Electronic Filing: Received, Clerk's Office 09/20/2024 BEFORE THE POLLUTION CONTROL BOARD OF THE STATE OF ILLINOIS

WEST CHICAGO PARK DISTRICT,)	
Petitioner,)	
v.)	PCB 2024-064 (LUST Appeal)
ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
Respondent.)	

NOTICE

Don Brown, Clerk
Illinois Pollution Control Board
60 E. Van Buren Street
Suite 630
Chicago, IL 60605
don.brown@illinois.gov

Bradley P. Halloran, Hearing Officer Illinois Pollution Control Board 60 E. Van Buren Street, Ste. 630 Chicago, IL 60605 brad.halloran@illinois.gov

Adam B. Simon Ancel Glink, P.C. 175 E. Hawthorn Parkway, Ste. 145 Vernon Hills, IL 60061 asimon@ancelglink.com Vevgeniy Bolotnikov Ancel Glink, P.C. 175 E. Hawthorn Parkway, Ste. 145 Vernon Hills, IL 60601 ebolotnikov@ancelglink.com

PLEASE TAKE NOTICE that I have today filed with the office of the Clerk of the Pollution Control Board the ADMINISTRATIVE RECORD, and a CERTIFICATE OF RECORD ON APPEAL, copies of which are herewith served upon you.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,

Respondent

Rich Kim

Assistant Counsel - Division of Legal Counsel

Special Assistant Attorney General

1021 North Grand Avenue, East

P.O. Box 19276

Springfield, Illinois 62794-9276

217/782-5544

866/273-5488 (TDD)

Dated: September 20, 2024

Electronic Filing: Received, Clerk's Office 09/20/2024

BEFORE THE POLLUTION CONTROL BOARD OF THE STATE OF ILLINOIS

WEST CHICAGO PARK DISTRICT,)	
Petitioner,)	
v.)	PCB 2024-064 (LUST Appeal)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,)	(Bost Appear)
Respondent.	j	

CERTIFICATE OF RECORD ON APPEAL

Pursuant to 35 Ill. Adm. Code 105.116(b) and 105.410, the following constitutes an index of documents comprising the record:

PAGES	DOCUMENT(S)	DATE
AR000001-AR000002 AR000003-AR000193	OSFM Eligibility/Deductible letter Corrective Action Completion Report	December 10, 1998 June 21, 2013
AR000194 AR000195-AR000203	RCI PE/PG Certifications IEPA CACR rejection letter	September 11, 2013 September 17, 2013
AR000204-AR000225	RCI Technical Summary	June 14, 2019
AR000226 -AR000277 AR000278-AR000302	RCI Response to 2013 IEPA rejection RCI CACR Addendum	July 15, 2020 April 6, 2021
AR000303-AR000383 AR000384-AR000388	CACR/Budget Amendment IEPA CACR/Budget rejection letter	November 15, 2022 April 14, 2023
AR000389-AR000439 AR000440-AR000451	RCI CACR/Budget response Emails between IEPA/RCI	June 16, 2023 Sept. 18-Oct. 25, 2023
AR000452-AR000454 AR000455-AR000458	IEPA Technical Review Notes RCI Budget Certification forms	September 19, 2023 October 6, 2023
AR000459 AR000460-AR000516	RCI extension request	October 16, 2023 November 22, 2023
AR000517-AR000520 AR000521	RCI response/updated Budget Emails between IEPA/RCI RCI extension request	December 8-15, 2023 December 15, 2023
AR000522-AR000523 AR000523-AR000529	Emails between IEPA/RCI IEPA Budget decision letter	February 12-14, 2024 February 16, 2024

I, Eric Kuhlman, certify on information and belief that the entire record of the Respondent's decision, as defined in 35 Ill. Adm. Code 105.410(b), is hereby enclosed.

Eric Kuhlman

Leaking Underground Storage Tank Section Illinois Environmental Protection Agency

Date: 9/17/2024

Electronic Filing: Received, Clerk's Office 09/20/2024

CERTIFICATE OF SERVICE

I, the undersigned attorney at law, hereby certify that on **September 20, 2024**, I served true and correct copies of the **ADMINISTRATIVE RECORD**, and a **CERTIFICATE OF RECORD ON APPEAL**, via the Board's COOL system and email, upon the following named persons:

Don Brown, Clerk
Illinois Pollution Control Board
60 E. Van Buren Street
Suite 630
Chicago, IL 60601
don.brown@illinois.gov

Adam B. Simon Ancel Glink, P.C. 175 E. Hawthorn Parkway, Ste. 145 Vernon Hills, IL 60061 asimon@ancelglink.com Bradley P. Halloran, Hearing Officer Illinois Pollution Control Board 60 E. Van Buren Street, Ste. 630 Chicago, IL 60605 brad.halloran@illinois.gov

Vevgeniy Bolotnikov Ancel Glink, P.C. 175 E. Hawthorn Parkway, Ste. 145 Vernon Hills, IL 60601 ebolotnikov@ancelglink.com

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,

Respondent

Rich Kim

Assistant Counsel - Division of Legal Counsel Special Assistant Attorney General 1021 North Grand Avenue, East P.O. Box 19276 Springfield, Illinois 62794-9276 217/782-5544 866/273-5488 (TDD) richard.kim@illinois.gov

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Office of the Illinois State Fire Marshal

217-723-0907

217-782-1002 Children

RECALDIFICATION MORN 217-762-0116 BOOLER and PRESSURE VESSEL GAVETY 217-702-2096 FIRE PREVENTION 217-789-4714

MANAGEMENT SERVICES 277-762-0689 DATES. 217-743-5079 BESTUDIES NAME 717-FAS-1020 PERSONNEL STANDARDS and emphants 217-712-4342 PFTREELERANGE COM

TIBLIC PEPORMATON 217-745-1021

CHEIGEAL SAFETY 217-703-5070 MES PLE

CERTIFIED MAIL - RECEIPT REQUESTED # 2 082 4

1

DEC 1 4 1998

December 10, 1998

West Chicago Park District 157 W. Washington West Chicago, IL 60185-0

In Re:

Pacifity No. 2 019454
IEMA Institut No. 98-0814
West Chicago that Dist
Reed-Keppins Hantle Fremont
250 W National
West Chicago, Du Page Co., IL

Dear Applicant:

The Reinforcement Eligibility and Deductible Application, received on October 30, 1998 for the above referenced occurrence has been reviewed. The following determinations have been made based

It has been determined that you are eligible to such payment of costs in coress of \$10,000. The costs must be in response to the occurrence referenced advest and associated with the following tanks:

Eligible Tanks

Tank 1 1,000 gallen Gasoline Tank 2 1,000 gallon Diesel

You must contact the Elizabs Environmental Protes on Agency to receive a packet of Agency billing forms for submitting your request for payment.

An owner of operator is eligible to access the Under and Surage Tank Fund if the eligibility pelipites ous attentions

- Neither the owner nor the operator is the U 1. led States Government;
- 2. The tenk does not contain find which is a of from the Motor Pupi Tex Law;
- The costs were instanted as a result of a conmed release of any of the following substances:

"Fuel", as defined in Section 1, 19 f the Motor Poel Tax Law

Aviation feel

Heating oil

1035 Stevenson Drive - Springfield. linois 82703-4268

000001

Kerosene

Used oil, which has been refin Used oil, which has been refined from crude oil mand in a motor vehicle, as defined in Section 1.3 of the Motor Fact Law.

- 4. The owner or operator registered the hard and paid all fees in accordance with the statutory and regulatory requirements of the Gasafine Storage Act.
- The owner or operator notified the Illinois Busingency Management Agency of a confirmed release, the costs were instance after the polification and the costs were a result of a release of a substance histed to this Section. Costs of convexive action or indemnification incurred before providing that notification shall not be eligible for payment. 5.
- The costs have not already been paid to the owner or operator under a private insurance policy, other written agreement, or count private. 6.
- 7. The costs were associated with "convective

This constitutes the final decision as it relates to your alighbility and deductibility. We reserve the right to change the deductible determination should additional information that would change the decision to the Illinois Polistica Control Board (Board), pursuant to Section 57.9 (c) (2). An owner or operator who socks to appeal the decision shall file a patrion for a hearing before the Board within 35 days of the date of scaling of the final decision (3) Illinois Administrative Code 105.102(s) (2)).

For information regarding the filing of an appeal, se contact

Milin X & I

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Dozotky Gum, Clerk Ulinois Pollution Control Board State of Illinois Center 100 West Randolph, Suite 11-500 Chicago, Illinnis 60601 (312)814-3620

Sincerely.

If you have any questions regarding the eligibility of deductivility determinations, please contact our Office at (217)785-1020 or (217)785-5878 between 5:00 - 4:00 p.m.

Melvin H. Smith Division Director

Division of Petroleum and Chemical Safety

MHS:

CC.

EPA Facility File

RESOURCE CONSULTING, INC.

115 Ford Street P.O. Box 123 Geneva, Illinois 60134 Phone: (630) 232-9820 Fax: (630) 232-9824

June 21, 2013

0430905825 - DuPage Co. West Chicago Park District Incident # 980814 Leaking UST Tech File

Ms. Carol Hawbaker_

Illinois Environmental Protection Agency
Bureau of Land – No. 24
Leaking Underground Storage Tank Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

IEPA - DIVISION OF RECORDS MANAGEMENT
RELEASABLE
SEP 2 0 2013

RE: LPC No. 043905825 - DuPage County

West Chicago/West Chicago Park District

250 West National Street LUST Incident No. 980814 LUST Technical File REVIEWER EAV

Free Product Removal Report/Corrective Action Completion ReportRECEIVED

JUL 2 3 2013

Dear Ms. Hawbaker:

IEPA/BOL

On behalf of the West Chicago Park District, Resource Consulting, Inc. is submitting the Corrective Action Completion Report (CACR) to the Illinois Environmental Protection Agency (EPA) for the above-referenced leaking underground storage tank (LUST) incident. The activities were completed according to the Corrective Action Plan (CAP) amendment and associated budget dated March 6, 2009, and approved by the Illinois EPA in correspondence dated July 16, 2009.

Soil and free product remediation activities have been completed in accordance with the approved CAP amendment. The remaining soil and groundwater contamination is addressed through a comprehensive Exposure Route Evaluation that results in the exclusion of the remaining exposure pathways from concern. This report serves as the technical supporting documentation for a reimbursement claim presently being prepared for submission to the Illinois UST Fund for the approved corrective action costs. A budget amendment is also included with this CACR.

The corrective actions were successful in addressing the free product and extreme petroleum contamination present below the property to ensure that human health and safety and the environment are protected. The USTs have been removed, the backfill material and the aquifer smear zone containing

significant levels of contamination were removed, and free product removal efforts were successful. Furthermore, the assessment of the current Site conditions using the Tiered Approach to Corrective Action Objectives (TACO) indicates that the Illinois EPA could issue a No Further Remediation (NFR) letter upon the enactment of the City's well prohibition ordinance. Once completed, the recording of environmental land use controls (ELUCs) on the subject property with the NFR letter will prohibit the use of the impacted aquifer as a source of potable water.

The West Chicago Park District requests that the Illinois EPA review the contents of this comprehensive Corrective Action Completion Report to determine the technical adequacy of its findings and conclusions.

Please contact our office with any questions or comments regarding this submission, or if we can be of assistance in any other way.

Sincerely,

Daniel J. Horvath

Hydrogeologist/Senior Project Manager

Enclosure:

Corrective Action Completion Report

cc:

Mr. Jesse Felix, West Chicago Park District

FREE PRODUCT REMOVAL REPORT CORRECTIVE ACTION COMPLETION REPORT

West Chicago Park District
Reed-Keppler Park Maintenance Garage
250 West National Street
West Chicago, Illinois

LUST Incident No. 980814 LPC No. 0430905825

FREE PRODUCT REMOVAL REPORT CORRECTIVE ACTION COMPLETION REPORT

West Chicago Park District
Reed-Keppler Park Maintenance Garage
250 West National Street
West Chicago, Illinois

LUST Incident No. 980814 LPC No. 0430905825

Prepared for:

West Chicago Park District 157 West Washington Street West Chicago, Illinois 60185

Prepared by:

Daniel J. Horvath, PG Hydrogeologist/Project Manager

> Resource Consulting, Inc. 115 Ford Street P.O. Box 123 Geneva, Illinois 60134 (630)232-9820

> > June 21, 2013

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		b.	The major components (e.g., treatment, containment, removal) of the corrective action	2
		c.	The scope of the problems corrected or mitigated by the corrective action	2
		d.	The anticipated post-corrective action uses of the site and areas immediately adjacent to the site	3
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	c.	Map(s) showing the current extent of groundwater contamination exceeding the most stringent Tier 1 remediation objectives;	
	d.	Map(s) showing the modeled extent of groundwater contamination exceeding the most stringent Tier 1 remediation objectives;	
	e.	Table(s) listing the setback zones for each community water supply well and other potable water supply wells;	
	f.	A narrative identifying each entity contacted to identify potable water supply wells, the name and title of each person contacted, and any field observations associated with any wells identified; and	
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C	Photographs
D	Budget Amendment
E	Laboratory Reports-Soil Quality
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G	Exposure Route Evaluation
Н	Laboratory Reports-Groundwater Quality
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ī	Illinois FPA Forms

Illinois Environmental Protection Agency Leaking Underground Storage Tank Program Free Product Removal Report Corrective Action Completion Report

A. Site Identification

IEMA Incident # (6- or 8-digit): 980814

Illinois EPA LPC#: 0430905825

Site Name: West Chicago Park District

Site Address (Not a P.O. Box): 250 West National Street

City: West Chicago County: DuPage ZIP Code: 60185

Leaking UST Technical File

B. Site Information

1. Has a Corrective Action Plan been approved? Yes

Date of approval letter: July 16, 2009

- 2. This completion report is being submitted pursuant to:
 - a. 35 Ill. Adm. Code 731.166
 - b. 35 Ill. Adm. Code 732.300(b)
 - c. 35 Ill. Adm. Code 732,404 X
 - d. 35 Ill. Adm. Code 734.345
- 3. Method of remediation chosen:
 - a. Soil Excavation and disposal of contaminated soil
 - b. Groundwater Physical removal of free product; Pathway Exclusion
- 4. Quantity of contaminated media remediated and/or recovered:
 - a. Soil 215 yds³ (321.52 tons)
 - b. Groundwater 4,000 gals
 - c. Free Product unknown gals (remaining product removed with soil)

C. Remedial (Corrective) Action

1. Executive Summary

a. A brief description of the Site:

The West Chicago Park District reported incident no. 980814 in April 1998 for releases from 2 underground storage tanks (USTs) located at the Park District's maintenance garage at Reed-Keppler Park. The layout of the park and the location of the garage are shown on Figure 1 in Appendix A. The incident was reported following the identification of petroleum contamination in the soil and groundwater below the Site during the installation of soil borings in the vicinity of the USTs in April 1998. Upon the removal and inspection of the USTs in October 1998, it was determined that the incident was caused by one or more overfills of the UST systems during their period of use. The USTs had contained unleaded gasoline and diesel fuel so the indicator contaminants for the incident are benzene, toluene, ethylbenzene, and total xylenes (BTEX) and polynuclear aromatic hydrocarbons (PNAs).

Resource Consulting conducted a series of Site Investigations between 1999 and 2008 to delineate the extent of soil contamination, groundwater contamination, and free product resulting from the release. Figures 1 and 2 in Appendix A display the inferred extents of soil contamination and groundwater contamination, respectively, based on the results of the investigations. Since the completion of the perimeter monitoring wells in 2002, no significant migration of the contamination has been observed.

b. The major components of the corrective action:

Since 1998 the corrective actions entailed the removal of the USTs present, the excavation and disposal of contaminated soil and backfill material, the removal of all free product from the subsurface, and the evaluation of the remaining site conditions using the methods outlined in 35 III. Adm. Code Part 742: Tiered Approach to Corrective Action Objectives (TACO).

c. The scope of the problems corrected or mitigated by the corrective action:

The corrective actions addressed all of the remaining project concerns—soil contamination, groundwater contamination, and the presence of free product. Once all of the necessary institutional controls are in place, the Illinois Environmental Protection Agency (EPA) can issue the No Further Remediation (NFR)

letter for the incident.

d. The anticipated post-corrective action uses of the Site and areas immediately adjacent to the Site:

Reed-Keppler Park is a public facility operated by the West Chicago Park District and owned by the City of West Chicago, Illinois. The park is currently and will continue to be the site of various playing fields, a public pool, a picnic area, and other amenities. The adjacent property to the south is owned by the Exelon Corporation and will remain a public bicycle trail for the foreseeable future.

2. Description of Corrective Action Activities

a. Narrative description of field activities:

Prior corrective actions at the Site consisted of the 1998 removal of the USTs, the excavation and disposal of contaminated backfill material, and periodic manual free product removal. These actions were documented in previous reporting to the Illinois EPA. A narrative description of the most recent Site activities in 2009 follows.

Soil Remediation and Free Product Removal

In 1998 during the initial phases of the project, a representative of Resource Consulting collected a soil sample to undergo waste characterization analyses. The soil was placed in a 16-ounce clear glass jar fitted with a Teflon[®]-lined lid, placed on ice, and transported to First Environmental Laboratories, Inc. of Naperville, Illinois. The sample underwent the following analyses: open cup flash point, paint filter, the presence of phenol substances, and the presence of lead using the toxicity characteristic leaching procedure (TCLP). These analytical results were deemed acceptable for use with the new landfill disposal application completed for Republic Waste in September 2009 for the most recent corrective actions.

From November 4 through November 6, 2009, the approved corrective action activities were performed at the Site. Personnel from Resource Consulting and Accurate Tank Construction, Inc. of North Aurora, Illinois, were present to complete the activities. On November 4, 2009, the asphalt, concrete, and clean overburden covering the remediation area were removed. The asphalt was handled as waste and transported to a recycling facility for proper reuse. The concrete and the clean overburden were stockpiled on-site for later return to the final excavation.

The excavation and transport of the contaminated material was conducted on November 5, 2009. The material was transported to the landfill operated by Republic Services, Inc. in Morris, Illinois. Approximately 215 cubic yards of contaminated soil (321.52 tons) containing the remaining free product and elevated levels of petroleum contamination were removed from the Site. During the operation, approximately 4,000 gallons of contaminated water were removed by North Branch Environmental of Roselle, Illinois. Copies of the waste manifests for both the soil and water are included in Appendix B of this report.

Clean backfill material was transported to the Site at the completion of the excavation and transport of the contaminated soil. The stockpiled overburden was returned to the excavation first followed by the imported backfill material. Although the stockpiling of overburden was conducted in accordance with the approved Corrective Action Plan (CAP), i.e., the soil from grade to a depth of 5 feet was set aside for reuse as shown in the photographs in Appendix C, a total of 389 tons of clean backfill were imported to the Site to complete the filling of the excavation. This quantity exceeded the total quantity of soil removed from the Site, 321.5 tons, by 67.5 tons. Approximately 20 tons of this difference may be attributed to replacing the volume of the asphalt that was removed from the Site. It is suspected that the remaining 47.5 tons was necessary for the following reasons:

- The stockpiled overburden was mostly dry sand so the gravel backfill mixed with the native sand. In essence, where the 2 materials mixed, the sand filled the matrix of the gravel so that volume was lost during the filling operation.
- During the corrective actions, approximately 4,000 gallons of water were pumped out to ensure
 that all of the free product and the product-laden soil were removed. This volume was partially
 replaced by backfill material since the water table did not reach equilibrium during the 3 days of
 work at the Site.

The budget amendment in Appendix D reflects the increase in backfill needed to complete the project. Also reflected in the amendment is the increase in water removed from the excavation required to effectively complete the corrective actions to meet the minimum requirements of the Illinois Leaking UST Program.

Soil Sampling & Laboratory Analyses

Soil samples were collected from the sidewalls of the final remedial excavation on November 5, 2009, in accordance with the approved CAP and the requirements of the Illinois Leaking UST Program. The

locations of the sampling points are shown on Figure 3 in Appendix A. At each sampling location, the bucket of the backhoe retrieved a large portion of the soil representing the sampling area. A portion of this large sample that did not contact the backhoe bucket was collected using a clean trowel. All of the samples were placed on ice following collection until reaching the laboratory.

Three (3) representative samples of the stockpiled material were also collected to confirm its condition. These samples were collected manually using vinyl sampling gloves; random grab samples of the stockpiled soil were placed into appropriate containers and placed on ice for transport to the laboratory.

In conjunction with the installation of 2 replacement monitoring wells described below, a discrete soil sample was collected from each soil boring to aid in defining the remaining Site conditions following the corrective actions. At each location, a sample of the soil was retrieved from a stainless steel split-spoon sampler, placed into appropriate sampling containers, and placed on ice.

The soil samples were submitted with chain-of-custody documentation to First Environmental Laboratories, Inc. to undergo analysis for the presence of BTEX using SW-846 analytical methodology 8260B and PNAs using method 8270C. A copy of the laboratory report for these samples that includes a copy of the chain-of-custody information is included with this report as Appendix E. The results of the laboratory analyses for all of the samples are presented later in this document.

Installation of Replacement Monitoring Wells

On November 25, 2009, in accordance with the approved CAP, a monitoring well designated RW-16a was installed in the center of the final excavation for the purpose of determining the ramifications of the soil and free product removal since 3 monitoring wells used to determine the degree of groundwater contamination near the source were removed during corrective actions.

In conjunction with this event, monitoring well MW-4 was replaced by installing a new well approximately 3 feet to the west of its original location. During one of the Site visits in the past 2 years, a Resource Consulting representative determined that the original MW-4 had its bolt-down cover broken by a snowplow which resulted in the well filling with silt and mud from the surface. The old well has been properly sealed, and the new well, designated MW-4A, was constructed as described below.

The wells were constructed of PVC well screen coupled to flush-threaded PVC riser. The screened portion of each well (0.010 factory slot) was set in a manner suitable to detect the presence of free

product. The annular space around each screen was filled with a granular filter pack to a level approximately 1 foot above the well screen followed by a two-foot bentonite seal. The rest of the open boring was backfilled with bentonite grout to a depth of 2 feet. The wells were set in flush-mount well covers and fitted with locking caps upon their completion. Soil boring logs and monitoring well completion reports for the new wells are included in Appendix F.

Groundwater Sampling and Collection of Elevation Data

On December 14, 2009, Resource Consulting personnel collected groundwater samples from 12 of the monitoring wells present at the Site. The locations of the wells, the layout of the Site, and various project data are included on Figure 2 in Attachment A. The monitoring wells were developed using either a stainless steel bailer fitted with a Teflon[®] bottom-entry check valve or dedicated PVC bailers. Development and purging of the wells entailed the removal of at least 10 gallons of groundwater, equivalent to approximately 5 casing volumes, from each well. Contaminated conditions are known to persist in this region, thus preventing further contamination of the surface or subsurface. The bailers were decontaminated between sampling points following purging and sampling in a manner consistent with Illinois EPA and USEPA protocols.

No free product was observed in any of these wells, thus confirming the efficacy of the free product removal effort completed in conjunction with the soil removal operation.

In conjunction with the sampling of the monitoring wells, the direction of groundwater flow and the hydraulic gradient were determined from additional data gathered from the wells. Specifically, the tops of the monitoring wells were surveyed to a common elevation datum at the Site, and the depth to the water table was measured in each of the wells. These data were used to evaluate the flow conditions below the Site; the evaluation is presented later in this report.

Exposure Route Evaluation

Since groundwater contamination remains below the Site that exceeds certain Tier 1 remediation objectives for the groundwater ingestion exposure route, a TACO evaluation of these conditions has been performed to determine if the requirements of 35 III. Adm. Code Part 742 are sufficiently met for the issuance of an NFR letter. The evaluation of the current aquifer conditions to allow the exclusion of the groundwater ingestion exposure route is included as Appendix G.

b. A narrative description of the remedial actions implemented at the site:

The contaminated soil that contained the remaining free product as well as concentrations of BTEX and PNAs that likely exceeded a number of the Illinois EPA's Tier I remediation objectives was excavated and disposed of at a properly licensed Illinois waste disposal facility. Through the removal of this contamination the persisting free product on the water table in the smear zone was addressed, and the threat to potential exposed populations was eliminated.

The exposure route evaluation indicates that the remaining contamination may migrate onto neighboring private property to the south but can be excluded from further concern as an exposure route. This matter is fully addressed in a subsequent section of this report.

c. Documentation of sampling activities:

Soil Quality

Soil sample collection procedures followed Illinois EPA protocol regarding locations and frequency of sampling. The field scientist used SW-846 method 5035 for the collection of the soil samples that underwent analyses for the presence of BTEX. Sample analyses also included those for the presence of PNAs due to the storage of diesel fuel in one of the USTs.

Extreme care was used when preparing samples for laboratory analysis to maintain the integrity of each sample. All sampling equipment used during the field activities was thoroughly cleaned between sampling events to prevent cross-contamination of the respective samples. All of the field activities followed USEPA protocol for environmental sampling.

Tables I and II below summarize the analytical results for the soil samples collected from the perimeter of the UST excavation and the stockpiled backfill material and compares the results to the Tier 1 remediation objectives (ROs) of the Illinois EPA.

Table I Analytical Summary BTEX and PNAs in Soil Sidewalls of Final Excavations (values in mg/kg)

Sample ID	EW-I †	EW-2	SW-1	SW-2	WW-1	WW-2	NW-1	NW-2	Illinois	EPA Tier 1 C	Objectives
Sampling Date				November	5, 2009	.,			Ingestion	Inhalation	Groundwater Ingestion
Benzene	0.297	0.0279	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.050	12	0.8	0.03
Toluene	<5.000	<0.500	<0.0050	<0.0050	0.0066	<0.0050	0.0079	<0.050	16,000	650	12
Ethylbenzene	77.600	3.690	0.0234	<0.0050	0.0199	0.0697	0.0258	0.0277	7,800	400	13
Xylenes, Total	333.000*	13.000	0.0903	<0.0050	0.0758	0.269	0.0835	<0.050	160,000	320	150
Acenaphthene	0.540	0.145	<0.050	<0.050	<0.015	<0.015	<0.050	<0.050	4,700	NA	570
Acenaphthylene	0.191	0.059	<0.050	<0.050	< 0.011	<0.011	<0.050	<0.050	NA	NA	NA
Anthracene	<0.050	<0.050	<0.050	<0.050	<0.011	< 0.011	<0.050	<0.050	23,000	NA	12,000
Benzo(a)anthracene	0.0337	<0.0087	<0.0087	<0.0087	<0.050	<0.050	<0.0087	<0.0087	0.9	NA	2
Benzo(a)ругепе	<0.150	<0.015	<0.015	<0.015	<0.050	<0.050	<0.015	<0.015	0.09	NA	8
Benzo(b)fluoranthene	<0.110	<0.011	<0.011	<0.011	<0.020	<0.020	< 0.011	<0.011	0.9	NA	5
Benzo(k)fluoranthene	<0.110	<0.011	<0.011	<0.011	<0.050	<0.050	<0.011	<0.011	9	NA	49
Benzo(ghi)perylene	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	NA	NA	NA
Chrysene	<0.050	<0.050	<0.050	<0.050	<0.029	<0.029	<0.050	<0.050	88	NA	160
Dibenzo(a,h)anthracene	<0.200	<0.020	<0.020	<0.020	<0.025	<0.025	<0.020	<0.020	0.09	NA	2
Fluoranthene	<0.060	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	3,100	NA	4,300
Fluorene	0.435	0.126	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	3,100	NA	560
Indeno(1,2,3-cd)pyrene	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	0.9	NA	14
Naphthalene	160.000	2.710	<0.025	<0.025	<0.025	0.048	<0.025	0.091	1,600	170	12
Phenanthrene	0.551	0.180	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	NA	NA	, NA
Pyrene	0.120	<0.050	<0.05 [†] 0	<0.050	<0.050	<0.050	<0.050	<0.050	2,300	NA	4,200
†	This region	of excavation	re-sampled;	see next sect	on of report				•		
*	Concentration	n exceeds soi	l saturation l	imit; see nex	t section of r	eport.					
TEXT	Concentration	n exceeds Illi	nois EPA rei	mediation ob	jective.						
TEXT	Remediation	objective exc	ceeded by co	ntaminant co	ncentration.						******

	S	BT) tockpiled Backfi	Table II nalytical Sumi EX and PNAs II Material and (values in mg/	in Soil d Base of Excavati	ion		
		Backfill		Base			
Sample ID	BF-1	BF-2	BF-3	RW-16A 8-9'	Illinoi	s EPA Tier 1 O	bjectives
Sampling Date	N	ovember 5, 2009		Nov 25, 2009	Ingestion	Inhalation	Groundwater Ingestion
Benzene	<0.0050	<0.0050	<0.0050	<0.0050	12	0.8	0.03
Toluene	<0.0050	<0.0050	<0.0050	<0.0050	16,000	650	12
Ethylbenzene	0.0075	0.0504	0.0381	<0.0050	7,800	400	13
Xylenes, Total	0.0271	0.190	0.127	<0.0050	160,000	320	150
		· <u></u>					
Acenaphthene	<0.050	<0.050	<0.050	<0.050	4,700	NA	570
Acenaphthylene	<0.050	<0.050	<0.050	<0.050	NA	NA	NA
Anthracene	<0.050	<0.050	<0.050	<0.050	23,000	NA	12,000
Benzo(a)anthracene	<0.0087	0.0096	0.0127	0.0603	0.9	NA	2
Вепго(а)рутепе	<0.015	<0.015	0.018	0.056	0.09	NA	8
Benzo(b)fluoranthene	0.016	0.022	0.029	0.068	0.9	NA	5
Benzo(k)fluoranthene	0.018	0.026	0.032	0.040	9	NA	49
Benzo(ghi)perylene	<0.050	<0.050	<0.050	<0.050	NA	NA	NA
Chrysene	<0.050	<0.050	<0.050	0.056	88	NA	160
Dibenzo(a,h)anthracene	<0.020	<0.020	<0.020	<0.020	0.09	NA	2
Fluoranthene	<0.050	<0.050	<0.050	0.092	3,100	NA	4,300
Fluorene	<0.050	<0.050	<0.050	<0.050	3,100	NA	560
Indeno(1,2,3-cd)pyrene	<0.029	<0.029	<0.029	0.032	0.9	NA	14
Naphthalene	0.068	0.051	0.042	<0.025	1,600	170	12
Phenanthrene	<0.050	<0.050	<0.050	<0.050	NA	NA	NA
Pyrene	<0.050	<0.050	< 0.050	0.070	2,300	NA	4,200

Contamination Detected in East Sidewall

In response to the detection of elevated levels of benzene, ethylbenzene, total xylenes, and naphthalene in the final excavation sample from the east sidewall (sample EW-1), additional samples were collected from the region east and south of the eastern extent of the remedial excavation. The samples were collected from the soil boring installed to replace a monitoring well as well as from hand auger borings installed when it was realized that the total xylenes concentration in sample EW-1 exceeded the chemical's soil saturation limit. These conditions were discussed with the Illinois EPA project manager in electronic correspondence in December 2011 and January 2012.

The data are presented in the following table. The sampling locations are displayed on Figure 3 in Appendix A.

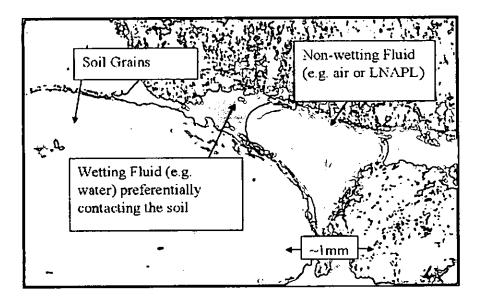
	Additional S	Table III Analytical Summary BTEX in Soil Sampling of Southeastern Re (values in mg/kg)	gion of Excavation		
Sample ID	EW-1 4-5'	RW-4A 4-6'	WCPD-1 4-5'	EW-1A 4-5'	Remediation
Sampling Date	November 5, 2009	November 25, 2009	February 21, 2012	March 7, 2012	Objective
Benzene	0.297	0.49	<0.005	<0.005	0.03
Toluene	<5.000	<0.500	<0.005	<0.005	12
Ethylbenzene	77,600	3.070	<0.005	<0.005	13
Xylenes, Total	333.000	9.24	<0.005	<0.005	5.6
Notes	Additional data from this area indicates this sample is not representative of area	Additional data indicates this sample represents impact from groundwater	These data represer sample i		
TEXT	Concentration exceeds Illinois	EPA remediation objective.			······································

In conjunction with its presentation graphically on Figure 3 in Appendix A, the data in Table III above demonstrate 3 points:

- The soil contamination below the Site has been fully characterized through the collection of the additional soil samples.
- 2) The data collected in February and March 2012 indicates that the detection of benzene in the soil sample from RW-4A in November 2009 was likely representative of the conditions resulting from the presence of groundwater contamination at that location. This well is also the only remaining location of groundwater contamination below the Site, and the soil contamination is not connected laterally to the original source area. Significant changes in water table elevations seasonally and during recent drought and flood periods have created a significant smear zone at this depth where groundwater contamination is present.
- 3) The data from sample EW-1 does not represent the conditions in this region of the excavation. Although the free product has persisted in the subsurface for over 15 years including the entire time that the Site characterization efforts were performed, there has never been a detection of any fuel component that exceeded the chemical's soil saturation limit. The additional sampling conducted in response to the analytical results (samples WCPD-1 and EW-1A) could not duplicate the data; in fact, the samples from near the original EW-1 location contain no BTEX

contamination at all which correlates with the other excavation data better than with the EW-1 and RW-4A data. Therefore, the exceedance of the soil saturation limit for total xylenes is not a concern for the project.

Current research on the topic of free product persistence in the soils and groundwater suggests that soil sample EW-1 contained entrained gasoline in the pore spaces of the soil sample. This entrainment of residual gasoline results from the physical attraction of droplets of fuel and water to the soil grains and the inability of the residual fuel to flow anywhere in the presence of the air and water surrounding it. This is shown in the following photograph:



It is suspected that the soil sample contained an amount of this entrained fuel that was not representative of the region of the subsurface. This conclusion is supported by the following:

- There has never been a detection of total xylenes of this magnitude anywhere at the project site in 15 years;
- 2) Attempts to verify that this level of xylenes is representative of the region failed; and
- 3) The soil saturation limit is a measure of the potential for free product to be present in the subsurface, but no free product is observed in any monitoring wells since the completion of the corrective actions.

The region where this sample was collected is where the groundwater contamination migrated

during the course of the project. Although the direction was calculated many times to be toward the south/southeast, dissolved contamination migrated toward the east/southeast. This is attributed to disparities in soil types toward the east that facilitated migration in this direction and/or the pumping of groundwater during the past thorium remediation efforts that occurred east of the project area between 1997 and 2002.

In conclusion, the free product has been removed, the soil contamination causing ongoing groundwater contamination has been remediated to an extent that precludes the need for further evaluation using TACO methods, and no further soil remediation or free product removal is warranted.

Groundwater Quality

Prior to development and purging, the monitoring wells were inspected for the presence of free-phase gasoline. No free product was encountered in any of the monitoring wells during the sampling effort.

Discrete samples from the 12 monitoring wells were collected in two 40-ml vials containing hydrochloric acid preservative and fitted with Teflon[®]-lined caps. In addition, a sample was collected in a 1-liter amber jar from the wells at the perimeter of the former UST location. All of the samples were placed on ice and transported with chain-of-custody documentation to First Environmental Laboratories, Inc. The samples underwent analysis for the presence of BTEX and PNAs using SW-846 methods 8260B and 8270C, respectively.

The following tables summarize the groundwater quality data collected following the completion of soil corrective actions. The laboratory reports containing the groundwater quality data are found in Appendix H of this report; the hydraulic properties of the aquifer are discussed in detail in Appendix 1.

Table IV Analytical Summary BTEX and PNAs in Groundwater

Sampling Date: December 14, 2009 Units in mg/L

													Illinois El Objec	
Sample ID	RW-1	RW-2	RW-4A	RW-5	RW-6	RW-7	RW-8	RW-11	RW-13	RW-14	RW-15	RW-16A	Class I	Class II
		-0.006		-0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	0.025
Benzene	<0.005	<0.005	1.570	<0.005				-	<0.005	<0.005	<0.005	0.0165	1,0	2.5
Toluene	<0.005	<0.005	0.0139	<0.005	<0.005	<0.005	<0.005	<0.005						
Ethylbenzene	<0.005	<0.005	1.110	<0.005	<0.0545	<0.005	<0.005	<0.005	<0.0064	0.133	0.018	0.319	0.7	1.0
Xylenes, Total	<0.005	<0.005	1.420	<0.005	0.183	<0.005	<0.005	<0.005	0.0167	0.374	0.0569	0.947	10.0	10.0
Acenaphthene	NTF	NTF	NTF	NTF	NTF	NTF	NTF	<0.010	<0.010	<0.010	<0.010	<0.010	0.42	2.1
Acenaphthylene	NTF	NTF	NTF	NTF	NTF	NTF	NTF	<0.010	<0.010	<0.010	<0.010	<0.010		
Anthracene	NTF	NTF	NTF	NTF	NTF	NTF	NTF	<0.005	<0.005	<0.005	<0.005	<0.005	2.1	10.5
Benzo(a)anthracene	NTF	NTF	NTF	NTF	NTF	NTF	NTF	<0.00013	<0.00013	<0.00013	< 0.00013	<0.00013	0.00013	0.00065
Benzo(a)pyrene	NTF	NTF	NTF	NTF	NTF	NTF	NTF	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.002
Benzo(b)fluoranthene	NTF	NTF	NTF	NTF	NTF	NTF	NTF	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018	0.00018	0.0009
Benzo(k)fluoranthene	NTF	NTF	NTF	NTF	NTF	NTF	NTF	<0.00017	<0.00017	<0.00017	<0.00017	<0.00017	0.00017	0.00085
Benzo(ghi)perylene	NTF	NTF	NTF	NTF	NTF	NTF	NTF	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004		
Chrysene	NTF	NTF	NTF	NTF	NTF	NTF	NTF	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	0.0015	0.0075
Dibenzo(a,h)anthracene	NTF	NTF	NTF	NTF	NTF	NTF	NTF	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0003	0.0015
Fluoranthene	NTF	NTF	NTF	NTF	NTF	NTF	NTF	<0.002	<0.002	<0.002	<0.002	<0.002	0.28	1,4
Fluorene	NTF	NTF	NTF	NTF	NTF	NTF	NTF	<0.002	<0.002	<0.002	<0.002	<0.002	0.28	1.4
Indeno(1,2,3-cd)pyrene	NTF	NTF	NTF	NTF	NTF	NTF	NTF	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00043	0.00215
Naphthalene	NTF	NTF	NTF	NTF	NTF	NTF	NTF	<0.010	<0.010	0.033	<0.010	0.046	0.14	0.22
Phenanthrene	NTF	NTF	NTF	NTF	NTF	NTF	NTF	<0.005	<0.005	<0.005	<0.005	<0.005	***	
Pyrene	NTF	NTF	NTF	NTF	NTF	NTF	NTF	<0.002	<0.002	<0.002	<0.002	<0.002	0.21	1.05
NTF	Not tested	for.												
TEXT	Concentra	tion exceeds	s remediation	objectives										
TEXT	Remediati	on objective	exceeded by	y contamina	ant concentrat	ion.								

The above data indicate that only one monitoring well, RW-4A, contains concentrations of benzene and ethylbenzene that exceed the applicable remediation objectives. The data, although collected from a recently installed well that replaced a damaged well, correlate with the historical data from this region of the Site. As mentioned previously, the occurrence of significant benzene contamination in this region of the property is likely the result of preferential groundwater flow to the east-southeast potentially through a buried sand channel. It is also possible that the dewatering operations conducted during the thorium remediation project east of the LUST area during the 1990s and early 2000s may have drawn contamination in an easterly direction.

To assist in determining if the remedial actions had a beneficial effect on the aquifer conditions over time, another sample was collected from this well on August 20, 2010. These analytical results are presented below.

	Table V Analytical Su BTEX and PNAs in Sampling Date: Au Units in m	mmary Groundwater gust 20, 2010		
		Illinois EPA Tier 1 Objectives		
Sample 1D	RW-4A	Class 1	Class II	
Benzene	1.23	0.005	0.025	
Toluene	0.0099	0.7	1.0	
Ethylbenzene	1.22	1.0	2.5	
Xylenes, Total	2.41	10.0	10.0	
TEXT	Concentration exceeds	remediation objectives.		
TEXT	Remediation objective	exceeded by contamina	nt concentration.	

The groundwater quality data collected 9 months after the completion of the corrective actions suggests that the benzene concentrations remaining in the shallow groundwater are decreasing; during this same interval the toluene concentration slightly increased. Since the vast majority of source material has been removed from the subsurface by the recent corrective actions, it is likely that the contaminant concentrations will continue to decrease over time.

For the purposes of the Exposure Route Evaluation of the current Site conditions, the higher benzene concentration was used in the calculations.

d. Soil boring logs and monitoring well construction diagrams.

Soil boring logs and monitoring well completion reports for the new monitoring wells are included in Appendix F.

- 3. A narrative description of any special conditions relied upon as part of corrective action including:
- a. Engineered barriers utilized:

One of the soil samples collected from the final perimeter of the excavation contained a concentration of total xylenes that exceeded the Tier 1 RO for the inhalation exposure route, but it has been demonstrated that this analytical result is not representative of the conditions remaining in this area of the excavation. Therefore, no engineered barriers are required for this incident.

- b. Institutional controls utilized:
 - i. Copy of fully executed institutional control(s); and
 - ii. Map showing location(s) of controls.

In order for the NFR letter to be issued for this LUST incident, an institutional control consisting of a city-wide well prohibition ordinance will be placed on the property. In accordance with 35 III. Adm. Code Section 742.1005, the NFR letter citing these conditions will then act as the institutional control for these project requirements.

The Exposure Route Evaluation presented later in this document demonstrates that groundwater ingestion can be excluded as a potential exposure route. As of the publication of this report, the West Chicago Park District is working with the City of West Chicago to enact an ordinance that will, at a minimum, prohibit the installation and use of water supply wells within the modeled extent of the groundwater contamination. Resource Consulting will submit the ordinance upon its enactment by the City.

c. Other conditions, if any, necessary for protection of human health and safety and the environment that are related to the issuance of a No Further Remediation Letter:

No other conditions would apply to a request for the incident's NFR letter once the groundwater ingestion exposure route is addressed.

d. Any information required regarding off-site access.

No information is required regarding off-site access at this time. Following the enactment of the ordinance, the Exelon Corporation will be notified of the presence of the contamination whose modeled extent reaches its property to the south in accordance with the TACO regulations. All other parcels within the modeled extent of the groundwater contamination are owned by the City of West Chicago.

4. An analysis of the effectiveness of the corrective action that compares the confirmation sampling results to the remediation objectives approved for the site:

Status of Soil Contamination

A total of 8 confirmation soil samples were collected from the final perimeter of the corrective action excavation. Seven (7) of these samples contained no contamination in excess of the Tier 1 ROs for this incident. The final sample, from the eastern sidewall of the excavation, contained elevated levels of benzene, ethylbenzene, total xylenes, and naphthalene. As discussed previously, these analytical results are not representative of this region of the excavation. Therefore, all soil contamination has been addressed for the incident, and no Tier 2 remediation objectives are necessary.

It is also noted that, should the Illinois EPA be concerned about the soil quality data from samples EW-1 and MW-4A, the Exposure Route Evaluation presented to address the groundwater contamination effectively demonstrates that all contamination remaining at the Site will not cause any exposure concerns once the institutional controls are in place.

Status of Groundwater Contamination

The exceedances of the Tier 1 groundwater ROs presented earlier in this report are addressed through the enactment of a municipal groundwater ordinance, the evaluation of the current groundwater conditions,

and the exclusion of the groundwater ingestion exposure route from consideration based on the ordinance and evaluation. This evaluation is presented in Appendix G.

An ordinance is being prepared by the City of West Chicago that prohibits the installation and use of water supply wells in the City. It will encompass the modeled extent of potential groundwater contamination emanating from this contaminated area, thus effectively preventing exposure to the current and future potential areas of groundwater contamination. The completed ordinance will be submitted to the Illinois EPA for review and approval when it is enacted.

5. A conclusion that identifies the success in meeting the remediation objectives approved for the site:

The resulting data collected after the corrective actions in late 2009 have been evaluated using the methodologies outlined in 35 III. Adm. Code Part 742 as presented in this CACR. Upon the enactment of an ordinance by the City of West Chicago prohibiting the use of potable groundwater supply wells coupled with the results of the groundwater ingestion exposure route evaluation, it has been demonstrated that the requirements of the Illinois Leaking UST Program will be met for the issuance of the Site's NFR letter.

6. Appendices containing references and data sources:

Appendices containing references and data sources are included with this report. A list of the appendices and their contents is included in the table of contents at the start of this report.

7. The water supply well survey:

- a. Map(s) showing locations of community water supply wells and other potable wells and the setback zone for each well;
- b. Map(s) showing regulated recharge areas and wellhead protection areas;

- c. Map(s) showing the current extent of groundwater contamination exceeding the most stringent Tier I remediation objectives;
- d. Map(s) showing the modeled extent of groundwater contamination exceeding the most stringent Tier 1 remediation objectives;
- e. Table(s) listing the setback zones for each community water supply well and other potable water supply wells;
- f. A narrative identifying each entity contacted to identify potable water supply wells, the name and title of each person contacted, and any field observations associated with any wells identified; and
- g. A certification from a Licensed Professional Engineer or Licensed Professional Geologist that the survey was conducted in accordance with the requirements and that the documentation submitted includes the information obtained as a result of the survey (certification of this report satisfies this requirement):

In electronic correspondence on January 19, 2011, the Illinois EPA project manager for the incident, Ms. Carol Hawbaker, confirmed that the well survey conducted previously for this project was sufficient to meet the reporting requirements of this section. No additional research or evaluation was conducted.

8. Site map(s) meeting the requirements of 35 Ill. Adm. Code 732.110(a) or 734.440:

All of the required site maps for this report are included in Appendix A.

9. Development of Tier 2 or 3 remediation objectives, if applicable:

Rather than developing Tier 2 or 3 ROs, Resource Consulting has prepared the following Exposure Route Evaluation to exclude the groundwater ingestion route from further concern.

Please note that, since the ordinance will encompass the entire City of West Chicago and the groundwater contamination level is greater than the smear zone contamination detected in the soil sample from monitoring well MW-4A, the evaluation sufficiently addresses both the soil and groundwater components of the groundwater ingestion exposure route.

a. Equations used:

Groundwater Contamination

The groundwater contamination was evaluated using Equation R26 and its related equations in accordance with 35 III. Adm. Code Part 742 Subpart C: Exposure Route Evaluations. Contamination in the form of benzene and ethylbenzene is present in the groundwater that requires this evaluation. Further details are presented in the following sections, and the calculations are provided in Appendix G.

b. Discussion of how input variables were determined:

The input variables used in the Exposure Route Evaluation were determined in accordance with the guidance that the Illinois EPA has provided over the years on similar projects. The sources of the values meet the requirements of 35 Ill. Adm. Code Part 734 and the LUST Section's requirements to maintain reimbursement eligibility for TACO evaluations. Default values of the variables were used when experience has shown the values are acceptable to the Illinois EPA. Site-specific variable values are used where necessary to ensure that the most accurate results are obtained from the evaluation.

Discussion of the values for variables related to past field activities, e.g., in situ hydraulic conductivity and the soil's organic carbon content (f_{∞}) , was included in previous reporting to the Illinois EPA. Specifically, the hydraulic conductivity evaluation was included in the May 2003 CACR, and the other site-specific data were presented in the August 2006 CAP amendment. It is also noted that the Illinois EPA requested clarification of some of the soil property data; Resource Consulting addressed the Illinois EPA's concerns in the 2009 CAP amendment approved for the Site activities summarized in this CACR.

c. Map(s) depicting distances used in equations:

All of the maps required by the Illinois EPA for this CACR are presented in Appendix A. Specifically, Figures 4 and 5 in Appendix A depict the distances used in the equations.

d. Calculations:

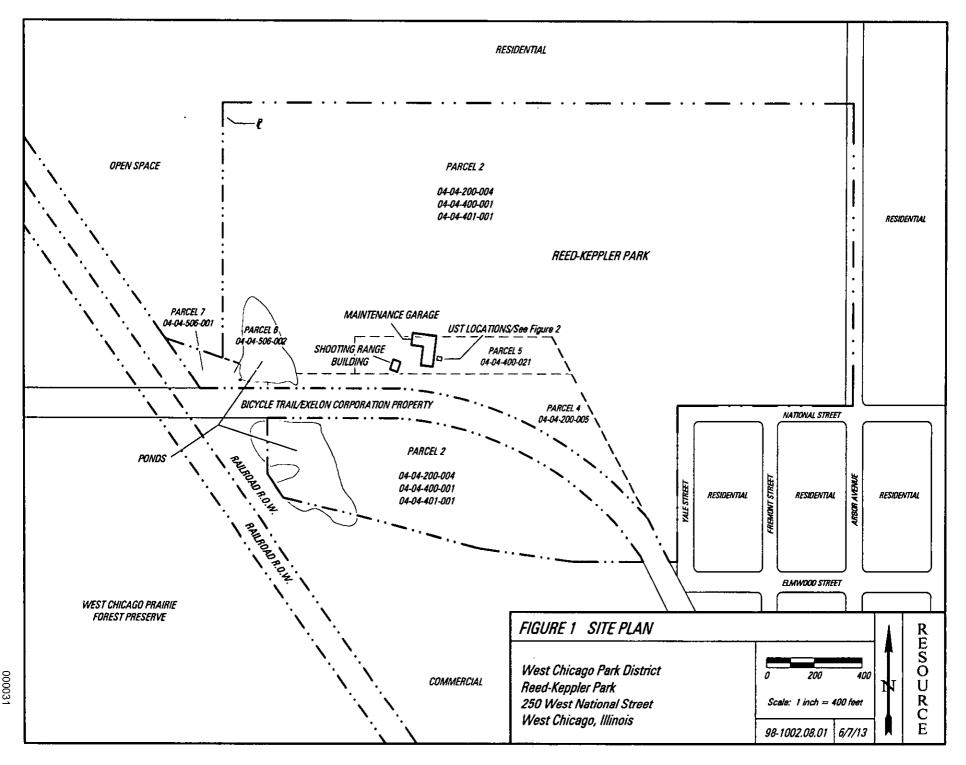
The proposal for the exclusion of the groundwater ingestion exposure route is presented in Appendix G. The documentation includes tables summarizing the input data, the calculations in spreadsheet format, and a discussion of the methods.

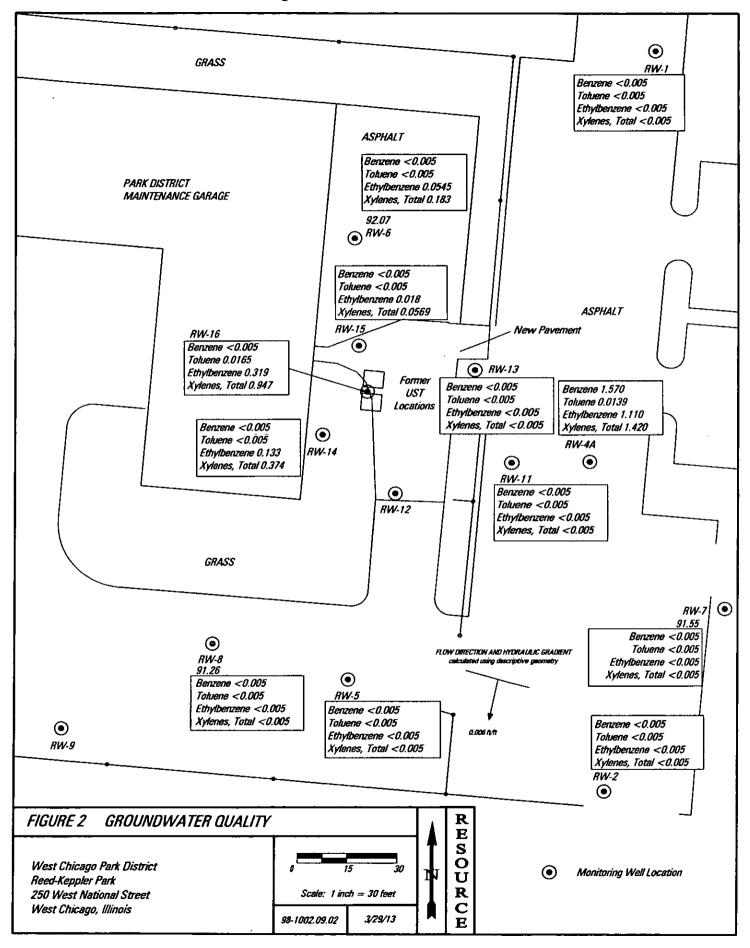
10. Property Owner Summary form:

The Property Owner Summary form is included with all of the Illinois EPA's required forms related to the submission of a Corrective Action Completion Report in Appendix J.

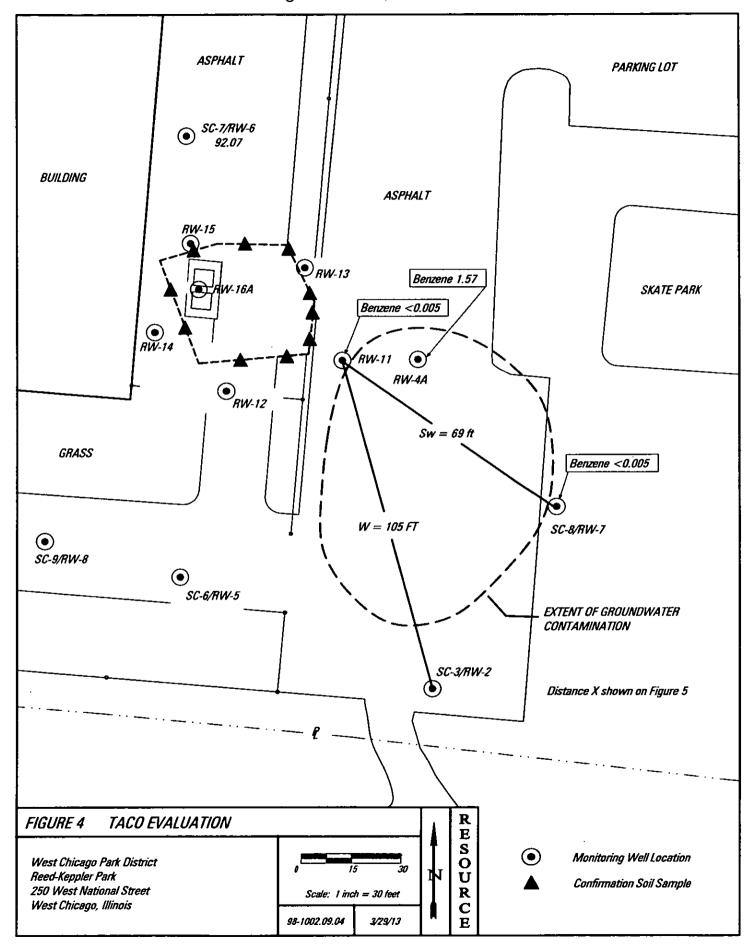
APPENDIX A

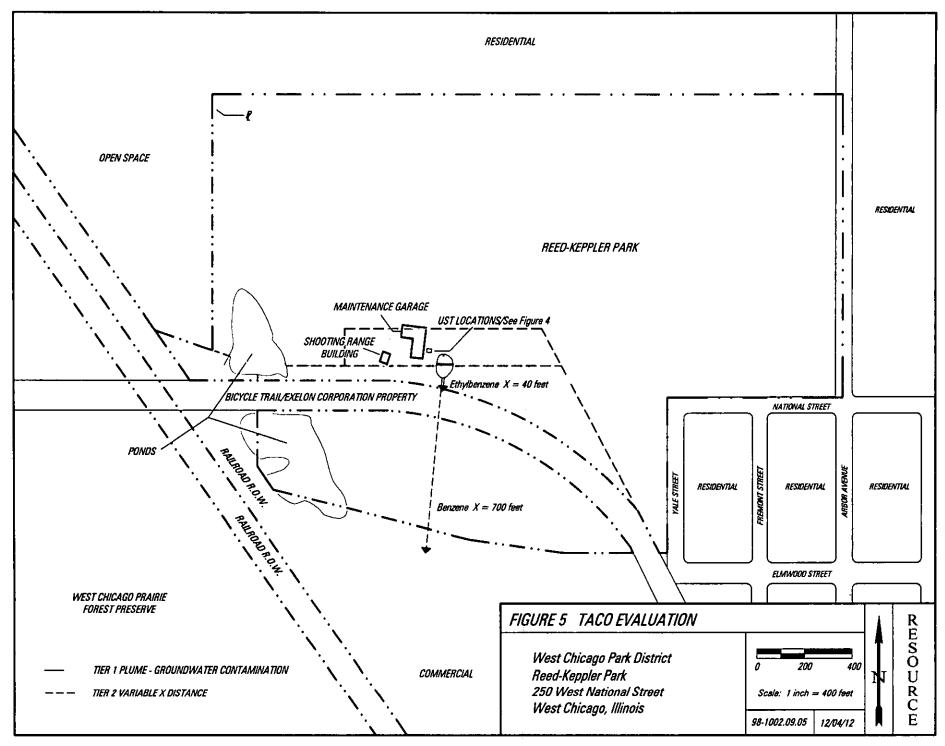
Figures





Electronic Filing: Received, Clerk's Office 09/20/2024 **ASPHALT GRASS** Benzene 0.0297 Ethylbenzene 3.690 Xylenes (Total) 13.000 **ASPHALT** Fluorene 0.126 Naphthalene 2.710 Phenanthrene 0.180 **BUILDING** Benzene 0.297 SC-7/RW-6 Ethylbenzene 77.600 92.07 Xylenes (Total) 333.000 Naphthalene 160.000 Acenaphthene 0.540 Acenaphthylene 0.191 Toluene 0.0079 Benzo(a)anthracene 0.0337 Ethylbenzene 0.0258 Fluorene 0.435 Xylenes (Total) 0.0835 Phenanthrene 0.551 Pyrene 0.120 Ethylbenzene 0.0277 SEE REPORT FOR DISCUSSION OF NW-1 RW-15 Naphthalene 0.091 THIS SAMPLE RESULT EW-2 Toluene 0.0066 RW-13 Ethylbenzene 0.0199 BTEX < 0.005 Xylenes (Total) 0.0758 RW-16A EW-1 WW-1 EW-1A BTEX < 0.005 **EXCAVATION BOUNDARY** Ethylbenzene 0.0697 WCPD-1 Xylenes (Total) 0.269 SW-2 Naphthalene 0.048 (ullet)RW-4A RW-11 RW-12 Ethylbenzene 0.0234 Xylenes (Total) 0.0903 **GRASS** FIGURE 3 SOIL QUALITY ESO West Chicago Park District Monitoring Well Location U Reed-Keppler Park Confirmation Soil Sample R 250 West National Street Scale: 1 inch = 20 feet C West Chicago, Illinois 98-1002.09.03 3/29/13 E





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APPENDIX B

Waste Manifests

JulianMaterials Company
Midwest Division

Midwest Division
Vulcan Construction Materials, LP

SHIPPING LOCATION:

22700 W. 111th STREET NAPERVILLE, IL 60564 (630) 904-1110

51972-09

A

WARNING

Read important health information on reverse.

PRECAUCIÓN

Léase la información importente para la salud en el reverso.

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Per You Amount

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TOTAL

VUICOS Materials Company Midwest Division

Midwest Division
Vulcan Construction Materials, LP

SHIPPING LOCATION: BLVD 2000 VULCAN BLVD BARTLETT, IL 60103 (847) 695-0337

58312-98



WARNING

Read Important health information on reverse.

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Dec. 16. 2009 Electronic Filing: Received, Clerk's Office 09/20/2024381 SHIPPING LOCATION: BLVD BARTLETT, IL 60103 rials Company (847) 695-0337 **Midwest Division** 50312-90 Vulcan Construction Materials, LP WARNING Read important health information on reverse. **PRECAUCION** Léase la información importante para la salud en el reverso. CARRIER RECEIVED BY DATE 11/06/09 TIME 9:05 BARTLETT TICKET NO 130415 LIMITED WARRANTY AND WARRANTY DISCLAIMER: Seds: wemants for a period of one (1) year from date of delivery only that the material sold hereunder substantially compiles with Seter's epecifications for each material of the specifications and forth in Selte's quotation. BELLER MEREBY EXCLUDES ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PURPOSE, AND ALL OTHER WARRANTIES, EXPRESS OR IMPLEO, OF THE MATERIAL BOLD MERCUNDER, OTHER THAN THE CUPRESS WARRANTY STATED ABOVE. In addition, except to line adeast otherwise art forth in the specifications described above. Selter makes no warranty withstoover with respect to specific gravity, attemption, whether the material is innocuous, non-deletations, or non-reactive, or whether the material is in confirmance with any plants, other specifications, regulations, culturences, statutes, or other sendence application to confirmations in the material as used by customer. Beller Shall in 10 EVENT BE RESPONSIBLE FOR ANY INCIDENTAL DR CONSEQUENTIAL DAMAGE CAUSED BY MON-COMPLIANCE OF THE MATERIAL WITH SPECIFICATIONS, OR FOR ANY DEFECTS IN THE MATERIAL SOLD HEREINDER. ALL SALES AND DELIVERIES MADE SUBJECT TO SELLER'S GENERAL TERMS AND CONDITIONS. AS EVIDENCED BY SIGNATURE, OR DEPARTURE FROM SEILLERS FACILITY, CARRIER ACKNOWLEDGES THAT CARRIER IS SOLELY RESPONSIBLE FOR THE ACCURACY OF THIS VEHICLE'S TARE WEIGHT, AXLE WEIGHTS AND GROSS WEIGHT. CARRIER SHALL BE RESPONSIBLE FOR NOTIFYING SELLER WHEN ANY TRUCK OF TRAILER HAS BEEN OVERLOADED BO AS TO RENDER IT OUT OF COMPLIANCE WITH ANY APPLICABLE WEIGHT LIMITS. TO THE MAXIMUM EXTENT ALLOWED BY LAW, CARRIER SHALL INDEMNIFY BELLER FOR ANY LOSS CAUSED BY OVERLOADING. TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE Customer 003960 HERITAGE LOGISTICS Seles Order 764457 Shots JB# ATION1 REED PK/ ACCURATE TANK 250 NATIONAL VEST CHICAGO PICKED UP Truck No. 497 BP& SON'S **BP91** Customer P.O. Welgher JB# ATIØØ1 Marilyn Product 547 GRADE 8 TNet Lbe Tons Today 72,88Ø 31.660 41,220 20.61 131.68 Nel Mo Tons Toda 18.6971 33.058 119 .4581 Today Coads Соптовия: ASH BALE TAKY FROMUS. HAUI Per Ton

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Dec. 16. 2009 Electronic Filing: Received, Clerk's Office 09/20/2024381 SHIPPING LOCATION: BLVD 5111 BARTLETT, IL 60103 (847) 695-033? Midwest Division 56312-98 Vuican Construction Materials, LP WARNING Read important health information on reverse. PRECAUCIÓN Léase la información importante para la salud en el reverso. CARRIER RECEIVED BY TICKET NO. 138474 YI /06/09 TIME1:35 BARTLETT LIMITED WARRANTY AND WARRANTY DISCLAIMER: Seller warrants for a period of one (1) year from date of delivery only that the material sold hereunder substantially complies with Seller's specifications resid material or the specifications set torth in Seller's quotation. SELLER HEREBY EXCLUDES ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PURPOSE, AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. OF THE MATERIAL SOLD HEREUNDER, DITHER THAN THE EXPRESS WARRANTY STATED ABOVE. In addition, except to the added observation and the second observation of the added observation of the second observation of the second observation of the second observation, or non-reactive, or whether the restends to specific gravity, absorption, whether the material is innocuous, non-deletinous, or non-reactive, or whether the restends to in conformance with any plans, other specifications, regulations, ordinances, statutes, or other damphants applicable to customer's lob or to said instants as used by outsomer. SELLER SINAL IN NO EVENT BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGE CAUSED BY NON-COMPLANCE OF THE MATERIAL WITH SPECIFICATIONS, OR FOR ANY DEFECTS IN THE MATERIAL SOLD MEREUNDER. ALL SALES AND DELIVERIES MADE SUBJECT TO SELLER'S GENERAL TERMS AND CONDITIONS. AS EVIDENCED BY SIGNATURE, OR DEPARTURE FROM SELLER'S FACILITY, CARRIER ACKNOWLEDGES THAT CARRIER IS SOLELY RESPONSIBLE FOR THE ACCURACY OF THIS VEHICLE'S TARE WEIGHT, AXLE WEIGHTS AND GROSS WEIGHT. CARRIER SHALL BE RESPONSIBLE FOR NOTIFYING SELLER WHEN ANY TRUCK OR TRAILER HAS BEEN OVERLOADED SO AS TO RENDER IT OUT OF COMPLIANCE WITH ANY APPLICABLE WEIGHT LIMITS. TO THE MAXIMUM EXTENT ALLOWED BY LAW, CARRIER SHALL INDEMNIFY SELLER FOR ANY LOSS CAUSED BY OVERLOADING. TRUCK TARE AND GROBS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE-HERITAGE LOGISTICS 250 NATIONAL WEST CHICAGO PK/ ACCURATE TANK Truck No. BP91 HATT BP& SON'S PICKED UP Walcher JB# ATIØØ! Marilyn P847 GRADE 8 Tare Lb3 (1660 H1,440 Net You 20.72 Grossibs 100 Tons Today હાં હી હી 219.61 Tare Kg 4,361 33.158 Metric Tons Today . 2269 18.7969 18.797 Comments: ಓರಚರಕ Today TANK BALE ON Y HAUL Selection (Feb. Per Ton Amount

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ectronic progrem et ved, Clerk's Office 09/20/2024 BARTLETT, IL 68 4097) 695-0337 68183.4 Midwest Division 7: Vulcan Construction Materials, LP 54312-98 WARNING Read important health information on reverse PRECAUCIÓN Léase la información importante para la salud en el reverso. CARRIER RECEIVED BY 11/96/09 ^{ТІМЕ} Ø7:36 BARTLETT TICKET NO. 130385 LINGTED WARRANTY AND WARRANTY DISCLAIMER: Seller warrants for a period of one (1) year from date of delivery only that the 'material' sold thereunder substantially compiles with Seller's specifications for said material or the specifications set forth in Seller's quotation. SELLER HEREBY EXCLUDES ALL WARRANTIES OF MERCHANTABILITY AND FITHESS FOR ANY PURPOSE, AND ALL OTHER WARRANTIES; EXPRESS OR IMPUED, OF THE MATERIAL SOLD HEREUNDER, OTHER THAN THE EXPRESS WARRANTY STATED ABOVE. In addition, thought to the extent otherwise set forth in the specifications described above. Seter makes no warranty windstoorer with respect to specific gravity, absorption, whether the material is innocuous, non-distortors, or non-reactive, or whether the material is in conformance with any plane, other specifications, regulations, ordinances, statutes, or other standards applicable to customer's job or to said material as used by customer. SELLER SAILL IN NO EVENT BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGE CAUSED BY NON-COMPLIANCE OF THE MATERIAL WITH SPECIFICATIONS, OR FOR ANY DEFECTS IN THE MATERIAL SOLD HEREUNDER. ALL SALES AND DELIVERIES MADE SUBJECT TO SELLER'S GENERAL TERMS AND CONDITIONS. AS EVIDENCED BY SIGNATURE, OR DEPARTURE FROM SELLER'S FACILITY, CARRIER ACKNOWLEDGES THAT CARRIER IS SOLELY RESPONSIBLE FOR THE ACCURACY OF THIS VEHICLE'S TARE WEIGHT, AXLE WEIGHTS AND GROSS WEIGHT. CARRIER SHALL BE RESPONSIBLE FOR NOTIFYING SELLER WHEN ANY TRUCK OR TRAILER HAS BEEN OVERLOADED SO AS TO RENDER IT OUT OF COMPLIANCE WITH ANY APPLICABLE WEIGHT LIMITS. TO THE MAXIMUM EXTENT ALLOWED BY LAW, CARRIER SHALL INDEMNIFY SELLER FOR ANY LOSS CAUSED BY OVERLOADING. TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE. Cuspus ##396# HERITAGE LOGISTICS Sales Order: 764457 Ship to: JB# AT1001 REED PK/ ACCURATE TANK 250 NAT10NAL WEST CHICAGO BWT21 937 B & W TRUCKING SER PICKED UP Customer P.O. JB# ATIØØ1 Marilyn Product 547 **GRADE 8** 73,240 25.58ø 47.660 23.83 67.02 33.221 21.6182 60.7995 Loads Today -Per Ton Amount PT 1-BILLING PT 2-DRIVER PT. 3-CUSTOMER COPY 1 PT 4-CUSTOMER COPY 2 130385

Clerk's Office 09/20/2024 Midwest Division Vulcan Construction Materials; LP 59312-96 WARNING Read important health information on reverse PRECAUCION Léase la información importante para la salud en el reverso. CÁRRIER RECEIVED BY 11/06/09 TIME 9:45 BARTLETT TICKET NO 130427 LISTITED WARRANTY AND WARRANTY DISCLAIMER: Salior warrants for a period of one (1) were from date of delivery only, their the imperial salid inversing the interest of the specifications set forth in Solier's quotation. SELLER HEREBY EXCLUDES ALL WARRANTIES OF SPECIFICATIONS AND FITNESS FOR ANY PURPOSE, AND ALL OTHER WARRANTIES, EXPRESS OR IMPLED, OP. THE MATERIAL SOLD HEREUNDER, OTHER THAN THE EXPRESS WARRANTY STATED ABOVE. In addition, except to the endent obtainables set both in the specifications described above, Seler makes no warranty whatsoever with respect to specific gravity, absorption, whether the material is innocuous, non-delaterious, or non-reactive, or whether the material is in conformance with any plans, other specifications, ordinances, statutes; or other standards applicable to customer's job or to seld material as used by oustomer. SELLER SHALL IN NO EVENT-BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGE CAUSED BY NON-COMPLIANCE OF THE MATERIAL WITH ALL SALES AND DELIVERIES MADE SUBJECT TO SELLER'S GENERAL TERMS AND CONDITIONS, AS EVIDENCED BY SIGNATURE, OR DEPARTURE FROM SELLER'S FACILITY, CARRIER ACKNOWLEDGES THAT CARRIER IS SOLELY RESPONSIBLE FOR THE ACCURACY OF THIS VEHICLE'S TARE WEIGHT, AXLE WEIGHTS AND GROSS WEIGHT. CARRIER SHALL BE RESPONSIBLE FOR NOTIFYING SELLER WHEN ANY TRUCK OR TRAILER HAS BEEN OVERLOADED SO AS TO RENDER IT OUT OF COMPLIANCE WITH ANY APPLICABLE WEIGHT LIMITS. TO THE MAXIMUM EXTENT ALLOWED BY LAW, CARRIER SHALL INDEMNIFY SELLER FOR ANY LOSS CAUSED BY OYERLOADING. TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VENCLE.

