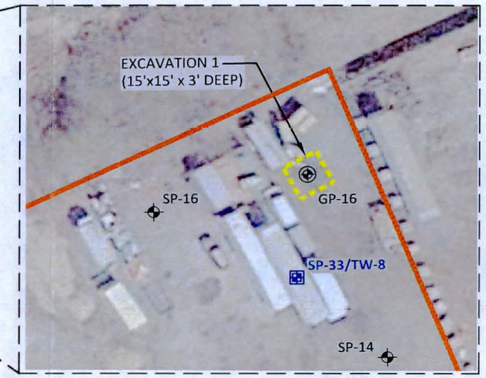
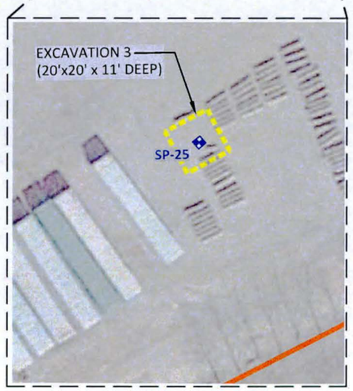
FILE:	3747-302
CAD:	workplan.dwg

FIGURE 9B

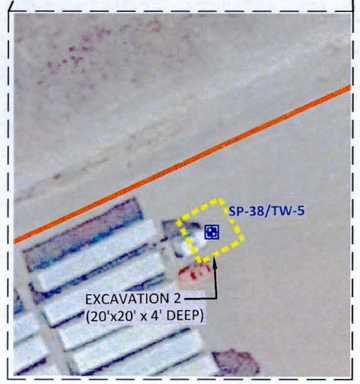




EXCAVATION 1 DETAIL
SCALE: 1" = 60'-0"



EXCAVATION 3 DETAIL
SCALE: 1" = 60'-0"



EXCAVATION 2 DETAIL
SCALE: 1" = 60'-0"

LEGEND

- SITE REMEDIATION BOUNDARY
- ELUC BOUNDARY
- APPROXIMATE SOIL PROBE LOCATION (WCG 2016)
- APPROXIMATE SOIL PROBE/TEMPORARY WELL LOCATION (WCG 2016)
- APPROXIMATE SOIL BORING/TEMPORARY WELL LOCATION (EGSL 03/2014)
- APPROXIMATE SOIL PROBE/MONITORING WELL LOCATION (WCG 2018)
- APPROXIMATE SOIL PROBE LOCATION (WCG 2018)
- APPROXIMATE SOIL PROBE/TEMPORARY WELL LOCATION (WCG 2018)
- PROPOSED HOT SPOT REMOVAL LOCATION

N

APPROXIMATE GRAPHIC SCALE

500 0 250 500 1000

1 inch = 500 ft.

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PREPARED FOR:

RLF I-C SPE, LLC

PROPOSED HOT SPOT REMOVAL LOCATION MAP

12300 NEW AVENUE
LEMONT, IL

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FIGURE 10

EXHIBIT J

03/03/2009 3:34AM L 170000174683 1978030005 CECO CORP 01 07/10/2000 688,853 L010966 L16-01293
B:50830 F:50497 I:00000018 EPA4247 11/20/2006 EPA4561 03/03/2009
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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

BUREAU OF LAND / FIELD OPERATIONS SECTION

RCRA INSPECTION REPORT

GENERAL FACILITY INFORMATION

USEPA ID #: IL0990785453 IEPA ID #: 1978030005

Facility Name: CECO CORP Phone #: 312 715 5765

Location: STEPHEN ST & W. CECO RD County: WILL

City: LEMONT State: IL Zip Code: 60439

Region: 2 Inspection Date: 7-10-00 Time: 1215-1245 PM

Weather: 80°F

TYPE OF FACILITY

Notified As: 6.5 Regulated As: D

TYPE OF INSPECTION

CEI: ✓ CME/O&M: CSI: NRR: CCI: PIF: CVI: CSE: CAO:

FUI to: Other:

NOTIFICATION INFORMATION (EPA 8700-12)

Notification Date: 8-18-80 (initial) (subsequent)

PART A PERMIT INFORMATION (EPA 3510-3 OR EPA 8700-23)

Part A Date: 11-19-80 Amended: Withdrawn:

PART B PERMIT INFORMATION

(check one if applicable) Application Submitted? Permit Issued? Date:

ACTIVE ENFORCEMENT

Date facility was referred to: USEPA: IAGO: County State's Attorney:

ACTIVE ENFORCEMENT ORDERS

CACO: 7-15-86 CAFO: Federal Court Order:

Consent Decree: IPCB Order: 12-20-90 State Court Order: 9-17-91

RELEASABLE

OCT 12 2000

REVIEWER MM

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TSD FACILITY ACTIVITY SUMMARY

Activity by Process Code	On Part A?	On Part B?	Activity ever done?	Closed?	Being done during inspt	Exempt per 35 IAC Sec:	On Annual Report:		
D80	N	NA	Y	N	N	N			

OWNER		OPERATOR	
Name:	ROBERTSON CECO CORP	Name:	CECO CORP
Address:	5010 EXECUTIVE PKWY STE 425	Address:	STEPHEN ST & W CECORD
City:	SAN RAMON	City:	LEMONT
State:	CA Zip Code: 94583	State:	IL Zip Code: 60439
Phone #:		Phone #:	312 715 5700

PERSON(S) INTERVIEWED	TITLE	PHONE #
NA		

INSPECTION PARTICIPANTS	AGENCY/BUREAU	PHONE #
JAMES HAGNICKI	IEPA / BOL	7089387900
GINO BRUNI		

*Report prepared by this person.

Electronic Filing: Received, Clerk's Office 07/19/2024

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

BUREAU OF LAND / FIELD OPERATIONS SECTION

RCRA INSPECTION REPORT

GENERAL FACILITY INFORMATION

USEPA ID #: ILD990785453		IEPA ID #: 1978030005	
Facility Name: CECO CORP		Phone #: 312 715 5765	
Location: STEPHEN ST & W. CECO RD		County: WILL	
City: LEMONT	State: IL	Zip Code: 60439	
Region: 2	Inspection Date: 7-10-00	Time: 1215-1245 PM	
Weather: 80°F			

TYPE OF FACILITY

Notified As: 6, 5	Regulated As: D

TYPE OF INSPECTION

CEI:	CME/O&M: ✓	CSI:	NRR:	CCI:	PIF:	CVI:	CSE:	CAO:
FUI to:	Other:							

NOTIFICATION INFORMATION (EPA 8700-12)

Notification Date: 8-18-80	(initial)	(subsequent)

PART A PERMIT INFORMATION (EPA 3510-3 OR EPA 8700-23)

Part A Date: 11-19-80	Amended:	Withdrawn:

PART B PERMIT INFORMATION

(check one if applicable)	Application Submitted?	Permit Issued?	Date:

ACTIVE ENFORCEMENT

Date facility was referred to:	USEPA:	IAGO:	County State's Attorney:

ACTIVE ENFORCEMENT ORDERS

CACO: 7-15-86	CAFO:	Federal Court Order:
Consent Decree:	IPCB Order: 12-20-90	State Court Order: 9-17-91

Electronic Filing: Received, Clerk's Office 07/19/2024

TSD FACILITY ACTIVITY SUMMARY

Activity by Process Code	On Part A?	On Part B?	Activity ever done?	Closed?	Being done during insp?	Exempt per 35 IAC Sec:	On Annual Report:		
D80	N	NA	Y	N	N	N			

OWNER		OPERATOR	
Name:	ROBERTSON CECO CORP	Name:	CECO CORP
Address:	5600 EXECUTIVE PKWY STE 425	Address:	STEPHEN ST & W CECORD
City:	SAN RAMON	City:	LEMONT
State:	CA Zip Code: 94583-4315	State:	IL Zip Code: 60439
Phone #:		Phone #:	312 715 5700

PERSON(S) INTERVIEWED	TITLE	PHONE #
MA		

INSPECTION PARTICIPANTS	AGENCY/BUREAU	PHONE #
JAMES HAENNICKE	IEPA/BOL	7085387900
GINO BRUNI		

*Report prepared by this person.

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Ceco Corporation
1978030005 - Will
July 10, 2000

NARRATIVE
Prepared by James Haennicke

On July 10, 2000, a compliance evaluation inspection was conducted at Ceco Corporation (Ceco) in Lemont. No one representing Ceco was present during the inspection.

This property encompasses approximately 25 acres. The facility is undergoing corrective action and RCRA closure concurrently. The Agency's Permit Section is overseeing the post closure permit requirements for the two-acre hazardous waste disposal unit.

A chain with a padlock now limits access to the western portion of the site. The eastern portion of the site is blocked to vehicular traffic. The gate to the fenced disposal unit is padlocked.

Construction and demolition debris observed open dumped during the July 8, 1999 inspection has been recycled and/or removed from the site by Delcumbray, Inc., road builder and leasee of the property. No telephone number was found for Delcumbray, Inc. nor could Ceco representative Clifton Lake be reached for further information.

VIOLATIONS RESOLVED

21(a)- Cause or allow open dumping

NARRATIVE
Prepared by Gino Bruni

On July 10, 2000, a CME inspection was conducted at Ceco Corporation (Ceco) in Lemont.

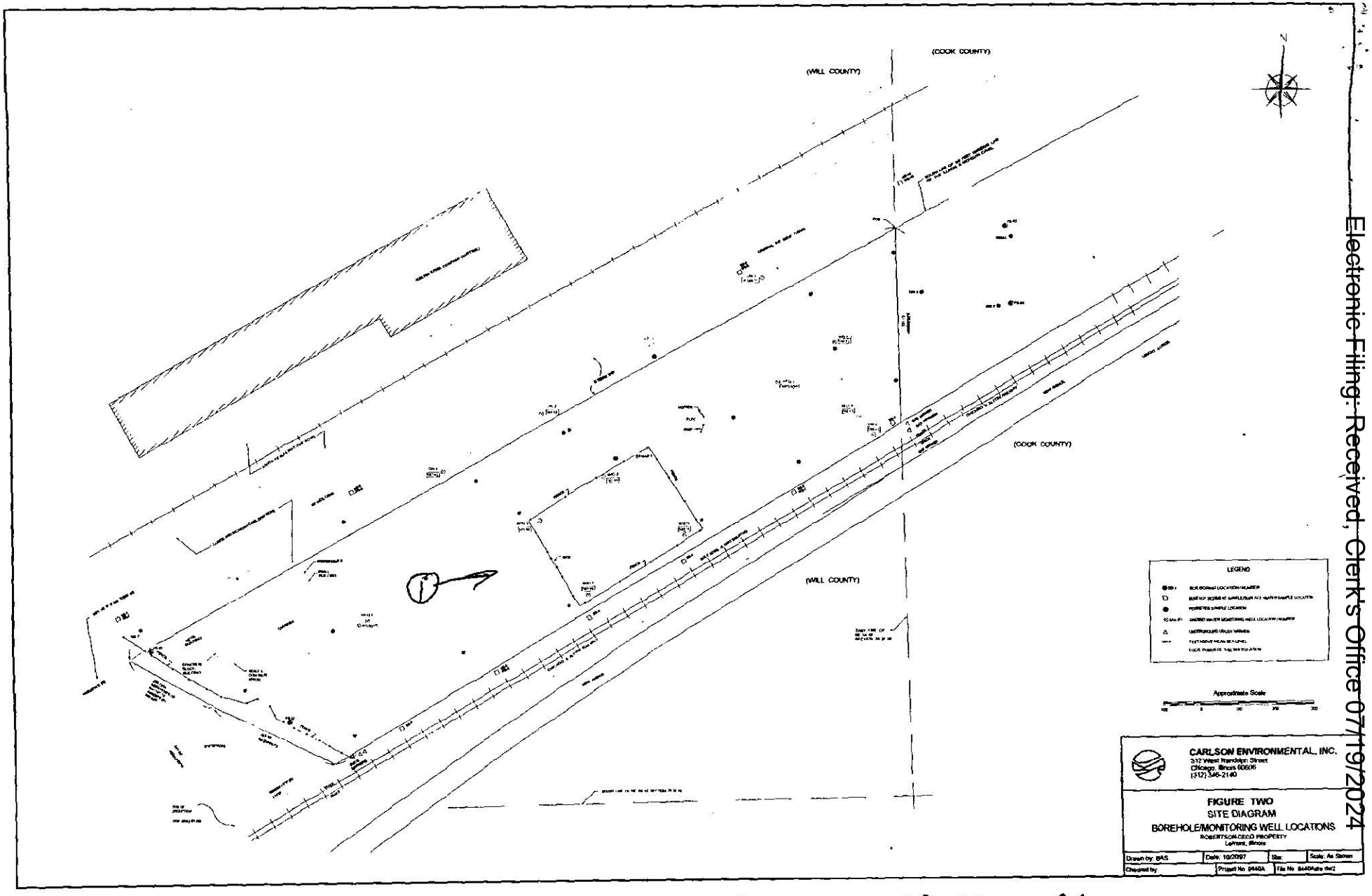
The facility is presently undergoing RCRA closure of a former hazardous waste pile (on-site RCRA landfill). The Illinois EPA Closure Approval letter is dated June 24, 1998.

Five groundwater monitoring wells are present around the RCRA unit and are sampled on a semi-annual basis. Carlson Environmental (consultant representing Ceco) has concluded that the shallow groundwater at the site has not been significantly impacted by di-(2-ethylhexyl) phthalate and that no additional investigation is warranted. Based on a February 1, 1999 memo from BOL/Permits, "The August 27, 1998 Letter from Carlson Environmental on behalf of Robertson Ceco should be approved with respect to groundwater."

Semi-annual groundwater results were not reviewed as part of the CME inspection.

As of July 12, 2000 the Illinois EPA has not requested the subject facility to submit a Part B application for the hazardous waste pile which was closed as a landfill.

No violations were observed.



CECO CORPORATION
1978030005- WILL
7-10-00

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LPC #1978030005 – Will County
Lemont/Ceco Corporation
FOS File

DIGITAL PHOTOGRAPH PHOTOCOPIES

DATE: July 10, 2000
TIME: 12:15- 12:45 pm
DIRECTION: East
PHOTO by: James Haennicke
PHOTO FILE NAME:
1978030005~07102000-001

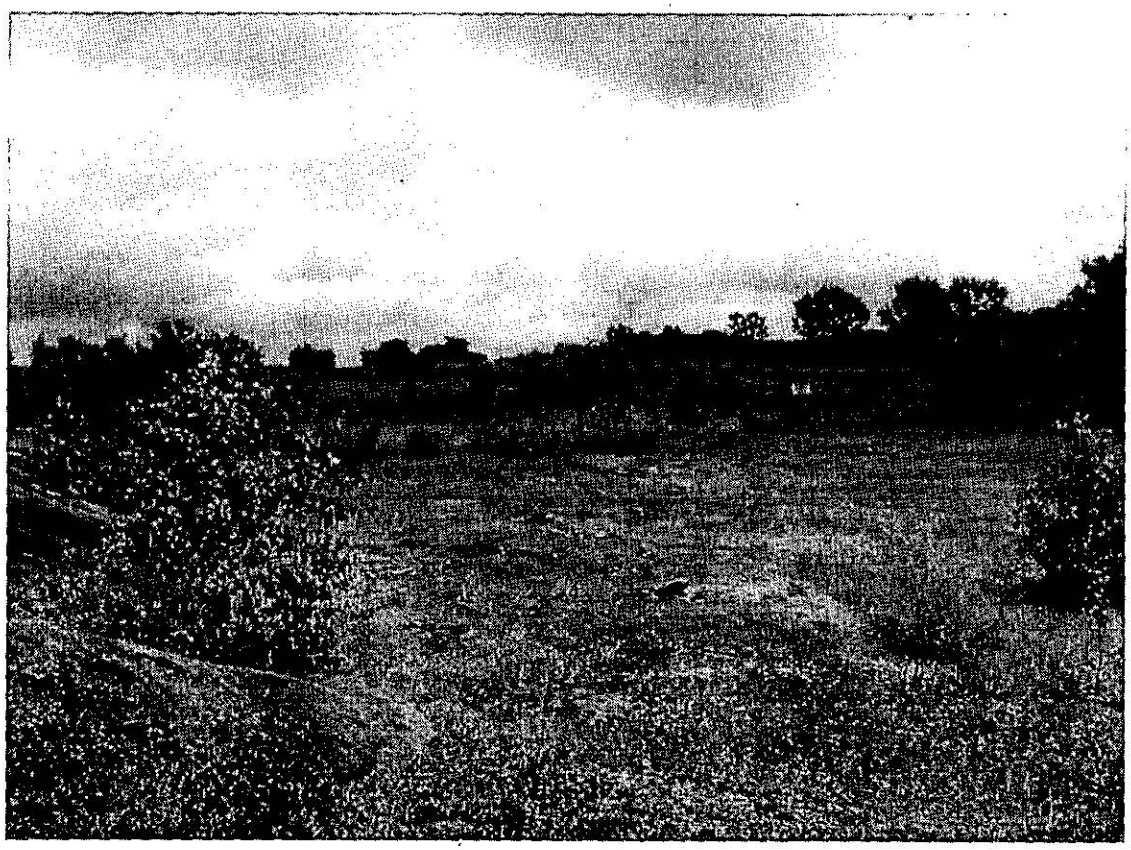

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EXHIBIT K

Electronic Filing: Received, Clerk's Office 07/19/2024

CARLSON ENVIRONMENTAL, INC.

January 31, 2000 PN1197a

Attention: Ms. Joyce L. Munie, P.E.
Manager, Permit Section
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Re: 1978030005 -- Will County
Robertson-Ceco Corporation
ILD990785453
Log No. C-68-M-8
RCRA Closure

Dear Ms. Munie:

On behalf of Robertson-Ceco Corporation (RCC), please find enclosed the following information requested in the December 20, 1999 letter (Log No. C-68-M-8).

ATTACHMENT A	Proposed institutional control (deed restriction limiting land use to industrial / commercial).
ATTACHMENT B	Hazardous Waste Permit Application Part A
ATTACHMENT C	LPC-PA18 Form

Log No. C-68-M-8 (5) letter states that *"Due to the fact that there has been some changes on ownership at this facility, a revised RCRA Part A application must be completed, in total, and submitted to Illinois EPA.'* RCC notes that ownership of the property has not changed since the initial Part A permit was submitted; however, a revised permit is included as Attachment B.

Also note, the instructions on the application state that the facility drawing must be on an 8-1/2 by 11 inch sheet; however, in order to meet the above requirements of 1 inch equal to 200' in (5), a larger drawing size has also been provided.

65 East Wacker Place · Suite 1500 · Chicago, Illinois 60601 · Phone (312) 346-2140 · Fax (312) 346-6956

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At this time, if you have any questions or require additional information, please feel free to contact me at (312) 346-2140.

Sincerely,

CARLSON ENVIRONMENTAL, INC.

Lisa Meagher, P.G.
Senior Project Manger

cc: Ronald Stevens
David Pusateri

p:\11\1197a\cvr2.wpd

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CARLSON ENVIRONMENTAL, INC.

ATTACHMENT A

Proposed Institutional Control
(Deed Restriction)

65 East Wacker Place · Suite 1500 · Chicago, Illinois 60601 · Phone (312) 346-2140 · Fax (312) 346-6956

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CARLSON ENVIRONMENTAL, INC.

ATTACHMENT A

PROPOSED INSTITUTIONAL CONTROL FOR ROBERTSON-CECO CORPORATION NEW AVENUE - LEMONT, ILLINOIS

An institutional control is a legal mechanism for imposing restrictions and conditions on land use. These restrictions and conditions are contained in an Illinois Environmental Protection Agency (IEPA) No Further Remediation (NFR) Letter.

Robertson-Ceco Corporation (RCC) proposes the following institutional control for the above property:

- Deed Restriction limiting land use to industrial / commercial.

RCC understands that the language of the above proposed institutional control will be found in the NFR Letter. The NFR Letter will include a copy of the deed restriction limiting land use to industrial / commercial.

RCC understands that the NFR Letter must be filed by the site owner with the local county recorder's office to be effective. By indexing the letter to the property, users of the property will be made aware of contaminants left in place. This ensures current and future users of the property will be informed of the conditions of the institutional controls and/or protected from unwitting exposure to environmental health risks.

Upon the IEPA's approval of the proposed institutional control, RCC will attach and submit the deed restriction to the proper authorities as required in 35 Ill. Adm. Code 742.

RCC agrees to record the deed restriction or restrictive covenant approved by Illinois EPA at the Office of the Recorder or Registrar of Titles of the county in which the site is located together with the instrument memorializing IEPA's no further remediation determination for the project within 45 days after receipt of that determination.

In addition, RCC agrees to forward a copy of the institutional control within 30 days of its recording to the IEPA.

p:\11\1197a\icrestr.wpd

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CARLSON ENVIRONMENTAL, INC.

ATTACHMENT B

Hazardous Waste Permit
Application Part A

65 East Wacker Place · Suite 1500 · Chicago, Illinois 60601 · Phone (312) 346-2140 · Fax (312) 346-6956

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Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 10/31/99
GSA No. 0248-EPA-OT

For EPA Regional Use Only		Date Received Month Day Year

United States Environmental Protection Agency
Washington, DC 20460

Hazardous Waste Permit Application Part A

(Read the instructions before starting)

I. Installation's EPA ID Number *(Mark 'X' in the appropriate box)*

[X] A. First Part A Submission [ ] B. Part A Amendment #

C. Installation's EPA ID Number | **D. Secondary ID Number** *(If applicable)*

ILD990790543

II. Name of Facility

ROBERTSON-CECO CORPORATION

III. Facility Location *(Physical address not P.O. Box or Route Number)*

A. Street

NEW AVENUE

Street *(Continued)*

City or Town | **State** | **Zip Code**

LEMONT | IL | 60439-

County Code | **County Name**

WILL

B. Land Type (Enter code) | **C. Geographic Location** *LATITUDE (Degrees, minutes, & seconds)* *LONGITUDE (Degrees, minutes, & seconds)* | **D. Facility Existence Date** Month Day Year

P | 41 40 02 | 88 02 03 | 07 01 1988

IV. Facility Mailing Address

Street or P.O. Box

5000 EXECUTIVE PARKWAY STE 425

City or Town | **State** | **Zip Code**

SAN RAMON | CA | 94583-

V. Facility Contact *(Person to be contacted regarding waste activities at facility)*

Name *(Last)* | *(First)*

STEVENS | RONALD D.

Job Title | **Phone Number** *(Area Code and Number)*

EX VP AND CFO | 925-543-7599

VI. Facility Contact Address *(See Instructions)*

A. Contact Address Location [ ] Mailing [X] Other [ ] | **B. Street or P.O. Box**

City or Town | **State** | **Zip Code**

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Please print or type with ELITE type (12 characters per inch). Form Approved. OMB No. 2050-0034 Expires 10/31/99
GSA No. 0248-EPA-OT

Please type in the unshaded areas only.

EPA I.D. Number (Enter from page 1)	Secondary ID Number (Enter from page 1)
ILD990785453	

VII. Operator Information (See Instructions)

Name of Operator

ROBERTSON-CECO CORPORATION

Street or P.O. Box

5000 EXECUTIVE PARKWAY STE 425

City or Town	State	ZIP Code
SAN RAMON	CA	94583-

Phone Number (Area Code and Number)	B. Operator Type	C. Change of Operator Indicator	Date Changed Month Day Year
925-543-7599	P	Yes X No	

VIII. Facility Owner (See Instructions)

A. Name of Facility's Legal Owner

ROBERTSON-CECO CORPORATION

Street or P.O. Box

5000 EXECUTIVE PARKWAY STE 425

City or Town	State	ZIP Code
SAN RAMON	CA	94583-

Phone Number (Area Code and Number)	B. Owner Type	C. Change of Owner Indicator	Date Changed Month Day Year
925-543-7599	P	Yes X No	

IX. SIC Codes (4-digit, in order of significance)

Primary		Secondary	
4953	(Description) Landfill		(Description)
Secondary		**Secondary**	
	(Description)		(Description)

X. Other Environmental Permits (See Instructions)

A. Permit Type (Enter code)	B. Permit Number	C. Description

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 10/31/99
GSA No. 0248-EPA-OT

EPA I.D. Number *(Enter from page 1)*: ILD990785453

Secondary ID Number *(Enter from page 1)*:

XI. Nature of Business *(Provide a brief description)*

RCRA INTERIM-STATUS WASTE PILE CLOSURE UNIT 2-ACRES IN SIZE CONTAINING APPROXIMATELY 2,500 cubic yards of ELECTRIC ARC FURNACE DUST (EAF) AND APPROXIMATEY 29,500 cubic YARDS OF NON-HAZARDOUS STEEL PLANT BY-PRODUCTS (SLAG).

XII. Process Codes and Design Capacities

A. PROCESS CODE - *Enter the code from the list of process codes below that best describes each process to be used at the facility. Thirteen lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. For "other" processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in item XIII.*

B. PROCESS DESIGN CAPACITY - *For each code entered in column A, enter the capacity of the process.*

1. **AMOUNT** - *Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action), enter the total amount of waste for that process.*
2. **UNIT OF MEASURE** - *For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.*

C. PROCESS TOTAL NUMBER OF UNITS - *Enter the total number of units used with the corresponding process code.*

PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
	Disposal:	
D79	Underground Injection	Gallons; Liters; Gallons Per Day; or Liters Per Day
D80	Landfill	Acre-feet or Hectare-meter
D81	Land Treatment	Acres or Hectares
D82	Ocean Disposal	Gallons Per Day or Liters Per Day
D83	Surface Impoundment	Gallons or Liters
D99	Other Storage	Any Unit of Measure Listed Below
	Storage:	
S01	Container (Barrel, Drum, Etc.)	Gallons or Liters
S02	Tank	Gallons or Liters
S03	Waste Pile	Cubic Yards or Cubic Meters
S04	Surface Impoundment	Gallons or Liters
S05	Drip Pad	Gallons or Liters
S06	Containment Building	Cubic Yards or Cubic Meters
S99	Other Disposal	Any Unit of Measure Listed Below
	Treatment:	
T01	Tank	Gallons Per Day or Liters Per Day
T02	Surface Impoundment	Gallons Per Day or Liters Per Day
T03	Incinerator	Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; or Btu's Per Hour
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour
T80	Boiler	Gallons or Liters
T81	Cement Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour
T82	Lime Kiln	
T83	Aggregate Kiln	
T84	Phosphate Kiln	
T85	Coke Oven	
T86	Blast Furnace	
T87	Smelting, Melting, Or Refining Furnace	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour
T88	Titanium Dioxide Chloride Process Oxidation Reactor	
T89	Methane Reforming Furnace	
T90	Pulping Liquor Recovery Furnace	
T91	Combustion Device Used In The Recovery Of Sulfur Values From Spent Sulfuric Acid	
T92	Halogen Acid Furnaces	
T93	Other Industrial Furnaces Listed in 40 CFR §260.10	
T94	Containment Building	Cubic Yards or Cubic Meters
	Miscellaneous (Subpart X):	
X01	Open Burning/Open Detonation	Any Unit of Measure Listed Below
X02	Mechanical Processing	Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; or Kilograms Per Hour
X03	Thermal Unit	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour
X04	Geologic Repository	Cubic Yards or Cubic Meters
X99	Other Subpart X	Any Unit of Measure Listed Below

UNIT OF MEASURE	UNIT OF MEASURE CODE
Gallons	G
Gallons Per Hour	E
Gallons Per Day	U
Liters	L
Liters Per Hour	H
Liters Per Day	V
Short Tons Per Hour	D
Metric Tons Per Hour	W
Short Tons Per Day	N
Metric Tons Per Day	S
Pounds Per Hour	J
Kilograms Per Hour	R
Cubic Yards	Y
Cubic Meters	C
Acres	B
Acre-feet	A
Hectares	Q
Hectare-meter	F
Btu's Per Hour	I

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EPA I.D. Number (Enter from page 1): ILD990785453

Secondary ID Number (Enter from page 1):

XII. Process Codes and Design Capabilities (Continued)

EXAMPLE FOR COMPLETING ITEM XII (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.

Line Number		A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY 1. Amount (Specify)	2. Unit Of Measure (Enter code)	C. Process Total Number Of Units	For Official Use Only
X	1	S	0	2	533.788	G	001	
	1	S	0	3	32,000.000	Y	001	
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
1	0							
1	1							
1	2							
1	3							

NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in item XIII.