Cusponer 103960 States Order: 764450 HERITAGE LOGISTICS TO JE# ATION R 250 NATIONAL VEST CHICAGO ACCURATE TANK BVT21 937 B & W TRUCKING SER PICKED UP Customer P.O. JB# ÀTIØØ1 Marilyn 547 GRADE 8 25.580 46.240 23.12 154.66 32.577 26.9741 148.4322 Loads Today Per Ton Amount PT 1-BILLING PT 2-DRIVER PT. 3-CUSTOMER COPY 1 I VMC-1850-40 (07-2005) 130427 PT 4-CUSTOMER COPY 2

VMC-1850-40 (07-2005)

EARTLETT. IL 681 Materials Company
Midwest Division
Vulcan Construction Materials LP- 59312-99 **WARNING** Read important health information on reverse 医连线 计一种 **PRECAUCION** Léase la información importante para la salud en el reverso. CARRIER. RECEIVED BY 08:43 PLANT BARTLETT TICKET NO. 11/06/09 139486 LIMITED WARRANTY AND WARRANTY DISCLAIMER: Soiler warrants for a period of one (1) year from date of delivery only that the material soil himsunder substantially complete, with Selier's specifications for said material, of the specifications set, forth in Selier's quotation. SELLER HEREBY EXCLUDES ALL WARRANTIES OF MERCHANTABLETT AND FITNESS FOR ANY PURPOSE, AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED; OF THE MATERIAL SOLD HEREUNDER, OTHER THAN THE EXPRESS WARRANTY STATED ABOVE. In addition, except to the extent otherwise set forth in the specifications described above, Seller makes no warranty whetsoever with respect to specific grayity, absorption, whether the material is innocuous, non-deterious, or non-residue, or whether the material is in conformance with any plans, other specifications; regulations, orchances, statutes, or unter standards applicable to customer's job or to said material as used by customer. SELLER SHALL IN NO EVENT BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSECUENTIAL DAMAGE CAUSED BY NON-COMPLIANCE OF THE MATERIAL WITH ALL IS ALL IS AND DELIVEDER. ALL SALES AND DELIVERIES MADE SUBJECT TO SELLER'S GENERAL TERMS AND CONDITIONS. AS EVIDENCED BY SIGNATURE, OR DEPARTURE FROM SELLER'S FACILITY, CARRIER ACKNOWLEDGES THAT CARRIER IS SOLELY RESPONSIBLE FOR THE ACCURACY OF THIS VEHICLE'S TARE WEIGHT, AXLE WEIGHTS AND GROSS WEIGHT, CARRIER SHALL BE RESPONSIBLE FOR NOTIFYING SELLER WHEM ANY TRUCK OR TRAILER HAS BEEN OVERLOADED SO AS TO RENDER IT OUT OF COMPLIANCE WITH ANY APPLICABLE WEIGHT LIMITS. TO THE MAXIMUM EXTENT ALLOWED BY LAW, CARRIER SHALL INDEMNIFY SELLER FOR ANY LOSS CAUSED BY OVERLOADING. TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE CUSTOMIN THE REPORT OF THE VEHICLE CUSTOMIN THE RESERVE OF THE VEHICLE CUSTOMIN THE REPORT OF THE VEHICLE CUSTOMIN THE VEHI A.A. Ship To: JB# ATION1 REED PK/ ACCURATE TANK 25# NATIONAL VEST CHICAGO GVB30xX 937 B & W TRUCKING SER BWT21 PICKED UP JB# ATIMG1 Marilyn: 547 GRADE 8 72,768 25 589 47,189 23.59 111.67 33.803 4995 100.7610 Loads Today -Per Ton Amount 1 PT 1-BILLING PT 2-DRIVER PT. 3-CUSTOMER COPY 1 P VMC-1850-40 (07-2005) 130406

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Midwest Division
Vulcan Construction Materials, LP

22700 W. 111th STREET NAPERVILLE, IL 60564 (630) 904-1110

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WARNING ..

Read important health information on reverse.

PRECAUCIÓN

Léase la información importante para la salud en el reverso.

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Midwest Division
Vulcan Construction Materials, LP

22700 W. 111th STREET NAPERVILLE, IL 60564 (630) 904-1110

51972-09 PUTS

WARNING

Read important health information on reverse.

PRECAUCIÓN

Léase la información importante para la salud en el reverso.

CARRIER	RECEIVED BY								
DATE TIME PLANT	TICKET NO.								
11/05/09 14:48 361 BOLINGBRO									
LIMITED WARRANTY AND WARRANTY DISCLAIMER: Seller werrents for a period of one (1) year from date of delivery only that the material sold hereunder substantially compiles with Seller's specifications for seld material sold hereunder substantially compiles with Seller's specifications for seld material or the specifications sell that his Seller's quotedition. SELLER MEREBY EXCLLIDES ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PURPOSE, AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, OF THE MATERIAL SOLD HEREINDER, OTHER THAN THE EXPRESS WARRANTY STATED ABOVE. In addition, except to the extent otherwise set forth in the specifications described above, Seller makes no warranty withsoever with respect to specific pravity, absorption, whether the meterial is innocuous, non-deleterious, or non-residue, or whether the meterial is in conformance with any plans, other specifications, requisitions, exclines, or other standards applicable to customer's job or to said material as used by customer. SELLER SHALL IN NO EVENT BE RESPONSIBLE FOR ANY INCIDENTIAL OR CONSEQUENTIAL DAMAGE CAUSED BY NON-COMPLIANCE OF THE MATERIAL WITH SPECIFICATIONS, OR FOR ANY DEFECTS IN THE MATERIAL SOLD HEREUNDER. ALL SALES AND DELIVERIES MADE SUBJECT TO SELLER'S GENERAL TERMS AND CONDITIONS. AS EVIDENCED BY SIGNATURE, OR DEPARTURE FROM SELLER'S FACILITY, CARRIER ACKNOWLEDGES THAT CARRIER IS SOLELY RESPONSIBLE FOR THE ACCURACY OF THIS VEHICLE'S TARE WEIGHT, AXILE WEIGHTS AND GROSS WEIGHT: CARRIER SHALL BE RESPONSIBLE FOR NOTIFYING SELLER WHEN ANY TRUCK OR TRAILER HAS BEEN OVER, CADED SO AS TO RENDER IT OUT OF COMPLIANCE WITH ANY APPLICABLE WEIGHT LIMITS. TO THE MAXIMUM EXTENT ALLOWED BY LAW, CARRIER SHALL INDEMNIFY SELLER FOR ANY LOSS CAUSED BY OVER LOADING.									
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CASH SALF ONLY	TOTAL								

Electronio கிய்த் கேeceived, Clerk's Office 09/20/2024

Materials Company
Midwest Division
Vulcan Construction Materials, LP

22700 W. 111th STREET NAPERVILLE, IL 60564 (630) 904-1110

51972-09 0425010

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Read important health information on reverse.

PRECAUCIÓN

Léase la información importante para la salud en el reverso.

CARRIER	•			RECEIVED BY			
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Electronic Filing Received, Clerk's Office 09/20/2024

Materials Company
Midwest Division
Vulcan Construction Materials, LP

22700 W. 111th STREET NAPERVILLE, IL 60564 (630) 904-1110

51972-09 RUM

WARNING

Read Important health information on reverse.

PRECAUCIÓN

Léase la información importante para la salud en el reverso.

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DATE		TIME	PLANT	**			•	TICKET N	Ö	
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LIBITED WARRANTY AND WARRANTY DISCLAIMER: Seller warrants for a period of one (1) year from date of delivery only that the material sold hereunds substantially compiles with Seller's specifications for said material or the specifications set forth in Seller's substantially compiles with Seller's specifications for said material or the specifications set forth in Seller's substantial to THERE WARRANTIES, EXPRESS OR IMPLIED, OF THE MATERIAL SOLD HEREUNDER, OTHER THAN THE EXPRESS WARRANTIES, EXPRESS OR IMPLIED, OF THE MATERIAL SOLD HEREUNDER, OTHER THAN THE EXPRESS WARRANTIES, EXPRESS OR IMPLIED, OF THE MATERIAL SOLD HEREUNDER, OTHER THAN THE EXPRESS WARRANTY STATED ABOVE. In addition, except to the extent otherwise set forth in the specifications described above, Seller maters no warranty whatsoever with respect to specific gravity, absorption, whether the material is innocuous, non-deleterious; or non-residue, or whether the material is in conformance with any plans, other specifications, requisitions, ordinences, statutes, or other standards sendicable to customer's job or to said material as used by customer. SELLER SHALL IN NO EVENT BE RESPONSIBLE FOR ANY INCLIDENTIAL OR ANY DEFECTS IN THE MATERIAL SOLD HEREUNDER. ALL SALES AND DELIVERIES MADE SUBJECT TO SELLER'S GENERAL TERMS AND CONDITIONS.										
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Materials Company
Midwest Division
Vulcan Construction Materials, LP

22700 W. 111th STREET NAPERVILLE, IL 60564 (630) 904-1110

51972-09 (4) 5017

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Read important health information on reverse.

PRECAUCIÓN

Léase la información Importante para la salud en el reverso

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Electro ந் நெய்கு நிக்கு கொடிக்கி Clerk's Office 09/20/2024

Materials Company
Midwest Division
Vulcan Construction Materials, LP

22700 W. 111th STREET NAPERVILLE, IL 60564 (630) 904-1110

51972-09 ()H)5012

* WARNING

Read important health information on reverse.

PRECAUCIÓN

Léase la información importante para la salud en el reverso.

DATE TIME PLANT TIME PLANT TICKET NO. 11/05/09 13:55 361 BOLINGBROOK TICKET NO. LIMITED WARRANTY AND WARRANTY DISCLAIMER: Select warrants for a period of one (1) year from date of doft-ery only that the material each terresurver substantially compiles with Select specifications for said invalidation of the specifications. Sell cert Reserver Section 10:58 select specifications for said invalidation of the specifications. Sell cert Reserver Section 10:58 select specifications are certain to the specifications. Sell certain 10:59 all warranties of IMPLED, OF THE MATERIAL SOLD HEREUNDER, OTHER THAN THE EDIER WARRANTIES, EXPRESS OR INPLED, OF THE MATERIAL SOLD HEREUNDER, OTHER THAN THE EDIER WARRANTIES, EXPRESS OR INPLED, OF THE MATERIAL SOLD HEREUNDER, OTHER THAN THE EDIER WARRANTIES, EXPRESS OR INPLED, OF THE MATERIAL SOLD HEREUNDER, OTHER THAN THE EDIER WARRANTIES, EXPRESS OR INPLED, OF THE MATERIAL SOLD HEREUNDER, OTHER THAN THE CHIEF WARRANTIES, OTHER SECTION OF THE MATERIAL SOLD HEREUNDER, OTHER SECTION OF THE MATERIAL WARRANTIES, EXPRESS OR INPLED, OTHER SECTION OF THE MATERIAL WARRANTIES, EXPRESS OR INPLED, OTHER SECTION OF THE MATERIAL WARRANTIES, EXPRESS OR INPLED, OTHER SECTION OF THE MATERIAL WARRANTIES, CONTROL OF THE MATERIAL WAR	CARR	IFR					Loc	CEIVED BY				
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Per Tea TOTAL		CASH SALE ONLY										
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Amoret 1	Amount	 		├──-		 		1				
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Electronic Filing Received, Clerk's Office 09/20/2024

Materials Company
Midwest Division
Vulcan Construction Materials, LP

22700 W. 111th STREET NAPERVILLE, IL 60564 (630) 904-1110

51972-09 H2501H

WARNING

Read important health information on reverse.

PRECAUCIÓN

Léase la información importante para la salud en el reverso.

CARRIER			RECEIVED BY							
			KECEIVED B I							
DATE TIME	PLANT	•		TICKET NO.						
11/05/09 14:19	361 B	OLINGBRO	OK	271181						
LIMITED WARRANTY AND WARRANTY DISCLADIER: Seller warrants for a period of one (1) year from date of delivery only that the material sold hereunder substantially compiles with Seller's specifications for said material or the specifications set forth in Seller's substantially warranties. EXPRESS OR IMPLIED, OF THE MATERIAL SOLD HEREUNDER, OTHER THAN THE EXPRESS WARRANTY STATED ABOVE, in addition, except to the extent otherwise set forth in the specifications described above, Seller makes no warranty with respect to specific gravity, absorption, whether the material is throusous, non-deterrious, or non-inactive, or whether the instental is in conformance with say plans, other specifications, regulations, ordered plans, or the standards applicable to customer's job or to said material a used by outstoner. SELLER SHALL IN NO EVENT BE RESPONSIBLE FOR ANY INCIDENTIAL CONSEQUENTIAL DAMAGE CAUSED BY NON-COMPLIANCE OF THE MATERIAL WITH SPECIFICATIONS, OR FOR ANY DEFECTS IN THE MATERIAL SOLD HERELINDER.										
ALL SALES AND DELIVERIES	S MADE SUBJECT	TO SEILER'S G	ENERAL TERMS AND C	ONDITIONS						
AS EVIDENCED BY SIGNATURE, OR DEPARTURE FROM SELLER'S FACILITY, CARRIER ACKNOWLEDGES THAT CARRIER IS SOLELY RESPONSIBLE FOR THE ACCURACY OF THIS VEHICLE'S TARE WEIGHT, AXLE WEIGHTS AND GROSS WEIGHT: CARRIER SHALL BE RESPONSIBLE FOR NOTIFYING SELLER WHEN ANY TRUCK OR TRAILER HAS BEEN OVERLOADED SO AS TO RENDER IT OUT OF COMPLIANCE WITH ANY APPLICABLE WEIGHT LIMITS. TO THE MAXIMUM EXTENT ALLOWED BY LAW, CARRIER SHALL INDEMNIFY SELLER FOR ANY LOSS CAUSED BY OVERLOADING.										
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J#ATIQO1 250 W NATIONAL WEST CHICAGO	·: 		:							
HAULER 523 R.S. TRUCK	KING		REGINO	DELIVERY TYPE PICKED UP						
CUSTOMER P.O.			WEIGHER C	AROL						
PRODUCT 547 GRADE										
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Per Ton										
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612-IOI REV 6-05

Dec. 16. 2009, Electronic Filing: Received, Clerk's Office 09/20/2024 NON-HAZARDOUS SPECIAL WASTE & ASBESTUS MAINIFES :

If waste is assesses waste, complete Sections I, II, III and IV if waste is \underline{MOI} assesses waste, complete Sections I, II and III

I. GENERATOR (Ge						· · · · · · · · · · · · · · · · · · ·	
8. Generators US EPA ID Number	•	b. Manifest Docu	meni Numbar	~	. C. Peg	· lota	
d. Generator's Name and Location. West Chicago Park District 250 west National St Wast Chicago II 60185			e, Generator's Malling West Chicago Park Di 157 West Washington West Chicago, IL 601	istrict Street	·• · · · · · · · · · · · · · · · · · ·		
f. Phone:630 231 9474 If owner of the generaling facility di	ffers from the general	or, provide:	g. Phone:			***	
h. Owner's Name:			L Owner's Phone No.:			-	
J. Waste Profile #	k. Exp. Date	I. Waste Ship Description	pring Name and	m, Co No.	ntainers Type	o. Unit WWWol	
389Y915234	03/31/10	soll contamin	soft contaminated with perclaum			Quantity	Tns
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GENERATOR'S CERTIFICATION:	harahy carilly that th	a shows named makes	not is not a horsendaria	oto no de De e	d by 40.00	ED 284 es est s	nlloshio
late law, has been properly describ visite is a treatment residue of a pre- sen treated in accordance with the	viousiv restricted haz	amous waste subject :	in the I and Dienoval Res	utrictions Les	dik and u	warrant that the u	aste has
esso Felix	45.7 D	Column 7	eli		11-05-09	11-5-09	
Génerator Authorized Agent Name TRANSPORTER (G	examinar comple	of Signature	conter completes li	^a\	r. Date		
50 Chatam Ln oselle II 80172 Phone:	T24	1/1		1	· .		
Offver Name (Print)		nature William		e. Date	11///	15 M	
DESTINATION (Gene	erator complete II			(ld-g)	7	7	
Disposal Feotilly and Site Address: whomech Landfill 00 Ashley Rd ants II 60450 Phone: 615 942 1800		c. US EPA Numb 0638140002		•			
erby certify that the above named m	aterial has been acce	epied and to the best o	of my knowledge the fore	going is true	end accum	abe.	
Name of Authorized Agent (Print)	A Signs	Notlen	so el	g. Date	705		
ASBESTOS (General			omplete (Va-i)	1 Br.Date			
perator's Name and Address:			Responsible Agency Na	ine and Addr	885		
hone:		d.	Phone:				
pacial Handling Thetructions and Ad	ditional Information:		· · · · · · · · · · · · · · · · · · ·			•	 !
Park Hill Park Park	n						
Friable Non-Friable Be	by declare that the co	ontanta of this constan	Non-Friable ment are fully and accum	ately describe	d above b	niociris regora V	g name
are classified, packed, marked and mai governmental regulations.	is at one baladel	respects in proper co	ndition for transport by hi	ighway accon	ding to ap	pilcable internati	onal and
1	1						-
perator's Name and Title (Print)	h. Signa			L Date			
erator refers to the company which o			ses the facility being den	nolished or re	novated, o	or the demolition	Of

Dec. 16. 2009) Electronic Filing: Received, Clerk's Office 09/20/2024/381 IFIP.

If waste is asbestos waste, complete Sections I, II, III and IV if waste is $\underline{\text{MOT}}$ asbestos waste, complete Sections I, II and III

a, Generalor's US EPA ID Number	rator compl		Manifest Docum	nent Number		. C. P2g	1 of			
d. Generator's Name and Location: West Chicago Park District 250 west National St West Chicago II 60185 f. Phone:630 231 9474	West Chicago Park District 250 west National St West Chicago II 60185 F. Phone:630 231 9474			e. Generator's Malfing Address: West Chicago Park District 157 Wast Washington Street West Chicago, IL 60185 g. Phone:						
If owner of the generating facility differ	s from the gen	erator, prov	Ade:				— <u>—</u>			
h, Owner's Name:		•		i. Owner's Phone No.:				- +		
j. Waste Profile #	k. Exp. D	ate	l. Waste Shipping Name and Description			ntainera Type	n. Total Quantily	o. Unit WtVol		
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			products				22.35			
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	·						-	1.		
waste is a treatment residue of a previous of a previous peen treated in accordance with the requiesse Felix D. Generator Authorized-Agant Name (P. TRANSPORTER (Gen	uirements of 4	10 CFR 269	and is no longe	r a hazardona wasto as	defined by 4	0 CFR 261 11-05-09 r. Date				
			-Dand Hans	sponer completes II	<u>c-e)</u>	•	•			
RS Trucking 150 Chatam Ln Roselle II 60172	T		Williams	sporter completes II	c-e)		r Ina			
a. Transporter's Name and Address: R9 Trucking 350 Chatam Ln Rosefle II 60172 p. Phone:		Signature			e. Date	11/0	5 /09			
RS Trucking 150 Chatam Ln Roselle II 60172 Deliver Name (Print) The DESTINATION (General		Signature te Illa-c s	JULI and Destinati	on Site completes i	e. Date	11/0	5/09			
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REPUBLIC tron NO Nith A. ARDOLISE SPETUAL'S MARITE & SASBESTOS MANIFEST SERVICES, TWC. If waste is asbestos waste, complete Sections I, II, III and IV If waste is NOT asbestos waste, complete Sections I, II and III REPUBLIC TO NO Nith A. ARDOLISE SPETUAL'S MARITE & SASBESTOS MANIFEST TO LECT # 10863

renovation operation or both

I. GENERATOR (Generator complete			10	•		•
a. Generator's US EPA ID Number	b. Manifest Docur	nent Number		c. Page	1 of	 -
d. Generator's Name and Location:		e. Generator's Mailing A	Artriness:	4		
West Chicago Park District		West Chicago Park Dis	strict			•
250 west National St		157 West Washington 8	Street		_	
West Chicago II 60185 f. Phone:630 231 9474		West Chicago, IL 60185		/	04252	102
If owner of the generating facility differs from the generating	ator. provide:	g. Phone:			<u> </u>	260
h. Owner's Name:	Man, pro	i. Owner's Phone No.:				
J. Waste Profile # k. Exp. Date	. I. Waste Shir	pping Name and		ntainers	n. Total	o. Unit
· ·	Description		No.	Type	Quantity	0. Unit Wt∕Vol
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GENERATOR'S CERTIFICATION: I hereby certify that	the shove named mate	dal is not a hazardous we	ato as define	1 540 C	701 00 00V 0	- Panhin
arare ida, lipa negli pionella nescribiati cissisiulati abbi bi	CANADA DAG IS IN AMAG	At roadition for transmedat		6 1:-		0 0 PM - 17 - 4 1
Metaic is a negative if (asimin in a Dipartitiza Metallicho us	ayamnig wacia ciinlari	to the Land Dissert Deet				vaste has
been treated in accordance with the requirements of 40	CFR 268 and is no long	er a hazardous waste as	defined by 40	J CFR 261	1.	
Jesse Felix	1 Lous	Foli.	ļ	44.05.0	9 11-5-0	na
p. Generator Authorized Agent Name (Print)	q. Sonature	my_		11-05-09 r. Date	11-0-	<u> </u>
II. TRANSPORTER (Generator compl	etes lia-b and Trar	enorter completes II		I. Dence		
a. Transporter's Name and Address:		Sportor Compiler				
RS Trucking						
350 Chatam Ln Roselle II 60172 h. Phone:)					
B. 1 10110:	, , ,	/1		,	•	
MAREK KRUK	10			- /-	 _	
FINKER NRUE	ar /	<i>1</i>		10	5104	
	ignature / /		e. Date	<u> </u>		
III. DESTINATION (Generator complete				_	_	
a. Disposal Facility and Site Address: Environtech Landfill	c. US EPA Numb			<i>3</i> :		
Environtech Lanchii 1800 Ashley Rd	0638140002					
Morris II 60450	ĺ					
b. Phone: 815 942 1800	<u> </u>	1				
herby certify that the above named material has been ac	cepted and to the best	of my knowledge the fore	going is true	and accu	rate.	
Mais Home of	2.1 1010		11/	1-1,	. 9	
e. Name of Authorized Agent (Print)	nature	***		<u> </u>		
V. ASBESTOS (Generator completes IV		lista (Va.i)	g. Date			
a. Operator's Name and Address:						
. Operator a marrie and moundes.	١٣	c. Responsible Agency Na	ame and Addi	ress:		
	1					
. Phone: . Special Handling Instructions and Additional Information	<u> </u>	d. Phone:				
. Эрески палошу поличного али голична пногналог	Ľ					
☐ Friable ☐ Non-Friable ☐ Both % i	Friable 9	% Non-Friable				
PERATOR'S CERTIFICATION: I hereby declare that the	contents of this considu	nmost are filly and conve	rately describ	ed above	by proper shipply	na name
nd are classified, packed, marked and labeled and are in ational governmental regulations.	all respects in proper co	andition for transport by hi	ilghway acco	inding to a	pplicable internati	ional and
Moltai governinomai reguladono.						
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		,	1			
Operator's Name and Title (Print) h. Sign Operator refers to the company which owns, leases, open	rature		i. Date			

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

REPUBLIC NON-HAZARDOUS SPECIAL WAS IE & ASPECIAL SERVICES, INC. Electronic Filing: Received, Clerk's Office 09/20/2024

If waste is asbestos waste, complete Sections I, II, III and IV If waste is NOT asbestos waste, complete Sections I, II and III

MC	ket-#
90	403

I. GENERATOR (Generate	or completes t	/a-r)					
a. Generator's US EPA ID Number	-	b. Manifest Docum	ment Number		c. Page	∍ 1 of	
d. Generator's Name and Location: West Chicago Park District 250 west National St West Chicago II 60185 f. Phone:630 231 9474 If owner of the generating facility differs fro	rom the generator	crovide:	e. Generator's Mailing / West Chicago Park Dis 157 West Washington S West Chicago, IL 6018/ g. Phone:	strict Street		04259	324
i		, provider	1			•	
h. Owner's Name: j. Waste Profile #	L Fra Data	1 10frata Chir	i. Owner's Phone No.:				
J. VVaste Profile #	k. Exp. Date	I. Waste Ship Description	pping Name and	Mo.	ntainers	n. Total Quantity	o. Unit Wt/Vol
369Y915234	93/31/10		nated with peroleum	001	Type DT	Utuanity	Tns
		products				19.13	""
	ı	İ					
GENERATOR'S CERTIFICATION: I herel state law, has been properly described, cla waste is a treatment residue of a previously been treated in accordance with the require	assineo ano packa Iv restricted hazan	aged, and is in prope idous waste subject i	er condition for transportat	ation accordin	ng to applic	cable regulations;	. A & 150 TO 14 1
Jesse Felix		Charle ;	Felso		11-05-0	B 11-5-	09
p. Generator Authorized Agent Name (Prin	<u>10</u> 1 g	gnature		*	r. Date		
II. TRANSPORTER (General a. Transporter's Name and Address:	ator complete	s lla-b and Tran	isporter completes II	.с-е)			
RS Trucking 350 Chatam Ln Roselle II 60172 b, Phone:	- AD	<u> </u>	1 0			-19	
STANISLAW LEWAND	d. Signa	igh yeur	sandas plai	e. Date	(- 0	5.09	
III. DESTINATION (Generato			tion Site completes I	1114 A)		 _	
Disposal Facility and Site Address:	A COMPLETE	c. US EPA Numb	ber d. Discrepancy Indi		· ·		
Environtech Landfill		0638140002	W. Disciplancy and,	Canon share	3 2		
1800 Ashley Rd Morris II 60450							
b. Phone: 815 942 1800							
filteray certify that the above named materia	al has been accer	oted and to the best	of my knowledge the for	ecolna is true	and accu	ırate.	
Mark 700 min		1 10,		1	1,-1	-9	
e. Name of Authorized Agent (Print)	//Signatt	U TXXI	ner	- Dato/		0/	
IV. ASBESTOS (Generator co			complete N/n_i)	g. Date			
a. Operator's Name and Address:	Jiipiewe		c. Responsible Agency Na	ame and Add	lress:		
b. Phone:		,	d. Phone:				
e. Special Handling Instructions and Addition	nat information:		L. Prione.				
The state of the s							·
☐ Friable ☐ Non-Friable ☐ Both DPERATOR'S CERTIFICATION: I hereby de	% Frial	able y	% Non-Friable				
and are classified, packed, marked and label national governmental regulations.	led and are in all	respects in proper c	inment are tuny and accur condition for transport by i	rately describ highway acco	ed above ording to a	by proper snippir applicable internal	ng name tional and
				1			
. Operator's Name and Title (Print)	h. Signatu	nite		i. Date			
Operator refers to the company which owns,	, leases, operate	s, controls, or super	vises the facility being de	molished or	renovated	or the demolition	n or
enovation operation or both	-		• •		•	, ••• ••• •••	

REPUBLICE CTONON-HAZAROOUS SPECIAL WASTIE & ASBEST OS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV If waste is \underline{NOT} asbestos waste, complete Sections I, II and III

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I. GENERATOR (General	tor completes la	a-r)			•		
a. Generator's US EPA ID Number		b. Manifest Docum	ment Number	,	c. Page	1 of	 .
d. Generator's Name and Location: West Chicago Park District 250 west National St West Chicago II 60185 f. Phone:630 231 9474 If owner of the generating facility differs fr	rom the generator	nmvida:	e. Generator's Mailing A West Chicago Perk Disi 157 West Washington S West Chicago, IL 60185 g. Phone:	trict Street		4253	25
]	on the gonerator,	, provide.					
h. Owner's Name:	Li ca pai	T that a cont	i. Owner's Phone No.:		<u> </u>	n, Total	
j, vvasta rivina s	k. Exp. Date	Description	pping Name and	Mo.	ntainers Type	o. Unit Wt/Vol	
369Y915234	234 03/31/10		soil contaminated with peroleum products			Quantity 21.06	Tns
	•		•				'
GENERATOR'S CERTIFICATION: I here state law, has been properly described, cl waste is a treatment residue of a previous been treated in accordance with the requi	assified and packs by restricted hazan	aged, and is in prop dous waste subject	er condition for transportat to the Land Disposal Rest	ion accordin	g to applic	cable regulations	e AND if this
Jesse Felix p. Generator Authorized Agent Name (Pri	(Josse -	telip		11-05-0	9 1/-5-	09
II. TRANSPORTER (Gene		Signature	sporter completes III	201	r. Date		··.
a. Transporter's Name and Address: RS Trucking 350 Chatem Ln Roselle II 60172 b. Phone: Shanek Ruginov	RL	10eher	<i>O</i> -	T //	lot	10.7	
c. Driver Name (Print)	d. Signa	iture	In.	e. Date		04_	
III. DESTINATION (Generate	or complete Illa	a-c and Destina	tion Site completes!	ld-g)			
a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morris II 60450 b. Phone: 815 942 1800		c. US EPA Numi 0638140002		·			
Herby certify that the above named mater	al has been eccer	oted and to the best	of my knowledge the fore	going is true	and acci	rate.	
son Illonen	10		new	11	157	9 7	
e. Name of Authorized Agent (Print)	Signat		0	g. Date	/ -		*
IV. ASBESTOS (Generator o	completes IVa-		• • • •			<u> </u>	
a. Operator's Name and Address:		_	c. Responsible Agency Na	me and Add	iress:		. i
b. Phone:			d. Phone:				
e. Special Handling Instructions and Addition	nal Information:					-	,
. Friable Non-Friable Both	% Fria lectare that the co	ntents of this consid	% Non-Friable Inment are fully and accur	ately descri	ped above	by proper shini	olno name
and are classified, packed, marked and laborational governmental regulations.	eted and are in all	respects in proper o	condition for transport by h	lghway acc	ording to a	pplicable intern	ational and
	ĺ	-	· —				· .
. Operator's Name and Title (Print) Operator refers to the company which owns	h. Signati	ure s, controls, or super	vises the facility being der	i. Date	renovated	, or the demoliti	10 no
enovation operation or both							

REPUBLIC NO HAZARDOUS SPECIAL WORTE & SERVICES, MICCITOTIC PINING. RECEIVE SPECIAL WORTE & SERVICES, MICCITOTIC PINING.

If waste is asbestos waste, complete Sections I, II, III and IV If waste is ${\hbox{NOT}}$ asbestos waste, complete Sections I, II and III

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 GENERATOR (General 	or completes (a-r)	,				V.	
a. Generator's US EPA ID Number		Manifest Docum	nent Number	_	c. Page	1 of	
d. Generator's Name and Location: West Chicago Park District 250 west National St West Chicago II 60185 f. Phone:630 231 9474			e. Generator's Mailing A West Chicago Park Dist 157 West Washington S West Chicago, IL 60185 g. Phone:	rict treet	<u> </u>	12532	10
If owner of the generating facility differs fr	om the generator, pro	vide:	3 . • • • • • • • • • • • • • • • • • • •			-500	
h. Owner's Name:			i. Owner's Phone No.:	-			
j. Waste Profile #	k. Exp. Date	I. Waste Ship Description	ping Name and		ntainers	n. Total	o. Unit
369Y915234	03/31/10		ated with peroleum	No. 001	DT	Quantity 17,10	Tns
	,						
GENERATOR'S CERTIFICATION: I here state law, has been properly described, clawaste is a treatment residue of a previous been treated in accordance with the requirement.	rssmed and packaged v restricted bezamens	, and is in prope	r condition for transportation	on accordin	g to applic	able regulations;	
Jesse Feix		esse 1	Elie	-	11-05-09	11-5-0	9
p. Generator Authorized Agent Name (Prin II. TRANSPORTER (Gener		nature			r. Date		
a. Transporter's Name and Address: RS Trucking 350 Chatam Ln Roselle II 60172 b. Phone:	- Jan	M		11		0	
c. Driver Name (Phrit)	d. Signature	May	<u>- </u>	e. Date	5-0	7	
III. DESTINATION (Generate	r complete Nia-c	and Destinat	on Site completes III	<u>1 α. Daæ</u>			
a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morris II 60450 b. Phone: 815 942 1800 Lherby certify that the above named materia	254	US EPA Numb 638140002	er d. Discrepancy Indic	ation Space			
λ_{A} A A A	\bigcirc	10	_				
e. Name of Authorized Agent (Print)	. Signature	Mem	en-	g. Date	5-6	<u>'/</u>	
IV. ASBESTOS (Generator of		d Operator c	omplete (Vo-i)	y. Dato		- ·- <u>-</u>	<u> </u>
a. Operator's Name and Address:			Responsible Agency Nar	me and Add	ress:		
b. Phone:			Phone:				
e. Special Handling Instructions and Addition	al Information:		· · · · · · · · · · · · · · · · · · ·				
. Friable Non-Friable Both							
DPERATOR'S CERTIFICATION: I hereby de and are classified, packed, marked and label attonal governmental regulations.	% Friable chare that the content ed and are in all response.	s of this conside	Non-Friable ment are fully and accura indition for transport by high	tely describ	ed above rding to a	by proper shippi oplicable internat	ng name tional and
Onesteda Norre and Trail			·				
. Operator's Name and Title (Print) Operator refers to the company which owns	h. Signature	itmie ozer	can the feetite better	i. Date			
Operator refers to the company which owns, enovation operation or both	reases, uporates, col	ious, or superv	ne recury deing dem	ousned or r	enovated,	or the demolition	n or

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REPUBLIC CTONION FILINGIA RECOIVED CLARK'S OFFICE ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV If waste is $\underline{\text{NOT}}$ asbestos waste, complete Sections I, II and III

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I. GENERATOR (Generate	or completes I:	ia-r)					
a. Generator's US EPA ID Number	<u></u>	b. Manifest Docum	nent Number		c. Page	e 1 of	
d. Generator's Name and Location; West Chicago Park District 250 west National St West Chicago II 60185 f. Phone:630 231 9474	·/ .		e. Generator's Mailing A West Chicago Park Distr 157 West Washington Si West Chicago, IL 60185 g. Phone:	rict Street)42537	—— 7]
If owner of the generating facility differe fro	om the generator,	, provide:				<u>/ </u>	
h. Owner's Name:		·	i. Owner's Phone No.:				
j. Waste Profile #	k. Exp. Date		oping Name and		ontainers	n. Total	o. Unit
369Y915234	03/31/10	Description soil contamina	nated with peroleum	No.	Type	Quantity	Wt/Vol
		products	iatao witi paroleum			17.88	Itis
CONTROL OF DITTER ATION! I have	· · · · · · · · · · · · · · · · · · ·	- d ada					
GENERATOR'S CERTIFICATION: I hereb state law, has been properly described, cla waste is a treatment residue of a previously been treated in accordance with the require	assified and packa Iv restricted bazarr	taged, and is in prope infotis waste subject t	er condition for transportation to the Land Disposal Restr	ion accordin	ng to applic	icable regulations;	AND Hole
Jesse Felix	(Lass F	eli		11-05-09	11-5-0	9
p. Generator Authorized Agent Name (Prin II. TRANSPORTER (Gener		Signature	t	-	r. Date		
a. Transporter's Name and Address:	ator compress.	S II B-D BRU Trans	sporter completes no	<u>~e)</u>			
RS Trucking 350 Chatam Ln Roselle II 60172 b. Phone:	R.	21					
c. Driver Name (Print)	d. Signa	ZU			05	- 09	
III. DESTINATION (Generato			Ann Oite semalatas II	e. Date			 _
a. Disposal Facility and Site Address:	L combiere me	c. US EPA Numb			:		
Environtech Landfill 1800 Ashley Rd Monts II 60450 b. Phone: 815 942 1800		0638140002		·			
herby certify that the above named materia	al has been accer	pted and to the best	of my knowledge the foreg	joing is true	and accu	ırate.	
for Flemen	A.A.	w Iler	near	·	1/5	709	
e Marne of Authorized Agent (Print)	Gignati		<u> </u>	g. Date			
IV. ASBESTOS (Generator or	ompletes iVa-						
a. Operator's Name and Address:		C	c. Responsible Agency Nar	me and Ado	fress:		
b. Phone:	-		d. Phone:				
Special Handling Instructions and Addition . Goden To Alex Stables To Berting				·			
f. Friable Non-Friable Both OPERATOR'S CERTIFICATION: I hereby de and are classified, packed, marked and label national governmental regulations.	% Fria lectare that the cor eled and are in all i	ontents of this consid	% Non-Friable gament are fully and accura condition for transport by his	stely descrit ighway aco	bed above ording to a	by proper shippir applicable internat	ng name ional and
		· —		l	·		
g. Operator's Name and Title (Print) *Operator refers to the company which owns	h. Signatu	rure	- Whiteholms don	i. Date		·	
*Operator refers to the company which owns renovation operation or both	, leases, operace	S, CONTIONS, OF SUPERV	vises the facility being dem	iolished or	renovated	i, or the demolition	ior

REPUBLIC CTONION-HAZAROOUS SPECIAL WASTE & ASBE

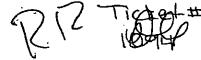
If waste is asbestos waste, complete Sections I, II, III and IV If waste is $\underline{\text{NOT}}$ asbestos waste, complete Sections I, II and III

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 GENERATOR (Generato 	or completes in	a-r)				•	
a. Generator's US EPA ID Number		b. Manifest Docum	nent Number	······	c. Page	:1 of	
d. Generator's Name and Location: West Chicago Park District 250 west National St West Chicago II 60185 f. Phone:630 231 9474 If owner of the generating facility differs fro	the reperping		e. Generator's Mailing West Chicago Park Dis 157 West Washington West Chicago, IL 6018 g. Phone:	istrict Street	(94253	,28
	W the Actoremi'	provide:					
h. Owner's Name: j. Waste Profile #	k. Exp. Date	1 Monto Chir	i. Owner's Phone No.: pping Name and			n. Total	- 4 4-74
		L Waste Ship Description	ping Name and	Mo.	ntainers Type	o. Unit Wt/Vol	
369Y915234	03/31/10		nated with peroleum	001	OT	17.85	Tns
GENERATOR'S CERTIFICATION: I hereb state law, has been properly described, clas waste is a treatment residue of a previously been treated in accordance with the require	issified and packa v restricted hazard	aged, and is in prope rdous waste subject i	er condition for transporta to the Land Disposal Res	ation according	ig to applic	cable regulations warrant that the v	s; AND, if this waste has
Jesse Felix p. Generator Authorized Agent Name (Print		. Signature	Telle		11-05-09	9 //-5-1	09
II. TRANSPORTER (General	ator complete	Striature	reporter completes	المحال	r. Date		
a. Transporter's Name and Address: RS Trucking 350 Chatam Ln Roselle II 60172 b. Phone:	7))	N .		<u> </u>	- 47	· · · · · · · · · · · · · · · · · · ·
c. Driver Name (Print)	d. Signa	Y	4	Date 1	1-0	5-04	
III. DESTINATION (Generator		·	tion Site completes	e. Date			
a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morris II 60450 b. Phone: 815 942 1800 I hedby certify that the above named materia		c. US EPA Numb 0638140002	d. Discrepancy Ind	dication Space			
1 70.	I lies been own	1/) a	. Of my knowieuga use ross	egoing is our	and action	rate.	
e. Napris of Authorized Agent (Print)	9. Signatu	MIKEN	ung	- Pata	<u>- ي-</u>	07	
IV. ASBESTOS (Generator of			complete (Vg-i)	g. Date			 -
a. Operator's Name and Address:	701pre-2		c. Responsible Agency N	lame and Add	iress:		
b. Phone: e. Special Handling Instructions and Addition	nal Information:		d. Phone:				
. Friable Non-Friable Both DPERATOR'S CERTIFICATION: I hereby de and are classified, packed, marked and label national governmental regulations.	% Fria eclare that the cor led and are in all i	ontents of this consid	% Non-Friable ignment are fully and accu condition for transport by	urately descrit highway acci	ped above ording to a	by proper shipp applicable interna	xing name atlonal and
							<u>.</u>
. Operator's Name and Title (Print) Operator refers to the company which owns,	h. Signat.	ure controls or super	ruices the facility being de	i. Date		or the demoliti	OR AF
enovation operation or both	1 1000001 operation	of contract or achor	Ange are recently nearly ac-	With the real or a	CHOACION	, O) the demonstr	JII OI

REPUBLIE CTONON-HAZAROSON SPECIAL WASTIES ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV If waste is <u>NOT</u> asbestos waste, complete Sections I, II and III



I. GENERATOR (Generato	r completes i	a-r)					-
a. Generator's US EPA ID Number		b. Manifest Docum	nent Number		c. Page	1 of	
d. Generator's Name and Location:			e. Generator's Mailing A	ddress:		· · · · · · · · · · · · · · · · · · ·	
West Chicago Park District			West Chicago Park Dist	rict			
250 west National St			157 West Washington 8				
West Chicago II 60185 f. Phone:630 231 9474	_		West Chicago, IL 60185	ţ		•	
If owner of the generating facility differs fro	om the generator,	provide:	g. Phone:				
h. Owner's Name:		•	L Oursele Phone No.				
j. Waste Profile #	k. Exp. Date	I Weste Shir	i. Owner's Phone No.: ping Name and	m, Cor	tainara	n. Total	o. Unit
		Description	hais senio and	No.	Type	Quantity	Wt/Vol
369Y915234	03/31/10	soll contamin	ated with peroleum	001	DT		Tns
		products	•	1			
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						21.21	
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				,			
GENERATOR'S CERTIFICATION: I hereb	y certify that the	above named mate	rial is not a hazardous wat	te as define	d by 40 C	FR 261 or any ap	plicable
state law, has been properly described, cia	ssified and pack	aged, end is in propa	er condition for transportet	ribrosse noi	a to applic	able regulations:	AND Hibbs
waste is a treatment residue of a previously	restricted hazar	dous waste subject	to the Land Disposal Resi	rictions. I ce	rtify and v	warrant that the w	aste has
been treated in accordance with the require	ements of 40 CH	R 268 and is no long	er a hazardous waste as	defined by 40	CFR 26		<u>-</u>
Jesse Felix	10	Jasse "	toli.		11-05-0	9 11-5-1	O9 *
p. Generator Authorized Agent Name (Print	0 0	. Signature	7200		r. Date	9 // 3 ,	
II. TRANSPORTER (Gener			enorter completes lie	2.0)	1. Daub		
a. Transporter's Name and Address:	ator compicte	Sila-Daile ITal	isporter completes in	/e)			
RS Trucking							
350 Chatam Ln							
Roselle II 60172							
b. Phone:							
Andriy	/			11	- 0	5-09	
c. Driver Name (Print)	d. Signa	etura //		e. Date			·····
III. DESTINATION (Generato			fion Cito completes II		· · · · · · · · · · · · · · · · · · ·		
a. Disposal Facility and Site Address:	complete in						
a. Disposal Facility and Site Address: Environtech Landfill		c. US EPA Numl 0638140002	ber d. Discrepancy Indi	cation Space	X.		
1800 Ashley Rd		0030140002	1				
Morris II 60450			ŀ				
b. Phone: 815 942 1800		<u> </u>					
I herby cartify that the above named materia	d has been acce	pted and to the best	of my knowledge the fore	going Is true	and accu	rate.	
190,000	_ \	1. 100	~~~	11	100	2.9	•
A CONTRACTOR OF THE PARTY OF TH	70		nere		14/0	44 P	
e. Maine of Authorized Agent (Print	/ Signal		<u> </u>	g. Date	• • • • • • • • • • • • • • • • • • • •		
NV ASBESTOS (Generator c	ompletes iVa-						
a. Operator's Name and Address:			c. Responsible Agency Na	me and Add	ress:		
		ľ					i
		ļ					
b. Phone:		Ĭ.	d. Phone:				!
e. Special Handling Instructions and Additto	nat Information:	<u></u>	9. F11011G.	 		· · · · · · · · · · · · · · · · · · ·	
· .							
☐ Friable ☐ Non-Friable ☐ Both	% Fri:		% Non-Friable				
OPERATOR'S CERTIFICATION: I hereby d	eclare that the co	ontenta of this const	inment are fully and accur	ately describ	ed above	by proper shippi	ng name
and are classified, packed, marked and labe	led and are in all	respects in proper	condition for transport by h	iighway acco	ording to a	applicable internat	ional and
ational governmental regulations.				,			
•	1.	•					
. Operator's Name and Title (Print)	h. Signat	ture		i. Date			
Operator refers to the company which owns			vises the facility heing de-		nanovate -	or the demolitics	n or
enovation operation or both	,		are invented now. A con-		J. J. J. G. G. C.	, or are consumed	



REPUBLIC CTONON-HINGAROOUS SOFECIALLY ASTIES (ASSESSIOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV If waste is \underline{NQT} asbestos waste, complete Sections I, II and III \cdot

I. GENERATOR (Gene	rator corr	nlata	e lo_r\							
a. Generator's US EPA ID Number	aw con	ipicus		Manifest Docu	men	Number		c. Page	1 of ***	<u> </u>
d. Generator's Name and Location: West Chicago Park District 250 west National St West Chicago II 60185 f. Phone:630 231 9474 If owner of the generating facility differ	a from the	generat	or, pro	vide:	1: V	Generator's Mailing A /est Chicago Park Dist 57 West Washington S /est Chicago, IL 60186 Phone:	rict treet	I	· ·	·
h. Owner's Name:			,			Owner's Phone No.:				
j. Waste Profile #	k. Exp	. Date		I. Waste Shi Description				Containers n. Total Type Quantity		o. Unit WVVal
369Y915234	34 03/31/10				nated	with peroleum	No. 001	DT	26.02	Tris
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GENERATOR'S CERTIFICATION: I h state law, has been properly described waste is a treatment residue of a previo been treated in accordance with the re-	, classified ously restric	and parated has	ckaged zardous	, and is in prop s waste subject	er co	ondition for transportati ne Land Disposal Rest	on accordin lictions. Lo	g to applic	cable regulations;	AND, if this
Jesse Felix				Lesse	B	eli		11-05-0	9 11-5-0	29
p. Generator Authorized Agent Name (iii. TRANSPORTER (Ge.		omnie		hature	nen/	orter completee He		r. Date		
Transporter's Name and Address: RS Trucking S50 Chatam Ln Roselle II 60172 b. Phone:				1			•			
ANDRIY c. Driver Name (Print)		A Sir	Mature	*	_		//-05 e. Date	-20	09	
III. DESTINATION (Gener	ator com				ation	Site completes III				
a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morrts II 60450 b. Phone: 815 942 1800			0	. US EPA Num 638140002	ber	d. Discrepancy India	ation Space			•
herby certify that the above named ma	terlal has b	een ao	cepted	and to the bes	t of n	ny knowledge the fore	oing is true	and accu	rate.	
Jan Flerie	g (20	اليا	Fle.	/X	4		1/5	109	
e. Natyle of Authorized Agent (Print) (IV. ASBESTOS (Generato		/tæigi tes l∨		d Operator	con	nplete (Va-i)	g. Date			
a. Operator's Name and Address:						esponsible Agency Na	me and Add	iress:		<u>-</u> -
b. Phone:					d. Pi	hone:				
e. Special Handling Instructions and Add	litional Info	mation	E						·	
. Friable Non-Friable Bot	th .	% F	Friable		% N	on-Friable			 .	
OPERATOR'S CERTIFICATION: I here and are classified, packed, marked and I national governmental regulations.	y declare t abeled and	hat the	септел	ts of this consi	алт	ent are fully and accur	stely descri ghway acc	bed above ording to a	by proper shippi applicable Interna	ing name tional and
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Operator's Name and Title (Print)		h. Sigr				A A HOLD BUILDING	i. Date		as the state of	
Operator refers to the company which or enovation operation or both	wits, teases	s, open	#(es, cc	onutois, or supe	mvise —	s one racility being den	TO DEFICE	renovated	i, or the demoitto	n or

REPUBLIC TO INO HHAZARDOUSESPECIALE SVOSTED DAS DESIZOS MANIFEST SERVICES, INC.

If waste is asbestos waste, complete Sections I, II, III and IV
 If waste is NOT asbestos waste, complete Sections I, II and III

I. GENERATOR (Generat	tor completes la-r	·)					
a. Generator's US EPA ID Number		o. Manifest Docum	nent Number		c. Page 1 of		
d. Generator's Name and Location: West Chicago Park District 250 west National St West Chicago II 60185 f. Phone:630 231 9474 If owner of the generating facility differs fr	from the generator, pro	nvide:	e. Generator's Mailing West Chicago Park Dis 157 West Washington West Chicago, IL 6018 g. Phone:	istrict Street			
_	(total green green to a	/FRAME	· · · · · · · · · · · · · · · · · · ·				•
h. Owner's Name: j. Waste Profile #	k. Exp. Date	I Waste Ship	i. Owner's Phone No.: oping Name and		ontainers n.	Total	o. Unit
•		Description		No.	Type Qu	uantity	Wt∕vol
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GENERATOR'S CERTIFICATION: I here state law, has been properly described, ci waste is a treatment residue of a previous been treated in accordance with the requirements.	dassified and packaged sly restricted hazardou	ed, and is in prope us waste subject t	er condition for transportation the Land Disposal Res	ation according	ng to applicable sertify and warrar	regulations:	AND If this
Jesse Felix p. Generator Authorized Agent Name (Pri	ζ	gnature T	élij		11-05-09	11-5-0	Ä
II. TRANSPORTER (Gene			sporter completes (امعا	r. Date		
a. Transporter's Name and Address: RS Trucking 350 Chatam Ln Roselle II 60172 b. Rhone:			<u> </u>	T 11	1-05	-09	
c. Driver Name (Print)	d. Signature			e. Date			
III. DESTINATION (Generate					<u>-</u>		
a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morris II 60450 b. Phone: 815 942 1800		c. US EPA Numb 0638140002		·			
Lherby certify that the above named materi	rial has been accepted	d and to the best	of my knowledge the for	egoing is true	and accurate.		
Now Flerrick	' () me	A Fly		Τ,	11/5/0	9	
e. Name of Authorized Agent (Print)	Signature			g. Date	/-/-		
ASBESTOS (Generator	completes IVa-f a						
a. Operator's Name and Address:		6	c. Responsible Agency N	ame and Add	iress:		
 Phone: Special Handling Instructions and Addition 	onal Information:	[0	d. Phone:				
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. Operator's Name and Title (Print)	h. Signature			I. Date			
Operator refers to the company which own enovation operation or both			vises the facility being de	molished or	renovated, or the	ne demolition) OF

TREPUBLIC Ctro MONHING ARDOUS SPECIAL WASTE & SERVICES, INC. CTRO MONHING ARDOUS SPECIAL WASTE & SERVICES OF SERVICES

If wastę is asbestos waste, complete Sections I, II, III and IV If waste is $\underline{\text{NOT}}$ asbestos waste, complete Sections I, II and III

I. GENERATOR (Genera	tor complete	es la-r)							
a. Generator's US EPA ID Number			b. Manifest Document Number			c. Page 1 of			
d. Generator's Name and Location: West Chicago Park District 250 west National St West Chicago II 60185 f. Phone:630 231 9474				e. Generator's Mailing Address: West Chicago Park District 157 West Washington Street West Chicago, IL 60185 g. Phone:					
If owner of the generating facility differs t	rom the gener	rator, prov	ride:		•			-	
h. Owner's Name:	Ti. 5- 5-		I I 187a ata Dela	i. Owner's Phone No.:	1 0-	-4-1	n. Total	l o. Unit	
J. Waste Profite #	k. Exp. Date	Description		ping Name and	No.	tainers Type	n. 10031 Quantity	Wt/Val	
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			products				18.51		
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GENERATOR'S CERTIFICATION: I hen state law, has been properly described, o waste is a treatment residue of a previou been treated in accordance with the requ	lassified and p sly restricted h	packaged, hazardous	, and is in prope waste subject	er condition for transports to the Land Disposal Re	ation accordinations. I c	g to applic ertify and v	able regulations; varrant that the w	AND, if this	
Jesse Felix		16	Lave Felli			11-05-09 /1-5-09			
p. Generator Authorized Agent Name (Pr		g.Sigr				r. Date			
II. TRANSPORTER (Gene	erator comp	oletés lia	a b and Tran	sporter completes I	lc-e)				
a. Transporter's Name and Address: RS Trucking 350 Chatem Ln Roselle II 60172 b. Phone:						. <u></u>			
2 からいはい d. Signature			Z	<u> </u>	e Date	//·05.09			
III. DESTINATION (Genera				tion Site completes					
a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morris II 60450 b. Phone: 815 942 1800	•	C	. US EPA Numb 638140002			e:			
Lherby certify that the above named mate	rial has been a	accepted	and to the best	of my knowledge the for	regolng is true	and accu	rate,		
_sandleme.		200	Iles	ne _	1	1/8	109		
e. Marne of Authorized Agent (Print)		ignature		8	g. Data				
IV. ASBESTOS (Generator	completes	IVa-f an	nd Operator	complete IVg-i)				•	
a. Operator's Name and Address:		-		c. Responsible Agency I	Name and Ad	dress:			
b. Phone:				d. Phone:					
e. Special Handling Instructions and Addit	ional Informati	ion:							
f. Friable Non-Friable Both		% Friable		% Non-Friable					
OPERATOR'S CERTIFICATION: I hereby and are classified, packed, marked and lai national governmental regulations.									
-			,						
g. Operator's Name and Title (Print)	h. s	Signature	· · · ·	<u>. </u>	i. Date				
*Operator refers to the company which ow renovation operation or both			ontrois, or supe	rvises the facility being d		renovated	, or the demolitic	n or	

FEPUBLIC CTONON FILINGER RESOURCE PECLATION ASTER ASSESTED MANIFEST SERVICES, INC.

If waste is asbestos waste, complete Sections I, II, III and IV If waste is NOT asbestos waste, complete Sections I, II and III

d. Generator's Name and Location: West Chicago Perk District 250 west National St. 157 West Whiteholds St. 157 West Whiteholds St. 157 West Whiteholds St. 158 Phone: 158 Phone: 159 Phone: 150 Phone:	 GENERATOR (Generate 	or completes la		····		Dono 1	1 of	
West Chizago Park District 250 west Nistorians S West Chizago Park District 157 West Washington Served West Chizago I. 80185 (Phone 930 2319474 If owner of the generation facility differs from the generator, provider If owner of the generation facility differs from the generator, provider If owner of the generation facility differs from the generator, provider I owner of the generation facility differs from the generator, provider I owner in the provider of the generator facility differs from the generator, provider I owner in the generator of the generator facility differs from the generator, provider I owner in the generator of the generator facility differs from the generator, provider I owner in the generator of the generat	a. Generator's US EPA ID Number		b. Manifest Docum	nent Number		C. Page	1 01	
Towner's Plane periodical planetary facility differs from the generator, provide: L. Owner's Phone No: L. Waste Profile \$	West Chicago Park District 250 west National St West Chicago II 60185	West Chicago Park District 157 West Washington Street West Chicago, IL 60185						
Waste Profiles K. Exp. Date L. Weater Shipping Name and M. Cartister N. Total Wilvol Type Country Wilvol S87915234 83/31/10 self-contentrated with perclarum G01 DT Gountly Wilvol S87915234 83/31/10 self-contentrated with perclarum G01 DT Gountly Wilvol The S87915234	If owner of the generating facility differs fr	om the generator,	provide:			<u>-</u>	- 	
Wasts Shipping Name and Wests Shipping Name Wests Shipping Nam	h Owner's Name:			I. Owner's Phone No.:				
GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 281 or any applicable state law, has been properly desorbed, dassified and packaged, and is in proper condition for transportation according to applicable regulations. AND, if this waste is a treatment residue of a previously restrictor hazardous waste state to the Land Obsporal Restrictions. I certify not waste has been brained in a coordination with the requirement of 40 CFR 281 or any applicable regulations. AND, if this waste is a treatment residue of a previously restrictor hazardous waste and certified by 40 CFR 281 or any applicable regulations. AND, if this waste is a treatment residue of a previously restriction hazardous waste and certified by 40 CFR 281 or any applicable regulations. AND, if this waste is a treatment residue of a previously restriction. I certify not remark that the waste has been properly for the properly applicable regulations. AND, if this waste is a treatment of the properly applicable regulations. AND, if this waste is a treatment of the properly applicable regulations. AND, if this waste is a treatment of the properly applicable regulations. AND, if this waste is a treatment of the properly applicable regulations. AND, if this waste is a treatment of the properly applicable in ernational and applicable international applications. In properly in the time and Additional Information: In properly in the properly international and applications. In properly in the properly in the		k. Exp. Date		ping Name and				
GENERATOR'S CERTIFICATION: I handly certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable regulations, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations. AND, if this state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations. AND, if this state law, has been properly described hazardous waste subject to the Land Disposal Restrictions. I certify and warmat that the waste has been treated in accordance with the requirements of 40 CFR 263, and is no longer a hazardous waste as defined by 40 CFR 261. Jasse Feltz Jasse Feltz Jasse Feltz II. TRANSPORTER (Generator completes and a basic part of the completes library and part of the completes library and transporters Name and Address: II. TRANSPORTER (Generator completes and Transporter completes library and transporters Name and Address: E. Direct Name (Print) II. DESTINATION (Generator completes library and Destination Site completes library) B. Plones: C. Direct Name (Print) J. SETRIATION (Generator completes library) J. Setriation (Gener	0000015224	63/31/10	soil contentin	ated with percleum		Quartery		
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state isw, has been properly described, classified and packaged, and as in proper attentions. I certify and warrant that the weath has been treated in accordance with the requirements of 40 CFR 268, and is no longer a hazardous waste is a testification. I certify and warrant that the weath has been treated in accordance with the requirements of 40 CFR 268, and is no longer a hazardous waste as defined by 40 CFR 261. Jesse Feix Jesse								
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waste is a treatment residue of a previously restricted hazardous waste suspect to the Land Desposal restrictories. I can be been treated in accordance with the requirements of 40 CFR 208 and is no longer a hazardous waste as defined by 40 CFR 201. Jesse Felix				התמופת בתו לאת ממנו ואת בי	non accone		and redaments	, 0, 100, 0, 1100
Jesse Feitx Denerator Authorized Agent Name (Print) Q. Signature Q. Diver Name (Print) Q. Signature Q. Diver Name (Print) Q. Signature Q. Diver Name (Print) Q. Diver Name (Print) Q. Signature Q. Diver Name (Print) Q. Signature Q. Diver Name (Print) Q. Signature Q. Signature Q. Diver Name (Print) Q. Signature Q. Signature Q. Signature Q. Signature Q. Diver Name (Print) Q. Diversepancy Indication Space: Q. Signature Q. Diversepancy Indication Space: Q. Diversepancy Indication Space	i is a transment moidue of a presinte	ilv metricked hazai	maiis wasta siinlaci	to the Land Disposal Kes	incuors. Ic	SIMA SIM A	ACTION FRANCISCO AND	23(0 1163
Comparison Com	been treated in accordance with the requi	CITIENTS OF TO CO.	7 44	(-1)-				3
II. TRANSPORTER (Generator completes/Ma-b and Transporter completes lic-e) a. Transporter's Name and Address: RS Trucking 350 Chatam Ln Roselle II 80172 b. Phone: c. Dilver Name (Print) III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g) a. Disposal Facility and Site Address: c. US EPA Number of Site Completes IIId-g) a. Disposal Facility and Site Address: c. US EPA Number of Site Completes IIId-g) a. Disposal Facility and Site Address: c. US EPA Number of Site Completes IIId-g) b. Phone: b. Phone: c. US EPA Number of Site Completes IIId-g) d. Discrepancy Indication Space: c. US EPA Number of Site Completes IIId-g) c. US EPA Number of Site Completes IIId-g) a. Dense Site Site Site Site Site Site Site Sit	Jesse Felix		Simon	THEY				
a. Transportor's Name and Address: RS Trucking S30 Chertam Ln Rosselle il 60172 b. Phone: C. Driver Name (Print) DESTINATION (Generator complete Illia-c and Destination Site completes Illid-g) a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morts Il 60450 b. Phone: Destination Site sompletes Illid-g) Letty certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate. Destination Site Site Site Site Site Site Site Site	p. Generator Authorized Agent Name (Pri	nt) (q	e Mach and Tran	sporter completes II	(c-e)	11. 54.0		*,
RS Trucking 350 Chatam Ln Roselle II 60172 b. Phone: C. Driver Name (Print) III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g) a. Disposal Facility and Site Address: C. US EPA Number 0638140002 d. Discrepancy Indication Space: C. US EPA Number 0638140002 D. Phone: Bit 5 942 1800 b. Phone: Bit 5 942 1800 b. Phone: Bit 5 942 1800 b. Phone: Bit 5 942 1800 c. Lighte of Authorized Agent (Print) f. Signature J. J		nator complete	Spia-D and The	isportor completed in				
Roselle II 60172 b. Phone: C. Driver Name (Print) C. Driver Name (Print) III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g) a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morris II 60450 b. Phone: 815 942 1800 Lherby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate. ARABESTOS (Generator completes IVa-f and Operator complete IVg-l) a. Operator's Name and Address: C. Rasponsible Agency Name and Address: c. Rasponsible Agency Name and Address: D. Phone: e. Special Handling Instructions and Additional Information: I. Friable Non-Friable Both Friable Won-Friable OPERATOR'S CERTIFICATION: I hereby deckare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations. G. Operator's Name and Title (Print) In Signature Operator Name and Title (Print) In Signature In Date Operator Name and Title (Print) In Signature In Date Operator refers to the company which owns, teases, operates, controts, or supervises the facility being dernolisted or renovated, or the demolition or								•
Destination (Print) a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morris II 60450 b. Phone: 815 942 1800 Lherby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate. Lending certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate. Lending certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate. Lending certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate. Lending certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate. Lending certify that the above named and accurate in the accurate in the company of the accurate in the contents of this consequence in a content of this consequence in a content of this consequence in a content of this consequence in proper condition for transport by highway according to applicable international and national governmental regulations. Lending certified packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations. Lending certified packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations. Lending certified packed and accurate in all respects in proper condition for transport by highway according to applicable international and national governmental regulations. Lending certified packed and accurate in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.	T T T T T T T T T T T T T T T T T T T							
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III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g) a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morrs 18 942 1800 Lherby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate. Level of Authorized Agent (Print) I. Signature e. Marne and Address: c. US EPA Number (638140002 d. Discrepancy Indication Space: (b. Phone: g. Date) IV. ASBESTOS (Generator completes IVa-f and Operator complete IVg-i) a. Operator's Name and Address: c. Responsible Agency Name and Address: d. Phone: e. Special Handling Instructions and Additional Information: I. Priable Non-Friable Both Seriable Non-Friable OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations. g. Operator's Name and Title (Print) h. Signature i. Date **Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or	a Driver Name (Print)	13.56	ature		e. Date			
a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morris II 60450 b. Phone: 815 942 1800 Lherby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate. Left of Authorized Agent (Print) ASBESTOS (Generator completes IVa-f and Operator complete IVg-i) a. Operator's Name and Address: c. Responsible Agency Name and Address: c. Responsible Agency Name and Address: d. Phone: e. Special Handling Instructions and Additional Information: f. Friable Non-Friable Both Friable Won-Friable OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations. g. Operator's Name and Title (Print) h. Signature i. Date Operator refers to the company which owns, teases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or	III DESTINATION (General	or complete II	la-c and Destina	tion Site completes	(lld-g)			
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Morris II 60450 b. Phone: 815 942 1800 Lherby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate. Name	Environtech Landfill		0638140002					
Depression of Authorized Agent (Print) It is instructions and Additional Information: Comparison of Authorized Agent (Print) It is instruction and Additional Information: It is instruction and Additional Infor	1800 Ashley Rd							
e. plarie of Authorized Agent (Print) I. Signature g. Date W. ASBESTOS (Generator completes IVa-f and Operator complete IVg-i) a. Operator's Name and Address: c. Responsible Agency Name and Address: b. Phone: e. Special Handling Instructions and Additional Information: I. Friable Non-Friable Both Friable	b Obecci 015 042 1900					o and som	emta	
e. Marke of Authorized Agent (Print) I. Signature g. Date IV. ASBESTOS (Generator completes IVa-f and Operator complete IVg-i) a. Operator's Name and Address: c. Responsible Agency Name and Address: b. Phone: e. Special Handling Instructions and Additional Information: I. Friable I Non-Friable Both % Friable % Non-Friable OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations. g. Operator's Name and Title (Print) h. Signature i. Date *Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or	Lherby certify that the above named mate	rial has been acce	epted and to the bes	t of my knowledge the lor	egoing is un	e and acc	1 G	
Non-Friable Non-Friable Both % Friable % Non-Friable Non-Friable OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations. 9. Operator's Name and Title (Print) h. Signature i. Date *Operator refers to the company which owns, leases, operates, controts, or supervises the facility being demoitished or renovated, or the demoition or			W Ill	mux		//3/	0/	
a. Operator's Name and Address: b. Phone: c. Responsible Agency Name and Address: d. Phone: e. Special Handling Instructions and Additional Information: f. Friable Non-Friable Both % Friable % Non-Friable OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations. g. Operator's Name and Title (Print) h. Signature i. Date Operator refers to the company which owns, leases, operates, controts, or supervises the facility being demolished or renovated, or the demolition or	e. Marne of Authorized Agent (Print)			<u> </u>	g. Date			.
b. Phone: e. Special Handling Instructions and Additional Information: f. Friable Non-Friable Both % Friable % Non-Friable OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations. g. Operator's Name and Title (Print) h. Signature i. Date Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or		completes IVa	-f and Operator	complete (Vg-I)				-
e. Special Handling Instructions and Additional Information: I. Friable Non-Friable Both % Friable % Non-Friable OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations. 9. Operator's Name and Title (Print) 1. Signature 1. Date Operator refers to the company which owns, teases, operates, controts, or supervises the facility being demolished or renovated, or the demolition or	a. Operator's Name and Address:	-	}	c. Responsible Agency i	инт е апа и	MICOS.		
e. Special Handling Instructions and Additional Information: I. Friable Non-Friable Both % Friable % Non-Friable OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations. 9. Operator's Name and Title (Print) 1. Signature 1. Date Operator refers to the company which owns, teases, operates, controts, or supervises the facility being demolished or renovated, or the demolition or					•			
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OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations. 9. Operator's Name and Title (Print) 1. Signature Operator refers to the company which owns, teases, operates, controts, or supervises the facility being demolished or renovated, or the demolition or	G. Spacker Herrining Hoodscoom and Faller							
OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations. 9. Operator's Name and Title (Print) 1. Signature Operator refers to the company which owns, teases, operates, controts, or supervises the facility being demolished or renovated, or the demolition or	Company of New Edeble Control	0/L E:	rishla	% Non-Friable				
and are classified, packed, marked and labeled and are in all respects in proper condition for transport by nightway according to appeal and national governmental regulations. 9. Operator's Name and Title (Print) 1. Date Operator refers to the company which owns, teases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or	THE PARTY OF THE P	de clare that the	contante of this cons	ignment are fully and acc	urately desc	voda bedir	e by proper shipp	ing name
g. Operator's Name and Title (Print) h. Signature i. Date Operator refers to the company which owns, teases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or	and are classified, packed, marked and la	beled and are in a	ill respects in proper	condition for transport by	highway at	cording to	applicable imema	ILIONAI BNO
g. Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or	national governmental regulations.	 						
g. Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or					- 			
*Operator refers to the company which owns, leases, operates, controls, or supervises the faculty being services or forth	g. Operator's Name and Title (Print)	h. Sign	ature	andene the facility bains of	i. Date lemolished 4	ar telbonaje	d. or the demolitic	on or
	*Operator refers to the company which ow renovation operation or both	ris, reases, opera	res, contrors, or sup	or recently non श				<u> </u>

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renovation operation or both

REPUBLIE CTONON-HAZAROGO'S SPECIAL WAS TIES AS BESTOS MANIFEST SERVICES, INC.