XIII. Other Processes (Follow instructions from item XII for D99, S99, T04 and X99 process codes)

Line Number (Enter #s in seg w/XII)		A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY 1. Amount (Specify)	2. Unit Of Measure (Enter code)	C. Process Total Number Of Units	D. Description Of Process
X	1	T	0	4				In-situ Vitrification
	1							
	2							
	3							
	4							

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EPA I.D. Number *(Enter from page 1)*	Secondary ID Number *(Enter from page 1)*
ILD990785453	

XIV. Description of Hazardous Wastes

A. EPA HAZARDOUS WASTE NUMBER - *Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR, Part 261 Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.*

B. ESTIMATED ANNUAL QUANTITY - *For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.*

C. UNIT OF MEASURE - *For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:*

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in item XII A. on page 3 to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in item XII A. on page 3 to indicate all the processes that will be used to store, treat, and/ or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. *Enter the first two as described above.*
2. *Enter "000" in the extreme right box of item XIV-D(1).*
3. *Enter in the space provided on page 7, item XIV-E, the line number and the additional code(s).*

2. PROCESS DESCRIPTION: *If a code is not listed for a process that will be used, describe the process in the space provided on the form (D.(2)).*

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. *Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.*
2. *In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.*
3. *Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.*

EXAMPLE FOR COMPLETING ITEM XIV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number	A. EPA HAZARD WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESS (1) PROCESS CODES (Enter)	D. PROCESS (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
X 1	K 0 5 4	900	P	T 0 3 D 8 0	
X 2	D 0 0 2	400	P	T 0 3 D 8 0	
X 3	D 0 0 1	100	P	T 0 3 D 8 0	
X 4	D 0 0 2				Included With Above

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Form 8700-23 OMB No. 2050-0034 Expires 10/31/9
GSA No. 6248-EPA-Q

EPA I.D. Number *(Enter from page 1)*

Secondary ID Number *(Enter from page 1)*

XIV. Description of Hazardous Wastes *(Continued)*

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	K061	3,000	T	S03	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					

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GSA No. 0248-EPA-OT

EPA I.D. Number (Enter from page 1)	Secondary ID Number (Enter from page 1)
ILD990785453	

XV. Map

Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements. REFER TO FIGURE ONE

XVI. Facility Drawing

All existing facilities must include a scale drawing of the facility (See instructions for more detail). REFER TO FIGURE TWO.

XVII. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail). ATTACHED.

XVIII. Certification(s)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner Signature: Ronald D. Stevens	Date Signed: 1/28/00
Name and Official Title (Type or print): RONALD D. STEVENS EXEC. V.P. & CFO	
Owner Signature	Date Signed
Name and Official Title (Type or print)	
Operator Signature	Date Signed
Name and Official Title (Type or print)	
Operator Signature	Date Signed
Name and Official Title (Type or print)	

XIX. Comments

Note: Mail completed form to the appropriate EPA Regional or State Office. (Refer to instructions for more information)

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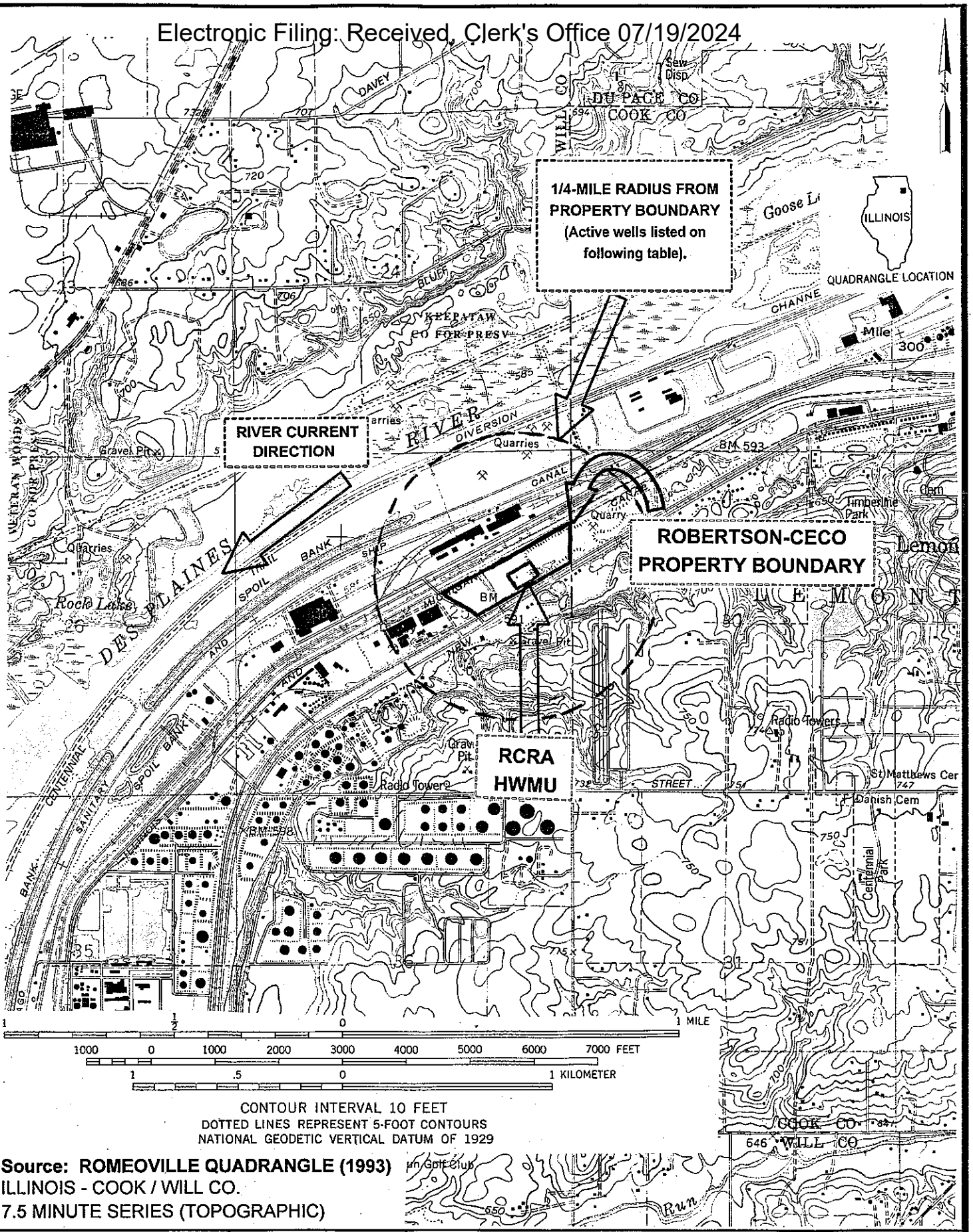


CONTOUR INTERVAL 10 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

Source: ROMEOVILLE QUADRANGLE (1993)
ILLINOIS - COOK / WILL CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

CARLSON ENVIRONMENTAL, INC.
65 EAST WACKER PLACE
CHICAGO, ILLINOIS
(312) 346-2140

SCALE 1 : 24,000

TOPOGRAPHIC SITE LOCATION MAP

ROBERTSON-CECO CORPORATION
LEMONT, ILLINOIS

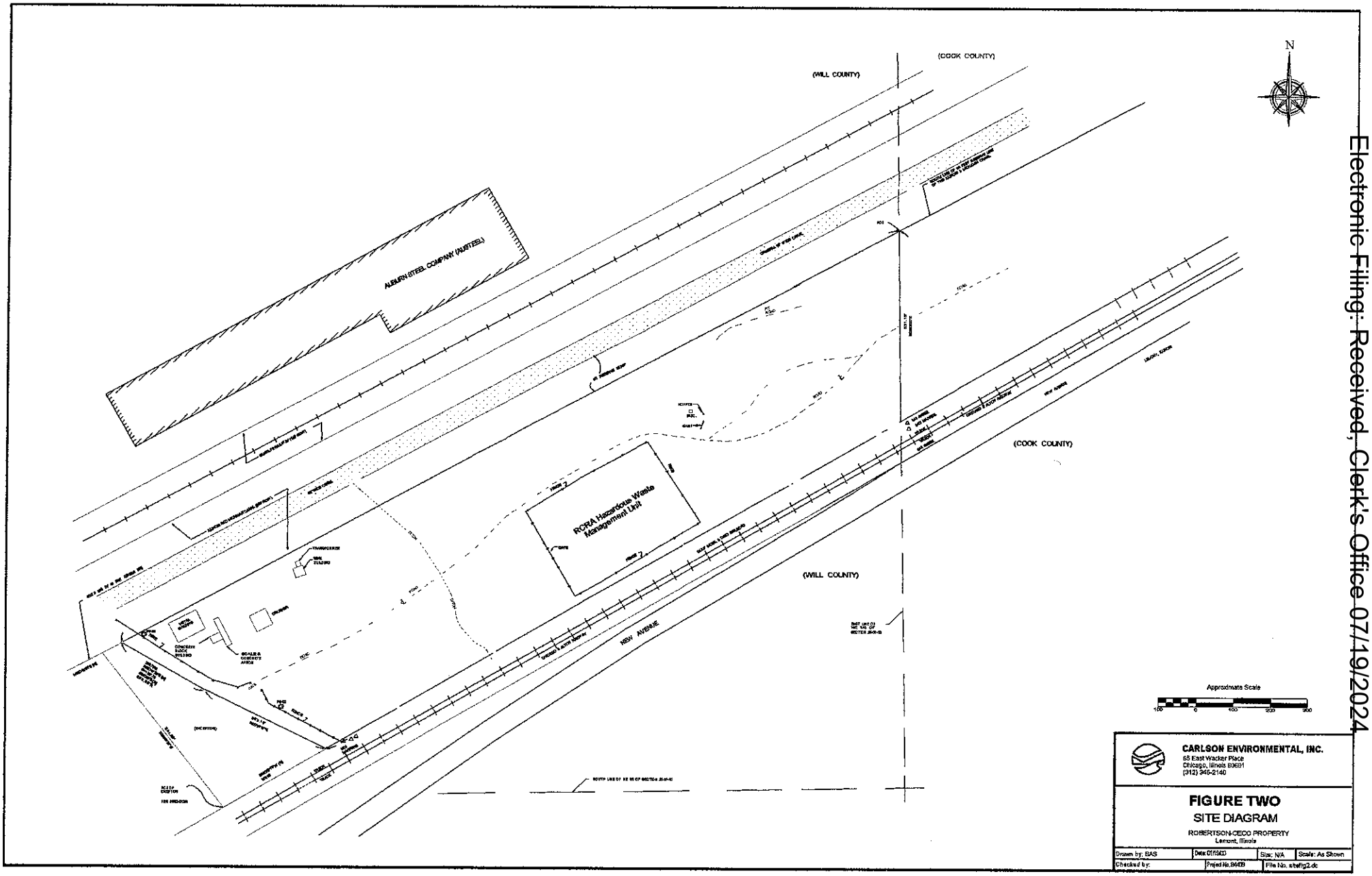
DRAWN: LPM	CHKD: JPM	SCALE: 1 : 24,000	FIGURE: ONE
DATE: 01/19/00	DATE: 1/26/00	PN#: 9440	

ACTIVE WATER SUPPLY WELLS IN THE SITE VICINITY*

TOWNSHIP	RANGE	SECTION	OWNER	DATE OF CONSTRUCTION	DEPTH (feet)	USER
PRIVATE WELLS						
37N	10E	25	BADGER PIPE LINE CO	00/00/1954	180	DO
37N	10E	25	UNION OIL CO	00/00/1967	140	IC
37N	10E	25	LEMONT MFG CO	05/00/1959	1498	IN
37N	10E	25	LEMONT FRG CO	08/20/1958	152	IN
37N	10E	25	LEMONT MGF CO	10/00/1958	1500	IN
37N	10E	25	CRANFORD, J	08/04/1971	110	DO
37N	10E	25	SIMPSON WELL & PUMP #1 LOT 10	07/05/1988	205	DO
37N	10E	25	LEMONT MGF CO	00/00/1958	1460	IN
37N	10E	25	LEMONT MFG CO	08/00/1958	152	CM
COMMERCIAL WELLS						
37N	10E	25	UNOCAL CORP CHICAGO REFINERY	ND	1261	ND
37N	10E	25	THOMAS STEEL CORP	ND	ND	ND
37N	10E	25	THOMAS STEEL CORP	ND	1500	ND

Notes:
DO = Domestic
IC = Industrial/Commercial
IN = Industrial
CM = Commercial
ND = No Data

* Referenced from the Illinois State Water Survey, September 2, 1992, (Dodd 1994).



CARLSON ENVIRONMENTAL, INC.
65 East Wacker Place
Chicago, Illinois 60601
(312) 346-2140

FIGURE TWO
SITE DIAGRAM
ROBERTSON-CECO PROPERTY
Lemont, Illinois

Drawn by: BAS	Date: 07/15/03	Size: N/A	Scale: As Shown
Checked by:	Project No.: 99409	File No.: sheffig2.dc	

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d, Clerk's Office 07/19/2024

Vegetation at surface of waste pile unit.

Standing on waste pile, facing northeast.

Facing the northeast corner of the waste pile.

Monitoring well at northeast corner of the waste pile.

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CARLSON ENVIRONMENTAL, INC.

ATTACHMENT C

LPC-PA18 Form

65 East Wacker Place · Suite 1500 · Chicago, Illinois 60601 · Phone (312) 346-2140 · Fax (312) 346-6956

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Illinois Environmental Protection Agency · P.O. Box 19276, Springfield, IL 62794-9276

RCRA INTERIM STATUS CLOSURE AND POST-CLOSURE
CARE PLANS GENERAL FORM
LPC-PA18

THIS FORM MUST ACCOMPANY ANY RCRA INTERIM-STATUS CLOSURE AND/OR POST-CLOSURE CARE PLANS OR MODIFICATION REQUEST SUBMITTED TO THE DIVISION OF LAND POLLUTION CONTROL. THE ORIGINAL AND TWO COPIES OF ALL DOCUMENTS SUBMITTED MUST BE PROVIDED.

FACILITY IDENTIFICATION (Information about the facility where the units are located which are addressed in this closure plan)

Name: ROBERTSON-CECO CORPORATION County: WILL

Street Address: NEW AVENUE Site # (IEPA): 1978030005

City: LEMONT Site No. (USEPA): ILD990785453

OWNER INFORMATION	OPERATOR INFORMATION
Name: ROBERTSON-CECO CORPORATION	SAME AS OWNER
Mailing Address: 5000 EXECUTIVE PARKWAY	
SUITE 425	
SAN RAMON, CA 94583	
Contact Name: RONALD D. STEVENS	
Contact Title: EX. VP & CFO	
Phone #: 925/543-7599	

TYPE OF SUBMISSION (check applicable item and provide requested information, as applicable)

____ Original (New) Closure Plan
____ Original (New) Post-Closure Plan
____ Response to Disapproval letter
____ Modification Request
X Additional Information for 12 / 20 / 99 Submittal (Log No. C-6B-M-B if known)
IEPA REQUEST LETTER.

Log No. of Most Recent Agency Approval/Disapproval Letter _____

Date of Most Recent Agency Approval/Disapproval Letter _____

DESCRIPTION OF SUBMITTAL: (briefly describe what is being submitted)

HAZARDOUS WASTE PERMIT APPLICATION PART A AND PROPOSED INSTITUTIONAL CONTROL

LIST OF DOCUMENTS SUBMITTED (identify all documents in this submittal, including the cover letter)

COVER LETTER, PERMIT APPLICATION, FIGURES ONE AND TWO, PHOTOGRAPHS, TABLE SHOWING WELLS, LPC-PA18 FORM, INSTITUTION CONTROL PROPOSAL.

UNITS UNDERGOING CLOSURE (please identify what type of units are addressed in the plan, their capacities and whether they are on the RCRA Part A for the facility)

Unit	Unit Code	Number of Units Closing	Capacity	On Part A (Y/N)
Storage:				
Container (barrel, drum, etc.)	S01			
Tank	S02			
Waste Pile	S03	1	2 ACRES	YES
Surface Impoundment	S04			

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UNITS UNDERGOING CLOSURE (continued)

Unit	Unit Code	Number of Units Closing	Capacity	On Part A (Y/N)
Treatment:				
Tank	T01			
Surface Impoundment	T02			
Incinerator	T03			
Other (explain)	T04			
_____				
Disposal:				
Landfill	D80			
Land Application	D81			
Surface Impoundment	D83			

CERTIFICATION AND SIGNATURE (Must be completed for all submittals. Certification and signature requirements are set forth in 35 IAC 702.126. Any submittal involving engineering plans, specifications and calculations as defined in the Illinois Professional Engineering Act and 68 IAC 1380 must be signed and certified by an Illinois registered professional.)

All closure plans, post-closure plans and modifications must be signed by the person designated below or by a duly authorized representative of that person:

Corporation - By a principal executive officer of at least the level of vice-president.
Partnership or Sole Proprietorship - By a general partner or the proprietor, respectively.
Government - By either a principal executive officer or a ranking elected official.

A person is a duly authorized representative only if:

1. the authorization is made in writing by a person described above; and
2. is submitted with this application (a copy of a previously submitted authorization can be used).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner Signature: Ronald D. Brown — 1/28/00 (Date)

Title: EXECUTIVE V.P. & CFO

Operator Signature: Ronald D. Brown — 1/28/00 (Date)

Title: EXECUTIVE V.P. & CFO

Engineer Signature: _____ (if necessary) _____ (Date)

Engineer Name: _____ Engineer Seal:

Engineer Address: _____

_____

_____

Engineer Phone No.: _____

JM:sf/sp/1243r,1-2

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

EXHIBIT L

12/22/2017 12:12PM L 170000174683 1978030005 RCH NEWCO II LLC 01 06/26/2017 2,860,814 L016232
B:29466 F:50497 I:00000414 L16-03742
Electronic Filing: Received, Clerk's Office 07/19/2024

05

COMPLETED DATE:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

BUREAU OF LAND / FIELD OPERATIONS SECTION

RCRA INSPECTION REPORT

GENERAL FACILITY INFORMATION

USEPA ID #:	ILD990785453			**BOL ID #:**	1978030005
Facility Name:	RCH Newco II LLC			**Phone #:**	312/346-2140
Location	Ceco Rd & New Avenue			**County:**	Will
City:	Lemont	**State:**	Illinois	**Zip Code:**	60439
Region:	Des Plaines	**Inspection Date:**	06/26/2017	**Time:**	10:30AM-11:30AM
Weather:	Partly Sunny ~72F				

RECEIVED
JUL 13 2017
IEPA/BOL

FACILITY TYPE

Notified As:	G, S	**Regulated As:**	D

INSPECTION TYPE

CEI: ☐ **GME:** ☐ **OAM:** ☒ **NRR:** ☐ **CSE:** ☐ **CAO:** ☐ **FUI to:**

FCI (Other): **CCI:** ☐ **CSI:** ☐

NOTIFICATION DATES (EPA 8700-12)

Initial:	11/19/1980	**Subsequent:**	

PART A PERMIT DATES (EPA 3510-3 OR EPA 8700-23)

Initial:	11/19/80	**Amended:**		**Withdrawn:**	

PART B PERMIT N/A

(Check one if applicable) Application Submitted? ☐ **Permit Issued?** ☐ **Date:**

ACTIVE ENFORCEMENT N/A

Date facility referred to:	**USEPA:**	**IAGO:**	**County State's Attorney:**

ACTIVE ENFORCEMENT ORDERS N/A

CACO:	**CAFO:**	**Federal Court Order:**
Consent Decree:	**IPCB Order:**	**State Court Order:**

IEPA-DIVISION OF RECORDS MANAGEMENT
RELEASABLE
OCT 19 2017
REVIEWER: EMI

TSD Facility Activity Summary N/A

Activity by Process Code	On Part A?	On Part B?	Activity ever done?	Closed?	Being done during inspection?	Exempt per 35 IAC Sec:
	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	

Owner		Operator	
Name:	RCH Newco II LLC	**Name:**	RCH Newco II LLC
Address:	2626 Warrenville Road	**Address:**	2626 Warrenville Road
City:	Downers Grove	**City:**	Downers Grove
State:	Illinois **Zip Code:** 60515	**State:**	Illinois **Zip Code:** 60515
Phone #:	312/346-2140	**Phone #:**	312/346-2140

Person(s) Interviewed	Title	Phone #
No One On-Site		

Inspection Participants	Agency/Bureau	Phone #
*Gino Bruni	Illinois EPA/BOL	847/294-4061
Tom Rivera	Illinois EPA/BOL	847/294-4079

***Report prepared by this person.**

Summary of Apparent Violations N/A

Section	X	Section	X	Section	X
	☐		☐		☐
	☐		☐		☐
	☐		☐		☐
	☐		☐		☐
	☐		☐		☐
	☐		☐		☐
	☐		☐		☐
	☐		☐		☐

X = Continuing Violations

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1978030005 – Will County
Lemont/RCH Newco II LLC
ILD990785453
June 26, 2017

NARRATIVE
Prepared by Gino Bruni

On June 26, 2017, I conducted an Operation and Maintenance (O & M) Inspection at Ceco Corporation. The O & M inspection was conducted to determine the facility's compliance with RCRA interim status post-closure groundwater monitoring requirements. Specifically, the inspection was conducted to determine the condition of the groundwater monitoring wells, and to ensure the owner/operators's personnel are collecting samples in accordance with the facility's Sampling and Analysis Plan. No one from Ceco Corporation was present during the inspection. Tom Rivera of the Illinois EPA/Bureau of Land accompanied me during the inspection

Ceco is an inactive hazardous waste disposal facility. The property encompasses approximately 25 acres. The hazardous waste disposal unit covers approximately two acres of the site and is surrounded by a 10 foot high chain link fence, which is locked to prevent unauthorized access.

The hazardous waste disposal unit contains approximately 12,500 cubic yards of emission control dust (K061 – hexavalent chromium, lead, and cadmium) generated from electric arc furnaces, and approximately 29,500 cubic yards of miscellaneous non-hazardous steel plant by-products.

The construction of the hazardous waste disposal unit was completed in accordance with the Illinois EPA approved design in 1988 and is currently in the nineteenth year of interim post-closure groundwater monitoring.

In 1993, five groundwater-monitoring wells were installed around the landfill. Two wells were installed hydraulically up-gradient (MWD-1 and MWD-5) and three wells were installed hydraulically down-gradient (MWD-2, MWD-3, MWD-4).

Groundwater is sampled on a semi-annual schedule (May and November). The following analytes are analyzed: Iron, Manganese, Sodium, Phenol, Sulfate, Chloride, Total Organic Halogens, Non-Purgeable Organic Carbon, pH, Specific Conductance.

The wells were observed from outside the locked 10 foot high chain link fence. The wells appeared to be in good condition.

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As part of the inspection, I also reviewed the facility's 2016 Annual Groundwater Monitoring Report, dated March 13, 2017 – Prepared by Carlson Environmental, Inc. Each of the five wells were sampled using the low flow sampling method.

The "background" concentrations from the two upgradient wells were compared to the groundwater concentrations collected from the downgradient and upgradient wells to determine whether a statistically significant increase (or decrease in pH) in concentration was present.

Groundwater in upgradient monitoring well MWD-1, and downgradient monitoring well MWD-4, contained statistically significant decrease in pH (initial background arithmetic mean of 7.36), during sampling event 51. Groundwater in upgradient monitoring well MWD-5 contained a statistically significant increase in pH.

During sampling event 52, there was a statistically significant decrease in groundwater pH for upgradient monitoring wells MWD-1 and MWD-5 and downgradient monitoring wells MWD-2, MWD-3, and MWD-4.

Carlson Environmental believes that the statistically significant changes in groundwater pH are naturally occurring.

The facility is operating in accordance with 35 Illinois Administrative Code 725, Subpart F and with the Illinois EPA letters (Log Number C-68).

No apparent violations were observed during the inspection.

Note:
Quarterly groundwater sampling events was originally started by Halliburton NUS Corporation on behalf of the former site owner in 1993. Carlson Environmental began sampling the groundwater beginning with Round 9. The completion of Sample Round 12 marked the end of the quarterly groundwater monitoring and the start of a semi-annual sampling frequency pursuant to IEPA's February 7, 1996 correspondence.

Certain parameters characterizing the suitability of the groundwater as a drinking water supply was completed for one year (35 Ill. Adm. Code 725.192(b)(1) and (c)(1)). The required parameters include, among others, Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, and Silver. These parameters have been sampled at least annually over a fifteen-year period. The results of the sampling determined that groundwater was suitable as a drinking water supply. These parameters are no longer included in the semi-annual sampling events, pursuant to IEPA's approval correspondence dated June 2, 2009.

cc: BOL File
Des Plaines Region

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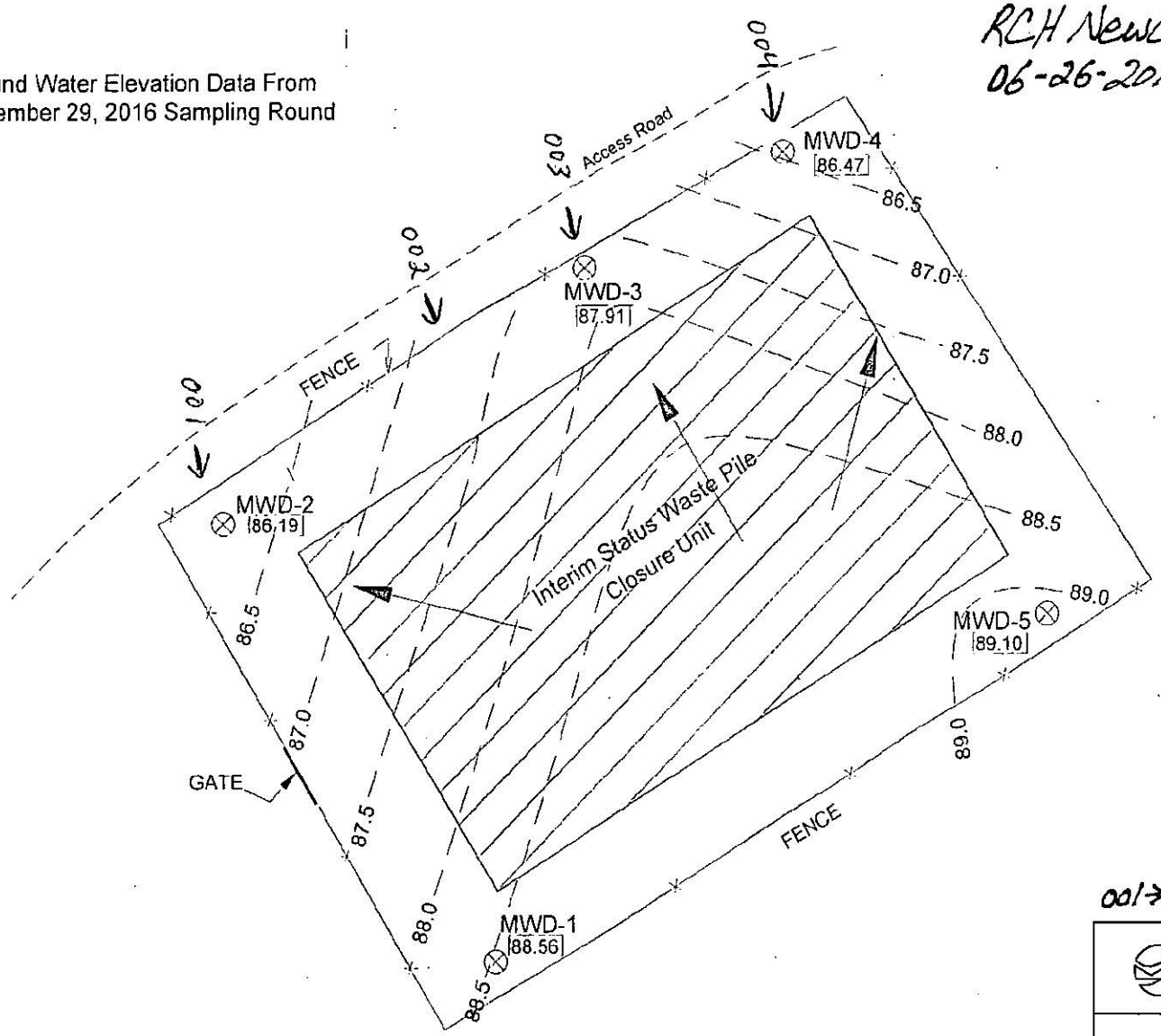
1978030005 - Will County
RCH Newco II LLC
06-26-2017

Ground Water Elevation Data From
November 29, 2016 Sampling Round



001 → Photo #2 Direction

Approximate Scale
(Feet)

100 50 0 10 20 30 50

CARLSON ENVIRONMENTAL, INC.
65 East Wacker Place
Chicago, Illinois 60601
(312) 346-2140

FIGURE 3
GROUND WATER MONITORING WELL LOCATIONS
GROUND WATER FLOW DIRECTION
RCH Newco II LLC Closure Unit
Lemont, Illinois

Drawn by: BAS		Date: 2/24/17	Size	Scale: As Shown
Checked by		Project No. 9233A	File No.	

Illinois Environmental Protection Agency
Bureau of Land
Division of Land Pollution Control

1978030005 – Will County
Lemont/RCH Newco II LLC
FOS File

DIGITAL PHOTOGRAPHS

File Names: 1978030005~06262017-[Exp. 1].jpg
File Names: 1978030005~06262017-[Exp. 2].jpg

Date: 6/26/17
Time: 1030 – 1130
Direction: South
Photo by: Rivera
Exposure #: 1
Comments:
Groundwater monitoring well MWD-2 along north side of landfill.