If waste is asbestos waste, complete Sections I, II, III and IV If waste is <u>NOT</u> asbestos waste, complete Sections I, II and III

DX

I. GENERATOR (G a. Generator's US EPA ID Number			est Docum	nent Number		c. Page) 1 of	
d. Generator's Name and Locatio West Chicago Park District 250 west National St West Chicago II 60185 f. Phone:630 231 9474	919			e. Generator's Mailing West Chicago Park Dis 157 West Washington West Chicago, IL 6018 g. Phone:	strict Street			
If owner of the generating facility	differs from the gener	ator, provide:			•			
h. Owner's Name:				i. Owner's Phone No.:				
j. Waste Profile #	k. Exp. Dat		I. Waste Shipping Name and Description			ntainers	n. Total Quantity	o. Unit Wi/Vol
369Y915234	03/31/10			ated with peroleum	No. 001	DT		Tns
303737320-			products				22.35	
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GENERATOR'S CERTIFICATION state law, has been properly desc waste is a treatment residue of a been treated in accordance with the	ribed, classified and p previously restricted h	packaged, and l pazardous wast	is in prope te subject	er condition for transports to the Land Disposal Res	ation accordinatrictions. I c	ng to appli ertify and O CFR 26	cable regulations warrant that the	s; AND, if this waste has
Jesse Felix ·		- All	W 1	11-05-09 11-5-09				09
p. Generator Authorized Agent Na II. TRANSPORTER		q. Signature		sporter completes I	lo o)	r, Date		
a. Transporter's Name and Addres RS Trucking 350 Chatam Ln Roselle II 60172 b. Phone:	Lagar	Roey	er l	2	11/05	109	~	
c. Driver Name (Print)		Signature 🅢	/		e. Date			
		e Illa-c and	Destinat	tion Site completes	IIId-g)			
a. Disposal Facility and Site Addre Environtech Landfill 1800 Ashley Rd Morrls II 60450 b. Phone: 815 942 1800	ss:	c. US E 063814	EPA Numi 40002	ber d. Discrepancy Ind	fication Spac	æ:		
I herby certify that the above name	d material has been	accepted and to	o the best	of my knowledge the for	egoing is tru	e and acc	urate.	
jan Element Day Fly				ming 11/5/09				
e. Name of Authorized Agent (Print		ignature			g. Date			····
IV. ASBESTOS (Gene	erator completes	IVa-r and U	` 		James and Ad			
a. Operator's Name and Address:				c. Responsible Agency N	чапе апо Ао	uress.		•
b. Phone:			ا . ا	d. Phone:	•			
e. Special Handling Instructions an	d Additional Informat	ion:	7-1-5					
f. 🔲 Friable 🔲 Non-Friable 📗		% Friable		% Non-Friable				
OPERATOR'S CERTIFICATION: I and are classified, packed, marked national governmental regulations.	hereby declare that t and labeled and are	he contents of in all respects i	this const in proper	gnment are fully and accondition for transport by	urately descr highway ac	tbed above cording to	e by proper ship applicable interr	ping name national and
					•			
g. Operator's Name and Title (Print) h. S	Signature			i. Date		-	
*Onerstor refers to the company wh	ich owne leases on	erates controls	S OF SUDA	ndees the facility being d	emolished o	renovate	d, or the demolit	ion or

REPUBLICE CTROIN FILIZAR BOOS VSPECIAL WAS THE & AS BEST SE MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV II waste is ${\underline{\tt NOT}}$ asbestos waste, complete Sections I, II and III

I. GENERATOR (Genera	tor completes la						
a. Generator's US EPA ID Number		b. Manifest Docum	tent Number		c. Page	1 0!	
d. Generator's Name and Location: West Chicago Park District 250 west National St West Chicago II 60185 f. Phone:630 231 9474			e. Generator's Mailing West Chicago Park Dis 157 West Washington West Chicago, IL 6018 g. Phone:	strict Street i		-	
If owner of the generating facility differs	from the generator,	provide:		į			
h. Owner's Name:	·		i. Owner's Phone No.:		<u> </u>		
j. Waste Profile #	k. Exp. Date	I. Waste Ship Description	ping Name and	m. Cor No.	tainers Type	n. Total Quantity	o. Unit WI/Vol
369Y915234	03/31/10	soil contamin	ated with peroleum	001	DT		Tns
		products				22:21	
			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		,		
GENERATOR'S CERTIFICATION: I he state law, has been properly described, waste is a treatment residue of a previous been treated in accordance with the region of the state of	classified and packa usly restricted hazan	iged, and is in propi dous waste subject	er condition for transport to the Land Disposal Re	ation accordinations. I co	g to applicantly and v	able regulations warrant that the v	AND, If this
p. Generator Apphorized Agent Name (P	rint) a	. Signature	Fely	·	11-05-0 r. Date	9 11-5-	09
II. TRANSPORTER (Ger			sporter completes	lic-e)	,		···
a. Transporter's Name and Address: RS Trucking 350 Chatam Ln Roselle II 60172 b. Phone:	8	_		•	-7		
STANISLAN LEWAPDO	2054i He	ature C	Jewan doogh	e. Date	<u>11-</u>	or - 5	7
III. DESTINATION (General			tion Site completes				\
B. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Momis II 60450 b. Phone: 815 942 1800		c. US EPA Num 0638140002			e:		
I herby certify that the above named ma	terial has been acce	pted and to the bes	t of my knowledge the fo	regoling is tru	e and acc	urate.	
Jan Ilemine	/ das	Ilem	next -	11	15/	ク ア	•
e. Name of Authorized Agent (Print)) // Signa		0	g. Daté			
IV. ASBESTOS (Generato	r completes IVa	-f and Operator				•	
a. Operator's Name and Address:			c. Responsible Agency	Name and Ad	idress:		
b. Phone:			d. Phone:				
e. Special Handling Instructions and Adv	ditional Information:				-		
f. Friable Non-Friable Bo	th % Fr	iable	% Non-Friable				
OPERATOR'S CERTIFICATION: I herel and are classified, packed, marked and national governmental regulations.	by declare that the c	contents of this cons	ignment are fully and ac	curately desc by highway ac	ribed above	re by proper ship applicable interr	ping name national and
	•						
g. Operator's Name and Title (Print)	h. Signa			I. Date		·····	
*Operator refers to the company which or renovation operation or both	owns, leases, operat	tes, controls, or sup	ervises the facility being	demolished o	r renovate	ed, or the demoit	tion or

REPUBLICATION ON HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV If waste is \underline{NOT} asbestos waste, complete Sections I, II and III

I. GENERATOR (Generate	or completes	la-r)					
a. Generator's US EPA ID Number		b. Manifest Docum	nent Number		c. Page	1 of	
d. Generator's Name and Location: West Chicago Park District 250 west National St West Chicago II 60185 f. Phone:630 231 9474			e. Generator's Mailing Ad West Chicago Park Distric 157 West Washington Str West Chicago, IL 60185 g. Phone:	cat i	L		
If owner of the generating facility differs fro	om the generator	r, provide:		1			
h. Owner's Name:			i. Owner's Phone No.:				
j. Waste Profile #	k. Exp. Date	I. Waste Ship Description	ping Name and	m. Con	tainers Type	n. Total Quantity	o. Unit Wt/Vol
369Y915234	03/31/10		ated with peroleum	001	DT	 	Tns
	<u> </u>			1		1827	
·							
	,					 	
GENERATOR'S CERTIFICATION: I here state law, has been properly described, ciz waste is a treatment residue of a previousl been treated in accordance with the requirements.	assified and pack by restricted haza	kaged, and is in prope ardous waste subject (er condition for transportatio	n according	g to applic	cable regulations	e- AMITA IF this
Jesse Felix p. Generator Authorized Agent Name (Prin		Class 9	Elie		11-05-0		09
II. TRANSPORTER (Gener		q. Signature			r. Date		
Transporter's Name and Address: RS Trucking S50 Chatam Ln Roselle II 60172 b. Phone:		W.	11	<u> </u>	. /		
MAREK KRUK		Krf			1/05	5/09	
c. Driver Name (Print)		nature		e. Date			
III. DESTINATION (Generate	or complete II			₩,			<u> </u>
a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morris II 60450 b. Phone: 815 942 1800		c. US EPA Numi 0638140002	ber d. Discrepancy Indica	ation Space	E		
Lherby certify that the above named materi	ial has been acc	epted and to the best	of my knowledge the foreg	oing is true	and acc	urate.	
Naw Flemme		2,1. 101	min	11	71	29	
e. Name of Authorized Agent (Print)	Sign	inture	()	g. Date		<u> </u>	
IV. ASBESTOS (Generator o			complete IVa-i)	H. Britis			
a. Operator's Name and Address:	<u> </u>		c. Responsible Agency Nan	ne and Add	iress:		
b. Phone:		}					
e. Special Handling Instructions and Addition	onal Information:	<u></u>	d. Phone:				
			•			•	•
f. ☐ Friable ☐ Non-Friable ☐ Both	% F	rlable	% Non-Friable				
OPERATOR'S CERTIFICATION: I hereby of and are classified, packed, marked and lab- national governmental regulations.	declare that the collect and are in a	contents of this consi all respects in proper	gnment are fully and accure condition for transport by his	itely descri ghway acc	bed abov ording to	e by proper ship applicable intern	ping name lational and
		•			_	_	
g. Operator's Name and Title (Print)	h. Sign	ature		i. Date			
*Operator refers to the company which own renovation operation or both	ia, ieases, opera	ites, controts, or supe	rvises the facility being dem	iolished or	renovate	d, or the demolit	ion or

APPENDIX C

Photographs



Photo #1: View of subject property, facing north, during asphalt removal.





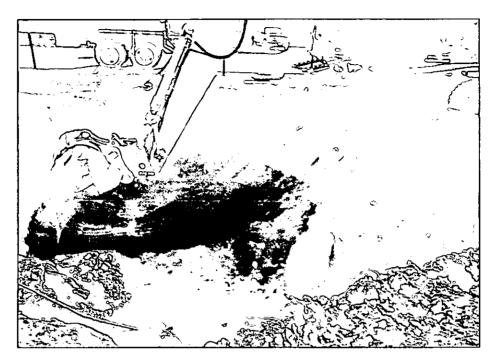


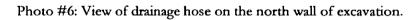
Photo #3: View of excavation, facing east.

Photo #4: View of backfill pile.





Photo #5: Close-up view of excavation wall.





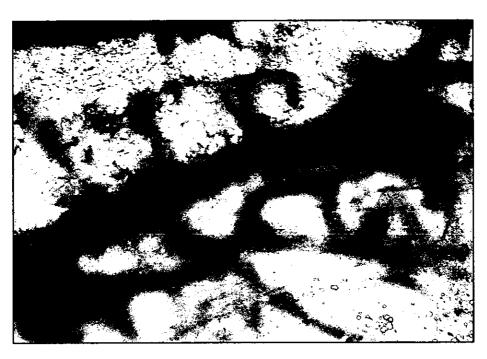
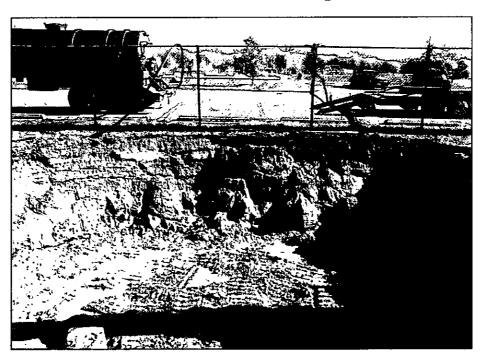


Photo #7: Close-up view of excavation wall.

Photo #8: View of east wall of excavation, facing east.



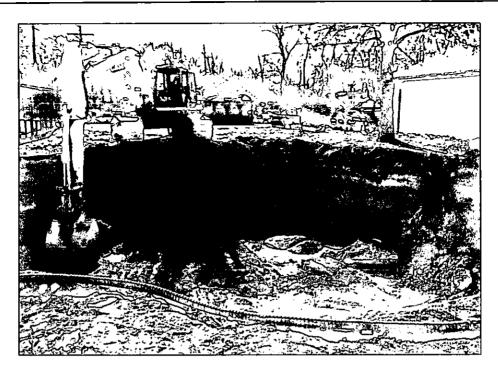
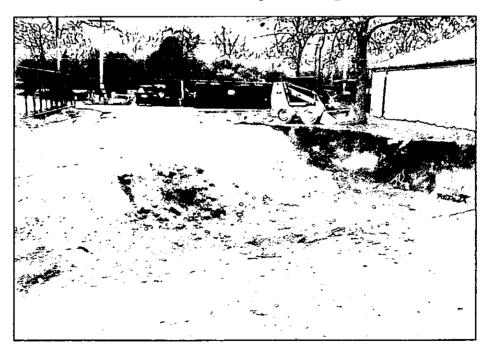


Photo #9: View of south and west walls of excavation, facing south.





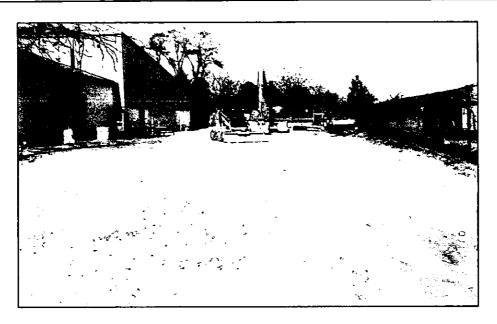


Photo #11: View of filled excavation, facing north.

APPENDIX D

Budget Amendment

BUDGET AND BILLING FORM FOR LEAKING UNDERGROUND STORAGE TANK SITES

A. SITE INFORMATION Site Name: West Chicago Park District Site Address: 250 West National Street City: West Chicago

Zip: <u>60185</u> County: DuPage IEPA Generator No.: 043090582 IEMA Incident No.: 980814 IEMA Notification Date: 04/13/98 ______ Date this Form was Prepared: ____07/02/13___ This form is being submitted as a: (check one) **Budget Proposal** Budget Amendment (Budget Amendments must include only the costs over the previous budget.) Amendment Number: 1 Billing Package for costs incurred pursuant to 35 Illinois Administrative Code (IAC), Part 732 ("new program"). Name(s) of report(s) documenting the costs requested: Free Product Removal Report/Corrective Action Completion Report Date(s): 07/12/13 This form is being submitted for the Site Activities indicated below (check one): Site Classification Early Action High Priority Corrective Action Low Priority Corrective Action Other (indicate activities)

<u>DO NOT SUBMIT "NEW PROGRAM" COSTS AND "OLD PROGRAM"</u> <u>COSTS AT THE SAME TIME, ON THE SAME FORMS.</u>

A-1

This form must be submitted in duplicate.

IL 532-2263 494 Rev. March 2000 The Agency is authorized to require this information under 415 ILCS 5/1. Disclosure of this LPC information is required. Failure to do so may result in the delay or denial of any budget or payment requested hereunder. This form has been approved by the Forms Management Center.

IEMA No. 980814

Pay to the order of: Wes	t Chicago Park Dist	rict		
Send in care of: Mr. Jess				
Address: 157 West Was				
		State: Illinois	Zip:	60185
City: West Chicago		State: Intitiois	Zip:	
or joint stock company o company of the owner or —	f the owner or opera operator:	tly owned or operated by th tor; and any company owne	e owner or operato ed by any parent, su	r; any subsidiary, par Ibsidiary or joint stocl
Fewer than 101:	10	1 or more:		
Number of USTs at the sit removed.)	e:2(Number	of USTs includes USTs prese	ently at the site and U	JSTs that have been
		eases from USTs: 980814	1	
	have ever been locate Size (gallons)	d at the site and are presently Did UST have a release?	Incident No.	Type of Release
	Size	Did UST		• •
Product Stored	Size (gallons)	Did UST have a release?	Incident No.	Release
Product Stored unleaded gasoline	Size (gallons) 2,000	Did UST have a release? Yes No	Incident No. 980814	Release overfill
Product Stored unleaded gasoline	Size (gallons) 2,000	Did UST have a release? Yes No Yes No	Incident No. 980814	Release overfill
Product Stored unleaded gasoline	Size (gallons) 2,000	Did UST have a release? Yes No Yes No Yes No	Incident No. 980814	Release overfill
Product Stored unleaded gasoline	Size (gallons) 2,000	Did UST have a release? Yes No Yes No Yes No Yes No Yes No	Incident No. 980814	Release overfill
Product Stored unleaded gasoline	Size (gallons) 2,000	Did UST have a release? Yes No Yes No Yes No Yes No Yes No Yes No Yes No	Incident No. 980814	Release overfill
Product Stored unleaded gasoline	Size (gallons) 2,000	Did UST have a release? Yes No Yes No Yes No Yes No Yes No Yes No Yes No Yes No Yes No	Incident No. 980814	Release overfill
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TTINE	36. Y	000044	
IEMA	No.	980814	

R.	PROPOSED	BUDGET SUMMARY	AND BUDGET TOTAL	(fields filled in automatical	ly
D.	I LOI OOLD	DODGE! SOMMAN	MIN DODGET TOTAL	(licids lined in automatica:	

- 1. Investigation Costs: \$_1,399,40
- 2. Analysis Costs: \$_3,210.00
- 3. Personnel Costs: \$ 37,135.50
- 4. Equipment Costs: \$_____
- 5. Field Purchases and Other Costs: \$ 6,825.00
- 6. Handling Charges: \$_____

TOTAL PROPOSED BUDGET = \$ 48,569.90

IEMA :	No.	9808	14	

C.	AP	PRO	VED BUDGET SUMMARY AND BILLING SUMMARY	
	1.	Am	nount approved in the Budget	
		1.	Investigation Costs: \$	
		2.	Analysis Costs: \$	•
		3.	Personnel Costs: \$	
		4.	Equipment Costs: \$	
		5.	Field Purchases and Other Costs: \$	
		6.	Handling Charges: \$	
			TOTAL APPROVED IN THE BUDGET = \$	-
	2.	Am	nount Requested for Reimbursement	
		1.	Investigation Costs: \$	
		2.	Analysis Costs: \$	
		3.	Personnel Costs: \$	
		4.	Equipment Costs: \$	
		5.	Field Purchases and Other Costs: \$	
		6.	Handling Charges: \$	
		AM	MOUNT REQUESTED FOR REIMBURSEMENT = \$	
	Ab	udget	for the bills included in this billing package was approved by the Agency on	
	Thi	s billi	ng package includes bills which were included in the Budget Amendment dated	··········
	and	аррго	oved by the Agency on	
	Nei	ther a	budget nor a budget amendment was approved by the Agency for the bills included in	this package

C-1

IEMA No. 980814

has already been reimbursed from the Fund for this occurrence and has been sent to the Agency for reimbursement for this occurrence but has not yet been reimbursed. I further certify that the number of petroleum USTs in Illinois presently owned or operated the owner or operator, any subsidiary, parent or joint stock company of the owner or operator, and any company owned by any parent, subsidiary or joint stock company of the owner or operator is: Fewer than 101:	has been sent to the Agency for reimbursement for this occurrence but has not yet been reimbursed. I further certify that the number of petroleum USTs in Illinois presently owned or operated by the owner or operator, any subsidiary, parent or joint stock company of the owner or operator, and any company owned by any parent, subsidiary or joint stock company of the owner or operator is: Fewer than 101:	I,	the owner or operator of the Leaking UST site for which this claim is being
has been sent to the Agency for reimbursement for this occurrence but has not yet been reimbursed. I further certify that the number of petroleum USTs in Illinois presently owned or operated the owner or operator, any subsidiary, parent or joint stock company of the owner or operator, and any company owned by any parent, subsidiary or joint stock company of the owner or operator is: Fewer than 101:	has been sent to the Agency for reimbursement for this occurrence but has not yet been reimbursed. I further certify that the number of petroleum USTs in Illinois presently owned or operated by the owner or operator, any subsidiary, parent or joint stock company of the owner or operator, and any company owned by any parent, subsidiary or joint stock company of the owner or operator is: Fewer than 101:	subn	nitted, certify that \$ is the amount being sought in this claim for reimbursement,
been reimbursed. I further certify that the number of petroleum USTs in Illinois presently owned or operated the owner or operator, any subsidiary, parent or joint stock company of the owner or operator, and any company owned by any parent, subsidiary or joint stock company of the owner or operator is: Fewer than 101:	been reimbursed. I further certify that the number of petroleum USTs in Illinois presently owned or operated by the owner or operator, any subsidiary, parent or joint stock company of the owner or operator, and any company owned by any parent, subsidiary or joint stock company of the owner or operator is: Fewer than 101:	\$	has already been reimbursed from the Fund for this occurrence and
the owner or operator, any subsidiary, parent or joint stock company of the owner or operator, and any company owned by any parent, subsidiary or joint stock company of the owner or operator is: Fewer than 101:	the owner or operator, any subsidiary, parent or joint stock company of the owner or operator, and any company owned by any parent, subsidiary or joint stock company of the owner or operator is: Fewer than 101:	\$	has been sent to the Agency for reimbursement for this occurrence but has not yet
Except for claims associated with Early Action, I certify that a plan for the work included in this billing packa was approved by the Agency on; certify that a budget for the work included in this claim was approved by the Agency on; certify that a budget for the work included in this claim was approved by the Agency on; certify that the amount sought for payment was expended in conformance with the approved budget and approved plan. I further certify that if the costs included in this claim for reimbursement are approved for payment, the following limitations will not be exceeded: 1. Payment of this claim will not result in the owner or operator receiving reimbursement of corrective act costs or indemnification costs from the Fund for more than \$1,000,000 per occurrence. 2. Payment of this claim will not result in the owner or operator receiving reimbursement of corrective act costs or indemnification costs from the Fund incurred during a calendar year in excess of the following amounts: \$1,000,000, if fewer than 101 tanks are owned or operated in Illinois. \$2,000,000, if fower than 101 tanks are owned or operated in Illinois. Title:	Except for claims associated with Early Action, I certify that a plan for the work included in this billing package was approved by the Agency on	been	reimbursed. I further certify that the number of petroleum USTs in Illinois presently owned or operated by
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\$2,000,000, if 101 or more tanks are owned or operated in Illinois. Toperator: Title: Ture: Date: Tibed and sworn to before me the day of	\$2,000,000, if 101 or more tanks are owned or operated in Illinois. r/Operator: Title: nure: Date: ribed and sworn to before me the day of, 20 certification must be notarized when the certification is signed.) Seal:	۷,	costs or indemnification costs from the Fund incurred during a calendar year in excess of the following
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			IEMA	No. 980814
IN	VESTIGATION COSTS			
-				[7]
Me	thod I Method II Method	ın <u>— — —</u>	Not Applic	able
1.	Drilling Costs - This includes the costs for drilling le Borings which are to be completed as monitoring we disposal of cuttings should not be included here. An being conducted (i.e., classification, monitoring well	ells should be laindication mu	isted here. Cost st be made as to	s associated wi
	1 borings to 15.0 feet = 15.0 feet to	be bored for _	monitoring we	<u> </u>
	borings to feet = feet to	be bored for _		
	borings to feet = feet to	be bored for _	·	
	borings to feet = feet to	be bored for _		<u> </u>
	borings to feet = feet to	be bored for _		
	Total Feet to be Bor	ed: <u>15.00</u>		
	Borings: 15.00 feet x \$ 16.96	per foot	= \$ <u>254.40</u>	(or)
	Hours x \$	per hour	= \$	
	borings through ft of bedrock =	Ft bedro	ck to be bored	
	borings through ft of bedrock =	Ft bedro	ck to be bored	
	Total Feet bedrock t	o be Bored:		
	Borings: Ft bedrock x \$	per ft bedrock	= \$	(or)
	Hours x \$ per Hour = \$	· · · · · ·		
	# of Mobilizations @ \$	per mob	ilization = \$	
		Number		
	Other Costs	of Units	Unit Cost	Total Cost
		+		-
		 		
			<u> </u>	

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- 2. Professional Services (e.g., P.E., geologist) These costs must be listed in Section I, the Personnel section of the forms.
- Monitoring Well Installation Materials Costs listed here must be costs associated with well casing, well screens, filter pack, annular seal, surface seal, well covers, etc. List the items below in a time and materials format.

Material	Number of Units	Unit Cost	Total Cost
Well screen	1	\$200.00	\$200.00
Sand	3	\$10.00	\$30.00
Bentonite	2	\$15.00	\$30.00
Well cover	1	\$75.00	\$75.00
Concrete	1	\$10.00	\$10.00
Bentonite (for well sealing)	30	\$15.00	\$450.00
Concrete (for well sealing)	10	\$10.00	\$100.00

4. Disposal Costs - This includes the costs for disposing of boring cuttings and any water generated while performing borings or installing wells.

Disposal of Cuttings:1	_ drums x \$ <u>250.00</u>	per drum = \$ <u>250.00</u>	
Disposal of Water:	gallons x \$	per gallon = \$	
Transportation Costs: \$			
Describe how the water/soil wi	ll be disposed:		

Total Investigation Costs: \$ 1.399.40

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F. ANALYSIS COSTS

4	Moisture Content samples	x \$ 13.00 per sample = \$ 52.00
	Soil Classification samples	s x \$ per sample = \$
	Indicate method to b	e performed:
	Soil Particle Size samples	x \$ per sample = \$
	Ex-situ Hydraulic Conduct	tivity/Permeability samples
	,	x \$ per sample = \$
	Indicate the method	to be performed:
	_ Rock Hydraulic Conductiv	vity/Permeability samples
	,	x \$ per sample = \$
2	_ Natural Organic Carbon F	raction (foc) samples
	,	x \$ 40.00 per sample = \$ 80.00
	Indicate the ASTM	or SW-846 method to be performed:
4	TPH	samples x \$_125.00 per sample = \$_500.00
4	COD	samples x \$_30.00 per sample = \$_120.00
4	RCRA	samples x \$_200.00 per sample = \$_800.00
4	Lead in soil	samples x \$_24.00 per sample = \$_96.00
4	Iron in soil	samples x \$_24.00 per sample = \$_96.00
oil A	Analysis Costs - This must b	be for laboratory analysis only.
	BTEX samples x \$	per sample = \$

	_ pH Samples x \$	per sample = \$	
	Paint Filter samples x \$	per sample = \$	
	TCLP Lead samples x \$	per sample = \$	
	_ Flash Point samples x \$	per sample = \$	
	_ Lab and/or Field Bank samp	les x \$ per	sample = \$
4	Soil bulk density	_ samples x \$ 22.00	per sample = \$ 88.00
4	Soil particle density	_ samples x \$_22.00	per sample = \$ <u>88.00</u>
4	Plate count	_ samples x \$ 145.00	per sample = \$ <u>_580.00</u>
		_ samples x \$	per sample = \$
1_	ndwater Analysis Costs - Th BTEX samples x \$ 60.00	is must be for laboratory <u>a.</u> per sample = \$_60.00	<i>nalysis</i> only.
<u>1</u> 1	ndwater Analysis Costs - Th BTEX samples x \$ 60.00 PNA samples x \$ 150.00	is must be for laboratory <u>and</u> per sample = \$_60.00 per sample = \$_150.00	nalysis only.
1	ndwater Analysis Costs - Th BTEX samples x \$ 60.00 PNA samples x \$ 150.00 LUST Pollutants samples x \$	is must be for laboratory <u>at</u> per sample = \$_60.00per sample = \$_150.00 \$per sample	nalysis only. e = \$
1	ndwater Analysis Costs - Th BTEX samples x \$ 60.00 PNA samples x \$ 150.00 LUST Pollutants samples x \$ pH Samples x \$	is must be for laboratory <u>and</u> per sample = \$_60.00per sample = \$_150.00 \$per sampleper sampleper sample = \$_	e = \$
1	BTEX samples x \$ 60.00 PNA samples x \$ 150.00 LUST Pollutants samples x \$ pH Samples x \$ Lab and/or Field Blank samples	is must be for laboratory <u>a</u>	nalysis only. e = \$ sample = \$
1	BTEX samples x \$ 60.00 PNA samples x \$ 150.00 LUST Pollutants samples x \$ pH Samples x \$ Lab and/or Field Blank samples x \$ Flash Point samples x \$	is must be for laboratory and per sample = \$ 60.00 per sample = \$ 150.00 per sample = \$ per sample per sample = \$ per sample per sample = \$ per sample =	nalysis only. e = \$ sample = \$
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1	BTEX samples x \$ 60.00 PNA samples x \$ 150.00 LUST Pollutants samples x \$ pH Samples x \$ Lab and/or Field Blank samples TPH	is must be for laboratory <u>at</u> per sample = \$ 60.00per sample = \$ 150.00 \$per sampleper sample = \$ ples x \$perper sample = \$ samples x \$ 125.00	e = \$ sample = \$
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1 1 4	BTEX samples x \$ 60.00 PNA samples x \$ 150.00 LUST Pollutants samples x \$ pH Samples x \$ Lab and/or Field Blank samples TPH	is must be for laboratory as per sample = \$ 60.00 per sample = \$ 150.00 per sample = \$ per sample per sample = \$ per sample = \$ per sample = \$ per sample = \$ samples x \$ 125.00 samples x \$ sampl	nalysis only. e = \$ sample = \$ Per sample = \$ Per sample = \$

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G. PERSONNEL

be listed per task, not personnel typ	e. The followi	ng are some examples	form must be listed here. Costs must of tasks: Drafting, data collection,	
corrective action budget), sampling	, field oversite	for (i.e.,	vork plan, 45 day report, or high priority drilling/well installation, corrective is not inclusive of all possible tasks.	
Professional Geologist (Title)	: 8.00	hours x \$ 100.33	per hour = \$_802.64	_
Task to be performed for the al	ove hours: La	ndfill permit managen	nent (using previous data-no data/field	work)
Professional Geologist (Title)	: 12.00	hours x \$ 100.33	per hour = \$_1,203.96	_
Task to be performed for the al	pove hours: Sta	artup of corrective act	ions-ph calls, review with contractors,s	taff
Professional Geologist (Title)	: 10.00	_ hours x \$_100.33	per hour = \$ <u>1,003.30</u>	
Task to be performed for the al	bove hours: bac	*fill issues-loss of vo	olume and extra materials needed-see	<u>tex</u> t
Professional Geologist (Title)	:30.00	hours x \$ 100.33	per hour = \$_3,009.90	_
Task to be performed for the al	bove hours: TA	CO analysis, data rev	riew, Csat issue with xylenes detection	
	: 12.00	hours x \$ 70.88	per hour = \$ <u>850.56</u>	_
(Title) Task to be performed for the al	bove hours: <u>TA</u>	.CO analysis: setup o	f data/eqns, variable selection, proofing	
Geologist III (Title)	: 90.00	hours x \$_92.69	per hour = \$ 8,342.10	
Task to be performed for the al	bove hours: <u>CA</u>	CR, TACO results, C	sat issue, backfull issues, etc.	
Senior Professional Geologist (Title)	: _20.00	hours x \$ <u>_119.95</u>	per hour = \$ 2,399.00	
Task to be performed for the a	bove hours: Cli	ent management, TA	CO review, Csat and backfill issues, pla	<u>ınn</u> ing
Geologist III (Title)	:_44.00	hours x \$_92.69	per hour = \$_4,078.36	_
Tack to be performed for the al	hove hours: Pr	eparation of 2007 res	ponse to IEPA request for more data	

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Scientist IV	:10.0	0 hours x \$ <u>81.79</u>	per hour = \$ 817.90
(Title)			
Task to be performed for the ab	ove ho <u>urs:</u>	field work for installation	on of extra soil boring/monitoring well
Geologist III	_: <u>28.0</u>	0 hours x \$ 95.96	per hour = \$2.686.88
(Title)			
Task to be performed for the ab	ove ho <u>urs:</u>	Preparation of budget	amendment
Scientist II	: 30.0	00 hours x \$ 70.88	per hour = \$2,126.40
(Title)			-
Task to be performed for the ab	ove hours:	sealing of monitoring v	vells upon receipt of NFR letter
-			
Geologist III (Title)	:40.0	10 nours x \$ <u>95.96</u>	per nour = \$3,030,40
,		Cros product reporting	annual of 12/07 IEBA data request
Task to be performed for the at	ove ho <u>urs:</u>	Free product reporting	, appeal of 12/07 IEPA data request
Professional Geologist (Title)	: <u>40.0</u>	00 hours x \$ <u>100.33</u>	per hour = \$ <u>4,013.20</u>
Task to be performed for the ab	ove ho <u>urs:</u>	Project management-	reporting/2007 free prod. disc with IEPA
Administrative Assistant IV (Title)	:45.0	00 hours x \$ 43.62	per hour = \$ <u>1.962.90</u>
Task to be performed for the ab	ove hours:	admin management,re	eimbursement, publishing, etc for above
		•	
(Title)	_ :	hours x \$	per hour = \$
The state of the state of			
Task to be performed for the ab	ove no <u>urs;</u>		
	:	hours x \$	per hour = \$
(Title)			
Task to be performed for the ab	ove ho <u>urs:</u>		
	•	hours x \$	per hour = \$
(Title)			
Task to be performed for the ab	oove hours:		
·			
(Title)	:	hours x \$	per hour = \$
	ove hours:		
AL PERSONNEL COSTS:			

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H. EQUIPMENT COSTS

All equipment used must be listed below in a time and materials format. Handling charges should not be added here; use Section J.

Equipment	Own or Rent?	Time Used	Unit Rate	Total Cost/Item
	-			
		Subt	otal Page H-1	

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Equipment	Own or Rent?	Tiı	ne Used	Unit Rate	Total Cost/Item
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				Page H-2	
			Total (Pag	ges H-1 and H-2	2)

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I. FIELD PURCHASES AND OTHER COSTS

All field purchases must be listed below in a time and materials format. Handling charges must not be added here; use Section J, Handling Charges, to calculate the handling charges.

Field Purchases	Quantity	Price/Item	Total Cost	Do Handling Charges Apply?
Disposal of contaminated soil	35.00	\$60.00	\$2,100.00	
Backfill material	150.00	\$31.50	\$4,725.00	
		<u> </u>		
		-		
***				<u> </u>
				<u> </u>
				<u> </u>
				<u> </u>
		<u> </u>		<u> </u>
		<u> </u>		
		Subtotal Pa	age I-l	\$6,825.00

Other Costs - A listing and description of all other costs which will be/were incurred and are not specifically listed on this form should be attached. The listing should include a cost breakdown in a time and materials format.

	1EWA NO. 900014
TOTAL OTHER COSTS = \$	
Sul	ototal Page I-2
Tot	al (Pages I-1 and I-2) \$6,825.00
	- · · · · · · · · · · · · · · · · · · ·

IEM	A No.	980814

J. HANDLING CHARGES

Handling charges are eligible for payment on subcontractor billings and/or field purchases only if they are equal to or less than the amounts determined by the following table:

Subcontractor or Field **Purchase Cost** \$1 - \$5,000 \$5,001 - \$15,000 \$15,001 - \$50,000 \$50,001 - \$100,000 \$100,001 - \$1,000,000 Eligible Handling Charges as a **Percentage of Cost**

12%

\$600 + 10% of amt. Over \$5,000 \$1,600 + 8% of amt. Over \$15,000 \$4,400 + 5% of amt. Over \$50,000 \$6,900 + 2% of amt. Over \$100,000

A. Subcontractor Charges

Subcontractor	Section in these Forms where Cost is Listed	Subcontract Amount
·		-
	····	
<u> </u>		
		
	Subtotal Pag	e J-1:

IEMA No. 980814

Field Purchase	Field I	Field Purchase Amount		
· · · · · · · · · · · · · · · · · · ·				
<u> </u>				
		····		
·		·····		
· -		· · · · · · · · · · · · · · · · · · ·		
· · · · · · · · · · · · · · · · · · ·		· · · · · ·		
<u> </u>				
	Subtotal Page J-2			

Copies of invoices for subcontractor costs and receipts for field purchases are required for billing submissions.

^{*}Use chart at top of Page J-1 to calculate the allowable handling charge.

IEMA No. 98	0814
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K. LOW PRIORITY CORRECTIVE ACTION

Corrective Action at Low Priority Sites consists of groundwater monitoring for three years.

A.	-	ration of the Corrective Action Plan. Attach the appropriate sections of the budget/billing forms to ort the summary of costs.
	1.	Investigation Costs: \$
	2.	Analysis Costs: \$
	3.	Personnel Costs: \$
	4.	Equipment Costs: \$
	5.	Field Purchases and Other Costs: \$
	6.	Handling Charges: \$
В.		ear Sampling and Analytical Costs (Quarterly Monitoring) - Provide a summary of the 1st year below. Attach the appropriate sections of the budget/billing forms to support the summary of
	1.	Analysis Costs: \$
	2.	Personnel Costs: \$
	3.	Equipment Costs: \$
	4.	Field Purchases and Other Costs: \$
	5.	Handling Charges: \$
C.		Year Sampling and Analytical Costs (Semiannual Monitoring) - Provide a summary of the 2nd year below. Attach the appropriate sections of the budget/billing forms to support the summary of
	1.	Analysis Costs: \$
	2.	Personnel Costs: \$
	3.	Equipment Costs: \$
	4.	Field Purchases and Other Costs: \$
	5.	Handling Charges: \$

	Year Sampling and Analytical Costs (Annual Monitoring) - Provide a summary of the 3rd w. Attach the appropriate sections of the budget/billing forms to support the summary of cost
1.	Analysis Costs: \$
2.	Personnel Costs: \$
3.	Equipment Costs: \$
4.	Field Purchases and Other Costs: \$
5.	Handling Charges: \$

IEMA No. 980814

IEMA	No.	980814	
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L. HIGH PRIORITY CORRECTIVE ACTION

Corrective Action at High Priority Sites may involved both soil and groundwater remediation. Provide below a summary of costs for the remediation type(s) chosen and attach the appropriate sections of the budget/billing forms to support the summary of costs.

A.	Pre	paration of the Correction	n Action Plan	
	1.	Investigation Costs: \$		
	2.	Analysis Costs: \$		
	3.	Personnel Costs: \$		
	4.	Equipment Costs: \$		
	5.	Field Purchases and Otl	ner Costs: \$	
	6.	Handling Charges: \$		
В.	Gro	oundwater Remediation		
	1	Analysis Costs: \$		
	2	Personnel Costs: \$		
	3	Equipment Costs: \$	·	
	4	Field Purchases and Otl	her Costs: \$	
	5	Handling Charges: \$	·····	
			se provide a breakdown of applicable, as requested be	the costs associated with operation and slow:
		Mo	nths of O&M x \$	per month = \$
C.	Exc	cavation and Disposai		
	1	Analysis Costs: \$		
	2	Personnel Costs: \$		·
	3	Equipment Costs: \$		
	4	Field Purchases and Ott	her Costs: \$	
	5	Handling Charges: \$		
,			se provide a breakdown of osal as requested below:	the costs associated with excavation,
		Excavation:	yards³ x \$	per yards ³ = \$
		Transportation:	yards³ x \$	per yards ³ = \$
		Disposal:	yards³ x \$	per yards ³ = \$

IEMA No. 980814

D.	Alte	ernate Technology, Type
	1.	Investigation Costs: \$
	2.	Analysis Costs: \$
	3.	Personnel Costs: \$
	4.	Equipment Costs: \$
	5.	Field Purchases and Other Costs: \$
	6.	Handling Charges: \$
		Of the above costs, please provide a breakdown of the following costs, if applicable, as requested below:
		Excavation: yards ³ x \$per yards ³ = \$
		Transportation:yards³ x \$per yards³ = \$
		Treatment:yards³ x \$per yards³ = \$
		Operation and Maintenance (O&M):
		Months of O&M x \$ per month = \$
E.	Bac	kfili Costs
	1.	Personnel Costs: \$
	2.	Equipment Costs: \$
	3.	Field Purchases and Other Costs: \$
	4.	Handling Charges: \$
		Of the above costs, please provide a breakdown of the following costs, if applicable, as requested below:
		Type of Backfill:
		yards ³ x \$per yards ³ = \$
		Type of Backfill:
		yards ³ x \$per yards ³ = \$

IEMA	Nο	980814	
	1745-		

M. JUSTIFICATION FOR BUDGET AMENDMENTS

If this form is being submitted for an amendment, you must submit a narrative justifying the need for the amendment. If the amendment includes a revision in a corrective action proposal, a new proposal must be submitted.

APPENDIX E

Laboratory Reports-Soil Quality



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

November 13, 2009

Mr. Daniel Horvath
RESOURCE CONSULTING, INC.
P.O. Box 123
Geneva, IL 60134

Project ID: West Chicago Park District First Environmental File ID: 9-4725 Date Received: November 06, 2009

Dear Mr. Daniel Horvath:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002205: effective 02/06/09 through 02/28/10.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200 or stan@firstenv.com.

Sincerely,

Stan Zaworski Project Manager



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Project ID: West Chicago Park District

First Environmental File ID: 9-4725

Date Received: November 06, 2009

Flag	Description .	Flag	Leave the Control of
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
В	Analyte detected in associated method blank.	L	LCS recovery outside control limits; low bias.
С	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
	The state of the s	ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	Т	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	w	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

Method Comments				
Lab Number	Sample ID	Comments:		
9-4725-001	EW-1	Polynuclear Aromatic Hydrocarbons The reporting limits are elevated due to matrix interference.		
9-4725-001	EW-1	BTEX Organic Compounds The reporting limits are elevated due to matrix interference.		
9-4725-002	EW-2	BTEX Organic Compounds The reporting limits are elevated due to matrix interference.		



First 邑 Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected:

11/05/09

Project ID:

West Chicago Park District

Time Collected: 14:40

Sample ID:

EW-1

Date Received:

11/06/09

Sample No:

9-4725-001

Date Reported: 11/13/09

Results are reported on a dry weight basis.

Flags R.L. Units Result Analyte Method: 2540B Solids, Total Analysis Date: 11/09/09 % 88.70 **Total Solids** Method: 5035A/8260B **BTEX Organic Compounds** Analysis Date: 11/09/09 5.0 ug/kg 297 Benzene 77.600 5.0 ug/kg Ethylbenzene < 5,000 5.0 ug/kg Toluene

Xylene, Total			333,000	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 11/11/09	Method: 8270C		Preparation Method 3540C Preparation Date: 11/09/09 540 50 ug/kg 191 50 ug/kg			
Acenaphthene			540	50	ug/kg	
Acenaphthylene			191	50	ug/kg	
Anthracene		<	50	50	ug/kg	
Benzo(a)anthracene			33.7	8.7	ug/kg	
Benzo(a)pyrene		<	150	15	ug/kg	
Benzo(b)fluoranthene		<	110	11	ug/kg	
Benzo(k)fluoranthene		<	110	11	ug/kg	
Benzo(ghi)perylene		<	50	50	ug/kg	
Chrysene		<	50	50	ug/kg	
Dibenzo(a,h)anthracene		<	200	20	ug/kg	
Fluoranthene			60	50	ug/kg	
Fluorene			435	50	ug/kg	
Indeno(1,2,3-cd)pyrene		<	29	29	ug/kg	
Naphthalene			160,000	25	ug/kg	
Phenanthrene			551	50	ug/kg	
Pyrene			120	50	ug/kg	



First Environmental Laboratories, Inc.

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Analytical Report

Client:

RESOURCE CONSULTING, INC.

Project ID:

West Chicago Park District

Sample ID:

EW-2

Sample No:

9-4725-002

Time Collected: 14:43

Date Collected: 11/05/09

Date Received: 11/06/09

Date Reported: 11/13/09

Results are reported on a dry weight basis	·	T) 14		Units	Flags
Analyte		Result	R.L.	Units	riags
Solids, Total Analysis Date: 11/09/09	Method: 2540B				
Total Solids		90.28		%	
BTEX Organic Compounds Analysis Date: 11/09/09	Method: 5035A	/8260B			
Benzene		27.9	5.0	ug/kg	
Ethylbenzene		3,690	5.0	ug/kg	
Toluene		< 500	5.0	ug/kg	
Xylene, Total		13,000	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 11/11/09	Method: 8270C		Preparation Method 3540C Preparation Date: 11/09/09		
Acenaphthene		145	50	ug/kg	
Acenaphthylene		59	50	ug/kg	
Anthracene		< 50	50	ug/kg	
Benzo(a)anthracene		< 8.7	8.7	ug/kg	
Benzo(a)pyrene		< 15	15	ug/kg	
Benzo(b)fluoranthene		< 11	11	ug/kg	
Benzo(k)fluoranthene		< 11	11	ug/kg	
Benzo(ghi)perylene		< 50	50	ug/kg	
Chrysene		< 50	50	ug/kg	
Dibenzo(a,h)anthracene		< 20	20	ug/kg	
Fluoranthene		< 50	50	ug/kg	
Fluorene		126	50	ug/kg	
Indeno(1,2,3-cd)pyrene		< 29	29	ug/kg	
Naphthalene		2,710	25	ug/kg	
Phenanthrene		180	50	ug/kg	
Pyrene		< 50	50	ug/kg	



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Analytical Report

Client:

RESOURCE CONSULTING, INC.

Project ID:

West Chicago Park District

Sample ID:

SW-1

Sample No:

9-4725-003

Date Collected: 11/05/09

Time Collected: 14:50

Date Received:

11/06/09

Date Reported: 11/13/09

Results are reported on a dry weight basis	3 .				
Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 11/09/09	Method: 2540B				
Total Solids		94.46		%	
BTEX Organic Compounds Analysis Date: 11/09/09	Method: 5035A/	8260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		23.4	5.0	ug/kg	
Toluene		< 5.0	5.0	ug/kg	
Xylene, Total		90.3	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 11/11/09	Method: 8270C		Preparation Method 3540C Preparation Date: 11/09/09		
Acenaphthene		< 50	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene		< 50	50	ug/kg	
Benzo(a)anthracene		< 8.7	8.7	ug/kg	
Benzo(a)pyrene		< 15	15	ug/kg	
Benzo(b)fluoranthene		< 11	11	ug/kg	
Benzo(k)fluoranthene		< 11	11	ug/kg	
Benzo(ghi)perylene		< 50	50	ug/kg	
Chrysene		< 50	50	ug/kg	
Dibenzo(a,h)anthracene		< 20	20	ug/kg	
Fluoranthene		< 50	50	ug/kg	
Fluorene		< 50	50	ug/kg	
Indeno(1,2,3-cd)pyrene		< 29	29	ug/kg	
Naphthalene		< 25	25	ug/kg	
Phenanthrene		< 50	50	ug/kg	
Pyrene		< 50	50	ug/kg	



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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Analytical Report

Client:

RESOURCE CONSULTING, INC.

Project ID:

West Chicago Park District

Sample ID:

SW-2

Sample No:

9-4725-004

Time Collected: 14:55

Date Collected: 11/05/09

Date Received:

11/06/09

Date Reported: 11/13/09

orted on a dry weight hasis

Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 11/09/09	Method: 2540B			• • •	
Total Solids		93.46		%%	. <u>. </u>
BTEX Organic Compounds Analysis Date: 11/09/09	Method: 5035A/8	3260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		< 5.0	5.0	ug/kg	
Toluene		< 5.0	5.0	ug/kg	
Xylene, Total		< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 11/10/09	Method: 8270C		Preparation Method 3540C Preparation Date: 11/09/09		
Acenaphthene		< 50	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene		< 50	50	ug/kg	
D(-)thunsons		< 87	87	μσ/κσ	

Analysis Date: 11/10/09	Preparation Date: 11/09/09				
Acenaphthene	< 50	50	ug/kg		
Acenaphthylene	< 50	50	ug/kg		
Anthracene	< 50	50	ug/kg		
Benzo(a)anthracene	< 8.7	8.7	ug/kg		
Benzo(a)pyrene	< 15	15	ug/kg		
Benzo(b)fluoranthene	< 11	11	ug/kg		
Benzo(k)fluoranthene	< 11	11	ug/kg		
Benzo(ghi)perylene	< 50	50	ug/kg		
Chrysene	< 50	50	ug/kg		
Dibenzo(a,h)anthracene	< 20	20	ug/kg		
Fluoranthene	< 50	50	ug/kg		
Fluorene	< 50	50	ug/kg		
Indeno(1,2,3-cd)pyrene	< 29	29	ug/kg		
Naphthalene	< 25	25	ug/kg		
Phenanthrene	< 50	50	ug/kg		
Pyrene	< 50	50	ug/kg		



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Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected: 11/05/09

Project ID:

West Chicago Park District

Time Collected: 14:59

Sample ID:

WW-1

Date Received:

11/06/09

Sample No:

9-4725-005

Date Reported: 11/13/09

ated on a dry weight hasis

Results are reported on a dry weight basis	· · · · · · · · · · · · · · · · · · ·	D14	R.L.	Units	Flags	
Analyte		Result	R.L.	Units	r iaga	
Solids, Total Analysis Date: 11/09/09	Method: 2540B					
Total Solids		94.71		%		
BTEX Organic Compounds Analysis Date: 11/09/09	Method: 5035A/	8260B				
Benzene		< 5.0	5.0	ug/kg		
Ethylbenzene		19.9	5.0	ug/kg		
Toluene		6.6	5.0	ug/kg		
Xylene, Total		75.8	5.0	ug/kg		
Polynuclear Aromatic Hydrocarbons Analysis Date: 11/11/09	Method: 8270C		Preparation Method 3540C Preparation Date: 11/09/09			
Acenaphthene		< 50	50	ug/kg		
Acenaphthylene		< 50	50	ug/kg		
Anthracene		< 50	50	ug/kg		
Benzo(a)anthracene		< 8.7	8.7	ug/kg		
Benzo(a)pyrene		< 15	15	ug/kg		
Benzo(b)fluoranthene		< 11	11	ug/kg		
Benzo(k)fluoranthene		< 11	11	ug/kg		
Benzo(ghi)perylene		< 50	50	ug/kg		
Chrysene		< 50	50	ug/kg		
Dibenzo(a,h)anthracene		< 20	20	ug/kg		
Fluoranthene		< 50	50	ug/kg		
Fluorene		< 50	50	ug/kg		
Indeno(1,2,3-cd)pyrene		< 29	29	ug/kg		
Naphthalene		< 25	25	ug/kg		
Phenanthrene		< 50	50	ug/kg		
Pyrene		< 50	50	ug/kg		



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Analytical Report

Client:

RESOURCE CONSULTING, INC.

West Chicago Park District

Project ID: Sample ID:

WW-2

Sample No:

9-4725-006

Time Collected: 15:02

Date Collected: 11/05/09

Date Received:

Date Reported:

11/06/09 11/13/09

Results are reported on a dry weight basis Analyte	<u> </u>	Result	R.L.	Units	Flags
Solids, Total	Method: 2540B		· · · · · · · · · · · · · · · · · · ·		
Analysis Date: 11/09/09	Michou. 2540D				
Total Solids		94.47		%	
	Method: 5035A/	8260B			
BTEX Organic Compounds Analysis Date: 11/09/09	Method: 5055A	32002			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		69.7	5.0	ug/kg	
Toluene		< 5.0	5.0	ug/kg	
Xylene, Total		269	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 11/10/09	Method: 8270C		Preparation Method 3540C Preparation Date: 11/09/09		
Acenaphthene		< 50	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene		< 50	50	ug/kg	
Benzo(a)anthracene		< 8.7	8.7	ug/kg	
Benzo(a)pyrene		< 15	15	ug/kg	
Benzo(b)fluoranthene		< 11	11	ug/kg	
Benzo(k)fluoranthene		< 11	11	ug/kg	
Benzo(ghi)perylene		< 50	50	ug/kg	
Chrysene		< 50	50	ug/kg	
Dibenzo(a,h)anthracene		< 20	20	ug/kg	
Fluoranthene		< 50	50	ug/kg	
Fluorene		< 50	50	ug/kg	
Indeno(1,2,3-cd)pyrene		< 29	29	ug/kg	
Naphthalene		48	25	ug/kg	
Phenanthrene		< 50	50	ug/kg	
Pyrene		< 50	50	ug/kg	



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Analytical Report

RESOURCE CONSULTING, INC. Client:

Date Collected: 11/05/09

Project ID:

West Chicago Park District

Time Collected: 15:15

Sample ID:

. NW-1

Date Received: 11/06/09

9-4725-007 Sample No:

Date Reported: 11/13/09

Analyte		Result	R.L.	Units	Flags
	M-41-J. 2540D				
Solids, Total Analysis Date: 11/09/09	Method: 2540B				
Total Solids		83.05		%	
BTEX Organic Compounds Analysis Date: 11/09/09	Method: 5035A/8				
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		25.8	5.0	ug/kg	
Toluene		7.9	5.0	ug/kg	
Xylene, Total		83.5	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 11/11/09	Method: 8270C		Preparation Method 3540C Preparation Date: 11/09/09		
Acenaphthene		< 50	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene		< 50	50	ug/kg	
Benzo(a)anthracene		< 8.7	8.7	ug/kg	
Benzo(a)pyrene		< 15	15	ug/kg	
Benzo(b)fluoranthene		< 11	. 11	ug/kg	
Benzo(k)fluoranthene		< 11	11	ug/kg	
Benzo(ghi)perylene		< 50	50	ug/kg	
Chrysene		< 50	50	ug/kg	
Dibenzo(a,h)anthracene		< 20	. 20	ug/kg	
Fluoranthene		< 50	50	ug/kg	
Fluorene		< 50	50	ug/kg	
Indeno(1,2,3-cd)pyrene		< 29	29	ug/kg	
Naphthalene		< 25	25	ug/kg	
Phenanthrene		< 50	50	ug/kg	
Pyrene		< 50	50	ug/kg	



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Analytical Report

RESOURCE CONSULTING, INC. Client:

Date Collected: 11/05/09

Project ID:

West Chicago Park District

Time Collected: 15:20

Sample ID:

11/06/09 Date Received:

NW-2

9-4725-008 Sample No:

Date Reported: 11/13/09

Results are reported on a dry weight basis	-	Result	R.L.	Units	Flag
Analyte	<u> </u>	Nesun	IV.L.	Units	1.196
Solids, Total	Method: 2540B				
Analysis Date: 11/09/09		05.56		0/	
Total Solids	<u> </u>	85.76		%	
BTEX Organic Compounds Analysis Date: 11/09/09	Method: 5035A/8	260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		27.7	5.0	ug/kg	
Foluene Foluene		< 5.0	5.0	ug/kg	
Xylene, Totał		< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 11/10/09	Method: 8270C		Preparation Method 3540C Preparation Date: 11/09/09		
Acenaphthene		< 50	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene		< 50	50	ug/kg	
Benzo(a)anthracene		< 8.7	8.7	ug/kg	
Benzo(a)pyrene		< 15	15	ug/kg	
Benzo(b)fluoranthene		< 11	11	ug/kg	
Benzo(k)fluoranthene		< 11	11	ug/kg	
Benzo(ghi)perylene		< 50	50	ug/kg	
Chrysene		< 50	50	ug/kg	
Dibenzo(a,h)anthracene		< 20	20	ug/kg	
Fluoranthene		< 50	50	ug/kg	
Fluorene		< 50	50	ug/kg	
ndeno(1,2,3-cd)pyrene		< 29	29	ug/kg	
Vaphthalene		91	25	ug/kg	
Phenanthrene		< 50	50	ug/kg	
Pyrene		< 50	50	ug/kg	



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected: 11/05/09

Project ID:

West Chicago Park District

Time Collected: 14:30

Sample ID:

BF-1

Date Received:

11/06/09

Sample No:

9-4725-009

Date Reported: 11/13/09

Results are reported on a dry weight basis		sult	R.L.	Units	Flags
Analyte	K		R.L.	Units	I. 1982
Solids, Total Analysis Date: 11/09/09	Method: 2540B				
Total Solids	9:	2.13		%	
BTEX Organic Compounds Analysis Date: 11/09/09	Method: 5035A/82601	В			
Benzene	< 5	.0	5.0	ug/kg	
Ethylbenzene	7	.5	5.0	ug/kg	
Toluene	< 5	.0	5.0	ug/kg	
Xylene, Total	2	7.1	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 11/11/09	Method: 8270C	-	Preparation Method 3540C Preparation Date: 11/09/09		
Acenaphthene	< 5	0	50	ug/kg	
Acenaphthylene	< 5	0	50	ug/kg	
Anthracene	< 5	0	50	ug/kg	
Benzo(a)anthracene	< 8	.7	8.7	ug/kg	
Benzo(a)pyrene	< 1	5	15	ug/kg	
Benzo(b)fluoranthene	1	6	11	ug/kg	
Benzo(k)fluoranthene	1	8	11	ug/kg	
Benzo(ghi)perylene	< 5	0	50	ug/kg	
Chrysene	< 5	0	50	ug/kg	
Dibenzo(a,h)anthracene	< 2	0	20	ug/kg	
Fluoranthene	< 5	0	50	ug/kg	
Fluorene	< 5	0	50	ug/kg	
Indeno(1,2,3-cd)pyrene	< 2	9	29	ug/kg	
Naphthalene	6	8	25	ug/kg	
Phenanthrene	< 5	0	50	ug/kg	
Pyrene	< 5	0	50	ug/kg	



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client: Project ID: RESOURCE CONSULTING, INC.

West Chicago Park District

Sample ID:

BF-2

0.4725.010

Date Collected: 11/05/09

Time Collected: 14:30

11/06/09 Date Received:

11/13/09 Date Reported:

Sample No: 9-4725-010			Date 1	ceporteu: 1	1/13/09
Results are reported on a dry weight basis	3.				251
Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 11/09/09	Method: 2540B				
Total Solids		90.87		%	
BTEX Organic Compounds Analysis Date: 11/09/09	Method: 5035A/8	260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		50.4	5.0	ug/kg	
Toluene		< 5.0	5.0	ug/kg	
Xylene, Total		190	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 11/11/09	Method: 8270C	-	Preparation Method 3540C Preparation Date: 11/09/09		
Acenaphthene		< 50	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene		< 50	50	ug/kg	
Benzo(a)anthracene		9.6	8.7	ug/kg	
Benzo(a)nyrene		< 15	15	ug/kg	

Analysis Date: 11/11/09	•	ropulation 2	200012,05.05	
Acenaphthene	< 50	50	ug/kg	
Acenaphthylene	< 50	50	ug/kg	
Anthracene	< 50	50	ug/kg	
Benzo(a)anthracene	9.6	8.7	ug/kg	
Benzo(a)pyrene	< 15	15	ug/kg	
Benzo(b)fluoranthene	22	11	ug/kg	
Benzo(k)fluoranthene	26	11	ug/kg	
Benzo(ghi)perylene	< 50	50	ug/kg	
Chrysene	< 50	50	ug/kg	
Dibenzo(a,h)anthracene	< 20	20	ug/kg	
Fluoranthene	< 50	50	ug/kg	
Fluorene	< 50	50	ug/kg	
Indeno(1,2,3-cd)pyrene	< 29	29	ug/kg	
Naphthalene	51	25	ug/kg	
Phenanthrene	< 50	50	ug/kg	
Pyrene	< 50	50	ug/kg	
-				



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

RESOURCE CONSULTING, INC. Client:

West Chicago Park District Project ID:

BF-3 Sample ID:

9-4725-011 Sample No:

Date Collected: 11/05/09

Time Collected: 14:30 11/06/09 Date Received:

11/13/09 Date Reported:

Results are reported on a dry weight basis					· · · · · · · · · · · · · · · · · · ·	
Analyte		Result	R.L.	Units	Flags	
Solids, Total Analysis Date: 11/09/09	Method: 2540B					
Total Solids		91.77		%		
BTEX Organic Compounds Analysis Date: 11/09/09	Method: 5035A/8	3260B				
Benzene		< 5.0	5.0	ug/kg		
Ethylbenzene		38.1	5.0	ug/kg		
Toluene		< 5.0	5.0	ug/kg		
Xylene, Total		127	5.0	ug/kg		
Polynuclear Aromatic Hydrocarbons Analysis Date: 11/11/09	Method: 8270C		Preparation Method 3540C Preparation Date: 11/09/09			
Acenaphthene		< 50	50	ug/kg		
Acenaphthylene		< 50	50	ug/kg		
Anthracene		< 50	50	ug/kg		
Benzo(a)anthracene		12.7	8.7	ug/kg		
Benzo(a)pyrene		18	15	ug/kg		
Benzo(b)fluoranthene		29	· 11	ug/kg		
Benzo(k)fluoranthene	•	32	11	ug/kg		
Benzo(ghi)perylene		< 50	50	ug/kg		
Chrysene		< 50	50	ug/kg		
Dibenzo(a,h)anthracene		< 20	20	ug/kg		
Fluoranthene		< 50	50	ug/kg		
Fluorene		< 50	50	ug/kg		
Indeno(1,2,3-cd)pyrene		< 29	29	ug/kg		
Naphthalene		42	25	ug/kg		
Phenanthrene		< 50	50	ug/kg		
Pyrene		< 50	50	ug/kg		

	First Environmental Laboratories, Inc.
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First Environmental Laboratories

CHAIN OF CUSTODY RECORD

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Resource Consulting Inc.

1600 Shore Road, Suit Naperville, Illinois 605			<u>City</u>		ene						·	State: /L	Zip: 60134
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E-mail: firstinfo@first	env.com		Sen	d Repo	rt To:	Mn	Hoda	2A. /	Rijan	Bu	Z Via: Fa		e-mail
IEPA Certification #10	00292		San	pled B	<u>y:</u> B	rendi	Ta	laga					
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Date/Time Taken	Sample Description	Matrix						ĺ	ĺ	ſ	Con	nments	Lab I.D.
11/5/09 2:40	EW-I	5	X	X									9-4725-001
11/5/09 2:43	EW-Z	5	X	X								· · · · ·	051
11/5/09 2:507	SW-I	5	X	X									003
11/5/09 2:550	SW-2		X	X		_				l			604
11/5/09 2:59	WW-I	7	X	X	<u> </u>								065
n(5/09 3:02,	WW-2	5	X	X	<u> </u>								006
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11 5/09 2:300	BF-3	2	X	X									011
FOR LAB USE ONLY:			!	<u> </u>	<u> </u>	<u> </u>		L		<u> </u>	<u></u>		
Cooler Temperature: 0. Received within a hrs. o loe Present: Yes. No	1-6°C Yes No°C of collection: collection:	Sample Refrig Refrigerator Te 5035 Vials Fro Freezer Temps	empera zen: Y	ture: es N	ºC lo	;		s Receiv			Yes [] No	
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Relinquished By: MANOL JAGOA Relinquished By:

Date/Time 11/4/07 Date/Time

Received By:

Date/Time 11/6/04 11:05 A. 7 Date/Time

Rev. 9/08



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

December 11, 2009

Mr. Brian Beetz
RESOURCE CONSULTING, INC.

P.O. Box 123

Geneva, IL 60134

Project ID: WCPD

First Environmental File ID: 9-5143 Date Received: December 04, 2009

Dear Mr. Brian Beetz:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002205: effective 02/06/09 through 02/28/10.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200 or stan@firstenv.com.

Sincerely,

Stan Zaworski Project Manager



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Project ID:

WCPD

First Environmental File ID: 9-5143

Date Received:

December 04, 2009

Flag	The State of the Control of the Cont	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
В	Analyte detected in associated method blank.	L	LCS recovery outside control limits; low bias.
С	Identification confirmed by GC/MS.	М	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
. f		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
Н	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
 I	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	. w	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

Method Comments

Lab Number

Sample ID

Comments:

9-5143-001

RW-4A (4'-6')

BTEX Organic Compounds

The reporting limits are elevated due to matrix interference.



First 冒 Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

RESOURCE CONSULTING, INC. Client:

WCPD Project ID: RW-4A (4'-6') Sample ID:

Sample No: 9-5143-001 Date Collected: 11/25/09

Time Collected: 10:00 12/04/09 Date Received:

Date Reported: 12/11/09

Results are reported on a dry weight basis Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 12/07/09	Method: 2540B	· · ·	-		_
Total Solids		89.31		%	
BTEX Organic Compounds Analysis Date: 12/08/09	Method: 5035A/	8260B			
Benzene		490	5.0	ug/kg	
Ethylbenzene		3,070	5.0	ug/kg	
Toluene		< 500	5.0	ug/kg	
Xylene, Total		9,240	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 12/09/09	Method: 8270C		Preparation Preparation	Method 354 Date: 12/07/09	10C
Acenaphthene		< 50	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene		< 50	50	ug/kg	
Benzo(a)anthracene		48.5	8.7	ug/kg	
Benzo(a)pyrene		58	15	ug/kg	
Benzo(b)fluoranthene		65	11	ug/kg	
Benzo(k)fluoranthene		44	11	ug/kg	
Benzo(ghi)perylene		< 50	50	ug/kg	
Chrysene		52	50	ug/kg	
Dibenzo(a,h)anthracene		< 20	20	ug/kg	•
Fluoranthene		91	50	ug/kg	
Fluorene		< 50	50	ug/kg	
Indeno(1,2,3-cd)pyrene		39	29	ug/kg	
Naphthalene		87	25	ug/kg	
Phenanthrene		< 50	50	ug/kg	
Pyrene		79	50	ug/kg	



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected: 11/25/09

Project ID:

WCPD

Time Collected: 11:15

Sample ID:

Date Received:

12/04/09

Sample No:

RW-16 (8'-9') 9-5143-002

Date Reported: 12/11/09

Results are reported on a dry weight basis Analyte	<u> </u>	Result	R.L.	Units	Flags
Solids, Total Analysis Date: 12/07/09	Method: 2540B				
Total Solids		84.71		%	
BTEX Organic Compounds Analysis Date: 12/07/09	Method: 5035A/	8260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		< 5.0	5.0	ug/kg	
Toluene		< 5.0	5.0	ug/kg	
Xylene, Total		< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 12/09/09	Method: 8270C		Preparation Preparation	Method 354 Date: 12/07/09	10C
Acenaphthene		< 50	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene		< 50	50	ug/kg	
Benzo(a)anthracene		60.3	8.7	ug/kg	
Benzo(a)pyrene		56	15	ug/kg	
Benzo(b)fluoranthene		68	11	ug/kg	
Benzo(k)fluoranthene		40	11	ug/kg	
Benzo(ghi)perylene		< 50	50	ug/kg	
Chrysene		56	50	ug/kg	
Dibenzo(a,h)anthracene		< 20	20	ug/kg	
Fluoranthene		92	50	ug/kg	
Fluorene		< 50	50	ug/kg	
Indeno(1,2,3-cd)pyrene		32	29	ug/kg	
Naphthalene		< 25	25	ug/kg	
Phenanthrene		< 50	50	ug/kg	
Pyrene		70	50	ug/kg	

First
Environmental
 Laboratories, Inc.

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CHAIN OF CUSTODY RECORD

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Labo	ratories, Inc.			Com	pany Na	ame;	2	? S o -	rce	Con	ر الاد	49	Inc.			
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00 Shore Road, Suite				City:		Ger	neva						State:	エー	Zip: 60	174
aperville, Illinois 605							-		ax: 6	30 -232	2-987	24	•			.,
ione: (030) 7/8-1200 mail: firstinfo@firste	• Fax: (630) 778-1233 env.com				Report								Fax		e-mail	
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IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

March 01, 2012

Mr. Daniel Horvath

RESOURCE CONSULTING, INC.

P.O. Box 123

Geneva, IL 60134

Project ID: 98-1002 WCPD

First Environmental File ID: 12-0858 Date Received: February 23, 2012

Evrie Frankle

Dear Mr. Daniel Horvath:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002687: effective 03/01/2011 through 02/28/2012.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Lorrie Franklin

Project Manager



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Project ID:

98-1002 WCPD

First Environmental File ID: 12-0858
Date Received: February 23, 2012

Flag	Description 35 Av.	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
В	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
С	Identification confirmed by GC/MS.	М	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
Н	Analysis or extraction holding time exceeded.	į Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	w	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Time of sample collection was not provided.



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client: RESOURCE CONSULTING, INC.

Date Collected: 02/21/12

Project ID:

98-1002 WCPD

Time Collected:

Sample ID:

WCPD-1

Date Received: 02/23/12

Sample No: 12-0858-001

Date Reported: 03/01/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total Analysis Date: 02/24/12	Method: 2540B	-	•	
Total Solids	77.35		%	
BTEX Organic Compounds Analysis Date: 02/29/12	Method: 5035A/8260B			
Benzene	< 5.0	5.0	ug/kg	
Ethylbenzene	< 5.0	5.0	ug/kg	
Toluene	< 5.0	5.0	ug/kg	
Xylene, Total	< 5.0	5.0	ug/kg	



First Environmental Laboratories

1600 Shore Road, Suite D Naperville, Illinois 60563

Phone: (630) 778-1200 • Fax: (630) 778-1233

24 Hr. Pager (708) 569-7507 E-mail: info@firstenv.com IEPA Certification# 100292

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State: し	Zip: (00134
Pax: 630 232 9124	
_	Brane: 1L Plan: 630 232 9824

Matrix Codes: S:	- - Soil W = Water O = Other												,
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FOR LAB USE ONLY: Cocler Temperature: 0. Received within 6 hrs. Ice Present: Yes No	of collection:	Sample Refrig Refrigerator T 5035 Vials Fro Freezer Temp	emperat ezen: Ye	ture: s No	°°	C P	ontainer reserved			eserved:			
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First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

March 13, 2012

Mr. Brian Beetz
RESOURCE CONSULTING, INC.