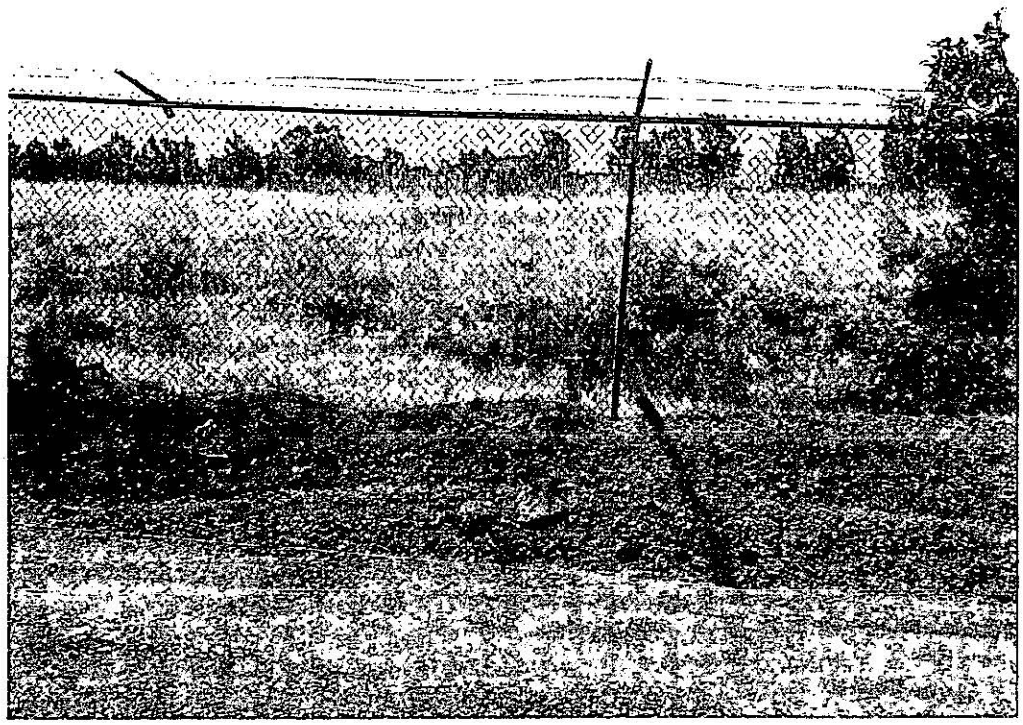
Date: 6/26/17
Time: 1030 – 1130
Direction: South
Photo by: Rivera
Exposure #: 2
Comments:
Sign posted on fence along north side of landfill.

Illinois Environmental Protection Agency
Bureau of Land
Division of Land Pollution Control

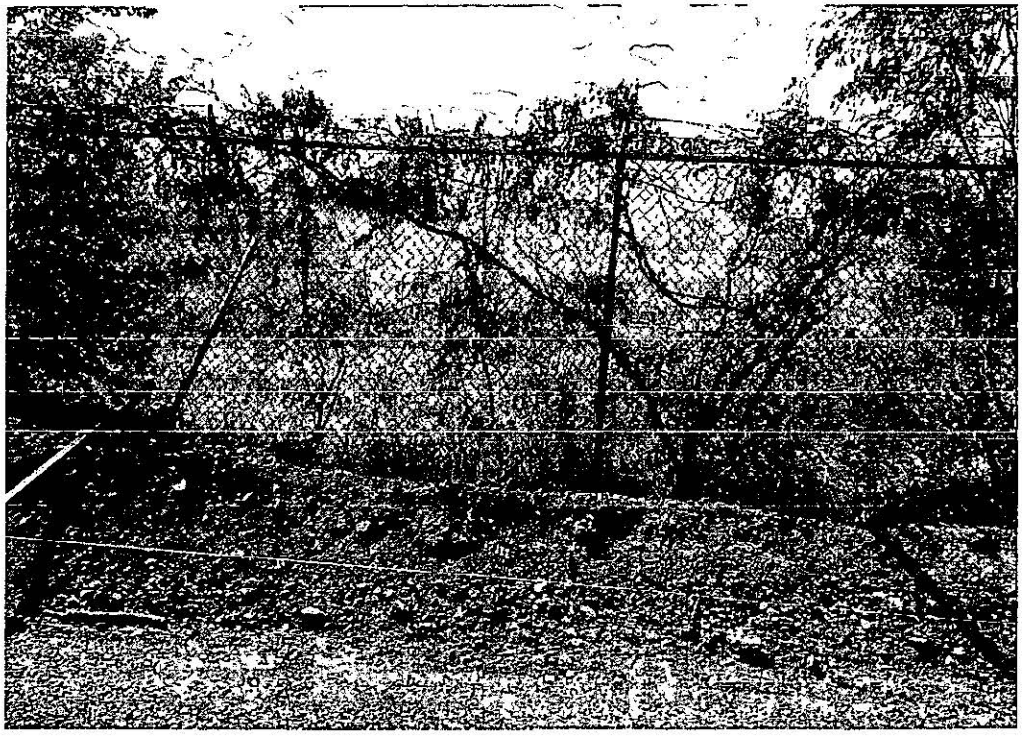
1978030005 – Will County
Lemont/RCH Newco II LLC
FOS File

DIGITAL PHOTOGRAPHS

File Names: 1978030005~06262017-[Exp. 3].jpg
File Names: 1978030005~06262017-[Exp. 4].jpg



Date: 6/26/17
Time: 1030 – 1130
Direction: South
Photo by: Rivera
Exposure #: 3
Comments:
Groundwater monitoring well MWD-3 along north side of landfill.



Date: 6/26/17
Time: 1030 – 1130
Direction: South
Photo by: Rivera
Exposure #: 4
Comments:
Groundwater monitoring well MWD-4 along north side of landfill.

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EXHIBIT M

12/07/2021 3:57PM L017468 1978030005 01 3,385,888 170000174683 08/03/2020 L RCH NEWCO II LLC
B:49972 F:50497 I:00000205
Electronic Filing: Received, Clerk's Office 07/19/2024

Bureau of Land – Field Operations Section
RCRA Evaluation Report

General Facility Information

BOL ID:	1978030005	Region:	Des Plaines
USEPA ID:	ILD990785453	County:	Will
Site Name:	RCH Newco II LLC	Phone:	312/456-2546
Address:	Ceco Rd & New Ave	Latitude:	41.66751
City/State/Zip:	Lemont, IL 60439	Longitude:	-88.25237
Inspection Date:	8/3/2020		

Observations

Time	1030 - 1100
Weather Conditions (Description)	Sunny
Temperature (°F)	87
Samples Collected (Yes/No)	No
Number of Samples Collected (Count)	N/A
Photos Taken (Yes/No)	Yes
Amount of Waste (Cubic Yards)	32,000
Number of Tires (Count)	0

IEPA
Division of Records Management
Releasable
NOV 10 2021
Reviewer: MDB

Facility Type

Most Recent Notification Date	Notified As	Regulated As
03/01/1991	TSD	D

Evaluation Type

Operation and Maintenance GRRA

Inspection Participants

Participant	Agency/Bureau	Phone
Gino Bruni	Des Plaines IEPA Field Operations Inspector	847/294-4000

Persons Interviewed

Person	Phone	Email
No One On-Site		

Owner	Operator
RCH Newco II LLC Kevin Shudy 2626 Warrensville Rd Downers Grove, IL 60515	RCH Newco II LLC 2626 Warrensville Rd Downers Grove, IL 60515

RECEIVED
AUG 24 2020
IEPA/BOL

Part B Permit

Application Date	Expiration Date	Log #	Current Mod #	Issue Date	Mod Issue Date

Active Enforcement Orders

CACO	Consent Decree	CAFO	IPCB	Federal Court	State Court

TSD Activity Summary

Activity Process	On Part B	Ever Done	Closed	Done During Inspection

Executive Summary

On August 3, 2020, I conducted an Operation and Maintenance (OAM) Inspection at RCH Newco II LLC. This site was formerly known as Robertson-Ceco Corporation Property. This site is an inactive RCRA interim status hazardous waste disposal facility. The property encompasses approximately 25 acres. The hazardous waste disposal unit covers approximately two acres of the site and is surrounded by a 10-foot-high chain link fence, which is locked to prevent unauthorized access. The inspection was conducted to determine the facility's compliance with RCRA interim status post-closure groundwater monitoring requirements. Specifically, the inspection was conducted to determine the condition of the groundwater monitoring wells, and to ensure the site was collecting groundwater samples in accordance with the facility's Sampling and Analysis Plan. No one representing the site was present during the inspection.

No apparent violations were cited.

Evaluation Narrative

In the 1960s, 1970s, and 1980s, Robertson Ceco Corporation used the subject site for the management of hazardous waste from a nearby steel mill; RCRA hazardous waste electric arc furnace dust (K061).

The construction of the hazardous waste disposal unit was completed in accordance with the Illinois EPA approved design in 1988 and is currently in interim post-closure care, which includes semi-annual groundwater monitoring. The landfill contains approximately 2,500 cubic yards of emission control dust from off-site electric furnaces (Hazardous Waste Code K061) and approximately 29,500 cubic yards of miscellaneous non-hazardous steel plant wastes (primarily slag). The approximate total amount of waste disposed of into the landfill is 32,000 cubic yards.

In 1993, five groundwater-monitoring wells were installed around the landfill. Two wells were installed hydraulically up-gradient (MWD-1 and MWD-5) and three wells were installed hydraulically down-gradient (MWD-2, MWD-3, MWD-4).

As part of this inspection I reviewed the RCRA 2019 Annual Groundwater Monitoring Report and the May 13, 2020 groundwater sampling results.

RCRA 2019 Annual Groundwater Monitoring Report
Groundwater sampling plan was last modified pursuant to an Illinois EPA letter dated June 2, 2009. The sampling frequency and parameters to be analyzed are as follows:

Second Quarter – Groundwater Quality Parameters and Groundwater Contamination Parameters
Fourth Quarter – Groundwater Contamination Parameters

Contamination Parameters - pH, specific conductance, non-purgeable organic carbon (TOC), total organic halogens (TOX).
Quality Parameters – chloride, iron, manganese, phenols, sodium, and sulfate.

Analytical results for 2019 indicate a statistical change in groundwater quality in both downgradient and upgradient monitoring wells. Increase pH in monitoring well MWD-5 (below 8) (upgradient well) and decrease in pH in upgradient well MWD-1 (above 7), and also in downgradient monitoring well MWD-3 (above 7). This is believed to be naturally occurring or coming from an offsite source. No additional investigation is planned. Initial background arithmetic mean is 7.363. Note: Pursuant to 35 Illinois Administrative Code 620 Class I Potable Resource Groundwater, pH range is 6.5 – 9.

May 13, 2020 groundwater sampling results
All five monitoring wells had elevated pH levels. The levels were above the background concentration (7.363) but within the pH range pursuant to 35 Illinois Administrative Code 620 Class I Potable Resource Groundwater (6.5 – 9).

Physical observations make during the August 3, 2020 inspection
Some of the wells were observed from outside the locked 10-foot-high chain link fence. The wells appeared to be in good condition.

The vegetation on the landfill appeared to be overgrown. Erosion problems were not observed.

The area immediately adjacent to the landfill appears to be utilized for truck trailer storage. The name of this business is Premier Trailer Leasing.

Summary of Apparent Violation(s)			
Status	Date Cited	Violation	Narrative
None Observed			

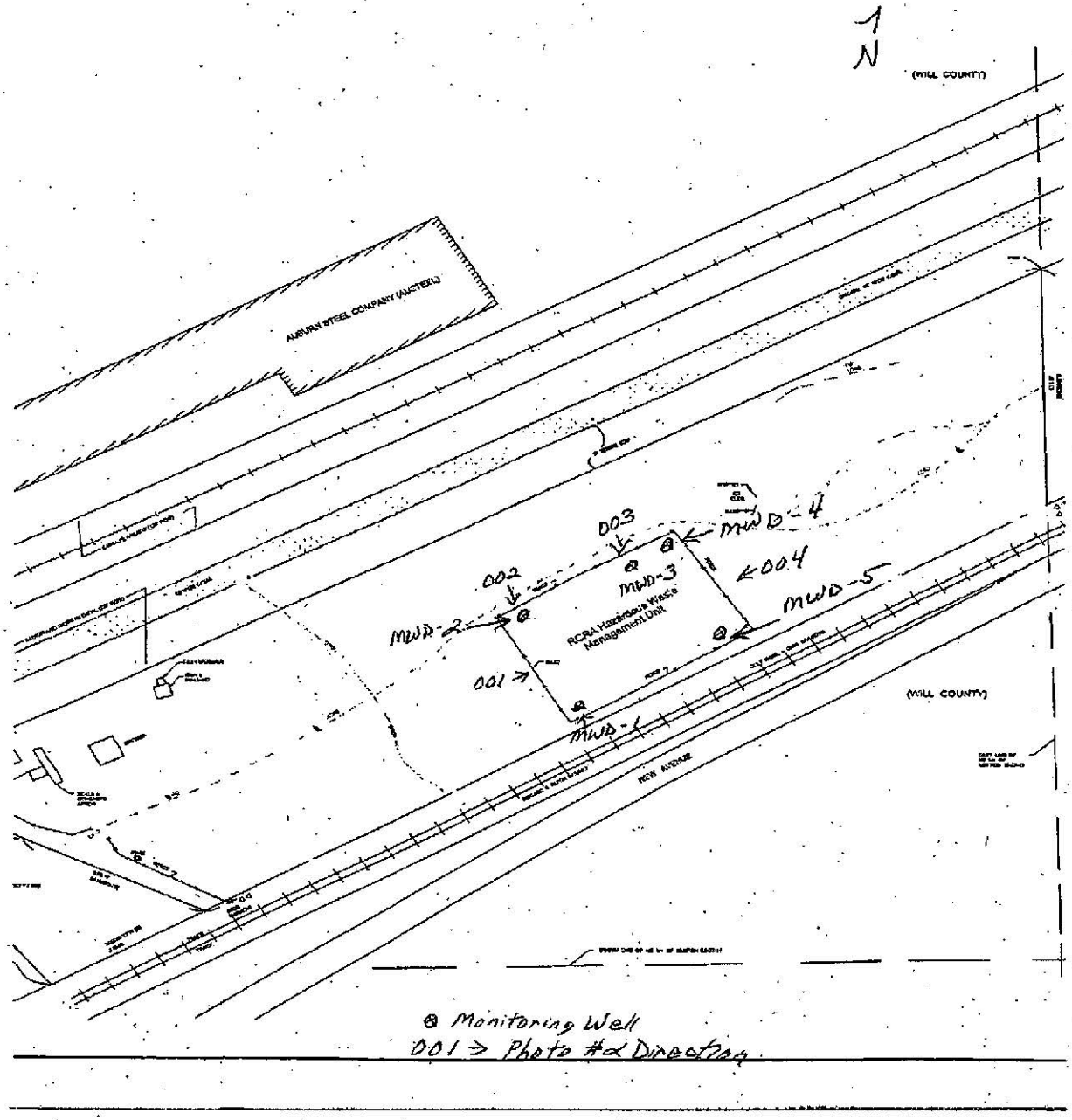
Attachment Listing		
ID	Type	Description
No Attachments		

Waste Disposition Form								
Facility Name:						**USEPA ID:**		
Inspection Date:						**IEPA ID:**		
Waste Name	Generating Process	Waste Determination	Waste Type	HW Annual Report	Amount On-Site	Generation Rate	Last Ship Date	Destination
No Waste Streams								

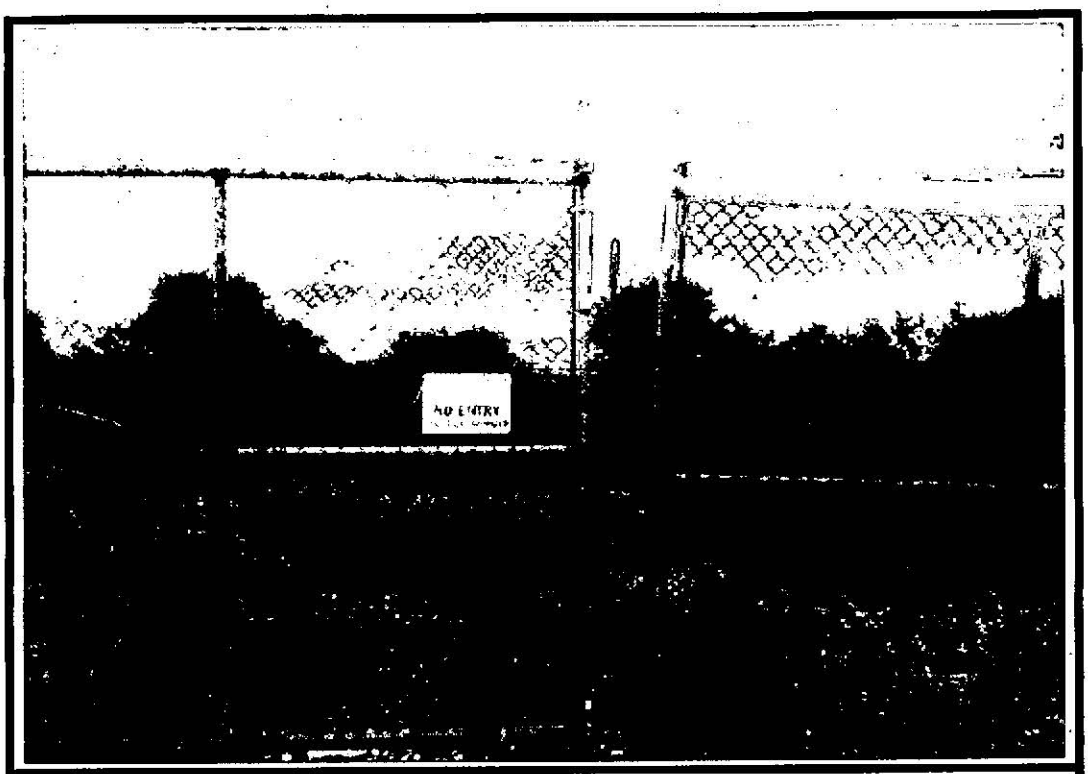
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

Site Diagram(s)

Site Diagram 1: August 3, 2020 • RCH Newco II LLC (1978030005) • Will County



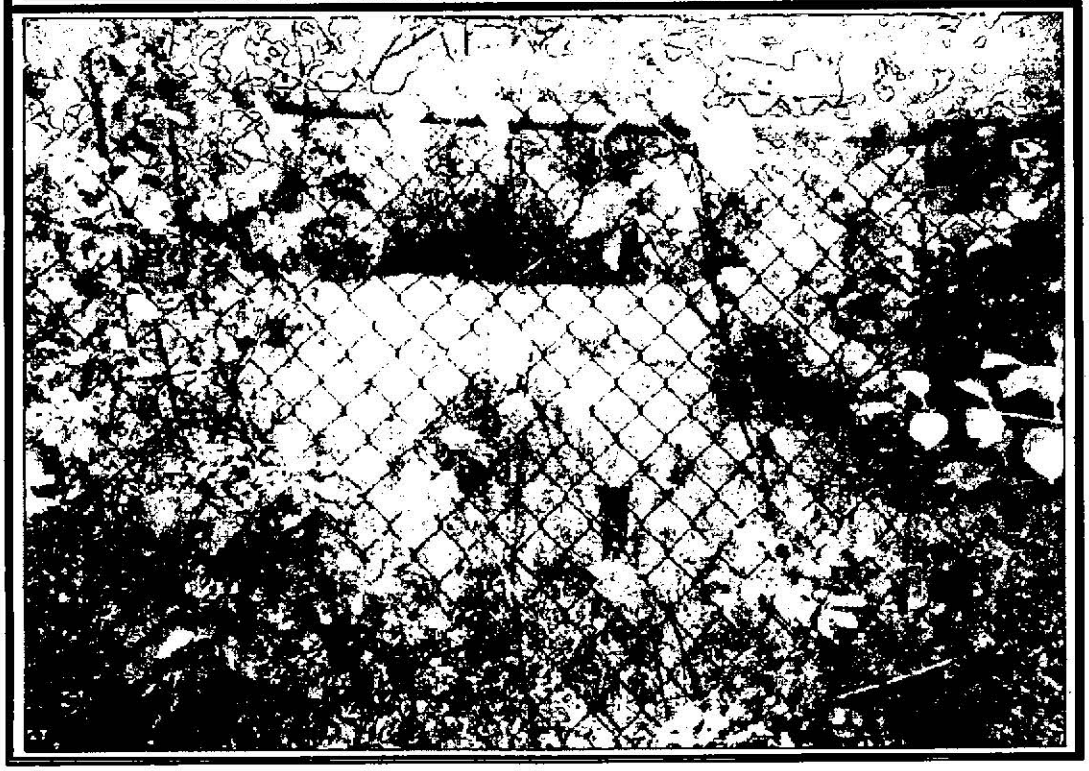
Digital Photographs



Site: RCH Newco II LLC
(1978030005)
Will County

Photo ID: 1
Photo Date: 8/17/2020
Photo Time: 1030 - 1100
Direction: Northeast
Taken By: Gino Bruni

Entrance to the hazardous waste landfill



Site: RCH Newco II LLC
(1978030005)
Will County

Photo ID: 2
Photo Date: 8/17/2020
Photo Time: 1030 - 1100
Direction: Southeast
Taken By: Gino Bruni

Monitoring Well MWD-2

Site: RCH Newco II LLC
(1978030005)
Will County

Photo ID: 3
Photo Date: 8/17/2020
Photo Time: 1030 - 1100
Direction: Southeast
Taken By: Gino Bruni

Monitoring Well MWD-3

Site: RCH Newco II LLC
(1978030005)
Will County

Photo ID: 4
Photo Date: 8/17/2020
Photo Time: 1030 - 1100
Direction: Southwest
Taken By: Gino Bruni

Northeast side of the hazardous waste landfill

EXHIBIT N

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NIJMAN · FRANZETTI LLP

10 South LaSalle Street · Suite 3600 · Chicago, Illinois 60603
312.251.5250 · fax 312.251.4610 · www.nijmanfranzetti.com

Jennifer T. Nijman
jn@nijmanfranzetti.com
312.251.5255

March 24, 2022

VIA CERTIFIED MAIL AND EMAIL

Illinois Environmental Protection Agency
Attn: James Jennings, Manager
Bureau of Land # 24
1021 North Grand Ave. East
Springfield, Illinois 62794-9276

Re: Violation Notice: Lemont/RCH Newco II LLC
Site Identification Number: 1978030005
Violation Notice Number: L-2022-00050

Dear Mr. Jennings:

We are writing on behalf of RCH Newco II, LLC ("RCH Newco"), to respond to violation notice L-2022-00050 ("VN"), issued by the Illinois Environmental Protection agency ("Illinois EPA") on February 7, 2022, relating to the RCH Newco facility in Lemont, Illinois (the "Site"). This written response is timely submitted within 45 days of February 7, 2022 as required by the VN. By submitting this response, RCH Newco does not make any admissions of fact or law or waive any of its defenses to the alleged violations.

The VN alleges that RCH Newco "did not maintain sufficient financial assurance for post-closure care and activities at the subject property" in violation of 415 ILCS 5/21 (f)(2) and 35 Ill. Adm. Code 725.245(a)(6). In my discussion with you questioning the basis for the VN (given the minimal remaining Site costs discussed below), you provided clarification and said the violation was a "technical" violation of the financial assurance requirements based on Illinois EPA's use of cost estimates submitted in the last RCRA permit application issued in 2009 ("2009 Permit"). You mentioned that the "approved costs" in the 2009 Permit were higher than the amount held in trust to cover the costs. You recommended that we explain in this letter any arguments we had in response.

Based on the discussions below, RCH Newco requests that Illinois EPA not only resolve the VN, but withdraw it by return letter.

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BACKGROUND

The RCRA Hazardous Waste Management Unit ("Closure Unit") at the Site (relating to EAF dust) was constructed in 1988 and groundwater monitoring began in 1993. The original cost to conduct 30 years of post-closure groundwater monitoring at the Closure Unit was estimated at $376,973. RCH Newco established a trust account as financial assurance to cover this amount at JP Morgan Chase ("Chase Trust"). The original post-closure cost estimate was based on 120 quarterly sampling events at the present value of money. Prior to June, 2009, the Illinois EPA changed the frequency of the required sampling plan to semi-annually. Based on the change, a new sampling plan ("2009 Sampling Plan") was approved by the Illinois EPA on June 2, 2009. The Illinois EPA issued a new permit in 2009 based on the approved sampling plan.

You informed me that the application for the 2009 Permit contained an estimated post-closure cost of approximately $297,000. In 2016, with Illinois EPA approval, RCH Newco converted the Chase Trust to a trust at US Bank. The value of the US Bank Trust at the time the VN was issued was $294,649.55. See Ex. A., US Bank Trust Statement. Thus, Illinois EPA based the VN on an alleged financial assurance "shortage" of $2,350.45.

As detailed below, there was no financial assurance shortage for two reasons: due to Illinois EPA's subsequent approval of a lower post closure cost estimate in 2016; and because the regulations do not require "approved costs" for revised post-closure estimates.

RESPONSE

I. The Illinois EPA Approved a Revised Post-Closure Cost Estimate in 2016 That is Less Than the Value of the Trust.

RCH Newco requests that Illinois EPA resolve and withdraw the VN. First, as discussed further in Section II below, there is no mention of the term "approved costs" in the regulations cited in the VN. Second, even assuming "approved costs" is the standard, Illinois EPA approved a revised, lower post-closure cost estimate in 2016 when RCH Newco requested that Illinois EPA approve its change of banks holding the trusts. In a letter dated December 7, 2016, the Illinois EPA authorized the termination of RCH Newco's original Trust Agreement with Chase Bank. Ex. B., Illinois EPA Trust Approval Letter. Illinois EPA approved the change in trusts because RCH Newco "provided approved alternate financial assurance to replace the [Chase] Trust Agreement". *Id*. The alternate financial assurance RCH Newco provided was a new Trust Agreement with US Bank ("US Bank Trust Agreement") to create a new trust ("US Bank Trust"). The US Bank Trust Agreement, approved by Illinois EPA, contains a revised post-closure cost estimate of $289,000. Ex. C., Schedule A, US Bank Trust Agreement. As noted above, the US Bank Trust currently contains $294,649.55, which is $5,649.55 **above** the 2016 approved post-closure costs estimate. As a result of this revised "approved" cost figure, RCH Newco is not in violation of financial assurance requirements. Moreover, as discussed below, the most recent post-closure cost estimates are far below the current value of the US Bank Trust.

II. The 2020 Post-Closure Cost Estimate is $49,800 which is Far Lower Than the Current Trust Value

According to 35 Ill. Adm. Code 725.245(a)(6), as cited by the VN, the "owner or operator must compare the new estimate with the trustee's most recent annual evaluation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator… must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the *current post-closure cost estimate* or obtain other financial assurance to cover the difference." (emphasis added) The *current post-closure cost estimate* is defined as "the most recent of the estimates prepared in accordance with Sections 725.244(a), (b), and (c)." See 35 Ill. Adm. Code 725.241(c). There is no mention of "approval" of such cost estimates. Section 725.244 requires that a current owner or operator *have* a detailed written estimate of the annual cost of post-closure monitoring and maintenance.[1] The owner/operator is not required to provide the cost estimate to Illinois EPA or obtain approval – but only to "have" it. In fact, RCH Newco not only had the estimate, but also provided that written estimate to Illinois EPA in 2020.[2]

On April 13, 2021 an original copy of the 2020 Annual Groundwater Report (the "Report") was submitted by Carlson Environmental on behalf of RCH Newco to the Illinois EPA Division of Land Pollution Control Permits Section, and the Illinois EPA Bureau of Land. See Ex. D., Report Cover Letter. The Report was based on the Illinois EPA-approved 2009 revised Sampling Plan and provided an updated current post-closure cost estimate of $49,800 through end of post closure care in 2023. Ex. E., 2020, p. 6, Annual Report Lemont Property. As required, the 2020 current post-closure cost estimate used "the project cost for the remaining three years through 2023 … based on the current average yearly cost multiplied by the 3 remaining years of sampling events, not the present value of money." *Id*. Carlson, the third-party consultant performing the sampling, provided a detailed description of sampling plan frequency and parameters, and provided its current post closure cost estimate for the remaining three years of such sampling (now down to less than two years). Consequently, there is no violation of the applicable regulation as cited in the VN because the most recent post-closure cost estimate based on the Report is $49,800, which is much less than the value of the US Bank Trust at the time the VN was issued.

III. RCH Newco II Requests an Approval and Release of the Amount in Excess of the Current-Post Closure Estimate.

In light of the remaining post-closure care estimate in comparison to the amount of the US Bank Trust, RCH Newco formally requests a release of the trust fund value that exceeds the most recent post-closure amount. Pursuant to 35 Ill. Adm. Code 725.245(a)(7), "[d]uring the operating life of the facility,

---

[1] 725.244 a) provides: The owner or operator of a hazardous waste disposal unit must have a detailed written estimate, in current dollars, of the annual cost of post-closure monitoring and maintenance of the facility in accordance with the applicable post-closure regulations in Section 725.217 through 725.220, 725.328, 725.358, 725.380, and 725.410. **1)** The post-closure cost estimate must be based on the costs to the owner or operator of hiring a third party to conduct post-closure care activities. A third party is a party that is neither a parent nor a subsidiary of the owner or operator. (See the definition of "parent corporation" in Section 725.241(d).) **2)** The post-closure cost estimate is calculated by multiplying the annual post-closure cost estimate by the number of years of post-closure care required under Section 725.217.