P.O. Box 123 Geneva, IL 60134

Project ID: WCPD

First Environmental File ID: 12-1035 Date Received: March 07, 2012

Dear Mr. Brian Beetz:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002687: effective 03/01/2011 through 02/28/2012.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Stan Zaworski Project Manager



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Project ID:

WCPD

First Environmental File ID: 12-1035

Date Received:

March 07, 2012

Hlag	Description Action in the second	Flag	Description 2.2
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
В	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
С	Identification confirmed by GC/MS.	М	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
Е	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
Н	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
j	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	w	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

RESOURCE CONSULTING, INC. Client:

Date Collected: 03/07/12

Project ID:

Time Collected: 13:00

Sample ID:

WCPD EW-1A

Date Received:

03/07/12

Sample No:

12-1035-001

Date Reported: 03/13/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/07/12	Method: 2540B			
Total Solids	80.98		%	
BTEX Organic Compounds Analysis Date: 03/12/12	Method: 5035A/8260B			·
Benzene	< 5.0	5.0	ug/kg	
Ethylbenzene	< 5.0	5.0	ug/kg	
Toluene	< 5.0	5.0	ug/kg	
Xylene, Total	< 5.0	5.0	ug/kg	

	First Environmental
-	Laboratories, Inc.

First Environmental Laboratories

Rev. 9/08

CHAIN OF CUSTODY RECORD

Page ___ of ___ pgs

Labo	ratories, Inc.			Com	рапу Ма	ıme:		Res	M (C)	e C	مدي	Iting	, I.C.				
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600 Shore Road, Suit	City:	_6	ene	da.						State:	IC	Zip: 💪	20134				
aperville, Illinois 605				Phon	e: U	40-	232 -	982°F	ax: 6	30-2	32-9	824	e-mail:				
none: (630) 778-1200 -mail: firstinfo@first	• Fax: (630) 778-1233			Phone: 430-132-981 Fax: 630-282-9814 e-mail: Send Report To: Dan / Broan Via: Fax e-mail													
EPA Certification #10				Sampled By: Brian Beetz										_			
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FOR LAB USE ONLY:							_		_			A					
Cooler Temperature: 0 Received within 6 hps:	.1-69C YesNo of collection:	°C Sai	mple Refriç frigerator T				; ;	ontaine	rs Hece	ived Pr	eservea	Yes Yes	□No				
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APPENDIX F

Soil Boring Logs/Monitoring Well Completion Reports

RESOURCE CONSULTING, INC.		Boring Number: RW-4A		Page: 1 of 1						
	Site Name: West Chicago Park District/ Address: Reed-Keppler Park 250 West National Street West Chicago, Illinois			Boring Location: 6' West of RW-4		Start Date: 11/25/09 Finish Date: 11/25/09				
Sample Number	Sample Device	Sample Recovery	Lithology Symbol	Depth (feet)	Detaile	Detailed Soil Descriptions			OVA/PID/FID/OVM	Remarks
				o	Asphalt and gravel					
1	<i>GP</i>	49*		2-					0.0	
	,	~~	sc	4-		rown, appears disturbed to 4', and petroleum odors 4'-6'			0.0	BTEX/PNAs 8-9'
				6 —						
	20			8—	Silty sand; light bro	wn, saturated			180	
2	G₽	55*	SM	10-						
			CL	12-	Silty clay; gray, very				-	
3	GP .	54"		14—	low plasticity, mode					
				16 —	EIIC	of Boring	<u> </u>	<u> </u>		
				18—						
į				20 <u> </u>						
No	ote: St	ratifica	tion li	nes are ap	pproximate; in-situ	transition between soil types may	be grad	ual.		
	Groundwater Depth While Drilling: 6.5' Groundwater Depth After Drilling: 6.5' Auger Depth: 15' Drilling Rig: Combo Logged By: BCB									

RESOURCE CONSULTING, INC.			Boring Number: RW-16A	Page: 1 of 1						
Site Name: West Chicago Park District/ Address: Reed-Keppler Park 250 West National Street West Chicago, Illinois			Boring Location: Center of Excavation	Start Date: 11/25/09 Finish Date: 11/25/09						
Sample Number	Sample Device	Sample Recovery	Lithology Symbol	Depth (feet)	Detailed	Detailed Soil Descriptions			OVA/PID/FID/OVM	Remarks
1	GP	51"	NA	0— 2— 4— 6—	Gravel fill				0.0	
2	GP	53*	SM	8— 10—	Silty sand; brown / ta			<i>2.9 5.1</i>	BTEX/PNAs 8-9'	
3	<i>GP</i>	48*	CL	12 — 14 — 16 —	Silty clay; gray, very low to medium plast		•		0.0	
		9 1 9 2		20 — 						
No	te: Str	atifica	tion lin	es are ap	proximate; in-situ t	ransition between soil types may	be grad	ual.		
	Groundwater Depth While Drilling: 6.5' Groundwater Depth After Drilling: 6.5' Auger Depth: 14' Drilling Rig: Combo Logged By: BCB									



Disclosure of this information is required. Failure to do so may result in a civil penalty up to ent up to five years. This form has been approved by the Forms Management Center.

Illinois Environmental Protection Agency

LUST Well Completion Report

Incident No.: 980814

Site Name: West Chicago Park District

Drilling Contractor: Drilling Unlimited

Driller:

Drilling Method: Auger

Well No.: RW-16A

Date Drilled Start: 11/25/09

Date Completed: 11/25/09

Geologist: BCB

Drilling Fluids (Type): water

Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Bentonite & concrete

Type of Bentonite Seal (Granular, Pellet): chips

Type of Sand Pack: 10/20 sieve analysis

Elevations - .01 ft.

100.10 Top of Protective Casing

99.80 Top of Riser Pipe

100.00 Ground Surface

99.50 Top of Annular sealant

Casing Stickup

Well Construction Materials

	Stainless Steel Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint			NA
Riser pipe above w.t.		sch. 40	
Riser Pipe below w.t.		-	NA
Screen		sch. 40	
Coupling joint screen to riser			threads
Protective casing			gal. steel

98.00 Top of Seal

1.00 Total Seal Interval

97.00 Top of Sand

96.00 Top of Screen

Measurements

to .01 ft (where applicable)

5.00				
10.00				
10.00				
6.50				
93.50				
5.00				
5.00				

86.50 Bottom of Screen

86.00 Bottom of Borehole

10.00 Total Screen Interval

Completed by: BJT

The Agency is authorized to require this information under 415 ILCS 5/4 and 21. Disclosure of this in \$25,000.00 for each day failure continues, a fine up to \$50,000.00 and imprisonment up to five years.



nformation is required. Failure to do so may result in a civil penalty up to This form has been approved by the Forms Management Center.

The Agency is authorized to require this information under 415 ILCS 5/4 and 21. Disclosure of this information is required. \$25,000.00 for each day failure continues, a fine up to \$50,000.00 and imprisonment up to five years. This form has been app

Illinois Environmental Protection Agency

LUST Well Completion Report

Incident No.: 980814

Site Name: West Chicago Park District

Drilling Contractor: Drilling Unlimited

Driller:

Drilling Method: Auger

Well No.: RW-4A

Date Drilled Start: 11/25/09

Date Completed: __11/25/09_

Geologist: BCB

Drilling Fluids (Type): water

Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Bentonite & concrete

Type of Bentonite Seal (Granular, Pellet): chips

Type of Sand Pack: 10/20 sieve analysis

Elevations - .01 ft.

100.10 Top of Protective Casing

99.80 Top of Riser Pipe

100.00 Ground Surface

99.50 Top of Annular sealant

Casing Stickup

Well Construction Materials

	Stainless Steel Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint	<u> </u>		NA
Riser pipe above w.t.		sch. 40	
Riser Pipe below w.t.	-	-	NA
Screen		sch. 40	
Coupling joint screen to riser	1		threads
Protective casing			gal. steel

98.00 Top of Seal

1.00 Total Seal Interval

97.00 Top of Sand

95.00 Top of Screen

Measurements

to .01 ft (where applicable)

Riser Pipe Length	5.00		
Screen Length	10.00		
Screen Slot Size	10.00		
Protective casing length			
Depth to water	6.50		
Elevation of water	93.50		
Free Product thickness			
Gallons removed (develop)	5.00		
Gallons removed (purge)	5.00		
Other			

10.00 Total Screen Interval

85.50 Bottom of Screen 85.00 Bottom of Borehole

Completed by: BJT

Electronic Filing: Received, Clerk's Office 09/20/2024 **RESOURCE CONSULTING, INC.**

APPENDIX G

Exposure Route Evaluation

A. Discussion of Regulatory Requirements

As allowed under 35 III. Adm. Code Section 742.800(a), the following information is provided to evaluate the current aquifer conditions in accordance with 35 III. Adm. Code Part 742 Subpart C that will allow no further remediation to be necessary as related to the groundwater ingestion exposure route. The requirements of Subpart C are as follows:

Section 742.300: Exclusion of Exposure Route

The following evaluation demonstrates the applicable requirements for excluding the groundwater ingestion exposure route are met, the exposure route can be excluded from consideration, and no remediation objective(s) need be developed for that exposure route. The full characterization of the extent and concentrations of contaminants of concern at the Site has been performed in accordance with the requirements of 35 III. Adm. Code Part 734.

Section 742.305: Contaminant Source and Free Product Determination

No exposure route shall be excluded from consideration relative to a contaminant of concern unless the following requirements are met:

- 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;
- 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;
- Any soil which contains contaminants of concern shall not exhibit any of the characteristics of reactivity for hazardous waste as determined under 35 III. Adm. Code 721.123;
- 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; and
- 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 III. Adm. Code 721.124: arsenic, barium, cadmium, chromium, lead, mercury, selenium or silver.

Each of the requirements above is discussed in the following sections.

a) Soil Attenuation Capacity

The sum of all organic contaminants of concern cannot exceed the attenuation capacity of the soil as determined under 35 III. Adm. Code Section 742.215; i.e., the total concentration of organic contamination in a soil sample must be less than the natural organic carbon fraction of the soil. The default values for the natural organic carbon fraction are 6,000 mg/kg for soils within 1 meter of the surface and 2,000 mg/kg for soils at greater depths. The greatest total organic concentration measured in a soil sample that was collected from an area of the Site that did not undergo remediation is 13.30 mg/kg in the sample collected from the soil boring installed for the installation of monitoring well RW-4A in November 2009. Therefore, the requirements of this section have been satisfied.

b) Soil Saturation Limit

The concentrations of any organic contaminants of concern remaining in the soil shall not exceed the soil saturation limit as determined under 35 III. Adm. Code 742.220. The contaminants of concern evaluated for this requirement are listed below with their greatest concentrations remaining at the Site and the soil saturation limit listed in 35 III. Adm. Code 742 Appendix A, Table A.

Table I Laboratory Analytical Results vs. Soil Saturation Limits (values in mg/kg)								
Contaminant	Measured Concentration	Soil Saturation Limit						
Benzene	0.49	870						
Ethylbenzene	3.07	400						
Toluene	<0.005	650						
Total Xylenes	9.24	320						

The data in the above table demonstrate that the soil saturation limits have not been exceeded for the organic contaminants of concern present below the Site that are listed in 35 III. Adm. Code 742 Appendix A, Table A.

c) Characteristics of Reactivity

The soil below the Site containing contaminants of concern does *not* exhibit any of the following properties as listed in 35 III. Adm. Code 721.123, and therefore does *not* exhibit the characteristics of reactivity:

- It is normally unstable and readily undergoes violent change without detonating;
- It reacts violently with water;
- It forms potentially explosive mixtures with water;
- When mixed with water, it generates toxic gases, vapors or furnes in a quantity sufficient to present a danger to human health or the environment;
- It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment;
- It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement;
- It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure; and
- It is a forbidden explosive as defined in 49 CFR 173.51, or a Class A explosive as defined in 49 CFR 173.53 or a Class B explosive as defined in 49 CFR 173.88, incorporated by reference in 35 III. Adm. Code 720.111.

d) Soil pH

The soil below the Site cannot exhibit a pH of less than or equal to 2.0 or greater than or equal to 12.5, which are representative of highly acidic and highly alkaline environments, respectively. Based on all of the project information gathered since 2001, it is improbable that the pH of the soil has been affected by the release of petroleum. The typical pH of glacial soil is between 7 and 9, so this property of the soil is not a concern for this project.

e) Characteristic of Toxicity

According to 35 III. Adm. Code Section 721.124, a solid waste exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure (TCLP), the extract from a representative sample of the waste, in this case the contaminated soil below the property, contains any of the contaminants listed in a table in 35 III. Adm. Code Section 721.124 in

concentrations equal to or greater than the respective value given in the table. Since this project involves the release of gasoline and diesel fuel, the contaminants are limited to the metals listed in 35 Ill. Adm. Code Section 742.305(e).

These metals are not considered contaminants of concern for this project, and the naturally occurring levels of these metals in the soils of the region are not sufficient to result in a TCLP extract that would have significant quantities of the metals detected via laboratory analysis. Therefore, the soil would not exhibit the characteristic of toxicity.

Section 742.320: Groundwater Ingestion Exposure Route

The groundwater ingestion exposure route may be excluded from consideration if:

- a) The requirements of Sections 742.300 and 742.305 are met;
- b) The corrective action measures have been completed to remove any free product to the maximum extent practicable;
- 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;
- 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);
- 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 well will meet the applicable Tier 1 groundwater remediation objective; and
- 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.

Each of the above requirements is then further explained and supported in subsequent sections.

a) Sections 742.300 and 742.305

The previous sections of this appendix demonstrate that the requirements of 35 III. Adm. Code Sections 742,300 and 742,305 have been met.

b) Removal of Free Product

The information provided in Section C of this report demonstrates that the corrective actions completed in 2009 removed all free product from the subsurface.

c) Setback Zones

The water supply well survey previously completed for this project indicated that 7 water supply wells are located within 2,500 feet of the facility; one of these wells is a community water supply well located approximately 2,000 feet southeast of the Site. These water supply wells would have setback zones of 200, 400, or 1,000 feet, so the source of the release is not located within these setback zones.

As of this writing, there is no regulated recharge area in northeastern Illinois. Therefore, the source of the release is not located within the minimum or designated maximum setback zone or within a regulated recharge area of an existing potable water supply well.

d) Groundwater Ordinance

The City of West Chicago has not yet enacted the ordinance required under this section. Upon its approval by the city government, an official copy of the ordinance will be submitted to the Illinois EPA for review and approval in accordance with 35 Ill. Adm. Code Section 742.1015.

e) Modeled Groundwater Contamination within Setback Zone

Section B of this Appendix contains the data and calculations that demonstrate that the results of the predictive modeling meet the requirements of 35 Ill. Adm. Code Section 742.320(e).

f) Modeled Groundwater Contamination and Surface Water

The surface water body nearest the Site are unnamed ponds located approximately 600 feet west of the source of the release; the location of the pond is shown on Figure 5 in Appendix A. The calculations in Section B of this Appendix are sufficient to determine that the surface water quality standards of 35 III. Adm. Code 302 are met.

B. Data and Calculations

The following section summarizes the information and calculations used in the groundwater evaluation for the benzene and ethylbenzene contamination that remains at the Site. The following tables summarize the input parameters used in the calculations and the reasoning behind the values used.

Table I Contaminant-Related Variables

Input for Solutions to Equation R26

			V	alues	
Variable	Variable Description	Source of Value	Benzene in groundwater	Ethylbenzene in groundwater	Comments
C _{source}	The greatest potential concentration of the contaminant in groundwater at the source of contamination, mg/L	Groundwater quality data from RW-4A	1.57	1.22	Values represent the highest remaining concentration in the groundwater since the completion of the corrective actions.
S.	Source width, cm	Field measurement of distance between non-impacted groundwater samples	2,103.1 (69 ft)	2,103.1 (69 ft)	Value represents the distance between wells RW-7 and RW-11 as shown on Figure 4.
Sd	Source depth, cm	Field measurement of thickness of soil	91.4 (3 ft)	91.4 (3 ft)	Value represents the thickness of the smear zone based on historical soil quality data, water table variations, and PID readings.
w	Width of Source Area Parallel to Direction to Wind or Groundwater Movement, cm	Field measurement of distance between non-impacted groundwater samples	3,200 (105 ft)	3,200 (105 ft)	Value represents the distance between RW-2 and RW-11 as shown on Figure 4.
x	Distance along the centerline of the groundwater plume, cm	Site-Specific based on meeting ROs within ordinance area	22,860 (750 ft)	1,219 (40 ft)	The calculated impact of benzene crosses the Exelon property as shown on Figure 5.
λ	First order degradation constant, d ⁻¹	35 III. Adm. Code Part 742, App. C, Table E	0.0009	0.003	Default values from 35 Ill. Adm. Code Part 742,

Table II Contaminant-Independent Variables

Input for Solutions to Equation R26

Parameter	Variable Description	Source	Value	Comments
i	Hydraulic gradient, cm/cm	Field data	0.006	Historical values have ranged from 0.005 to 0.008. This value was calculated using most recent water level data.
К	Hydraulic conductivity, cm/s	Field data	6.4 x 10 ⁻²	This is the value determined for the Site in accordance with previous Illinois EPA directives.
f∞	Organic carbon content of soil, g/g	Field data	0.0032	This value represents the average of carbon content data collected previously for the project.
θ _{as}	Volumetric Air Content of soil, cm³/cm³	Default value for clay	0.13	
θ _{ws}	Volumetric Water Content of soil, cm³/cm³	Default value for clay	0.3	Default values from 35 III. Adm. Code Part 742.
θτ	Total Soil Porosity, cm ³ /cm ³	Default value for clay	0.43	Default values from 55 III. Auril. Code I alt 142.
w	Average soil moisture content, g/g	Default value for subsurface soil	0.2	
Ръ	Soil bulk density, g/cm³	Field data	1.64	This value represents the average of bulk density values collected previously at the Site.

The calculations determine if there will be any impacts to the nearest setback zones and surface water bodies. Spreadsheets displaying the calculations are included in this Appendix. Table III below summarizes the results of the calculations. The model results indicate that the benzene and ethylbenzene contamination in the groundwater may migrate under the Exelon property that crosses the Site, but the plume will not extend to the southernmost property boundary, the pond to the east, or into any setback zone. Figure 5 in Appendix A display the hypothetical extents of the benzene and ethylbenzene contamination plumes based upon the model.

	Table III Results of TACO Evaluation (values in mg/L)					
Contaminant	Measured Concentration	X, distance to compliance point	Cx, concentration at compliance point			
Benzene	1.57	750	0.005			
Ethylbenzene	1.22	40	0.634			

These results coupled with the establishment of a citywide ordinance prohibiting the installation and use of private water supply wells demonstrate that the current Site conditions meet the requirements for the issuance of a No Further Remediation letter for this LUST incident.

Values for Vari	ables in Relevant Equation	ons	Project Name: West Chicago Park District
	·		
SOIL MIGRATIO	ON/GROUNDWATER EXP		BENZENE LPC number 0430905825
Variable	Source	Value	Description and units PAGE 1
GWsource	R13		2 Groundwater concentration at the source, mg/L
LFsw	R14		8 Leaching factor, mg/L/mg/kg
GWcomp	R25	0.005	Groundwater objective at the compliance point, mg/L
Cx/Csource	R15	4.06E-03	3 Steady-state attenuation along the centerline of a dissolved plume, mg/L/mg/L
k ,	R20	0.18848	8 Soil-water sorption coefficient, cm^3/g
<u>.</u> د	Appendix C table E	58.9	9 Organic carbon partition coefficient, cm^3/g
	surface 0.005		2 Organic carbon content of soil, g/g
oc.		0.0032	a Organic Carbon Content of Son, grg
_	subsurface 0.002		
) _{ws}	R22 or	J 4.3	3 Volumetric water content of vadose zone soils, cm^3/cm^3
	surface 0.15		
	subsurface 0.30		
	gravel 0.20		
	sand 0.18		
	silt 0.16		
	clay 0.17	<u> </u>	
	R21 or	0.13	3 Volumetric air content of vadose zone soils, cm^3/cm^3
_	surface 0.28		
	subsurface 0.13		
	gravel 0.05		
	I-		
	sand 0.14		
	silt 0.16		
	clay 0.17		4
T	R23 or	0.43	3 Total soil porosity, cm^3/cm^3
	0.43		· · · · · · · · · · · · · · · · · · ·
	gravel 0.25		
	sand 0.32		
	silt 0.40		į
	clay 0.36		
l,	Appendix C table E	0.228	8 Henry's law constant, cm^3 air/cm^3 water
	surface 0.1		2 Average soil moisture content, g/g
	subsurface 0.2		
	gravel 2.0	1.64	4 Soil bulk density, g/cm^3
' s	1-	1.04	a son bulk delisity, getting
	sand 1.8		
	silt 1.6		
	clay 1.7		4
w		1	1 Water density, g/cm^3
			Distance along the centerline of the ground water
	cita	34335	
	site		6 plume emanating from the source, cm 700 Distance, ft
×	R16		6 Longitudinal dispersivity, cm (Equation R16)
y	R17		2 Transverse dispersivity, cm (Equation R17)
Z	R18	106.68	8 Vertical dispersivity, cm (Equation R18)
			Source width perpendicular to ground water flow direction in
w	site	2103 17	2 horizontal plane, cm 69 Sw, ft
	J11.0	-10,3,12	1
		'	Source width perpendicular to ground water flow direction in
d	site	91.44	4 vertical plane, cm 3 Sd, ft
	site	5.53E+03	3 Aquifer hydraulic conductivity, cm/day 6.40E-02 K, cm/sec
	site		6 Hydraulic gradient, cm/cm
	R19		3 Specific discharge, cm/day (Equation R19)
gw	R24		4 Groundwater Darcy velocity, cm/yr
=	· - ·		O Groundwater mixing zone thickness, cm
			O Infiltration rate, cm/yr
			Opinio ación race, ciny y
			Width of source area parallel to direction of wind or groundwater
v	site	3200.4	4 movement, cm 105 W, ft
	Appendix C table E		9 First order degradation constant, day^-1
	• • • • • • • • • • • • • • • • • • • •		5 Concentration of contaminant in groundwater at the distance X from the steady source, mg/L
(x)	R26	0.003	Significant of conteminant in Broningare, or one nature vision the steady society infor
Source	site		3 The greatest potential concentration of the contaminant in groundwater at the source of contamination,

					_
	IGESTION EXPOSURE R				}
AT _c			Averaging time for carcinogens, yr		
AT _e	R = 30	30	Averaging time for noncarcinogens, yr		
	1 = 25				
	W= 0.115	70	a duda kundu mataka Ina		
BW	D 30		Adult body weight, kg		
ED	R= 30	30	Exposure duration, yr		
	I= 25	· '			
	W= 1 R= 350	350	Exposure Frequency, d/yr		
EF	I= 250	330	exposure rrequency, by yr		
	C= 30	ļ			DO NOT PUBI
	C= 30	חכ	Daily outdoor inhalation rate, m^3/d		100.101.100
IR _{ad} r	D 400	ļ	•		
K ₃₀ 1	R= 100	100	Soil ingestion rate, mg/d		ł
	1= 50				1
	C= 480 R = 2		Daily water ingestion rate, L/d		1
IR _w	l= 1	'	Dany water nigescon rate, Lyu		1
L	1= 1	100	Depth to subsurface soil sources, cm		
ľ.			Soil to skin adherence factor		
M 0-			Particulate emission rate, g/cm^2-s		
Pe			Dermal relative absorption factor		
RAF _d		0.5	· · · · · · · · · · · · · · · · · · ·		
RAF _d (PNAs)			Dermal relative absorption factor		-
RAF _d (inorganics)			Dermal relative absorption factor		
RAF _o			Oral relative absorption factor		
THQ			Target hazard quotient		
TR at the point o	f R= 10 ⁻⁶	0.000001	Target cancer risk		
human exposure	I= 10 ⁻⁶				
	W= 10 ⁻⁶				
U _{air}		225	Average wind speed above ground surface in ambient mixing zone,	cm/s	
δ _{ab}		200	Ambient air mixing zone heights, cm		
en.		3.1416	pi		
r F		946000000	Averaging time for vapor flux, s		
k, (non-ionizing		0.183	Soil water sorption coefficient, cm^3 water / g soil		
organics)		ļ			
* '	R20				
VF _a	R5	4.91E-12	Volatilization factor for surficial soils regarding particulates, kg/m^3	•	
VF _{samb}	R11	0.000	Volatilization factor (subsurface soils to ambient air, {mg/m^3 air / i	mg/m^3 soil) or kg/m^3	
ME.	R3 and R4		Volatilization factor for surficial soils, kg/m^3	<u> </u>	
, E	site		Lower depth of surficial soil zone (not to exceed 100), cm		
Ľ.			Diffusion coefficient in air, cm^2/s		
D'''	Appendix C table E	 			
D _{meren}	Appendix C Table E		Diffusion coefficient in water, cm^2/s		
D,***	R6	0.001	Effective diffusion coefficient in soil based on vapor-phase concentr	ation, cm^2/s	
RBSL _{ar}	R9	0.315	Carcinogenic risk-based screening level for air, ug/m^3		
RBSL _{air}	R10	31.39	Non-carcinogenic risk-based screening level for air, ug/m^3		
RfD,	IEPA		Inhalation reference dose, mg/(kg-d)	benzene	
RfD.	IEPA		Oral reference dose, mg/(kg-d)	benzene	
f -	IEPA		Skin surface area, cm^2/d	OCHECHE	
SA SF,	IEPA		Inhalation cancer slope factor, (mg/kg-d)^-1	benzene	
t .					
SF.	IEPA	5.50E-02	Oral slope factor, (mg/kg-d)^-1	benzene	

SOIL MIGRATION / GROUNDWATER EXPOSURE ROUTE

Eqn. R12: RO = 1.23192563 0.09790134

12.583 mg/kg Tier 2 Remediation Objective

Eqn. R13: GWsource 0.005 0.00405869

1.232E+00

Eqn. R14: LFsw = 1.64 0.3 0.1885 1.64 0.228 0.13 1+ 200 30 3200.4

0.098

2103.1 Eqn. R15: C(x) = 21336 1 -0.0036 2133.6 erf 91.44 Csource 4267.2 77.157 15582 3017.4

0.004

0.1 21336 Eqn. R16: ax =

= 2133.600

2133.6 Eqn. R17: ay = 3

711.200

Eqn. R18: az = 2133.6 20

106.680

Egn. R19: U = 5529.6 0.006 0.43

77.157

58.9 0.0032 Eqn. R20: ks = =

0.188

Eqn. R21: qws =

0.328

Eqn. R22: qas = 0.43 0.2

0.141

Eqn. R23: qT = 0.469

Eqn. R24: Ugw = 5529.6 0.006

1.21E+04

0.000001 Egn. R25: 70 365 0.055 350 30

0.002

Eqn. R26: C(x) = 1.23 21336 1-0.0036 2133.6 erf 2103.1 91.44 4267.2 77.157 15582 3017.4

0.005

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CON MICRATIO	DN/GROUNDWATER EXPO	SHEE BOILTE	ETHYLBENZENE LPC number 0430905825
/ariable	Source	Value	Description and units PAGE
GWsource	R13 [1.343	Groundwater concentration at the source, mg/L
Fsw	R14		Leaching factor, mg/L/mg/kg
SWcomp	R25	0.7	Groundwater objective at the compliance point, mg/L
x/Csource	R15	0.521	Steady-state attenuation along the centerline of a dissolved plume, mg/L/mg/L
ς .	R20	1.089	Soil-water sorption coefficient, cm^3/g
(Appendix C table E	363	Organic carbon partition coefficient, cm^3/g
oc.	surface 0.005		Organic carbon content of soil, g/g
oc	subsurface 0.002		
Ð _{ws}	R22 or	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3
~ws	surface 0.15		
	subsurface 0.13		
	gravel 0.05		
	sand 0.18		
	silt 0.16		
	clay 0.17		·
	R21 or	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3
'as	surface 0.28		, , , , , , , , , , , , , , , , , , , ,
	subsurface 0.13		
	gravel 0.05		
	sand 0.18	,	
	silt 0.16		
	clay 0.17		
Ð _T	R23 or	0.43	Total soil porosity, cm^3/cm^3
-1	0.43		
	gravei 0.25		
	sand 0.32		
	silt 0.40		
	clay 0.36		
н'	Appendix C table E	0.323	Henry's law constant, cm^3 air/cm^3 water
w	surface 0.1	0.2	Average soil moisture content, g/g
	subsurface 0.2		
ρ _b	gravel 2.0	1.64	Soil bulk density, g/cm^3
-	sand 1.8		
	silt 1.6		
	clay 1.7		
ρ.,.		1	Water density, g/cm^3
			Nishana danaharan daharan daha
			Distance along the centerline of the ground water plume
X	site		emanating from the source, cm 40 Distance, ft
ax	R16		Longitudinal dispersivity, cm (Equation R16)
ay 	R17		Transverse dispersivity, cm (Equation R17)
a2	R18	0.090	Vertical dispersivity, cm (Equation R18)
·			Source width perpendicular to ground water flow direction in
Sw	site	2103.12	horizontal plane, cm 69 Sw, ft
			Source width perpendicular to ground water flow direction in vertical
Sd	site	91 44	plane, cm 3 Sd, ft
(site		Aquifer hydraulic conductivity, cm/day 6.40E-02 K, cm/sec
•	site		Hydraulic gradient, cm/cm
ָ ע	R19		Specific discharge, cm/day (Equation R19)
Jgw	R24		Groundwater Darcy velocity, cm/yr
d d			Groundwater mixing zone thickness, cm
ī	Ì		Infiltration rate, cm/yr
-	į		
	 		Width of source area parallel to direction of wind or groundwater
W	site		movement, cm105 W, ft
λ	Appendix C table E		First order degradation constant, day^-1
C _(x)	R26 .	0.636	Concentration of contaminant in groundwater at the distance X from the steady source, mg/L
	site	1.22	The greatest potential concentration of the contaminant in groundwater at the source of contamination

INHALATION & :	NGESTION EXPOSURE R	OUTES		
AT _c			Averaging time for carcinogens, yr	
AT _n	R = 30		Averaging time for noncarcinogens, yr	
	1 = 25		,	
	W= 0.115			
вw		70	Adult body weight, kg	
ED	R= 30		Exposure duration, yr	
	l = 25			
	W= 1			
EF	R= 350	350	Exposure Frequency, d/yr	
	!= 250			
	C= 30			
Rair		20	Daily outdoor inhalation rate, m^3/d	
R _{sof}	R= 100	100	Soil ingestion rate, mg/d	
	i= 50			
	C= 480			
IR _w	R = 2	2	Daily water ingestion rate, L/d	
	i= 1			
} ,			Depth to subsurface soll sources, cm	
м			Soil to skin adherence factor	
Pe			Particulate emission rate, g/cm^2-s	
RAF _d		0.5	Dermal relative absorption factor	
RAF _d (PNAs)			Dermal relative absorption factor	
RAF _d (inorganics)	•		Dermal relative absorption factor	
RAF.		1	Oral relative absorption factor	
тна		1	Target hazard quotient	
TR at the point o	of R= 10*	0.000001	Target cancer risk	
human exposure	! = 10 ⁻⁶			
	W= 10 ⁻⁶			
įU _{alr}			Average wind speed above ground surface in ambient mixing zone, cm/s	
lõ _{etr}			Ambient air mixing zone heights, cm	
π		3.1416	1 '	
lt .			Averaging time for vapor flux, s	
k, (non-ionizing		0.183	Soil water sorption coefficient, cm^3 water / g soil	
prganics)				
[_	R20			
VF _p	R5		Volatilization factor for surficial soils regarding particulates, kg/m^3	
VF _{semb}	R11	0.000	Volatilization factor (subsurface soils to ambient air, (mg/m^3 air / mg/m^3 soil) or	kg/m^3
VF _{ss}	R3 and R4	6.16E-06	Volatilization factor for surficial soils, kg/m^3	
þ	site	50	Lower depth of surficial soil zone (not to exceed 100), cm	
D**	Appendix C table E	0.088	Diffusion coefficient in air, cm^2/s	
D ^{water}	Appendix C Table E	9.80E-06	Diffusion coefficient in water, cm^2/s	
D,***	R6	0.001	Effective diffusion coefficient in soil based on vapor-phase concentration, cm^2/s	
RBSL _{air}	R9		Carcinogenic risk-based screening level for air, ug/m^3	
RBSL _{av}	· ·		Non-carcinogenic risk-based screening level for air, ug/m^3	
4-	R10		· · · · · · · · · · · · · · · · · · ·	
RfD _i	IEPA		Inhalation reference dose, mg/(kg-d)	ethylbenzene
RfD _e	IEPA		Oral reference dose, mg/(kg-d)	ethylbenzene
SA 	IEPA	3,160	Skin surface area, cm^2/d	
SF,	IEPA		Inhalation cancer slope factor, (mg/kg-d)^-1	ethylbenzene
βF _e	IEPA		Oral slope factor, (mg/kg-d)^-1	ethylbenzene

SOIL MIGRATION / GROUNDWATER EXPOSURE ROUTE

Eqn. R12: RO = 1.343282132 0.720874203

1.863E+00 mg/kg Tier 2 Remediation Objective

Eqn. R13: GWsource 0.7 0.521111673

= 1.343E+00

Eqn. R14: LFsw = 1.64

0.3 1.089 1.64 0.323 0.13 1 + 33.178 200

30 3200.4

= 0.721

= 5.21E-01

Eqn. R16: ax = 0.1 1219.2

= 121.920

Eqn. R17: ay = 121.92

= 40.640

Eqn. R18: az = 121.92

= 6.096

Eqn. R19: U = 5529.6 0.006 0.43

= 77.157

Eqn. R20: ks = 363 0.003

= 1.089

Eqn. R21: qws = 0.2 1.64

= 0.328

Eqn. R22: qas = 0.43 0.2 1.64

= 0.141

Eqn. R23: qT = 0.469

Eqn. R24: Ugw = 5529.6 0.006

= 33.178

Eqn. R25: 0.000001 70 70 365 0 2 350 30

= #DIV/0!

Eqn. R26: C(x) = 1.22 1219.2 1 - 1 + 0.012 121.92 erf 2103.1 erf 91.44 243.84 77.157 890.38 172.42

= 0.636

APPENDIX H

Laboratory Reports-Groundwater Quality



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

December 22, 2009

Mr. Daniel Horvath RESOURCE CONSULTING, INC.

P.O. Box 123 Geneva, IL 60134

Project ID: 98-1002 WCPD

First Environmental File ID: 9-5293 Date Received: December 16, 2009

Dear Mr. Daniel Horvath:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002205: effective 02/06/09 through 02/28/10.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Lorrie Franklin

Project Manager



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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Case Narrative

RESOURCE CONSULTING, INC.

Project ID:

98-1002 WCPD

First Environmental File ID: 9-5293 Date Received:

December 16, 2009

Flag	William Complete Company	Klag	Description State Control
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
В	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
С	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
Е	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
Н	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	w	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.



First Environmental

Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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Analytical Report

Client: RESOURCE CONSULTING, INC.

Date Collected: 12/14/09

Project ID:

98-1002 WCPD

Time Collected:

Sample ID: RW-1

Date Received: 1

12/16/09

Sample No: 9-5293-001

Date Reported: 12/22/09

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 12/17/09	Method: 5030B/8260B			
Benzene	< 5.0	5.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	



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Analytical Report

RESOURCE CONSULTING, INC. Client:

12/14/09 **Date Collected:**

98-1002 WCPD

Time Collected:

Project ID: Sample ID: RW-2

Date Received:

Date Reported:

12/16/09 12/22/09

9-5293-002 Sample No:

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 12/17/09	Method: 5030B/8260B			
Benzene	< 5.0	5.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	



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Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected: 12/14/09

Project ID:

98-1002 WCPD

Time Collected:

12/16/09

Sample ID:

RW-4a

Date Received:

Sample No:

9-5293-003

Date Reported:

12/22/09

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 12/18/09	Method: 5030B/8260B			
Benzene	1,570	5.0	ug/L	
Ethylbenzene	1,110	5.0	ug/L	
Toluene	13.9	5.0	ug/L	
Xylene, Total	1,420	5.0	ug/L	



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Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected:

12/14/09

Project ID:

98-1002 WCPD

Time Collected:

12/16/09

Sample ID:

RW-5

Date Received:

Sample No:

9-5293-004

12/22/09 Date Reported:

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 12/17/09	Method: 5030B/8260B			
Benzene	< 5.0	5.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	



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Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected:

12/14/09

Project ID:

98-1002 WCPD

Time Collected:

12/16/09

Sample ID:

RW-6

Date Received:

Date Reported: 12/22/09

9-5293-005 Sample No:

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 12/17/09	Method: 5030B/8260B		•	
Benzene	< 5.0	5.0	ug/L	
Ethylbenzene	54.5	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
Xylene, Total	183	5.0	ug/L	



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Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected: 12/14/09

Project ID:

98-1002 WCPD

Time Collected:

12/16/09

Sample ID:

RW-7

Date Received:

Sample No:

9-5293-006

Date Reported: 12/22/09

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 12/17/09	Method: 5030B/8260B			
Benzene	< 5.0	5.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	



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Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected:

12/14/09

Project ID:

98-1002 WCPD

Time Collected:

12/16/09

Sample ID:

Date Received:

RW-8

Date Reported:

12/22/09

9-5293-007 Sample No:

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 12/17/09	Method: 5030B/8260B			
Benzene	< 5.0	5.0	ug/L	•
Ethylbenzene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	



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Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected:

12/14/09

Project ID:

98-1002 WCPD

Time Collected:

12/16/09

Sample ID:

RW-11

Date Received:

12/10/09

Sample No: 9

9-5293-008

Date Reported: 12/22/09

Analyte		Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 12/17/09	Method: 5030B/	8260B	<u> </u>		
Benzene		< 5.0	5. 0	ug/L	
Ethylbenzene		< 5.0	5.0	ug/L	
Toluene		< 5.0	5.0	ug/L	
Xylene, Total		< 5.0	5.0	ug/L	
Polynuclear Aromatic Hydrocarbons Analysis Date: 12/18/09	Method: 8270C		Preparation Method 3510C Preparation Date: 12/18/09		
Acenaphthene		< 10	10	ug/L	
Acenaphthylene		< 10	10	ug/L	
Anthracene		< 5	5	ug/L	
Benzo(a)anthracene		< 0.13	0.13	ug/L	
Benzo(a)pyrene		< 0.2	0.2	ug/L	
Benzo(b)fluoranthene		< 0.18	0.18	ug/L	
Benzo(k)fluoranthene		< 0.17	0.17	ug/L	
Benzo(ghi)perylene		< 0.4	0.4	ug/L	
Chrysene		< 1.5	1.5	ug/L	
Dibenzo(a,h)anthracene		< 0.3	0.3	ug/L	
Fluoranthene		< 2	2	ug/L	
Fluorene		< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene		< 0.3	0.3	ug/L	
Naphthalene		< 10	10	ug/L	
Phenanthrene		< 5	5	ug/L	
Pyrene		< 2	2	ug/L	



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Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected:

12/14/09

Project ID:

98-1002 WCPD

Time Collected:

Sample ID:

Date Received:

12/16/09

Sample No:

RW-13 9-5293-009

Date Reported: 12/22/09

Analyte		Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 12/17/09	Method: 5030B/	8260B			
Benzene		< 5.0	5.0	ug/L	
Ethylbenzene		6.4	5.0	ug/L	
Toluene		< 5.0	5.0	ug/L	
Xylene, Total		16.7	5.0	ug/L	<u> </u>
Polynuclear Aromatic Hydrocarbons Analysis Date: 12/18/09	ons Method: 8270C Preparation Method 35 Preparation Date: 12/18/0				10C)
Acenaphthene		< 10	10	ug/L	
Acenaphthylene		< 10	10	ug/L	
Anthracene		< 5	5	ug/L	
Benzo(a)anthracene		< 0.13	0.13	ug/L	
Benzo(a)pyrene		< 0.2	0.2	ug/L	
Benzo(b)fluoranthene		< 0.18	0.18	ug/L	
Benzo(k)fluoranthene		< 0.17	0.17	ug/L	
Benzo(ghi)perylene		< 0.4	0.4	ug/L	
Chrysene		< 1.5	1.5	ug/L	
Dibenzo(a,h)anthracene		< 0.3	0.3	ug/L	
Fluoranthene		< 2	2	ug/L	
Fluorene		< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene		< 0.3	0.3	ug/L	
Naphthalene		< 10	10	ug/L	
Phenanthrene		< 5	5	ug/L	
Pyrene		< 2	2	ug/L	



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected:

12/14/09

Project ID:

98-1002 WCPD

Time Collected:

12/16/09

Sample ID:

RW-14

Date Received: Date Reported:

12/22/09

Sample No: 9-5293-010

Analyte		Result	R.L.	Units	Flags	
BTEX Organic Compounds Analysis Date: 12/17/09	Method: 5030B/	8260B				
Benzene		< 5.0	5.0	ug/L		
Ethylbenzene		133	5.0	ug/L		
Toluene		< 5.0	5.0	ug/L		
Xylene, Total		374	5.0	ug/L		
Polynuclear Aromatic Hydrocarbons Analysis Date: 12/18/09	Method: 8270C		Preparation Method 3510C Preparation Date: 12/18/09			
Acenaphthene		< 10	10	ug/L		
Acenaphthylene		< 10	10	ug/L		
Anthracene		< 5	5	ug/L		
Benzo(a)anthracene		< 0.13	0.13	ug/L		
Benzo(a)pyrene		< 0.2	0.2	ug/L		
Benzo(b)fluoranthene		< 0.18	0.18	ug/L		
Benzo(k)fluoranthene		< 0.17	0.17	ug/L		
Benzo(ghi)perylene		< 0.4	0.4	ug/L		
Chrysene		< 1.5	1.5	ug/L		
Dibenzo(a,h)anthracene		< 0.3	0.3	ug/L		
Fluoranthene		< 2	2	ug/L		
Fluorene		< 2	2	ug/L		
Indeno(1,2,3-cd)pyrene		< 0.3	0.3	ug/L		
Naphthalene		33	10	ug/L		
Phenanthrene		< 5	5	ug/L		
Pyrene		< 2	2	ug/L		



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.Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected:

12/14/09

Project ID:

98-1002 WCPD

Time Collected:

12/16/09

Sample ID:

Naphthalene

Phenanthrene

Pyrene

RW-15

Date Received: Date Reported:

10

5

2

ug/L

ug/L

ug/L

12/22/09

9-5293-011 Sample No:

Analyte		Result	R.L.	Units	Flags	
BTEX Organic Compounds Analysis Date: 12/17/09	Method: 5030B/	30B/8260B				
Benzene		< 5.0	5.0	ug/L		
Ethylbenzene		18.0	5.0	ug/L		
Toluene		< 5.0	5.0	ug/L		
Xylene, Total		56.9	5.0	ug/L		
Polynuclear Aromatic Hydrocarbons Analysis Date: 12/18/09	ns Method: 8270C Preparation Method 35 Preparation Date: 12/18/0					
Acenaphthene		< 10	10	ug/L		
Acenaphthylene		< 10	10	ug/L		
Anthracene		< 5	5	ug/L		
Benzo(a)anthracene	•	< 0.13	0.13	ug/L		
Benzo(a)pyrene		< 0.2	0.2	ug/L		
Benzo(b)fluoranthene		< 0.18	0.18	ug/L		
Benzo(k)fluoranthene		< 0.17	0.17	ug/L		
Benzo(ghi)perylene		< 0.4	0.4	ug/L		
Chrysene		< 1.5	1.5	ug/L		
Dibenzo(a,h)anthracene		< 0.3	0.3	ug/L		
Fluoranthene		< 2	2	ug/L		
Fluorene		< 2	2	ug/L		
Indeno(1,2,3-cd)pyrene		< 0.3	0.3	ug/L		
			• •	~		

< 10

< 5

< 2



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client: RESOURCE CONSULTING, INC.

Date Collected: 12/14/09

Project ID:

98-1002 WCPD Time Collected:

Date Received: 12/16/09

Sample ID: RW-16a **Sample No:** 9-5293-012

Date Reported: 12/22/09

Analyte		Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 12/17/09	Method: 5030B/	8260B			
Benzene		< 5.0	5.0	ug/L	
Ethylbenzene		319 ·	5.0	ug/L	
Toluene		16.5	5.0	ug/L	
Xylene, Total		947	5.0	ug/L	
Polynuclear Aromatic Hydrocarbons Analysis Date: 12/18/09	Method: 8270C	Preparation Method 3510C Preparation Date: 12/18/09			10C
Acenaphthene		< 10	10	ug/L	
Acenaphthylene		< 10	10	ug/L	
Anthracene		< 5	5	ug/L	
Benzo(a)anthracene		< 0.13	0.13	ug/L	
Benzo(a)pyrene		< 0.2	0.2	ug/L	
Benzo(b)fluoranthene		< 0.18	0.18	ug/L	•
Benzo(k)fluoranthene		< 0.17	0.17	ug/L	
Benzo(ghi)perylene		< 0.4	0.4	ug/L	
Chrysene		< 1.5	1.5	ug/L	
Dibenzo(a,h)anthracene		< 0.3	0.3	ug/L	
Fluoranthene		< 2	2	ug/L	
Fluorene		< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene		< 0.3	0.3	ug/L	
Naphthalene		46	10	ug/L	
Phenanthrene		< 5	5	ug/L	
Pyrene		< 2	2	ug/L	



First Environmental Laboratories

1600 Shore Road, Suite D

Naperville, Illinois 60563 Phone: (630) 778-1200 • Fax: (630) 778-1233

24 Hr. Pager (708) 569-7507

COMPANY NAME: RESOURCE CONSULT	welve.	
Street Address: 115 FORD ST		
City: (FPD)A	State: 1L	7ip: G0134
Phone: (037) 232-9820	Pax: 630 232 982	<u>4</u>
Send Report To: Dan Resource		<u> </u>
Sampled By: BSB/BJT	·	

-mail: info@firstenv.c EPA Certification# 10			Samp	olea by	000	104,		nalyses				
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Date/Time

Relinquished By:

Rev. 10/04



First Environmental

Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

August 25, 2010

Mr. Daniel Horvath
RESOURCE CONSULTING, INC.

P.O. Box 123

Geneva, IL 60134

Project ID: WCPD

First Environmental File ID: 10-3362 Date Received: August 20, 2010

Dear Mr. Daniel Horvath:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002468: effective 02/23/2010 through 02/28/2011.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200 or stan@firstenv.com.

Sincerely,

Stan Zaworski Project Manager



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Environmental

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IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Project ID:

WCPD

First Environmental File ID: 10-3362

Date Received:

August 20, 2010

Flag	Description	Flag	Description
< ;	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
В	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C ;	Identification confirmed by GC/MS.	М	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E .	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
Н	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.



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IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client: RESOURCE CONSULTING, INC.

Date Collected: 08/20/10

Project ID:

WCPD

Time Collected: 13:10

Sample ID:

MW-4A

Date Received: 08/20/10

Sample No:

10-3362-001

Date Reported: 08/25/10

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 08/24/10	Method: 5030B/8260B			
Benzene	1,230	5.0	ug/L	
Ethylbenzene	1,220	5.0	ug/L	
Toluene	9.9	5.0	ug/L	
Xylene, Total	2,410	5.0	ug/L	

CHAIN OF CUSTODY RECORD

Page	of _	pgs
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First Environmental Laboratories Inc.
Laboratories, Inc.

First Environmental Laboratories

1600 Shore Road, Suite D
Naperville, Illinois 60563
Phone: (630) 778-1200 • Fax: (630) 778-1233
E-mail: firstinfo@firstenv.com
IEPA Certification #100292

Company Name: Resource Consulti	مه	
Street Address: 115 Ford St	J	
City: Cereva	State: 1	zip: 60134
· · · · · · · · · · · · · · · · · · ·	e-mail:	
Phone: 690 281 - 9820 Fax: Send Report To: Dan Horundh	Via: Fax	e-mail
Sampled By: RTT		

Analyses

Project I.D.: WC	2PD			/	/ ,	/ ,	Ι,	Ι,	/ ,	/ ,	///		
P.O. #.:													
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Rev. 9/08								_				•	

APPENDIX I

Hydraulic Properties of Aquifer

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In conjunction with the sampling of the monitoring wells during the course of the project, the direction of groundwater flow and the hydraulic gradient were determined from additional data gathered from the wells. Specifically, the tops of the monitoring wells were surveyed to a common elevation datum at the Site, and the depth to the water table was measured using a water level meter in each of the wells.

The following table summarizes the water table elevation data collected from the monitoring wells since the inception of the project.

WATER TABLE ELEVATION DATA

PROJECT NAME:

West Chicago Park District

INCIDENT NO.:

980814

SURVEYED POINTS:

tops of well casings

WELL ID DATE:	ROD ELEVATION ft	RELATIVE POINT ELEVATION, ft.	DEPTH TO WATER, ft.	WATER TABLE ELEVATION, ft. rel. point - depth to water
12/14/2009				
RW-1	2.05	101.87	9.89	91.98
RW-2	5.23	98.69	7.36	91.33
RW-4A	4.54	99.38	7.81	91.57
RW-5	6.48	97.44	6.14	91.30
RW-6	5.62	98.30	6.23	92.07
RW-7	3.85	100.07	8.52	91.55
RW-8	6.23	97.69	6.43	91.26
RW-11	5.36	98.56	6.96	91.60
RW-12	5.93	97.99	6.51	91.48
RW-13	6.16	97.76	5.90	91.86
RW-14	4.92	99.00	7.39	91.61
RW-15	5.45	98.47	6.46	92.01
RW-16	5.87	98.05	6.37	91.68

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The following page displays the calculation of the flow direction using descriptive geometry. The calculations show that the flow direction remains to the south/southeast with a hydraulic gradient of approximately 0.002 ft/ft. The results of the calculations are displayed on Figure 2 in Appendix A.

(Excel 3-point problem)

Solution of Three Point Problem for Flow Direction and Hydraulic Gradient Using Descriptive Geometry

Project Name:

West Chicago Park District

Incident No.:

980814

Date:

12/14/2009

Well ID

NOTE: see Figure X for geometry of Site

Lowest Elevation, X, at A:

91.26 RW-8

Intermediate Elevation, Y, at B:

91.55 RW-7

Highest Elevation, Z, at C:

92.07 RW-6

Distance between A and C, ft:

134.80 AC =

Distance from A to point of Intersection D, ft:

AC x Y - X AD=

Z - X

48.26

Distance from A to E (point of right angle with A and B):

AĘ=

48.60

Hydraulic Gradient:

Y - X 0.29 ΑE

48.60

0.00597 =

APPENDIX J

Illinois EPA Forms



Site Identification

Electronic Filing: Received, Clerk's Office 09/20/2024

Illinois Environmental Protection Agency

Bureau of Land • 1021 N. Grand Avenue E. • P.O. Box 19276 • Springfield • Illinois • 62794-9276

The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 – 57.17). Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false material statement or representation, orally or in writing, in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compliance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/44 and 57.17). This form has been approved by the Forms Management Center.

Leaking Underground Storage Tank Program Property Owner Summary

	JEA/	IA Incident # (6- or 8-digit):	080814		IEPA LPC# (10-	diait).	0430905825	
		e Name: West Chicago Par			_ 12FA 2F C# (10-	uigit).	0430303023	
		Address (not a P.O. Box):		tional Street				
		: West Chicago		DuPaģe	Zip Code:	6018	5	
	Lea	king UST Technical File						
	be in age Ren	ineered barriers, institutional mplemented without approvent(s) of such person(s). The nediation (NFR) Letter, which se controls is grounds for vo	al by the title lise controls are must be rec	holder(s) of record nd restrictions will corded in the chair	I for the above-name be identified in the N	ed prop No Furt	perty or the her	
	Des	ventive Engineering and	motitutional (Sentrole and Large	d llee Limitations		RECEIVI	= [= [
5.	Prev	ventive, Engineering, and l	institutional v	Jontrois and Lai	d USE Limitations		JUL 2 3 2013	<u> </u>
	The	following controls and restr	ictions are pro	posed for the abo	ove-named site:		_	
		Industrial/commercial land	use limitation	;			IEPA/BC) <u>L</u>
		On-site groundwater restrict water supply;	ction prohibitir	ng the use of grou	ndwater beneath the	e site a	s a potable	
		An engineered barrier: [(description)	Building,	asphalt/co	ncrete, or	er		
	✓	Groundwater ordinance:	✓ With a N	1OU, 🔲 Witho	ut a MOU;			
	V	Construction worker cautio	n notification;	•				
		Other:			<u>-</u>			
		None (There are no propos	sed institution	al controls other t	nan the NFR Letter.)	١		

IL 532-2551 LPC 568 Rev. March 2006 Property Owner Summary
Page 1 of 2

	C. Property Ownership Declar
ttached report entitled Free Product Removal Report/ and dated April 2013 ,	Corrective Action Completio
s set forth therein, including any land use limitations, that apply to no objection to the recording of a No Further Remediation Letter tified in the report upon the property I own.	property I own. I further affirm
o Park Dist.	Name of Property Owner:
	Name of Officer or Agent:
St.	Mailing Address: 157 West
	City West Chicago
	State Illlinois
	Zip Code 60185
	Signature Sasse T
	Date 71/28/13
	D. Site Description
	Real Estate Tax/Parcel Inde
ed on a separate sheet)	Legal Description of Site (m

IL 532-2551 LPC 568 Rev. March 2006 Property Owner Summary Page 2 of 2



Illinois Environmental Protection Agency

Bureau of Land • 1021 N. Grand Avenue E. • P.O. Box 19276 • Springfield • Illinois • 62794-9276

The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 – 57.17). Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false material statement or representation, orally or in writing, in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compliance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/44 and 57.17). This form has been approved by the Forms Management Center.

Leaking Underground Storage Tank Program Free Product Removal

A.	Sit	e Identification	
	IEI	MA Incident # (6- or 8-digit): 980814	IEPA LPC# (10-digit): 0430905825
	Sit	e Name: West Chicago Park Dist.	
	Sit	e Address (Not a P.O. Box): 250 West National Street	
	Cit	y: West Chicago County: DuPage	ZIP Code: 60185
	Lea	aking UST Technical File	
В.	Inf	ormation Provided	
	1.	Free Product Removal Plan	RECEIVED
	2.	Free Product Removal Budget	JUL 23 20139W
	3.	Free Product Removal Report	
C.	Fre	ee Product Removal	IELY/ROL
	Pro	vide the following:	
	1.	The name(s) of the person(s) responsible for implement	ting the free product removal measures;
	2.	The estimated quantity, type, and thickness of free procetc.;	duct observed or measured in boreholes, wells, excavation,
	3.	The type of free product recovery system used and tech	nnical justification for the method of recovery chosen;
	4.	Whether any discharge will take place on- or off-site du will be located;	ring the recovery operation and where this discharge (point)
	5.	The type of treatment applied to, and the effluent quality	y expected from, any discharge;
	6.	The disposition of the recovered free product;	
	7.	The steps that have been taken or that are being taken	to obtain necessary permits for any discharge;
	8.	The steps taken to identify the source and extent of free	e product; and
	9.	A schedule of future activities necessary to complete th inch in depth.	e recovery of free product still exceeding one-eighth of an

IL 532 2278 LPC 504 Rev. March 2006 Free Product Removal
Page 1 of 3

Electronic Filing: Received, Clerk's Office 09/20/2024 **D. Supporting Documentation**

Provide the following:

- Site map meeting the requirements of 35 III. Adm. Code of 732.110(a) or 734.440 and showing:
 - a. Locations where free product was encountered including its estimated thickness;
 - b. Location of recovery points;
 - c. Location of the treatment unit; and
 - d. Location of discharge points;
- 2. A table showing the dates that free product recovery was conducted and the amount of free product recovered on each date; and
- 3. Copies of waste manifests.

E. Submission of a Free Product Removal Plan

In accordance with 35 III. Adm. Code 732.203 or 734.215, if free product removal activities will be conducted more than 45 days after confirmation of the presence of free product, the owner or operator must submit to the Illinois EPA for review a free product removal plan and budget, if applicable. The plan must include the information requested under Sections C and D of this form, as applicable.

F. Signatures

All plans, budgets, and reports must be signed by the owner or operator and list the owner's or operator's full name, address, and telephone number.

UST Owner or Operator	Consultant
Name West Chicago Park Dist.	Company Resource Consulting
Contact Jesse Felix	Contact Dan Horvath
Address 157 West Washington St.	Address PO Box 123
City West Chicago	City Geneva
State Illinois	State Illinois
Zip Code 60185	Zip Code 60134
Phone 630-231-9474	Phone 630-232-9820
Signature Organ tell	Signature
Date //4/28/13	Date (4/3/3

Continue on to next page.

RECEIVED

JUL 2 3 2013

SEPA/BOL

Free Product Removal

Page 2 of 3

I certify under penalty of law that all activities that are the subject of this plan, budget, or report were conducted under my supervision or were conducted under the supervision of another Licensed Professional Engineer or Licensed Professional Geologist and reviewed by me; that this plan, budget, or report and all attachments were prepared under my supervision; that, to the best of my knowledge and belief, the work described in this plan, budget, or report has been completed in accordance with the Environmental Protection Act [415 ILCS 5], 35 Ill. Adm. Code 731, 732, or 734, and generally accepted standards and practices of my profession; and that the information presented is accurate and complete. I am aware there are significant penalties for submitting false statements or representations to the Illinois EPA, including but not limited to fines, imprisonment, or both as provided in Sections 44 and 57.17 of the Environmental Protection Act [415 ILCS 5/44 and 57.17].

Licensed Professional Engineer or Geologist

Name Daniel J. Horvath

Company Resource Consulting

Address PO Box 123

City Geneva

State Illinois

Zip Code 60134

Phone 630-232-9820

Ill. Registration No. 196-000276

License Expiration Date Nov 30, 2013

Signature

Date

L.P.E. or L.P.G. Seal



RECEIVED
JUL 2 3 2013
REPA/BOL

Free Product Removal
Page 3 of 3

Owner/Operator and Licensed Professional Engineer/Geologist Budget Certification Form

I hereby certify that I intend to seek payment from the UST Fractivities for Leaking UST incident 980814 this budget are for necessary activities and are reasonable at also certify that the costs included in this budget are not for cof 415 ILCS 5/57, no costs are included in this budget that are costs exceed Subpart H: Maximum Payment Amounts, Appe Appendix E Personnel Titles and Rates of 35 III. Adm. Code payment from the Fund pursuant to 35 III. Adm. Code 732.60 amendment. Such ineligible costs include but are not limited	. I furt nd accurate to the I orrective action in a e not described in t ndix D Sample Har 732 or 734. I furthe 6 or 734.630 are no	her certify that the costs set forth in best of my knowledge and belief. I excess of the minimum requirements he corrective action plan, and no idling and Analysis amounts, and er certify that costs ineligible for
Costs associated with ineligible tanks. Costs associated with site restoration (e.g., pump is		RECEIVE
Costs associated with utility replacement (e.g., sew Costs incurred prior to IEMA notification. Costs associated with planned tank pulls.	ers, electrical, telep	hone, etc.). JUL 2 3 2013
Legal fees or costs. Costs incurred prior to July 28, 1989.		IEPA/BOL
Costs associated with installation of new USTs or the	ne repair of existing	USTs.
Owner/Operator: West Chicago Park Dist.	-1	
Authorized Representative: Jesse Felix	Title:	Superintendent of Parks
Signature: Jess Felip	Date:	4/28/13
Subscribed and sworn to before me the day of	Horil	2013
$\int_{-\infty}^{\infty} \int_{-\infty}^{\infty}	Seal:	OFFICIAL MAI
(Notary Public)	— J	ORISY FERNANCEZ Restary Public - Eight of Milenia
In addition, I certify under penalty of law that all activities that	are the subject of	My Commission Engines Mar 5, 2017
conducted under my supervision or were conducted under th or Licensed Professional Geologist and reviewed by me; that	e supervision of an	other Licensed Professional Engineer
prepared under my supervision; that, to the best of my knowled	edge and belief, the	e work described in the plan, budget,
or report has been completed in accordance with the Environ 732 or 734, and generally accepted standards and practices	of my profession; a	nd that the information presented is
accurate and complete. I am aware there are significant pen to the Illinois EPA, including but not limited to fines, imprison	alties for submitting ment, or both as pr	graise statements or representations ovided in Sections 44 and 57.17 of the
Environmental Protection Act [415 ILCS 5/44 and 57.17].		
L.P.E./L.P.G.: Dan Horvath	L.P.E./L.P.G. Sea	al:
L.P.E./L.P.G. Signature:	Date	6/13/13
Subscribed and sworn to before me the 13% day of	June pm	OFFICIAL SEAL
	Seal: NO	ELIZABETH CAPE TARY PUBLIC, STATE OF ILLINOIS
(Notary Public)	- LMY	COMMISSION EXPIRES 3-26-2014

The Illinois EPA is authorized to require this information under 415 ILCS 5/1. Disclosure of this information is required. Failure to do so may result in the delay or denial of any budget or payment requested hereunder.



Illinois Environmental Protection Agency

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The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 – 57.17). Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false material statement or representation, orally or in writing, in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compliance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/44 and 57.17). This form has been approved by the Forms Management Center.

Leaking Underground Storage Tank Program Corrective Action Plan

: :	EMA Incident # (6- or 8-digit): 980 Site Name: West Chicago Park Dis Site Address (Not a P.O. Box): 25		IEFA LFC	# (10-digit): 043	0903023
S	Site Address (Not a P.O. Box): 25	St			
C	· · · · · · · · · · · · · · · · · · ·	O talent Matiemat Ct			
				ZIP Code: 60	1105
	City: West Chicago	County: <u>DuPage</u>		ZIP Code. <u>Bu</u>	1100
B. S	Site Information				
1	. Will the owner or operator seek	reimbursement from the Un	derground Stora	ge Tank Fund?	✓ Yes ☐ No
2	2. If yes, is the budget attached?	✓ Yes ☐ No			
3	3. Is this an amended plan?	✓ Yes ☐ No	, -	-	
4	I. Identify the material(s) released	d: unleaded gasoline, diese	el fuel		
5	5. This Corrective Action Plan is s	submitted pursuant to:		R	ECEIVED
	a. 35 III. Adm. Code 731.166	i		٠.	JUL 2 3 2013
	The material released v	was:		_	
	-petroleum			16	EPA/BOL
		tance (see Environmental t Section 3.215)		• • • •	
	b. 35 III. Adm. Code 732.404		abla		
	c. 35 III. Adm. Code 734.335				
C. P	roposed Methods of Reme	diation			
1	Soil Excavation and disposal				
2	2. Groundwater TACO evaluatio	n			

IL 532 2287 LPC 513 Rev. July 2007 Corrective Action Plan

- 4. Boring logs;
- 5. Monitoring well logs; and
- 6. Site maps meeting the requirements of 35 III. Adm. Code 732.110(a) or 734.440 and showing:
 - a. Soil sample locations;
 - b. Monitoring well locations; and
 - c. Plumes of soil and groundwater contamination.

E. Technical Information - Corrective Action Plan

Provide the following:

- 1. Executive summary identifying the objectives of the corrective action plan and the technical approach to be utilized to meet such objectives;
 - a. The major components (e.g., treatment, containment, removal) of the corrective action plan;
 - b. The scope of the problems to be addressed by the proposed corrective action; and
 - c. A schedule for implementation and completion of the plan;
- 2. Identification of the remediation objectives proposed for the site;
- 3. A description of the remedial technologies selected:
 - a. The feasibility of implementing the remedial technologies;
 - Whether the remedial technologies will perform satisfactorily and reliably until the remediation objectives are achieved; and
 - c. A schedule of when the technologies are expected to achieve the applicable remediation objectives;
- 4. A confirmation sampling plan that describes how the effectiveness of the corrective action activities will be monitored during their implementation and after their completion;
- 5. A description of the current and projected future uses of the site;
- 6. A description of engineered barriers or institutional controls that will be relied upon to achieve remediation objectives:
 - an assessment of their long-term reliability;
 - b. operating and maintenance plans; and
 - c. maps showing area covered by barriers and institutional controls;
- 7. The water supply well survey:
 - Map(s) showing locations of community water supply wells and other potable wells and the setback zone for each well:
 - b. Map(s) showing regulated recharge areas and wellhead protection areas;
 - Map(s) showing the current extent of groundwater contamination exceeding the most stringent Tier 1 remediation objectives;
 - Map(s) showing the modeled extent of groundwater contamination exceeding the most stringent Tier 1
 remediation objectives;
 - Tables listing the setback zone for each community water supply well and other potable water supply wells;
 - f. A narrative identifying each entity contacted to identify potable water supply wells, the name and title of each person contacted, and any field observations associated with any wells identified; and
 - g. A certification from a Licensed Professional Engineer or Licensed Professional Geologist that the survey was conducted in accordance with the requirements and that documentation submitted includes information obtained as a result of the survey (certification of this plan satisfies this requirement);

Corrective Action Plan Page 2 of 4

- 8. Appendices:
 - a. References and data sources report that are organized; and
 - b. Field logs, well logs, and reports of laboratory analyses;
- 9. Site map(s) meeting the requirements of 35 III. Adm. Code 732.110(a) or 734.440;
- 10. Engineering design specifications, diagrams, schematics, calculations, manufacturer's specifications, etc.;
- A description of bench/pilot studies;
- 12. Cost comparison between proposed method of remediation and other methods of remediation;
- 13. For the proposed Tier 2 or 3 remediation objectives, provide the following:
 - a. The equations used;
 - b. A discussion of how input variables were determined;
 - Map(s) depicting distances used in equations; and
 - d. Calculations; and
- 14. Provide documentation to demonstrate the following for alternative technologies:
 - The proposed alternative technology has a substantial likelihood of successfully achieving compliance with all applicable regulations and remediation objectives;
 - b. The proposed alternative technology will not adversely affect human health and safety or the environment;
 - The owner or operator will obtain all Illinois EPA permits necessary to legally authorize use of the alternative technology;
 - d. The owner or operator will implement a program to monitor whether the requirements of subsection (14)(a) have been met;
 - e. Within one year from the date of Illinois EPA approval, the owner or operator will provide to the Illinois EPA monitoring program results establishing whether the proposed alternative technology will successfully achieve compliance with the requirements of subsection (14)(a); and
 - f. Demonstration that the cost of alternative technology will not exceed the cost of conventional technology and is not substantially higher than at least two other alternative technologies, if available and technically feasible.

F. Exposure Pathway Exclusion

Provide the following:

- 1. A description of the tests to be performed in determining whether the following requirements will be met:
 - a. Attenuation capacity of the soil will not be exceeded for any of the organic contaminants;
 - b. Soil saturation limit will not be exceeded for any of the organic contaminants;
 - c. Contaminated soils do not exhibit any of the reactivity characteristics of hazardous waste per 35 III. Adm. Code 721.123;
 - d. Contaminated soils do not exhibit a pH ≤ 2.0 or ≥ 12.5; and
 - e. Contaminated soils which contain arsenic, barium, cadmium, chromium, lead, mercury, or selenium (or their associated salts) do not exhibit any of the toxicity characteristics of hazardous waste per 35 III. Adm. Code 721.124.
- A discussion of how any exposure pathways are to be excluded.

Corrective Action Plan
Page 3 of 4

G. Signatures

All plans, budgets, and reports must be signed by the owner or operator and list the owner's or operator's full name, address, and telephone number.

UST Owner or Operator	Consultant
Name West Chicago Park Dist.	Company Resource Consulting
Contact Jesse Felix	Contact Dan Horvath
Address 157 West Washington St.	Address PO Box 123
City West Chicago	City Geneva
State Illinois	State Illinois
Zip Code 60185	Zip Code 60134
Phone 630-231-9474	Phone 630-232-9820 A
Signature besse Felix	Signature VXV
Date	Date

I certify under penalty of law that all activities that are the subject of this plan were conducted under my supervision or were conducted under the supervision of another Licensed Professional Engineer or Licensed Professional Geologist and reviewed by me; that this plan and all attachments were prepared under my supervision; that, to the best of my knowledge and belief, the work described in this plan has been completed in accordance with the Environmental Protection Act [415 ILCS 5], 35 III. Adm. Code 731, 732 or 734, and generally accepted standards and practices of my profession; and that the information presented is accurate and complete. I am aware there are significant penalties for submitting false statements or representations to the Illinois EPA, including but not limited to fines, imprisonment, or both as provided in Sections 44 and 57.17 of the Environmental Protection Act [415 ILCS 5/44 and 57.17].

Licensed Professional Engineer or Geologist

Name Dan Horvath

Company Resource Consulting

Address PO Box 123

City Geneva

State Illinois

Zip Code 60134

Phone 630-232-9820

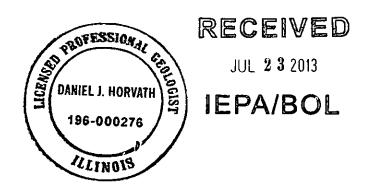
Ill. Registration No. 196-000276

License Expiration Date 3/31/16

Signature

Date

L.P.E. or L.P.G. Seal



Corrective Action Plan Page 4 of 4



A Site Identification

Electronic Filing: Received, Clerk's Office 09/20/2024

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The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 – 57.17). Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false material statement or representation, orally or in writing, in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compliance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/44 and 57.17). This form has been approved by the Forms Management Center.

Leaking Underground Storage Tank Program Corrective Action Completion Report

IEMA Incident # (6- or 8-digit):	980814	IEPA LPC# (10-digit):	0430905825
Site Name: West Chicago Park	Dist.		
Site Address (Not a P.O. Box):	250 West National Street		
City: West Chicago	County: DuPage	ZIP Code	e: <u>60185</u>
B. Site Information			
Has a Corrective Action Pla	n been approved?	□ No	
Date of approval letter: July	_		
This completion report is be	ing submitted pursuant to:		• .
a. 35 III. Adm. Code 731.16	6 🔲		
b. 35 III. Adm. Code 732.30	0(b)		
c. 35 III. Adm. Code 732.40	4 📝		RECEIVED
d. 35 III. Adm. Code 734.34	5 🗌		JUL 2 3 2013
3. Method of remediation chose	en:		IEPA/BOL
a. Soil Excavation and d	isposal		
b. Groundwater TACO e	valuation		
4. Quantity of contaminated me	dia remediated and/or recovere	ed	
a. Soil	215 yds. ³	·	
b. Groundwater	4,000 gals.		
c. Free Product	10 gals.		

C. Remedial (Corrective) Action

- 1. An executive summary that identifies the overall objectives of the corrective action and the technical approach utilized to meet those objectives. The summary shall contain the following information:
 - A brief description of the site, including but not limited to a description of the release, the applicable indicator contaminants, the contaminated media, and the extents of soil and groundwater contamination that exceeded the most stringent Tier 1 remediation objectives;

IL 532 2288 LPC 514 Rev. March 2006 Corrective Action Completion Report Page 1 of 3

Electronic Filing: Received, Clerk's Office 09/20/2024 The major components (e.g., treatment, containment, removal) of the corrective action;

- b.
- The scope of the problems corrected or mitigated by the corrective action; and C.
- The anticipated post-corrective action uses of the site and areas immediately adjacent to the site; d.
- 2. A description of the corrective action activities conducted including:
 - a. A narrative description of the field activities conducted as part of corrective action;
 - A narrative description of the remedial actions implemented at the site and the performance of each remedial technology utilized:
 - Documentation of sampling activities:
 - Sample collection information;
 - Sample preservation and shipment information; ii.
 - iii. Analytical procedure information;
 - Analytical results, chain of custody and control, and laboratory certification;
 - Field and lab blanks; and
 - vi. Table(s) comparing analytical results to remediation objectives approved for the site (include sample depths, date collected, and detection limits);
 - Soil boring logs and monitoring well construction diagrams. d.
- A narrative description of any special conditions relied upon as part of corrective action including:
 - Engineered barriers utilized:
 - i. Type of barrier(s); and
 - Map showing location(s) and dimension(s) of barrier(s):
 - Institutional controls utilized:
 - Copy of fully executed institutional control(s); and
 - Map showing location(s) of controls:
 - Other conditions, if any, necessary for protection of human health and safety and the environment that are related to the issuance of a No Further Remediation Letter; and
 - Any information required regarding off-site access:
- 4. An analysis of the effectiveness of the corrective action that compares the confirmation sampling results to the remediation objectives approved for the site;
- 5. A conclusion that identifies the success in meeting the remediation objectives approved for the site;
- Appendices containing references and data sources;
- 7. The water supply well survey:
 - Map(s) showing locations of community water supply wells and other potable wells and the setback zone for
 - Map(s) showing regulated recharge areas and wellhead protection areas;
 - Map(s) showing the current extent of groundwater contamination exceeding the most stringent Tier 1 remediation objectives;
 - Map(s) showing the modeled extent of groundwater contamination exceeding the most stringent Tier 1 remediation objectives:
 - e. Table(s) listing the setback zones for each community water supply well and other potable water supply wells;
 - A narrative identifying each entity contacted to identify potable water supply wells, the name and title of each person contacted, and any field observations associated with any wells identified; and
 - A certification from a Licensed Professional Engineer or Licensed Professional Geologist that the survey was conducted in accordance with the requirements and that the documentation submitted includes the information obtained as a result of the survey (certification of this report satisfies this requirement);

- 8. Site map(s) meeting the requirements of 35 III. Adm. Code 732.110(a) or 734.440.
- 9. Development of Tier 2 or 3 remediation objectives, if applicable:
 - a. Equations used;
 - b. Discussion of how input variables were determined;
 - Map(s) depicting distances used in equation; and
 - d. Calculations; and
- 10. Property Owner Summary form.

D. Signatures

All plans, budgets, and reports must be signed by the owner or operator and list the owner's or operator's full name, address, and telephone number.

UST Owner or Operator	Consultant	
Name West Chicago Park Dist.	Company Resource Consulting	
Contact Jesse Felix	Contact Dan Horvath	
Address 157 West Washington St.	Address PO Box 123	
City West Chicago	City Geneva	
State Illinois	State Illinois	
Zip Code 60185	Zip Code 60134	RECEIVED
Phone 630-231-9474	Phone 630-232-9820	
Signature () esse tele	Signature	JUL- 2 3 2013
Date //4/28/13	Date	/ IEPA/ROL
		, WDOL

E. Certification

I certify under penalty of law that all activities that are the subject of this plan, budget, or report were conducted under my supervision or were conducted under the supervision of another Licensed Professional Engineer or Licensed Professional Geologist and reviewed by me; that this plan, budget, or report and all attachments were prepared under my supervision; that, to the best of my knowledge and belief, the work described in this plan, budget, or report has been completed in accordance with the Environmental Protection Act [415 ILCS 5], 35 Ill. Adm. Code 731, 732, or 734, and generally accepted standards and practices of my profession; and that the information presented is accurate and complete. I am aware there are significant penalties for submitting false statements or representations to the Illinois EPA, including but not limited to fines, imprisonment, or both as provided in Sections 44 and 57.17 of the Environmental Protection Act [415 ILCS 5/44 and 57.17].

Licensed Professional Engineer .P.E. Seal Name Bernard A. Bono Company Resource Consulting 062-044988 Address PO Box 123 REGISTERED City Geneva PROFESSIONAL ENGINEER State Illinois Zip Code 60134 KINOIS Phone 630-232-9820 III. Registration No. 062-044068 Signature Date License Expiration Date 11/30/13

Corrective Action Completion Report Page 3 of 3



A. Site Identification

Illinois Environmental Protection Agency

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The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 – 57.17). Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false material statement or representation, orally or in writing, in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compliance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/44 and 57.17). This form has been approved by the Forms Management Center.

Leaking Underground Storage Tank Program Laboratory Certification for Chemical Analysis

	IEN	AA Incident # (6- or 8-digit):	980814	IEPA LPC# (10-digit): 043090582	25
		e Name: West Chicago Parl		-	
		e Address (Not a P.O. Box):			
		y: West Chicago	County: DuPage	ZIP Code: 60185	
	Lea	aking UST Technical File			
В.	Sai	mple Collector			
	l ce	ertify that:			
	1.	Appropriate sampling equip	ment/methods were utilized to ob	tain representative samples.	(Initial)
	2.	Chain-of-custody procedure	es were followed in the field.		(Initial)
	3.	Sample integrity was maint	ained by proper preservation.		(Initial)
	4.	All samples were properly	abeled.		(Initial)
C.	Lal	boratory Representati	ve		
	1 ce	ertify that:			
	1.	Proper chain-of-custody pr	ocedures were followed as docum	ented on the chain-of-custody forms	SS-/
	2.	Sample integrity was main	ained by proper preservation.		(Initial)
	3.	All samples were properly	abeled.		(Initial)
	4.	Quality assurance/quality of	control procedures were established	ed and carried out.	SSV (Initial)
	5.	Sample holding times were	e not exceeded.		99 (Initial)

IL 532 2283 LPC 509 Rev. March 2006 Laboratory Certification for Chemical Analysis
Page 1 of 2

6. SW-846 Analytical Laboratory Procedure (USEPA) methods were used for the analyses.

ピタン (Initial)

 An accredited lab performed quantitative analysis using test methods identified in 35 IAC 186.180 (for samples collected on or after January 1, 2003). (Initial)

D. Signatures

I hereby affirm that all information contained in this form is true and accurate to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample Collector	Laboratory Representative
Name Brandi Talaga	Name Stan Zaworski
Title Environmental Technician	Title Project Manager
Company Resource Consulting, Inc.	Company First Environmental Labs, Inc.
Address P.O. Box 123	Address 1600 Shore Road
City Geneva	City Naperville
State Illinois	State Illinois
Zip Code 60134	Zip Code 60540
Phone (630)232-9820	Phone (630778-12/60)
Signature Back Molex	Signature
Date 7/17/13	Date8/1c/10



Illinois Environmental Protection Agency

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Leaking Underground Storage Tank Program Laboratory Certification for Chemical Analysis

Α.	Site	e Identification			
	IEN	MA Incident # (6- or 8-digit):	980814	IEPA LPC# (10-digit): 043090582	5
	Site	e Name: West Chicago Par	k District		<u></u>
	Site	Address (Not a P.O. Box):	250 West National Street		
	City	y: West Chicago	County: DuPage	ZIP Code: 60185	
	Lea	iking UST Technical File			
В.	Sai	mple Collector			
	l ce	ertify that:			
	1.	Appropriate sampling equi	pment/methods were utilized to ol	btain representative samples.	
		,, ,			(Initial)
	2.	Chain-of-custody procedur	es were followed in the field.		(Initial)
					(maar)
	3.	Sample integrity was main	tained by proper preservation.		(Initial)
	4	All samples were properly	laholed		
	4.	All samples were properly	labeled.		(Initial)
C.	Lal	boratory Representati	ve		
	l ce	ertify that:			
	4	Decree shair of quotody or	randuras were followed as docum	mented on the chain-of-custody forms	55~
	1.	Proper chain-oi-custody pr	ocedules were followed as docur	nemed on the chair of desiredy ferme	(Initial)
	2.	Sample integrity was main	tained by proper preservation.		55~
		Campio integrity tree in an			(Initial)
	3.	All samples were properly	labeled.		(Initial)
					55 L
	4.	Quality assurance/quality	control procedures were establish	ied and carried out.	(Initial)
					55/
	5.	Sample holding times were	e not exceeded.		(Initial)
					·····

IL 532 2283 LPC 509 Rev. March 2006 Laboratory Certification for Chemical Analysis
Page 1 of 2

6. SW-846 Analytical Laboratory Procedure (USEPA) methods were used for the analyses.

タムー (Initial)

 An accredited lab performed quantitative analysis using test methods identified in 35 IAC 186.180 (for samples collected on or after January 1, 2003). (Initial)

D. Signatures

I hereby affirm that all information contained in this form is true and accurate to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample Collector	Laboratory Representative
Name Brandi Talaga	Name Stan Zaworski
Title Environmental Technician	Title Project Manager
Company Resource Consulting, Inc.	Company First Environmental Labs, Inc.
Address P.O. Box 123	Address 1600 Shore Road
City Geneva	City Naperville
State Illinois	State Illinois
Zip Code 60134	Zip Code 60540
Phone (630)232-9820	Phone (630778-1 2 00
Signature Bya Ciff Talar	Signature
Date 7/19/13	Date 8/16/10



Illinois Environmental Protection Agency

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Leaking Underground Storage Tank Program **Laboratory Certification for Chemical Analysis**

A.	Site	e Identification			
	IEN	AA Incident # (6- or 8-digit):	980814	IEPA LPC# (10-digit): 043090582	5
	Site	e Name: West Chicago Part	k District		
	Site	e Address (Not a P.O. Box):	250 West National Street		
	City	y: West Chicago	County: DuPage	ZIP Code: 60185	
	Lea	iking UST Technical File			
В.	Sai	mple Collector			
	l'ce	ertify that:			
	1.	Appropriate sampling equip	oment/methods were utilized to o	obtain representative samples.	
					(Initial)
	2.	Chain-of-custody procedur	es were followed in the field.		/Ii1>
					(Initial)
	3.	Sample integrity was main	tained by proper preservation.		(Initial)
		Att I			(,
	4.	All samples were properly	labeled.		(Initial)
C.	Lal	boratory Representati	ve		
	l ce	ertify that:			
	4	Denner abole of quotody or	ocoduras were followed as docu	mented on the chain-of-custody forms	59~
	1.	Proper chain-oi-custooy pi	ocedures were rollowed as docu	intented on the chain-of-custody forms	(Initial)
	2.	Sample integrity was main	tained by proper preservation.		5
					(Initial)
	3.	All samples were properly	labeled.		<u> </u>
					(Initial)
	4.	Quality assurance/quality	control procedures were establis	hed and carried out.	(Initial)
					52
	5.	Sample holding times were	e not exceeded.		(Initial)
				(miner)	

IL 532 2283 LPC 509 Rev. March 2006 Laboratory Certification for Chemical Analysis Page 1 of 2

Electronic Filing: Received, Clerk's Office 09/20/2630905825 - DuPage County

West Chicago Park District Owner/Operator and Licensed Professional Engineer/Ger Incident # 980814 **Leaking UST Technical File Certification Form**

I hereby certify that I intend to seek payment from the UST Fund for costs incurred while activities for Leaking UST incident 980814 . I further certify that the costs set forth in this budget are for necessary activities and are reasonable and accurate to the best of my knowledge and belief. I also certify that the costs included in this budget are not for corrective action in excess of the minimum requirements of 415 ILCS 5/57, no costs are included in this budget that are not described in the corrective action plan, and no costs exceed Subpart H: Maximum Payment Amounts, Appendix D Sample Handling and Analysis amounts, and

Appendix E Personnel Titles and Rates of 35 III. Adm. Code 732 or 7 payment from the Fund pursuant to 35 III. Adm. Code 732.606 or 73 amendment. Such ineligible costs include but are not limited to:	
Costs associated with ineligible tanks. Costs associated with site restoration (e.g., pump islands, or costs associated with utility replacement (e.g., sewers, electors incurred prior to IEMA notification. Costs associated with planned tank pulls.	
Legal fees or costs. Costs incurred prior to July 28, 1989.	RECEIVE
Costs associated with installation of new USTs or the repai	air of existing USTs. SEP 1 1 2013
Owner/Operator: West Chicago Park Dist.	
Authorized Representative: Jesse Felix	Title: Superintendent of Parks
Signature: Life	Date: 4/28/c3
Subscribed and sworn to before me the day of	ori/ 2013
Darry Ferrances Se	eal: OFFICIAL NEAL DAMPY PROMINED: Industry Public - State of Minate My Commission France
In addition, I certify under penalty of law that all activities that are the conducted under my supervision or were conducted under the super or Licensed Professional Geologist and reviewed by me; that this play prepared under my supervision; that, to the best of my knowledge are or report has been completed in accordance with the Environmental 732 or 734, and generally accepted standards and practices of my practurate and complete. I am aware there are significant penalties for to the Illinois EPA, including but not limited to fines, imprisonment, or Environmental Protection Act [415 ILCS 5/44 and 57.17].	ervision of another Licensed Professional Engineer and, budget, or report and all attachments were and belief, the work described in the plan, budget, I Protection Act [415 ILCS 5], 35 Ill. Adm. Code profession; and that the information presented is for submitting false statements or representations
L.P.E./L.P.G.: Dan Horvath L.P.E	E./L.P.G. Seal:
(Notary Public)	ELIZABETH CAPE STATE OF ILLINOISSION EXPIRES 3-28-2016
The Illinois EPA is authorized to require this information under 415 IL required. Failure to do so may result in the delay or denial of any but	LC3 3/1. Disclosure of this information is



Elettionionis Enryprioni Menkisauffero 120/2018 AGENCY

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 • (217)782-2829

PAT QUINN, GOVERNOR

LISA BONNETT, DIRECTOR

217/524-3300

CERTIFIED MAIL

SEP 1 7 2013

2012 0470 0001 2974 2873

West Chicago Park District Attention: Jesse Felix 157 West Washington Street West Chicago, Illinois 60185

IEPA-DIVISION OF RECORDS MANAGEMENT
RELEASABLE

OCT G 8 2013

REVIEWER JKS

Re: LPC # 0430905825 – Du Page County

West Chicago / West Chicago Park District

250 West National Street

Leaking UST Incident No. 980814

Leaking UST Technical File

Dear Mr. Felix:

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed the Corrective Action Completion Report (report) submitted for the above-referenced incident. This report was dated June 21, 2013 and was received by the Illinois EPA on July 23, 2013. Citations in this letter are from the Environmental Protection Act (Act), as amended by Public Act 92-0554 on June 24, 2002, and Public Act 96-0908 on June 8, 2010, and 35 Illinois Administrative Code (35 Ill. Adm. Code).

Pursuant to 57.7(c) of the Act and 35 Ill. Adm. Code 734.505(b) and 734.510(a), the report is rejected for the reason(s) listed below:

 On May 16, 2013, the Illinois Pollution Control Board added the indoor inhalation exposure route to its tiered approach to corrective action objectives regulations at 35 Ill. Adm. Code 742. These amendments were effective on July 15, 2013. For information on the exposure route, please see the fact sheets at www.epa.state.il.us/land/taco/indoor-inhalation-amendments.html, especially the one entitled *Petroleum Vapor Intrusion* Assessment for Leaking UST Program Sites.

Results of investigation of the release and the site characterization for the above-referenced incident indicate there is not an interval of at least five feet of uncontaminated soil between contaminated groundwater and the lowest point of an overlying receptor (or ground surface if there is no overlying receptor). Therefore, an evaluation of the indoor inhalation exposure route in accordance with 35 Ill. Adm. Code 742 is required. In an effort to address the pathway, collection and analysis of a soil gas sample is requested as part of site investigation. The soil gas sample should be collected from native soil at a depth of three feet below ground surface and above the saturated zone in the area representative of the most soil contamination. The soil gas sample should be collected in

4302 N. Main St., Rockford, IL 61103 (815) 987-7760 595 S. State, Elgin, IL 60123 (847) 608-3131 2125 S. First St., Champaign, IL 61820 (217) 278-5800 2009 Mall St., Collinsville, IL 62234 (618) 346-5120 9511 Harrison St., Des Plaines, IL 60016 (847) 294-4000 5407 N. University St., Arbor 113, Peoria, IL 61614 (309) 693-5462 2309 W. Main St., Suite 116, Marian, IL 62959 (618) 993-7200 100 W. Randolph, Suite 10-300, Chicago, IL 60601 (312) 814-6026

Page 1

the following location: the location of RW-4a. The soil gas sample should be analyzed for benzene, ethylbenzene, toluene, total xylenes and naphthalene.

The soil gas sampling requirements are at 35 Ill. Adm. Code 742.227. See the Soil Gas Sampling Protocol fact sheet at the above Web address for guidance on soil gas sampling. It is suggested that contact be made with the laboratory to ensure that the laboratory detection limits are equal to or less than the indoor air remediation objectives calculated using Equation J&E1 or J&E2. (See the Petroleum Vapor Intrusion Assessment for Leaking UST Program Sites fact sheet for the link to the indoor air remediation objectives.) The use of indoor air remediation objectives as soil gas remediation objectives carries with it no institutional controls.

- 2. The Corrective Action Completion Report form states the report is being submitted pursuant to 35 Ill. Adm. Code 732.404. The Illinois EPA wishes to clarify that in accordance with 35 Ill. Adm. Code 734.100(b), Part 734 applies to all releases subject to Title XVI of the Act for which a No Further Remediation letter is issued on or after June 8, 2010. Therefore, the applicable requirement for which the report is being submitted is 35 Ill. Adm. Code 734.345.
- 3. In accordance with 35 Ill. Adm. Code 742.1015(b), a request for approval of a local ordinance as an institutional control shall provide the following:
 - A copy of the ordinance restricting groundwater use certified by an official of the unit of local government in which the site is located that it is a true and accurate copy of the ordinance, unless the Agency and the unit of local government have entered an agreement under subsection (i) of this Section, in which case the request may alternatively reference the MOU. The ordinance must demonstrate that potable use of groundwater from potable water supply wells is prohibited;
 - A scaled map(s) delineating the area and extent of groundwater contamination modeled above the applicable remediation objectives including any measured data showing concentrations of contaminants of concern in which the applicable remediation objectives are exceeded;
 - 3) A scaled map delineating the boundaries of all properties under which groundwater is located which exceeds the applicable groundwater remediation objectives;
 - 4) Information identifying the current owner(s) of each property identified in subsection (b)(3) of this Section; and
 - 5) A copy of the proposed written notification to the unit of local government that adopted the ordinance and to the current owners identified in subsection (b)(4) of this Section that includes the following information:

Page 2

- A) The name and address of the unit of local government that adopted the ordinance;
- B) The ordinance's citation;
- A description of the property being sent notice by adequate legal description, reference to a plat showing the boundaries of the property, or accurate street address;
- D) Identification of the party requesting to use the groundwater ordinance as an institutional control, and a statement that the party has requested approval from the Agency to use the ordinance as an institutional control;
- E) A statement that use of the ordinance as an institutional control allows contamination above groundwater ingestion remediation objectives to remain in groundwater beneath the affected properties, and that the ordinance strictly prohibits human and domestic consumption of the groundwater;
- F) A statement as to the nature of the release and response action with the site name, site address, and Agency site number or Illinois inventory identification number; and
- G) A statement that more information about the remediation site may be obtained by contacting the party requesting the use of the groundwater ordinance as an institutional control or by submitting a FOIA request to the Agency.

This information is not submitted in accordance with 35 Ill. Adm. Code 742.1015(b). In order to review the adequacy of the proposed groundwater ordinance for use as an institutional control, the Illinois EPA requests the documentation required in 35 Ill. Adm. Code 742.1015(b)(1) through (5) be submitted for review.

- 4. The Illinois EPA notes the following discrepancies in the owner's Tier 2 model conducted in accordance with 35 Ill. Adm. Code 742.715(c) and 742.810:
 - a) The owner is utilizing a value of 91.4 cm for the source width perpendicular to groundwater flow direction in vertical plane (s_d value). The report states the value is derived as the field measurement of thickness of soil. The Illinois EPA wishes to clarify the S_d value is derived from the vertical source width of impacted groundwater in the groundwater table, not soil. As this value is not easily measured for leaking underground storage tank indicator contaminants, the Illinois EPA requires a default value of 200 cm be used.
 - b) The owner is utilizing a value of 6.40E-02 cm/sec for the in-situ hydraulic conductivity (K value). The Illinois EPA wishes to clarify that approval for the use of the average in-situ hydraulic conductivity value of 3.30E-02 cm/sec was given in response to the request to use the average in the Corrective Action Completion

Report received by the Illinois EPA on June 6, 2003. Therefore, the appropriate K value for use in the model is the average value of 3.30E-02 cm/sec.

- c) The owner is utilizing a site-specific soil bulk density (ρ_s value) determined from a method not accepted in accordance with 35 Ill. Adm. Code 742, Appendix C, Table F. The most favorable default value in accordance with 35 Ill. Adm. Code 742, Appendix, C, Table D is 1.5 g/cm³.
- d) The owner is utilizing a value of 58.9 cm³/g for the benzene organic carbon partition coefficient (Koc value), and a value of 0.228 for the benzene Henry's constant (H' value). The Illinois EPA wishes to clarify the chemical and physical parameters table found in 35 Ill. Adm. Code 742, Appendix C, Table G was updated in the 742 amendments effective July 15, 2013. The updated values required for the model are 50.0 cm³/g for the Koc value and 0.230 for the H' value.
- e) The owner is utilizing a value of 363 cm³/g for the ethylbenzene organic carbon partition coefficient (Koc value), and a value of 0.323 for the ethylbenzene Henry's constant (H` value). The Illinois EPA wishes to clarify the chemical and physical parameters table found in 35 Ill. Adm. Code 742, Appendix C, Table G was updated in the 742 amendments effective July 15, 2013. The updated values required for the model are 320 cm³/g for the Koc value and 0.324 for the H` value.
- f) The owner calculated an R24 groundwater Darcy velocity for ethylbenzene using a unit of cm/day for in-situ hydraulic conductivity. The appropriate in-situ hydraulic conductivity unit for calculating a groundwater Darcy velocity using R24 is cm/year, not cm/day. The Illinois EPA notes the owner utilized the correct unit when developing the Darcy velocity for benzene.

When the corrected values are utilized in the models, the contaminant fate and transport evaluation demonstrates the following:

- Using R26, a benzene groundwater concentration of 1.23 mg/l migrates 850 feet from the source before meeting compliance with the Tier 1 remediation objective of 0.005 mg/l.
- Using R26, an ethylbenzene groundwater concentration of 1.2 mg/l migrates 65 feet from the source before meeting compliance with the Tier 1 remediation objective of 0.7 mg/l.
- Using R12, a benzene soil concentration of 0.49 mg/kg will leach and migrate 290 feet from the source before meeting compliance with the Tier 1 remediation objective of 0.005 mg/l.
- Using R12, a naphthalene soil concentration of 160 mg/kg will leach and migrate 360 feet from the source before meeting compliance with the Tier 1 remediation

Page 4

objective of 0.14 mg/l. The Illinois EPA notes this contaminant was not evaluated for fate and transport of soil component of groundwater ingestion exposure route. As the re-sample analyses for the EW-1 location did not include PNA contaminants, the naphthalene exceedence of 160 mg/kg must be evaluated.

In addition, the report states dissolved contamination migrated towards the east, although the gradient indicates a groundwater flow direction towards the south/southeast. As evidence supports the migration of dissolved contamination towards the east, the Illinois EPA requires the groundwater ingestion exposure route to be excluded to the east in addition to the south. Therefore, the groundwater ingestion exposure route must be excluded for a minimum distance of 850 feet from the source in both the south and east directions.

- 5. In accordance with 35 Ill. Adm. Code 734.135(e), reports documenting the completion of corrective action at a site must contain a form addressing site ownership. At a minimum, the form must identify the land use limitations proposed for the site, if land use limitations are proposed; the site's common address, legal description, and real estate tax/parcel index number; and the names and addresses of all title holders of record of the site or any portion of the site. The form addressing site ownership, the Property Owner Summary form, does not include the legal description and real estate tax/parcel index number for the site. The Illinois EPA requests this information be submitted to meet the requirements of this Part.
- 6. The Laboratory Certification for Chemical Analysis forms do not include the Sample Collector's initials certifying that the proper sample collecting procedures were followed. The Illinois EPA requires this certification be properly initialed by the Sample Collector.

Pursuant to Section 57.12(c) and (d) of the Act and 35 Ill. Adm. Code 734.100 and 734.125, the Illinois EPA requires that an amended Corrective Action Completion Report or Corrective Action Plan be submitted within 90 days to:

Illinois Environmental Protection Agency Bureau of Land - #24 Leaking Underground Storage Tank Section 1021 North Grand Avenue East Post Office Box 19276 Springfield, IL 62794-9276

Please submit all correspondence in duplicate and include the Re: block at the beginning of this letter.

Page 5

An underground storage tank system owner or operator may appeal this decision to the Illinois Pollution Control Board. Appeal rights are attached.

If you have any questions or need further assistance, please contact Carol Hawbaker at 217/782-5713.

Sincerely,

Harry A. Chappel, P.E.

Unit Manager

Leaking Underground Storage Tank Section

Division of Remediation Management

Bureau of Land

HAC: CLH

c: Resource Consulting, Inc.

BOL File

Appeal Rights

An underground storage tank owner or operator may appeal this final decision to the Illinois Pollution Control Board pursuant to Sections 40 and 57.7(c)(4) of the Act by filing a petition for a hearing within 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 90 days by written notice from the owner or operator 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 filing of an appeal, please contact:

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

For information regarding the filing of 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



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1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 • (217) 782-2829

PAT QUINN, GOVERNOR

LISA BONNETT, DIRECTOR

217/524-3300

CERTIFIED MAIL

SEP 1 7 2013

EC92 4762 T000 0240 2402

West Chicago Park District Attention: Jesse Felix 157 West Washington Street West Chicago, Illinois 60185

Re: LPC # 0430905825 – Du Page County

West Chicago / West Chicago Park District

250 West National Street

Leaking UST Incident No. 980814

Leaking UST Technical File

Dear Mr. Felix:

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed the Corrective Action Completion Report (report) submitted for the above-referenced incident. This report was dated June 21, 2013 and was received by the Illinois EPA on July 23, 2013. Citations in this letter are from the Environmental Protection Act (Act), as amended by Public Act 92-0554 on June 24, 2002, and Public Act 06, 0002, and action and action and action and action and action and action action.

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SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
Complete items 1, 2 and 3. Also complete item 4 if the trional likely on its passing. Print you frame and achieves on the cay so that we can return the card to you. Attach this card to the achieve the mailpiece.	A Signature A Signature A Agent Addressee B. Received by (Printed Name) C. Date of Delivery
or on the front space certaits. 1. Article Addressed to:	D. Is delivery address different from item 1? ☐ Yes If YES, enter delivery address below: ☐ No
West Chicago Park District	980874 MACKH
Attn: Jesse Felix 157 West Washington Street West Chicago, IL 60185	Septice Type **Cortified Mail Express Mail Return Receipt for Merchandise Insured Mail C.O.D.
	4. Restricted Delivery? (Extra Fee) ☐ Yes
2. Article Number (Transfer from service label) 70/2 04	10 0001 2914 2813
PS Form 3811, February 2004 Domestic Ret	um Receipt 102595-02-M-1540

Postage \$ Certified Fee (Endorsement Required) Restricted Delivery Fee (Endorsement Required)	\$ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\
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♥ West Chicago, IL 60185	
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Sender: Please print your name, address, and ZIP+4 in this box

Illinois Environmental Protection Agency 1021 North Grand Avenue East, P.O. Box 19276

Mail Code: #24 Leaking UST Springfield, IL 62794-9276

լգորովիլիաթըրդը, ոսկրուդի հանում

0430905825 - DuPage County

RESOURCE CONSULTING, INC.

115 Campbell Street/Suite 108

P.O. Box 123

Geneva, Illinois 60134

(630)232-9820

June 14, 2019

IEPA - DIVISION OF RECORDS MANAGEMENT RELEASABLE

Ms. Carol Hawbaker
Illinois Environmental Protection Agency
Bureau of Land – No. 24
Leaking Underground Storage Tank Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

AUG 1 4 2019

REVIEWER: RDH

RE:

LPC No. 0430905825 – DuPage County West Chicago/West Chicago Park District 250 West National Street LUST Incident No. 980814

RECEIVED

JUN 1 8 2019

Technical Summary/CAP Amendment

IEPA/BOL

Dear Ms. Hawbaker:

On behalf of the West Chicago Park District, Resource Consulting, Inc. is submitting this summary of recent field activities and the scope of work to complete the Corrective Action Completion (CACR) for the above-referenced project. A budget amendment will be submitted with the final documentation.

A CACR was submitted to the Illinois Environmental Protection Agency (EPA) in July 2013. The CACR was rejected in correspondence dated September 17, 2013. During this time, the Illinois Pollution Control Board added the indoor inhalation exposure route to its Tiered Approach to Corrective Action Objectives (TACO) regulations in 35 Ill. Adm. Code 742, resulting in an evaluation of the indoor inhalation exposure route being required for the Site.

A soil gas sample was collected on August 26, 2014, from the area of RW-4A according to the requirements described in 35 Ill. Adm. Code. 742.227. A copy of the laboratory analysis report is included in Attachment A. The results of the soil gas analysis are shown in the following table.

RESOURCE CONSULTING, INC.

Table I Laboratory Analytical Summary BTEX in Soil Gas Sample (values in mg/m³)					
Sampling Date August 26, 2014 35IL742 App. B Table H Indoor Inhalation					
Sample ID	RW-4B	Residential Industrial Commercia			
Benzene	1.1	2.8			
Toluene	0.068	40,000			
Ethylbenzene	0.120	0.120 1.3			
Total Xylenes	5.8	140	840		
Methyl tert-butyl ether (MTBE)	0.039	3,700	24,000		
TEXT	Concentration exceeds Illinois EPA remediation objective.				
TEXT	Remediation objective exceeded by soil concentration.				

The sample collected from RW-4B exceeds the Tier 1 Indoor Inhalation remediation objective (RO) for benzene under a residential land use scenario.

During the preparation of a response to the CACR rejection letter, Resource Consulting received information from the Illinois EPA that the Site was required to the meet the indoor inhalation ROs for residential properties due to the Site being a park. In electronic correspondence dated June 7, 2017, the Illinois EPA project manager, Carol Hawbaker, gave Resource Consulting permission to resample monitoring well RW-4A to see if the current groundwater quality data would meet the residential indoor inhalation RO. A copy of the correspondence from Ms. Hawbaker regarding the resampling of RW-4A is included in Attachment B.

Resource Consulting, Inc. went to the Site on July 24, 2017, to resample monitoring well RW-4A. The well was developed using a dedicated PVC bailer with bottom-entry check valve. Development and purging of the well entailed the removal of at least 5 gallons of groundwater, equivalent to approximately 5 casing volumes, from the well.

A discrete sample was collected from the monitoring well in two 40-ml vials preserved with hydrochloric acid and an amber liter jar, all fitted with Teflon®-lined lids. The samples were placed on ice and submitted with chain-of-custody documentation to First Environmental Laboratories, Inc. of Naperville, Illinois. The samples underwent analysis for the presence of benzene, toluene, ethylbenzene, and total xylenes (BTEX) and polynuclear aromatic hydrocarbons (PNAs). Copies of the laboratory results and chain-of-custody information have been included in Attachment A.

The table below displays the analytical results from the sampling event and compares them to the Tier 1 ROs found 35 Ill. Adm. Code Part 742.

RESOURCE CONSULTING, INC.

Table II Laboratory Analytical Summary BTEX and PNAs in Groundwater Sample (values in mg/kg)						
Sampling Date	July 24, 2017	Illinois EPA Remediation Objectives				
		Groundwater				
Sample ID	RW-4A	Residential	Industrial/ Commercial			
Benzene	0.241	0.11	0.41			
Toluene	< 0.005	530	530			
Ethylbenzene	0.0202	0.37	1.4			
Total Xylenes	0.0217	30 93				
Acenaphthene	< 0.01	NA NA				
Acenaphthylene	< 0.01	NA NA				
Anthracene	< 0.05	NA	NA			
Benzo(a)anthracene	< 0.0013	NA	NA			
Benzo(a)pyrene	< 0.0002	NA	NA			
Benzo(b)fluoranthene	< 0.00018	NA	NA			
Benzo(k)fluoranthene	< 0.00018	NA NA				
Benzo(ghi)perylene	< 0.0004	NA	NA			
Chrysene	< 0.0015	NA	NA			
Dibenzo(a,h)anthracene	< 0.0003	NA	NA			
Fluoranthene	< 0.002	NA	NA			
Fluorene	< 0.002	NA	NA			
Indeno(1,2,3-cd)pyrene	< 0.0003	NA	NA			
Naphthalene	< 0.01	0.075	0.32			
Phenanthrene	< 0.005	NA	NA			
Pyrene	< 0.002	NA	NA			
TEXT	Concentration exceeds Illinois EPA remediation objective.					
TEXT	Remediation objective exceeded by soil concentration.					

The data in the above table show that benzene is still present in monitoring well RW-4A exceeding the indoor inhalation RO for residential properties.

Almost 2 years have passed since the above field work was performed. Resource Consulting is proposing to resample monitoring well RW-4A again to assess the current groundwater conditions.

Monitoring well RW-4A will be resampled using the methods described above. The groundwater sample will be analyzed for BTEX and PNAs to determine the concentrations present to assess if additional actions are necessary to address indoor inhalation. Specifically, if benzene still exceeds the groundwater residential RO for the indoor inhalation exposure route, Resource Consulting proposes that soil samples will be

RESOURCE CONSULTING, INC.

collected to determine dry bulk density and moisture content to calculate a site-specific RO for the Tier 2 exposure route.

Field work would commence upon your approval of the scope of work. The final budget including fees related to the work described in this document will be included in the final CACR.

Please contact our office at 630-232-9820 with any questions or comments regarding the contents of this correspondence.

Sincerely,

Daniel J. Horvath

Hydrogeologist/Project Manager

Attachments: A – Laboratory Data

B - Electronic Correspondence

CC: Mr. Michael Gasparini - West Chicago Park District

RESOURCE CONSULTING, INC.

ATTACHMENT A

Laboratory Data



First
Environmental
Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

October 09, 2014

Mr. Brian Beetz **RESOURCE CONSULTING, INC.**P.O. Box 123

Geneva, IL 60134

Project ID: WCPD

First Environmental File ID: 14-5486 Date Received: September 16, 2014

Dear Mr. Brian Beetz:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 003469: effective 09/25/2014 through 02/28/2015.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Stan Zaworski Project Manager



First
Environmental
Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Lab File ID: 14-5486

Project ID: WCPD

Date Received: September 16, 2014

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

The results in this report apply to the samples in the following table:

Laboratory Sample ID	Client Sample Identifier	
14-5486-001	RW-4B	08/26/14
14-5486-002		
14-5486-003	GP-1 (5'-6')	08/26/14

Sample Batch Comments:

Sample acceptance criteria were met.

The following is a definition of flags that may be used in this report:

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L	LCS recovery outside control limits.
С	Sample received in an improper container for this test.	М	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	N	Analyte is not part of our NELAC accreditation.
Е	Estimated result; concentration exceeds calibration range.	b	Chemical preservation pH adjusted in lab.
G	Surrogate recovery outside control limits.	Q	Result was determined by a GC/MS database search.
Н	Analysis or extraction holding time exceeded.	S	Analysis was subcontracted to another laboratory.
J	Estimated result; concentration is less than routine RL but greater than MDL.	W	Reporting limit elevated due to sample matrix.
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.



First
Environmental
Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected: 03

08/26/14

Project ID:

WCPD

Time Collected:

09/16/14

Sample ID:

RW-4B

Date Received:

09/10/14

Sample No:

14-5486-001

Date Reported: 10/09/14

Analyte	nga diggi sanarini santu (tara gaji jesi). santitu ayan jiyasan yanarini di 1900.	Result	R.L.	Units	Flags
Volatile Organic Compounds Analysis Date: 09/19/14	Method: TO-15	, 11, 11, 10, 10, 10, 10, 11, 11, 11, 11	Harris Comment of the		
Benzene		1.1	0.005	mg/m³	S
Methyl tert-butyl ether		0.039	0.005	mg/m³	S
Ethylbenzene		0.120	0.005	mg/m³	S
Toluene		0.068	0.005	mg/m³	S
Xylenes, Total	Photographs	5.8	0.020	mg/m³	\$



First **Environmental** Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

RESOURCE CONSULTING, INC. Client:

Date Collected: 08/26/14

WCPD Project ID:

Time Collected:

Sample ID:

Date Received:

09/16/14

Sample No:

GP-1 (2'-3') 14-5486-002

10/09/14 Date Reported:

Analyte	Result	R.L.	Units	Flags
Dry Soil Bulk Density Method: D2937	-94			
Analysis Date: 10/08/14				N.O.
Dry Soil Bulk Density	94.8		lbs/ft3	NS



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected:

08/26/14

Project ID:

WCPD

Time Collected:

Sample ID:

GP-1 (5'-6')

Date Received:

09/16/14

Sample No:

14-5486-003

Date Reported:

R.L.

10/09/14

Analyte

Method: D2937-94

Dry Soil Bulk Density

Analysis Date: 10/08/14

Dry Soil Bulk Density

94.3

Result

lbs/ft3

Units

NS

Flags

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安全是不是基础的企业的工作。

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	No Preservation Re-	Comments Comments Preservation Requirements Met: Yes No



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

August 01, 2017

Mr. Daniel Horvath

RESOURCE CONSULTING, INC.

P.O. Box 123

Geneva, IL 60134

Project ID: 98-1002 WCPD

First Environmental File ID: 17-3893

Date Received: July 24, 2017

Dear Mr. Daniel Horvath:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 004108: effective 03/24/2017 through 02/28/2018.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Bill Mottashed Project Manager



First Environmental Laboratories, Inc.

Laboratories, Inc. IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Lab File ID: 17-3893

Project ID: 98-1002 WCPD

Date Received: July 24, 2017

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

The results in this report apply to the samples in the following table:

Laboratory Sample ID	Client Sample Identifier	Date/Time Collected
17-3893-001	RW-41A	7/24/2017 12:00

Sample Batch Comments:

Sample acceptance criteria were met.



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Lab File ID: 17-3893

Project ID: 98-1002 WCPD

Date Received: July 24, 2017

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

The following is a definition of flags that may be used in this report:

Fiag	Description	Flag	Description
A	Method holding time is 15 minutes from collection. Lab an	alysis	was performed as soon as possible.
В	Analyte was found in the method blank.	L	LCS recovery outside control limits.
~	Analyte not detected at or above the reporting limit.	М	MS recovery outside control limits; LCS acceptable.
С	Sample received in an improper container for this test.	P	Chemical preservation pH adjusted in lab.
D	Surrogates diluted out; recovery not available.	Q	Result was determined by a GC/MS database search.
E	Estimated result; concentration exceeds calibration range.	S	Analysis was subcontracted to another laboratory.
G	Surrogate recovery outside control limits.	T	Result is less than three times the MDL value.
Н	Analysis or extraction holding time exceeded.	W	Reporting limit elevated due to sample matrix.
J	Estimated result; concentration is less than routine RL but greater than MDL.	N	Analyte is not part of our NELAC accreditation or accreditation may not be available for this parameter.
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client: RESOURCE CONSULTING, INC.

98-1002 WCPD

Project ID: Sample ID: Sample No:

RW-41A 17-3893-001 Date Collected: 07/24/17

Time Collected: 12:00

Date Received: 07/24/17

Date Reported: 08/01/17

Analyte	man and the state of the state	Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 07/31/17	Method: 5030B/826	0B			e economic
Benzene		241	5.0	ug/L	
Ethylbenzene		20.2	5.0	ug/L	
Toluene		< 5.0	5.0	ug/L	
Xylene, Total		21.7	5.0	ug/L	
Polynuclear Aromatic Hydrocar Analysis Date: 07/31/17	bons Method: 8270C		Preparation Preparation I	Method 351 Date: 07/31/17	0C
Acenaphthene		< 10	10	ug/L	
Acenaphthylene		< 10	10	ug/L	
Anthracene		< 5	5	ug/L	
Benzo(a)anthracene		< 0.13	0.13	ug/L	
Benzo(a)pyrene		< 0.2	0.2	ug/L	
Benzo(b)fluoranthene		0.18	0.18	ug/L	
Benzo(k)fluoranthene		0.18	0.17	ug/L	
Benzo(ghi)perylene		< 0.4	0.4	ug/L	
Chrysene		< 1.5	1.5	ug/L	
Dibenzo(a,h)anthracene		< 0.3	0.3	ug/L	
Fluoranthene		< 2	2	ug/L	
Fluorene		< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene		< 0.3	0.3	ug/L	
Naphthalene		< 10	10	ug/L	
Phenanthrene		< 5	5	ug/L	
Pyrene		< 2	2	ug/L	

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mail: dhovyo th@verouvce.111.nois.com W YOUTH MCG wouds Analyses
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hand for first first first the section of the secti
Comments Lab 1.D.
17-3893-6
See Town and the Court C

RESOURCE CONSULTING, INC.

ATTACHMENT B

Electronic Correspondence

From: Daniel Horvath dhorvath@resourceillinois.com

Subject: Fwd: [External] Leaking UST #980814 West Chicago Park District

Date: May 29, 2019 at 4:30 PM

To: Courtney McGinnis cmcginnis@resourceillinois.com



Daniel J. Horvath Resource Consulting, Inc.

(o) (630)232-9820

(c) (630)292-9820

(f) (630)232-9824

www.resourceillinois.com

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Begin forwarded message:

From: Daniel Horvath < dhorvath@resourceillinois.com

Subject: Re: [External] Leaking UST #980814 West Chicago Park District

Date: August 8, 2017 at 1:07:47 PM CDT

To: Carol Hawbaker < Carol. Hawbaker@Illinois.gov>

I will talk about this with my client. I know the Park District wants this done and over, but all we've been wait for (for literally years) is the Property Summary Form from the city. (The District has a perpetual lease.) The response to your last correspondence has been sitting here waiting for that final piece of the puzzle since the fall of 2015.

I'd like to send that in with a detailed budget amendment that includes the final work for the project including the work that went into the final response and this stuff. The last budget approved was in September 2013 so it may not have included the final ordinance/TACO/etc work. We'll check before we send it.

Thanks,

Daniel J. Horvath Resource Consulting, Inc.

- (o) (630)232-9820
- (c) (630)292-9820
- (f) (630)232-9824

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On Aug 8, 2017, at 12:47 PM, Hawbaker, Carol < Carol. Hawbaker@Illinois.gov > wrote:

Collect a sample for dry bulk density and moisture content from the soil at depth somewhere above the GW and 10cm bgs. We can calculate a site-specific RO. Moisture content can affect the RO's, maybe enough for 0.24 mg/L to meet it.

Carol

Carol Hawbaker Leaking Underground Storage Tank Section Division of Remediation Management Bureau of Land Illinois Environmental Protection Agency (217) 782-5713

Any person who knowingly makes a false material statement or representation, orally or in writing, in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compliance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/44 and 57.17).

From: Daniel Horvath [mailto:dhorvath@resourceillinois.com]

Sent: Tuesday, August 08, 2017 12:43 PM

To: Hawbaker, Carol < Carol. Hawbaker@Illinois.gov>

Subject: Re: [External] Leaking UST #980814 West Chicago Park District

Carol:

The results are in: 0.24 mg/L benzene. Not the 0.11 mg/L but much closer than what was present in the prior data.

As a firm we have not become very familiar with the J&E evaluation for indoor inhalation. I'm sure my client would rather not install a BCT in the new building. Any thoughts?

Thanks,

Daniel J. Horvath Resource Consulting, Inc.

- (o) (630)232-9820
- (c) (630)292-9820
- (f) (630)232-9824

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Thank you for your cooperation.

On Jun 7, 2017, at 4:03 PM, Hawbaker, Carol < Carol. Hawbaker@Illinois.gov > wrote:

Yes, if you re-sample the exceeding well and it's below residential RO's, you can exclude the route. Note, that you will still need a full concrete foundation requirement on the NFR (it's required when you compare with Table H RO's).

Carol

Carol Hawbaker Leaking Underground Storage Tank Section Division of Remediation Management Bureau of Land Illinois Environmental Protection Agency (217) 782-5713

Any person who knowingly makes a false material statement or representation, orally or in writing, in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compliance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/44 and 57.17).

From: Daniel Horvath [mailto:dhorvath@resourceillinois.com]

Sent: Wednesday, June 07, 2017 3:57 PM

To: Hawbaker, Carol < Carol. Hawbaker@Illinois.gov>

Subject: [External] Re: Leaking UST #980814 West Chicago Park District

I'll cover this with my client. It seems far too restrictive—no one is in this area of the park, inside or outside the future building, in amounts of time rivaling a commercial building.

If the well (MW-4A) is sampled and meets the indoor inhalation RO, would that meet the requirement?

Thanks,

Daniel J. Horvath Resource Consulting, Inc.

- (o) (630)232-9820
- (c) (630)292-9820
- (f) (630)232-9824

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On Jun 7, 2017, at 9:52 AM, Hawbaker, Carol < Carol. Hawbaker@Illinois.gov > wrote:

Spoke to the mangers about whether the release could close with an I/C land use limitation, and the response was that it must be residential due it being a park.

Carol

Carol Hawbaker Leaking Underground Storage Tank Section Division of Remediation Management Bureau of Land Illinois Environmental Protection Agency (217) 782-5713

Any person who knowingly makes a false material statement or representation, orally or in writing, in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compliance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/44 and 57.17).

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RESOURCE CONSULTING, INC.

115 Campbell Street/Suite 108

P.O. Box 123

Geneva, Illinois 60134

Phone: (630)232-9820

0430905825 - DuPage County West Chicago Park District Incident # 980814

Leaking UST Technical File

July 15, 2020

Mr. Eric Kuhlman
Illinois Environmental Protection Agency
Bureau of Land – No. 24
Leaking Underground Storage Tank Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

IEPA - DIVISION OF RECORDS MANAGEMENT RELEASABLE

DEC 07 2020

REVIEWER: RDH

RE: LPC No. 0430905825 - DuPage County

West Chicago/West Chicago Park District

250 West National Street LUST Incident No. 980814 LUST Technical File

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IEPA/BOL

Dear Mr. Kuhlman:

On behalf of the West Chicago Park District, Resource Consulting, Inc. has prepared this response to the letter from the Illinois Environmental Protection Agency (EPA) dated September, 17, 2013, for the above-referenced leaking underground storage tank (UST) incident.

Previous corrective actions were successful in addressing the free product and extreme petroleum contamination present below the property to ensure that human health and safety and the environment are protected. The USTs have been removed, the backfill material and the aquifer smear zone containing significant levels of contamination were removed, and free product removal efforts were successful.

Responses to specific Illinois EPA comments from the September 2013 correspondence are in regular text below.

1. On May 16, 2013, the Illinois Pollution Control Board added the indoor inhalation exposure route to its tiered approach to corrective action objectives regulations at 35 Ill. Adm. Code 742. These amendments were effective on July 15, 2013. For information on the exposure route, please see the fact sheets at www.epa.state.il.us/land/taco/indoorinhalationamendments.html, especially the one entitled Petroleum Vapor Intrusion Assessment for Leaking UST Program Sites.

Results of investigation of the release and the site characterization for the above-referenced incident indicate there is not an interval of at least five feet of uncontaminated soil between contaminated groundwater and the lowest point of an overlying receptor (or ground surface if there is no overlying receptor). Therefore, an evaluation of the indoor inhalation exposure route in accordance with 35 Ill. Adm. Code 742 is required. In an effort to address the pathway, collection and analysis of a soil gas sample is requested as part of site investigation. The soil gas sample should be collected from native soil at a depth of three feet below ground surface and above the saturated zone in the-area representative of the most soil contamination. The soil gas sample is required to be collected in the location of RW-4a. The soil gas sample should be analyzed for benzene, ethylbenzene, toluene, total xylenes and naphthalene.

The soil gas sampling requirements are at 35 Ill. Adm. Code 742.227. See the Soil Gas Sampling Protocol fact sheet at the above Web address for guidance on soil gas sampling. It is suggested that contact be made with the laboratory to ensure that the laboratory detection limits are equal to or less than the indoor air remediation objectives calculated using Equation J&E l or J&E 2. (See the Petroleum Vapor Intrusion Assessment for Leaking UST Program Sites fact sheet for the link to the indoor air remediation objectives.) The use of indoor air remediation objectives as soil gas remediation objectives carries with it no institutional controls.

A soil gas sample was collected on August 26, 2014, from the area of RW-4A according to the requirements described in 35 Ill. Adm. Code 742.227. A copy of the laboratory analysis report is included in Attachment A. The results of the soil gas analysis are shown in the following table.

Table I Laboratory Analytical Summary BTEX in Soil Gas Sample (values in mg/m³)			
Sampling Date	August 26, 2014		nhalation n Objectives
Sample ID	RW-4B	Residential	Industrial/ Commercial
Benzene	1.1	0.37	2.8
Toluene	0.068	6,200	40,000
Ethylbenzene	0.120	1.3	9.3
Total Xylenes	5.8	140	840
Methyl tert-butyl ether (MTBE)	0.039	3,700	24,000
TEXT	Concentration exceeds Illinois EPA remediation objective.		

The soil gas sample collected from RW-4B exceeds the Tier 1 Residential Indoor Inhalation remediation objective (RO) for benzene. During the preparation of the response to the CACR rejection letter, Resource Consulting received information from the Illinois EPA that the Site was required to the meet the indoor inhalation ROs for residential properties due to the Site being a park. In electronic correspondence dated June 7, 2017, the Illinois EPA project manager, Ms. Carol Hawbaker, gave Resource Consulting permission to resample monitoring well RW-4A to see if the current groundwater quality data would meet the residential indoor inhalation RO. All of this work will be reflected in the budget amendment to be submitted to the Illinois EPA in the near future.

Resource Consulting, Inc. returned to the Site on July 24, 2017, to resample monitoring well RW-4A. The well was developed using a dedicated PVC bailer with a bottom-entry check valve. Development and purging of the well entailed the removal of at least 5 gallons of groundwater, equivalent to approximately 5 casing volumes, from the well.

A discrete sample was collected from the monitoring well in two 40-ml vials preserved with hydrochloric acid and an amber liter jar, all fitted with Teflon®-lined lids. The samples were placed on ice and submitted with chain-of-custody documentation to First Environmental Laboratories, Inc. of Naperville, Illinois. The samples underwent analysis for the presence of benzene, toluene, ethylbenzene, and total xylenes (BTEX) and polynuclear aromatic hydrocarbons (PNAs). Copies of the laboratory results and chain-of-custody information have been included in Attachment A.

The table below displays the analytical results from the 2017 sampling event and compares them to the Tier 1 ROs found 35 III. Adm. Code Part 742.

Table II Laboratory Analytical Summary BTEX and PNAs in Groundwater Sample (values in mg/kg)				
Sampling Date	July 24, 2017	Illinois EPA Remediation Objectives		
		Indoor Inhalat	ion / Groundwater	
Sample ID	RW-4A	Residential	Industrial/ Commercial	
Benzene	0.241	0.11	0.41	
Toluene	< 0.005	530	530	
Ethylbenzene	0.0202	0.37	1.4	
Total Xylenes	0.0217	30	93	
Acenaphthene	< 0.01	NA	NA	
Acenaphthylene	< 0.01	NA	NA	
Anthracene	< 0.05	NA	NA	
Benzo(a)anthracene	< 0.0013	NA	NA	
Benzo(a)pyrene	< 0.0002	NA	NA	
Benzo(b)fluoranthene	< 0.00018	NA	NA	
Benzo(k)fluoranthene	< 0.00018	NA	NA	
Benzo(ghi)perylene	< 0.0004	NA	NA	
Chrysene	< 0.0015	NA	NA	
Dibenzo(a,h)anthracene	< 0.0003	NA	NA	
Fluoranthene	< 0.002	NA	NA	
Fluorene	< 0.002	NA	NA	
Indeno(1,2,3-cd)pyrene	< 0.0003	NA	NA	
Naphthalene	< 0.01	0.075	0.32	
Phenanthrene	< 0.005	NA	NA	
Pyrene	< 0.002	NA	NA	
TEXT	objective.	xceeds Illinois EPA		
TEXT	T Remediation objective exceeded by groundwater concentration.			

The data in the above table show that benzene is still present in monitoring well RW-4A exceeding the indoor inhalation RO for residential properties. Tier 2 calculations to evaluate the indoor inhalation exposure route will be included in the next submission to the Illinois EPA.

2. The Corrective Action Completion Report form states the report is being submitted pursuant to 35 Ill. Adm. Code 732.404. The Illinois EPA wishes to clarify that in accordance with 35 Ill. Adm. Code 734.100(b), Part 734 applies to all releases subject to Title XVI of the Act for which a No Further Remediation letter is issued on or after June 8, 2010. Therefore, the applicable requirement for which the report is being submitted is 35 Ill. Adm. Code 734.345.

A revised and updated Corrective Action Completion Report form citing 35 III. Adm. Code 734.345 will be included in the next submission to the Illinois EPA.

- 3. In accordance with 35 Ill. Adm. Code 742.1015(b), a request for approval of a local ordinance as an institutional control shall provide the following:
 - 1) A copy of the ordinance restricting groundwater use certified by an official of the unit of local government in which the site is located that it is a true and accurate copy of the ordinance, unless the Agency and the unit of local government have entered an agreement under subsection (i) of this Section, in which case the request may alternatively reference the MOU. The ordinance must demonstrate that potable use of groundwater from potable water supply wells is prohibited;
 - 2) A scaled map(s) delineating the area and extent of groundwater contamination modeled above the applicable remediation objectives including any measured data showing concentrations of contaminants of concern in which the applicable remediation objectives are exceeded;
 - 3) A scaled map delineating the boundaries of all properties under which groundwater is located which exceeds the applicable groundwater remediation objectives;
 - 4) Information identifying the current owner(s) of each property identified in subsection (b)(3) of this Section; and
 - 5) A copy of the proposed written notification to the unit of local government that adopted the ordinance and to the current owners identified in subsection (b)(4) of this Section that includes the following information:

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- A) The name and address of the unit of local government that adopted the ordinance; PA/BOL
- B) The ordinance's citation;
- C) A description of the property being sent notice by adequate legal description, reference to a plat showing the boundaries of the property, or accurate street address;
- D) Identification of the party requesting to use the groundwater ordinance as an institutional control, and a statement that the party has requested approval from the Agency to use the ordinance as an institutional control;
- E) A statement that use of the ordinance as an institutional control allows contamination above groundwater ingestion remediation objectives to remain in groundwater beneath the affected properties, and that the ordinance strictly prohibits human and domestic consumption of the groundwater;
- F) A statement as to the nature of the release and response action with the site name, site address, and Agency site number or Illinois inventory identification number; and
- G) A statement that more information about the remediation site may be obtained by contacting the party requesting the use of the groundwater ordinance as an institutional control or by submitting a FOIA request to the Agency.

This information is not submitted in accordance with 35 Ill. Adm. Code 742.1015(b). In order to review the adequacy of the proposed groundwater ordinance for use as an institutional control, the Illinois EPA requests the documentation required in 35 Ill. Adm. Code 742.1015(b)(1) through (5) be submitted for review.

A copy of the groundwater ordinance with supporting information is included as Attachment B.

- 4. The Illinois EPA notes the following discrepancies in the owner's Tier 2 model conducted in accordance with 35 Ill. Adm. Code 742.715(c) and 742.810:
 - a) The owner is utilizing a value of 91.4 cm for the source width perpendicular to groundwater flow direction in vertical plane (S_d value). The report states the value is derived as the field measurement of thickness of soil. The Illinois EPA wishes to clarify the S_d value is derived from the vertical source width of impacted groundwater in the groundwater table, not soil. As this value is not easily measured for leaking underground storage tank indicator contaminants, the Illinois EPA requires a default value of 200 cm be used.

Tier 2 calculations have been modified to reflect the Illinois EPA requirements and are included as Attachment C.

b) The owner is utilizing a value of 6.40E-02 cm/sec for the in-situ hydraulic conductivity (K value). The Illinois EPA wishes to clarify that approval for the use of the average in-situ hydraulic conductivity value of 3.30E-02 cm/sec was given in response to the request to use the average in the Corrective Action Completion Report received by the Illinois EPA on June 6, 2003. Therefore, the appropriate K value for use in the model is the average value of 3.30E-02 cm/sec.

Tier 2 calculations have been modified to reflect the Illinois EPA requirements and are included as Attachment C.

c) The owner is utilizing a site-specific soil bulk density (ρ_s value) determined from a method not accepted in accordance with 35 Ill. Adm. Code 742, Appendix C, Table F. The most favorable default value in accordance with 35 Ill. Adm. Code 742, Appendix, C, Table D is 1.5 g/cm³.

Tier 2 calculations have been modified to reflect the Illinois EPA requirements and are included as Attachment C.

d) The owner is utilizing a value of $58.9 \text{ cm}^3/\text{g}$ for the benzene organic carbon partition coefficient (K_{oc} value), and a value of 0.228 for the benzene Henry's constant (H' value). The Illinois EPA wishes to clarify the chemical and physical parameters table found in 35 Ill. Adm. Code 742, Appendix C, Table G was updated in the 742 amendments effective July 15, 2013. The updated values required for the model are $50 \text{ cm}^3/\text{g}$ for the K_{oc} value and 0.230 for the H' value.

Tier 2 calculations have been modified to reflect the Illinois EPA requirements and are included as Attachment C.

e) The owner is utilizing a value of 363 cm³/g for the ethylbenzene organic carbon partition coefficient (K_{oc} value), and a value of 0.323 for the ethylbenzene Henry's constant (H' value). The Illinois EPA wishes to clarify the chemical and physical parameters table found in 35 Ill. Adm. Code 742, Appendix C, Table G was updated in the 742 amendments effective July 15, 2013. The updated values required for the model are 320 cm³/g for the K_{oc} value and 0.324 for the H' value.

Tier 2 calculations have been modified to reflect the Illinois EPA requirements and are included as Attachment C.

f) The owner calculated an R24 groundwater Darcy velocity for ethylbenzene using a unit of cm/day for in-situ hydraulic conductivity. The appropriate in-situ hydraulic conductivity unit for calculating a groundwater Darcy velocity using R24 is cm/year, not cm/day. The Illinois EPA notes the owner utilized the correct unit when developing the Darcy velocity for benzene.

Tier 2 calculations have been modified to reflect the Illinois EPA requirements and are included as Attachment C.

When the corrected values are utilized in the models, the contaminant fate and transport evaluation demonstrates the following:

• Using R26, a benzene groundwater concentration of 1.23 mg/l migrates 850 feet from the source before meeting compliance with the Tier 1 remediation objective of 0.005 mg/l.

- Using R26, an ethylbenzene groundwater concentration of 1.2 mg/l migrates 65 feet from the source before meeting compliance with the Tier 1 remediation objective of 0.7 mg/l.
- Using R12, a benzene soil concentration of 0.49 mg/kg will leach and migrate 290 feet from the source before meeting compliance with the Tier 1 remediation objective of 0.005 mg/l.
- Using R12, a naphthalene soil concentration of 160 mg/kg will leach and migrate 360 feet from the source before meeting compliance with the Tier 1 remediation objective of 0.14 mg/l. The Illinois EPA notes this contaminant was not evaluated for fate and transport of soil component of groundwater ingestion exposure route. As the re-sample analyses for the EW-1 location did not include PNA contaminants, the naphthalene exceedence of 160 mg/kg must be evaluated.

The evaluation of the naphthalene exceedence is included in Attachment C. The evaluation is based on recent naphthalene data collected from groundwater sampling on August 2, 2019, as described in the text below.

In addition, the report states dissolved contamination migrated towards the east, although the gradient indicates a groundwater flow direction towards the south/southeast. As evidence supports the migration of dissolved contamination towards the east, the Illinois EPA requires the groundwater ingestion exposure route to be excluded to the east in addition to the south. Therefore, the groundwater ingestion exposure route must be excluded for a minimum distance of 850 feet from the source in both the south and east directions.

After revising the Tier 2 analysis in accordance with the Illinois EPA requirements, the groundwater ordinance area was created using the distance of 850 feet to the east and south. A map of the area is included in Attachment D.

5. In accordance with 35 Ill. Adm. Code 734.135(e), reports documenting the completion of corrective action at a site must contain a form addressing site ownership. At a minimum, the form must identify the land use limitations proposed for the site, if land use limitations are proposed; the site's common address, legal description, and real estate tax/parcel index number; and the names and addresses of all title holders of record of the site or any portion of the site. The form

addressing site ownership, the Property Owner Summary form, does not include the legal description and real estate tax/parcel index number for the Site. The Illinois EPA requests this information be submitted to meet the requirements of this Part.

A Property Owner Summary form with the legal description and real estate parcel index numbers is under review by the City of West Chicago and will be submitted with the forthcoming Corrective Action Completion Report.

6. The Laboratory Certification for Chemical Analysis forms do not include the Sample Collector's initials certifying that the proper sample collecting procedures were followed. The Illinois EPA requires this certification be properly initialed by the Sample Collector.

Laboratory Certification forms with the Sample Collector's initials are included in Attachment E.

In conclusion, the West Chicago Park District requests that the Illinois EPA review the contents of this response to the rejection of the Corrective Action Completion Report submitted June 21, 2013, to determine the technical adequacy of its findings and conclusions. A Property Owner Summary form with the legal description and real estate parcel index numbers will be submitted with the forthcoming Corrective Action Completion Report, the final amendment, budget, and the evaluation of the indoor inhalation exposure route. Please contact our office with any questions.

Sincerely,

cc:

Daniel J. Horvath

Hydrogeologist/Senior Project Manager

Mr. Michael Gasparini West Chicago Park District

Attachments: A - Laboratory Reports - Soil Gas and Groundwater Analysis

B - Groundwater Ordinance

C – Tier 2 Evaluations

D – Figure

E – Illinois EPA Forms

ATTACHMENT A

Laboratory Reports - Soil Gas and Groundwater Analysis



First
Environmental
Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

October 09, 2014

Mr. Brian Beetz **RESOURCE CONSULTING, INC.**P.O. Box 123

Geneva, IL 60134

Project ID: WCPD

First Environmental File ID: 14-5486 Date Received: September 16, 2014

Dear Mr. Brian Beetz:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 003469: effective 09/25/2014 through 02/28/2015.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Stan Zaworski Project Manager

Page 1 of 5



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Lab File ID: 14-5486

Project ID: WCPD

Date Received: September 16, 2014

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

The results in this report apply to the samples in the following table:

Laboratory Sample ID	Client Sample Identifier	Date/Time Collected
14-5486-001	RW-4B	08/26/14
14-5486-002	GP-1 (2'-3')	08/26/14
14-5486-003	GP-1 (5'-6')	08/26/14

Sample Batch Comments:

Sample acceptance criteria were met.

The following is a definition of flags that may be used in this report:

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L	LCS recovery outside control limits.
С	Sample received in an improper container for this test.	М	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	N	Analyte is not part of our NELAC accreditation.
E	Estimated result; concentration exceeds calibration range.	P	Chemical preservation pH adjusted in lab.
G	Surrogate recovery outside control limits.	Q	Result was determined by a GC/MS database search.
Н	Analysis or extraction holding time exceeded.	S	Analysis was subcontracted to another laboratory.
J	Estimated result; concentration is less than routine RL but greater than MDL.	W	Reporting limit elevated due to sample matrix.
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.



First

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Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected: 08/26/14

Project ID:

WCPD

Time Collected:

Sample ID: Sample No: RW-4B 14-5486-001 Date Received: 09/16/14

Date Reported: 10/09/14

Analyte		Result	R.L.	Units	Flags
Volatile Organic Compounds Analysis Date: 09/19/14	Method: TO-15				
Benzene		1.1	0.005	mg/m³	S
Methyl tert-butyl ether		0.039	0.005	mg/m³	S
Ethylbenzene		0.120	0.005	mg/m³	S
Toluene		0.068	0.005	mg/m³	S
Xylenes, Total		5.8	0.020	mg/m³	S



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1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected:

08/26/14

Project ID:

WCPD

Time Collected:

Sample ID:

Date Received:

09/16/14

Sample No:

GP-1 (2'-3') 14-5486-002

Date Reported: 10/09/14

Analyte		Result	R.L.	Units	Flags
Dry Soil Bulk Density Analysis Date: 10/08/14	Method: D2937	7-94			
Dry Soil Bulk Density		94.8		lbs/ft3	NS



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected:

ted: 08/26/14

Project ID:

WCPD

Time Collected:

Sample ID:

GP-1 (5'-6')

Date Received:

09/16/14

Sample No:

14-5486-003

Date Reported: 10/09/14

Flogs

Analyte	Result	R.L.	Units	Flags
Dry Soil Bulk Density Analysis Date: 10/08/14	Method: D2937-94			
Dry Soil Bulk Density	94.3		lbs/ft3	NS



CHAIN OF CUSTODY RECORD

Page____ of ____ pgs

First Environmental Laboratories
1600 Shore Road, Suite D
Naperville, Illinois 60563
Phone: (630) 778-1200 • Fax: (630) 778-1233
R-mail: firstinfo@firstenv.com
IEPA Certification #100292

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City: Genevi	9		State:	n	Zip: 60134
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IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

August 01, 2017

Mr. Daniel Horvath
RESOURCE CONSULTING, INC.
P.O. Box 123
Geneva, IL 60134

Project ID: 98-1002 WCPD

First Environmental File ID: 17-3893

Date Received: July 24, 2017

Dear Mr. Daniel Horvath:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 004108: effective 03/24/2017 through 02/28/2018.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Bill Mottashed Project Manager

M. Mosechio

Page 1 of 4



IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Lab File ID: 17-3893

Project ID: 98-1002 WCPD

Date Received: July 24, 2017

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

The results in this report apply to the samples in the following table:

Laboratory Sample ID	Client Sample Identifier	Date/Time Collected				
17-3893-001	RW-41A	7/24/2017 12:00				

Sample Batch Comments:

Sample acceptance criteria were met.



Environmental

Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Lab File ID: 17-3893

Project ID: 98-1002 WCPD

Date Received: July 24, 2017

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

The following is a definition of flags that may be used in this report:

Flag	Description	Flag	Description
Α	Method holding time is 15 minutes from collection. Lab an	alysis	was performed as soon as possible.
В	Analyte was found in the method blank.	L	LCS recovery outside control limits.
<	Analyte not detected at or above the reporting limit.	М	MS recovery outside control limits; LCS acceptable.
С	Sample received in an improper container for this test.	P	Chemical preservation pH adjusted in lab.
D	Surrogates diluted out; recovery not available.	Q	Result was determined by a GC/MS database search.
E	Estimated result; concentration exceeds calibration range.	S	Analysis was subcontracted to another laboratory.
G	Surrogate recovery outside control limits.	Т	Result is less than three times the MDL value.
Н	Analysis or extraction holding time exceeded.	w	Reporting limit elevated due to sample matrix.
J	Estimated result; concentration is less than routine RL but greater than MDL.	N	Analyte is not part of our NELAC accreditation or accreditation may not be available for this parameter.
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.



Environmental

Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client:

RESOURCE CONSULTING, INC.