[2] See also 725.244 d) stating that, "The owner or operator must keep the following at the facility during the operating life of the facility: the latest post-closure cost estimate prepared in accordance with subsections (a) and (c) and, when this estimate has been adjusted in accordance with subsection (b), the latest adjusted post-closure cost estimate." There is no requirement to obtain state approvals of the cost estimates, only to "keep" the information.

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if the value of the trust fund is greater than the total amount of the current post-closure cost estimate, the owner or operator may submit a written request to the Agency for release of the amount in excess of the current post-closure cost estimate." The most recent current post-closure cost estimate is $49,800. The current value of the US Bank Trust is $294,649.55. RCH Newco requests a release of $244,849.55.

CONCLUSION

There is no question that RCH Newco is committed to complying with RCRA regulations. The 2020 Report submitted to Illinois EPA shows there is no ongoing contamination from the Closure Unit, and the monitoring of the Closure Unit is in the final two years of the thirty-year process. During that time, RCH Newco has maintained a trust in an amount in excess of the post-closure cost estimates prepared by a third-party consultant. The regulation cited in the VN does not require that Illinois EPA compare RCH Newco's trust with "approved costs." But even if approved costs are the standard, Illinois EPA approved lower, revised post closure care costs in 2016 when it allowed the termination of the Chase Trust, to be replaced with the US Bank Trust. Further, the most recent post-closure cost estimate submitted to Illinois EPA Division of Land Pollution Control Permits Section, showed the US Bank Trust contains $244,849.55 more than the most recent post-closure cost estimate. Using either the 2016 Illinois EPA-approved post-closure cost estimate, or the most recent post-closure cost estimate, the VN should be resolved and withdrawn.

Given the current post-closure care estimate in comparison to the amount of the US Bank Trust, RCH Newco formally requests a release of the trust fund value in the amount of $244,848.05. 35 Ill. Adm. Code 725.245(a)(7).

This letter constitutes our response to the Violation Notice L-2022-00050, and RCH Newco also reserves the right to raise additional defenses and mitigation arguments as may be necessary, in defense of the allegations listed in the VN in the event of any future enforcement.

Please contact me if you have any questions. In the event Illinois EPA elects to proceed with this VN, RCH Newco requests a meeting.

Sincerely,

Jennifer T. Nijman

cc: Illinois EPA (via Certified Mail/Email)
Financial Assurance Program – Mail Code 24
Attn: Daniel Britton
1021 North Grand Avenue East
Springfield, Illinois 62794-9276

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Part of Exhibit N

EXHIBIT A

Electronic Filing: Received, Clerk's Office 07/19/2024

ACCOUNT NUMBER: 274335000
RCH NEWCO II, LLC (GRANTOR)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (BENEFICIARY) TRUST
BENEFICIARY TRUST ACCOUNT

This statement is for the period from February 1, 2022 to February 28, 2022

000020028 02 SP 000638111854204 S

THE HEICO COMPANIES LLC
ATTN DONNA PETRUSHA CASH MANAGER
27501 BELLA VISTA PKWY
WARRENVILLE IL 60555

QUESTIONS?

If you have any questions regarding your account or this statement, please contact your Account Manager or Analyst.

Account Manager:
GRACE A. GORKA
MK-IL-RY3B
190 SOUTH LASALLE STREET
CHICAGO IL 60603
Phone 312-332-6772
E-mail grace.gorka@usbank.com

Analyst:
RUSSEL OTZENBERGER
Phone 651-466-6101

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ACCOUNT NUMBER: 274335000
RCH NEWCO II, LLC (GRANTOR)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (BENEFICIARY) TRUST
BENEFICIARY TRUST ACCOUNT

This statement is for the period from
February 1, 2022 to February 28, 2022

MARKET VALUE SUMMARY

	Current Period 02/01/22 to 02/28/22
Beginning Market Value	**$294,648.05**
Investment Results	
Interest, Dividends and Other Income	1.50
Total Investment Results	**$1.50**
Ending Market Value	**$294,649.55**

Electronic Filing: Received, Clerk's Office 07/19/2024

ACCOUNT NUMBER: 274335000
RCH NEWCO II, LLC (GRANTOR)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (BENEFICIARY) TRUST
BENEFICIARY TRUST ACCOUNT

This statement is for the period from
February 1, 2022 to February 28, 2022

ASSET DETAIL AS OF 02/28/22

Shares or Face Amount	*Security Description*	Market Value/ Price	Tax Cost/ Unit Cost	% of Total Yield at Market	Est Ann Inc
Cash Equivalents					
294,649.550	First American Government Oblig Fd Cl Y *#3763* 31846V203	294,649.55 1.0000	294,649.55 1.00	100.0 .01	17.64
Total Cash Equivalents		**$294,649.55**	**$294,649.55**	**100.0**	**$17.64**
Cash					
	Principal Cash	- 11,649.18	- 11,649.18	- 4.0	
	Income Cash	11,649.18	11,649.18	4.0	
	Total Cash	**$0.00**	**$0.00**	**0.0**	
Total Assets		**$294,649.55**	**$294,649.55**	**100.0**	**$17.64**

ASSET DETAIL MESSAGES

Time of trade execution and trading party (if not disclosed) will be provided upon request.

Publicly traded assets are valued in accordance with market quotations or valuation methodologies from financial industry services believed by us to be reliable. Assets that are not publicly traded may be reflected at values from other external sources. Assets for which a current value is not available may be reflected at a previous value or as not valued, at par value, or at a nominal value. Values shown do not necessarily reflect prices at which assets could be bought or sold. Values are updated based on internal policy and may be updated less frequently than statement generation.

For further information, please contact your Analyst.

Yield at Market and Estimated Annual Income are estimates provided for informational purposes only and should not be relied on for making investment, trading, or tax decisions. The estimates may not represent the actual value earned by your investments and they provide no guarantee of what your investments may earn in the future.

Electronic Filing: Received, Clerk's Office 07/19/2024

ACCOUNT NUMBER: 274335000
RCH NEWCO II, LLC (GRANTOR)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (BENEFICIARY) TRUST
BENEFICIARY TRUST ACCOUNT

This statement is for the period from
February 1, 2022 to February 28, 2022

CASH SUMMARY

	Income Cash	Principal Cash	Total Cash
Beginning Cash Balance as of 02/01/2022	**$11,647.68**	**- $11,647.68**	**$.00**
Taxable Interest	1.50		1.50
Net Money Market Activity		- 1.50	- 1.50
Ending Cash Balance as of 02/28/2022	**$11,649.18**	**- $11,649.18**	**$0.00**

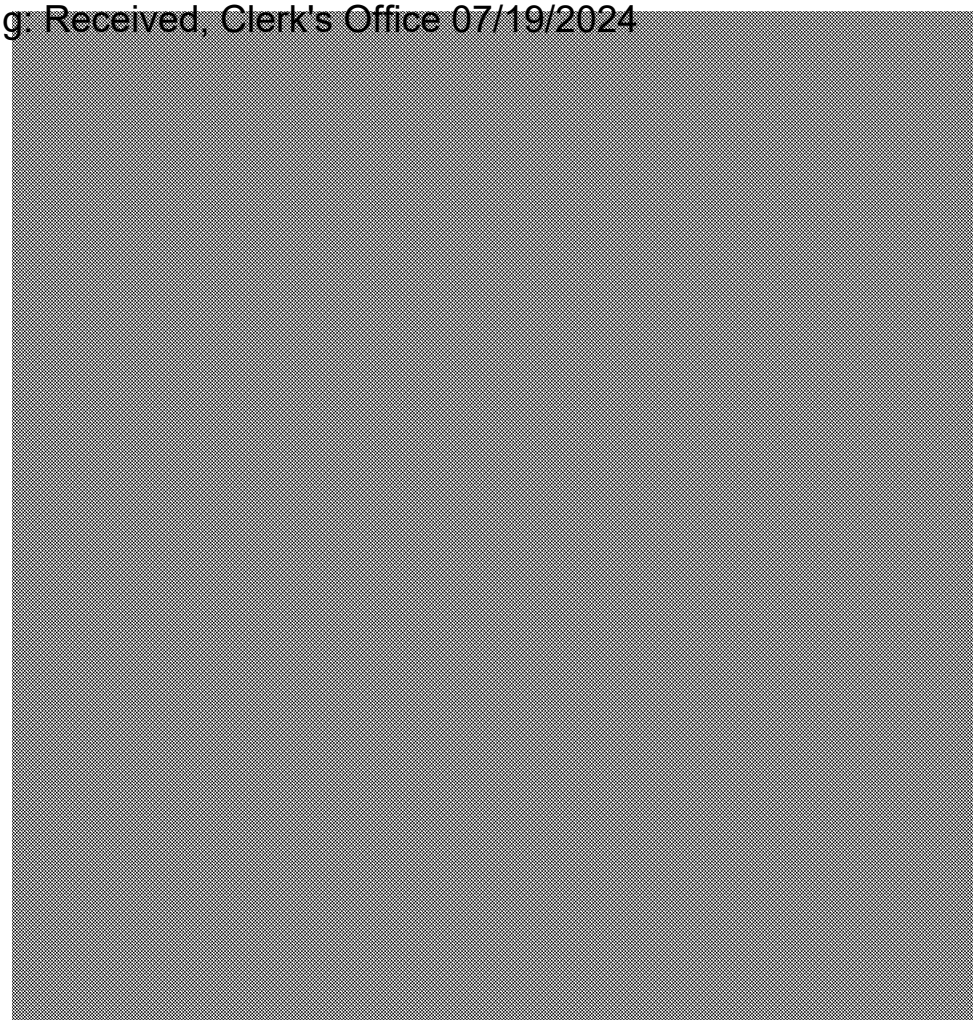
ACCOUNT NUMBER: 274335000
RCH NEWCO II, LLC (GRANTOR)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (BENEFICIARY) TRUST
BENEFICIARY TRUST ACCOUNT

This statement is for the period from
February 1, 2022 to February 28, 2022

TRANSACTION DETAIL

Date Posted	Description	Income Cash	Principal Cash	Tax Cost
	Beginning Balance 02/01/2022	**$11,647.68**	**- $11,647.68**	**$294,648.05**
02/01/22	Interest Earned On First Am Govt Ob Fd Cl Y Interest From 1/1/22 To 1/31/22 31846V203	1.50		
02/02/22	Purchased 1.5 Units Of First Am Govt Ob Fd Cl Y Trade Date 2/2/22 31846V203		- 1.50	1.50
	Ending Balance 02/28/2022	**$11,649.18**	**- $11,649.18**	**$294,649.55**

Electronic Filing: Received, Clerk's Office 07/19/2024



Glossary

Accretion - The accumulation of the value of a discounted bond until maturity.

Adjusted Prior Market Realized Gain/Loss - The difference between the proceeds and the Prior Market Value of the transaction.

Adjusted Prior Market Unrealized Gain/Loss - The difference between the Market Value and the Adjusted Prior Market Value.

Adjusted Prior Market Value - A figure calculated using the beginning Market Value for the fiscal year, adjusted for all asset related transactions during the period, employing an average cost methodology.

Amortization - The decrease in value of a premium bond until maturity.

Asset - Anything owned that has commercial exchange value. Assets may consist of specific property or of claims against others, in contrast to obligations due to others (liabilities).

Bond Rating - A measurement of a bond's quality based upon the issuer's financial condition. Ratings are assigned by independent rating services, such as Moody's, or S&P, and reflect their opinion of the issuer's ability to meet the scheduled interest and principal repayments for the bond.

Cash - Cash activity that includes both income and principal cash categories.

Change in Unrealized Gain/Loss - Also reported as Gain/Loss in Period in the Asset Detail section. This figure shows the market appreciation (depreciation) for the current period.

Cost Basis (Book Value) - The original price of an asset, normally the purchase price or appraised value at the time of acquisition. Book Value method maintains an average cost for each asset.

Cost Basis (Tax Basis) - The original price of an asset, normally the purchase price or appraised value at the time of acquisition. Tax Basis uses client determined methods such as Last-In-First-Out (LIFO), First-In-First-Out (FIFO), Average, Minimum Gain, and Maximum Gain.

Ending Accrual - (Also reported as Accrued Income) Income earned but not yet received, or expenses incurred but not yet paid, as of the end of the reporting period.

Estimated Annual Income - The amount of income a particular asset is anticipated to earn over the next year. The shares multiplied by annual income rate.

Estimated Current Yield - The annual rate of return on an investment expressed as a percentage. For stocks, yield is calculated by taking the annual dividend payments divided by the stock's current share price. For bonds, yield is calculated by the coupon rate divided by the bond's market price.

Ex-Dividend Date - (Also reported as Ex-Date) For stock trades, the person who owns the security on the ex-dividend date will earn the dividend, regardless of who currently owns the stock.

Income Cash - A category of cash comprised of ordinary earnings derived from investments, usually dividends and interest.

Market Value - The price per unit multiplied by the number of units.

Maturity Date - The date on which an obligation or note matures.

Payable Date - The date on which a dividend, mutual fund distribution, or interest on a bond will be made.

Principal Cash - A category of cash comprised of cash, deposits, cash withdrawals and the cash flows generated from purchases or sales of investments.

Realized Gain/Loss Calculation - The Proceeds less the Cost Basis of a transaction.

Settlement Date - The date on which a trade settles and cash or securities are credited or debited to the account.

Trade Date - The date a trade is legally entered into.

Unrealized Gain/Loss - The difference between the Market Value and Cost Basis at the end of the current period.

Yield on/at Market - The annual rate of return on an investment expressed as a percentage. For stocks, yield is calculated by the annual dividend payments divided by the stock's current share price. For bonds, yield is calculated by the coupon rate divided by the bond's market price.

The terms defined in this glossary are only for use when reviewing your account statement. Please contact your Relationship Manager with any questions.

Electronic Filing: Received, Clerk's Office 07/19/2024

027266
-PJ-060

U.S. Bank
1555 N. Rivercenter Dr.
Suite 300
Milwaukee, WI 53212

000020028 02 SP 000638111854204 S

THE HEICO COMPANIES LLC
ATTN DONNA PETRUSHA CASH MANAGER
27501 BELLA VISTA PKWY
WARRENVILLE IL 60555

Part of Exhibit N

EXHIBIT B

Electronic Filing: Received, Clerk's Office 07/19/2024

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
BRUCE RAUNER, GOVERNOR ALEC MESSINA, ACTING DIRECTOR

217) 524-3300
TDD (217) 782-9143

December 7, 2016

JPMorgan Chase Bank, N.A.
Escrow Services
Attn.: Iryna Hlushanok
10 South Dearborn St. – 44th Floor, Mail Code: IL 1-0113
Chicago, IL 60603

UPS# 1Z 621 589 03 6481 5302

Re: 1978030005 – Will County
RCH Newco II, LLC
ILD990785453
Financial File

Dear Ms. Hlushanok:

The purpose of this letter is to authorize the termination of the Trust Agreement (Trust Fund No. E 20801), in accordance with the terms of the trust agreement and 35 Ill. Adm. Code 725.245(a)(12).

This Trust Agreement was established on October 7, 2007 by and between RCH Newco II, LLC ("Grantor"); JPMorgan Chase Bank, NA [as successor to J.P. Morgan Trust Company] ("Trustee"); and Illinois EPA ("Beneficiary") to fulfill the financial assurance requirements of 35 Ill. Adm. Code, Part 725, Subpart H for the Grantor's facility on New Avenue, Lemont, Illinois. RCH Newco II, LLC has provided approved alternate financial assurance to replace the Trust Agreement with JPMorgan Chase Bank, NA; therefore, the Trust Agreement and associated Trust Fund Number E 20801 can be terminated. Any funds from the termination of this Trust Agreement and its associated Trust Fund may be released to the Grantor, RCH Newco II, LLC.

If you have any questions, please contact Robert Mathis, Jr. at (217) 785-7403.

Cordially,

Alec Messina
Acting Director

cc: William J. Sawitz – The HEICO Companies

Part of Exhibit N

EXHIBIT C

Electronic Filing: Received, Clerk's Office 07/19/2024

ACTION BY WRITTEN CONSENT
OF THE MEMBER MANAGER OF
RCH NEWCO, II L.L.C.

The undersigned, being the manager of RCH Newco II, L.L.C., a Delaware limited liability company, (the "**Company**"), in accordance with the Delaware Limited Liability Act, do hereby consent to, adopt and approve the following resolutions:

RESOLVED, that any one of the following Company Officers:

President
Vice President
Treasurer
Secretary
Assistant Secretary

is individually authorized to approve one or more banks in which to open deposit and/or securities accounts (each an "Authorized Bank") and to designate one or more other Company officers, agents or employees (each such officer or designated officer, an "Officer" and each such designated agent or employee, a "Designee") to: (a) open or close one or more deposit and/or securities accounts (the "Accounts") with Authorized Banks; (b) execute and deliver in the Company's name such agreement(s) regarding the Accounts and the services related thereto as an Authorized Bank may from time to time require; (c) authorize and execute transactions on the Accounts, including, without limitation, (i) signing checks and other instruments withdrawing funds from the Accounts, including those payable to cash or to persons who sign them, (ii) requesting funds transfers by an Authorized Bank to and from the Accounts, (iii) entering into arrangements for the processing of automated clearing house ("ACH") debit entries and/or ACH credit entries to and from the Accounts, and (iv) endorsing on behalf of the Company, and otherwise negotiating, checks and other items payable to the Company; (d) incur overdrafts and other obligations in the Accounts at Authorized Banks in connection with any of the products, services, or activities authorized by these resolutions; and (e) invest the Company's funds on such terms and conditions as such Officer or Designee, as applicable, deems appropriate;

RESOLVED, that the Company is authorized to enter into any other arrangements, agreements and documents with respect to any of an Authorized Bank's deposit and treasury management products and services, in such form and on such terms and conditions as may be agreed to by an Officer or Designee signing such agreements and documents;

RESOLVED, that except to the extent provided otherwise in any agreement between the Company and an Authorized Bank, the Company authorizes the Authorized Banks to rely on any act or communication, including telephone, wire or electronic communication, purporting to be done by any officer, employee or agent of the Company if such reliance is in good faith, and the Company shall be bound to the Authorized Bank by any such act or communication relied on by the Authorized Bank in good faith;

RESOLVED, that these resolutions are in addition to, and not by way of limitation on, other resolutions, if any, of the Company's managers or members in favor of an Authorized Bank and that the authority conferred by these resolutions shall be deemed retroactive and any and all acts authorized by these resolutions performed prior to the passage of these resolutions are hereby approved and ratified as the official acts and deeds of Company; and

RESOLVED, that each of these resolutions shall continue in full force and effect until an Authorized Bank has received express written notice of its rescission or modification by a resolution duly adopted by the Company's managers or members and certified by a Secretary or Assistant Secretary of Company.

FURTHER RESOLVED, that the Secretary of the Company is hereby authorized and directed to enter this written consent in the minute book of the Company.

IN WITNESS WHEREOF, the undersigned have executed this written consent this 7th day of February, 2014.

RCH NEWCO GP, INC.

By: Jeremy Steele
Its: Assistant Secretary

Electronic Filing: Received, Clerk's Office 07/19/2024

TRUST AGREEMENT

Trust Fund Number 2743350000 (1)

Trust Agreement, the "Agreement," entered into as of _____ (2) by and between RCH NEWCO II, LLC (3), a Delaware limited liability company (4), the "Grantor," and U. S. Bank (5), National Association (6), the "Trustee."

Whereas, the Illinois Pollution Control Board, "IPCB," has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility shall provide assurance that funds will be available when needed for closure and/or post-closure care of the facility.

Whereas, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein.

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

Now, Therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities and Cost Estimates. This Agreement pertains to the facilities and cost estimates identified on attached Schedule A (on Schedule A, for each facility list the EPA Identification Number, name, address, and the current closure and/or post-closure cost estimates, or portions thereof, for which financial assurance is demonstrated by this Agreement).

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the benefit of the Illinois Environmental Protection Agency (IEPA). The Grantor and the Trustee intend that no other third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by IEPA.

Section 4. Payment for Closure and Post-Closure Care. The Trustee shall make payments from the Fund as the IEPA Director shall direct, in writing, to provide for the payment of the costs of closure and/or post-closure care of the facilities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the IEPA Director from the Fund for closure and post-closure expenditures in such amounts as the IEPA Director shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the IEPA Director specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that;

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

The Agency is authorized to require, pursuant to Illinois Compiled Statutes, 1994, Chapter 415, Act 5, Section 21(f)(as amended) that this information be submitted to the Agency by the owner or operator of a hazardous waste storage, treatment or disposal site. Failure to provide the information may result in a civil penalty against the owner or operator of not to exceed $25,000 per day of violation. Falsification of this information by any person may constitute a Class 4 felony, and may also carry a fine for the first offense of not to exceed $25,000 per day. This form has been approved by the Forms Management Center.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the IEPA Director a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the IEPA Director shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the IEPA Director, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the IEPA Director to the Trustee shall be in writing, signed by the IEPA Director or his designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or IEPA hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or IEPA, except as provided for herein.

Section 15. Notice of Nonpayment. The Trustee shall notify the Grantor and the IEPA Director, by certified mail within 10 days following the expiration of the 30-day period after the anniversay of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the IEPA Director, or by the Trustee and the IEPA Director if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the IEPA Director, or by the Trustee and the IEPA Director, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the IEPA Director issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of Illinois.

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written.

Attest Signature of Grantor _____

Typed Name Terence R. Rogers

Title Vice President

Seal

Attest Signature of Grantor _____

Typed Name Matthew E. Weeks

Title Assistant Secretary

Seal

Attest Signature of Trustee _____

Typed Name Michael Countryman

Title Vice President

Seal

Attest Signature of Trustee _____

Typed Name _____

Title _____

Seal

CERTIFICATION OF ACKNOWLEDGEMENT

State of Illinois (1)

County of Cook (2)

The foregoing instrument was acknowledged before me this 10th day of August 2016 by Terence R. Rogers and Matthew E. Weeks of RCH Newco IL, LLC (5) a Vice President (6) Assistant Secretary (7) on behalf of the corporation.

Susan E. Floberg (8)

Signature of Notary Public

SUSAN E FLOBERG
OFFICIAL SEAL
Notary Public, State of Illinois
My Commission Expires
September 23, 2017

Seal

EXHIBIT A
to
TRUST AGREEMENT

Facility Name: **Former Robertson-Ceco Corporation Property**

Address: **New Avenue, Lemont, Will County, Illinois 60439**

Federal EPA Identification Number: **ILD990785453**

The following are designate to sign on the behalf of **Company or Corporation Name:**

Name	**Telephone Number**	**Signature**
Terence R. Rogers	(312) 456-2557	
Matthew E. Weeks	(630) 353-5039	

SCHEDULE A
to
TRUST AGREEMENT

Facility Name:	**Former Robertson-Ceco Corporation Property**
Address:	**New Avenue, Lemont, Will County, Illinois 60439**
Federal EPA Identification Number:	**ILD990785453**
Post-closure cost estimate:	**$289,000.00**

Electronic Filing: Received, Clerk's Office 07/19/2024

SCHEDULE B
to
TRUST AGREEMENT

Facility Name: **Former Robertson-Ceco Corporation Property**

Address: **New Avenue, Lemont, Will County, Illinois 60439**

Federal EPA Identification Number: **ILD990785453**

List of Property Comprising Trust Fund

List dollar amount that is funding trust along with the financial institution name, address and contact information

Dollar Amount Funding Trust: $289,000.00

Financial Institution: U.S. Bank National Association
MK-IL-SLTR
Attn: Global Trust Services
190 S. LaSalle St
Chicago, IL 60603
Fax: (312)332-8008

Part of Exhibit N

EXHIBIT D

Electronic Filing: Received, Clerk's Office 07/19/2024

CARLSON ENVIRONMENTAL

April 13, 2021 PN 100.01

Ms. Deanne Virgin
Illinois Environmental Protection Agency
Bureau of Land #24
1021 N. Grand Avenue East
Springfield, Illinois 62702-3998

RE: 2020 Hazardous Waste Report
1978030005 -- Will County
Lemont/Ceco Corporation
ILD #990785453

Dear Ms. Virgin:

On behalf of RCH Newco II LLC, please find enclosed the 2020 Hazardous Waste Report Form IC, for the RCRA Hazardous Waste Management Unit at the above-referenced site. In addition, a copy of the 2020 Annual Groundwater Monitoring Report is included. The original copy of this report has been submitted to the IEPA Division of Land Pollution Control Permits Section.

If you have any questions, please contact me at (312)346-2140.

Sincerely,

CARLSON ENVIRONMENTAL, INC.

Bruce A. Shabino, P.G.
Senior Project Manager

enclosure

cc: Mr. Kevin Shudy

US EPA Number: ILD990785453

IEPA Number: 1978030005

ILLINOIS Environmental Protection Agency
2018 Hazardous Waste Report
Form IC - Identification and Certification

Company Name: RCH NEWCO II LLC

Address : Stephen Street

All information on this page is required.

For IEPA (Agency) Use Only:
___ Fee Enclosed ___ No Fee Enclosed

Section 1. HAZARDOUS WASTE ACTIVITIES

4 **RCRA Generator Status** as of 3-1-2019

1 = LQG: Greater than 1,000 kg/mo (2200 lbs/mo) of non-acute hazardous waste (Forms GM and T1 must also be completed using the complete electronic package)
2 = SQG: 100 to 1,000 kg/mo of non-acute hazardous waste
3 = CESGG: Less than 100 kg/mo of non-acute hazardous waste
4 = Nongenerator
IF your site is no longer a LQG, but was a LQG during calendar year 2018, YOU MUST COMPLETE THE REPORT USING THE COMPLETE ELECTRONIC PACKAGE

Other Generator Activities: Enter Y (yes) or N (no)

N United States Importer of Hazardous Waste

N Mixed Waste (hazardous & radioactive) Generator

All other hazardous waste activities: Enter Y or N

N Transporter of Hazardous Waste

N Transfer Facility (at your site) 40 CFR263.12

N Treater, Storer, or Disposer of Hazardous Waste (at your site)
Note: A hazardous waste permit is required for this activity.

N Recycler of Hazardous Waste (at your site)
Note: A hazardous waste permit may be required for this activity.

Exempt Boiler and/or Industrial Furnace:

N Small Quantity On-Site Burner Exemption

N Smelting, Melting, Refining Furnace Exemption

N Underground Injection Control

Section 2. UNIVERSAL WASTE ACTIVITIES: Y OR N

N Large Quantity Handler (5,000 kg) of Universal Waste. Mark the following types only if Yes.

N Batteries

N Pesticides

N Mercury Containing Equipment

N Lamps

N Destination Facility for Universal Waste.
Note: A hazardous waste permit may be required for this activity.

Section 3. Used Oil ACTIVITIES: Enter Y OR N

N Used Oil Transporter

N Used Oil Transfer Facility

N Used Oil Processor

N Used Oil Re-refiner

N Off-Specification Used Oil Burner

N Marketer who Directs Shipment of Off-Spec Used oil to Off-spec Used Oil Burner

N Marketer who First Claims the Used Oil Meets the Specifications

Section 4. ENTER THE 6 digit 2017 NAICS CODES(S) FOR THIS LOCATION

N/A

Section 5. TYPES:

Site Land Type (Enter code from list in instructions): 1

Owner Type (Enter code from list in instructions): 1

Date current owner Became Owner (mm/dd/yyyy): -/-/1990

Operator Type (Enter code from list in instructions): 1

Date current operator Became Operator (mm/dd/yyyy): -/-/1990

Section 6. Comments: N Enter Y (Yes) if you have comments regarding this page and attach extra sheet.

COST ESTIMATES FOR TSD FACILITIES, interim status and permitted

A. Closure cost estimate: $ .00

B. Estimate for post closure monitoring and maintenance costs (disposal facilities only): $ 49,800.00

Section 7. Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Certification: I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. Please print: Last Name Shudy First Name Kevin J. B. Title Vice President

C. Signature Kevin J. Shudy D. Date of Signature 4/6/21

Name, Telephone number, and email of person to contact if there are questions about this report:

Bruce Shabino, P.G. - Carlson Environmental, Inc. Phone (312) 899-0646 Fax (312) 346-6956

This Agency is authorized to require this information under 415 ILCS 5/4 and 21. Disclosure of this information is required. Failure to disclose this information may result in a civil penalty of not to exceed $50,000 for the violation and an additional civil penalty of not to exceed $10,000 for each day during which the violation continues (415 ILCS 5/42 and 44).