Project ID: 98-1002 WCPD

Sample ID:

RW-41A

Sample No:

17-3893-001

Date Collected: 07/24/17

Time Collected: 12:00

Date Received: 07/24/17

Date Reported: 08/01/17

Analyte		Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 07/31/17	Method: 5030B/82	60B			
Benzene		241	5.0	ug/L	
Ethylbenzene		20.2	5.0	ug/L	
Toluene		< 5.0	5.0	ug/L	
Xylene, Total		21.7	5.0	ug/L	
Polynuclear Aromatic Hydrocarl Analysis Date: 07/31/17		Preparation Method 3510C Preparation Date: 07/31/17			
Acenaphthene		< 10	10	ug/L	
Acenaphthylene		< 10	10	ug/L	
Anthracene		< 5	5	ug/L	
Benzo(a)anthracene		< 0.13	0.13	ug/L	
Benzo(a)pyrene		< 0.2	0.2	ug/L	
Benzo(b)fluoranthene		0.18	0.18	ug/L	
Benzo(k)fluoranthene		0.18	0.17	ug/L	
Benzo(ghi)perylene		< 0.4	0.4	ug/L	
Chrysene		< 1.5	1.5	ug/L	
Dibenzo(a,h)anthracene		< 0.3	0.3	ug/L	
Fluoranthene		< 2	2	ug/L	
Fluorene		< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene		< 0.3	0.3	ug/L	
Naphthalene		< 10	10	ug/L	
Phenanthrene		< 5	5	ug/L	
Pyrene		< 2	2	ug/L	



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ATTACHMENT B

Groundwater Ordinance

CITY OF WEST CHICAGO

ORDINANCE NO. 15-O-0004

AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY ANY OTHER METHOD AT OR WITHIN THE SPECIFIED AREA OF REED-KEPPLER PARK – 250 W. NATIONAL STREET

ADOPTED BY THE
CITY COUNCIL
OF THE
CITY OF WEST CHICAGO
March 16, 2015

Published in pamphlet form by the authority of the City Council of the City of West Chicago, DuPage County, Illinois, on the 17th day of March 2015.

ORDINANCE NO. 15-O-0004

AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY ANY OTHER METHOD AT OR WITHIN THE SPECIFIED AREA OF REED-KEPPLER PARK – 250 W. NATIONAL STREET

WHEREAS, the City of West Chicago (hereinafter referred to as the "City") is a duly organized and existing municipality pursuant to the Illinois Municipal Code, 65 ILCS 5/1-1-1 et seq.; and,

WHEREAS, the City is also a home-rule municipality pursuant to Article VII, Section 6, of the Constitution of the State of Illinois, and authorized to exercise powers pursuant to that section; and,

WHEREAS, certain properties, including the property commonly known as Reed-Keppler Park located at 250 W. National Street, in the City of West Chicago, DuPage County, Illinois have been used over a period of time for commercial/industrial purposes; and.

WHEREAS, because of said use, concentrations of certain chemical constituents in the groundwater beneath the City may exceed Class 1 groundwater quality standards for potable resource groundwater as set forth in 35 Illinois Administrative Code 620 or Tier 1 remediation objectives as set forth in 35 Illinois Administrative Code 742; and,

WHEREAS, the City desires to limit potential threats to human health from groundwater contamination while facilitating the redevelopment and productive use of property commonly known as Reed-Keppler Park located at 250 W. National Street, that is the source of said chemical constituents and the surrounding properties, which are within the area depicted in Exhibit A and legally described in exhibit B which are attached hereto and incorporated herein; and,

WHEREAS, the City finds it is in the best interest of its residents to approve and enact a limited groundwater ordinance affecting properties located within a close proximity of the property commonly known as Reed-Keppler Park, 250 W. National in the City.

NOW, THEREFORE, BE IT ORDAINED, by the City Council of the City of West Chicago, DuPage County, Illinois, as follows:

Ordinance No. 15-O-0004 Page 1 of 3 SECTION 1: The recitals set forth above are incorporated herein and made a part hereof.

SECTION 2: The City regulates the use of groundwater as potable water supply as follows:

1. Use of groundwater as a potable water supply prohibited. The use or attempt to use of groundwater as a potable water supply by the installation or drilling of wells or by any other method, including at points of withdrawal by the City of West Chicago, is hereby prohibited within a rectangle whose corners are described by the following Illinois State Plane East Zone Metric Coordinates based on North American Datum of 1983 (NAD 83) and depicted on Exhibit A, which is attached hereto and incorporated herein by reference.

Corner_	Northing	Easting
A (NW)	580346.521	310096.392
B (NE)	580346.521	310480.267
C (SE)	579989.559	310480.267
D (SW)	579989.559	310096.392

2. <u>Penalties.</u> Any person violating the provisions of this ordinance shall be subject to a fine of up to Seven Hundred Fifty 00/100 Dollars (\$750.00) for each violation.

3. Definitions.

"Person" is any individual, partnership, co-partnership, firm, company, limited liability company, corporation, association, joint stock company, trust, estate, political subdivision, or any other legal entity, or their legal representatives, agents or assigns.

"Potable Water" is any water used for human or domestic consumption, including, but not limited to, water used for drinking, bathing, swimming, washing dishes, or preparing foods.

4. <u>Severability</u>. If any provision of this ordinance or its application to any person or under any circumstances is adjudged invalid, such adjudication shall not affect the validity of the ordinance as a whole or of any portion not adjudged invalid.

SECTION 3: That all ordinances and resolutions, or parts thereof, in conflict with the provisions of this ordinance are, to the extent of such conflict, hereby repealed.

Ordinance No. 15-O-0004 Page 2 of 3

SECTION 4: That the City Clerk of the City of West Chicago be and is directed hereby to publish this Ordinance in pamphlet form, pursuant to the statutes of the State of Illinois.

SECTION 5: That the City Clerk of the City of West Chicago be and is directed herby to Certify Mail a copy of this Ordinance to the commonly known address of parcels identified in Exhibit C.

SECTION 6: That this Ordinance shall be in full force and effect from and after its passage, approval and publication in pamphlet form as provided by law.

PASSED this 16th day of March 2015.

Cage Cage Cage Cage Cage Alderman J. Beifuss Alderman L. Chassee Alderman A. Hallett Alderman J. Banas Alderman M. Birch Alderman S. Dimas Alderman K. Meissner Alderman R. Stout Alderman L. Grodoski Alderman D. F. Earley Alderman M. Fuesting Alderman M. Edwalds

Alderman J. C. Smith, Jr.

APPROVED as to form:

Alderman J. Smith

City-Attorney

APPROVED this 16th day of March 2015.

Ruben Pineda, Mayor

ATTEST:

PUBLISHED: 3/17/15

Ordinance No. 15-O-0004

Page 3 of 3



ILLINOIS EAST STATE PLANAR COORDINATES OF ORDINANCE AREA, ZONE 1201

LEGEND

Proposed Ordinance Area

NOTES

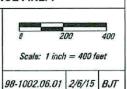
Modeled Extent Of Groundwater Plume Based On Benzene Concentration At MW-4A

Image Courtesy Of DuPage County GIS

	NORTHING	EASTING
A	580346.521	310096.392
В	580346.521	310480.267
C	579989.559	310480.267
D	579989.559	310096.392

PROPOSED GROUNDWATER ORDINANCE AREA

West Chicago Park District Reed-Keppler Park 250 West National Street West Chicago, Illinois



A	R E S
M	O U R
	C E

PARCELS WITHIN PARCELS WITHIN MODELED PLUME ORDINANCE AREA 04-04-400-011 04-04-400-012 04-04-400-013 04-04-200-004 04-04-200-005 04-04-400-014 04-04-400-016 04-04-400-001 04-04-400-002 04-04-400-017 04-04-400-003 04-04-400-018 04-04-401-001 04-04-400-019 04-04-400-023 04-04-400-025

Exhibit B - Ordinance No. 15-O-0004

Legal Descriptions of Properties Within the Modeled Plume

in the Proposed Ordinance Area

The Property commonly known as Reed-Keppler Park, 250 W. National Ave., West Chicago. IL 60185

PINs 04-040-200-004, 04-04-400-001, 04-04-401-001

That part of the North Half of the Southeast Quarter and part of the Northeast Quarter of Section 4, Township 39 North, Range 9 East of the Third Principal Meridian, described 'as beginning at a stone at the Southeast comer of the North Half of said Southeast Quarter of Section; thence North on Section line 39.27 chains (2591.82 feet) to John Spoden's line; thence West on said line 40 chains (2640 feet) to the Half section line; thence South on said line 15.68 chains (1034.88 feet) to the Northwest comer of lands of Elgin, Joliet and Eastern Railroad company; thence South 78° East 2.73 chains (180.10 feet) to the Northeast comer of lands of said railroad; thence South along the East line of said railroad lands to the Easterly line of Elgin, Joliet and Eastern Railroad Company's right of way; thence South 40° 2.43 chains (160.38 feet); thence 76 1/2° East 12.85 chains (848.10 feet) to a cotton wood tree; thence South 82 1I2° East 6.05 chains (399.30 feet); thence East parallel with division line, 5.596 chains (369.34 feet); thence South 45° East 10.93 chains (721.38 feet) to division line; thence East on division line, 11.484 chains (757.94 feet) to the place of the beginning, (except that part conveyed to the Chicago, Wheaton and Western Railroad Company, by deed recorded as Document 96756 and except that part conveyed to A.S. Neumer by deed recorded as Document 97713 and except that part known as Bloch Real Estate Company's First Addition to West Chicago, according to the plat recorded as document 210866) in DuPage County, Illinois.

Also partially described as:

PINs 04-040-200-004, 04-040-200-005, 04-04-400-001, 04-04-400-002

That part of the northeast quarter and the southeast quarter of Section 4. Township 39 North, Range 9 East of the Third Principal Meridian in DuPage County, Illinois, described as follows; beginning at the intersection of the north right of way line of National Street and the west right of way line of Yale Street; Thence southerly along said west right of way line of Yale Street, a distance of 636 feet, more or less, to a point on the north line extended easterly of Ward's Plat of Survey according to the plat recorded as document no. 654706 in DuPage County, Illinois; Thence westerly along said northerly line extended easterly, a distance of 406 feet, more or less, to the northwest corner of Lot 2 in said Ward's Plat of Survey; Thence northwesterly along a line at an angle of 173° 59', more or less, as measured counterclockwise from the previously described course, a distance of 226 feet; Thence or less, to a point on a line 33 feet north of, as measured at right angles to, the east-west quarter section line of said Section 4; Thence easterly along said parallel line, a distance of 631 feet, more or less, to the place of beginning.

Exhibit B - Ordinance No. 15-O-0004

Including land owned by the DuPage County Forest Preserve described as:

PINs 04-040-400-003 and 04-040-400-010

THAT PART OF THE NORTH HALF OF THE SOUTHEAST OUARTER OF SECTION 4, TOWNSHIP 39 NORTH, RANGE 9. EAST OF THE THIRD PRINCIPAL MERIDIAN. DESCRIBED BY COMMENCING ON THE DIVISION LINE. 1156.3 FEET WEST OF THE SOUTHEAST CORNER OF SAID NORTH HALF OF THE SOUTHEAST OUARTER OF SECTION 4 AND RUNNING THENCE NORTH 02 DEGREES 35 MINUTES 00 SECONDS WEST 16.5 FEET FOR A POINT OF BEGINNING: THENCE WEST 16.5 FEET NORTH OF AND PARALLEL WITH THE DIVISION LINE 258.2 FEET: THENCE NORTH 31 DEGREES 54 MINUTES 00 SECONDS WEST 749.6 FEET: THENCE SOUTH 82 DEGREES 15 MINUTES 00 SECONDS WEST. 127.2 FEET: THENCE NORTH 15 DEGREES 31 MINUTES 00 SECONDS WEST. 127.2 FEET: THENCE NORTH 15 DEGREES 31 MINUTES 00 SECONDS WEST. 13 FEET: THENCE NORTH 89 DEGREES 56 MINUTES 00 SECONDS WEST. 13 FEET: THENCE NORTH 15 DEGREES 31 AND EASTERN RAILROAD: THENCE NORTH 35 DEGREES 00 MINUTES 00 SECONDS WEST ALONG SAID EAST LINE OF THE ELGIN. JOLIET AND EASTERN RAILROAD: THENCE NORTH 35 DEGREES 00 MINUTES 00 SECONDS WEST ALONG SAID EAST LINE OF THE ELGIN. JOLIET AND EASTERN RAILROAD. 284 FEET; THENCE SOUTH 76 DEGREES 09 MINUTES 00 SECONDS EAST ALONG FENCE LINE, 846 FEET: THENCE SOUTH 83 DEGREES 35 MINUTES 00 SECONDS EAST. 334.5 FEET: THENCE SOUTH 714.5 FEET TO THE POINT OF BEGINNING. EXCEPT THE EAST 8 RODS OF THE SOUTH 40 RODS OF THAT PIECE OF LAND CONVEYED BY DEED DATED MAY27. 1914 RECORDED AS DOCUMENT 117184 AND EXCEPT THAT PART CONVEYED BY DOCUMENT217255 (CORRECTED AND RECORDED AS DOCUMENT 394560) DESCRIBED AS FOLLOWS: COMMENCING AT A POINT 1288.3 FEET WEST OF THE SOUTHEAST CORNER OF SAID NORTH HALF OF THE SOUTHEAST OUARTER OF SAID SECTION 4: THENCE NORTH 89 DEGREES 31 MINUTES 00 SECONDS WEST ALONG THE NORTH LINE OF GRAND LAKE BOULEVARD (SAID NORTH LINE BEING 33 FEET NORTH OF AND PARALLEL WITH THE DIVISION LINE). 67. 95 FEET TO A POINT OF BEGINNING: THENCE NORTH 89 DEGREES 51 MINUTES 00 SECONDS WEST ALONG THE NORTH LINE OF GRAND LAKE BOULEVARD 6.795 FEET: THENCE SOUTH 89 DEGREES 51 MINUTES 00 SECONDS WEST ALONG THE NORTH LINE OF SECONDS SECONDS SECONDS SECONDS

PIN 04-04-400-003 AND PIN 04-04-400-010

73480

Agency ID: 170000343563

Bureau ID: 0430905825

Site Name: Reed Keppler Park Site Address1: 250 W National St

Site Address2:

Site City: West Chicago

Media File Type: LAND

State: IL

Zip: 60185-

This record has been determined to be partially or wholly exempt from public disclosure

Exemption Type:

Redaction

Exempt Doc #: 1

Document Date: 7 /22/2020

Staff: RDH

Document Description: 07/15/2020 WCPD RESPONSE TO IEPA 09/17/2013 LETTER RE UST INCIDENT (ATTACHMENT B - EXHIBIUT C) PARCELS IN PROPOSED

ORDINANCE AREA

Category ID: 31A

Category Description:

SITE REMEDIATION - TECHNICAL

Exempt Type: Redaction

Permit ID: 980814

Date of Determination:

12/7 /2020

Exhibit C - Ordinance No. 15-O-0004

PIN	Address	Street	Owner	Mailing Address				l
04-04-200-004	250 W	National Ave.	City of West Chicago	City of West Chicago	475 Main Street	West Chicago	几	60185
04-04-200-005	250 W	National Ave.	City of West Chicago	City of West Chicago	475 Main Street	West Chicago	IL	60185
04-04-400-001			City of West Chicago	City of West Chicago	475 Main Street	West Chicago	IL:	60185
04-04-400-002			Commonwealth Edison	Exelon Corporation	P.O Box 805398	Chicago	IL	60680
04-04-400-003			Forest Preserve District	Forest Preserve District	3S580 Naperville Rd.	Wheaton	IL	60189
04-04-400-011	187 W	Grand Lake Blvd.	Cavish Family Tr.	Clark Cavish	187 W. Grandlake Blvd.	West Chicago	IL	60185
4-04-400-012	181 W	Grand Lake Blvd.	Tribble, Michael & Day	Michael Tribble	181 W. Grand Lake Blvd.	West Chicago	11.	60185
4-04-400-013	173 W	Grand Lake Blvd.	ST BK OF IL TR 1-1196	State Bank of Illinois	600 E. Washington	West Chicago	IL	60185
4-04-400-014					27W030 Hickory Lane	West Chicago	ΠL	60185
4-04-400-016	F			The second secon			\(<u>IL</u>	60108
4-04-400-017				The second section in the second			3	
4-04-400-018		and the same of th		<u> </u>				
4-04-400-019	1							ر ده شاه
04-04-400-023	_		Commonwealth Edison	Exelon Corporation	P.O Box 805398		7	
04-04-400-025	215 W	Grand Lake Blvd.	Wallace, Anthony J.	Anthony J. Wallace	3N145 Sycamore	West Chicago	IL.	60185
0404-401-001	250 W	National St.	City of West Chicago	City of West Chicago	475 Main Street	West Chicago	ΠĽ	60185

STATE OF ILLINOIS)
COUNTY OF DU PAGE).

CERTIFICATE

I, Nancy Smith, Certify that I am the duly elected and acting City Clerk of the City of West Chicago, DuPage County, Illinois.

I further certify that on March 16, 2015 the Corporate Authorities of such municipality passed and approved Ordinance No. 15-O-0004 entitled:

AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY ANY OTHER METHOD AT OR WITHIN THE SPECIFIED AREA OF REED-KEPPLER PARK – 250 W. NATIONAL STREET

Which provided by its terms that it should be published in pamphlet form.

The pamphlet form of Ordinance No. 15-O-0004 including the ordinance and a cover sheet hereof was prepared, and a copy of such ordinance posted in the municipal building, commencing on March 17, 2015 continuing for at least ten days thereafter. Copies of such ordinance were also available for public inspection upon request in the Office of the City Clerk.

Dated at West Chicago, Illinois, this 16th of March 2015.

1:11:

Nancy Smith City Clerk

ATTACHMENT C

Tier 2 Evaluations

	ables in Relevant Equation		Project Name: West Chicago	
	ON/GROUNDWATER EXPO		BENZENE LPC number 0430905825	
'ariable	Source	Value	Description and units	PAGE 1
Wsource	R13		Groundwater concentration at the source, mg/L	
Fsw	R14		Leaching factor, mg/L/mg/kg	
Wcomp	R25		Groundwater objective at the compliance point, mg/L	
x/Csource	R15		Steady-state attenuation along the centerline of a dissolved plume	, mg/L/mg/L
5	R20	0.16	Soil-water sorption coefficient, cm^3/g	
oc	Appendix C table E	50	Organic carbon partition coefficient, cm^3/g	
oc .	surface 0.005	0.0032	Organic carbon content of soil, g/g	
	subsurface 0.002			
ws	R22 or	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3	
	surface 0.15		요한 현실 현실 현실 등 10명 등 10명 전에 한 경기 등 10명 전에 함께 10명 전에 10명 전에 10명 전에 10명 전에 10명 전에 10명 전에 10명 전에 10명 전에 10명 전에 10명 	
	subsurface 0.30			
	gravel 0.20			
	sand 0.18			
	silt 0.16			
	clay 0.17			
Š.	R21 or	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3	
as	surface 0.28	0.15	volumetric dir content di vadose zone sons, citi s/citi s	
	subsurface 0.13			
	CONTRACTOR MONTH OF STATE			
	gravel 0.05			
	sand 0.14 silt 0.16		q.	
	clay 0.17	2.42	S TO STATE OF THE	
T	R23 or	0.43	Total soil porosity, cm^3/cm^3	
	0.43			
	gravel 0.25			
	sand 0.32			
	silt 0.40			
	clay 0.36		er v.a. er er er er	
ļ.	Appendix C table E		Henry's law constant, cm^3 air/cm^3 water	
<i>!</i>	surface 0.1	0.2	Average soil moisture content, g/g	
	subsurface 0.2			
s	gravel 2.0	1.5	Soil bulk density, g/cm^3	
	sand 1.8			
	silt 1.6		l .	
	clay 1.7			
· ·		1	Water density, g/cm^3	
			Distance along the controller of the accordance	
	site	25000	Distance along the centerline of the ground water	SEO Distance &
	site		plume emanating from the source, cm	850 Distance, ft
X	R16		Longitudinal dispersivity, cm (Equation R16)	
У	R17		Transverse dispersivity, cm (Equation R17)	
Z	R18	129.54	Vertical dispersivity, cm (Equation R18)	
			Source width perpendicular to ground water flow direction in	
w	site	2103.12	horizontal plane, cm	69 Sw, ft
	********			occovered)
a			Source width perpendicular to ground water flow direction in	251.6
d	site		vertical plane, cm	3 Sd, ft
	site		Aquifer hydraulic conductivity, cm/day	3.30E-02 K, cm/sec
	site		Hydraulic gradient, cm/cm	
	R19 ,		Specific discharge, cm/day (Equation R19)	
gw	R24		Groundwater Darcy velocity, cm/yr	
0	L		Groundwater mixing zone thickness, cm	
		30	Infiltration rate, cm/yr	
			Width of source area parallel to direction of wind or groundwater	l l
,	site	2200.4	movement, cm	105 W, ft
V	Appendix C table E	a No Contract Con-	First order degradation constant, day^-1	105 W, It
-(x)	The state of the s	- Territoria de la constante d	First order degradation constant, day*-1 Concentration of contaminant in groundwater at the distance X fro	
	R26	0.005	n concentration of confaminant in groundwater at the distance X fro	

Tier 2 Risk-Based Corrective Action Equations

Eqn. R11: VF_{samb} =

0.23

0.3

0.000

0.183

1000

1.5

0.23

0.13 1+

gn. R1:		0.000001	70	70	365									
78		350 30	0.055	1E-06	100	1	3,160	0.5	0.5	0.027	20	6E-06	5E-12	
		3.28	mg/kg	Tier 2 Re	mediatio	n Objecti	ve							
qn R2:		1	70	30	365									
		350	30	1E-06	100	1 0.004	3,160	0.5	0.5		20	6E-06 0.0086	5E-12	
		309.830				0,004						0.0000		
qn. R3:	VF _{ss} =	2	3200.4	1.5	1000	-	grt	0.0005	0.23					
AMERICAN PROPERTY.	50.0 1 0	-	225	200		7	40	3.1416	0.3	0.16	1.5	0.23	0.13	946000000
	=	5.76E-05												
qn. R4:	VF _{ss} =	3200.4	1.5	50	1000									
		225	200	9E+08										
	=	5.63848E-06												
qn. 5:	VF _p =	6.9E-14	3200.4 225											
	=	4.90728E-12												
qn. R6:	D _s eff =	0.088	0.0011	1E-05 0.23	0.0181									
	₹	0.001												
Eqn. R7:		0.315432099 0.0002182	0.001	,										
	=	1.45	mg/kg	Tier 2 Re	mediation	o Objecti	ve							
qn R8:		31.39 0.0002182	0.001	. 02										
	=	143.859												
qn R9:	RBSLair		70		365	1000								
		0.027	20	350	30									
	=	0.315												
qn R10:	RBSLair		0.0086	70	30	365	1000							
		20	350	30										
	=	31.390												

225 <u>200</u> <u>100</u> 0.0005 3200.4

SOIL MIGRATION / GROUNDWATER EXPOSURE ROUTE Egn. R12: RO = 1.133473891 0.1879093 6.032 mg/kg Tier 2 Remediation Objective Eqn. R13: GWsource 0.005 0.004411218 1.133E+00 Eqn. R14: LFsw = 0.23 0.13 1+ 200 0.3 0.16 1.5 6244.1 30 3200.4 0.188 2103.1 Eqn. R15: C(x) = 25908 1-0.0036 2590.8 erf 200 Csource 5181.6 39.784 18921 3663.9 0.004 Eqn. R16: ax = 0.1 25908 2590.800 2590.8 Egn. R17: ay = 863.600 Eqn. R18: az = 2590.8 20 129.540 Eqn. R19: U = 2851.2 0.006 0.43 39.784 Eqn. R20: ks = 50 0.0032 0.160 Eqn. R21: qws = 0.2 0.300 Eqn. R22: qas = 0.43 1.5 0.129 Eqn. R23: qT = 0.429 Eqn. R24: Ugw = 2851.2 0.006 6.24E+03 0.000001 Eqn. R25: 70 70 350 0.055 0.002 Eqn. R26: C(x) = 1.23 25908 1 -0.0036 2590.8 erf 200

39.784

18921

3663.9

5181.6

0.005

OIL MIGRATIC	N/GROUNDWATER EXPOS	URE ROUTE	ETHYLBENZENE LPC number 0430905825
ariable	Source	Value	Description and units PAGE
Wsource	R13	1.229	Groundwater concentration at the source, mg/L
sw	R14	0.060	Leaching factor, mg/L/mg/kg
Wcomp	R25	0.7	Groundwater objective at the compliance point, mg/L
c/Csource	R15	0.570	Steady-state attenuation along the centerline of a dissolved plume, mg/L/mg/L
	R20	0.96	Soil-water sorption coefficient, cm^3/g
oc.	Appendix C table E	320	Organic carbon partition coefficient, cm^3/g
5	surface 0.005	0.003	Organic carbon content of soil, g/g
	subsurface 0.002		
vs	R22 or	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3
	surface 0.15		Commission of the commission o
	subsurface 0.13		
	gravel 0.05		
	sand 0.18		
	silt 0.16		
	clay 0.17		
í	R21 or	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3
2	surface 0.28		70 ×
	subsurface 0.13		
	gravel 0.05		
	sand 0.18		
	silt 0.16		
	clay 0.17		
	R23 or	0.43	Total soil porosity, cm^3/cm^3
	0.43		
	gravel 0.25		
	sand 0.32		
	silt 0.40		
	clay 0.36		
	Appendix C table E	0.324	Henry's law constant, cm^3 air/cm^3 water
	surface 0.1	0.2	Average soil moisture content, g/g
	subsurface 0.2		
	gravel 2.0	1.5	Soil bulk density, g/cm^3
	sand 1.8		
	silt 1.6		
	clay 1.7		
,		1	Water density, g/cm ³
			Distance along the centerline of the ground water plume
	site	1001 2	emanating from the source, cm 65 Distance, ft
	R16		Longitudinal dispersivity, cm (Equation R16)
	R17		Transverse dispersivity, cm (Equation R17)
	R18		Vertical dispersivity, cm (Equation R18)
	L10	5,500	vertical dispersivity, chi (Equation K16)
		rest constitution of the	Source width perpendicular to ground water flow direction in
,	site	2103.12	horizontal plane, cm 69 Sw, ft
			Source width perpendicular to ground water flow direction in vertical
	site	200	plane, cm Sd, ft
	site		Aguifer hydraulic conductivity, cm/day 3.30E-02 K, cm/sec
	site		Hydraulic gradient, cm/cm
	R19		Specific discharge, cm/day (Equation R19)
w	R24		Groundwater Darcy velocity, cm/yr
RO.			Groundwater mixing zone thickness, cm
			Infiltration rate, cm/yr
	-		
			Width of source area parallel to direction of wind or groundwater
	site	3200.4	movement, cm 105 W, ft
ð	Appendix C table E R26		First order degradation constant, day^ 1 Concentration of contaminant in groundwater at the distance X from the steady source, mg/L

Tier 2 Risk-Based Corrective Action Equations Solutions to Equations

Eqn. R1:		0.000001	70		365									
	350	30	0	1E-06	100	1	3,160	0.5	0.5	0	20	6E-06	5E-12	
		#DIV/0!	mg/kg	Tier 2 Re	mediatio	n Objecti	ve							
qn R2:		1	70	30	365									
		350		1E-06	100	1 0.1	3,160	0.5	0.5		20	6E-06 0.29	5E-12	
	=	7858.875												
gn. R3:	VF _{ss} =	2	3200.4 225		1000	8	sqrt	0.0005 3.1416	0.324	0.96	1.5	0.324	0.13	94600000
	,=	3.86E-05												
qn. R4:	VF _{ss} =	3200.4 225		50 9E+08	1000									
	=:	5.63848E-06												
qn. 5:	VF _p =	6.9E-14	3200.4 225											
	=	4.90728E-12												
iqn. R6:	D _s eff =	0.088		1E-05 0.324	0.0181									
	⊭:	0.001												
qn. R7:		#DIV/0! 0.000300606	0.001	5										
	=	#DIV/0!	mg/kg	Tier 2 Re	mediation	n Objecti	ve							
qn R8:		1058.5 0.000300606		2										
	=))	3521.216												
qn R9:	RBSL _{air} =	0.000001			365 30	1000								
	=	#DIV/0!	20	330	30									
qn R10:	RBSL _{air} =	1			30	365	1000							
		20	350	30										
	(i=	1058.500												
qn. R11:	VF _{samb} =	0.324	1.5	1000										
		0.3	0.183	1.5	0.324	0.13	1+	225_	200	100				
	=	0.000							0.0005	3200.4				

```
SOIL MIGRATION / GROUNDWATER EXPOSURE ROUTE
                   1.229030655
Eqn. R12: RO =
                   0.060091077
                      2.045E+01 mg/kg Tier 2 Remediation Objective
Egn. R13: GWsource
                   0.569554549
                      1.229E+00
Eqn. R14: LFsw =
                                           1.5
                                               0.324
                                                         0.13 1+
                                                                                200
                                                                          30 3200,4
                          0.060
Eqn. R15: C(x) =
                                 1981.2 1 -
                                                        0.012 198.12 erf
                                                                             2103.1
                                                                                                       200
                                                       39.784
                                                                             1446.9
                                                                                                    280.18
         Csource
                                396.24
                       5.70E-01
                            0.1 1981.2
Egn. R16: ax =
                        198.120
                         198.12
Eqn. R17: ay =
                         66.040
Eqn. R18: az =
                         198.12
                            20
                          9.906
Eqn. R19: U=
                         2851.2
                                 0.006
                           0.43
                         39.784
                           320
                                 0.003
Eqn. R20: ks =
                          0.960
Eqn. R21: qws =
                            0.2
                          0.300
                           0.43
Eqn. R22: qas =
                                           1.5
                          0.129
Eqn. R23: qT =
                          0.429
Eqn. R24: Ugw =
                         2851.2
                       6244.128
Egn. R25:
                       0.000001
                                          350
                      #DIV/0!
                           1.22 1981.2 1-
Eqn. R26: C(x) =
                                                        0.012 198.12 erf
                                              1+
                                                                             2103.1
                                                                                                       200
                                396.24
                                                      39.784
                                                                             1446.9
                                                                                                    280.18
```

0.695

OIL MIGRATIC	ON/GROUNDWATER EXPO	SURE ROUTE	NAPHTHALENE LPC number 0430905825		
ariable	Source	Value	Description and units	PAGE 1	
Wsource	R13		Groundwater concentration at the source, mg/L		
sw	R14		Leaching factor, mg/L/mg/kg		
Ncomp	R25		Groundwater objective at the compliance point, mg/L		
/Csource	R15		Steady-state attenuation along the centerline of a dissolved plume	, mg/L/mg/L	
	R20		Soil-water sorption coefficient, cm^3/g		
oc .	Appendix C table E	5.00E+02	Organic carbon partition coefficient, cm^3/g		
c	surface 0.005	0.0032	Organic carbon content of soil, g/g		
	subsurface 0.002				
vs	R22 or	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3		
	surface 0.15				
	subsurface 0.30				
	gravel 0.20				
	sand 0.18				
	silt 0.16				
	clay 0.17				
is.	R21 or	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3		
	surface 0.28				
	subsurface 0.13				
	gravel 0.05				
	sand 0.14				
	silt 0.16				
	clay 0.17		8		
	R23 or	0.43	Total soil porosity, cm^3/cm^3		
	0.43				
	gravel 0.25				
	sand 0.32				
	silt 0.40				
	clay 0.36		Mes space to the space of the space of		
	Appendix C table E		Henry's law constant, cm^3 air/cm^3 water		
	surface 0.1	0.2	Average soil moisture content, g/g		
	subsurface 0.2				
	gravel 2.0	1.5	Soil bulk density, g/cm^3		
	sand 1.8				
	silt 1.6				
	clay 1.7				
w		1	Water density, g/cm^3		
			Distance along the centerline of the ground water		
	site	10972.8	plume emanating from the source, cm	360 Distance, ft	
K	R16		Longitudinal dispersivity, cm (Equation R16)		
,	R17		Transverse dispersivity, cm (Equation R17)		
ž	R18		Vertical dispersivity, cm (Equation R18)		
	628		Source width perpendicular to ground water flow direction in		
w	site	2103.12	Source width perpendicular to ground water flow direction in horizontal plane, cm	69 Sw, ft	
w	site	2103.12	The state of the s	69 Sw, ft	
27.4	site site		horizontal plane, cm	69 Sw, ft 3 Sd, ft	
27.4	7676	200	horizontal plane, cm Source width perpendicular to ground water flow direction in		
	site	200 2.85E+03 0.006	horizontal plane, cm Source width perpendicular to ground water flow direction in vertical plane, cm Aquifer hydraulic conductivity, cm/ <mark>day</mark> Hydraulic gradient, cm/cm	3 Sd, ft	
i	site site	200 2.85E+03 0.006	horizontal plane, cm Source width perpendicular to ground water flow direction in vertical plane, cm Aquifer hydraulic conductivity, cm/day	3 Sd, ft	
ì	site site site	2.85E+03 0.006 39.78418605	horizontal plane, cm Source width perpendicular to ground water flow direction in vertical plane, cm Aquifer hydraulic conductivity, cm/ <mark>day</mark> Hydraulic gradient, cm/cm	3 Sd, ft	
	site site site R19	200 2.85E+03 0.006 39.78418605 6.24E+03	horizontal plane, cm Source width perpendicular to ground water flow direction in vertical plane, cm Aquifer hydraulic conductivity, cm/day Hydraulic gradient, cm/cm Specific discharge, cm/day (Equation R19)	3 Sd, ft	
	site site site R19	200 2.85E+03 0.006 39.78418605 6.24E+03 200	horizontal plane, cm Source width perpendicular to ground water flow direction in vertical plane, cm Aquifer hydraulic conductivity, cm/day Hydraulic gradient, cm/cm Specific discharge, cm/day (Equation R19) Groundwater Darcy velocity, cm/yr	3 Sd, ft	
ì	site site site R19	200 2.85E+03 0.006 39.78418605 6.24E+03 200	horizontal plane, cm Source width perpendicular to ground water flow direction in vertical plane, cm Aquifer hydraulic conductivity, cm/day Hydraulic gradient, cm/cm Specific discharge, cm/day (Equation R19) Groundwater Darcy velocity, cm/yr Groundwater mixing zone thickness, cm Infiltration rate, cm/yr	3 Sd, ft	
i gw	site site site R19 R24	200 2.85E+03 0.006 39.78418605 6.24E+03 200 30	horizontal plane, cm Source width perpendicular to ground water flow direction in vertical plane, cm Aquifer hydraulic conductivity, cm/day Hydraulic gradient, cm/cm Specific discharge, cm/day (Equation R19) Groundwater Darcy velocity, cm/yr Groundwater mixing zone thickness, cm Infiltration rate, cm/yr Width of source area parallel to direction of wind or groundwater	3 Sd, ft 3.30E-02 K, cm/sec	
d gw	site site site R19 R24	200 2.85E+03 0.006 39.78418605 6.24E+03 200 30	horizontal plane, cm Source width perpendicular to ground water flow direction in vertical plane, cm Aquifer hydraulic conductivity, cm/day Hydraulic gradient, cm/cm Specific discharge, cm/day (Equation R19) Groundwater Darcy velocity, cm/yr Groundwater mixing zone thickness, cm Infiltration rate, cm/yr Width of source area parallel to direction of wind or groundwater movement, cm	3 Sd, ft	
w d d gw	site site site R19 R24	200 2.85E+03 0.006 39.78418605 6.24E+03 2000 30 3200.4 2.70E-03	horizontal plane, cm Source width perpendicular to ground water flow direction in vertical plane, cm Aquifer hydraulic conductivity, cm/day Hydraulic gradient, cm/cm Specific discharge, cm/day (Equation R19) Groundwater Darcy velocity, cm/yr Groundwater mixing zone thickness, cm Infiltration rate, cm/yr Width of source area parallel to direction of wind or groundwater	3 Sd, ft 3.30E-02 K, cm/sec	

Tier 2 Risk-Based Corrective Action Equations Solutions to Equations

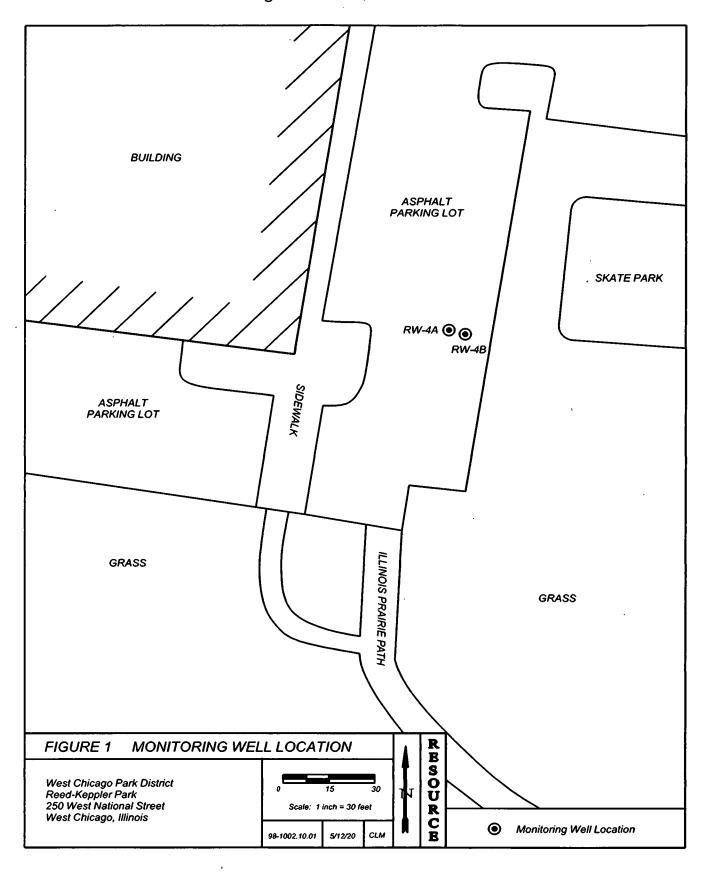
qn. R1:		0.000001	70	70	365			-						
	350	30	0	1E-06	100	1	3,160	0.5	0.5	0	20	6E-06	5E-12	
		#DIV/0!	mg/kg	Tier 2 Re	mediation	o Objectiv	e							
qn R2:		1	70	30	365									
		350	30	1E-06	100	0.02	3,160	0.5	0.5		20	6E-06 0.0009	5E-12	
	=:	415.652				-								
qn. R3:	VF _{ss} =	2	3200.4	1.5	1000		sqrt	0.0006	0.0197					
			225	200				3.1416	0.3	1.6	1.5	0.0197	0.13	946000000
		8.06E-06												
qn. R4:	VF _{ss} =	3200.4	1.5	50	1000									
		225	200	9E+08										
	=	5.63848E-06												
qn. 5;	VF _p =	6.9E-14	3200.4 225											
	3	4.90728E-12												
qn. R6:	D _s ^{eff} =	0.088	The state of the s	1E-05 0.0197	0.0181									
		0.001												
qn. R7:		#DIV/0! 2.12006E-05	0.001											
	=	#DIV/0!	mg/kg	Tier 2 Re	emediation	n Objectiv	e							
qn R8:		3.139 2.12006E-05												
	=	148.062												
qn R9:	RBSL _{air} =	0.000001	70	70	365	1000								
		0	20	350	30									
	=	#DIV/0!												
qn R10:	RBSL _{air} =		0.0009			365	1000							
		20	350	30										
		3.139												
qn. R11:	VF _{samb} =	0.0197	-	The Autority of										
		0.3	0.183	1.5	0.0197	0.13	1+	225	200 0.0006	100 3200 4				
	=	0.000							0.0000	J200.4				

```
SOIL MIGRATION / GROUNDWATER EXPOSURE ROUTE
Eqn. R12: RO =
                   6.708312928
                   0.039625196
                        169.294 mg/kg Tier 2 Remediation Objective
Eqn. R13: GWsource
                          0.14
                   0.020869629
                     6.708E+00
Eqn. R14: LFsw =
                                                          0.13 1+
                                                                                 200
                           0.3
                                          1.5 0.0197
                                                                       6244.1
                                   1.6
                                                                           30 3200.4
                          0.040
                                                        0.0108 1097.3 erf
                                                                               2103.1
Eqn. R15: C(x) =
                                 10973 1-
                                              1+
                                                                                             erf
                                                                                                        200
                                2194.6
                                                       39.7842
                                                                               8013.4
                                                                                                     1551.8
         Csource
                          0.021
Eqn. R16: ax =
                            0.1 10973
                       1097.280
Eqn. R17: ay =
                        1097.28
                        365.760
                        1097.28
Egn. R18: az =
                            20
                         54.864
Eqn. R19: U =
                         2851.2 0.006
                          0.43
                         39.784
                           500 0.0032
Eqn. R20: ks =
                          1.600
Eqn. R21: qws =
                          0.300
Egn. R22: qas =
                          0.43
                                           1.5
                          0.129
Eqn. R23: qT =
                          0.429
                         2851.2
                                 0.006
 qn. R24: Ugw =
                       6.24E+03
                      0.000001
                                    70
Eqn. R25:
                                           70
                                                  365
                                          350
                                                   30
                     #DIV/0!
Eqn. R26: C(x) =
                           160 10973 1 -
                                              1+
                                                       0.0108 1097.3 erf
                                                                               2103.1
                                                                                             erf
                                                                                                        200
                                                                                                     1551.8
                                2194.6
                                                                               8013.4
                                                      39.7842
                          3.339
Eqn. S18 Cw =
                            20
                                  0.14
                            2.8
Egn. S19 Kd =
                           500 0.0032
                            1.6
                                                 0.13 1.97E-02
Egn. S17 R.O. =
                           2.8
                                   1.6
                                          0.3
                                                  1.5
```

5.044780533

ATTACHMENT D

Figure



ATTACHMENT E

Illinois EPA Forms



Illinois Environmental Protection Agency

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The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 – 57.17). Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false material statement or representation, orally or in writing, in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compliance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/44 and 57.17). This form has been approved by the Forms Management Center.

Leaking Underground Storage Tank Program Laboratory Certification for Chemical Analysis

A.	Sit	e Identification										
	IEI	VÁ Incident # (6- or 8-digit): 98081	4 .	IEPA LPC# (10-digit): 04309058	25							
	Sit	e Name: West Chicago Park Distr	rict	•	,							
	Sit	e Address (Not a P.O. Box): 250 \	West National Street									
		y: West Chicago	County: DuPage	ZIP Code: 60185								
	Lea	aking UST Technical File										
В.	Sa	mple Collector										
	l ce	ertify that:			0							
	1.	Appropriate sampling equipment/	methods were utilized to obtain	ı representative samples.	(loitial)							
	2.	Chain-of-custody procedures wer	re followed in the field.		(Initial)							
	3.	Sample integrity was maintained	by proper preservation.		(Initial)							
	4.	All samples were properly labeled	3 .		(Initial)							
C.	La	aboratory Representative										
	I ce	ertify that:										
	1.	Proper chain-of-custody procedur	es were followed as document	ed on the chain-of-custody forms	126 (Initial)							
	2.	Sample integrity was maintained I	by proper preservation.		106 (Initial)							
	3.	All samples were properly labeled	I.		M 6 (Initial)							
	4.	Quality assurance/quality control (procedures were established a	nd carried out.	(Initial)							
	5.	Sample holding times were not ex	cceeded.		MG (Initial)							

IL 532 2283 LPC 509 Rev. March 2006 Laboratory Certification for Chemical Analysis
Page 1 of 2

6. SW-846 Analytical Laboratory Procedure (USEPA) methods were used for the analyses.

(Initial)
(Initial)

 An accredited lab performed quantitative analysis using test methods identified in 35 IAC 186.180 (for samples collected on or after January 1, 2003).

D. Signatures

I hereby affirm that all information contained in this form is true and accurate to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample Collector	Laboratory Representative	
Name Brandi Talaga	Name Ryun Gerrick	
Title Environmental Technician	Title Pajet Munger	
Company Resource Consulting, Inc.	Company First Environmental Labs, Inc.	
Address P.O. Box 123	Address 1600 Shore Road	
City Geneva	City Naperville	
State Illinois	State Illinois	
Zip Code 60134	Zip Code 60540	
Phone 630-232-9820	Phone 630-778-1200	
Signature <u>Survict Talabou</u>	Signature	
Date Jul 15, 2020	Date 7-16-20	



Illinois Environmental Protection Agency

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The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 – 57.17). Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false material statement or representation, orally or in writing, in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compliance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/44 and 57.17). This form has been approved by the Forms Management Center.

Leaking Underground Storage Tank Program Laboratory Certification for Chemical Analysis

A.	Sit	e Identification			
	tΕ	MA Incident # (6- or 8-digit):	980814	IEPA LPC# (10-digit): 04309058	325
	Sit	Site Name: West Chicago Park District			
	Sil	e Address (Not a P.O. Box):	250 West National Street		
	Cit	y: West Chicago	County: DuPage	ZIP Code: 60185	
	Le	aking UST Technical File	.		
В.	Sa	mple Collector			
	l c	ertify that:		·	Ø-
	1.	Appropriate sampling equip	oment/methods were utilized to o	btain representative samples.	32/
	2.	Chain-of-custody procedure	es were followed in the field.		(Igitia) 20//
		• •			(Initial)
	3.	Sample integrity was maint	ained by proper preservation.		(Initial)
	4.	All samples were properly I	abeled.		(Initial)
C.	La	boratory Representativ	/e		(uninias)
	l ce	ertify that:	•		
	1.	Proper chain-of-custody pro	ocedures were followed as docur	mented on the chain-of-custody forms	216
	-	Samala integrituung maint	ained by proper preservation.		(Initial)
	2.	Sample integrity was maint	allied by proper preservation.	•	(Initial)
	3.	All samples were properly is	abeled.		M6
		Quality accurance (quality of	antral procedures viero establish	ad and applied and	(Initial) M G
	4.	quality assurance/quality of	ontrol procedures were establish	ей али саглей оцт.	(Initial)
	5.	Sample holding times were	not exceeded.		Mb
					(Initial)

IL 532 2283 LPC 509 Rev. March 2006 Laboratory Certification for Chemical Analysis
Page 1 of 2

6. SW-846 Analytical Laboratory Procedure (USEPA) methods were used for the analyses.

MG (Initial)

 An accredited lab performed quantitative analysis using test methods identified in 35 IAC 186,180 (for samples collected on or after January 1, 2003). M6 (Initial)

D. Signatures

I hereby affirm that all information contained in this form is true and accurate to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample Collector	Laboratory Representative	
Name Brandi Talaga	Name Ryun Gerrick Title 100) Ect Manager	
Title Environmental Technician	Title 1-2) ect Monago	
Company Resource Consulting, Inc.	Company First Environmental Labs, Inc.	
Address P.O. Box 123	Address 1600 Shore Road	
City Geneva	City Naperville	
State Illinois	State Illinois	
Zip Code 60134	Zip Code 60540	
Phone 630-232-9820	Phone 630-778-1200	
Signature <u>Buryl CF Talabou</u>	Signature 2	
Date Jul 15, 2020	Date 7-16-20	

Electronic Filing: Received, Clerk's Office 09/20/2824 - DuPage County West Chicago Park District

Incident # 980814
Leaking UST Technical File

RESOURCE CONSULTING, INC.

115 Campbell Street/Suite 108

P.O. Box 123

Geneva, Illinois 60134

Phone: (630)232-9820

April 6, 2021

Mr. Eric Kuhlman
Illinois Environmental Protection Agency
Bureau of Land – No. 24
Leaking Underground Storage Tank Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

RE: LPC No. 0430905825 - DuPage County
West Chicago/West Chicago Park District
250 West National Street
LUST Incident No. 980814

Addendum to CACR

RECEIVED

APR: 1 2 2021

IEPA/BOL

Dear Mr. Kuhlman:

On behalf of the West Chicago Park District, Resource Consulting, Inc. is submitting this addendum to the Corrective Action Completion Report (CACR) for the above-referenced project.

The project documentation for the Illinois EPA will be completed following its review and evaluation of this submission. The final documentation will include but not be limited to a budget amendment and the Property Owner Summary form.

Background

The project's CACR was submitted to the Illinois Environmental Protection Agency (EPA) in July 2013. The CACR was rejected in correspondence dated September 17, 2013. Around this time, the Illinois Pollution Control Board added the indoor inhalation exposure route to the Illinois EPA's Tiered Approach to Corrective Action Objectives (TACO) regulations in 35 Ill. Adm. Code 742, resulting in an evaluation of the indoor inhalation exposure route being required for the Site.

1EPA-DIVISION OF RECORDS MANAGEMENT RELEASABLE

SEP 03 2021

REVIEWER: SAB

RESOURCE CONSULTING, INC.

0430905825 - DuPage County West Chicago Park District Incident # 980814 Leaking UST Technical File

Resource Consulting prepared and submitted a Technical Summary to the Illinois EPA in June of 2019. This document summarized project activities that occurred between the submission of the 2013 CACR and the resumption of project activities at the time of the submission. These activities included the 2014 soil gas sampling, related review and evaluation with the client and the Illinois EPA, and the subsequent 2017 groundwater sampling.

In July 2020, Resource Consulting addressed the deficiencies in the 2013 CACR that were outlined in the Illinois EPA's CACR rejection correspondence dated September 13, 2013, but did not address indoor inhalation. This exposure route is evaluated in this correspondence.

Indoor Inhalation Assessment

Field Activities

Resource Consulting, Inc. returned to the Site on July 3, 2019, to resample monitoring well RW-4A. The parking lot had been paved, and the monitoring well was no longer accessible. Resource Consulting returned to the Site on August 2, 2019, to install temporary monitoring well MW-4B by Johnson Probing, Inc. of Batavia, Illinois.

The well was developed using a peristaltic pump and dedicated PVC tubing. Development and purging of the well entailed the removal of approximately 2 gallons of groundwater, equivalent to approximately 5 casing volumes, from the well.

A discrete groundwater sample was collected from the monitoring well in two 40-ml vials preserved with hydrochloric acid and an amber liter jar, all fitted with Teflon®-lined lids. A soil sample was also collected during the well installation process from the stratum just above where saturated conditions were encountered. The samples were placed on ice and submitted with chain-of-custody documentation to First Environmental Laboratories, Inc. of Naperville, Illinois.

The soil sample underwent analysis to determine its bulk density and moisture content. The groundwater samples underwent analysis for the presence of benzene, toluene, ethylbenzene, and total xylenes (BTEX) and polynuclear aromatic hydrocarbons (PNAs). Copies of the laboratory results and chain-of-custody information have been included in Attachment B.

Groundwater Quality

The table below displays the analytical results from the sampling event and compares them to the Tier 1 Indoor Inhalation remediation objectives (ROs) found 35 Ill. Adm. Code Part 742.

Table I Laboratory Analytical Summary BTEX and PNAs in Groundwater Sample (values in mg/L)			
Sampling Date	e August 2, 2019 Illinois EPA Remediation		emediation Objectives
	RW-4B	Indoor Inhalation / Groundwater	
Sample ID		Residential	Industrial/ Commercial
Benzene	0.386	0.11	0.41
Toluene	< 0.050	530	530
Ethylbenzene	3.160	0.37	1.4
Total Xylenes	6.540	30	93
Acenaphthene	< 0.01	NA	NA
Acenaphthylene	< 0.01	NA	NA
Anthracene	< 0.05	NA	NA
Benzo(a)anthracene	0.00267	NA	NA NA
Benzo(a)pyrene	0.0016	NA	NA
Benzo(b)fluoranthene	0.00170	NA	NA
Benzo(k)fluoranthene	0.00157	NA	NA
Benzo(ghi)perylene	< 0.010	NA	NA
Chrysene	0.0023	NA	NA
Dibenzo(a,h)anthracene	< 0.0003	NA	NA
Fluoranthene	< 0.010	NA	NA
Fluorene	< 0.010	NA	NA .
Indeno(1,2,3-cd)pyrene	0.0008	NA	NA
Naphthalene	1.380	0.075	0.32
Phenanthrene	< 0.010	NA .	NA
Pyrene	< 0.010	NA	NA
TEXT	Concentration exceeds Illinois EPA remediation objective.		
TEXT	Remediation objective exceeded by groundwater concentration.		

The data in the above table show that benzene, ethylbenzene, and naphthalene are present in monitoring well RW-4B exceeding the Tier 1 indoor inhalation ROs for residential properties. A map of the project area is included in Attachment B.

Tier 2 Assessment of Indoor Inhalation Exposure Route

In response to the exceedances, indoor air inhalation (II) ROs have been calculated using the Johnson and Ettinger (J&E) model modified as described in the Illinois EPA's Vapor Intrusion guidance for TACO. The model's input parameters, equations, and results are presented in Attachment C.

The modeling uses a Q_{soil} of 0 cm³/sec since all soil and groundwater contamination is located more than 5 feet, vertically and horizontally, from the existing or potential building or made pathway.

The following table compares the detected concentrations of benzene, ethylbenzene, and naphthalene to the calculated Tier 2 ROs for these chemicals.

Table I Laboratory Analytical Summary BTEX and PNAs in Groundwater Sample (values in mg/L)		
RW-4B	Detected Concentration	Tler 2 Remediation Objective
Benzene	0.386	4.22
Ethylbenzene	3.16	4.95
Naphthalene	1.38	6.29

The information in the above table demonstrates that none of the detections in the August 2019 groundwater sample were in exceedance of the modeled remediation objectives. All of the J&E model calculations for this analysis are included in Attachment C.

Groundwater Ingestion Exposure Route

Upon further review of the August 2019 groundwater quality data, it was noted that certain PNAs in the latest dataset exceed the Tier 1 RO for groundwater ingestion for the first time. A discussion follows. The table below displays the analytical results from the sampling event and compares them to the Tier 1 Groundwater ROs found 35 Ill. Adm. Code Part 742.

Table II Laboratory Analytical Summary BTEX and PNAs in Groundwater Sample (values in mg/L)		
Sampling Date	August 2, 2019	Illinois EPA Remediation Objectives
Sample ID	RW-4B	Class i Groundwater
Benzene	0.386	0.005
Toluene	< 0.050	1.0
Ethylbenzene	3.160	0.7
Total Xylenes	6.540	10.0
Acenaphthene	< 0.010	0.42
Acenaphthylene	< 0.010	<u>-</u>
Anthracene	< 0.010	2.1
Benzo(a)anthracene	0.00267	0.00013
Benzo(a)pyrene	0.0016	0.0002
Benzo(b)fluoranthene	0.00170	0.00018
Benzo(k)fluoranthene	0.00157	0.00017
Benzo(ghi)perylene	< 0.010	_
Chrysene	0.0023	0.0015
Dibenzo(a,h)anthracene	< 0.0003	0.0003
Fluoranthene	< 0.010	0.28
Fluorene	< 0.010	0.28
Indeno(1,2,3-cd)pyrene	0.0008	0.00043
Naphthalene	1.380	0.14
Phenanthrene	< 0.010	-
Pyrene	< 0.010	0.21
TEXT	Concentration exceeds Illinois EPA remediation objective.	
TEXT	Remediation objective exceeded by soil concentration.	

The data in the above table show that benzene, ethylbenzene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and naphthalene are present in monitoring well RW-4B exceeding the groundwater ROs for Class I groundwater.

Over the course of this project, the PNAs detected in the most recent groundwater sample were not present in previous analytical results. The detections, while exceeding the Tier 1 ROs for these substances, do not appear to be of sufficient magnitude to migrate a distance greater than the current ordinance dimensions of 850 feet to the east and south and should not require further evaluation. The ordinance was provided to the Illinois EPA in project correspondence dated July 15, 2020.

This conclusion is based on the following:

- The benzene concentrations in the soil and groundwater and the naphthalene concentration in the soil modeled for the project in previous project documentation and approved by the Illinois EPA significantly exceed the recent detections of PNAs in groundwater.
- Due to its physical and chemical properties, benzene has the greatest potential for migration of the contaminants of concern for gasoline and diesel fuel releases other than methyl tertiary-butyl ether (MTBE).
- Prior groundwater monitoring efforts during the course of this project demonstrated that, although
 the modeling indicates that benzene could migrate up to 850 feet from the source area, it had not
 traveled more than 100 feet in over 10 years. Since that time, the source area has been remediated
 through the removal of contaminated soil and free product.

On behalf of the West Chicago Park District, Resource Consulting requests comment and recommendations from the Illinois EPA regarding the conclusion that no further characterization or remediation is necessary. Should the Illinois EPA concur, the Property Owner Summary Form and final budget including fees related to the work described in this document will be included in the final CACR documentation.

Please contact our office with any questions or comments regarding this submission, or if we can be of assistance in any other way.

Sincerely,

Daniel J. Horvath

Hydrogeologist/Senior Project Manager

cc: Mr. Michael Gasparini, West Chicago Park District

Attachments: A - Laboratory Report/Soil and Groundwater Analysis

B - J&E Model Calculations



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

August 09, 2019

Ms. Courtney McGinnis
RESOURCE CONSULTING, INC.
P.O. Box 123
Geneva, IL 60134

Project ID: 98-1002 WCPD

First Environmental File ID: 19-4658 Date Received: August 02, 2019

Dear Ms. Courtney McGinnis:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 004598: effective 04/23/2019 through 02/28/2020.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Bill Mottashed Project Manager



IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Lab File ID: 19-4658

Project ID: 98-1002 WCPD

Date Received: August 02, 2019

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

The results in this report apply to the samples in the following table:

Laboratory Sample ID	Client Sample Identifier	Date/Time Collected
19-4658-001	RW-4B	8/2/2019 9:15

Sample Batch Comments:

Sample acceptance criteria were met.

Method Comments

Lab Number

Sample ID

Comments:

19-4658-001

RW-4B

BTEX Organic Compounds
The reporting limits are elevated due to matrix interference.



IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Lab File ID: 19-4658

Project ID: 98-1002 WCPD

Date Received: August 02, 2019

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

The following is a definition of flags that may be used in this report:

Flag	Description	Flag	Description
Α	Method holding time is 15 minutes from collection. Lab an	alysis v	was performed as soon as possible.
В	Analyte was found in the method blank.	L	LCS recovery outside control limits.
<	Analyte not detected at or above the reporting limit.	M	MS recovery outside control limits; LCS acceptable.
С	Sample received in an improper container for this test.	P	Chemical preservation pH adjusted in lab.
D	Surrogates diluted out; recovery not available.	Q	Result was determined by a GC/MS database search.
E	Estimated result; concentration exceeds calibration range.	S	Analysis was subcontracted to another laboratory.
G	Surrogate recovery outside control limits.	, T	Result is less than three times the MDL value.
Н	Analysis or extraction holding time exceeded.	W	Reporting limit elevated due to sample matrix.
J	Estimated result; concentration is less than routine RL but greater than MDL.	N	Analyte is not part of our NELAC accreditation or accreditation may not be available for this parameter.
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.



IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client: RESOURCE CONSULTING, INC.

Project ID: 98-1002 WCPD

Sample ID: RW-4B

Sample No: 19-4658-001

Date Collected: 08/02/19

Time Collected: 9:15

Date Received: 08/02/19

Date Reported: 08/09/19

Analyte		Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 08/06/19	Method: 5030B/82	60B			
Benzene		386	5.0	ug/L	
Ethylbenzene		3,160	5.0	ug/L	
Toluene		< 50.0	5.0	ug/L	
Xylene, Total		6,540	5.0	ug/L	
Polynuclear Aromatic Hydrocar Analysis Date: 08/09/19	bons Method: 8270C		Preparation Preparation I	Method 351 Date: 08/08/19	0C
Acenaphthene		< 10	10	ug/L	
Acenaphthylene		< 10	10	ug/L	
Anthracene		< 10	10	ug/L	
Benzo(a)anthracene		2.67	0.13	ug/L	
Benzo(a)pyrene		1.6	0.2	ug/L	
Benzo(b)fluoranthene		1.70	0.18	ug/L	
Benzo(k)fluoranthene		1.57	0.17	ug/L	
Benzo(ghi)perylene		< 10.0	10	ug/L	
Chrysene		2.3	1.5	ug/L	
Dibenzo(a,h)anthracene		< 0.3	0.3	ug/L	
Fluoranthene		< 10	10	ug/L	
Fluorene		< 10	10	ug/L	
Indeno(1,2,3-cd)pyrene		0.8	0.3	ug/L	
Naphthalene		1,380	10	ug/L	
Phenanthrene		< 10	10	ug/L	
Pyrene		< 10	10	ug/L	

CHAIN OF CUSTODY RECORD

Page ___ of ___ pgs

First Environmental Laboratories

1600 Shore Road, Suite D Naperville, Illinois 60563

Phone: (630) 778-1200 • Fax: (630) 778-1233 E-mail: firstinfo@firstenv.com • www.firstenv.com

IEPA Certification #100292

Rev. 5/17

Company Name: RESCILLY CL CONSULTIV	101, Inc.	
Street Address: PO BOX 123	7	
City: Frenesia	State: 1L	Zip: 100134
Phone: 1/30-737-4870 e-mail: . CMCQ1NN		
Send Report To: Courther McGinnig /D	in Horvath	\
Sampled By: Courthey mcGinnis / D		

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IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

August 28, 2019

Ms. Courtney McGinnis
RESOURCE CONSULTING, INC.
P.O. Box 123
Geneva, IL 60134

Project ID: 98-1002 WCPD

First Environmental File ID: 19-5004 Date Received: August 02, 2019

Dear Ms. Courtney McGinnis:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 004598: effective 04/23/2019 through 02/28/2020.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Stan Zaworski Project Manager



Case Narrative

RESOURCE CONSULTING, INC.

Lab File ID: 19-5004

Project ID: 98-1002 WCPD

Date Received: August 02, 2019

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

The results in this report apply to the samples in the following table:

Laboratory Sample ID	Client Sample Identifier	Date/Time	Collected
19-5004-001	RW-4B	08/02/19	9:00

Sample Batch Comments:

Sample acceptance criteria were met.

The following analyses have been subcontracted to the indicated laboratory:

Analysis

Subcontractor:

Dry Soil Bulk Density

WHITNEY & ASSOCIATES Peoria, IL



IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Lab File ID: 19-5004

Project ID: 98-1002 WCPD

Date Received: August 02, 2019

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

The following is a definition of flags that may be used in this report:

Flag	Description	Flag	Description
A	Method holding time is 15 minutes from collection. Lab an	alysis	was performed as soon as possible.
В	Analyte was found in the method blank.	L	LCS recovery outside control limits.
<	Analyte not detected at or above the reporting limit.	М	MS recovery outside control limits; LCS acceptable.
С	Sample received in an improper container for this test.	P	Chemical preservation pH adjusted in lab.
D	Surrogates diluted out; recovery not available.	Q	Result was determined by a GC/MS database search.
E	Estimated result; concentration exceeds calibration range.	S	Analysis was subcontracted to another laboratory.
G	Surrogate recovery outside control limits.	T	Result is less than three times the MDL value.
Н	Analysis or extraction holding time exceeded.	W	Reporting limit elevated due to sample matrix.
j	Estimated result; concentration is less than routine RL but greater than MDL.	N	Analyte is not part of our NELAC accreditation or accreditation may not be available for this parameter.
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client:

RESOURCE CONSULTING, INC.

Date Collected:

08/02/19

Project ID:

98-1002 WCPD

Time Collected:

9:00

Sample ID:

08/02/19

RW-4B

Date Received: Date Reported:

08/28/19

19-5004-001 Sample No:

Results are reported on an "as received" basis.

R.L. Analyte Result Units Flags **Dry Soil Bulk Density** Method: D2937-94 Analysis Date: 08/28/19 NS 94.3 lbs/ft3 Dry Soil Bulk Density Moisture Method: 160.3 Analysis Date: 08/22/19 9.52 0.01 % Н Moisture

First CHAIN OF CUST

Date/Time_

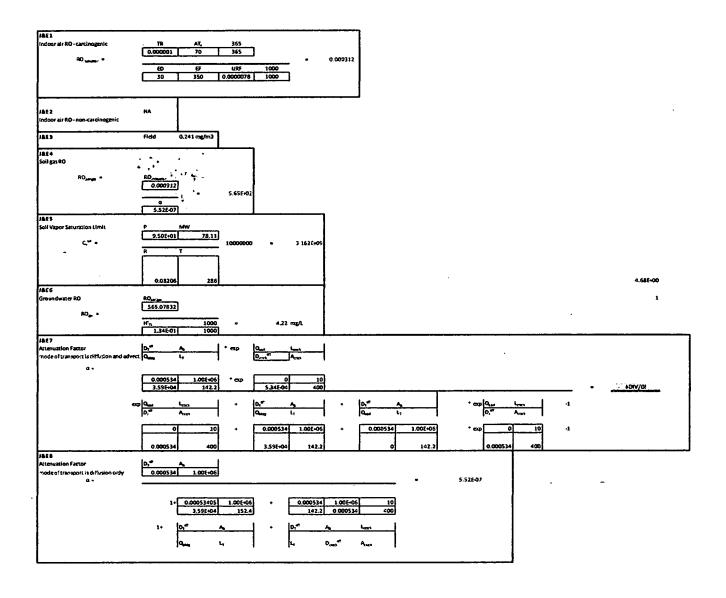
CHAIN OF CUSTODY RECORD

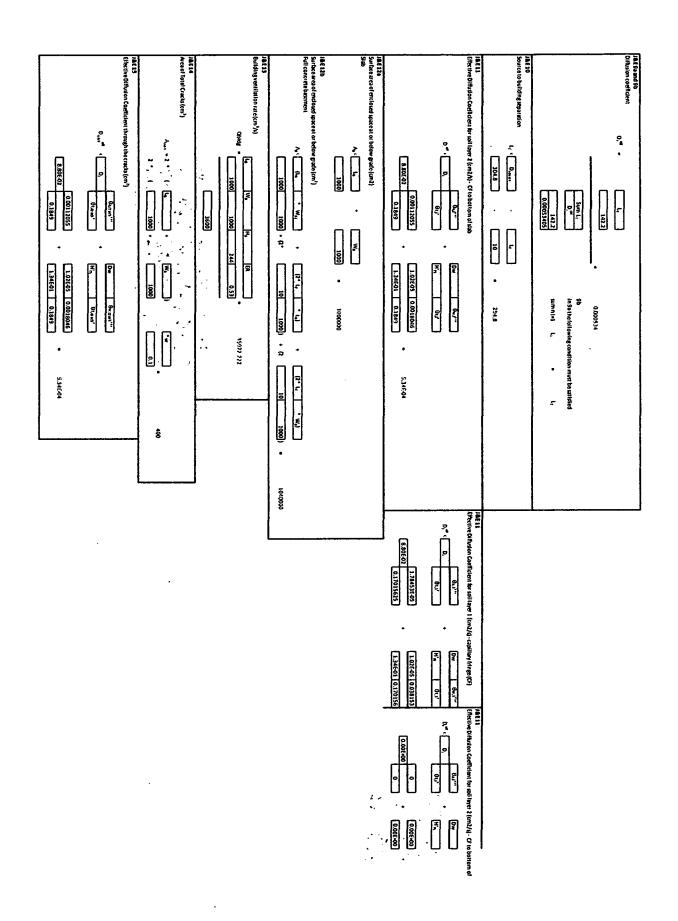
Page 1 of 1 pgs

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First Environmen	ntal Laboratories		Stree	t Addre	? :22S	OB	DX_	123				7,	
1600 Shore Road, Suit		City: GRENEVIA								State: 1L	Zip: 100134		
Naperville, Illinois 605 Phone: (630) 778-1200		Phone: 630-732-9820 e-mail: . CMCQINNIS GIRSQUILLINOIS. COM											
E-mail: firstinfo@first	Sampled By: Courishing mcGinnis / Dith Horvath												
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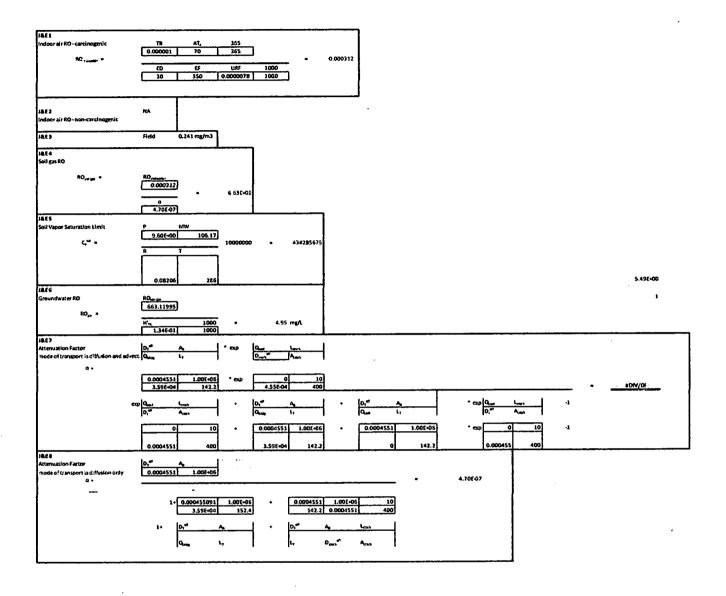
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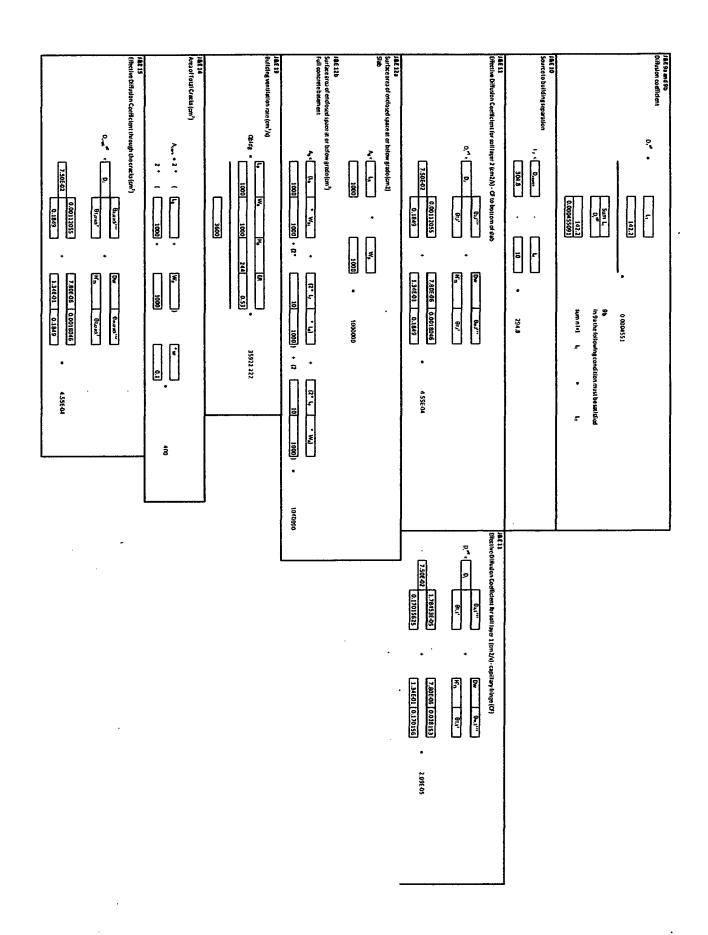
	n Parameters				Gray text - default values
SYMBOL		WALUE	UNITS	SOURCE	TI or Calculated
Α.	Surface area of enclosed space	1.00E+06	cm2	J&E 12a OR 12b, App C, Table L	Res=1.0E+06, Ind/Comm=4.0E+06
Amek	Area of total cracks	400	cm2	I&E14, App CTable1	Calculated Value
AT _c	Averaging time for carcinogens	70	year	SSL, May 1996	70
AT _M	Averaging time for noncarcinogens	30	year	AT _{ex} =ED	Res=30, Ind/Comm=25
C, ^{us}	Soil vapor saturation limit	3.16E+09	mg/m3-air	J&E5, App C Table L	Chemical specific or Calculated
D _{cont} er	Effective diffusion coeff, through cracks	5.34E-04	cm2/s	I&E 15, App C Table L	Calculated Value
D,	Diffusivity in air	8.80E-02	cm2/s	App C Table E	Chemical Specific
D,	Effective diffusion coeff, for each soil layer	5.34E-04	cm2/s	J&E11, App CTable L	Calculated Value
					Soil Gas Contamination=152.4, Groundwater
D	Distance from ground surface to top of contamination	304.8	cm	Field Measurement	Contamination=304.8
D- _{eff}	Total effective diffusion coefficient	5.34E-04		J&E9, App C Table L	Calculated Value
0.	Diffusivity in water	1.02E-05		App C Table E	Chemical Specific
ED	Exposure duration	30		zzt	Res=30, Ind/Comm=25
EF .	Exposure direction		day/year	SSL	Res=350, Ind/Comm=250
			exch/hr	IL EPA	Res=0.53, Ind/Comm=0.93
ER .	Air exchange rate				
<u>'</u>	Fraction organic carbon content	0.002	8/8	SSL OR Field Measurement, App C Table F	0.002 or site-specific
н.	Height of building	744	cm	IL EPA	SOG Res=244, Ind/Comm=305 OR Site sp T3 Basement Res=427, Ind/Comm=488
H'rs	Dimensionless Henry's Law constant	1.346-01	unitless	App C Table E	Chemical specific
4	Length of building	1000		IL EPA	Res=1000, Ind/Comm-2000 or Site sp T3
Loren	Slab thickness	10	cm	USEPA Users Guide 2004	10
4	Distance from ground surface to bottom of slab		cm	USEPA Users Guide 2004	SOG=10, Basement=200
1,	Thickness of soil layer i	152.4		Field Measurement, USEPA 2004	Sitesp 152.4 (5 R)/for capillary fringe, 37.5cm
-	Distance from bottom of slab to top of contamination	142.2		Field Measurement QR J&E 10, App C Table L	142.2 or Sitesp (4 FT 8 IN)
MW			g/mole	ILEPA	Chemical Specific
mw	Molecular weight Total number of layers		unitless (layers)	Field Measurement	Chemica specific
"					Chambart CasalCa
P	Vapor pressure	9.50E+01	atm	App C Table E	Chemical Specific
Q.,,,	Building ventilation rate	3.59 E+ 04	cm3/s	J&E13, App C Table L	SOG Res=3.59*10^4, Ind/Comm×3.15*10^5 OR Sitesp T3 Basement Res 6.28*10^4, Ind/Comm=5.04*10^5 or SST3
0	Volumetric flow rate of soil gas into the enclosed space		cm3/s	USEPA Users Guide 2004	IfLT<152cm=83.33 IfLT>=152cm=0
8	ideal gas constant		atm-L/mole-K	USEPA Users Guide 2004	0.0826
RfC	Reference concentration	3.00E+01		IL EPA TACO Toxicity Values spreadsheet	Toxicological-Specific
RO _{ga}	Groundwater remediation objective	0.005		App B Table E OR J&E 6, App C Table L	Chemical specific or Calculated
RO _{indeed} ,	Indoor air remediation objective	0.000311966		J&E1 and 2, App C Table L	Calculated Value
RO _{selige}	Soil gas remediation objective	565.0783175		J&E4, App C Table L	Calculated Value
···· india	Solubility in water	1.80E+03		App C Table E	Chemical Specific
-		286		USEPA Users Guide 2004	286 (converted from 13 C)
THQ	Temperature		unitless	SSL	200 (control (control) 200
IHQ	Target hazard quotient		lauriez	22r	
TR.				1	Rest 1006 Ind/Comma 1006 at point of human
			unitless	ssı	Res=10^6 Ind/Comm=10^6 at point of human exposure
***	Target risk	0.000001			exposure
URF	Target risk Unit risk factor	0.000001 7.80€-06	(ug/m³) ⁻¹	IL EPA TACO Toxicity Values spread sheet	exposure Toxicological-Specific
URF W	Target risk Unit risk factor Floor-wall seam gap	0.000001 7.80€-06 0.1	(ug/m³) ⁻¹ cm	IL EPA TACO Toxicity Values spread sheet USEPA Users Guide 2004	exposure Toxicological-Specific 0.1
URF W	Target risk Unit risk factor Floor-wall seam gap Moisture content	0.000001 7.80€-06 0.1 9.52	(ug/m³) ⁻¹ cm g water/g soil	IL EPA TACO Toxicity Values spread sheet	exposure Toxicological-Specific 0.1 Site specific
URF W W	Target risk Unit risk factor Floor-wall seam gap Moisture content Width of building	0.000001 7.80E-06 0.1 9.52	(ug/m³) ⁻¹ cm g water/g soil cm	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA	exposure Toxicological-Specific 0.1 Site specific Res=1000, Ind/Comm-2000 or Site sp T3
URF W	Target risk Unit risk factor Floor-wall seam gap Molsture content Width of building Attenuation factor	0.000001 7.80E-06 0.1 9.52 1000 5.52075E-07	(ug/m²) ¹ cm g water/g soit cm unitless	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&E 7 OR 8, App C Table L	exposure Toxicological-Specific 0.1 Site specific Res=1000, ind/Comm-2000 or Site sp T3 Site specific
URF W W Q a	Target risk Unit risk factor Floor-wall seam gap Moisture content Width of building Attenuation factor Air-filled soil porosity	0.000001 7.80€-06 0.1 9.52 1000 5.52075€-07 0.28	(ug/m²)¹ cm g water/g soil cm unitless cm3/cm3	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&ET OR 8, App C Table L SSL OR J&E 18, App C Table L	exposure Toxicological-Specific 0.1 Site-specific Res=1000, Ind/Comm-2000 or Site sp T3 Site-specific 0.28 OR Calculated value
URF W W	Target risk Unit risk factor Floor-wall seam gap Molsture content Width of building Attenuation factor	0.000001 7.80€-06 0.1 9.52 1000 5.52075€-07 0.28	(ug/m²) ¹ cm g water/g soit cm unitless	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&E 7 OR 8, App C Table L	exposure Toxicological-Specific 0.1 Site specific Res=1000, Ind/Comm-2000 or Site sp T3 Site specific 0.28 OR Calculated value 0.13
URF W W Q a	Target risk Unit risk factor Floor-wall seam gap Moisture content Width of building Attenuation factor Air-filled soil perosity Air-filled porosity for soil in cracks	0.000001 7.80€-06 0.1 9.52 1000 5.52075€-07 0.28 0.13	(ug/m³)'¹ cm g water/g soil cm unitless cm3/cm3 cm3/cm3	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA JAEF 7 OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 18, App C Table L	exposure Toxicological-Specific 0.1 Site specific Res=1000, Ind/Comm-2000 or Site sp T3 Site specific 0.28 OR Calculated value 0.13 0.13 OR Calculated value for capillary fringe
URF W W Q a	Target risk Unit risk factor Floor-wall seam gap Moisture content Width of building Attenuation factor Air-filled soil parosity Air-filled porosity for soil in cracks Air-filled porosity of soil layer 1	0.000001 7.80€-06 0.1 9.52 1000 5.52075€-07 0.28 0.13	(ug/m²)·¹ cm g water/g soil em unitless cm3/cm3 cm3/cm3 cm3/cm3	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&E 7 OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 18, App C Table L	exposure Toxicological-Specific 0.1 Site specific 0.28 OR Calculated value 0.13 OR Calculated value for capillary fringe 0,00.13 OR Calculated value for capillary fringe
URF W W We a B. B. Someth	Target risk Unit risk factor Floor-wall seam gap Moisture content Width of building Attenuation factor Air-filled soil perosity Air-filled porosity for soil in cracks Air-filled porosity of soil layer 1 Total perosity for soil in cracks	0.000001 7.80€-06 0.1 9.52 1000 5.52075€-07 0.28 0.13	(ug/m³)*1 cm g water/g soil em unitiess cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&ET OR 8, App C Table L SSL OR J&E 18, App C Table L	exposure Toxicological-Specific 0.1 Site specific Res-1000, ind/Comm-2000 or Site sp T3 Site specific 0.28 OR Calculated value 0.13 0.13 OR Calculated value for capillary fringe 0.4-0.1 0.0
URF W W Q a	Target risk Unit risk factor Floor-wall seam gap Molsture content Width of building Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity for soil in cracks Total porosity for soil in cracks	0.000001 7.80€-06 0.1 9.52 1000 5.520756-07 0.28 0.13 0.13	(ug/m³)*1 cm g water/g soil cm unitless cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&ET OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 16, App C Table L	exposure Toxicological-Specific 0.1 Site specific Res-1000, Ind/Comm-2000 or Site sp T3 Site specific 0.28 OR Calculated value 0.13 0.13 OR Calculated value for capillary fringe 0, =0.1 0 _U 0.43 0.43 or calculated value
URF W W W 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Target risk Unit risk factor Floor-wall seam gap Moisture content Width of building Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity for soil in cracks Total porosity for soil in cracks Total porosity of soil layer 1 Water-filled soil porosity Water-filled soil porosity	0.000001 7.80E-06 0.1 9.52 1000 5.52075E-07 0.28 0.13 0.13 0.43 0.43	(ug/m³)*1 cm g water/g soil cm unitless cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&ET OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 16, App C Table L SSL OR J&E 16, App C Table L SSL OR J&E 16, App C Table L	exposure Toxicological-Specific 0.1 Site-specific Res=1000, Ind/Comm-2000 or Site-sp T3 Site-specific 0.28 OR Calculated value 0.13 0.13 OR Calculated value for capillary fringe 0, =0.1 0, 0.43 or calculated value 0.5 or calculated value
URF W W 6 a 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.	Target risk Unit risk factor Floor-wall seam gap Molsture content Width of building Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity for soil in cracks Total porosity for soil in cracks	0.000001 7.80E-06 0.1 9.52 1000 5.52075E-07 0.28 0.13 0.13 0.43 0.43	(ug/m³)*1 cm g water/g soil cm unitless cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&ET OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 16, App C Table L SSL OR J&E 17, App C Table L SSL OR J&E 17, App C Table L SSL OR J&E 17, App C Table L	exposure Toxicological-Specific 0.1 Site specific 0.28 OR Calculated value 0.13 OR Calculated value for capillary fringe 0 ₄₀ =0.1 0 ₁₀ 0.43 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value
URF W W 6 a 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.	Target risk Unit risk factor Floor-wall seam gap Molsture content Width of building Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity for soil in cracks Total porosity for soil in cracks Total porosity of soil layer 1 Water-filled soil porosity Water-filled porosity for soil in cracks	0.000001 7.80E-06 0.1 9.52 1000 5.52075E-07 0.28 0.13 0.13 0.43 0.43 0.15	(ug/m³)¹ cm g water/g soil em unitiess cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&ET OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 16, App C Table L SSL OR J&E 17, App C Table L	exposure Toxicological-Specific 0.1 Site specific 0.1 Site specific Res=1000, Ind/Comm-2000 or Site sp T3 Site specific 0.28 OR Calculated value 0.13 0.13 OR Calculated value for capillary fringe 0.49 0.40 or calculated value 0.5 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value, for cap fringe=0.375
URF W W We a B. B. Someth	Target risk Unit risk factor Floor-wall seam gap Moisture content Width of building Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity for soil in cracks Total porosity of soil layer 1 Water-filled soil porosity Water-filled porosity for soil in cracks Water-filled porosity for soil in cracks	0.000001 7.80E-06 0.1 9.52 1000 5.52075E-07 0.28 0.13 0.13 0.43 0.43 0.15 0.15	(ug/m³)¹¹ cm g water/g soil cm unitless cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&ET OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 17, App C Table L	exposure Toxicological-Specific 0.1 Site specific 0.2 Site specific 0.28 OR Calculated value 0.13 0.13 OR Calculated value for capillary fringe 0, 0.1 0 0.1
URF W W 6 a 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.	Target risk Unit risk factor Floor-wall seam gap Moisture content Width of building Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity for soil in cracks Total porosity of soil layer 1 Water-filled soil porosity Water-filled porosity for soil in cracks Water-filled porosity for soil in cracks United Soil porosity Water-filled porosity for soil in cracks Water-filled porosity for soil layer 1 Ony soil bulk density	0.000001 7.80€-06 0.1 9.52 10000 5.52075€07 0.28 0.13 0.43 0.43 0.43 0.15 0.15	(ug/m³)*1 cm g water/g soil cm unitless cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&E 7 OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 16, App C Table L SSL OR J&E 17, App C Table L	exposure Toxicological-Specific 0.1 Site specific Res=1000, Ind/Comm-2000 or Site sp T3 Site specific 0.28 OR Calculated value 0.13 OR Calculated value for capillary fringe 0,4-0.1 00 0.43 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or Calculated value, for cap fringe=0.375 OR 0.9 0, 1.5 or Calculated value
URF W W 6 a 9. 0. 0. 0. 0. 0. 0. 0. 0. 0.	Target risk Unit risk factor Floor-wall seam gap Moisture content Width of building Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity of soil layer 1 Total porosity for soil in cracks Total porosity of soil layer 1 Water-filled soil porosity Water-filled porosity for soil in cracks Water-filled porosity for soil in cracks Ony soil built density Soil particle density	0.000001 7.80€-06 0.1 9-52 10000 5.52075€-07 0.13 0.43 0.43 0.15 0.15	(ug/m²)¹ cm g water/g soil em unitless em3/cm3 em3/cm3 em3/cm3 em3/cm3 em3/cm3 em3/cm3 em3/cm3 em3/cm3 g/cm3 g/cm3	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&ET OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 16, App C Table L SSL OR J&E 17, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 18, App C Table L	exposure Toxicological-Specific 0.1 Site specific 0.2 Site specific 0.28 OR Calculated value 0.13 0.13 OR Calculated value for capillary fringe 0, 0.1 0 0.1
URF W W 6 a 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.	Target risk Unit risk factor Floor-wall seam gap Moisture content Width of building Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity for soil in cracks Total porosity of soil layer 1 Water-filled soil porosity Water-filled porosity for soil in cracks Water-filled porosity for soil in cracks United Soil porosity Water-filled porosity for soil in cracks Water-filled porosity for soil layer 1 Ony soil bulk density	0.000001 7.80€-06 0.1 9-52 10000 5.52075€-07 0.13 0.43 0.43 0.15 0.15	(ug/m³)*1 cm g water/g soil cm unitless cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&E 7 OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 16, App C Table L SSL OR J&E 17, App C Table L	exposure Toxicological-Specific 0.1 Site specific Res=1000, Ind/Comm-2000 or Site sp T3 Site specific 0.28 OR Calculated value 0.13 OR Calculated value for capillary fringe 0,4-0.1 00 0.43 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or Calculated value 0.15 or Calculated value 0.15 or Calculated value, for cap fringe=0.375 OR 0.9 0, 1.5 or Calculated value
URF W W 6 a 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.	Target risk Unit risk factor Floor-wall seam gap Moisture content Width of building Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity of soil layer 1 Total porosity for soil in cracks Total porosity of soil layer 1 Water-filled soil porosity Water-filled porosity for soil in cracks Water-filled porosity for soil in cracks Ony soil built density Soil particle density	0.000001 7.80€-06 0.1 9-52 10000 5.52075€-07 0.13 0.43 0.43 0.15 0.15	(ug/m²)¹ cm g water/g soil em unitless em3/cm3 em3/cm3 em3/cm3 em3/cm3 em3/cm3 em3/cm3 em3/cm3 em3/cm3 g/cm3 g/cm3	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&ET OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 16, App C Table L SSL OR J&E 17, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 18, App C Table L	exposure Toxicological-Specific 0.1 Site specific Res=1000, Ind/Comm-2000 or Site sp T3 Site specific 0.28 OR Calculated value 0.13 OR Calculated value for capillary fringe 0,4-0.1 00 0.43 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or Calculated value 0.15 or Calculated value 0.15 or Calculated value, for cap fringe=0.375 OR 0.9 0, 1.5 or Calculated value
URF W W 6 a 9. 0. 0. 0. 0. 0. 0. 0. 0. 0.	Target risk Unit risk factor Floor-wall seam gap Moisture content Width of building Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity of soil layer 1 Total porosity for soil in cracks Total porosity of soil layer 1 Water-filled soil porosity Water-filled porosity for soil in cracks Water-filled porosity for soil in cracks Ony soil built density Soil particle density	0.000001 7.80€-06 0.1 9-52 10000 5.52075€-07 0.13 0.43 0.43 0.15 0.15	(ug/m²)¹ cm g water/g soil em unitless em3/cm3 em3/cm3 em3/cm3 em3/cm3 em3/cm3 em3/cm3 em3/cm3 em3/cm3 g/cm3 g/cm3	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&ET OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 16, App C Table L SSL OR J&E 17, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 18, App C Table L	exposure Toxicological-Specific 0.1 Site specific Res=1000, Ind/Comm-2000 or Site sp T3 Site specific 0.28 OR Calculated value 0.13 OR Calculated value for capillary fringe 0,=0.1 0 ₀ 0.43 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or Calculated value 1.5 or Calculated value 0.15 or Calculated value 0.15 or Calculated value 0.15 or Calculated value 1.0.13 OR Calculated value 0.15 or Calculated value
URF W W 6 a 9. 0. 0. 0. 0. 0. 0. 0. 0. 0.	Target risk Unit risk factor Floor-wall seam gap Moisture content Width of building Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity of soil layer 1 Total porosity for soil in cracks Total porosity of soil layer 1 Water-filled soil porosity Water-filled porosity for soil in cracks Water-filled porosity for soil in cracks Ony soil built density Soil particle density	0.000001 7.80€-06 0.1 9.52 10000 5.52075€-07 0.28 0.13 0.43 0.43 0.43 0.15 0.15 1.5 2.65	(ug/m²)¹ cm g water/g soil em unitless em3/cm3 em3/cm3 em3/cm3 em3/cm3 em3/cm3 em3/cm3 em3/cm3 em3/cm3 g/cm3 g/cm3	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&ET OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 19, App C Table L SSL OR J&E 17, App C Table L SSL OR J&E 18, App C Table L SSL OR Field Measurement, App C Table F SSL OR J&E 18, App C Table F IL EPA SSL OR J&E 18, App C Table L	exposure Toxicological-Specific 0.1 Site specific 0.1 Site specific Res=1000, Ind/Comm-2000 or Site sp T3 Site specific 0.28 OR Calculated value 0.13 OR Calculated value 0.15 or calculated value for capillary fringe 0.49 0.1 90 0.43 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 1.5 or Calculated value 0.15 or Calculated value 10 0.13 OR Calculated value for capillary fringe 0,40.1 0,3
URF W W 6 a 9. 0. 0. 0. 0. 0. 0. 0. 0. 0.	Target risk Unit risk factor Floor-wall seam gap Molsture content Width of building Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity for soil in cracks Total porosity for soil in cracks Total porosity for soil layer 1 Water-filled soil porosity Water-filled porosity for soil in cracks Water-filled porosity for soil in cracks Water-filled porosity for soil in cracks Only soil built density Soil particle density Density of water	0.000001 7.80E-06 0.1 9.52 1000 5.52075E-07 0.28 0.13 0.43 0.43 0.15 0.15 1.5 2.65 1	(ug/m³)¹¹ cm g water/g soil cm unitless cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 g/cm3 g/cm3	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&ET OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 17, App C Table E SSL OR J&E 17, App C Table L SSL OR J&E 17, App C Table F SSL OR Field Measurement, App C Table F IL EPA SSL OR J&E 18, App C Table L SSL OR J&E 18, App C Table F IL EPA SSL OR J&E 18, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 18, App C Table L	exposure Toxicological-Specific 0.1 Site specific Res=1000, Ind/Comm-2000 or Site sp T3 Site specific 0.28 OR Calculated value 0.13 0.13 OR Calculated value for capillary fringe 0 ₁₀ =0.1 0 ₁₀ 0.43 0.43 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 1.5 or Calculated value 0.16 or cap fringe=0.375 OR 0.9 0, 1.5 or Calculated value 1.0.13 OR Calculated value 0.10 or calculated value 0.10 or calculated value 0.10 or calculated value 0.10 or calculated value 0.10 or Calculated value 0.10 or Calculated value 0.13 or Calculated value for capillary fringe 0.15 or calculated value for capillary fringe 0.15 or calculated value, for cap fringe=0.375
URF W W 6 a 9. 0. 0. 0. 0. 0. 0. 0. 0. 0.	Target risk Unit risk factor Floor-wall seam gap Moisture content Width of building Attenuation factor Air-filled soil perosity Air-filled porosity for soil in cracks Air-filled porosity of soil layer 1 Total perosity of soil layer 1 Water-filled soil perosity Water-filled porosity for soil in cracks Water-filled porosity for soil in cracks United perosity of soil layer 1 Uny soil built density Soil particle density Density of water	0.000001 7.80€-06 0.1 9.52 10000 5.52075€-07 0.28 0.13 0.43 0.43 0.43 0.15 0.15 1.5 2.65 1 0.0375	(ug/m³)*1 cm g water/g soil cm unitless cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 g/cm3 g/cm3	IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA J&ET OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 19, App C Table L SSL OR J&E 17, App C Table L SSL OR J&E 18, App C Table L SSL OR Field Measurement, App C Table F SSL OR J&E 18, App C Table F IL EPA SSL OR J&E 18, App C Table L	exposure Toxicological-Specific 0.1 Site specific 0.2 Site specific 0.28 OR Calculated value 0.13 OR Calculated value for capillary fringe 0.43 or calculated value 0.5 or calculated value 0.15 or calculated value 0.15 or calculated value 1.5 or Calculated value 0.15 or Calculated value 0.15 or Calculated value 0.15 or Calculated value 0.15 or Calculated value 1.5 or Calculated value 1.5 or Calculated value 0.16 or Calculated value 0.17 or Calculated value 1.0 or Calculated value



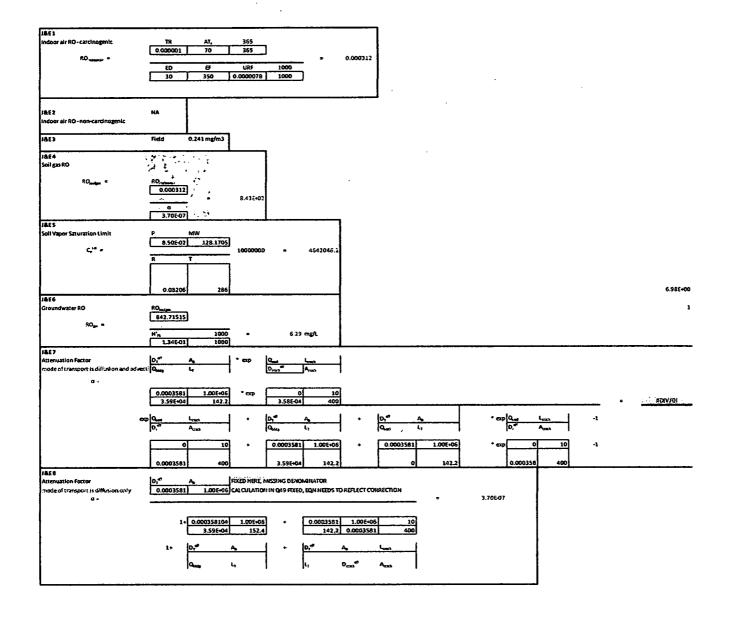


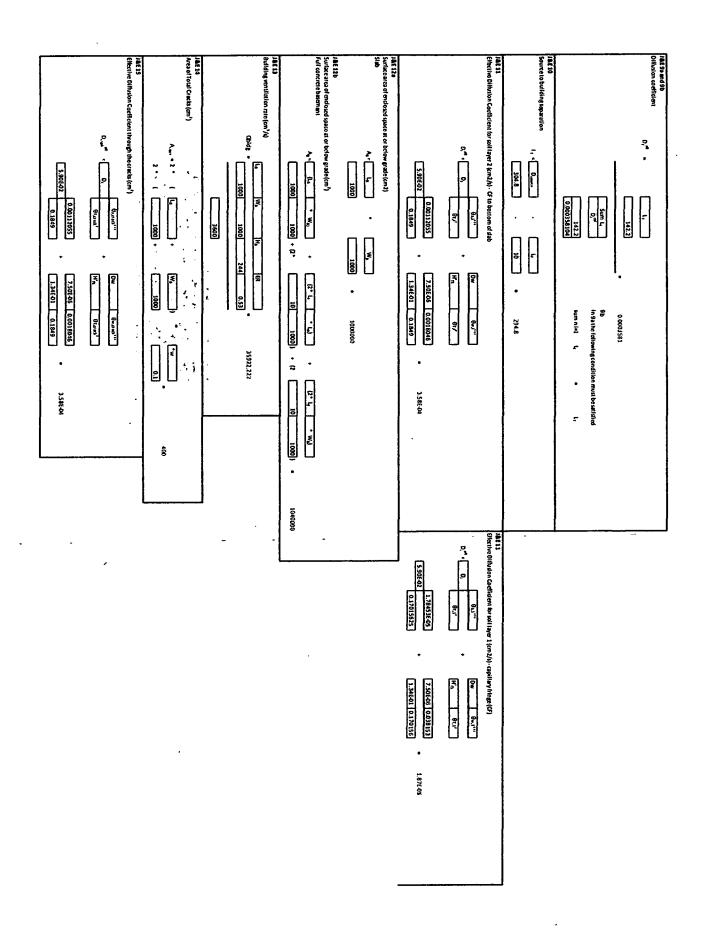
denne	on Parameters				Gray text - default values
SYMBOL		VALUE	UNITS	SOURCE	T1 or Calculated
A-	Surface area of enclosed space	1.00€+06	cm2	J&E 12a OR 12b, App C, Table L	Res=1.0E+06, Ind/Comm=4.0E+06
A	Area of total cracks	400	cm2	J&E14, App CTableL	Calculated Value
AT,	Averaging time for carcinogens	70	year	SSL, May 1996	7(
AT _m	Averaging time for noncarcinogens	30	AGSL	AT _{er} =ED .	Res=30, Ind/Comm=25
C UB	Soil vapor saturation limit		mg/m3-air	I&ES, App C Table L	Chemical specific or Calculated
7 di	Effective diffusion coeff, through cracks	4.55E-04		J&E 15, App C Table L	Calculated Value
O _{rest}	Olffusivity in air	7.50E-02		App C Table E	Chemical Specific
0,		4.55E-04		J&E11, App CTableL	Calculated Value
U1	Effective diffusion coeff. for each soll layer	4.536-04	Linz/s	rate 11, Appl Table 1	
			1		Soil Gas Contamination=152.4, Groundwater
D	Distance from ground surface to top of contamination	304.8		Field Measurement	Contamination=304.8
D ₁ ^{df}	Total effective diffusion coefficient	4.55E-04	cm2/s	I&E9, App C Table L	Calculated Value
D.	Diffusivity in water	7.80E-06	cm2/s	App C Table E	Chemical Specific
ED	Exposure duration	30	Aesa	SSL	Res=30, Ind/Comm=25
FF	Exposure frequency		day/year	SSL	Res=350, Ind/Comm=250
ED	Air exchange rate		exch/hr	IL EPA	Res=0.53, Ind/Comm=0.93
4	Fraction organic carbon content	0 002		SSL OR Field Measurement, App C Table F	0.002 or site-specific
<u> </u>	Praction organic carbon content	0 002	E/R	332 OK FIELD MESSUFERIEST, APP C TABLE?	
		٠.,	l	l.,,	50G Res=244, Ind/Comm=305 OR Site sp T3
H ₀	Height of building		em	IL EPA	Bisement Res=427, Ind/Comm=488
H'B	Dimensionless Henry's Law constant		unitless	App C Table E	Chemical specific
L,	Length of building	1000		IL EPA	Res=1000, Ind/Comm-2000 or Site sp T3
Lenci	Slab thickness		cm	USEPA Users Guide 2004	10
Ļ	Distance from ground surface to bottom of slab		¢m	USEPA Users Guide 2004	SOG=10, Basement=200
ζ.	Thickness of soil layer i	152.4	cm	Field Measurement, USEPA 2004	Site sp 152.4 (5 ft)/for capillary fringe, 37.5cm
L.	Distance from bottom of slab to top of contamination	142.2		Field Measurement OR J&E 10, App C Table L	142.2 or Sitesp (4 FT 8 IN)
MW	Molecular weight		g/mole · ·	IL EPA	Chemical Specific
POW .	Total number of layers		unitless (layers)	Field Measurement	Comica specific
P	Vapor pressure	9.60E+00	atm	App C Table E	Chemical Specific
Q. ₁₁	Building ventilation rate	3.59E+04	cm3As	J&E 13, App C Table L	SOG Res=3.59°10°4, Ind/Comm=3.15°10°5 OR Site sp T3 Basement Res 6.28°10°4, Ind/Comm=5.04°10°5 or SST3
o	Volumetric flow rate of soil gas into the enclosed space	0	cm3/s	USEPA Users Guide 2004	IfLT<152cm=83.33 IfLT>=152cm=0
9	Ideal gas constant		atm-L/mole-K	USEPA Users Guide 2004	0.0826
^				4	
RfC	Reference concentration	1.00E+00		IL EPATACO Toxicity Values spreadsheet	Toxicological-Specific
RO,	Groundwater remediation objective .	7.00E-01		App B Table E OR J&E 6, App C Table L	Chemical specific or Calculated
RO					
	Indoor air remediation objective	0.000311966		J&E1 and 2, App C Table L	Calculated Value
RO _{setge}	Soll gas remediation objective	663.1199511	mg/m3	J&E 4, App C Table L	Calculated Value
			mg/m3		
	Soll gas remediation objective	663.1199511 1.70E+02	mg/m3	J&E 4, App CTable L	Calculated Value
RO _{settgee} S	Soil gas remediation objective Solubility in water Temperature	663.1199511 1.70E+02 286	mg/L *K	I&E 4, App C Table L App C Table E USEPA Users Guide 2004	Calculated Value Chemical Specific
	Soll gas remediation objective Solubility in water	663.1199511 1.70E+02 286	mg/m3 mg/L	J&E 4, App C Table L App C Table E	Calculated Value Chemical Specific 286 (converted from 13 C)
RO _{Lehtges} S T THQ	Solt gas remediation objective Solubility in water Temperature Target hazard quotient	663.1199511 1.70E+02 286	mg/L *K unitless	I&E 4, App C Table L App C Table E USEPA Users Guide 2004	Calculated Value Chemical Specific
RO _{setters} S T THQ	Soll gas remediation objective Solubility in water Temperature Terget hazard quotient Target risk	663.1199511 1.70E+02 286 1 0.000001	mg/m3 mg/L *K unitless unitless	J& E 4, App C Table L App C Table E USEPA Users Guide 2004 SSL SSL	Calculated Value Chemical Specific 286 (converted from 13 C) Res=10% ind/Comm=10% at point of human exposure
RO _{setiges} S T THQ TR	Soil gas remediation objective Solubility in water Temperature Target hazard quotient Target risk Unit risk factor	663.1199511 1.70E+02 286 1 0.000001 7.80E-06	mg/m3 mg/L "K unitless unitless (ug/m ³) ¹	I&E 4, App C Table L App C Table E USEPA Users Guide 2004 SSL SSL IL EPATACO Toxicity Values spreadsheet	Calculated Value Chemical Specific 286 (converted from 13 C) Res=10~6 ind/Comm=10~6 at point of human exposure Toxicological-Specific
RO _{LORGE} S	Soll gas remediation objective Solubility in water Temperature Target hazard quotient Target risk Unit risk factor Floor wall seam gap	663.1199511 1.70E+02 286 1 0.000001 7.80E-06	mg/m3 mg/L °K unitless unitless (ug/m³) ¹ cm	I&E 4, App C Table L App C Table E USEPA Users Guide 2004 SSL SSL III. EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004	Calculated Value Chemical Specific 286 (converted from 13 C) [Res=10^6 ind/Comm=10^6 at point of human exposure Toxicological-Specific 0.1
RO _{LORES} S	Soll gas remediation objective Solubility in water Temperature Target hazard quotient Target risk Unit risk factor Floor-wall seam gap Molsture content	663.1199511 1.70E+02 286 1 0.000001 7.80E-06 0.1 9.52	mg/m3 mg/L *K unitless unitless (ug/m²);¹ cm g water/g soil	I&E 4, App C Table L App C Table E USEPA Users Guide 2004 SSL SSL LE PA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F	Calculated Value Chemical Specific 286 (converted from 13 C) Res=10^6 ind/Comm=10^6 at point of human exposure Toxicological-Specific Site specific
RO _{cotages} S · · · · · · · · · · · · · · · · · · ·	Soil gas remediation objective Solubility in water Temperature Target hazard quotient Target risk Unit risk factor Floor wall seam gap Moisture content Width of building	663.1199511 1.70E-02 286 1 0.000001 7.80E-06 0.1 9.52	mg/m3 mg/L *K unitless unitless (ug/m²)-1 cm gwater/g soil cm	I&E 4, App C Table L App C Table E USEPA Users Guide 2004 SSL SSL IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 III EPA TACO Toxicity Values Spreadsheet III EPA TACO Toxicity Values Spreadsheet III EPA T	Calculated Value Chemical Specific 286 (converted from 13 C) Res=10-6 Ind/Comm=10-6 at point of human exposure Toxicological-Specific 0.: Site specific Res=1000, Ind/Comm=2000 or Site sp T3
RO _{Lottor} S · · · · · · · · · · · · · · · · · · ·	Soll gas remediation objective Solubility in water Temperature Target hazard quotient Target risk Unit risk factor Floor wall seam gap Meisture content Width of building Attenuation factor	663.1199511 1.70E+02 286 1 0.000001 7.80E+06 0.1 9.52 1000 4.70452E+07	mg/m3 mg/L *K unitless unitless (ug/m²)* cm g water/g soil cm unitless	I&E 4, App C Table L App C Table E USEPA Users Guide 2004 SSL SSL IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Mesaurement, App C Table F IL EPA J&E 7 OR 8, App C Table L	Calculated Value Chemical Specific 286 (converted from 13 C) Ress10% Ind/Comm=10% at point of human exposure Toxicological-Specific Site specific 0.: Site specific Site specific Site specific
RO _{unitges} S	Soll gas remediation objective Solubility in water Temperature Target hazard quotient Target risk Unit risk factor Floor wall seam gap Moisture content Width of building Alternation factor Air-filled soil porosity	663.1199511 1.70E402 286 1 0.000001 7.80E-06 0.1 9.52 1000 4.70452E07 9.28	mg/m3 mg/L 'K unitless unitless (unitless cm g water/g soil cm unitless cm3/cm3	I&E 4, App C Table L App C Table E USEP A Users Guide 2004 SSL IL EPA TACO Taxicity Values spreadsheet USEP A Users Guide 2004 Reld Measurement, App C Table F IL EPA I&E FO AR B, App C Table L SSL OR J&E 18, App C Table L	Calculated Value Chemical Specific 286 (converted from 13 C) Res=10^6 Ind/Comm=10^6 at point of human exposure Toxicological-Specific 0.1 Site specific Res=1000, Ind/Comm=2000 or Site sp T3 Site specific 0.28 OR Calculated value
RO _{uelga} S	Soll gas remediation objective Solubility in water Temperature Target hazard quotient Target risk Unit risk factor Floor wall seam gap Meisture content Width of building Attenuation factor	663.1199511 1.70E402 286 1 0.000001 7.80E-06 0.1 9.52 1000 4.70452E07 9.28	mg/m3 mg/L *K unitless unitless (ug/m²)* cm g water/g soil cm unitless	I&E 4, App C Table L App C Table E USEPA Users Guide 2004 SSL SSL IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Mesaurement, App C Table F IL EPA J&E 7 OR 8, App C Table L	Calculated Value Chemical Specific 286 (converted from 13 C) Res=10^6 Ind/Comm=10^6 at point of human exposure Toxicological-Specific 0: Site specific 0: Site specific 0:28 OR Calculated value
RO _{unitges} S	Soll gas remediation objective Solubility in water Temperature Tenget hazard quotient Target risk Unit risk factor Floor wall seam gap Moisture content Wildling faultiding Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity of soil layer 1	663.1199511 1.70E+02 286 1 0.000001 7.80E+06 0.1 9.52 1000 4.70452E+07 9.28 0.13	mg/m3 mg/L 'K unitless unitless (ug/m²)² cm gwater/g soil cm unitless em3/cm3 cm3/cm3	I&E 4, App C Table L App C Table E USEPA Users Guide 2004 SSL IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA I&E 7 OR 8, App C Table L SSL OR I&E 18, App C Table L SSL OR I&E 18, App C Table L	Calculated Value Chemical Specific 286 (converted from 13 C) Res=10~6 Ind/Comm=10~6 at point of human exposure Toxicological-Specific 0.: Site specific Res=1000, Ind/Comm=2000 or Site sp T3 Site specific 0.28 OR Calculated value 0.13 OR Calculated value for capillary fringe 0, w0.1 0 y
RO _{unitges} S	Soll gas remediation objective Solubility in water Temperature Target hazard quotient Target risk Unit risk factor Floor wall seam gap Moisture content Width of building Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks	663.1199511 1.70E+02 286 1 0.000001 7.80E+06 0.1 9.52 1000 4.70452E+07 9.28 0.13	mg/m3 mg/L 'K unitless unitless (ug/m³) ¹ cm gwate/g soil em unitless em3/cm3 em3/cm3	I&E 4, App C Table L App C Table E USEPA Users Guide 2004 SSL SSL IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Reid Measurement, App C Table F IL EPA I&E 7 OR 8, App C Table L SSL OR I&E 18, App C Table L SSL OR I&E 18, App C Table L	Calculated Value Chemical Specific 286 (converted from 13 C) Res=10~6 Ind/Comm=10~6 at point of human exposure Toxicological-Specific 0.: Site specific Res=1000, Ind/Comm=2000 or Site sp T3 Site specific 0.28 OR Calculated value 0.13 OR Calculated value for capillary fringe 0, w0.1 0 y
RO _{uelga} S	Soll gas remediation objective Solubility in water Temperature Tenget hazard quotient Target risk Unit risk factor Floor wall seam gap Moisture content Wildling faultiding Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity of soil layer 1	663.1199511 1.70E+02 286 1 0.000001 7.80E+06 0.1 9.52 10000 4.70452E07 0.13 0.13	mg/m3 mg/L 'K unitless unitless (ug/m²)² cm gwater/g soil cm unitless em3/cm3 cm3/cm3	I&E 4, App C Table L App C Table E USEPA Users Guide 2004 SSL IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F IL EPA I&E 7 OR 8, App C Table L SSL OR I&E 18, App C Table L SSL OR I&E 18, App C Table L	Calculated Value Chemical Specific 286 (converted from 13 C) Res=10~6 Ind/Comm=10~6 at point of human exposure Toxicological-Specific 0.: Site specific Res=1000, Ind/Comm=2000 or Site sp T3 Site specific 0.28 OR Calculated value 0.13 OR Calculated value for capillary fringe 0, w0.1 0 y
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RO _{uelga} S	Soil gas remediation objective Solubility in water Temperature Tenget hazard quotient Target risk Unit risk factor Floor wall seam gap Moisture content Width of building Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity for soil in cracks Total porosity of soil layer 1 Total porosity of soil layer 1 Total porosity of soil layer 1 Water-filled soil porosity Water-filled soil porosity	663.1199511 1.70E+02 286 1 0.000001 7.80E-06 0.1 9.52 1000 4.70452E-07 9.28 0.13 0.13 0.43	mg/m3 mg/L 'K unitless unitless (ug/m²)¹¹ cm gwate/g soil cm unitless em3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3	I&E 4, App C Table L App C Table E USEPA Users Guide 2004 SSL SSL II. EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Meacurement, App C Table F II. EPA J&E 7 OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 16, App C Table L	Calculated Value Chemical Specific 286 (converted from 13 C) Res=10~6 Ind/Comm=10~6 at point of human exposure Toxicological-Specific O.: Site specific Res=1000, Ind/Comm=2000 or Site sp T3 Site specific 0.28 OR Calculated value 0.13 OR Calculated value for capillary fringe 9, =0.190, 0.43 or calculated value 0.45 or calculated value
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RO _{uelga} S	Soll gas remediation objective Solubility in water Temperature Tenget hazard quotient Target risk Unit risk factor Floor wall seam gap Moisture content Width of building Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity for soil in cracks Total porosity of soil layer 1 Total porosity of soil layer 1 Water-filled soil porosity Water-filled porosity for soil in cracks Water-filled porosity for soil in cracks	663.1199511 1.70E+02 286 1 0.000001 7.80E-06 0.1 9.52 1000 4.70452E-07 9.28 0.13 0.13 0.43 0.43 0.15 0.15	mg/m3 mg/L 'K unitless unitless (ug/m²)² cm gwater/g soil cm unitless em3/cm3 cm3/cm3	I&E 4, App C Table L App C Table E USEPA Users Guide 2004 SSL SSL II. EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F II. EPA J&E 7 OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 16, App C Table L SSL OR J&E 17, App C Table L	Calculated Value Chemical Specific 286 (converted from 13 C) Res=10~6 Ind/Comm=10~6 at point of human exposure Toxicological-Specific Site specific Res=1000, Ind/Comm=2000 or Site sp T3 Site specific 0.28 OR Calculated value 0.13 OR Calculated value for capillary fringe 9, =0.19 0, 0.43 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value
RO _{uelga} S	Soll gas remediation objective Solubility in water Temperature Target hazard quotient Target risk Unit risk factor Floor-wall seam gap Moisture content Width of building Attenuation factor Air-filled porosity for soil in cracks Air-filled porosity of soil layer 1 Total porosity of soil layer 1 Water filled soil porosity Water filled porosity for soil in cracks Total porosity of soil layer 1 Water filled porosity for soil in cracks Total porosity for soil in cracks Total porosity for soil in cracks Total porosity for soil in cracks Total porosity for soil in cracks Total porosity for soil in cracks Total porosity for soil in cracks Total porosity for soil in cracks Total porosity for soil in cracks Total porosity for soil in cracks	663.1199511 1.70E-02 286 1 0.000001 7.80E-06 0.1 9.52 10000 4.70452E-07 0.13 0.43 0.43 0.43 0.15 0.15	mg/m3 mg/L 'K unitless unitless (ug/m') ¹ cm gwate/g soil cm unitless cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3	I&E 4, App C Table E App C Table E USEPA Users Guide 2004 SSL II. EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Field Measurement, App C Table F II. EPA I&E 7 OR 8, App C Table L SSL OR I&E 18, App C Table L SSL OR I&E 18, App C Table L SSL OR I&E 16, App C Table L SSL OR I&E 16, App C Table L SSL OR I&E 16, App C Table L SSL OR I&E 17, App C Table L	Calculated Value Chemical Specific 286 (converted from 13 C) 286 (converted from 13 C) Rescul 0^6 ind/Comms 10^6 at point of human exposure Toxicological-Specific 0. Site specific 0.5 (converted from 12 C) Site specific 0.28 OR Calculated value 0.13 OR Calculated value 0.40 or calculated value for capillary fringe 0.40 or calculated value 0.5 or calculated value 0.15 or Calculated value
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RO _{unitges} S	Soll gas remediation objective Solubility in water Temperature Terget hazard quotient Target risk Unit risk factor Floor wall seam gap Moisture content Width of building Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity for soil reacks Total porosity for soil reacks Total porosity for soil in cracks Water-filled porosity for soil in cracks Water-filled porosity for soil in cracks	663.1199511 1.70E-02 286 1 0.000001 7.80E-06 0.1 9.52 10000 4.70452E-07 0.13 0.43 0.43 0.43 0.15 0.15	mg/m3 mg/l "K unitless unitless (ug/m²)" cm gwater/g soil cm unitless cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 g/cm3 g/cm3	I&E 4, App C Table E App C Table E USEPA Users Guide 2004 SSL SSL IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Reid Measurement, App C Table F IL EPA J&E 7 OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 16, App C Table L SSL OR J&E 17, App C Table L SSL OR J&E 18, App C Table L	Calculated Value Chemical Specific 286 (converted from 13 C) Ress10% ind/Comms10% at point of human exposure Toxicological-Specific O:Site specific Ress1000, Ind/Comm-2000 or Site sp T3 Site specific 0.28 OR Calculated value 0.13 OR Calculated value 0.19, 0.49, 0.49, 0.49, 0.45 O.45 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value, for cap fringe=0.375 OR 0.9 B. 1.5 or Calculated value, for cap fringe=0.375
RO _{unitges} S	Soll gas remediation objective Solubility in water Temperature Terget hazard quotient Target risk Unit risk factor Floor wall seam gap Moisture content Width of building Attenuation factor Air-filled soil porosity Air-filled porosity for soil in cracks Air-filled porosity for soil reacks Total porosity for soil reacks Total porosity for soil in cracks Water-filled porosity for soil in cracks Water-filled porosity for soil in cracks	663.1199511 1.70E+02 286 1 0.000001 7.80E-06 0.1 9.52 1000 4.70452E-07 0.13 0.43 0.43 0.43 0.15 0.15 2.65	mg/m3 mg/l "K unitless unitless (ug/m²)" cm gwater/g soil cm unitless cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 cm3/cm3 g/cm3 g/cm3	I&E 4, App C Table E App C Table E USEPA Users Guide 2004 SSL SSL IL EPA TACO Toxicity Values spreadsheet USEPA Users Guide 2004 Reid Measurement, App C Table F IL EPA J&E 7 OR 8, App C Table L SSL OR J&E 18, App C Table L SSL OR J&E 16, App C Table L SSL OR J&E 17, App C Table L SSL OR J&E 18, App C Table L	Calculated Value Chemical Specific 286 (converted from 13 C) Resculo-6 Ind/Comm=10^6 at point of human exposure Toxicological-Specific Site specific 0.1 Site specific 0.28 OR Calculated value 0.13 OR Calculated value for capillary fringe 9, =0.1 0, 0.43 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value 0.15 or calculated value
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	tion Parameters			at RW-4/diffusion only	Gray text - used default values
MOOL	and the formations	VALUE	UNITS	SOURCE	T1 or Calculated
	Surface area of enclosed space	1.00E+06		J&E 12a OR 12b, App C, Table L	Res=1.0E+06, Ind/Comm=4.0E+06
	Area of total cracks		cm2	J&E14, App CTableL	Calculated Value
<u></u>			VEN .	SSL May 1996	Carcolada Valua
	Averaging time for carcinogens		year	AT _m =ED	Res=30, Ind/Comm=25
e ne	Averaging time for noncarcinogens				
	Solf vapor saturation limit		mg/m3-air	J&E5, App CTable L	Chemical specific or Calculated
(age)	Effective diffusion coeff. through cracks	3.58E-04		J&E 15, App CTable L	Calculated Value
100	Diffusivity in air	5.90E-02		App CTable E	Chemical Specific
er	Effective diffusion coeff. for each soil layer	3.58E-04	cm2/s	J&E11, App CTable L	Calculated Value
			1		Soil Gas Contamination=152.4, Groundwate
	Distance from ground surface to top of contamination	304.8	cm	Field Measurement	Contamination=304.8
el .	Total effective diffusion coefficient	3.585-04	cm2/s	J&E9, App CTableL	Calculated Value
	Diffusivity in water	7.50E-06		App C Table E	Chemical Specific
D	Exposure duration	30	year	SSL	Res=30, Ind/Comm=25
F	Exposure frequency		day/year	SSL	Res=350, Ind/Comm=250
1	Air exchange rate		exch/hr	ILEPA	Res=0.53, Ind/Comm=0.93
<u>` </u>	Fraction organic carbon content	0.002		SSL OR Field Measurement, App C Table F	0.002 or site-specific
<u> </u>	Praction organic carbon curitent		16/8	SCORFIGO MESSIGNEN, App C Table?	SOG Res=244, Ind/Comm=305 OR Site sp 13
		244	i	ILEPA	Basement Res=427, Ind/Comm=488
<u>. </u>	Height of building				Chemical specific
В	Dimensionless Henry's Law constant	1.346-01		App C Table E	Res=1000, Ind/Comm-2000 or Site sp T3
<u> </u>	Length of building	1000		IL EPA	RES-1000, Ind/Comm-2000 or Site sp 13
rack	Slab thickness		cm	USEPA Users Guide 2004	
<u> </u>	Distance from ground surface to bottom of slab		C/Th	USEPA Users Guide 2004	SOG#10, Basement=200
	Thickness of soil layer i	152.4		Field Measurement, USEPA 2004	Site sp 152.4 (5 ft)/for capillary fringe, 37.5cr
	Distance from bottom of slab to top of contamination	142.2	cm	Field Measurement OR J&E 10, App C Table L	142.2 or Site sp (4 FT 8 IN)
W	Molecular weight	128.1705	g/mole	ILEPA	Chemical Specific
	Total number of layers	.1	unitless (layers)	Field Measurement	
	Vapor pressure	8.50E-02	atm ·	App C Table E	Chemical Specific
					1
س	Building ventilation rate	3.59E+04	cm3/s	J&E13, App CTableL	SOG Res=3.59°10^4, Ind/Comm=3.15°10^5 Site sp T3 Basement Res 6.28°10^4, Ind/Comm=5.04°10^5 or SST3
L.	Volumetric flow rate of soil gas into the enclosed space	0	cm3/s	USEPA Users Guide 2004	IfLT<152cm=83.33 IfLT>=152cm=0
	Ideal gas constant	0.09206	atm-L/mole-K	USEPA Users Guide 2004	0.0
tc	Reference concentration	3.00E-03	ug/m3	IL EPATACO Toxicity Values spreadsheet	Toxicological-Specific
0,	. Groundwater remediation objective		mg/L	App 8 Table E OR 18 E 6, App C Table L	Chemical specific or Calculated
O	Indoor air remediation objective	0.000311966	mg/m3	J&E1 and 2, App CTable L	Calculated Value
Oute	Soil gas remediation objective	842.7151499		J&E4, App C Table L	Calculated Value
	Solubility in water	3.10E+01	meA	App C Table E	Chemical Specific
	Temperature	286		USEPA Users Guide 2004	286 (converted from 13 C)
но	Target hazard quotient		unitless	SSL	
nu .	iager nazaro quotient		omues .		Res=10^6 Ind/Comm=10^6 at point of hum
R	Target risk	0.000001	unitless	SSI	exposure
RF	Unit risk factor		(mt/m ₃),	IL EPATACO Toxicity Values spreadsheet	Taxicological-Specific
H.P			cm	USEPA Users Guide 2004	Tabeling car specific
	Floor-wall seam gap				Cita constilla
<u></u>	Moisture content		gwater/g soil	Reld Measurement, App CTable F	Site specific Res=1000, Ind/Comm-2000 or Site sp T3
V	Width of building	1000		IL EPA	
	Attenuation factor	3.70191E-07		J&E7 OR 8, App CTable L	Site specific
	Air-filled soil porosity		cm3/cm3	SSL OR J&E 18, App C Table L	0.28 OR Calculated value
, erech	Air-filled porosity for soil in cracks	0.13	cm3/cm3	SSL OR J&E 18, App C Table L	
la .	Air-filled porosity of soft layer 1		cm3/cm3	SSL OR J&E 18, App C Table L	0.13 OR Calculated value for capillary fringe θ_u =0.1 θ_U
	Total porosity for soil in cracks	0 43	cm3/cm3	SSL OR J&E 16, App C Table L	
ա	Total poresity of soil layer 1	0.43	cm3/cm3	SSL OR I&E 16, App C Table L	0.43 or calculated value
	Water-filled soil porosity	0.15	cm3/cm3	SSL OR I&E 17, App C Table L	0.15 or calculated value
,,,	Water-filled porosity for soil in cracks		cm3/cm3	SSL OR J&E 17, App C Table L	
	Water-filled porosity for soil layer 1		cm3/cm3	SSL OR J&E17, App C Table L For cap fringe USEPA Users Guide 2004	OR 0.9 0,
	Dry soil bulk density	1.5	g/cm3	SSL OR Field Measurement, App C Table F	1.5 or Calculated value
	Soil particle density		g/cm3	SSL OR Field Measurement, App C Table F	2.65 or calculated value
	Density of water		g/cm3	IL EPA	
	1-4			1.7.7.1	
			1	1	0.13 OR Calculated value for capillary fringe
). a	Air-filled porosity of soil laver 1 => CAP FRINGE	0.0375	cm3/cm3	SSL OR J&E 18, App C Table L	9 ₄ =0.1 9 ₀
<u>,,,</u>	Air-filled porosity of soil layer 1 ≈ CAP FRINGE	0.0375	ст3/ст3	SSL OR J&E 18, App C Table L SSL OR J&E 17, App C Table L For cap fringe USEPA Users Guide	9 _A =0.1 9 _U
),,),,	Air-filled porosity of soil layer 1 ≈ CAP FRINGE Water-filled porosity for soil layer 1 ≈ CAP FRINGE		cm3/cm3 cm3/cm3	SSL OR J&E 18, App C Table L SSL OR J&E 17, App C Table L For cap fringe USEPA Users Guide 2004	





West Chicago Park District Incident # 980814

Leaking UST Technical File

RESOURCE CONSULTING. INC.

115 Campbell Street/Suite 108

Geneva, Illinois 60134

Phone: (630)232-9820

November 15, 2022

Mr. Eric Kuhlman Illinois Environmental Protection Agency Bureau of Land - No. 24 Leaking Underground Storage Tank Section 1021 North Grand Avenue East P.O. Box 19276 Springfield, Illinois 62794-9276

RE: LPC No. 0430905825 - DuPage County West Chicago/West Chicago Park District - Reed Keppler Park 250 West National Street Leaking UST Incident No. 980814

Corrective Action Completion Report

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DEC 1 5 2022

IEPA/BOL

Dear Mr. Kuhlman:

On behalf of the West Chicago Park District, Resource Consulting, Inc. has prepared this comprehensive Corrective Action Completion Report (CACR) for the Illinois Environmental Protection Agency (EPA) for the above-referenced incident. At the request of the Illinois EPA, the report summarizes all of the project work that occurred between the corrective actions completed in 2013 and the present.

Included are the results of the assessment of the indoor inhalation exposure route. The exclusion of the groundwater ingestion exposure route was completed with the assistance of the Illinois EPA project manager previously assigned to this incident.

The West Chicago Park District requests that the Illinois EPA review the contents of this Corrective Action Completion Report to determine the technical adequacy of its findings and conclusions. The municipal ordinance enacted by the City of West Chicago also appears to require review by the Illinois EPA; it is not listed as approved on the Illinois EPA website. All of the information supports the issuance of the incident's No Further Remediation (NFR) letter.

> EPA-DIVISION OF RECORDS MANAGEMEN RYLEASABLE

> > JUL 13 2023

REVIEWER: EMI3

RESOURCE CONSULTING, INC.

Please contact our office with any questions or comments regarding this submission, or if we can be of assistance in any other way.

Sincerely,

Daniel J. Horvath

Hydrogeologist/Senior Project Manager

Enclosure:

Corrective Action Completion Report

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RESOURCE CONSULTING, INC.

0430905825 - DuPage County West Chicago Park District Incident # 980814 Leaking UST Technical File

CORRECTIVE ACTION COMPLETION REPORT

West Chicago Park District
Reed-Keppler Park Maintenance Garage
250 West National Street
West Chicago, Illinois

Leaking UST Incident No. 980814 LPC No. 0430905825

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JUL 13 2023

REVIEWER: EMI

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CORRECTIVE ACTION COMPLETION REPORT

West Chicago Park District
Reed-Keppler Park Maintenance Garage
250 West National Street
West Chicago, Illinois

Leaking UST Incident No. 980814 LPC No. 0430905825

Prepared for:

West Chicago Park District 201 West National Street West Chicago, Illinois 60185

Prepared by:

Daniel J. Horvath, PG Hydrogeologist/Project Manager

Resource Consulting, Inc.
115 Campbell Street, Suite 108
P.O. Box 123
Geneva, Illinois 60134
(630)232-9820

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November 15, 2022

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REVIEWER: EM10306

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Illinois Environmental Protection Agency Leaking Underground Storage Tank Program Corrective Action Completion Report

A. Site Identification

IEMA Incident # (6- or 8-digit): 980814 Illinois EPA LPC#: 0430905825

Site Name: West Chicago Park District/Reed Keppler Park Site Address (Not a P.O. Box): 250 West National Street

City: West Chicago County: DuPage ZIP Code: 60185

Leaking UST Technical File

B. Site Information

2.

Has a Corrective Action Plan been approved? No
 Date of approval letter: N/A

This completion report is being submitted pursuant to:

a. 35 Ill. Adm. Code 731.166

b. 35 Ill. Adm. Code 732.300(b)

c. 35 Ill. Adm. Code 732.404 X

d. 35 Ill. Adm. Code 734.345

3. Method of remediation chosen:

a. Soil Excavation and disposal of contaminated soil

b. Groundwater Physical removal of free product; Pathway Exclusion

4. Quantity of contaminated media remediated and/or recovered:

a. Soil 215 yds³ (321.52 tons)

b. Groundwater 4,000 gals

c. Free Product unknown (remaining product removed with soil)

C. Remedial (Corrective) Action

1. Executive Summary

The project's Corrective Action Completion Report (CACR) was originally submitted to the Illinois Environmental Protection Agency (EPA) in July 2013. The CACR was rejected in correspondence dated September 17, 2013, in which the Illinois EPA directed the Park District to assess the then recently adopted indoor inhalation exposure route, to revise the provided Tiered Approach to Corrective Action Objectives (TACO) calculations for the groundwater ingestion exposure route, and for the appropriate forms to be submitted.

Resource Consulting prepared and submitted a Technical Summary to the Illinois EPA in June of 2019. This document summarized project activities that occurred between the submission of the 2013 CACR and the resumption of project activities at the time of the submission. These activities included the 2014 soil gas sampling in response to the CACR rejection, related review and evaluation of these results with the client and the Illinois EPA, and the subsequent 2017 groundwater sampling.

In July 2020, additional project documentation was submitted that officially addressed the Agency's concerns with the 2013 CACR with the exception of the assessment of the indoor inhalation exposure route. The evaluation of this exposure route was presented to the Illinois EPA in the 2021 submission and is further evaluated in this report.

All of these activities were approved by the Illinois EPA for technical adequacy and are eligible for reimbursement.

a. A brief description of the Site:

The West Chicago Park District reported incident no. 980814 in April 1998 for releases from 2 underground storage tanks (USTs) located at the Park District's maintenance garage at Reed-Keppler Park. The layout of the park and the location of the garage at the time are shown on Figure 1 in Appendix A. The current layout of Reed Keppler Park in the region of the UST release is shown on Figure 2. The maintenance garage and shooting range areas have been replaced by new construction. Figure 3 displays the former layout including the locations of select project features. Figure 4 shows the locations of sampling points RW-4A and RW-4B.

The incident was reported following the identification of petroleum contamination in the soil and groundwater below the Site during the installation of soil borings in the vicinity of the USTs in April 1998. Upon the removal and inspection of the USTs in October 1998, it was determined that the incident was caused by one or more overfills of the UST systems during their period of use. The USTs had

contained unleaded gasoline and diesel fuel so the indicator contaminants for the incident are benzene, toluene, ethylbenzene, and total xylenes (BTEX) and polynuclear aromatic hydrocarbons (PNAs).

Resource Consulting collected a significant number of soil and groundwater samples for the project between 1999 and 2019 to aid in determining the degree and extent of soil contamination, groundwater contamination, and free product resulting from the release. Figure 3 in Appendix A displays the inferred extent of free product, soil contamination, groundwater contamination, and the extent of the 2013 corrective actions. Since the completion of the perimeter monitoring wells in 2002, no significant migration of the contamination has been observed.

b. The major components of the corrective action:

The corrective actions have entailed the removal of the USTs present, the excavation and disposal of contaminated soil and backfill material, the removal of all free product from the subsurface, and the evaluation of the remaining site conditions using the methods referred to as TACO outlined in 35 III. Adm. Code Part 742.

c. The scope of the problems corrected or mitigated by the corrective action:

The corrective actions addressed all of the remaining project concerns—soil contamination, groundwater contamination, and the presence of free product. The contents of this CACR demonstrate that the Illinois EPA can issue the No Further Remediation (NFR) letter for the incident.

d. The anticipated post-corrective action uses of the Site and areas immediately adjacent to the Site:

Reed-Keppler Park is a public facility operated by the West Chicago Park District and owned by the City of West Chicago, Illinois. The park is currently and will continue to be the site of various playing fields, a public pool, a picnic area, and other amenities.

2. Description of Corrective Action Activities

Field activities performed following the rejection of the 2013 CACR are detailed below including a narrative of the field activities and summaries of the analytical data.

a. Project narrative and documentation of field activities:

Prior corrective actions at the Site consisted of the removal of the USTs, the excavation and disposal of contaminated backfill material, periodic manual free product removal, and free product and

contaminated soil removal through excavation and disposal. These actions were documented in previous reporting to the Illinois EPA.

In 2013, the contaminated soil that contained the remaining free product as well as concentrations of BTEX and PNAs that exceeded a number of the Illinois EPA's Tier 1 remediation objectives (ROs) was excavated and disposed of at a properly licensed Illinois waste disposal facility. Through the removal of this contamination, the persisting free product on the water table in the smear zone was addressed, and the threat to potential exposed populations was eliminated.

Summaries of project activities since the 2013 corrective actions are presented below. Soil, soil gas, and groundwater quality data collected during these activities are included in the relevant sections. Details of the sample collection information, preservation and laboratory procedures were presented in previous reporting for the project.

i. Project Activities 2014 - 2017

As described in the September 2013 Illinois EPA correspondence rejecting the CACR dated June 2013, the indoor inhalation exposure route required evaluation. The Illinois EPA project manager at the time, Carol Hawbaker, agreed that the work described in the following section meets the needs of the exposure route evaluation.

A soil gas sample was collected on August 26, 2014, from the area of RW-4A according to the requirements described in 35 III. Adm. Code 742.227. A copy of the laboratory analysis report is included in Appendix A. The results of the soil gas analysis are shown in the following table.

•	Table I Laboratory Analytical Summary BTEX & MTBE in Soil Gas Sample (values in mg/m³)					
Sampling Date	August 26, 2014	Indoor Inha Remediation O	(1) [- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -			
Sample ID	RW-4B	Residential	Industrial/ Commercial			
Benzene	1.1	0.37	2.8			
Toluene	0.068	6,200	40,000			
Ethylbenzene	0.120	1.3	9.3			
Total Xylenes	5.8	140	840			
Methyl tert-butyl ether (MTBE)	0.039	3,700	24,000			
TEXT	Concentration exceeds Illin	ois EPA remediation objec	tive.			
TEXT	Remediation objective exceeded in sample.					

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The analytical results indicated that the concentration of benzene exceeded its Tier 1 Residential Indoor Inhalation RO.

While the response to these results was evaluated, significant work continued on designing and enacting the project's potable well prohibition ordinance. This work included discussions with Park District and City officials, determining the scope of the ordinance region with the Illinois EPA, and the development of a map of the ordinance area using State Planar Coordinates as required. These costs are included in the project's budget presented in Appendix B. The ordinance was enacted by the City of West Chicago in March 2015 and submitted to the Illinois EPA for review, comment and approval in July 2020; its current status is unknown.

The project was re-evaluated in early 2017 by the Park District with the assistance of Resource Consulting. In electronic correspondence dated June 7, 2017, Ms. Hawbaker gave Resource Consulting permission to resample monitoring well RW-4A to determine if updated groundwater quality data would meet the residential indoor inhalation RO.

Resource Consulting, Inc. visited the Site on July 24, 2017, to resample monitoring well RW-4A. Development and purging of the well entailed the removal of at least 5 gallons of groundwater, equivalent to approximately 5 casing volumes, from the well. Additional sampling details can be found in the previously submitted documents.

A discrete sample was collected from the monitoring well, placed on ice, and submitted with chainof-custody documentation to First Environmental Laboratories, Inc. of Naperville, Illinois. The samples underwent analysis for the presence of BTEX and PNAs. Copies of the laboratory results and chain-of-custody information have been included in Appendix C.

The table below displays the analytical results from the 2017 sampling event and compares them to the Tier 1 ROs found 35 III. Adm. Code Part 742.

Table II Laboratory Analytical Summary BTEX and PNAs in Groundwater Sample (values in mg/kg)					
Sampling Date Sample ID	July 24, 2017 RW-4A	Illinois EPA Remediation Objectives Indoor Inhalation/Groundwater			
					Residential
		Benzene	0.241	0.11	0.41
Toluene	< 0.005	530	530		
Ethylbenzene	0.0202	0.37	1.4		
Total Xylenes	0.0217	30	93		
Acenaphthene	< 0.01	NA	NA		
Acenaphthylene	< 0.01	NA	NA		
Anthracene	< 0.05	NA	NA		
Benzo(a)anthracene	< 0.0013	NA	NA		
Benzo(a)pyrene	< 0.0002	NA	NA		
Benzo(b)fluoranthene	< 0.00018	NA	NA		
Benzo(k)fluoranthene	< 0.00018	NA	NA		
Benzo(ghi)perylene	< 0.0004	NA	NA		
Chrysene	< 0.0015	NA	NA		
Dibenzo(ghi)anthracene	< 0.0003	NA	NA		
Fluoranthene	< 0.002	NA	NA		
Fluorene	< 0.002	NA	NA		
Indeno (1,2,3-cd)pyrene	< 0.0003	NA	NA		
Naphthalene	< 0.01	0.075	0.32		
Phenanthrene	< 0.005	NA	NA		
Pyrene	< 0.002	NA	NA		
Text	Concentration exceeds Illinois EPA remediation objective.				
Text	Remediation object	tive exceeded by gro	undwater concentration		

The data in the above table show that benzene was still present in monitoring well RW-4A in July 2017, exceeding the indoor inhalation RO for residential properties.

ii. Project Activities 2019

With the approval of the recently assigned Illinois EPA project manager, Eric Kuhlman, Resource Consulting, Inc. returned to the Site on July 3, 2019, to resample monitoring well RW-4A. The parking lot had been paved, and the monitoring well was no longer accessible. Resource Consulting returned to the Site on August 2, 2019, to install and sample a temporary monitoring well, designated MW-4B. The well was installed and sampled by Johnson Probing, Inc. of Batavia, Illinois in accordance with standard industry protocols.

A discrete groundwater sample and a soil sample were collected during the well installation process. The soil sample was collected from the stratum just above where saturated conditions were encountered. The samples were placed on ice and submitted with chain-of-custody documentation to First Environmental Laboratories, Inc. The soil sample underwent analysis to determine its bulk density and moisture content. The groundwater samples underwent analysis for the presence of BTEX and PNAs. Copies of the laboratory results and chain-of-custody information have been included in Appendix C.

Groundwater Quality/Indoor Ingestion

The table below displays the analytical results from the sampling event and compares them to the Tier 1 Indoor Inhalation RO found 35 III. Adm. Code Part 742.