EXHIBIT O

Electronic Filing: Received, Clerk's Office 07/19/2024

RCH Newco II, LLC
27501 Bella Vista Parkway
Warrenville, IL 60555

By Email and Overnight Mail

July 11, 2022

Mr. Kenneth E. Smith
Illinois Environmental Protection Agency
Bureau of Land -- #33
Permit Section
1021 North Grand Ave. East
Springfield, IL. 62702

Re: RCRA Post-Closure Care Request for Modification and Cost Estimate
1978030005 -- Will County
RCH Newco II, LLC (f.k.a. Lemont/CECO Corporation)
ILD #990785453
RCRA Log No. C-68

Dear Mr. Smith:

RCH Newco II, LLC (RCH Newco) submits this post-closure care cost update prepared by Carlson Environmental Inc, (Carlson), for the purpose of requesting a modification of RCH Newco's approved closure and post-closure plan (RCRA Log No. C-68). Specifically, RCH Newco requests a release of financial assurance funds on the grounds that the value of the trust fund RCH Newco has established far exceeds the remaining cost of post closure care. 35 IAC 725.245(a). In the case of a post closure trust fund, as RCH Newco has established here, Section 715.245(a)(10) states:

> *10) During the period of post-closure care, the Agency must approve a release of funds if the owner or operator demonstrates to the Agency that the value of the trust fund exceeds the remaining cost of post-closure care.*

Carlson has reviewed the post-closure care costs associated with the closed RCRA Hazardous Waste Management Unit (Closure Unit) for the above-referenced site. Through the end of 2021, twenty-eight years of post-closure groundwater monitoring have been completed.

In the 2021 Annual Groundwater Monitoring Report submitted to Illinois EPA for the Closure Unit, Carlson stated:

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The Closure Unit was closed in 1988 and groundwater monitoring began in 1993. The original cost to conduct 30 years of post-closure groundwater monitoring at the Closure Unit was estimated at $376,973. This cost was based on 120 quarterly sampling events at the present value of money. To date, 60 separate sampling events have been conducted, and the Illinois Environmental Protection Agency has changed the frequency of the required sampling to semi-annually. With the new sampling plan, approved by the IEPA in a letter dated June 2, 2009, the project cost for the remaining 2 years through 2023 is estimated at $33,200. This estimate is based on the current average yearly cost multiplied by the 2 remaining years of sampling events, not the present value of money.

For the purposes of requesting a reduction in the financial assurance, Carlson has updated its estimate of final post-closure care costs in accordance with the guidance material provided by Ms. Kelly Hauser, Illinois EPA. Carlson's new cost estimates are based on the final two years of post-closure care.[1]

The estimated costs shown below are for the remaining activities required to complete the 30-year post-closure care period, which closes at the end of 2023.

Site Inspection (security, signs, fencing, final cover):	$0
Conducted by Carlson during sample collection events	

Site Maintenance (vegetative cover related):

Carlson Fieldwork and Associated Labor		$1,000
Equipment and Expenses		250
Clearing and Grubbing Overgrown Vegetation		5,175
	Subtotal	*$6,425*

Sample Collection and Analysis Cost (second quarter):

Carlson Fieldwork and Associated Labor	$2,925
Equipment and Expenses	475
Laboratory Analytical	

[1]While Ms. Hauser orally stated to RCH Newco that financial assurance might need to equal costs for a 10-year period based on "policy", there is no regulation or guidance that suggests a 10-year period is applicable or appropriate. In fact, based on the remaining annual expected cost of $35,018, a 10-year requirement would greatly exceed the financial assurance currently in place as required by regulation. There is no logic or support for such a "policy" in this case.

Analyte	# of Samples		
Total organic carbon	20		$3,565
Total organic halogens	20		1,840
pH	20		414
Specific conductance	20		621

Analyte	# of Samples		
Phenolics	6		$311
Sulfate	6		297
Chloride	6		255
Metals (Fe, Mn, Na)	6		428
Environmental sustainability fee	20		81
		Subtotal	*$11,262*

Sample Collection and Analysis Cost (fourth quarter):

Carlson Fieldwork and Associated Labor			$2,925
Equipment and Expenses			375
Laboratory Analytical			

Analyte	# of Samples		
Total organic carbon	20		$3,565
Total organic halogens	20		1,840
pH	20		414
Specific conductance	20		621
Environmental sustainability fee	20		81
		Subtotal	*$9,821*

Yearly Reporting Requirements and Associated Project Management:

Carlson Reporting (annual report, hazardous waste forms, etc.)		$5,850
Project Management		1,560
Expenses		150
	Subtotal	*$7,560*
	Total Yearly	*$35,018*
	Total Yearly X 2	***$70,036***

Abandon Groundwater Monitoring Wells:

Carlson Fieldwork and Associated Labor		$4,310
	Subtotal	***$4,310***

RCRA Post-Closure Care Cost Estimate
RCH NEWCO II Site

	Grand Total	***$74,346***
10% Contingency		***$7,435***
	Grand Total with Contingency	***$81,781***

The estimated cost to close out the 30-year RCRA post-closure period is approximately $81,781. These estimates are based on the current costs and value of money. The estimates are based on the attached cost estimates from a tree care company (vegetation related) and laboratory costs, as well as Carlson's hourly rates (See Exhibit A). The subcontracted costs include cost plus 15%.

RCH Newco maintains a financial assurance trust with US Bank, pursuant to a Trust Agreement approved by Illinois EPA. The US Bank Trust currently contains $294,726.42. (US Bank Statement attached as Exhibit B). In light of the remaining post-closure care estimate in comparison to the amount of the US Bank Trust, RCH Newco formally requests a release of the trust fund value that exceeds the most recent post-closure amount. Pursuant to 35 Ill. Adm. Code 725.245(a)(7), "[d]uring the operating life of the facility, if the value of the trust fund is greater than the total amount of the current post-closure cost estimate, the owner or operator may submit a written request to the Agency for release of the amount in excess of the current post-closure cost estimate." As the updated post-closure cost estimate is $81,781, and the current value of the US Bank Trust is $294,726.42, RCH Newco requests a release of $212,945.42.

We look forward to hearing from you.

Sincerely,

_____
RCH Newco II, LLC

Cc: Kelly Huser, Kelly.Huser@illinois.gov
Jennifer T. Nijman, Esq.
Bruce A. Shabino, P.G.

Enc. Original and three copies

EXHIBIT P

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Electronic Filing: Received, Clerk's Office 07/19/2024
1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 · (217) 782-3397
JB PRITZKER, GOVERNOR JOHN J. KIM, DIRECTOR

217/524-3300

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

NOV 15 2022

7011 1150 0001 0857 8322

Mr. William J. Sawitz
RCH Newco II, LLC
27501 Bella Vista Parkway
Warrenville, IL. 60555

Re: 1978030005 -- Will County
RCH Newco II, LLC – New Ave. & Ceco Rd.
ILD990785453
Log No. C-68
RCRA Closure
Permit Correspondence

Dear Mr. Sawitz

As you are aware, RCH Newco II, LLC (RCH Newco) located at New Avenue and Ceco Road has been required to provide post-closure care for the two-acre hazardous waste landfill under the facility's Interim Status Post-Closure Plan since January 1, 1993. The approved Interim Status post-closure plan (Log No. C-68) required post-closure care be maintained for a minimum of thirty (30) years or until at least January 1, 2023.

The purpose of this letter is to inform the facility that the Illinois EPA has conducted a review of the post-closure status of the subject hazardous waste management unit and has determined that the post-closure care period for the two-acre landfill must be extended to address current and future environmental concerns identified in this letter in accordance with 35 Ill. Adm. Code 725.218.(g)(2) and the USEPA's "Guidelines for Evaluating the Post-Closure Care Period for Hazardous Waste Disposal Facilities under Subtitle C of RCRA", dated December 15, 2016 (2016 USEPA Guidance).

The following comments and conditions apply to this determination:

1. In accordance with 35 Ill. Adm. Code 725.245(h), this letter shall constitute notification to RCH Newco that Illinois EPA has determined that extending the post-closure care period for the two-acre hazardous waste landfill at the RCH Newco site is required.

2. In accordance with 35 Ill. Adm. Code 725.218(g)(2)(A), the Illinois EPA's decision to extend the post-closure care period for the subject site will be publicly noticed through a newspaper and made available for public comment within thirty (30) days after the date of this letter by Illinois EPA. Illinois EPA will issue a final determination after the comment period ends and, if necessary, a public hearing is held.

3. In accordance with 35 Ill. Adm. Code 703.121(b), RCH Newco shall address the future post-closure care and long-term stewardship for the subject site under a RCRA Post-Closure Care Permit. Modification of the existing Interim Status Post-Closure Plan may be necessary to meet the requirements of 35 Ill. Adm. Code 724.211, 724.217, 724.218, and 724.131, and adequately protect human health and the environment.

4. The facility shall provide an application for a RCRA Post-Closure permit to the Illinois EPA Bureau of Land Permit Section within 180 days of Illinois EPA's final determination to extend the post-closure period as described in Condition 2 above. The Illinois EPA will provide the facility with the instructions for an application for a RCRA Post-Closure Permit when it issues its final determination.

5. The facility must continue to provide post-closure care for the unit in accordance with its existing approved post-closure plan, Illinois EPA letters with conditions and modifications to the approved post-closure plan, and the requirements of 35 Ill. Adm. Code Part 725 until a RCRA Post-Closure Permit is issued to the facility.

6. The facility must also continue to provide the Illinois EPA with an acceptable financial assurance for the post-closure care of the site to meet the requirements of 35 Ill. Adm. Code Part 725, Subpart H.

7. Pursuant to Section 39(g) of the Illinois Environmental Protection Act (the Act), necessary restrictions upon the future use of the site and long-term stewardship requirements to protect public health and the environment must be addressed, including permanent prohibition of the use of the site for purposes which may create an unreasonable risk of injury to human health or the environment.

The following criteria are the basis of the determination to extend the post-closure care period for the two-acre landfill at the above referenced facility:

a. Nature of waste in the landfill: The waste in the landfill includes a listed hazardous waste, electric arc furnace dust (EAF) (K061). This waste is also characteristically hazardous for hexavalent chromium (D007), lead (D008) and cadmium (D006). The waste was not pre-treated to meet the Land Disposal Restrictions (LDRs) for hazardous waste prior to disposal in the landfill.

b. Unit Type/Design: The landfill contains an admix of EAF (K061) and non-hazardous slag material. The bottom liner consists of compacted clay. The final cover consists of 2-feet of compacted clay, 18 inches of select fill and 6 inches of topsoil with vegetation.

   A viable cover is one of the most important mechanisms in preventing leachate generation and, ultimately, release of contaminants. The integrity and effectiveness of the landfill's final cover must be adequately monitored and maintained. Vegetation with well-established tap roots is growing on the landfill cover. This is not allowed under

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RCRA post-closure care requirements.

c. Leachate: The 2016 USEPA Guidance suggests that monitoring for leachate generation serves as the most effective way of examining the integrity of the waste management unit (e.g., it can suggest a cover or liner failure when leachate is detected late in the post-closure care period). The hazardous waste landfill does not have a leachate collection or monitoring system so it cannot be determined if leachate is present within the landfill. More specifically, it cannot be determined if the integrity and effectiveness of the cover system has been maintained during the post-closure period as required by 35 Ill. Adm. Code 725.410(a)(1) & (5). 725.410(b) and 725.217(a)(1).

d. Long Term Care: Establishment and maintenance of physical and legal controls are necessary to prevent unacceptable exposure to hazardous waste left in place. Long-term restrictions of future land use must be placed on the site to minimize future exposure.

This action shall constitute Illinois EPA's final action on the subject identified in this letter. The applicant may appeal this final decision to the Illinois Pollution Control Board pursuant to Section 40 of the Act by filing a petition for a hearing within thirty-five (35) days after the date of issuance of the final decision. However, the 35-day period may be extended for a period of time not to exceed ninety (90) days by written notice from the applicant and the Illinois EPA within the initial 35-day appeal period. If the owner or operator wishes to receive a 90-day extension, a written request that includes a statement of the date the final decision was received, along with a copy of this decision, must be sent to the Illinois EPA as soon as possible.

For information regarding the request for an extension, please contact:

Illinois Environmental Protection Agency
Division of Legal Counsel
1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794-9276
217/782 5544

For information regarding the filing of an appeal, please contact:

Illinois Pollution Control Board, Clerk
State of Illinois Center
100 West Randolph Street, Suite 11 500
Chicago, IL 60601
312/814 3620

Work required by this letter, your submittal or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. This letter does not relieve anyone from

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compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

If you have any questions regarding the groundwater related aspects of this project, please contact Adam Shade at 217/785-9633. Questions regarding other aspects of this project should be directed to Kelly Huser at 217/524-3867.

Sincerely,

W. Robert Watson, P.E., Manager
Manager, RCRA Unit
Division of Land Pollution Control
Bureau of Land

WRW: KDH:1978030005-RCRA-C68-Corr.docx
KDH

CC: Bruce Shabino, P.G., Carlson Environmental, Inc.
Norberto Gonzalez, USEPA Region V
Charlene Thigpen, FOS Des Plaines

EXHIBIT Q

Electronic Filing: Received, Clerk's Office 07/19/2024

NIJMAN · FRANZETTI LLP

10 South LaSalle Street · Suite 3600 · Chicago, Illinois 60603
312.251.5250 · fax 312.251.4610 · www.nijmanfranzetti.com

Jennifer T. Nijman
jn@nijmanfranzetti.com
312.251.5255

December 19, 2022

VIA EMAIL AND MAIL
Cassandra Metz
Illinois Environmental Protection Agency
1021 N. Grand Avenue East, P.O. Box 19276
Springfield, Illinois 62794-9276

Re: Public Comment for notice of intent to extend Resource Conservation and Recovery Act post-closure care period for a two-acre fill area at the RCH Newco II, LLC property located at New Ave. and Ceco Rd. in Lemont, Illinois.

Dear Ms. Metz:

On November 18, 2022, the Illinois Environmental Protection Agency (IEPA) published a public notice regarding its intent to extend Resource Conservation and Recovery Act (RCRA) post-closure care for a closed hazardous waste fill area (the Fill Area) at the RCH Newco II, LLC property located at New Ave. and Ceco Rd. in Lemont, Illinois (Property). This public comment is submitted on behalf of RCH Newco II, LLC (the Company). It is timely filed because the thirty day period for public comment ends on Sunday December 18, 2022, making Monday December 19, 2022 the final date for filing comments. This was confirmed by your email dated of December 15, 2022.

IEPA notified the Company of IEPA's intent to extend post-closure care in a letter dated November 15, 2022. In its letter, IEPA relied on a general regulation (35 Ill. Adm. Code 725.218(g)(2)) and the United Stated Environmental Protection Agency's (USEPA) "Guidelines for Evaluating the Post-Closure Care Period for Hazardous Waste Disposal Facilities under Subtitle C of RCRA" (USEPA Guidance) to justify an extended post-closure care period for the Fill Area. Specifically, the IEPA letter stated that the reasons to extend the post-closure care period are: (a) waste treatment and the nature of the waste (listed as hazardous), (b) the landfill type/design (concerns about vegetation), (c) the possibility of leachate (potential impact to groundwater), and (d) the need to ensure long-term care. While USEPA Guidance recommends weighing additional factors -- such as groundwater monitoring, site geology and hydrology, facility history, and integrity of the cover system -- to determine if post-closure care should be extended, it does not appear that IEPA considered those additional factors.

The regulations relied on by IEPA do not support or require extended post-closure care – especially because IEPA appears to be extending the post-closure period for some indefinite period of time. IEPA's November 15th letter cites to 35 Ill. Admin Code 725.218 (g)(2) which states that the Agency may propose to extend a post closure care period, but only if it "determines that it is

necessary to prevent threats to human health and the environment." IEPA is unable to support such a determination in this case.[1]

Site Background

The history of the Fill Area should be fully understood to comply with USEPA Guidance and Illinois regulations that require a finding of harm or threat of harm. At issue is a two-acre area that was used, with IEPA approval, to consolidate non-hazardous materials that had remnants of electric arc furnace dust (EAF) adhering to non-hazardous materials.

As background, in 1985, the then-owner of the Property (Ceco) took steps to close and remediate its Property by removing both non-hazardous materials and EAF dust resulting from steel processes, and properly disposing of the materials off-site. Ex. A, RCRA Facility Investigation Phase I Report, May 1996[2], pp. 4-8 (Phase I). However, for some of the non-hazardous materials, Ceco could not remove all traces of the EAF dust. *Id*. at 9. As a result, Ceco proposed and IEPA agreed to allow Ceco to consolidate the non-hazardous materials with traces of dust into the Fill Area. *Id*. The Fill Area was constructed in accordance with an approved IEPA closure plan. *Id*. The Fill Area contains approximately 2,500 cubic yards of EAF dust as compared to approximately 29,500 cubic yards of miscellaneous non-hazardous steel plant by-products that was co-excavated with the EAF dust. *Id*. In other words, only about 8.5% of the material in the Fill Area consists of EAF dust. Groundwater has been monitored since 1993, with no evidence of contamination migrating from the Fill Area.

The sole purpose for extending post-closure care beyond thirty years is to prevent threats to human health and the environment. USEPA Guidance, p. 1. As this comment demonstrates, extending post-closure care is not necessary to protect human health and the environment. Any potential for some future, unknown minimal risk that may exist is addressed by an existing deed restriction, which can be modified if necessary with additional restrictions on title.

I. Post Closure Care Should Cease Because the Fill Area Poses no Threat to Human Health or the Environment.

IEPA alleges because the Fill Area contains EAF, a listed hazardous substance, and because the EAF was not treated, post-closure care should be extended. However, IEPA's conclusion does not address the lack of any risk for migration and does not account for the unique characteristics of waste and the Fill Area itself. USEPA Guidance clarifies that the purpose of knowing whether waste was treated is because treatment reduces the "mobility or leachability of hazardous constituents" and is another "means of achieving LDR's groundwater protection goal." USEPA Guidance, p. 4. Here, no such mobility concern exists.

[1] IEPA also cites to 35 Ill. Adm, Code 725.245(h). (Nov. 15, 2022 letter, page 1, para. 1) That provision is inapplicable on its face as it relates to releasing an owner/operator from financial assurance. Further, that provision is based on receiving certifications from an owner that post closure care period has ended, and requires that the Agency show non-compliance with a post closure plan – none of which apply in this case.
[2] Attachments to RCRA Facility Investigation Phase I Report, May 1996 included in digital copy submitted via email.

The only reason for the Fill Area was to contain a small amount of EAF dust that could not be separated from non-hazardous steel waste. Only 8.5% of the Fill Area consists of the EAF dust – the remainder being non-hazardous materials. The Fill Area contents have not changed since the Fill Area was finished almost three decades ago. The Fill Area is covered with two feet of compacted clay, 18 inches of select fill and six inches of topsoil with vegetation to prevent infiltration. The Fill Area is lined with compacted clay to protect from migration. IEPA approved of the Fill Area design as appropriate for the waste at issue.

Without referencing the fact that thirty years of monitoring has shown no risk of harm, IEPA seems to be arguing that simply because a small amount of a listed hazardous waste exists, it must be assumed to be a threat to human health or the environment. That is not the standard set out by Illinois regulations or USEPA Guidance.

A. Thirty Years of Groundwater Monitoring at the Fill Area Demonstrates No Risk to Human Health and the Environment.

IEPA does not appear to evaluate almost three decades of groundwater sampling that shows there is no risk to human health and the environment. According to USEPA Guidance, "[g]roundwater monitoring serves as the primary means of detecting leachate releases and groundwater contamination." USEPA Guidance, p. 6. "Groundwater should not exceed risk-based concentrations for a reasonable exposure scenario (or point of exposure) using currently acceptable risk assessment methods and up-to-date risk-based levels and scenarios." *Id*. The objective of the groundwater sampling is to collect data that would determine whether the Fill Area is impacting the groundwater.

The well network around the Fill Area consists of five wells. Monitoring wells MWD-1 and MWD-5 are located hydraulically upgradient from the Fill Area for the purpose of monitoring the "background" groundwater concentrations. Ex. B., RCRA 2021 Annual Groundwater Monitoring Report, April 8, 2022[3], p. 2. Monitoring wells MWD-2, MWD-3, and MWD-4 are located hydraulically downgradient from the Fill Area. *Id*. The downgradient wells were installed at the limit of the waste management area to ensure the immediate detection of any hazardous constituent. *Id*. The placement of the wells was designed based on the northeastern potentiometric groundwater flow in the uppermost aquifer. *Id*.

Three decades of groundwater sampling history surrounding the Fill Area show *no* threat to human health or the environment from the Fill Area. Quarterly groundwater sampling began in April 1993. The sampling frequency was changed to semi-annual in 1996, with IEPA approval, based on the lack of impact to groundwater. RCRA post-closure ground water monitoring of the Fill Area showed that the hazardous constituents for which EAF dust is a listed hazardous waste (i.e., lead, cadmium, and hexavalent chromium), were either non-detectable or present in extremely low concentrations (well below any groundwater standard) in the ground water. Phase I, p. 2.

[3] Attachments to RCRA 2021 Annual Groundwater Monitoring Report, April 8, 2022 included in digital copy submitted via email.

Sample results from 2021 continue to show no impact to groundwater from the Fill Area. Based on the analytical data for both sampling events in 2021, groundwater did not exceed the drinking water standards as referenced in 35 IAC 725, Appendix C, USEPA Interim Primary Drinking Water Standards. RCRA 2021 Annual Groundwater Monitoring Report, April 8, 2022, p. 6. In fact, the groundwater sampling every year since monitoring started revealed similar results. See e.g., Groundwater and Hazardous Waste Reports 1993 to 2021. Further, inspection of the wells in 2021 shows the wells were in good condition and locked securely -- as they have been every year since 1993. *Id*. p. 2. In other words, the wells have been maintained to provide valid data. Consequently, the extensive history of groundwater monitoring indicates there is no threat to human health or the environment.

B. Groundwater Monitoring is Equally Relevant to Leachate in Assessing Impact.

IEPA alleges because there is no leachate collection or monitoring system, it cannot be determined if leachate is present or if the integrity of the cover has been maintained. IEPA ignores USEPA guidance that states that groundwater monitoring is "the primary means of detecting leachate releases and groundwater contamination." USEPA Guidance, p. 6. In fact, Illinois regulations allow for IEPA to consider either leachate OR groundwater monitoring results in determining whether there is the potential for migration of hazardous wastes at levels that may be harmful to human health and the environment (725.218 (g)(1)(A)(i)). Here, IEPA fails to consider the thirty years of groundwater monitoring that shows no potential for harm to human health or the environment.

The absence of a specific *leachate* monitoring system does not indicate there is an increased risk to human health or the environment where there is a long history of groundwater monitoring. Groundwater testing indicates there is no risk of or impact from any alleged leachate. Moreover, the geochemical conditions present in the subsurface show that transport of metals in the ground water as dissolved species will not occur. Phase I, p. 8. The presence of large amounts of alkaline slag and the calcium-magnesium carbonate which comprises the dolomitic limestone bedrock ensure that any low pH water entering the subsurface would be immediately neutralized, and any dissolved metals present in such water would precipitate as insoluble carbonate complexes. *Id*. These same permanently alkaline conditions will prevent any ground water moving through the subsurface from being capable of leaching metals from the Fill Area materials because the requisite low pH conditions required for leaching to occur, cannot exist. *Id*.

As to integrity of the Fill Area cover, inspections conducted for the last twenty years indicate the landfill cover is in good condition. The Company is currently in the process of general cover maintenance and is removing some vegetation that has grown in the area. As described in Section II below, ongoing maintenance of the cover can be established in a land use restriction if necessary.

C. The Fill Area Poses No Risk Because it is Located in a Secured, Industrial Area.

USEPA Guidance looks to "relevant facility location characteristics" such as "proximity to vulnerable areas" like residential areas and surface and drinking water sources, surrounding land use, areas prone to flooding and whether facility conditions minimize the potential for adverse

impacts on local populations if there is a release from the unit. USEPA Guidance, p. 7 IEPA's notice letter does not evaluate the Fill Area's location characteristics.

The Fill Area occupies two-acres surrounded by a ten-foot-high, locked chain link fence that is located in the center of 25 acres of industrial property formerly used by Ceco, and now owned by RCH Newco. Access to the Property is by an unnamed paved road from New Avenue. The entire Property, including the Fill Area, is surrounded by a heavily industrialized area.

The Fill Area is almost entirely in Zone C, which is characterized by minimal flooding. Phase I, p. 3. "There are no significant surface water bodies, streams or wetland areas located at the Property". *Id*. at p. 11. No drinking water sources exist downstream of the Fill Area that take water from the I & M Canal. *Id*. at 12. Similarly, no drinking water sources using ground water are located hydraulically down-gradient from the Property. *Id*. The location characteristics of the Fill Area support a finding of no risk to human health or the environment.

II. Reasonable Alternatives Should be Utilized in Lieu of Indefinite Post Closure Care

In its November 15th letter, IEPA states the "establishment and maintenance of physical and legal controls are necessary to prevent unacceptable exposure to hazardous waste left in place. Long-term restrictions of future land use must be placed on the Site to minimize future exposure." However, IEPA fails to consider the fact that the Fill Area is surrounded by a locked fence, and a deed restriction already exists on the Property to preclude access. The deed restriction, already recorded against the title of the Property, limits the Property to industrial use unless permission is granted by IEPA, restricts worker contact with the co-disposed material, and requires that any of the co-disposed material removed must be managed in accordance with the provisions of 35 Ill. Adm. Code, Subtitle G. Ex. C., Deed Restriction. In the event IEPA determines that additional property restrictions are necessary, they can be easily added without extending post closure care. The Deed Restriction could be converted to an environmental land use control (ELUC) to permanently restrict property use (at least until IEPA agrees to remove the restriction). ELUCS are enforceable documents (35 Ill. Admin. Code 742.1010(c)(3)). Examples of land use limitations or requirements that IEPA generally imposes include a prohibition of use of groundwater for potable purposes, an industrial/commercial property use restriction, and maintenance of an engineered barrier. "Environmental Land Use Control," IEPA Website; 35 Ill. Adm. Code 742 subpart J. In this case, the Deed Restriction already in place could include maintenance of the landfill cover if necessary. This would eliminate any potential argument IEPA has that there could be a risk to human health and the environment without ongoing maintenance.

Assuming IEPA can establish a threat of harm that is not addressed by the existing (or amended) Deed Restriction, Illinois regulations allow for more reasonable methods of including long term controls – rather than an indefinite RCRA permit. Specifically, 35 Ill. Adm. Code 703.121(b) (citing to 703.161) provides for an alternative Agency plan or other enforceable document (such as an administrative order on consent, or ELUC) to establish any long term controls that might be necessary.

Conclusion

Before a post-closure care period can be extended, IEPA must show cause – and must be able to show that there is a need to prevent threats to human health and the environment. 725.218(g). IEPA cannot make such a showing in this case as there is no such threat. The Fill Area on the Property contains only 8.5% of EAF dust mixed with non-hazardous materials, is in the center of 25-acres of land used for industrial purposes, has almost three decades of groundwater samples that are within acceptable limits, and can be adequately maintained with appropriate environmental land use controls. For these reasons, IEPA should withdraw its notice for the extension of post-closure care.

The Company requests a public meeting to address these issues.

Please contact the undersigned if you have any questions.

Very truly yours,

Jennifer Nijman
Counsel for RCH Newco II, LLC

attachments

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EXHIBIT R

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 15 2016

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

NOW THE
OFFICE OF LAND AND
EMERGENCY MANAGEMENT

MEMORANDUM

SUBJECT: Guidelines for Evaluating the Post-Closure Care Period for Hazardous Waste Disposal Facilities under Subtitle C of RCRA

FROM: Barnes Johnson, Director
Office of Resource Conservation and Recovery

TO: RCRA Division Directors, Regions 1-10
RCRA Enforcement Managers, Regions 1-10
Regional Counsels, Regions 1-10

Purpose

The purpose of this memorandum is to provide guidance to assist regulators in evaluating conditions at hazardous waste disposal facilities subject to Subtitle C of the Resource Conservation and Recovery Act (RCRA) that are approaching the end of the original 30-year post-closure care period, and in determining whether the post-closure care period should be adjusted or allowed to end. Any such determinations must ensure ongoing protection of human health and the environment. This guidance also provides information to assist facility owners and operators in preparing documentation to inform the regulators' evaluations.

This guidance has the additional benefit of helping regulated entities understand what may be necessary to ensure protection of human health and the environment at units subject to post-closure care requirements. This enables waste generators and handlers to have a better understanding of the costs associated with land disposal so they can better evaluate long-term waste management strategies, including waste minimization.

Introduction and Need for Guidance

The RCRA Subtitle C hazardous waste management regulations establish a post-closure care[1] period for certain hazardous waste treatment, storage and disposal facilities, and specify post-closure care activities. The post-closure care requirements apply to land disposal units (landfills, land treatment units,

[1] Post-closure care can be generally described as the period of time after closure during which owners and operators conduct specified monitoring and maintenance activities to preserve the integrity of the containment system and to continue to prevent or control releases of contaminants.

and surface impoundments) that leave hazardous waste in place after closure. Post-closure care also applies to some non-land-based units (*e.g.*, certain tanks or containment buildings) that cannot fully decontaminate or "clean close" [1] all equipment, structures, and soils. Post-closure care activities consist of two primary responsibilities: monitoring and reporting, and maintaining the integrity of the waste containment systems (see 40 CFR 264/265.117). Post-closure care for each hazardous waste management unit must begin after completion of closure of the unit and normally continue for 30 years after that date; the regulations also provide discretion to the permitting authority to adjust the length of the post-closure care period.

Many facilities around the country are approaching the end of the initial post-closure care period established in their RCRA permits or post-closure plans. Accordingly, questions have arisen about how to evaluate conditions at these facilities to determine whether the post-closure care period needs to be adjusted – that is, extended, or whether a 30-year post-closure care period is protective for a specific unit. In response, the Office of Resource Conservation and Recovery has developed this guidance recommending criteria to consider when evaluating facilities nearing the end of the post-closure care period [2] and thus ensure that human health and the environment will continue to be protected by the resulting determination. It also sets forth a recommended process for evaluating the post-closure care period in a timely fashion. Finally, this guidance discusses additional considerations that may be important for decision-makers when evaluating the adequacy of the post-closure care period.

This guidance supplements existing guidance on the post-closure care period, including the Technical Evaluation Criteria and Site-Specific Factors to Consider in Determining the Length of the Post-Closure Care Period, presented in the Appendix B of the *RCRA Guidance Manual for Subpart G Closure and Post-Closure Care Standards and Subpart H Cost Estimating Requirements* of January 1987.[3]

Regulatory Overview of the Post-Closure Care Period

[1] The RCRA Subtitle C regulations generally provide for two types of closure: closure by removal or decontamination (referred to as "clean closure") and closure with waste in place. The premise of clean closure is that all hazardous wastes have been removed from a given RCRA unit and any releases at or from the unit have been remediated. More information on clean closure is available in *Memorandum: Risk-Based Clean Closure* from Elizabeth Cotsworth, Acting Director Office of Solid Waste, March 16, 1998.

[2] This document is solely intended to provide guidance to federal and state regulators on implementing the RCRA Subtitle C regulations and to provide policy advice and recommendations. As such, this document does not impose any legally binding requirements, and the use of such phrases as "guidance," "recommend," "may," "should," and "can," are not intended to impose or connote any legal obligations. Accordingly, this document does not change or substitute for any law, regulation, or any other legally binding requirement and is not legally enforceable. The policies described in this document may not apply to a particular situation based upon the circumstances, and EPA may deviate from or revise any of the policies described in this document without prior notice to the public. While EPA has made every effort to ensure the accuracy of the discussion in this document, the obligations of the regulated community are determined by statutes, regulations or other legally binding requirements. In the event of a conflict between the discussion in this document and any statute or regulation, this document would not be controlling.

[3] OSWER Policy Directive #9476.00-5, EPA/530-SW-87-10.

EPA regulations[4] require that the post-closure care period for each hazardous waste management unit subject to the requirements of 40 CFR 264/265.117 through 264/265.120 must begin after completion of closure of the unit and continue for 30 years after that date. Still, the regulations' identification of a default 30-year post-closure care period does **not** reflect a determination by EPA that 30 years of post-closure care is necessarily sufficient to eliminate potential threats to human health and the environment in all cases. Nor is the full 30-year period always necessary. In fact, the regulations provide for a permit authority to conduct a case-by-case review of the post-closure care period and establish arrangements to adjust the length of the post-closure care period on a facility or unit-specific basis, where the record supports a determination that the revised post-closure care period will remain protective of human health and the environment.[5]

The regulations provide that the decision to alter the length of the post-closure care period can be made at any time preceding *partial closure*[6] of a hazardous waste management unit subject to post-closure care; at any time preceding *final closure*[7] of a facility; or at any time during the post-closure care period for a particular unit. For permitted facilities, such a decision must be made through the permit renewal or modification procedures in parts 124 and 270 of the regulations. For interim status facilities, adjustment to the post-closure care period must be made in accordance with § 265.118(g).

According to § 264.117 the post-closure care period may be modified under certain circumstances provided the modifications are protective of human health and the environment:

- The post-closure care period may be shortened where "the reduced period is sufficient to protect human health and the environment (*e.g.*, leachate or ground-water monitoring results, characteristics of the hazardous wastes, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the hazardous waste management unit or facility is secure)."

- The post-closure care period may be extended where "the extended period is necessary to protect human health and the environment (*e.g.*, leachate or ground-water monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health or the environment)."

The provisions for interim status facilities are similar [§§ 265.117 and 265.118(g)].

For more details on particularly relevant portions of the federal RCRA hazardous waste regulations, see Appendix A.

Criteria to Consider for Evaluating the Post-Closure Care Period

[4] 40 CFR 264.117 (for permitted facilities) and 265.117 (for interim status facilities)
[5] EPA explained this approach early in the RCRA program. *See* 45 Fed. Reg. 33197 (May 19, 1980); *see also* 47 Fed. Reg. 32287-88 (July 26, 1982); 46 Fed. Reg. 2819 (Jan. 12, 1981).
[6] *Partial closure* is defined in 40 CFR 260.10 as "the closure of a hazardous waste management unit in accordance with the applicable closure requirements of parts 264 and 265 of this chapter at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile or other hazardous waste management unit, while other units of the same facility continue to operate."
[7] *Final closure* is defined in 40 CFR 260.10 as "the closure of all hazardous waste management units at the facility in accordance with all applicable closure requirements so that hazardous waste management activities under parts 264 and 265 of this chapter are no longer conducted at the facility unless subject to the provisions in § 262.34."

An overarching consideration in determining whether to extend the post-closure care period, or allow it to end, is the inherent uncertainty associated with the long-term presence of hazardous waste in the unit. Because many hazardous wastes degrade slowly or do not degrade under containment in these units, the continued presence of hazardous waste in the unit (*i.e.*, any case other than clean closure) indicates the potential for unacceptable impacts on human health and the environment in the future if post-closure care is not maintained. For instance, there are often uncertainties in whether controls will continue to function as planned and whether future activities will lead to unplanned exposures to human and environmental receptors. Even if there is no current evidence of actual releases from the facility, significant factors can change over time. For example, groundwater flow can change direction due to the sequencing of dry and wet years, pumping at municipal water supply or other well fields, or shifting gradients resulting from seasonal variations or tidal influences. Landfill components, such as caps and liners (which have a finite design life), can degrade over time, especially if maintenance is discontinued. Exposure pathways that have been eliminated by means of an engineered control may be reopened (*e.g.*, if animals burrow through the cap). Thus, continued monitoring and maintenance activities may be appropriate unless or until it can be demonstrated that site-specific conditions adequately minimize the risk that contaminants will migrate from the unit (*e.g.*, site geology/hydrogeology) or that, in the event the engineering controls fail, a release would not pose an unacceptable risk to human health and the environment. This section provides recommended criteria that can be used to evaluate site-specific conditions and associated risks or remaining uncertainties in determining whether to adjust the post-closure care period.

These criteria can also be periodically used to evaluate whether activities in the post-closure plan should be amended. For instance, if the regulator determines it is necessary to extend the post-closure care period, these criteria can be used to determine if the frequency of one or more post-closure care monitoring requirements could be reduced during that extended timeframe. Each criterion is not necessarily applicable for every unit in post-closure care, for example, the "Gas Collection System Integrity" criterion would not apply to units without a gas collection system. The questions provided under each criterion are intended to help identify potential threats to human health and the environment. However, they do not all need to be answered in order to make a decision concerning the appropriate post-closure care period and the monitoring/maintenance activities.

Waste Treatment: Knowing whether the hazardous waste was disposed prior to the effective date of the Land Disposal Restrictions (LDR) program is an important piece of information when evaluating site-specific conditions. Hazardous waste treatment that destroys harmful contaminants or reduces toxicity of the waste before placement in a land disposal unit provides a more lasting form of groundwater protection than waste containment alone. Similarly, through a process called stabilization or immobilization, metal contaminants – that cannot be treated – can be chemically and physically solidified or bound into the wastes that contain them (*e.g.*, through chemical fixation). Thus, reducing the mobility or leachability of hazardous constituents in a waste is another means of achieving LDR's groundwater protection goal. Relevant questions for this criterion include:

- Were all the wastes pre-treated in accordance with the treatment standards of the LDR program or does the unit contain wastes that were placed on the land prior to the effective dates of the LDR rules?

EPA recommends reviewing the waste analysis data for treated wastes in the land disposal unit.

Nature of Hazardous Wastes Remaining in the Unit: The current properties of the hazardous waste (*e.g.*, degradation, solubility, liquid-to-solid ratio) provide an important indication of the waste's ability to migrate or disperse in the environment.

- What is the degree of risk (*e.g.*, exposure pathways, probability of exposure) presently associated with the wastes in the unit?
    - Are the wastes highly toxic?
    - Do they degrade into substances that are more or less toxic, or non-toxic?
    - Are there indications that the waste might become incompatible with the liner?
- What is the potential for adverse impacts from releases based on the current understanding of contaminant fate and transport considerations (*e.g.*, presence of persistent, bioaccumulative contaminants, as compared to biodegradable contaminants; constituent speciation(s); and leaching profiles)?
- Is the waste in a stable state? Are there indications that the waste may become unstable?

EPA recommends that current data from regulatory standards be used for comparison to facility-specific performance goals articulated in the post-closure plan, and that, as necessary, the plan be updated to account for any new information on toxicity and carcinogenicity. EPA also recommends reviewing and possibly updating the list of constituents to analyze, since scientific understanding of constituents of concern may change over time. In addition, the data gathered should include an analysis of potential degradation products as well as of the types of wastes known to have been placed in the unit(s).

Unit Type/Design: The main objective of the disposal units is the containment of the hazardous waste. Thus, emphasis should be placed on the unit's ability to contain hazardous wastes over the long term.

- Is the unit, for example, a landfill, a surface impoundment, or a closed tank with residual contamination?
- Does the unit meet the minimum technology requirements (*e.g.*, double liners, leachate collection system)? Or was the unit already in existence at the time these requirements were promulgated and closed before retrofitting?
- To what extent does the overall design and construction of the unit minimize the need for long-term maintenance, resist the generation of leachate and emissions, and contain any remaining waste in perpetuity?

It is recommended that the permitting authority consider any unit-specific design, in concert with applicable closure and post-closure care requirements, when evaluating whether adjustment of the post-closure care period is warranted to protect against any potential impact on human health and the environment. There can be circumstances in which continuing to maintain unit-specific controls may be necessary to protect human health and the environment, particularly if the unit pre-dated the minimum technology requirements; this could support a decision to extend the post-closure care period. Conversely, there might be circumstances where the overall design and construction of the unit minimize the need for long-term maintenance and could support a decision to shorten or end the post-closure care period.

Leachate: The leachate collection and removal system controls leachate build-up on the liner, working in conjunction with the liner's barrier system to minimize the potential for groundwater contamination.

Monitoring for leachate generation serves as the most effective way of examining the integrity of the waste management unit (*e.g.,* it can suggest a cover or liner failure when leachate is detected late in the post-closure care period). [8]

- Will the integrity and functionality of the leachate collection system, leachate generation rate, and leachate quality remain adequate to prevent harm to human health or the environment in the absence of post-closure care?
- Can the facility owner or operator show through monitoring/modeling and/or statistical analysis that the leachate would not pose a threat to human health and the environment because it would not exceed applicable standards at compliance or exposure points?
- Is it likely those standards will be exceeded in the future, for example, through formation and release of degradation products? Do the data demonstrate that there are no increasing trends in the concentration of leachate constituents?
- Can the facility owner or operator demonstrate that maintenance and operation of the leachate collection system can be ceased without posing a threat to human health and the environment?

EPA recommends that potential impacts from changes in leachate characteristics and generation rate that could result from discontinued maintenance be considered.

Groundwater: Groundwater monitoring serves as the primary means of detecting leachate releases and groundwater contamination. It is important that groundwater analytical results, adequacy and reliability of the groundwater-monitoring network, and groundwater-monitoring well integrity be evaluated before the post-closure care period nears its end.

Groundwater should not exceed risk-based concentrations for a reasonable exposure scenario (or point of exposure) using currently acceptable risk assessment methods and up-to-date risk-based levels and scenarios. If the evaluation determines that unacceptable risk exists, these risks should be addressed. The risk evaluation should consider reasonable current or future groundwater use in the general area of the site (*e.g.*, if a drinking water source is located nearby).

Review of the groundwater monitoring system should have been done as part of operation and maintenance inspections over time. Evaluation of the groundwater monitoring network should refer to the most recent operation and maintenance inspection. The well network evaluation should look at groundwater flow direction, well construction, and placement relative to groundwater flow direction.

[8] "If leachate is generated late in the post-closure care period, this could suggest a cover or liner failure warranting an extension of the post-closure care period." See page B-13 of the RCRA Guidance Manual for Subpart G Closure & Post-Closure Care Standards and Subpart H Cost Estimating Requirements, EPA/530-SW-87-010 (January, 1987).

- Is groundwater quality in compliance with current standards?
- Have there been changes or are changes anticipated in land use/groundwater use that could change the applicable standards (*e.g.*, introduction of agricultural irrigation to an area) or the directional flow (*e.g.*, sequencing of dry and wet years, pumping at municipal water supply or other well fields, or shifting gradients resulting from seasonal variations or tidal influences)?
- Do the data indicate any trend in the concentration of analytes in groundwater?
- Has an expanded list of analytes (*e.g.*, selected from Appendix VIII of 40 CFR part 261) been considered for analysis within a reasonable time frame?
- Have the monitoring wells been maintained to provide valid data, for example, no well screen occlusion?

Siting and Site Geology/Hydrogeology: Relevant facility location characteristics (which might have changed since the post-closure plan was approved) may include proximity to vulnerable areas such as residential areas and surface and drinking water sources. The current and reasonably anticipated future land use of the facility and surrounding properties may also be relevant. Location in potentially vulnerable areas increases the likelihood and potential severity of releases. For example, if units are located in areas prone to flooding or with a high water table, it may be appropriate for reviewers to consider the potential for continuing risks to surface water in evaluating whether to modify the post-closure care period. Conversely, units located in areas not prone to flooding, or at great distance from the water table, might have less need for long-term maintenance. Additional hydrologic and geologic conditions such as wetlands and earthquake zones, unstable soils, and areas at risk for subsurface movement could have changed since a unit first entered post-closure care and might also need to be taken into account. Proximity to residential areas can also present unique considerations. It is also appropriate to consider whether facility conditions minimize the potential for adverse impacts on local populations if there is a release from the unit. [9]

[9] If a unit managing vapor-forming chemicals has releases to the environment, it creates the potential for vapor intrusion issues to neighboring communities due to migrating plumes of contaminated groundwater or migrating soil gases, even when the community is some distance away. Consider evaluating risks from subsurface intrusion of toxic constituents (*e.g.*, vinyl chloride from aerobic degradation of perchloroethylene/trichloroethylene), or landfill gases such as methane and hydrogen sulfide, into buildings or structures located near the unit in post-closure care. See the *Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air*, June 2015.

- Does the site geology include subsurface strata that might contain or retard migration?
- What is the distance to the groundwater table, bearing in mind seasonal fluctuations, and the proximity of any useable aquifers?
- Is the unit located in a dry climate that provides minimal precipitation?
- Is the pattern of land use changing or likely to change in the future in a way that would bring people closer to or farther away from the facility?
- Have zoning laws changed?
- Is there a sizable buffer zone around the facility that could limit human activity near the site into the future?
- What is the distance to sensitive receptors for groundwater flow and emissions?
- Could the distance to sensitive receptors change under reasonably foreseeable future conditions, as reflected, for example, in land use development plans for the area?
- Is there the potential for impact on surface water quality?
- Have new potential exposure pathways been identified and evaluated? For example, vapor intrusion had not been identified as a potential exposure pathway at the time many permits were issued.[11]

In addition, EPA recommends that the potential effects of climate change be taken into account in making these assessments.[10] For example, flooding from more intense and frequent storms and sea-level rise may lead to contaminant releases from units subject to post-closure care requirements by transport of contaminants through surface soils, groundwater, surface waters and/or coastal waters. Saltwater intrusion and increased groundwater salinity in coastal aquifers may increase the permeability of clay liners installed at waste sites, such as landfills. Changes in precipitation patterns and temperature may also adversely affect the performance and efficacy of engineering controls.

Facility History: All waste management units (during active life or in post-closure care) must be adequately managed to prevent releases of contaminants to the environment. A well-managed facility is more likely to maintain its structural integrity. Good compliance records, routine maintenance and inspections, emergency procedures to handle natural disasters, and prompt and efficient response to spills and other incidents, are some of the management practices that help demonstrate whether the unit has been adequately managed.

[10] For more information on climate change adaptation consult the "Climate Change Adaptation Technical Fact Sheet: Landfills and Containment as an Element of Site Remediation," EPA 542-F-14-001 (May 2014).

- From the facility records (including frequency of all maintenance activities), to what extent did the unit closure design and activities described in the closure plan and closure certification minimize the need for ongoing monitoring and maintenance?
- Has past noncompliance with regulatory requirements contributed to present environmental conditions that warrant an extension of the post-closure care period (*e.g*., non-compliance with current LDR standards)?
- Is there a history of any releases and what are current contaminant levels?
- If a release did occur, have corrective measures been successfully implemented and has subsequent monitoring shown no evidence of a recurrence?
- Are analyses being conducted for the correct parameters?
- How complete and accurate is the facility operating record?
- Is there confidence that the record accurately reflects spills, releases, lapses in maintenance or other events that may have a bearing on potential facility impacts?
- To what extent have closure activities minimized or eliminated escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground, surface waters or the atmosphere during the post-closure care period?

In order to fully understand the facility history, EPA recommends that the permit authority also review the closure plan and certification of closure. [11]

Gas Collection System Integrity: For units that have a landfill gas collection system, it is important to analyze the extent to which it is capable of being modified or shut down at the end of the post-closure care period without exceeding emission levels that are consistent with applicable regulatory standards and with public safety at the facility. In addition, because gas emissions can increase or decrease over time, it is recommended that statistical or graphical analysis of the data be used to identify any significant changes in gas emissions.

- To what extent is the gas collection system capable of being modified or shut down at the end of the post-closure care period without exceeding emission levels that are consistent with applicable regulatory standards and with public safety at the facility?

Integrity of Cover System: A viable cover is the most important mechanism in preventing leachate generation and, ultimately, releases of contaminants. Cracks, burrows from animals, and other problems are likely to occur after termination of post-closure care. If testing and inspection end, problems can go undetected and releases could occur. Thus, it is vital to evaluate the performance of the cover system during the post-closure care period.

[11] For further information on closure performance standards, see 40 CFR 264.111 and 265.111.

- Has the cover system been designed and maintained to minimize migration of water into the management unit and to prevent contaminants from escaping into the environment?
- Has periodic testing or inspection been conducted to identify and assure any necessary repairs? Potential concerns include differential settlement, problems with cover integrity (cracks, burrows, etc.), cover drainage, and the adequacy of the diversion or drainage system. Even where such problems have not occurred, are they likely to arise without long-term care, *e.g.*, will the cover system remain intact without mowing to prevent growth of trees?
- Is the remaining waste likely to be so benign that even with a compromised cover system release of hazardous constituents is unlikely?
- To what extent will the integrity of the cover system be preserved in the absence of long-term care or with reduced maintenance requirements?

For alternative covers, it is recommended that the potential effects of climate change (*e.g.*, increasing frequency and intensity of weather events) be taken into account to the extent practical. For example, will the vegetation remain viable under altered precipitation patterns?

Long-Term Care: The concept of long-term care (also known as long-term stewardship) generally includes the establishment and maintenance of physical and legal controls that are necessary to prevent unacceptable exposure to hazardous waste or contaminated environmental media left in place at a site or closed facility. As a general matter, the RCRA post-closure care requirements (for example, monitoring and cap maintenance) fall under the umbrella of long-term care. When considering whether to adjust the post-closure care period, permitting authorities should evaluate any continuing need to maintain engineering controls (ECs),[12] particularly those specified in the RCRA post-closure care regulations.

- How will the potential for human exposure to contamination be minimized in the absence of RCRA post-closure care?
- How is the integrity of the entire containment system going to be preserved over time?
- Can maintenance and monitoring activities cease or be reduced without causing an adverse impact to human health and the environment?

A further need to maintain ECs could justify an extension of the post-closure care period. This may be the case even if the frequency of some activities could be adjusted (*e.g.,* some activities may be needed more frequently in the early years of the post-closure care period and less frequently later).

The RCRA post-closure care regulations provide for the imposition of institutional controls (ICs)[13] as well. For example, §§ 264/265.117(c) provides that post-closure uses of a property where hazardous wastes remain after final or partial closure must never be allowed to disturb the integrity of the containment system or the functioning of the monitoring system, with limited exceptions. In addition, §§ 264/265.119(b)(1)(ii) provide that the owner or operator must record a notation, in accordance with state law, on the deed to the facility property – or on some other instrument which is normally examined during title search – that will in perpetuity notify any potential purchaser of the property that, among other things, the property's use is restricted under the RCRA closure/post-closure regulations. States can

[12] Engineering controls are the engineered physical barriers or structures (*e.g.*, caps, impermeable liners, mitigation barriers, or fencing) designed to monitor and prevent exposure to the contamination.
[13] Institutional controls are administrative or legal instruments (*e.g.*, deed restrictions/notices, easements, restrictive covenants, zoning) intended to minimize the potential for human exposure to contamination by limiting land or resource use.

choose to supplement or support such deed restrictions under state law, *e.g.*, by setting up a deed restriction tracking system, ensuring that deed restrictions remain in place, or ensuring that information on existing ICs is available to interested parties.

Even in cases where the post-closure care period need not be extended to protect human health and the environment, the permitting authority may want to ensure that some long-term ICs, such as an easement that provides access to the property, are continued. EPA recommends that any ICs (under state or local authority) needed beyond the post-closure care period be in place before the post-closure care period ends. EPA expects that the permit authority would typically need to assess the availability and adequacy of other potential mechanisms for overseeing ICs as part of evaluating whether any modification to the post-closure care period was warranted.

EPA also recommends that consideration be given as to whether a funding source is available to support any necessary ECs and ICs in the future (see Appendix B for a list of ICs resources.) This could be done, for example, as part of an anticipated future use (or end-use strategy) that generates revenue, so that protective controls at the unit can be continued while supporting beneficial reuse of the land into the future.

Recommended Approach for Reviewing Hazardous Waste Management Units Approaching the End of the Post-Closure Care Period

EPA believes that, at a minimum, it is important to make a decision about the length of the post-closure care period, and to document such decision, well before that period nears its end. Therefore, EPA recommends that regulators assess the overall status of all the units under post-closure care, and plan to evaluate the adequacy of their post-closure care periods well in advance of their anticipated conclusions. EPA also recommends that the results from the evaluation of the post-closure care period be included in the regulator's administrative record for the facility.

As stated before, the federal RCRA hazardous waste regulations provide discretionary authority to the permitting authority to extend or shorten the length of the post-closure care period. However, the facility owner or operator is responsible for providing the information necessary to support this decision (see, for example, 40 CFR 270.30(h), Duty to provide information). A lack of relevant and complete information may justify a conclusion by the regulatory authority that extension of the post-closure care period is necessary to protect human health and the environment until such information is provided.

EPA's recommendations for evaluating units approaching the end of the post-closure care period are discussed in more detail below.

Timing: Regulators should track permit terms and dates of all post-closure permits and have a strategy for when they will begin looking at whether to adjust the post-closure care period, allowing enough time for the necessary steps to take place prior to the 30-year expiration:

- Identify and gather necessary information
- Evaluate information
- Decide whether to adjust the post-closure care period
- Incorporate tentative decision into permit renewal (or modification) process.

For units with operating permits, EPA recommends starting the process at least 18 months before the expiration of the post-closure permit or post-closure care period, whichever comes first. It is important to keep in mind that in accordance with § 270.1(c) units subject to post-closure care must have post-closure permits or an enforceable document in lieu of a post-closure permit and, under § 270.50, permits can be issued for no longer than ten years. Consequently, over the course of a 30-year post-closure care period, the permit would normally need to be renewed at least twice (unless the post-closure care period has been modified). In addition, for a permitted land disposal facility, the length of the post-closure care period is an important component of the five-year review required under § 270.50(d). The facility owner or operator may also initiate the post-closure care evaluation and/or modification process by submitting a permit modification. Similarly, regulators should evaluate petitions to end or shorten the post-closure care period in a timely manner.

For facilities conducting post-closure care under interim status, regulators might want to adopt time frames for review similar to those of permits (*e.g.*, every ten years) to initiate the process of identifying and gathering relevant information. At a minimum, they should evaluate the adequacy of the post-closure care period well in advance of its end date. The facility owner or operator may also initiate the process by submitting a revision to their post-closure plan, including a petition in accordance with § 265.118(g)(1).

Post-Closure Plan: When considering adjusting or ending the post-closure care period, regulators should request a copy of the most current version of the approved post-closure plan, along with any proposed revisions provided by the owner or operator. Under §§ 264.118(b) and 265.118(c), the post-closure plan identifies certain activities (and their frequency) that must be conducted during the post-closure care period (*e.g.*, monitoring and maintenance). The post-closure plan may also identify performance standards or performance goals, which should be updated to account for any new information on toxicity and carcinogenicity. The post-closure plan thus provides an important starting point for the review. The project file should have a history of permit modifications including those made to the post-closure plan. It is also important that the results of the post-closure period assessment be incorporated into a revised post-closure plan (and the permit), as appropriate.

Relevant Information: As part of the review of the post-closure plan and any relevant historical information, regulators should determine whether they possess the information necessary to adequately evaluate the conditions at the unit so that a decision about the post-closure care period can be made. Relevant information may include monitoring reports, results from testing or inspections of the cover system, information concerning land use and institutional controls, and any other information that would be helpful in determining whether post-closure care continues to be needed for the unit. The absence of adequate information (*e.g.*, to address unresolved risk issues), including failure of the permittee to provide necessary information, will make it difficult for the permitting authority to conclude that allowing the post-closure period to end or shortening the post-closure care period meets the regulatory standard. The permitting authority can conclude that an extension of the post-closure care period is necessary to protect human health and the environment until the information necessary to make a final determination is available. Any proposal to adjust the post-closure care period should be supported by adequate data and analysis to demonstrate the anticipated long-term performance of the unit. To account for cyclical fluctuations in weather and hydrology, EPA recommends that multiple-year performance data be considered (*e.g.*, ten years).

The recommended criteria outlined in the previous section are also relevant to inform deliberations on whether and what additional information about the facility is necessary.

If information becomes available indicating changing circumstances that might necessitate the need to revisit the post-closure care (*e.g.,* monitoring results show leaching) it is recommended that the regulator immediately request any additional information needed from the facility owner or operator to inform a decision about adjusting the post-closure care period. This can be accomplished through various means, including under the facility's permit terms (*e.g.*, under § 270.30(h), the permit holder has a duty to provide relevant information and records; under § 270.30(k)(4), monitoring results must be reported at intervals specified in the permit); through enforcement of the relevant interim status regulations; or through inspections or studies required pursuant to RCRA sections 3007 or 3013.

Expiration/Renewal of Post-Closure Permits: Permits are issued for a fixed term not to exceed ten years, which means post-closure permits will need to be renewed periodically throughout the post-closure care period (*e.g.,* a 30 year period could span three permit terms). Renewal applications must be submitted 180 days before the expiration date of an effective permit (see § 270.10(h)). Frequently, facility owners or operators do not submit a renewal application as they approach the permit's expiration date because they believe they will submit an acceptable certification that they have completed post-closure care for the unit(s). If, towards the end of the permit term, the permitting authority has not received a permit renewal application from the facility or if the permitting authority anticipates that there may be any issues regarding the acceptability of the certification of completion of post-closure care, EPA recommends that the regulatory authority remind the owner or operator that the regulations require the facility to provide the required certification or reapply for a permit, and request submission of the permit renewal application (see §§ 270.10(h) and 270.30(b)). Timely submission of an application for permit renewal will ensure that a valid permit is in effect (pursuant to § 270.51) pending a resolution. If a facility owner or operator does not submit a timely renewal application, and the permit is not administratively continued, the regulator may consider initiating an enforcement action or issuing a new permit (see § 270.51(c)).

Public Participation: Any potential adjustments to the length of the post-closure care period are subject to requirements for involving the public. For permitted facilities, extensions to the post-closure care period would be processed as a Class 2 modification, and reductions would be Class 3. In both cases, the regulator must provide public notice, hold a public meeting, and allow an opportunity for written comments to be submitted. Similarly, for adjustments in the length of the post-closure care period at interim status facilities, the regulator must provide public notice and an opportunity for written comments. Although there is no specific provision in the regulations to notify the public when a post-closure care period ends, we recommend that the regulatory authority consider providing notice to the local community when they release a facility owner or operatory from their post-closure care obligation.

Financial Assurance Requirements: Finally, permitting authorities should keep in mind that an adjusted post-closure care period may also necessitate revisions to the associated post-closure cost estimate and financial assurance.

Additional Considerations

Benefits of Post-Closure Permits: Permits are site-specific legal documents that establish the technical and administrative conditions to which a facility must adhere, in order to ensure that monitoring and maintenance activities are performed to prevent and address releases that could potentially threaten

public health and the environment and lead to cleanup obligations.[14] Thus, it is critical that any modifications to the permit are made, as necessary, to ensure they are complete and current. Permits are issued in, at most, ten-year increments to ensure they are periodically reviewed and requirements are updated as necessary. Additionally, facility owners and operators may request modifications to a permit. Although there are resources associated with permit maintenance, permits provide numerous benefits and protections such as:

- Basic Permitting Requirements – Permits are subject to the regulations governing facility permitting as set forth in 40 CFR part 270, which covers basic EPA permitting requirements, such as application requirements, standard permit conditions (*e.g.,* duty to comply, duty to reapply, duty to provide information), and monitoring and reporting requirements (*e.g.,* annual monitoring reports, compliance schedules).

- Unit-Specific Informational Requirements – Where applicable, owners or operators of a permit must submit information including detailed plans and engineering reports under § 270.14(b)(13).

- Financial Assurance – The owner or operator of a permitted unit must establish and maintain financial assurance. At facilities with units in post-closure, requirements include financial assurance for post-closure care in accordance with the approved post-closure plan for the facility, for as long as the unit remains subject to RCRA post-closure care requirements, including the post-closure permit requirement (§ 264.145).

- Corrective Action – Section 264.101 requires that all permits include requirements for facility-wide corrective action as necessary to protect human health and the environment.

- Enforceability – The permitting authority can enforce RCRA permit requirements including through facility inspections, record reviews, and other means. Section 270.28 provides that the permittee shall allow the regulatory authority to perform inspections at the facility.

- Public Participation – The permitting process of 40 CFR parts 270 and 124, and the permit modifications procedures in § 270.42 provide for public involvement. The public has the opportunity to comment on a facility's closure and post-closure plans as part of the initial permitting process and any amendments made to the plans as part of the permit modification procedures.

- Additional Conditions – Section 3005(c)(3) of RCRA (codified at 40 CFR 270.32(b)(2) and commonly referred to as the "omnibus authority"), allows for additional site-specific permit conditions to be incorporated into RCRA permits, should such conditions be necessary to protect human health and the environment.

- When permits incorporate the technical requirements contained in parts 264, 266, and 267 of the regulations, those permit conditions are not subject to challenge (*i.e.,* a number of permit conditions are required by the regulations themselves).

- Permit requirements cannot be terminated merely by sale of the property or bankruptcy of the owner or operator.

Relationship of Subpart F Corrective Action and Post-Closure Care: Corrective action and post-closure care requirements for a regulated unit may be linked, for example, in the case of groundwater

[14] Owners and operators of units subject to post-closure care, must have post-closure permits, "unless they demonstrate closure by removal or decontamination as provided under § 270.1(c)(5) and (6), or obtain an enforceable document in lieu of a post-closure permit, as provided under paragraph (c)(7) of this section" (see §270.1(c)).

monitoring and/or corrective action for releases from closed regulated units being handled pursuant to 40 CFR 264.90–264.100. In many cases, it may be desirable (either by the facility owner/operator, the regulatory agency, or both) to coordinate the post-closure care and monitoring/corrective action requirements. EPA recommends that the regulatory agency consider extending the post-closure care period (and associated permits or other enforceable documents) when corrective action continues beyond the original post-closure care period (see §§ 264.90(c)(3) and 264.96(c)).

Post-Closure Rule:[15] This rule amended the regulations applicable to facilities with land disposal units in two areas. First, it modified the requirement for a post-closure permit to provide EPA and the authorized states discretion to use a variety of authorities to address the post-closure period at non-permitted facilities. In addition, it amended the regulations governing closure of land-based units to allow EPA and the authorized states to address those units through the corrective action program in certain situations where regulated units and other solid waste management units have contributed to a release.

Scope of Guidance and Relationship to Existing Guidance: This document is not intended to provide guidance on decisions to extend or shorten the post-closure care period for *non-hazardous* waste units (*i.e.*, units regulated under RCRA Subtitle D), nor is it intended to replace existing guidance concerning establishment and attainment of remedial goals at contaminated facilities addressed under RCRA Subtitle C authority. This guidance is meant to supplement any existing guidance on the post-closure care period, and should be used in concert with the Technical Evaluation Criteria and Site-Specific Factors to Consider in Determining the Length of the Post-Closure Care Period, presented in the Appendix B of the *RCRA Guidance Manual for Subpart G Closure and Post-Closure Care Standards and Subpart H Cost Estimating Requirements* of January 1987.[16] This document provides additional considerations and factors that are not included in the 1987 guidance, such as vapor intrusion, updated toxicity values, and climate change considerations – although the updates presented in this guidance are not intended to be comprehensive.

Relationship to State Authorities: Under RCRA, states may apply to, and receive from EPA, authorization of a state program to operate in lieu of the federal RCRA hazardous waste program. *These state programs may be broader in scope or more stringent than EPA's RCRA hazardous waste regulations, and requirements can vary from state to state*. Members of the regulated community are encouraged to contact their state agencies for the particular post-closure care requirements that apply to them in any particular state.

For additional information, feel free to contact me, or your staff may contact Lilybeth Colon (colon.lilybeth@epa.gov, 703-308-2392) or Tricia Buzzell (buzzell.tricia@epa.gov, 703-308-8622).

[15] See *Standards Applicable to Owners and Operators of Closed and Closing Hazardous Waste Management Facilities: Post-Closure Permit Requirement and Closure Process*; Final Rule, October 22, 1998 (63 FR 56710).
[16] OSWER Policy Directive #9476.00-5, EPA/530-SW-87-10. Appendix B of this guidance presents technical factors to consider in determining the length of the post-closure care period as well as a number of hypothetical scenarios illustrating how site-specific information might be used to support an extension or reduction in the length of the period.

Appendix A: Overview of Federal Regulatory Provisions

Regulations governing RCRA post-closure care are set forth in 40 CFR part 264 subpart G for permitted facilities and part 265 subpart G for interim status facilities. Additional requirements for post-closure care of specific types of units are included in the regulations for those units. See §§ 264/265.197 (Tank Systems); §§ 264/265.228 (Surface Impoundments); §§ 264/265.258 (Waste Piles); §§ 264/265.280 (Land Treatment Units); §§ 264/265.310 (Landfills); § 264.603 (Miscellaneous Units); §§ 264/265.1102 (Containment Buildings); and §§ 264/265.1202 (Hazardous Waste Munitions and Explosives Storage).

Regulations governing financial assurance for post-closure care are set forth in 40 CFR part 264 subpart H for permitted facilities and part 265 subpart H for interim status facilities.

Regulations governing facility permitting are set forth in 40 CFR part 270.

> *Post-Closure Care* – Sections 264.117(a) and 265.117(a) establish general requirements for post-closure care and a 30-year post-closure care period. However, the regulations also allow the permitting authority to shorten the 30-year post-closure care period if the reduced period is sufficient to protect human health and the environment, or to extend it, if necessary (see the *Post-Closure Plan Amendment* section for more details). Sections 264.117(a)(2)(i) and 265.117(a)(2)(i) provide the following examples for shortening the post-closure care period: "...(*e.g.*, leachate or groundwater monitoring results, characteristics of the hazardous wastes, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the hazardous waste management unit or facility is secure)."
>
> Sections 264.117(a)(2)(ii) and 265.117(a)(2)(ii) provide the following example for extending the post-closure care period: "...(*e.g.*, leachate or groundwater monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment)."
>
> *Post-Closure Plan* – Under §§ 264.118 and 265.118, the owner or operator of specified units must have a written post-closure plan. The plan must identify monitoring and maintenance activities that will be carried out after closure, and their frequency, to assure compliance with the requirements of specific subparts, including subparts F, K, L, M, N and X, where applicable. For permitted facilities (§ 264.118(a)), the post-closure plan must be submitted with the permit application and approved by the permitting authority as part of permit issuance procedures. The approved post-closure plan becomes a condition of any RCRA permit issued (see the *Post-Closure Plan Amendment* section for more details). For interim status facilities (§ 265.118), the owner or operator must submit the post-closure plan to the permitting authority within specified time frames, and the regulations provide for making the post-closure plan available to the regulatory authority.
>
> *Procedures for Post-Closure Plan Amendment* – For permitted facilities, the process for making changes to the post-closure plan is through permit modification (permit modification procedures are set forth in § 270.42). Under § 264.118(d)(1), the owner or operator may submit a written notification or request for a permit modification to amend the post-closure plan. Under § 264.118(d)(2), the owner or operator must submit a written notification of the permit modification or request for a permit modification to authorize a change in the approved post-closure plan under certain circumstances. Specific reasons set forth in the regulations include changes in operating plans or facility design that affect the approved post-closure plan, and

events occurring during the active life of the facility that affect the approved post-closure plan. For interim status facilities, § 265.118(d) prescribes procedures for amending the post-closure plan. The permitting authority may also request modifications to the post-closure plan under §§ 264.118(d)(4) and 265.118(d)(4).

Procedures for Post-Closure Care Period Adjustment – Adjustments to the post-closure care period may be initiated at any time preceding partial or final closure or at any time during the post-closure care period of a particular unit. For interim status facilities, § 265.118(g) prescribes a process for extending or shortening the post-closure care period that includes provisions for public involvement. For permitted facilities, § 264.117(a)(2) provides for shortening or extending the post-closure care period in accordance with the permit modification provisions in parts 124 and 270.

Section 270.41 provides for Agency-initiated permit modifications. EPA may modify a permit for the following reasons: if there have been material and substantial alterations or additions to the facility; there is new information that was not available at the time of permit issuance; new statutory or regulatory requirements were promulgated; EPA has cause to initiate a compliance schedule under § 270.33; or as necessary to assure that the facility continues to comply with the currently applicable requirements in parts 124, 260 through 266, and 270, when a permit for a land disposal facility is reviewed by the Director under § 270.50(d).

Section 270.42 contains the regulations that apply to the modification of a permit at the request of the permittee. For all modifications, the permittee submits information to EPA that describes the exact change to be made to the permit conditions, identifies whether the modification is Class 1, 2, or 3, and provides the applicable permit application information.

The process for extending the post-closure care period is a Class 2 modification, while the process for shortening the post-closure care period is a Class 3 modification (§ 270.42, Appendix I, E2 and E3). These procedures include provisions for public involvement. The post-closure care period can also be modified through permit renewal under § 270.32(d).

Financial Assurance for Post-Closure Care – EPA's regulations under parts 264/265 subpart H establish requirements for financial assurance, including financial assurance requirements for post-closure care (see §§ 264.140 and 265.140). Under §§ 264.144 and 265.144, the owner or operator is required to have detailed written cost estimates for post-closure monitoring and maintenance in accordance with the applicable post-closure care requirements. Under §§ 264.145 and 265.145 generally, the owner or operator is required to establish financial assurance for post-closure care in an amount equal to the current post-closure cost estimate.

Certification of Completion of Post-Closure Care and Release of Owner and Operator from Financial Assurance Requirements – Under §§ 264.120 and 265.120, the owner or operator must submit certification that the post-closure care for the unit(s) was performed in accordance with the approved post-closure plan; the certification must be sent by registered mail to the permitting authority. This certification must be submitted no later than 60 days after the completion of the post-closure care period for each hazardous waste disposal unit. The certification must be signed by the owner or operator and a qualified professional engineer. Documentation supporting the professional engineer's certification must be furnished to the permitting authority upon request until the permitting authority releases the owner or operator from the financial assurance requirements for post-closure care under §§ 264.145(i) and 265.145(h).

Under §§ 264.145(i) and 265.145(h), within 60 days of receipt of certification from the owner or operator and a qualified professional engineer that the post-closure care has been completed for a hazardous waste disposal unit in accordance with the approved plan, the permitting authority will notify the owner or operator that it is no longer required to maintain financial assurance for post-closure care for that unit. If the permitting authority has reason to believe that post-closure care has not been in accordance with the approved post-closure plan, the permitting authority must provide the owner or operator a detailed written statement of any such reason.

Scope of the Post-Closure Permit Requirements – Under § 270.1(c), owners and operators of surface impoundments, landfills, land treatment units, and waste pile units that received waste after July 26, 1982, or that certified closure (according to § 265.115) must have post-closure permits, unless they demonstrate closure by removal or decontamination, or obtain an enforceable document in lieu of a post-closure permit as provided under § 270.1(c)(7). Under § 270.10(h), if a permittee has an effective permit and they want to renew it, they must submit a new application at least 180 days before the expiration date of the effective permit.

Monitoring and Records – Under § 270.30(j)(2), the permittee must retain records of all monitoring information for a period of at least three years from the date of sample, measurement, report, or certification, unless extended by request of the permitting authority at any time. Records from all groundwater monitoring wells and associated groundwater surface elevations must be maintained for the active life of the facility, and for disposal facilities for the entire post-closure care period.

Compliance with an Expiring Permit – Under § 270.51(c), if the permittee is not in compliance with the conditions of the expiring or expired permit, the permitting authority may issue a new permit under part 124, initiate enforcement action, or take other actions authorized by the RCRA regulations.

Appendix B: Institutional Controls (ICs) Resources

The following resources may be helpful in implementing and maintaining ICs throughout the post-closure care period and beyond.

- EPA guidance on *Ensuring Effective and Reliable Institutional Controls at RCRA Facilities* (Matt Hale, Director, Office of Solid Waste, and Susan Bromm, Director Office of Site Remediation and Enforcement, June 14, 2007) sets forth guiding principles and recommendations that can help EPA and state decision makers on the use of ICs at RCRA facilities, and EPA resources for additional information and assistance.

- *Institutional Controls: A Site Manager's Guide to Identifying, Evaluating, and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups* guidance provides some discussion about how ICs can be used at post-closure care facilities. (p.3 text box) EPA 540-F-00-005, OSWER 9355.0-74FS-P, September 2000, https://www.epa.gov/fedfac/institutional-controls-site-managers-guide-identifying-evaluating-and-selecting-institutional

- *Institutional Controls: A Guide to Preparing Institutional Control Implementation and Assurance Plans at Contaminated Sites* provides information and recommendations that should be useful for planning, implementing, maintaining and enforcing ICs, and offers an overview of EPA's policy regarding the roles and responsibilities of the parties involved in the various life-cycle stages of ICs. Final, December 2012. OSWER 9200.0-77, EPA-540-R-09-002, https://www.epa.gov/fedfac/institutional-controls-guide-preparing-institutional-control-implementation-and-assurance

- *Institutional Controls: A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites* guidance also discusses how ICs could be used at RCRA post-closure care facilities. (Section 2.3) Final, December 2012. OSWER 9355.0-89, EPA-540-R-09-001, https://www.epa.gov/fedfac/institutional-controls-guide-planning-implementing-maintaining-and-enforcing-institutional

- *Long-Term Stewardship: Ensuring Environmental Site Cleanups Remain Protective over Time* report identifies long-term stewardship challenges and opportunities for improvement, and makes recommendations for how EPA and its state, tribal, and local partners should proceed in addressing them. This report also includes a definition of long-term stewardship, why long-term stewardship is important, and what EPA and others are currently doing to address long-term stewardship issues. Final, September 2005, EPA 500-R-05-001, https://nepis.epa.gov/Exe/ZyNET.exe/P100119V.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2000+Thru+2005&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C00thru05%5CTxt%5C00000015%5CP100119V.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL

Electronic Filing: Received, Clerk's Office 07/19/2024

EXHIBIT S

Electronic Filing: Received, Clerk's Office 07/19/2024

PREPARED BY:

Ed Brickley
RLF I-C SPE, LLC
201 West Street
Annapolis, MD 21401

22-74459

1978035011 – Will
Lemont/Former Fiala Property-2/23
SR/TECH

2205419024

Doc# 2205419024 Fee $88.00

RHSP FEE:$9.00 RPRF FEE: $1.00
KAREN A. YARBROUGH
COOK COUNTY CLERK
DATE: 02/23/2022 01:13 PM PG: 1 OF 10

RETURN TO:

Ed Brickley
RLF I-C SPE, LLC
201 West Street
Annapolis, MD 21401

RECEIVED
MAR 10 2022
IEPA/BOL

RECORDED
NFR

THE ABOVE SPACE FOR RECORDER'S OFFICE

This Environmental No Further Remediation Letter must be submitted by the remediation applicant within 45 days of its receipt, to the Office of the Recorder of Cook County.

Illinois State EPA Number: 1978035011

RLF I-C SPE, LLC, the Remediation Applicant, whose address is 201 West Street, Annapolis, MD 21401 has performed investigative and/or remedial activities for the remediation site depicted on the attached Site Base Map and identified by the following:

IEPA DIVISION OF RECORDS MANAGEMENT

1. Legal Description or Reference to a Plat Showing the Boundaries:

APR 07 2022

REVIEWER: SAB

PARCEL 1 (PIN 12-02-25-200-019-0000):

THAT PART OF THE EAST HALF OF SECTION 25, TOWNSHIP 37 NORTH, RANGE 10 EAST OF THE THIRD PRINCIPAL MERIDIAN DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE EAST LINE OF SAID SECTION 25 AT ITS POINT OF INTERSECTION WITH THE SOUTHERLY 90 FOOT RESERVE LINE OF THE ILLINOIS AND MICHIGAN CANAL EXTENDING IN A NORTHEASTERLY AND SOUTHWESTERLY DIRECTION THROUGH THE SAID EAST HALF OF SAID SECTION; THENCE SOUTH ALONG THE EAST LINE OF SAID SECTION 531.5 FEET TO A POINT IN THE NORTHERLY RIGHT OF WAY LINE OF THE GULF, MOBILE AND OHIO RAILROAD (ALTON RAILROAD), EXTENDING IN A NORTHEASTERLY AND SOUTHWESTERLY DIRECTION THROUGH THE EAST HALF OF SAID SECTION, AFORESAID; THENCE SOUTHWESTERLY ALONG THE SAID NORTHERLY RIGHT OF WAY LINE OF SAID RAILROAD 2,123.75 FEET TO A POINT; THENCE NORTHWESTERLY ALONG A DIRECT LINE 541.5 FEET TO A POINT IN THE SAID SOUTHERLY 90 FOOT RESERVE LINE OF THE SAID ILLINOIS AND MICHIGAN CANAL THAT IS 2,454.13 FEET SOUTHWESTERLY (MEASURED ALONG THE SAID SOUTHERLY 90 FOOT RESERVE LINE OF SAID CANAL), FROM THE POINT OF BEGINNING; THENCE

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NORTHEASTERLY 2,454.13 FEET TO THE POINT OF BEGINNING, IN WILL COUNTY, ILLINOIS.

EXCEPTING THEREFROM THAT PROPERTY CONVEYED BY DEED RECORDED JANUARY 19, 1982 AS DOCUMENT NO. R82-2168, DESCRIBED AS FOLLOWS: THAT PART OF THE EAST HALF OF SECTION 25, TOWNSHIP 37 NORTH, RANGE 10 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: COMMENCING AT A POINT IN THE EAST LINE OF SAID SECTION 25 AT ITS POINT OF INTERSECTION WITH THE SOUTHERLY 90 FOOT RESERVE LINE OF THE ILLINOIS AND MICHIGAN CANAL EXTENDING IN A NORTHEASTERLY AND SOUTHWESTERLY DIRECTION THROUGH THE EAST HALF OF SAID SECTION; THENCE SOUTH ALONG THE EAST LINE OF SAID SECTION, 531.5 FEET TO A POINT IN THE NORTHERLY RIGHT OF WAY LINE OF THE GULF, MOBILE AND OHIO RAILROAD (ATON RAILROAD) EXTENDING IN A NORTHEASTERLY AND SOUTHWESTERLY DIRECTION THROUGH THE EAST HALF OF SAID SECTION; THENCE SOUTHWESTERLY ALONG THE SAID NORTHERLY RIGHT OF WAY LINE OF SAID RAILROAD, 2123.75 FEET TO THE POINT OF BEGINNING; THENCE NORTH 35 DEGREES 53 MINUTES 29 SECONDS WEST ALONG A DIRECT LINE, 541.50 FEET TO A POINT IN THE SAID SOUTHERLY 90 FOOT RESERVE LINE OF SAID ILLINOIS AND MICHIGAN CANAL THAT IS 2454.13 FEET SOUTHWESTERLY (MEASURED ALONG THE SAID SOUTHERLY 90 FOOT RESERVE LINE OF SAID CANAL) FROM THE POINT OF COMMENCEMENT; THENCE NORTH 62 DEGREES 42 MINUTES 44 SECONDS EAST ALONG SAID SOUTHERLY RESERVE LINE, 60.89 FEET; THENCE SOUTHEASTERLY ALONG A CURVE LINE CONCAVE NORTHEASTERLY HAVING A RADIUS OF 1,187.78 FEET AND WHOSE CHORD BEARS SOUTH 56 DEGREES 29 MINUTES 00 SECONDS EAST FOR AN ARC DISTANCE OF 263.95 FEET TO A POINT OF TANGENCY; THENCE SOUTH 62 DEGREES 50 MINUTES 57 SECONDS EAST, 363.10 FEET TO SAID NORTHERLY RIGHT OF WAY LINE OF SAID RAILROAD; THENCE SOUTH 60 DEGREES 54 MINUTES 19 SECONDS EAST ALONG THE LAST DESCRIBED LINE, 319.69 FEET TO SAID POINT OF BEGINNING, WILL COUNTY, ILLINOIS.

EXCEPTING THEREFROM THE FOLLOWING DESCRIBED PROPERTY: THAT PART OF THE EAST HALF OF SECTION 25, TOWNSHIP 37 NORTH, RANGE 10 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: COMMENCING AT A POINT IN THE EAST LINE OF SAID SECTION 25 AT ITS POINT OF INTERSECTION WITH THE SOUTHERLY 90 FOOT RESERVE LINE OF THE ILLINOIS AND MICHIGAN CANAL, EXTENDING IN A NORTHEASTERLY AND SOUTHWESTERLY DIRECTION THROUGH THE SAID EAST HALF OF SAID SECTION; THENCE SOUTH ALONG THE EAST LINE OF SAID SECTION, 531.5 FEET TO A POINT IN THE NORTHERLY RIGHT OF WAY LINE OF THE GULF, MOBILE AND OHIO RAILROAD (ALTON RAILROAD) EXTENDING IN A NORTHEASTERLY AND SOUTHWESTERLY DIRECTION THROUGH THE EAST HALF OF SAID SECTION; THENCE SOUTHWESTERLY ALONG SAID NORTHERLY RIGHT OF WAY LINE OF SAID RAILROAD, 618.83 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING SOUTH 60 DEGREES 18 MINUTES 07 SECONDS WEST, 387.91 FEET, THENCE NORTH 29 DEGREES 56 MINUTES WEST, 305.20 FEET, THENCE NORTH 60 DEGREES 46 MINUTES 27 SECONDS EAST, 387.94 FEET, THENCE SOUTH 29 DEGREES 56 MINUTES EAST, 302 FEET TO THE POINT OF BEGINNING, IN WILL COUNTY, ILLINOIS.

Parcel Index Number: 12-02-25-200-019-0000

APR 07 2022

REVENUE:

PARCEL 2 (PIN 22-30-100-012-0000):

LOTS 26, 28, 41 AND 43 IN COUNTY CLERK'S DIVISION IN SECTION 30, TOWNSHIP 37 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN;

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EXCEPTING THEREFROM THAT PART OF LOTS 26, 28, 41 AND 43 IN COUNTY CLERK'S DIVISION IN SECTION 30, TOWNSHIP 37 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, TAKEN AS A TRACT AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHERLY LINE OF SAID TRACT AT A POINT, 2,310 FEET NORTHEASTERLY OF THE SOUTHWESTERLY CORNER THEREOF; THENCE NORTHWESTERLY AT 90 DEGREES TO THE SOUTHERLY LINE THEREOF, A DISTANCE OF 200 FEET: THENCE NORTHEASTERLY AT 90 DEGREES TO THE LAST DESCRIBED COURSE, A DISTANCE OF 120 FEET; THENCE SOUTHEASTERLY AT 90 DEGREES TO THE LAST DESCRIBED COURSE, A DISTANCE OF 200 FEET TO THE SOUTHERLY LINE OF SAID TRACT; THENCE SOUTHWESTERLY, A DISTANCE OF 120 FEET TO THE POINT OF BEGINNING;

ALSO EXCEPTING THEREFROM THAT PART OF LOT 26 IN COUNTY CLERK'S DIVISION IN SECTION 30, TOWNSHIP 37 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF THE NORTHWEST QUARTER OF SECTION 30 FOR A POINT OF BEGINNING; THENCE SOUTH 00 DEGREES 00 MINUTES 00 SECONDS WEST ON AN ASSUMED BEARING, ON THE EAST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 30, A DISTANCE OF 303.71 FEET MORE OR LESS TO A POINT ON THE NORTHERLY RIGHT OF WAY LINE OF THE GULF, MOBILE AND OHIO RAILROAD (ALTON RAILROAD); THENCE SOUTH 60 DEGREES 18 MINUTES 59 SECONDS WEST ON AN ASSUMED BEARING ON SAID NORTHERLY RIGHT OF WAY LINE, A DISTANCE OF 64.04 FEET; THENCE NORTH 29 DEGREES 41 MINUTES 01 SECOND WEST AT RIGHT ANGLES TO THE LAST DESCRIBED COURSE ON AN ASSUMED BEARING, A DISTANCE OF 387.92 FEET MORE OR LESS TO A CONCRETE MONUMENT ON THE SOUTH LINE OF THE RESERVE STRIP FOR THE ILLINOIS AND MICHIGAN CANAL (SAID MONUMENT BEING LOCATED AT THE INTERSECTION OF THE AFOREMENTIONED SOUTH LINE OF THE RESERVE STRIP FOR THE ILLINOIS AND MICHIGAN CANAL AND THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 30); THENCE SOUTH 89 DEGREES 38 MINUTES 02 SECONDS EAST ON AN ASSUMED BEARING ALONG THE LAST MENTIONED NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 30, A DISTANCE OF 247.74 FEET MORE OR LESS TO THE POINT OF BEGINNING, IN COOK COUNTY, ILLINOIS.

Parcel Index Number: 22-30-100-012-0000

PARCEL 3 (PIN 22-30-100-011-0000):

THAT PART OF LOTS 26, 28, 41 AND 43 IN COUNTY CLERK'S DIVISION IN SECTION 30, TOWNSHIP 37 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED JUNE 8, 1880 AS DOCUMENT ND. 275499 TAKEN AS A TRACT AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHERLY LINE OF SAID TRACT AT A POINT 2,310 FEET NORTHEASTERLY OF THE SOUTHWESTERLY CORNER THEREOF; THENCE NORTHWESTERLY AT 90 DEGREES TO THE SOUTHERLY LINE THEREOF, A DISTANCE OF 200 FEET, THENCE NORTHEASTERLY AT 90 DEGREES TO THE LAST DESCRIBED COURSE, A DISTANCE OF 120 FEET, THENCE SOUTHEASTERLY AT 90 DEGREES TO THE LAST DESCRIBED COURSE, A DISTANCE OF 200 FEET TO THE SOUTHERLY LINE OF SAID

TRACT, THENCE SOUTHWESTERLY A DISTANCE OF 1207.13 FEET TO THE POINT OF BEGINNING, IN COOK COUNTY, ILLINOIS.

Electronically Recorded, Clerk's Office 07/19/2024

Parcel Index Number: 22-30-100-011-0000

2. Common Address: 12300 New Avenue, Lemont, IL 60439

3. Real Estate Tax Index/Parcel Index Number: 12-02-25-200-019-0000; 22-30-100-011-0000; and 22-30-100-012-0000

4. Remediation Site Owner: RLF I-C SPE, LLC

5. Land Use: Industrial/Commercial

6. Site Investigation: Comprehensive

See NFR letter for other terms.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Electronic Filing: Received, Clerk's Office 07/19/2024
1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 · (217) 782-3397
JB PRITZKER, GOVERNOR JOHN J. KIM, DIRECTOR

217/524-3300

January 11, 2022

CERTIFIED MAIL
7020 1810 0001 8769 2103

RLF I-C SPE, LLC
Attn: Ed Brickley
201 West Street
Annapolis, MD 21401

Re: 1978035011/Will County
Lemont/Former Fiala Property
Site Remediation Program/Technical Reports
No Further Remediation Letter

Dear Mr. Brickley:

The *Remedial Action Completion Report* (received February 18, 2020/Log No. 20-70938) and *Addendum to Remedial Action Completion Report* (received October 18, 2021/Log No. 21-73751), as prepared by Weaver Consultants Group and IngenAE, LLC for the above-referenced Remediation Site, respectively, have been reviewed and approved by the Illinois Environmental Protection Agency ("Illinois EPA"). These Reports collectively demonstrate that the remediation objectives approved for the site, in accordance with 35 Illinois Administrative Code Part 742, are above the existing concentrations of regulated substances and that the remedial action was completed in accordance with the *Remedial Action Plan* (received March 12, 2019/Log No. 19-68910) and 35 Illinois Administrative Code Part 740.

The Remediation Site, consisting of 46.9 acres, is located at 12300 New Avenue, Lemont, Illinois. Pursuant to Section 58.10 of the Illinois Environmental Protection Act ("Act") (415 ILCS 5/1 et seq.), your request for a no further remediation determination is granted under the conditions and terms specified in this letter. The Remediation Applicant, as identified on the Illinois EPA's Site Remediation Program DRM-1 Form (received January 11, 2018/Log No. 18-66324), is RLF I-C SPE, LLC.

This comprehensive No Further Remediation Letter ("Letter") signifies a release from further responsibilities under the Act for the performance of the approved remedial action. This Letter shall be considered prima facie evidence that the Remediation Site described in the attached Illinois EPA Site Remediation Program Environmental Notice and shown in the attached Site Base Map does not constitute a threat to human health and the environment and does not require further remediation under the Act if utilized in accordance with the terms of this Letter.

Conditions and Terms of Approval

Level of Remediation and Land Use Limitations

1) The Remediation Site is restricted to industrial/commercial land use.

2) The land use specified in this Letter may be revised if:

   a) Further investigation or remedial action has been conducted that documents the attainment of objectives appropriate for the new land use; and

   b) A new Letter is obtained and recorded in accordance with Title XVII of the Act and regulations adopted thereunder.

Preventive, Engineering, and Institutional Controls

The implementation and maintenance of the following controls are required as part of the approval of the remediation objectives for this Remediation Site.

Preventive Controls:

3) At a minimum, a safety plan should be developed to address possible worker exposure in the event that any future excavation and construction activities may occur within the contaminated soil. Any excavation within the contaminated soil will require implementation of a safety plan consistent with NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, OSHA regulations (particularly in 29 CFR 1910 and 1926), state and local regulations, and other USEPA guidance. Soil excavated on-site must be returned to the same depth from which it was excavated or properly managed or disposed in accordance with applicable state and federal regulations.

Engineering Controls:

4) There are no engineering controls required.

Institutional Controls:

5) Any existing buildings or any future buildings constructed on the site must contain a full concrete slab-on-grade floor or full concrete basement floor and walls with no sumps.

6) No person shall construct, install, maintain, or operate a well at the Remediation Site. All water supplies and water services for the Remediation Site must be obtained from a public water supply system. The provisions of this institutional control shall be applicable to all water usage (e.g., domestic, industrial/commercial uses and outdoor watering).

Other Terms

7) Where the Remediation Applicant is not the sole owner of the Remediation Site, the Remediation Applicant shall complete the attached *Property Owner Certification of the No Further Remediation Letter under the Site Remediation Program* Form. This certification, by original signature of each property owner, or the authorized agent of the owner(s), of the Remediation Site or any portion thereof who, is not a Remediation Applicant, shall be recorded along with this Letter.

8) Further information regarding this Remediation Site can be obtained through a written request under the Freedom of Information Act (5 ILCS 140) to:

Illinois Environmental Protection Agency
Attn: Freedom of Information Act Officer
Division of Records Management #16
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

9) Pursuant to Section 58.10(f) of the Act (415 ILCS 5/58.10(f)), should the Illinois EPA seek to void this Letter, the Illinois EPA shall provide notice to the current title holder and to the Remediation Applicant at the last known address. The notice shall specify the cause for the voidance, explain the provisions for appeal, and describe the facts in support of this cause. Specific acts or omissions that may result in the voidance of the Letter under Sections 58.10(e)(1)-(7) of the Act (415 ILCS 5/58.10(e)(1)-(7)) include, but shall not be limited to:

a) Any violation of institutional controls or the designated land use restrictions;

b) The failure to operate and maintain preventive or engineering controls or to comply with any applicable groundwater monitoring plan;

c) The disturbance or removal of contamination that has been left in-place in accordance with the Remedial Action Plan. Access to soil contamination may be allowed if, during and after any access, public health and the environment are protected consistent with the Remedial Action Plan;

d) The failure to comply with the recording requirements for this Letter;

e) Obtaining the Letter by fraud or misrepresentation;

f) Subsequent discovery of contaminants, not identified as part of the investigative or remedial activities upon which the issuance of the Letter was based, that pose a threat to human health or the environment;

g) The failure to pay the No Further Remediation Assessment Fee within forty-five (45) days after receiving a request for payment from the Illinois EPA;

h) The failure to pay in full the applicable fees under the Review and Evaluation Services Agreement within forty-five (45) days after receiving a request for payment from the Illinois EPA.

10) Pursuant to Section 58.10(d) of the Act, this Letter shall apply in favor of the following persons:

a) RLF I-C SPE, LLC;

b) The owner and operator of the Remediation Site;

c) Any parent corporation or subsidiary of the owner of the Remediation Site;

d) Any co-owner, either by joint-tenancy, right of survivorship, or any other party sharing a relationship with the owner of the Remediation Site;

e) Any holder of a beneficial interest of a land trust or inter vivos trust, whether revocable or irrevocable, involving the Remediation Site;

f) Any mortgagee or trustee of a deed of trust of the owner of the Remediation Site or any assignee, transferee, or any successor-in-interest thereto;

g) Any successor-in-interest of the owner of the Remediation Site;

h) Any transferee of the owner of the Remediation Site whether the transfer was by sale, bankruptcy proceeding, partition, dissolution of marriage, settlement or adjudication of any civil action, charitable gift, or bequest;

i) Any heir or devisee of the owner of the Remediation Site;

j) Any financial institution, as that term is defined in Section 2 of the Illinois Banking Act and to include the Illinois Housing Development Authority, that has acquired the ownership, operation, management, or control of the Remediation Site through foreclosure or under the terms of a security interest held by the financial institution, under the terms of an extension of credit made by the financial institution, or any successor-in-interest thereto; or

k) In the case of a fiduciary (other than a land trustee), the estate, trust estate, or other interest in property held in a fiduciary capacity, and a trustee, executor, administrator, guardian, receiver, conservator, or other person who holds the remediated site in a fiduciary capacity, or a transferee of such party.

11) This letter, including all attachments, must be recorded as a single instrument within forty-five (45) days of receipt with the Office of the Recorder of Cook County. <u>For recording</u>

Electronic Filing: Received, Clerk's Office 07/19/2024

purposes, the Illinois EPA Site Remediation Program Environmental Notice attached to this Letter should be the first page of the instrument filed. This Letter shall not be effective until officially recorded by the Office of the Recorder of Cook County in accordance with Illinois law so that it forms a permanent part of the chain of title for the Former Fiala Property.

12) Within thirty (30) days of this Letter being recorded by the Office of the Recorder of Cook County, a certified copy of this Letter, as recorded, shall be obtained and submitted to the Illinois EPA to:

Mr. Jim Scott
Illinois Environmental Protection Agency
Bureau of Land/RPMS #24
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

13) In accordance with Section 58.10(g) of the Act, a No Further Remediation Assessment Fee based on the costs incurred for the Remediation Site by the Illinois EPA for review and evaluation services will be applied in addition to the fees applicable under the Review and Evaluation Services Agreement. Request for payment of the No Further Remediation Assessment Fee will be included with the billing statement.

If you have any questions regarding the Former Fiala Property, you may contact the Illinois EPA project manager, Mike Charles at (217) 785-3846.

Sincerely,

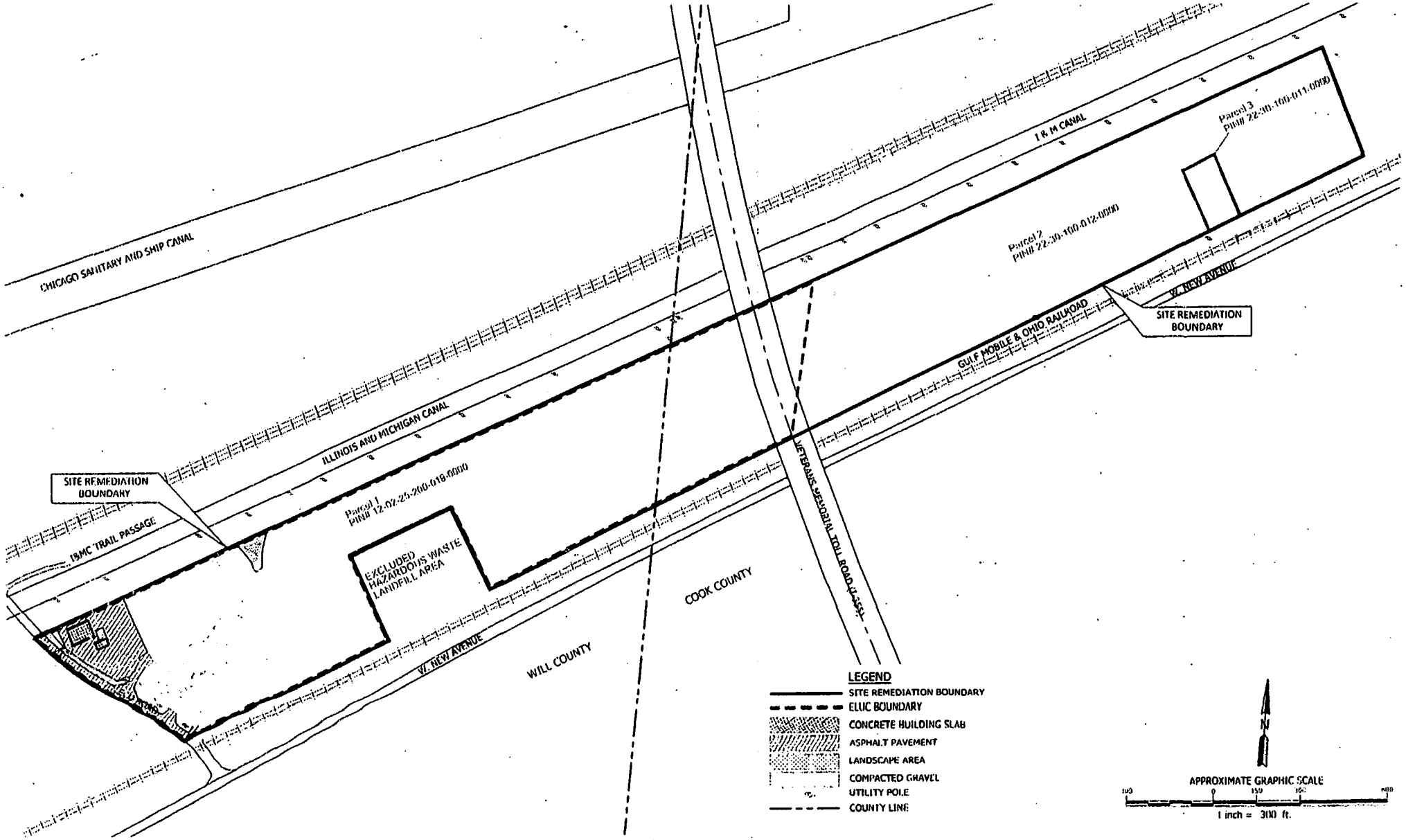
Jeron Schultz, Manager
Remedial Project Management Section
Division of Remediation Management
Bureau of Land

Attachments: Illinois EPA Site Remediation Program Environmental Notice
Site Base Map
Property Owner Certification of the NFR Letter under the Site Remediation Program Form
Instructions for Filing the NFR Letter

cc: Peter Cambouris
IngenAE, LLC
pcambouris@ingenae.com

Bureau of Land File
Mr. Jim Scott

Electronic Filing: Received, Clerk's Office 07/19/2024



NOTE: CONSTRUCTION WORKER SAFETY PRECAUTION ENCOMPASSES INTERIOR OF PROPERTY BOUNDARY.

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SITE BASE MAP
1978035011/Will County
Lamont/Former Fiala Property
Site Remediation/Technical Reports

Prepared by:
IngenAE
301 N. Main Street, Suite B
South Bend, IN 46601
www.ingenae.com

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	PC
DATE:	12/23/21

FIGURE 1

I CERTIFY THAT THIS
IS A TRUE AND CORRECT COPY
OF DOCUMENT # 2205419024

MAR 09 2022

COOK COUNTY CLERK

EXHIBIT T

CARLSON ENVIRONMENTAL
A Nova Group, GBC Company

December 5, 2022

Mr. Kenneth E. Smith
Illinois Environmental Protection Agency
Bureau of Land -- #33
Permit Section
1021 North Grand Ave. East
Springfield, IL. 62702

Re: Response to IEPA Letter dated September 21, 2022
1978030005 -- Will County
RCH Newco II, LLC (f.k.a. Lemont/CECO Corporation)
ILD #990785453
RCRA Log No. C-68

Dear Mr. Smith:

On behalf of the current site owner, RCH Newco II, LLC (RCH Newco), Carlson Environmental Inc, (Carlson) provides the following response to the Illinois Environmental Protection Agency's (IEPA's) letter dated September 21, 2022. This response is timely submitted in light of an additional 30 day extension from IEPA. The IEPA's letter was in reference to Carlson's submittal, *RCRA Post-Closure Care Request for Modification and Cost Estimate*, dated July 11, 2022. The IEPA has requested additional information regarding the post-closure care. The items requested by the IEPA appear below in italic with Carlson's respective response in bold.

1. *Provide an updated Fee Structure for 2022 for Carlson Environmental costs. The updated Fee Structure should be used to revise the post-closure cost estimate.*

Carlson's updated fee structure for 2022 is attached. The current rates are unchanged from the 2020 rates, therefore, the previously supplied post-closure cost estimate does not need revision.

2. *Based on the aerial image provided in the subject submittal, large trees and other vegetation with well-established tap roots are growing on the landfill cover. This is not allowed under the approved closure/post-closure plan for the site.*

As stated in Condition I .b of Illinois EPA's June 2, 2009, letter to RCH Newco Il LLC (C-68-M-12), "the integrity and effectiveness of the landfill 's final cover must be adequately monitored and maintained". Specifically Condition 1.b.2 stated, "corrective action shall be taken if; (e) vegetation with tap roots are found to be growing on the final cover" (a copy of Illinois EPA's letter is attached).

Provide a revised cost estimate for the removal of all trees, bushes, and brush on the landfill cover including stump removal. The entire portion of the tree/brush penetrating the landfill cover must be removed. Any grinding of stumps must

include over excavation of the area to remove all wood chips generated by the grindings. Include costs for repairs to the cap after removal of the trees and brush and reseeding to establish a vegetative cover. Additional clean soil may need to be added to make repairs.

In addition, semi-annual inspections of the cap will need to be completed for monitoring and maintenance and potential reseeding to promote growth of the vegetative cover repair. Include an estimated timeframe to reestablish a proper landfill cover.

The aerial image provided as part of the Homer Tree Care mowing cost estimate was captured in May 2021 and illustrates the entire (fenced-in) 2.5 acre Site. The landfilled waste material occupies an area 300 feet x 220 feet or approximately 1.4 acres. Much of the scrub brush and small saplings shown in the aerial are located around the perimeter of the Site and not directly on the landfill. Nevertheless, the Site was mowed in June 2022 and cleared of this vegetation. All the "large trees" are outside the landfill footprint.

A small area near the southwest corner of the landfill contains scrub brush that will be addressed. This area totals approximately 2,000 ft^2. Carlson proposes to excavate 24" of soil/roots (6" topsoil and 18" layer of select fill) throughout this area to the top of the compacted clay and restore with clean fill. The area will be reseeded as part of a larger seeding program to establish the desired grass density. In the event any saplings are found within the landfill footprint, they will be excavated to remove the trunk and roots. These areas will be restored in the same manner as described above. It is not anticipated that the roots have penetrated the clay layer due to the relatively small size of the samplings and the compacted nature of the clay.

In order to reestablish the protective grass cover in certain areas, Carlson proposes to clear the areas of dead vegetation, prepare the surface, reseed, fertilize, and apply an erosion control blanket where applicable.

Semi-annual inspections of the landfill cover will continue as part of the regular semi-annual groundwater sampling.

Carlson anticipates completing the proposed landfill maintenance activities in the Spring of 2023, with the repaired vegetative cover firmly established by Fall 2023.

The estimated cost for the landfill maintenance activities is attached.

3. *Include the cost of annual mowing of the landfill cover in your cost estimate.*

CARLSON ENVIRONMENTAL
A Nova Group, GBC Company

This cost was provided in the July 11, 2022 submittal under the "Site Maintenance (vegetative cover related)" heading.

4. Submit a RCRA Interim Status Closure and Post-Closure Care Plans General Form, LPCPA 18 with required original signature for the Owner and a P.E., as required on the form.

The LPC-PA18 form is attached.

If you have any questions, please do not hesitate to contact me at (312) 346-2140.

Sincerely,

CARLSON ENVIRONMENTAL, INC.

Bruce A. Shabino, P.G.
Senior Project Manager

Attachments: Fee Structure 2022
RCRA Closure Unit Cover Maintenance Cost Estimate letter
LPC-PA18 form

CARLSON ENVIRONMENTAL
A Nova Group, GBC Company

FEE STRUCTURE
2022

Personnel	**Rate**
Officer/Project Director	$195-350/hour
Project Manager/Sr. Project Manager	$130-220/hour
Staff Scientist/Engineer/Geologist	$65-115/hour
Technician	$45-100hour
Project Support Staff	$45-90/hour

Protective Equipment	
Level D	$35/person/day
Level C	$85/person/day
Level B	$160/person/day

Field Equipment	
Oil Water Meter	$40/day
Hammer Drill	$75/day
GeoProbe	$265/day
Generator	$65/day
Flow Cell	$210/day
Peristaltic Pump	$50/day
Organic vapor analyzer	$115/day
Photo ionization detector	$100/day
pH, specific conductivity, temperature	$25/day/instrument
Water level meter	$35/day
Combustible gas indicator	$45/day
Conductivity meter	$55/day
Sediment sampler	$110/day
Soil gas sampling equipment	$260/day
Hand sampling equipment	$20/day
Motor vehicle	$65/day plus $0.75/mile
Surveying equipment	$65/day
Magnetometer	$45/day
AMS soil sampling (hand auger)	$65/day
Ground water purge pump	$40/day
Hermit data logger	$140/day
Industrial Shop Vacuum	$30/day
Concrete Coring Machine	$110/day
Grundfos Pump w/Controller	$220/day
Ladder	$40/day

Other	
Direct expenses attributable to project (e.g., lodging, meals, transportation, supplies)	Cost plus 15%
Subcontracted services and equipment rental	Cost plus 20%
Min. Service Charge (In-house copying, faxing, U.S. postage)	$150/project
Carlson Environmental, Inc. may retain volume discounts	

CARLSON ENVIRONMENTAL
A Nova Group, GBC Company

December 1, 2022

RCH Newco II, LLC
Attn: Mr. Kevin Shudy
2626 Warrensville Road, Suite 400
Downers Grove, Illinois 60515

Re: RCRA Closure Unit Cover Maintenance Cost Estimate
1978030005 -- Will County
Lemont/Ceco Corporation
ILD #990785453

Dear Mr. Shudy:

Carlson Environmental, Inc. (Carlson) has evaluated the RCRA Hazardous Waste Management Unit's (Closure Unit's) protective cover and reviewed recent comments from the IEPA regarding the above-referenced Site. Carlson proposes the following maintenance activities regarding the Closure Unit's final protective cover.

The estimated costs for the proposed tasks are shown below:

Removal/Repair Dense Scrub Brush Area and Saplings:
Removal of approximately 2,000 ft^2 area of scrub brush and soil, to a depth of up to 24" (top of compacted clay) on the landfill cover. Remove approximately 12 sapling stumps/roots within the landfill cover. Backfill with clean soil and compact. All work to be completed by HAZWOPER trained personnel.

Earthmoving Contractor (incl. clean soil backfill)		$36,800
Carlson Fieldwork and Associated Labor		$5,850
Equipment and Expenses		480
Project Management		2,000
	Subtotal	*$45,130*

Vegetation Restoration:
Clear dead vegetation/mulch from approximately 10,000 ft^2 of landfill and adjacent surface cover. Prepare the topsoil, seed, fertilize, and install erosion control blanket (includes the 2,000 ft^2 area described above). Regular watering and inspection.

Landscaping Contractor (incl. seed, fertilizer, erosion control, watering 1x average per week for 8 weeks)		$11,270
Carlson Fieldwork and Associated Labor		5,850
Equipment and Expenses		960
Project Management		2,000
	Subtotal	*$20,080*

CARLSON ENVIRONMENTAL
A Nova Group, GBC Company

RCRA Closure Unit Cover Maintenance Cost Estimate 9233A
RCH NEWCO II Site

Total	***$65,210***
10% Contingency	***$6,520***
Total with Contingency	***$71,730***

The estimated cost to complete the closure unit cover maintenance issues is approximately $71,730. These estimates are based on the current costs and value of money. Any additional work or changes associated with the RCRA post-closure care that may arise during the project will be addressed at that time on a time and material basis.

If you have any questions, please do not hesitate to contact me at (312) 346-2140.

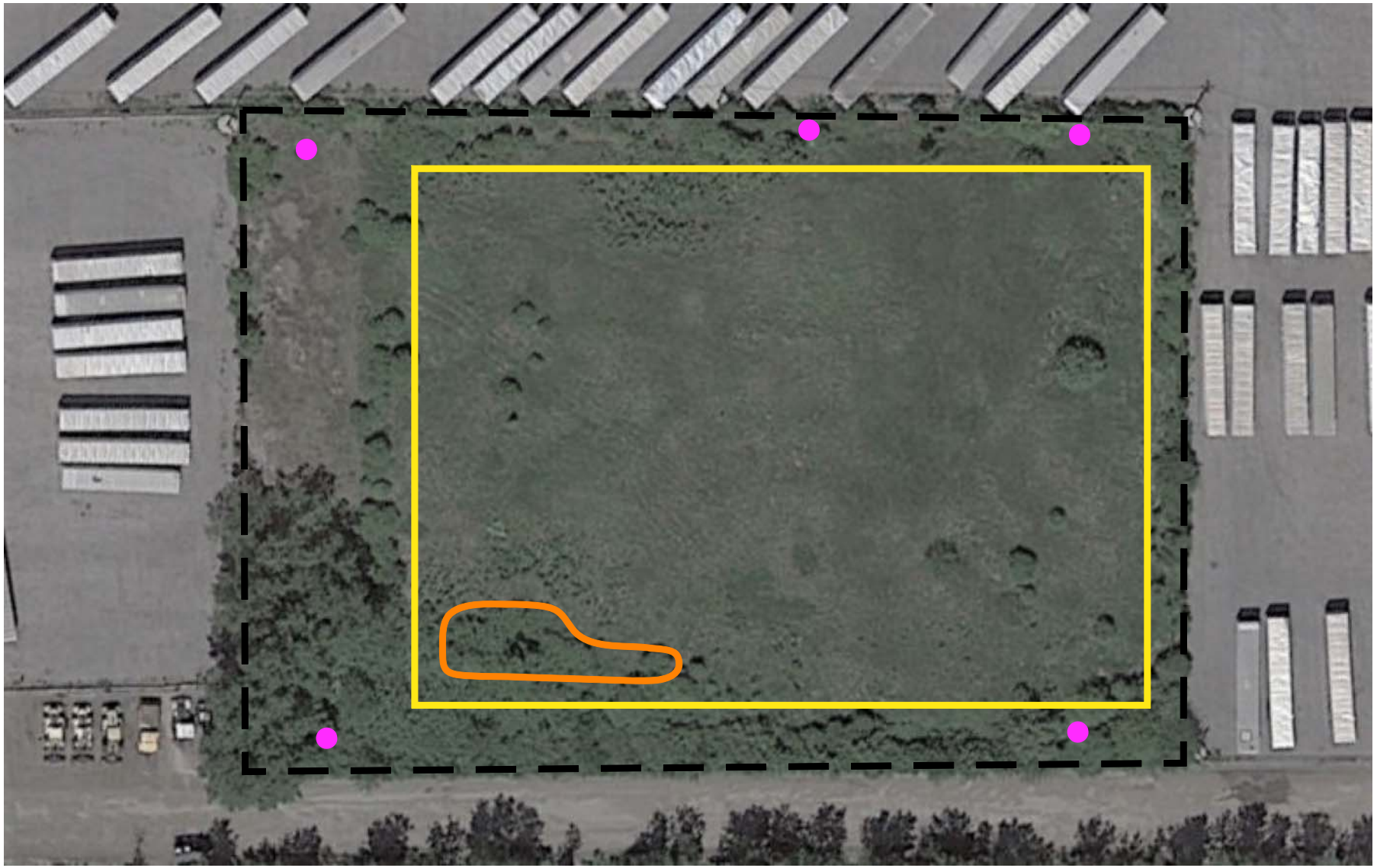
Sincerely,

CARLSON ENVIRONMENTAL, INC.

Bruce A. Shabino, P.G.
Senior Project Manager

Attachment: FIG 1: RCH NEWCO RCRA Closure Unit

8501 W. Higgins Road - Suite 790 - Chicago, Illinois 60631 - Phone (312) 346-2140 - Fax (312) 346-6956 - www.carlsonenv.com



CARLSON ENVIRONMENTAL, INC. 12/1/2022
SOURCE: GOOGLE EARTH, MAY 2021
APPROXIMATE SCALE: 1" = 60'

FIG 1: RCH NEWCO RCRA CLOSURE UNIT

Electronic Filing: Received, Clerk's Office 07/19/2024

Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

RCRA INTERIM STATUS CLOSURE AND POST-CLOSURE CARE PLANS GENERAL FORM

LPC-PA18

This Form Must Accompany Any Rcra Interim-status Closure And/or Post-closure Care Plans Or Modification Request Submitted To The Division Of Land Pollution Control. The Original And Two Copies Of All Documents Submitted Must Be Provided.

FACILITY IDENTIFICATION (Information about the facility where the units are located which are addressed in this closure plan submittal)

Name: RCH Newco II, LLC
Street Address: New Avenue & Ceco Road
City: Lemont, Il

County: Will
Site # (IEPA): 1978030005
Site No. (USEPA): ILD990785453

Owner Information

Name: RCH Newco II, LLC
Mailing Address:
27501 Bella Vista Parkway
Warrenville, Illinois 60555
Contact Name: William J. Sawitz
Contact Title: Officer
Phone #: (630) 353-5000

Operator Information

Name: (Same)
Mailing Address:
Contact Name:
Contact Title:
Phone #:

TYPE OF SUBMISSION (check applicable item and provide requested information, as applicable)

- ☐ Original (New) Closure Plan
- ☐ Original (New) Post-Closure Plan
- ☐ Response to Disapproval letter
  - Log No. of Most Recent Agency Approval/Disapproval Letter
  - Date of Most Recent Agency Approval/Disapproval Letter
- ☐ Modification Request
- ☑ Additional Information for 9/21/2022 (enter date) Submittal (Log No. C-68-M-13 if known)

Does this submittal contain groundwater information?

Yes

No

No

(IF YES, PLEASE INCLUDE ONE ADDITIONAL COPY OF SUBMITTAL)

IL 532-2106
LPC 464
Rev. 06/03

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

DESCRIPTION OF SUBMITTAL: (briefly describe what is being submitted)

Response to IEPA Letter dated September 21, 2022

LIST OF DOCUMENTS SUBMITTED: (identify all documents in this submittal, including the cover letter)

Form - LPC-PA18

Letter - "Response to IEPA Letter dated September 21, 2022" with attachments

UNITS UNDERGOING CLOSURE (please identify what type of units are addressed in the plan, their capacities and whether they are on the RCRA Part A for the facility)

Unit	Unit Code	Number of Units Closing	Capacity	On Part A Y/N
Storage:				
Container (barrel, drum, etc.)	S01			
Tank	S02			
Waste Pile	S03	1	32,000 CY	Y
Surface Impoundment	S04			
Treatment:				
Tank	T01			
Surface Impoundment	T02			
Incinerator	T03			
Other (explain)	T04			
Disposal:				
Landfill	D80			
Land Application	D81			
Surface Impoundment	D83			

CERTIFICATION AND SIGNATURE (Must be completed for all submittals. Certification and signature requirements are set forth in 35 IAC 702.126. Any submittal involving engineering plans, specifications and calculations as defined in the Illinois Professional Engineering Practice Act (225 ILCS 325) and 68 Ill. Adm. Code 1380 must be signed and certified by an Illinois licensed professional engineer.)

All closure plans, post-closure plans and modifications must be signed by the person representing the owner/ operator designated below or by a duly authorized representative of that person:

1. If the owner/operator is a Corporation - By a principal executive officer of at least the level of vice-president.
2. If the owner/operator is a Partnership or Sole Proprietorship - By a general partner or the proprietor, respectively.
3. If the owner/operator is a Government - By either a principal executive officer or a ranking elected official.

A person is a duly authorized representative only if:

1. the authorization is made in writing by a person described above; and
2. is submitted with this application (a copy of a previously submitted authorization can be used).

CERTIFICATION STATEMENT - I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Owner Signature _____ Date _____

Title Officer

Operator Signature _____ Date _____

Title _____

Engineer Signature _____ Date _____
(if necessary)

Engineer Name Gail Artrip, P.E. Engineer Seal

Engineer Address Carlson Environmental, Inc.
8501 W. Higgins Road, Suite 790
Chicago, Illinois 60631

Engineer Phone # 312-952-2552

JM:bjh\97763i.doc

EXHIBIT U