Table III Laboratory Analytical Summary BTEX and PNAs in Groundwater Sample (values in mg/L)					
Sampling Date	August 2, 2019	Illinois EPA Remediation Objectives			
Sample ID	RW-4B	Indoor Inhalation / Groundwater			
		Residential	Industrial/ Commercial		
Benzene	0.386	0.11	0.41		
Toluene	< 0.050	530	530		
Ethylbenzene	3.160	0.37	1.4		
Total Xylenes	6.540	30	93		
Acenaphthene	< 0.01	NA	NA .		
Acenaphthylene	< 0.01	NA	NA		
Anthracene	< 0.05	NA	NA		
Benzo(a)anthracene	0.00267	NA	NA		
Benzo(a)pyrene	0.0016	NA	NA		
Benzo(b)fluoranthene	0.00170	NA	NA		
Benzo(k)fluoranthene	0.00157	NA	NA		
Benzo(ghi)perylene	< 0.010	NA	NA		
Chrysene	0.0023	NA	NA		
Dibenzo(a,h)anthracene	< 0.0003	NA	NA		
Fluoranthene	< 0.010	NA	NA		
Fluorene	< 0.010	NA	NA		
Indeno(1,2,3-cd)pyrene	0.0008	NA	NA		
Naphthalene	1.380	0.075	0.32		
Phenanthrene	< 0.010	NA	NA		
Pyrene	< 0.010	NA	NA		
TEXT	Concentration exceeds Illinois EPA remediation objective.				
TEXT	Remediation objective exceeded by groundwater concentration				

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The data in the above table show that benzene, ethylbenzene, and naphthalene are present in monitoring well RW-4B exceeding the Tier 1 indoor inhalation ROs for residential properties. A map of the project area is included in Appendix A.

In response to the exceedances, indoor air inhalation ROs have been calculated using the Johnson and Ettinger (J&E) modeling approach presented in 35 III. Adm. Code 742. The model's input parameters, equations, and results are presented in Appendix D. Further discussion of the evaluation is presented in a subsequent section of this report.

Groundwater Quality/Groundwater Ingestion

Upon further review of the August 2019 groundwater quality data, it was noted that certain PNAs in the latest dataset exceed the Tier 1 RO for groundwater ingestion for the first time. The TACO evaluation demonstrating that the groundwater exposure route has been excluded for BTEX was included in previous reporting including the July 2020 technical update. A discussion of the recently detected PNA concentrations follows.

The table below displays the analytical results from the sampling event and compares them to the Tier 1 Groundwater ROs found 35 III. Adm. Code Part 742.

Sample ID Benzene Toluene Ethylbenzene Total Xylenes	0.386 < 0.050 3.160	Class I Groundwater
Toluene Ethylbenzene	< 0.050	0.005
Ethylbenzene		
	3 160	1.0
Total Xylenes	0.700	0.7
	6.540	10.0
Acenaphthene	< 0.010	0.42
Acenaphthylene	< 0.010	-
Anthracene	< 0.010	2.1
Benzo(a)anthracene	0.00267	0.00013
Benzo(a)pyrene	0.0016	0.0002
Benzo(b)fluoranthene	0.00170	0.00018
Benzo(k)fluoranthene	0.00157	0.00017
Benzo(ghi)perylene	< 0.010	
Chrysene	0.0023	0.0015
Dibenzo(a,h)anthracene	< 0.0003	0.0003
Fluoranthene	< 0.010	0.28
Fluorene	< 0.010	0.28
Indeno(1,2,3-cd)pyrene	0.0008	0.00043
Naphthalene	1.380	0.14
Phenanthrene	< 0.010	
Pyrene	< 0.010	0.21

The data in the above table show that benzene, ethylbenzene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(k)fluoranthene, chrysene, and naphthalene are present in monitoring well RW-4B exceeding the groundwater ROs for Class I groundwater.

Over the course of this project, the PNAs detected in the most recent groundwater sample were not present. The detections, while exceeding the Tier 1 ROs for these substances, do not appear to be of sufficient magnitude to migrate a distance greater than the current ordinance dimensions of 850 feet to the east and south. The ordinance was provided to the Illinois EPA in project correspondence dated July 15, 2020. A copy of this ordinance can be found in Appendix E.

The conclusion that the ordinance dimensions are sufficient to exclude the groundwater ingestion exposure route for PNAs is based on the following:

- The benzene concentrations in the soil and groundwater and the naphthalene concentration in the soil modeled for the project in previous project documentation and approved by the Illinois EPA significantly exceed the recent detections of PNAs in groundwater.
- Due to its physical and chemical properties, benzene has the greatest potential for migration of the
 contaminants of concern for gasoline and diesel fuel releases other than methyl tertiary-butyl ether
 (MTBE). Therefore, the results of the benzene modeling used for the ordinance design addresses
 the potential migration of the PNAs.
- Prior groundwater monitoring during the course of this project demonstrated that, although the
 modeling indicates that benzene could migrate up to 850 feet from the source area, it had not
 traveled more than 100 feet from 1998 to 2009. Since that time, the source area has been remediated
 through the removal of contaminated soil and free product.
- b. Soil boring logs and monitoring well construction diagrams:

All of the project's soil boring logs and well construction diagrams were provided in prior reporting.

- 3. A narrative description of any special conditions relied upon as part of corrective action including:
- a. Engineered barriers utilized:

No engineered barriers are required for this incident.

- b. Institutional controls utilized:
 - i. Copy of fully executed institutional control(s); and
 - ii. Map showing location(s) of controls.

In order for the NFR letter to be issued for this leaking UST incident, a well prohibition ordinance has been enacted for the project with the input and approval of the Leaking UST Program. In accordance with 35 Ill. Adm. Code Section 742.1005, the NFR letter citing these conditions will then act as the institutional control for these project requirements.

The exposure route evaluation presented in the 2013 CACR demonstrated that groundwater ingestion can be excluded as a potential exposure route. The groundwater ordinance, originally submitted in the 2020 CACR, is again provided in Appendix E of this report.

c. Other conditions, if any, necessary for protection of human health and safety and the environment that are related to the issuance of a No Further Remediation Letter:

No other conditions would apply to a request for the incident's NFR letter once the groundwater ingestion and indoor inhalation exposure routes are addressed.

d. Any information required regarding off-site access.

No information is required regarding off-site access at this time. Following the approval of this report, the Commonwealth Edison Company and the Forest Preserve District of DuPage County will be notified of the potential presence of petroleum contamination below their parcels based on the modeling results in accordance with the TACO regulations. All other parcels within the modeled extent of the groundwater contamination are owned by the City of West Chicago.

4. An analysis of the effectiveness of the corrective action that compares the confirmation sampling results to the remediation objectives approved for the site:

Status of Groundwater Contamination

The exceedances of the Tier 1 groundwater ROs presented earlier in this report are addressed through the enactment of a municipal ordinance prohibiting the installation and use of potable water supply wells in a relevant portion of the City, exposure route evaluations of the current Site conditions, and the exclusion of the groundwater ingestion and indoor inhalation exposure routes.

An ordinance has been enacted by the City of West Chicago that prohibits the installation and use of water supply wells in a portion of the City. It encompasses the modeled extent of potential groundwater contamination emanating from this contaminated area, thus effectively preventing exposure to the current and future potential areas of groundwater contamination. The completed ordinance is provided in Appendix E for review and approval by the Illinois EPA.

5. A conclusion that identifies the success in meeting the remediation objectives approved for the site:

The evaluation of the project's soil, groundwater, and soil gas data demonstrates that the requirements of the Illinois Leaking UST Program have been met. Upon the acceptance by the Illinois EPA of the ordinance enacted by the City of West Chicago prohibiting the use of potable groundwater supply wells in a limited region of the City, the Site's NFR letter can be issued.

6. Appendices containing references and data sources:

Appendices containing references and data sources are included with this report. A list of the appendices and their contents is included in the Table of Contents at the start of this report.

7. The water supply well survey:

- a. Map(s) showing locations of community water supply wells and other potable wells and the setback zone for each well;
- b. Map(s) showing regulated recharge areas and wellhead protection areas;
- c. Map(s) showing the current extent of groundwater contamination exceeding the most stringent Tier 1 remediation objectives;
- d. Map(s) showing the modeled extent of groundwater contamination exceeding the most stringent Tier 1
 remediation objectives;
- e. Table(s) listing the setback zones for each community water supply well and other potable water supply wells:
- f. A narrative identifying each entity contacted to identify potable water supply wells, the name and title of each person contacted, and any field observations associated with any wells identified; and
- g. A certification from a Licensed Professional Engineer or Licensed Professional Geologist that the survey was conducted in accordance with the requirements and that the documentation submitted includes the information obtained as a result of the survey (certification of this report satisfies this requirement):

In electronic correspondence on January 19, 2011, the Illinois EPA project manager for the incident, Ms. Carol Hawbaker, confirmed that the well survey conducted previously for this project was sufficient to meet the reporting requirements of this section. No additional research or evaluation was conducted.

8. Site map(s) meeting the requirements of 35 Ill. Adm. Code 732.110(a) or 734.440:

All of the required site maps for this report are included in Appendix A.

9. Development of Tier 2 or 3 remediation objectives, if applicable:

Resource Consulting has prepared Exposure Route Evaluations for the groundwater ingestion and indoor inhalation exposure routes.

a. Equations used:

Groundwater Contamination

The groundwater contamination was evaluated using Equation R26 and its related equations in accordance with 35 Ill. Adm. Code Part 742 Subpart C: Exposure Route Evaluations. Contamination in the form of benzene and ethylbenzene is present in the groundwater that requires this evaluation. These calculations were presented in the project's 2020 submission that included the variable corrections made by the Illinois EPA in prior rejections.

The indoor inhalation route was evaluated using the relevant J&E equations in accordance with 35 Ill. Adm. Code Part 742 Subpart C: Exposure Route Evaluations. These calculations are presented in Appendix D.

b. Discussion of how input variables were determined:

The input variables used in the exposure route evaluations were determined in accordance with the guidance that the Illinois EPA has provided over the years on similar projects. The sources of the values meet the requirements of 35 Ill. Adm. Code Part 734 and the Leaking UST Section's requirements to maintain reimbursement eligibility for TACO evaluations. Default values of the variables were used when experience has shown the values are acceptable to the Illinois EPA. Sitespecific variable values are used where necessary to ensure that the most accurate results are obtained from the evaluation.

Discussion of the values for variables related to past field activities, e.g., in situ hydraulic conductivity and the soil's organic carbon content (foo), was included in previous reporting to the Illinois EPA. Specifically, the hydraulic conductivity evaluation was included in the May 2003 CACR, and the other site-specific data were presented in the August 2006 CAP amendment. It is also noted that the Illinois EPA requested clarification of some of the soil property data; Resource Consulting addressed the Illinois EPA's concerns in the 2009 CAP amendment approved for the Site activities summarized in this CACR.

c. Map(s) depicting distances used in equations:

Maps depicting distances on the Property are not relevant to the Indoor Inhalation exposure route. The project's 2020 submission includes this information for the groundwater ingestion route.

d. Calculations:

The J&E calculations for the exclusion of the Indoor Inhalation exposure route is presented in Appendix D. The documentation includes tables summarizing the input data and the equations completed with the input data.

While the majority of the water level data indicates that groundwater is greater than 5 feet below the surface, some of the measurements were less than 5 feet in depth during the course of the project. Therefore, the evaluation includes both advection and diffusion transport mechanisms.

The following table summarizes the substances whose detections exceed the Tier 1 ROs for the indoor inhalation exposure route and their respective Tier 2 ROs.

• .	Remediation BTEX and PNAs in Soil	Table V Objectives Summary I Gas & Groundwater Sampl Jes in mg/L)	es
Chemical	Data of Concern	Detected Concentration	Tier 2 Remediation Objective
A	Soil gas	1.1 mg/m ³	14.04 mg/m³
Bēnzene	Groundwater	0.386 mg/L	. 0.104-mg/L
Ethylbenzene	Groundwater	3.16 mg/L	396.34 mg/L
Naphthalene	Groundwater	1:38 mg/L	2.86 mg/L

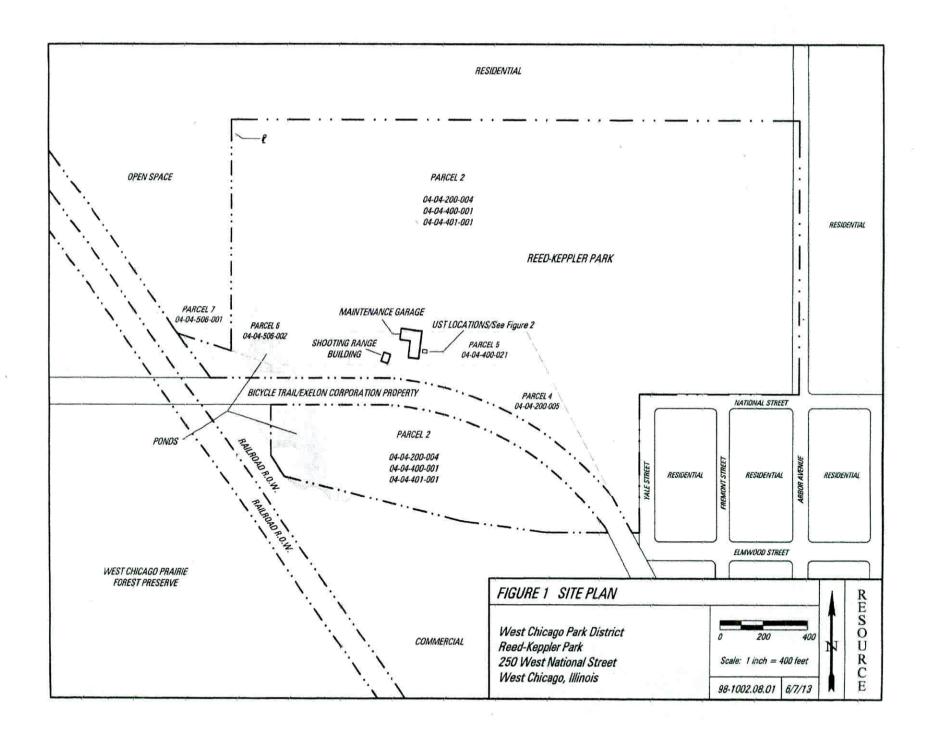
The information in the above table demonstrates that the concentrations of benzene, ethylbenzene and naphthalene detected are below their respective calculated remediation objectives. All of the J&E model calculations for this analysis are included in Appendix D.

10. Property Owner Summary form:

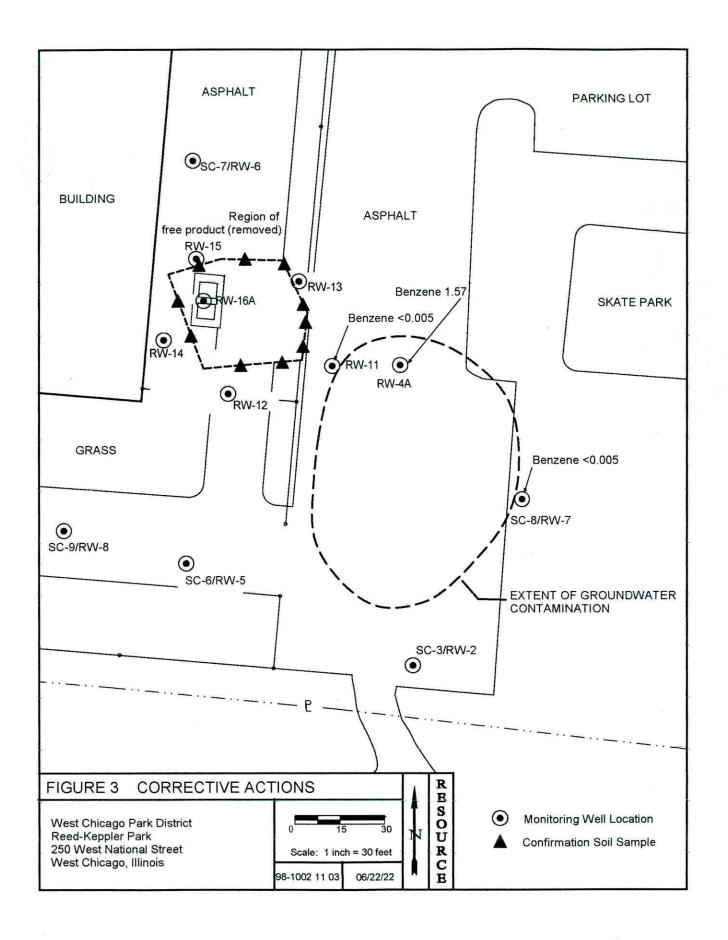
The Property Owner Summary form is included with all of the Illinois EPA's required forms related to the submission of a Corrective Action Completion Report in Appendix F.

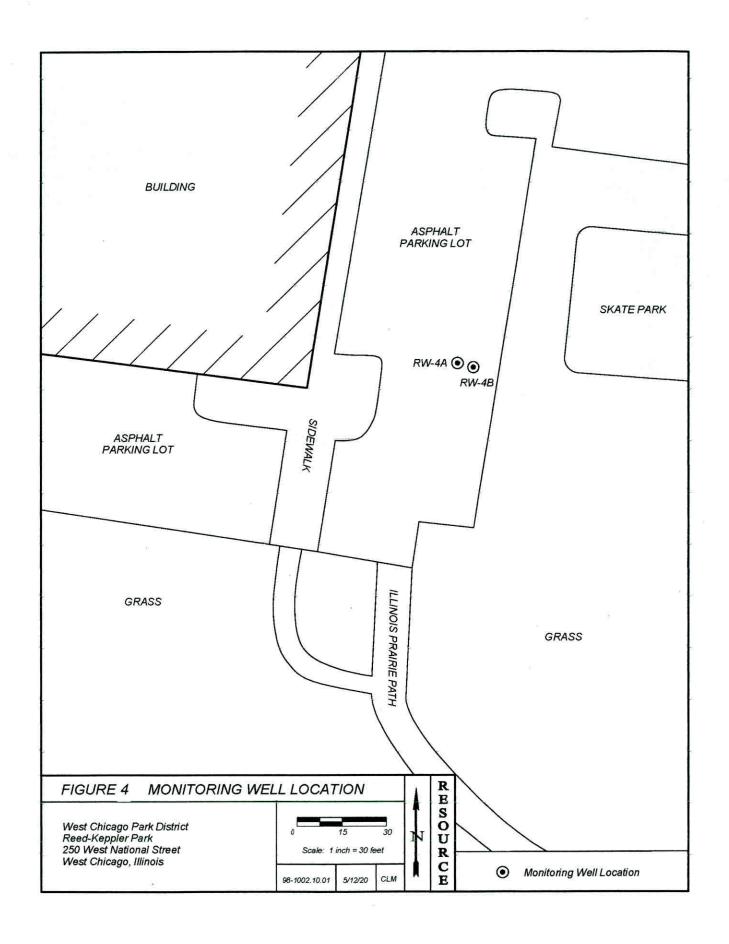
APPENDIX A

Figures









APPENDIX B

Budget Amendment

Budget Summary

Choose the applicable regulation: © 734 (732

734	Free Product	Stage 1 Site Investigation	Stage 2 Site Investigation	Stage 3 Site Investigation	Corrective Action
Drilling and Monitoring Well Costs Form	\$	s	\$	s a la	\$ 3,035.95
Analytical Costs Form	\$	s I	\$	\$	\$ 978.00
Remediation and Disposal Costs Form	\$	s	\$	\$	\$
UST Removal and Abandonment Costs Form	\$	\$	\$ [s The same of the	\$ 1,535.81
Paving, Demolition, and Well Abandonment Costs Form	\$	s E	\$ 1 1 1 1	s Email	s
Consulting Personnel Costs Form	\$	s	\$	s The second	\$ 45,852.47
Consultant's Materials Costs Form	s	\$	\$	\$	\$ 147.52
Handling Charges Form	the Illinois EPA.		lowable handling	billing package is charges will be d	
Total	\$	\$	\$	s	\$ 51,549.75

Drilling and Monitoring Well Costs Form

For this form to function properly.

Adobe Reader 9.0 is required.

1. Drilling

Number of Borings to Be Drilled	Type HSA/PUSH/ Injection	Depth (feet) of Each Boring	Total Feet Drilled	Reason for Drilling
1	PUSH ▼	10.00	10.00	Soil boring for soil gas sample (2014).
	•			

Subpart H minimum payment amount applies.

	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:	.00		.00.
Total Feet via PUSH:	10.00	21.87	218.70
Total Feet for Injection via PUSH:	.00		.00
		Total Drilling Costs:	1,457.81

2. Monitoring / Recovery Wells

Number of Wells	Type of Well HSA / PUSH / 4" or 6" Recovery / 8" Recovery	Diameter of Well (inches)	Depth of Well (feet)	Total Feet of Wells to Be Installed
	-			

Well Installation	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:	.00		.00.
Total Feet via PUSH:	.00		.00.
Total Feet of 4" or 6" Recovery:	.00		.00
Total Feet of 8" or Greater Recovery:	.00		.00.
		Total Well Costs:	.00

Total Drilling and Monitoring Well Costs:	\$1,457.81
---	------------

Drilling and Monitoring Well Costs Form

For this form to function properly, Adobe Reader 9.0 is required.

1. Drilling

Number of Borings to Be Drilled		Type HSA/PUS Injection		Depth (feet) of Each Boring	Total Feet Drilled	Reason for Drilling
	1	PUSH	•	10.00	10.00	Soil boring/temporary monitoring well installation (2019).
			•			
		i i i	•			
			•			
Ī			•			
			·			
Ī			•			

Subpart H minimum payment amount applies.

	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:	.00		.00.
Total Feet via PUSH:	10.00	23.67	236.70
Total Feet for Injection via PUSH:	.00		.00
		Total Drilling Costs:	1,578.14

2. Monitoring / Recovery Wells

Number of Wells	Type of Well HSA / PUSH / 4" or 6" Recovery / 8" Recovery	Diameter of Well (inches)	Depth of Well (feet)	Total Feet of Wells to Be Installed
			L ASSELLE	
	v v			

Total Feet via PUSH: .00 Total Feet of 4" or 6" .00 Recovery: .00 Total Feet of 8" or .00 Greater Recovery: .00	Well Installation	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet of 4" or 6" Recovery: Total Feet of 8" or Greater Recovery: .00	Total Feet via HSA:	.00		.00.
Recovery: .00 Total Feet of 8" or Greater Recovery: .00	Total Feet via PUSH:	.00		.00
Greater Recovery: .00		.00		.00
Total Well Costs:	5.6.266.5.3.35.60.00.00.00.00.00.00.00.00.00.00.00.00.	.00		.00
Total Well Gosts.			Total Well Costs:	.00.

Total Drilling and M	onitoring Well Costs:	04 570 44
rotal Drilling and M	onitoring wen costs.	\$1,578.14

Analytical Costs Form

Laboratory Analysis	Number of Samples		Cost (\$) per Analysis		Total per Parameter
Chemical Analysis					
BETX Soil with MTBE EPA 8260		X		=	
BETX Water with MTBE EPA 8260		X		=	
COD (Chemical Oxygen Demand)		X		=	
Corrosivity		Х	le d	-	
Flash Point or Ignitability Analysis EPA 1010		х		=	
Fraction Organic Carbon Content (foc) ASTM-D 2974-00		X		=	
Fat, Oil, & Grease (FOG)		X		-	
LUST Pollutants Soil - analysis must include volatile, base/ neutral, polynuclear aromatics and metals list in Section 732. Appendix B and 734.Appendix B		X		=	
Dissolved Oxygen (DO)		X		=	
Paint Filter (Free Liquids)		X		=	
PCB / Pesticides (combination)		X		=	The second secon
PCBs		Х		-	
Pesticides		X		=	
pH		X		=	
Phenol		X		=	
Polynuclear Aromatics PNA, or PAH SOIL EPA 8270		X		=	
Polynuclear Aromatics PNA, or PAH WATER EPA 8270		X		=	
Reactivity		X		=	
SVOC - Soil (Semi-Volatile Organic Compounds)		Х		=	
SVOC - Water (Semi-Volatile Organic Compounds)		X		=	
TKN (Total Kjeldahl) "nitrogen"		X		=	
TPH (Total Petroleum Hydrocarbons)		X		=	
VOC (Volatile Organic Compounds) - Soil (Non-Aqueous)		X		=	
VOC (Volatile Organic Compounds) - Water		X		=	
2 Bulk density and 1 BTEX/MTBE Soil Gas sample (2014)	1	X	460.00	=	\$460.00
BTEX Water with MTBE EPA 8620 (2017)		Х	60.00	=	\$60.00
PNA Water EPA 8270 (2017)	1	Х	150.00	=	\$150.00
BTEX Water with MTBE EPA 8620 (2019)	1	X	60.00	=	\$60.00
PNA Water EPA 8270 (2019)	1	X	150.00	=	\$150.00
Geo-Technical Analysis			·		
Soil Bulk Density (pb) ASTM D2937-94		X		=	
Ex-situ Hydraulic Conductivity / Permeability		Х		=	
Moisture Content (w) ASTM D2216-92 / D4643-93		х		=	
Porosity		Х		=	
Rock Hydraulic Conductivity Ex-situ		Х		=	
Sieve / Particle Size Analysis ASTM D422-63 / D1140-54		X	1	=	1
Soil Classification ASTM D2488-90 / D2487-90		X		=	
Soil Particle Density (ps) ASTM D854-92		X		=	
Soil Bulk Density (2019)	1	X	80.00	=	\$80.00
Moisture Content (2019)	1	X	18.00	=	\$18.00
TOWNS AND THE LAND OF THE PARTY		X		=	

Analytical Costs Form

Metals Analysis			
Soil preparation fee for Metals TCLP Soil (one fee per soil sample)	X	-	
Soil preparation fee for Metals Total Soil (one fee per soil sample)	X		
Water preparation fee for Metals Water (one fee per water sample)	X		
Arsenic TCLP Soil	X		
Arsenic Total Soil	X		
Arsenic Water	X	=	
Barium TCLP Soil	X		
Barium Total Soil	X		
Barium Water	X		
Cadmium TCLP Soil	X		
Cadmium Total Soil	X		
Cadmium Water	X		
Chromium TCLP Soil	X		
Chromium Total Soil	X		
Chromium Water	X	=	
Cyanide TCLP Soil	X		
Cyanide Total Soil	X	-	
Cyanide Water	X	-	
Iron TCLP Soil	X		
Iron Total Soil	X		
Iron Water	X	=	
Lead TCLP Soil	X		
Lead Total Soil	X	-	
Lead Water	X	-	
Mercury TCLP Soil	X		
Mercury Total Soil	X		
Mercury Water	X		-
Selenium TCLP Soil	X		
Selenium Total Soil	X		
Selenium Water	X		
Silver TCLP Soil	X	-	
Silver Total Soil	X	=	
Silver Water	X		
Metals TCLP Soil (a combination of all metals) RCRA	X		
Metals Total Soil (a combination of all metals) RCRA	X		
Metals Water (a combination of all metals) RCRA	X	=	and the second second
	X	=	
	X		
	X		
	X		9
Other			
EnCore® Sampler, purge-and-trap sampler, or equivalent sampling device	X	-	
Sample Shipping per sampling event ¹	X		

¹A sampling event, at a minimum, is all samples (soil and groundwater) collected in a calendar day.

Total Analytical Costs: \$ 978.00

Paving, Demolition, and Well Abandonment Costs Form

A. Concrete and Asphalt Placement/Replacement

Number of Square Feet	Asphalt or Concrete	Thickness (inches)	Cost (\$) per Square Foot	Replacement or Placement for an Engineered Barrier	Total Cost
	**				
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				•	

Total Concrete and Asphalt	
Placement/Replacement Costs:	

B. Building Destruction or Dismantling and Canopy Removal

Item to Be Destroyed, Dismantled, or Removed		Unit Cost (\$)	Total Cost (\$)
	IMIZW Y		

Total Building Destruction or Dismantling and	
Canopy Removal Costs:	

Paving, Demolition, and Well Abandonment Costs Form

C. Well Abandonment

Monitoring Well ID #	Type of Well (HSA / PUSH / Recovery)	Depth of Well (feet)	Cost (\$) per Foot	Total Cost
RW-1	HSA •	14.00	14.09	\$197.26
RW-2	HSA •	17.00	14.09	\$239.53
RW-4	HSA •	14.00	14.09	\$197.26
RW-5	HSA •	12.00	14.09	\$169.08
RW-6	HSA •	13.00	14.09	\$183.17
RW-7	HSA •	13.00	14.09	\$183.17
RW-8	HSA -	13.00	14.09	\$183.17
RW-9	HSA •	13.00	14.09	\$183.17
	i de de la la la la la la la la la la la la la			

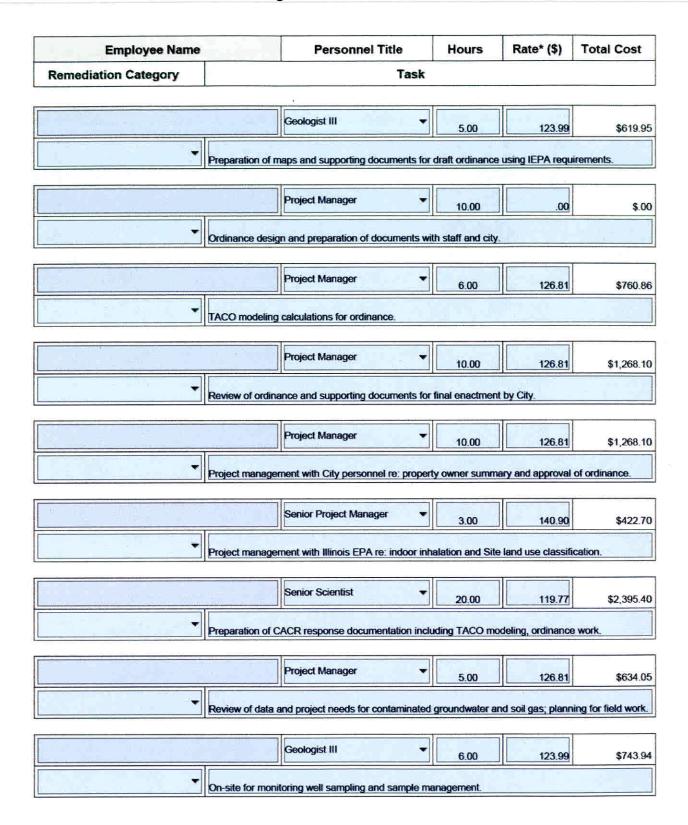
Total Monitoring Well Abandonment Costs:	\$1,535.81
--	------------

Total Paving, Demolition, and Well Abandonment Costs: \$1,	535.81	
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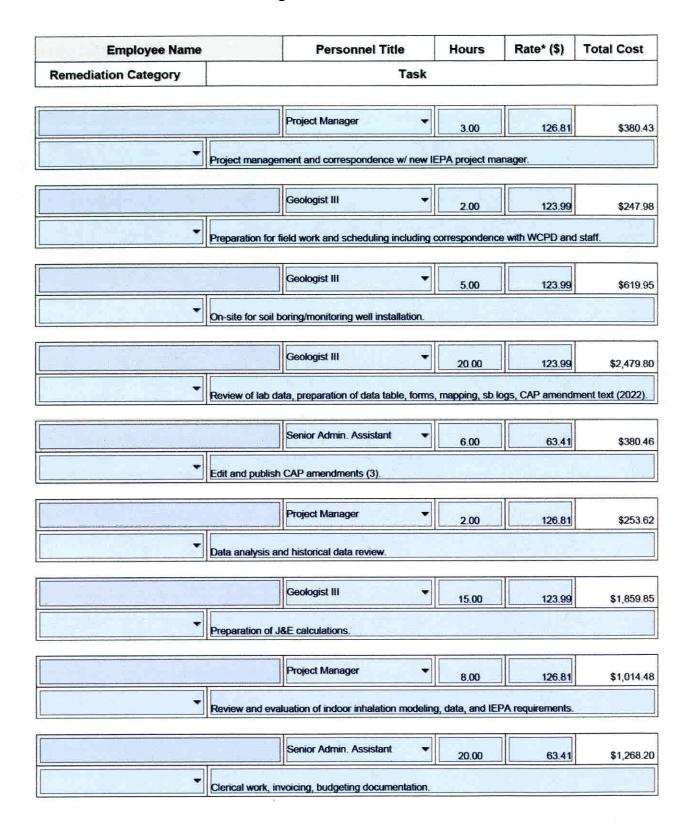
Consulting Personnel Costs Form

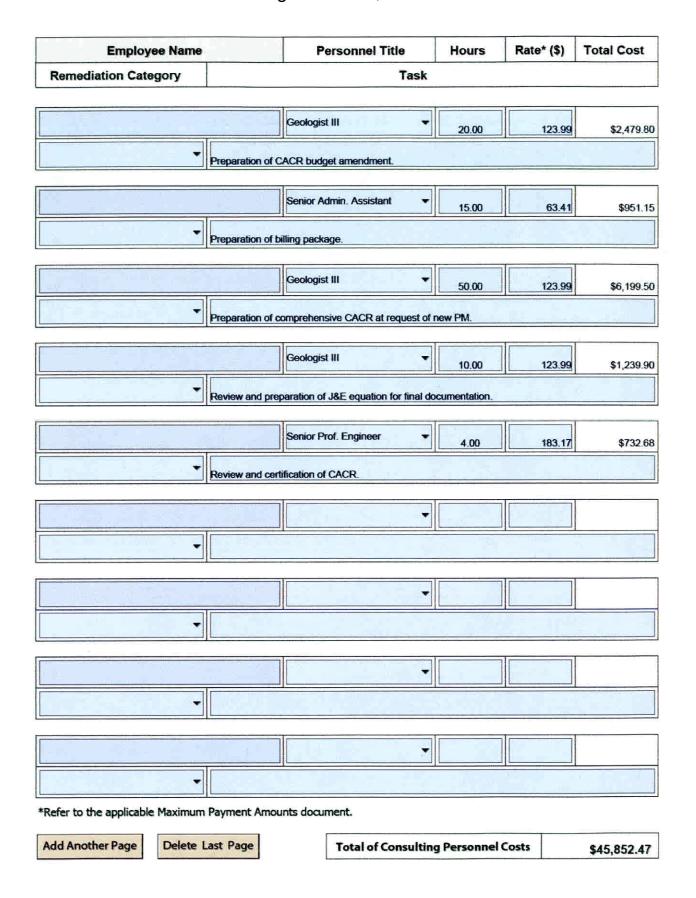
For this form to function properly, Adobe Reader 8.0 or higher is required

Employee Name	Personnel Title		Hours	Rate* (\$)	Total Cost			
Remediation Category	Remediation Category Task							
	Senior Project Manager	•	10.00	140.80	\$1,408.00			
811 X	Evaluation of CACR rejection from IEPA; Plann	ing f	or additional req	uirements.	orte .			
	Senior Project Manager	•	10.00	140.80	\$1,408.00			
	Correspondence with staff and IEPA re: regulat	ory e						
	Project Manager	•	10.00	126.81	\$1,268.10			
	Project management with staff and IEPA re: CA	CR	rejection, TACO	, data, budget re	visions.			
	Desirat Manager							
	Project Manager		3.00	126.81	\$380.43			
	Review/editing of TACO calculations; correspon	nden	ce with PM re: in	ndoor inhalation	requirement.			
	Project Manager	•	6.00	126.81	\$760.86			
	Field work planning for soil vapor and bulk dens	sity s	ampling (2014,	2017 and 2019).				
	Geologist III							
01- 1- 3	Geologist III		5.00	123.99	\$619.95			
-	On-site for soil sampling.	- "						
	Designat Manager							
	Project Manager		6.00	126.81	\$760.86			
	Analysis/evaluation of soil gas data, correspond	denc	e with lab and IE	PA re: data ana	lysis.			
	Senior Project Manager	•	20.00	140.90	\$2,818.00			
	Preparation of ordinance: research, planning, c	огтез	spondence with	City.				
	Geologist III	•	20.00	123.99	\$2,479.80			
	Preparation of draft ordinance document for sul	bmis	sion to Public W	orks Departmen	t.			



Employee Name	Personnel Title	Hours	Rate* (\$)	Total Cost		
Remediation Category Task						
	Project Manager ▼	5.00	126.81	\$634.05		
Revie	w of groundwater quality data and planning re	sponse for indo	oor inhalationroute	e evaluation.		
	Project Manager ▼	5.00	126.81	\$634.05		
Revie	w of project needs and budgeting for next pha	se of project (2	019).			
	Senior Project Manager ▼	5.00	140.90	\$704.50		
Projec	ct management with IEPA and client re; re-sar	mpling monitorin	ng well for J&E ec	quation (2014).		
	Geologist III ▼	20.00	123.99	\$2,479.80		
Prepa	ration of technical summary/CAP amendment	text and mapp	ing (2019).			
	Senior Admin, Assistant ▼	3.00	63.41	\$190.23		
Forms	s management - preparation, editing, publishir	ng, corresponde	ence.			
	Senior Project Manager ▼	3.00	140.90	\$422.70		
Revie	w of technical summary/CAP amendment.					
	Senior Admin. Assistant ▼	2.00	63.41	\$126.82		
Edit a	nd publish technical summary/CAP amendme	ent.				
	Senior Project Manager ▼	2.00	140.90	\$281.80		
Project	ct management - soil and groundwater sampli	ng with new IEF	² A project manag	er (2019).		
	Project Manager	2.00	126.81	\$253.62		
Field	work planning with staff, review of scope of w	ork and project	needs.			





Consultant's Materials Costs Form

For this form to function properly, Adobe Reader 8.0 or higher is required

Materials, Equipment, or Field Pure	chase Time or Amount Used	Rate (\$)	Unit	Total Cost
Remediation Category	Description/	Justification		
Mileage (2014)	14.00	.56	m - m - m-	\$7.84
CACR ▼				
Helium detector for soil gas sampling.	1.00	124.00		\$124.00
CACR -				
Mileage (2017)	14.00	.54		\$7.56
Mileage (2019)	14.00	.58	[E ^V] = b]	\$8.12
	-E-ALIP H- A			
				112
<u> </u>				
<u> </u>				
Add Another Page Delete Last Page	Total of Consultar	nt Materials Co	sts	\$147.52

APPENDIX C

Laboratory Reports



First
Environmental
Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

August 01, 2017

Mr. Daniel Horvath

RESOURCE CONSULTING, INC.

P.O. Box 123

Geneva. IL 60134

Project ID: 98-1002 WCPD

First Environmental File ID: 17-3893

Date Received: July 24, 2017

Dear Mr. Daniel Horvath:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 004108: effective 03/24/2017 through 02/28/2018.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Bill Mottashed Project Manager



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Lab File ID: 17-3893

Project ID: 98-1002 WCPD

Date Received: July 24, 2017

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

The results in this report apply to the samples in the following table:

Laboratory Sample ID	Client Sample Identifier	Date/Time Collected
17-3893-001	RW-41A	7/24/2017 12:00

Sample Batch Comments:

Sample acceptance criteria were met.



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Lab File ID: 17-3893

Project ID: 98-1002 WCPD

Date Received: July 24, 2017

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

The following is a definition of flags that may be used in this report:

Flag	Description	Flag	Description
Α	Method holding time is 15 minutes from collection. Lab an	alysis	was performed as soon as possible.
В	Analyte was found in the method blank.	L	LCS recovery outside control limits.
<	Analyte not detected at or above the reporting limit.	M	MS recovery outside control limits; LCS acceptable.
С	Sample received in an improper container for this test.	P	Chemical preservation pH adjusted in lab.
D	Surrogates diluted out; recovery not available.	Q	Result was determined by a GC/MS database search.
E	Estimated result; concentration exceeds calibration range.	S	Analysis was subcontracted to another laboratory.
G	Surrogate recovery outside control limits.	T	Result is less than three times the MDL value.
Н	Analysis or extraction holding time exceeded.	w	Reporting limit elevated due to sample matrix.
J	Estimated result; concentration is less than routine RL but greater than MDL.	N	Analyte is not part of our NELAC accreditation or accreditation may not be available for this parameter.
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	ŃD	Analyte was not detected using a library search routine; No calibration standard was analyzed.



First Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

RESOURCE CONSULTING, INC. **Client:**

Project ID: 98-1002 WCPD

Sample ID: RW-41A Sample No:

17-3893-001

Date Collected: 07/24/17

Time Collected: 12:00

Date Received: 07/24/17

Date Reported: 08/01/17

Analyte		Resuit	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 07/31/17	Method: 5030B/82	60B		•	
Benzene		241	5:0	ug/L	
Ethylbenzene	•	20.2	5.0	ug/L	
Toluene		< 5.0	5.0	ug/L	
Xylene, Total		21.7	5.0	ug/L	
Polynuclear Aromatic Hydrocarbo Analysis Date: 07/31/17	ns Method: 8270C			Method 351 Date: 07/31/17	
Acenaphthene	•	< 10	10	ug/L	
Acenaphthylene		< 10	10	ug/L	
Anthracene		< 5	5	ug/L	
Benzo(a)anthracene	•	< 0.13	0.13	ug/L	
Benzo(a)pyrene	•	< 0.2	0.2	ug/L	
Benzo(b)fluoranthene		0.18	0.18	ug/L	
Benzo(k)fluoranthene		0.18	0.17	ug/L	
Benzo(ghi)perylene		< 0.4	· 0.4	ug/L	
Chrysene		< 1.5	1.5	ug/L	
Dibenzo(a,h)anthracene		< 0.3	0.3	ug/L	
Fluoranthene		< 2	2	ug/L	
Fluorene		< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene		< 0.3	0.3	ug/L	•
Naphthalene	•	< 10	10	ug/L	
Phenanthrene		< 5	· 5	ug/L	
Pyrene	•	< 2	2	ug/L	

First Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

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First Environmental Laboratories

1600 Shore Road, Suite D Naperville, Illinois 60563 Phone: (630) 778-1200 • Fax: (630) 778-1233

ΙE

Company Name: RESOURCE CONSULT	tang inco	
Street Address: P.O. BOX 123	J'	
City: FTEMPYO	State: \	Zip: (00134
Phone: 1030-232 -9820 e-mail: 4410440-	Morresource III	nois.com
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Sampled By: Courthly MCHWW	<u> </u>	
Analyses		

-mail: firstinfo@firstenv.com Send Report To: Now HOW WAT										·				
EPA Certification #100	0292			Sampled By: Courthing MCHWWS Analyses										
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Cooler Temperature: 0. Received within 6 hz. Ice Present: Yes No	of collection: o	, F	Sample Refrig Refrigerator To 5035 Vials Fro Freezer Temp	empera ozen: Y	ture: es N	ºC		rograin:	□ T/	400	CCD	D [NPDES LUST	
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Rev. 8/15



IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

August 09, 2019

Ms. Courtney McGinnis
RESOURCE CONSULTING, INC.
P.O. Box 123
Geneva. IL 60134

Project ID: 98-1002 WCPD

First Environmental File ID: 19-4658 Date Received: August 02, 2019

Dear Ms. Courtney McGinnis:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 004598: effective 04/23/2019 through 02/28/2020.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Bill Mottashed Project Manager



IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Lab File ID: 19-4658

Project ID: 98-1002 WCPD

Date Received: August 02, 2019

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

The results in this report apply to the samples in the following table:

Laboratory Sample ID	Client Sample Identifier	Date/Time Collected
19-4658-001	RW-4B	8/2/2019 9:15

Sample Batch Comments:

Sample acceptance criteria were met.

Method Comments

Lab Number Sample ID

Comments:

19-4658-001

RW-4B

BTEX Organic Compounds

The reporting limits are elevated due to matrix interference.

· IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

RESOURCE CONSULTING, INC.

Lab File ID: 19-4658

Project ID: 98-1002 WCPD

Date Received: August 02, 2019

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

The following is a definition of flags that may be used in this report:

Flag	Description	Flag	Description								
Α	Method holding time is 15 minutes from collection. Lab analysis was performed as soon as possible.										
B	Analyte was found in the method blank.	L	LCS recovery outside control limits.								
~	Analyte not detected at or above the reporting limit.	· M	MS recovery outside control limits; LCS acceptable.								
С	Sample received in an improper container for this test.	P	Chemical preservation pH adjusted in lab.								
Ď	Surrogates diluted out; recovery not available.	Q	Result was determined by a GC/MS database search.								
E	Estimated result; concentration exceeds calibration range.	S	Analysis was subcontracted to another laboratory.								
G	Surrogate recovery outside control limits.	T	Result is less than three times the MDL value.								
H	Analysis or extraction holding time exceeded.	W	Reporting limit elevated due to sample matrix.								
J	Estimated result; concentration is less than routine RL but greater than MDL.	N	Analyte is not part of our NELAC accreditation or accreditation may not be available for this parameter.								
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.								

IL ELAP / NELAC Accreditation # 100292

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Analytical Report

RESOURCE CONSULTING, INC. Client:

98-1002 WCPD

Sample ID:

RW-4B

Sample No:

Project ID:

19-4658-001

Date Collected: 08/02/19

Time Collected: 9:15

Date Received: 08/02/19

Date Reported: 08/09/19

Analyte	· · · · · · · · · · · · · · · · · · ·	Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 08/06/19	Method: 5030B/82	60B			
Benzene		386	5.0	ug/L	* .
Ethylbenzene		3,160	5.0	ug/L	
Toluene		< 50.0	5.0	ug/L	
Xylene, Total		6,540	5.0	ug/L	
Polynuclear Aromatic Hydrocarl Analysis Date: 08/09/19	oons Method: 8270C	·	Preparation Preparation I	Method 351 Date: 08/08/19	0C
Acenaphthene		< 10	10	ug/L	
Acenaphthylene		< 10	10	ug/L	•
Anthracene		< 10	10	ug/L	
Benzo(a)anthracene		2.67	0.13	ug/L	
Benzo(a)pyrene	14	1.6	0.2	ug/L	
Benzo(b)fluoranthene	•	1.70	0.18	ug/L	
Benzo(k)fluoranthene		1.57	. 0.17	ug/L	
Benzo(ghi)perylene	1	< 10.0	10	ug/L	
Chrysene		2.3	1.5	ug/L	*
Dibenzo(a,h)anthracene		< 0.3	0.3	ug/L	
Fluoranthene		< 10	10	ug/L	
Fluorene		< 10	10	ug/L	
Indeno(1,2,3-cd)pyrene	·	0.8	0.3	ug/L	•
Naphthalene		1,380	10	ug/L	
Phenanthrene	•	< 10	10	ug/L	
Pyrene		< 10	10	ug/L	

First Environmental

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APPENDIX D

Indoor Inhalation Evaluation

Johnson & Ettinger Model Calculations - Benzene

J&E Equation	Equation with inputs	Result
J&E 1 RO _{indoor air} Carc.	$\frac{TR \times AT_c \times 365 \frac{days}{yr}}{ED \times EF \times URF \times 1000 \frac{\mu g}{mg}} \frac{1 \times 10^{-6} \times 70 \times 365}{30 \times 350 \times 7.8 \times 10^{-6} \times 1000}$	3.12x10 ⁻⁴ mg/m ³
J&E 2 RO _{indoor alr} Non-carc.	NA .	, NA
J&E 3 ppmv to mg/m³	NA ·	NA NA
J&E 4 RO _{soli gas}	$\frac{RO_{indoorair}}{\alpha} \qquad \qquad \frac{3.12e-4}{2.23e-5}$	13.99 mg/m³
J&E 5 Cv ^{sat}	$\frac{P \times MW}{R \times T} \times 10^{6} \qquad \qquad \frac{\frac{1.25}{10} \times 78.11}{0.08206 \times 286} \times 10^{6}$	4.16x10 ⁵ mg/m³- air
J&E 6 RO _{gw}	$\frac{RO_{soli,gas}}{H'_{rs} \times 1000 \frac{L}{m^3}} = \frac{13.99}{(1.34e-1)(1000)}$	0.104 mg/L
J&E 7 advection & diffusion	$ \frac{\left[\left(\frac{D_r^{\mathcal{G}} \times A_g}{Q_{bd_0} \times L_r}\right) \times \exp\left(\frac{Q_{out} \times L_{crat}}{D_{crat}^{\mathcal{G}} \times A_{crat}}\right)\right]}{\left[\exp\left(\frac{Q_{out} \times L_{crat}}{D_{crat}^{\mathcal{G}} \times A_{crat}}\right) + \left(\frac{D_r^{\mathcal{G}} \times A_g}{Q_{od_0} \times L_r}\right) + \left(\frac{D_r^{\mathcal{G}} \times A_g}{Q_{out} \times L_r}\right) \left[\exp\left(\frac{Q_{out} \times L_{crat}}{D_{crat}^{\mathcal{G}} \times A_{crat}}\right) - 1\right] \right] } \frac{\left(\frac{((1.23e-4)(1000000)}{(3.59e4)(152.4)}\right) \exp\left(\frac{(83.33)10}{(5.34e-4)(400)}\right)}{\exp\left(\frac{(83.33)10}{(5.34e-4)(1000000)}\right) \left[\exp\left(\frac{(83.33)10}{(5.34e-4)(1000000)}\right) \left(\frac{(83.33)10}{(5.34e-4)(1000000)}\right) \right]} $	2.23×10 ⁻⁵
J&E 8	NA NA	NA
J&E 9a Dr ^{eff.}	$\frac{L_7}{\sum_{i=1}^{n} L_i / D_i^{\text{off}}} = \frac{152.4}{\left(\frac{114.9}{6.86\text{e-}3}\right)^4 \left(\frac{.37.5}{3.08\text{e-}5}\right)^4}$	1.23x10 ⁻⁴ cm ² /s

J&E 9b		Satisfied	
J&E 10 L _T	D source - LF	162.4 - 10	152.4 cm
J&E11 D ₁ eff	$D_i \left(\frac{\theta_{a,i}^{3,33}}{\theta_{r,i}^2} \right) + \left(\frac{D_w}{H_{rs}} \right) \left(\frac{\theta_{w,i}^{3,33}}{\theta_{r,i}^2} \right)$	$(8.8e-2) \left(\frac{((0.28)^{3.33})}{((0.43)^2)} \right) + \left(\frac{1.02e-5}{1.34e-1} \right) \left(\frac{((0.15)^{3.33})}{((0.43)^2)} \right)$	6.86x10 ⁻³ cm ² /s
J&E11 D ₂ eff Cap fringe	$D_{l}\left(\frac{\boldsymbol{\theta}_{\sigma J}^{3,33}}{\boldsymbol{\theta}_{\tau J}^{2}}\right) + \left(\frac{\boldsymbol{D}_{w}}{\boldsymbol{H}_{TS}}\right)\left(\frac{\boldsymbol{\theta}_{\pi J}^{3,33}}{\boldsymbol{\theta}_{\tau J}^{2}}\right)$	$(8.8e-2) \left(\frac{((0.043)^{3.33})}{((0.43)^2)} \right) + \left(\frac{1.02e-5}{1.34e-1} \right) \left(\frac{((0.387)^{3.33})}{((0.43)^2)} \right)$	3.08x10 ⁻⁵ cm ² /s
J&E 12a A _B	$(L_B \times W_B)$	1000×1000	1x10 ⁶ cm ²
J&E 12b		NA ·	
J&E 13 Q _{bidg}	$\left(\frac{L_B \times W_B \times H_B \times ER}{3600 \frac{SGC}{hr}}\right)$	1000×1000×244×0.53 3600	3.59x10 ⁴ cm ³ /s
J&E 14 A _{crack}	$2\times (L_B+W_B)\times w$	- 2(1000 + 1000)×0.1	400 cm²
J&E 15 D _{crack} eff	$D_i \left(\frac{\theta_{a.cnat}^{3.33}}{\theta_{r.cnat}^2} \right) + \left(\frac{D_w}{H_{TS}} \right) \left(\frac{\theta_{w.cnat}^{3.33}}{\theta_{r.cnat}^2} \right)$	$(8.8e-2) \left\{ \frac{((0.13)^{3.33})}{((0.43)^2)} \right\} + \left(\frac{1.02e-5}{1.34e-1} \right) \left(\frac{((0.15)^{3.33})}{((0.43)^2)} \right)$	5.34x10 ⁻⁴ cm ² /s
J&E 16 ⊕ _{Ti}		NA	NA.
J&E 17 ⊗ _w		NA .	NA NA
J&E 18 ⊗a		NA	NA NA

J&E Model Calculations - Ethylbenzene

J&E Equation	Equation with inputs	Results
J&E 1 RO _{indoor air} (carcinogenic)	NA NA	NA
J&E 2 RO _{indoor air} (non-carcinogenic)	$\frac{THQ \times AT_{nc} \times 365 \frac{days}{yr} \times RfC}{ED \times EF} \qquad \frac{(1)(30)(365)(1e0)}{(30)(350)}$	1.04 mg/m³
J&E 3 ppmv to mg/m ³	NA NA	NA ·
J&E 4 RO _{soil gas}	RO _{indoor air} 1.04 α 1.60e-5	65,000 mg/m³
J&E 5 Cvent	$\frac{P \times MW}{R \times T} \times 10^{\circ}$	DEFAULT
J&E 6 RO _{gw} ($\frac{RO_{solt gas}}{H'_{7S} \times 1000 \frac{L}{m^3}} \frac{65000}{(1.64e-1)(1000)}$	396.34 mg/L
J&E 7 α advection & diffusion	$\frac{\left[\left(\frac{D_{r}^{\sigma} \times A_{s}}{Q_{\text{lob}} \times L_{r}}\right) \times \exp\left(\frac{Q_{-sl} \times L_{\text{cm}}}{D_{\text{cm}}^{\sigma} \times A_{\text{cm}}}\right)\right]}{\left[\exp\left(\frac{Q_{-sl} \times L_{\text{cm}}}{D_{\text{cm}}^{\sigma} \times A_{\text{cm}}}\right) + \left(\frac{D_{r}^{\sigma} \times A_{s}}{Q_{\text{lob}} \times L_{r}}\right) + \left(\frac{D_{r}^{\sigma} \times A_{s}}{Q_{\text{lob}} \times L_{r}}\right) + \left(\frac{D_{r}^{\sigma} \times A_{s}}{D_{\text{cm}}^{\sigma} \times L_{\text{cm}}}\right) - 1\right]} \times \frac{\left(\frac{Q_{-sl} \times L_{\text{cm}}}{D_{\text{cm}}^{\sigma} \times A_{\text{cm}}}\right) - 1}{\left(\frac{Q_{\text{cm}} \times L_{\text{cm}}}{D_{\text{cm}}^{\sigma} \times A_{\text{cm}}}\right) - 1}{\left(\frac{Q_{\text{cm}} \times L_{\text{cm}}}{D_{\text{cm}}^{\sigma} \times A_{\text{cm}}}\right) - 1}\right]} \times \frac{\left(\frac{(8.96e-5)(1000000)}{(3.59e4)(152.4)}\right) \exp\left(\frac{(83.33)10}{(5.85e-3)(400)}\right)}{\left(\frac{(8.96e-5)(1000000)}{(5.85e-3)(400)}\right) + \left(\frac{(8.96e-5)(1000000)}{(5.85e-3)(400)}\right) + \left(\frac{(8.96e-5)(1000000)}{(5.85e-3)(400)}\right) + \left(\frac{(8.96e-5)(1000000)}{(5.85e-3)(400)}\right) + \left(\frac{(8.96e-5)(1000000)}{(5.85e-3)(400)}\right) + \left(\frac{(8.96e-5)(100000)}{(5.83e-3)(400)}\right) + \left(\frac{(8.96e-5)(1000000)}{(5.83e-3)(400)}\right) + \left(\frac{(8.96e-5)(1000000)}{(5.83e-3)(400)}\right) + \left(\frac{(8.96e-5)(1000000)}{(5.85e-3)(400)}\right) + \left(\frac{(8.96e-5)(1000000)}{(5.85e-3)(400)}\right) + \left(\frac{(8.96e-5)(1000000)}{(5.85e-3)(400)}\right) + \left(\frac{(8.96e-5)(1000000)}{(5.85e-3)(400)}\right) + \left(\frac{(8.96e-5)(1000000)}{(5.85e-3)(400)}\right) + \left(\frac{(8.96e-5)(1000000)}{(5.83e-3)(400)}\right) + \left($	1.60x10 ⁻⁵
J&E 8 α Diffusion only	NA NA	NA
J&E 9a	$\frac{L_{\tau}}{\sum_{i=1}^{n} L_{i} / D_{i}^{\sigma}} = \frac{152.4}{\left(\frac{114.9}{5.85e-3}\right) + \left(\frac{37.5}{2.23e-5}\right)}$	8.96x10 ⁻⁵ cm²/s

J&E 9b	$L_1 + L_2 = L_T$		Satisfied
J&E 10 L _T	$D_{source} - L_F$	162.4-10	152.8 cm
J&E11 D ₁ eff	$D_i \left(\frac{\theta_{w,i}^{3,33}}{\theta_{T,i}^2} \right) + \left(\frac{D_w}{H_{TS}} \right) \left(\frac{\theta_{w,i}^{3,33}}{\theta_{T,i}^2} \right)$	$(7.50e-2) \left(\frac{((0.28)^{3.33})}{((0.43)^2)} \right) + \left(\frac{7.80e-6}{1.64e-1} \right) \left(\frac{((0.15)^{3.33})}{((0.43)^2)} \right)$	5.85x10 ⁻³ cm ² /s
J&E11 D ₂ eff Cap fringe	$D_{i}\left(\frac{\boldsymbol{\theta}_{a,i}^{3,33}}{\boldsymbol{\theta}_{T,i}^{2}}\right) + \left(\frac{D_{w}}{H_{TS}}\right)\left(\frac{\boldsymbol{\theta}_{w,i}^{3,33}}{\boldsymbol{\theta}_{T,i}^{2}}\right)$	$(7.50e-2) \left(\frac{((0.043)^{3.33})}{((0.43)^2)} \right) + \left(\frac{7.80e-6}{1.64e-1} \right) \left(\frac{((0.387)^{3.33})}{((0.43)^2)} \right)$	2.23x10 ⁻⁵ cm ² /s
J&E 12a A _B	$(L_{\scriptscriptstyle B} \times W_{\scriptscriptstyle B})$	1000×1000	1x10 ⁶ cm ²
J&E 12b		NA	NA
J&E 13 Q _{bidg}	$\left(\frac{L_B \times W_B \times H_B \times ER}{3600 \frac{SEC}{hr}}\right)$	1000×1000×244×0.53 3600	3.59x10 ⁴ cm ³ /s
.J&E 14 A _{crack}	$2\times(L_B+W_B)\times w$	2(1000 + 1000)×0.1	400 cm²
J&E 15 D _{crack} eff	$D_{i}\left(\frac{\theta_{a,cnsk}^{3.33}}{\theta_{T,cnsk}^{2}}\right) + \left(\frac{D_{w}}{H_{TS}}\right)\left(\frac{\theta_{w,cnsk}^{3.33}}{\theta_{T,cnsk}^{2}}\right)$	$(7.50e-2) \left(\frac{((0.28)^{3.33})}{((0.43)^2)} \right) + \left(\frac{7.80e-6}{1.64e-1} \right) \left(\frac{((0.15)^{3.33})}{((0.43)^2)} \right)$	5.85x10 ⁻³ cm ² /s
.J&E 16 _{©TI}		NA NA	NA NA
.J&E 17		NA	NA
.J&E 18 ❷a		NA	NA ·

J&E Model Calculations - Naphthalene

J&E Equation	Equation with inputs	Result
J&E 1 ROindoor air (carcinogenic)	NA NA	NA
J&E 2 ROindoor air (non-carcinogenic)	$\frac{THQ \times AT_{nc} \times 365 \frac{days}{yr} \times RfC}{ED \times EF} \qquad \frac{(1)(30)(365)(3e-3)}{(30)(350)}$	3.13x10 ⁻³ mg/m ³
J&E 3 ppmv to mg/m ³	NA NA	, NA
J&E 4 RO _{soll gas}	RO _{indoor air} 3.13e-3 1.32e-4	23.71 mg/m ³
J&E 5 C _{v^{sat}}	$\frac{P \times MW}{R \times T} \times 10^6$	DEFAULT
J&E 6 RO _{gw}	$\frac{RO_{soil\ gas}}{H'_{TS} \times 1000 \frac{L}{m^3}} \frac{23.71}{(8.29e-3)(1000)}$	2.86 mg/L
J&E 7 α advection & diffusion	$ \frac{\left[\left(\frac{D_{r}^{rd} \times A_{p}}{Q_{\text{slog}} \times L_{r}} \right) \times \exp \left(\frac{Q_{\text{cut}} \times L_{\text{trat}}}{D_{\text{cut}}^{rd} \times A_{\text{res}}} \right) \right]}{\left[\exp \left(\frac{Q_{\text{cut}} \times L_{\text{trat}}}{D_{\text{cut}}^{rd} \times A_{\text{res}}} \right) + \left(\frac{D_{r}^{rd} \times A_{p}}{Q_{\text{cut}} \times L_{r}} \right) + \left(\frac{D_{r}^{rd} \times A_{p}}{Q_{\text{cut}} \times L_{r}} \right) + \left(\frac{D_{\text{cut}}^{rd} \times A_{\text{res}}}{D_{\text{cut}}^{rd} \times A_{\text{res}}} \right) - 1 \right] } \frac{\left[\left(\frac{(7.68e-4)(1000000)}{(3.59e4)(152.4)} \right) \exp \left(\frac{(83.33)10}{(4.61e-3)(400)} \right) \right]}{\left(\frac{(83.33(10))}{(3.59e4)(152.4)} \right) + \left(\frac{(7.68e-4)(1060)}{(3.59e4)(152.4)} \right) \left(\frac{(83.33)10}{(4.61e-3)(400)} \right) - 1 \right]} $	1.32x10 ⁻⁴
J&E 8 α • Diffusion only	NA .	NA

J&E 9a Dr ^{eff}	$\frac{L_T}{\sum\limits_{i=1}^n L_i / D_i^{eff}}$	$\frac{152.4}{\left(\frac{114.9}{4.61e-3}\right) + \left(\frac{37.5}{2.16e-4}\right)}$	7.68x10 ⁻⁴ cm ² /s
J&E 9b		$L_1 + L_2 = L_7$	Satisfied ·
J&E 10 L _T	$D_{max_F} - L_F$	162.4-10	152.4 cm
J&E11 D ₁ eff	$D_{i}\left(\frac{\boldsymbol{\theta}_{a,i}^{3.33}}{\boldsymbol{\theta}_{r,i}^{2}}\right) + \left(\frac{D_{w}}{H_{rs}}\right)\left(\frac{\boldsymbol{\theta}_{w,i}^{3.33}}{\boldsymbol{\theta}_{r,i}^{2}}\right)$	$(5.90e-2)\left[\frac{((0.28)^{2.32})}{((0.43)^2)}\right] + \left(\frac{7.50e-6}{8.29e-3}\right) \left[\frac{((0.15)^{2.32})}{((0.43)^2)}\right]$	4.61x10 ⁻³ cm ² /s
J&E11 D ₂ eff Cap fringe	$D_i \left(\frac{\theta_{\alpha,i}^{3.33}}{\theta_{T,i}^2} \right) + \left(\frac{D_w}{H_{TS}} \right) \left(\frac{\theta_{w,i}^{3.33}}{\theta_{T,i}^2} \right)$	$(5.90e-2) \left(\frac{((0.043)^{3.33})}{((0.43)^2)} \right) + \left(\frac{7.50e-6}{8.29e-3} \right) \left(\frac{((0.387)^{3.33})}{((0.43)^2)} \right)$	2.16x10 ⁻⁴ cm ² /s
J&E 12a A _B	$(L_B \times W_B)$	1000×1000	1x10 ⁶ cm ²
J&E 12b		NA .	NA NA
J&E 13 Q _{bldg} ,	$\left(\frac{L_B \times W_B \times H_B \times ER}{3600 \frac{sec}{hr}}\right)$	1000×1000×244×0.53 3600	3.59x10 ⁴ cm ³ /s
J&E 14 A _{crack}	$2\times(L_B+W_B)\times w$	2(1000 + 1000)×0.1	400 cm²
J&E 15 D _{crack} eff	$D_{i}\left(\frac{\theta_{u.cnwk}^{3.33}}{\theta_{T.cnwk}^{2}}\right) + \left(\frac{D_{w}}{H_{TS}}\right)\left(\frac{\theta_{w.cnwk}^{3.33}}{\theta_{T.cnwk}^{2}}\right)$	$(5.90e-2) \left(\frac{((0.28)^{3.33})}{((0.43)^2)} \right) + \left(\frac{7.50e-6}{8.29e-3} \right) \left(\frac{((0.15)^{3.33})}{((0.43)^2)} \right)$	4.61x10 ⁻³ cm ² /s
J&E 16 ` Θ π	•	NA	NA .
J&E 17 • 0w		NA ·	NA



RESOURCE CONSULTING, INC.

APPENDIX E

Groundwater Ordinance

CITY OF WEST CHICAGO

ORDINANCE NO. 15-O-0004

AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY ANY OTHER METHOD AT OR WITHIN THE SPECIFIED AREA OF REED-KEPPLER PARK – 250 W. NATIONAL STREET

ADOPTED BY THE
CITY COUNCIL
OF THE
CITY OF WEST CHICAGO
March 16, 2015

Published in pamphlet form by the authority of the City Council of the City of West Chicago, DuPage County, Illinois, on the 17th day of March 2015.

ORDINANCE NO. 15-0-0004

AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY ANY OTHER METHOD AT OR WITHIN THE SPECIFIED AREA OF REED-KEPPLER PARK – 250 W. NATIONAL STREET

WHEREAS, the City of West Chicago (hereinafter referred to as the "City") is a duly organized and existing municipality pursuant to the Illinois Municipal Code, 65 ILCS 5/1-1-1 et seq.; and,

WHEREAS, the City is also a home-rule municipality pursuant to Article VII, Section 6, of the Constitution of the State of Illinois, and authorized to exercise powers pursuant to that section; and,

WHEREAS, certain properties, including the property commonly known as Reed-Keppler Park located at 250 W. National Street, in the City of West Chicago, DuPage County, Illinois have been used over a period of time for commercial/industrial purposes; and,

WHEREAS, because of said use, concentrations of certain chemical constituents in the groundwater beneath the City may exceed Class 1 groundwater quality standards for potable resource groundwater as set forth in 35 Illinois Administrative Code 620 or Tier 1 remediation objectives as set forth in 35 Illinois Administrative Code 742; and,

WHEREAS, the City desires to limit potential threats to human health from groundwater contamination while facilitating the redevelopment and productive use of property commonly known as Reed-Keppler Park located at 250 W. National Street, that is the source of said chemical constituents and the surrounding properties, which are within the area depicted in Exhibit A and legally described in exhibit B which are attached hereto and incorporated herein; and,

WHEREAS, the City finds it is in the best interest of its residents to approve and enact a limited groundwater ordinance affecting properties located within a close proximity of the property commonly known as Reed-Keppler Park, 250 W. National in the City.

NOW, THEREFORE, BE IT ORDAINED, by the City Council of the City of West Chicago, DuPage County, Illinois, as follows:

Ordinance No. 15-O-0004 Page 1 of 3 <u>SECTION 1:</u> The recitals set forth above are incorporated herein and made a part hereof.

SECTION 2: The City regulates the use of groundwater as potable water supply as follows:

1. Use of groundwater as a potable water supply prohibited. The use or attempt to use of groundwater as a potable water supply by the installation or drilling of wells or by any other method, including at points of withdrawal by the City of West Chicago, is hereby prohibited within a rectangle whose corners are described by the following Illinois State Plane East Zone Metric Coordinates based on North American Datum of 1983 (NAD 83) and depicted on Exhibit A, which is attached hereto and incorporated herein by reference.

Corner	Northing	Easting
A (NW)	580346.521	310096.392
B (NE)	580346.521	310480.267
C (SE)	579989.559	310480.267
D (SW)	579989.559	310096.392

2. <u>Penalties.</u> Any person violating the provisions of this ordinance shall be subject to a fine of up to Seven Hundred Fifty 00/100 Dollars (\$750.00) for each violation.

3. Definitions.

"Person" is any individual, partnership, co-partnership, firm, company, limited liability company, corporation, association, joint stock company, trust, estate, political subdivision, or any other legal entity, or their legal representatives, agents or assigns.

"Potable Water" is any water used for human or domestic consumption, including, but not limited to, water used for drinking, bathing, swimming, washing dishes, or preparing foods.

4. <u>Severability.</u> If any provision of this ordinance or its application to any person or under any circumstances is adjudged invalid, such adjudication shall not affect the validity of the ordinance as a whole or of any portion not adjudged invalid.

SECTION 3: That all ordinances and resolutions, or parts thereof, in conflict with the provisions of this ordinance are, to the extent of such conflict, hereby repealed.

Ordinance No. 15-O-0004

Page 2 of 3

<u>SECTION 4</u>: That the City Clerk of the City of West Chicago be and is directed hereby to publish this Ordinance in pamphlet form, pursuant to the statutes of the State of Illinois.

SECTION 5: That the City Clerk of the City of West Chicago be and is directed herby to Certify Mail a copy of this Ordinance to the commonly known address of parcels identified in Exhibit C.

<u>SECTION6</u>: That this Ordinance shall be in full force and effect from and after its passage, approval and publication in pamphlet form as provided by law.

PASSED this 16th day of March 2015.

Alderman L. Chassee	uy	Alderman J. Beituss	Cyc
Alderman A. Hallett	aye	Alderman J. Banas	aye
Alderman M. Birch	ange	Alderman S. Dimas	Cesse
Alderman K. Meissner	Miserit	Alderman R. Stout	aye
Alderman L. Grodoski	aye	Alderman D. F. Earley	Ceye
		•	•

Alderman M. Fuesting

Alderman M. Edwalds

Alderman J. C. Smith, Jr.

APPROVED as to form:

City-Attorney

APPROVED this 16th day of March 2015.

Ruben Pineda, Mayor

ATTEST:

Nancy M. Smith, City Clerk

PUBLISHED: 3/17/15

Ordinance No. 15-O-0004

Page 3 of 3

Electronic Filing: Received, Clerk's Office 09/20/2024

Exhibit A - Ordinance No. 15-O-0004

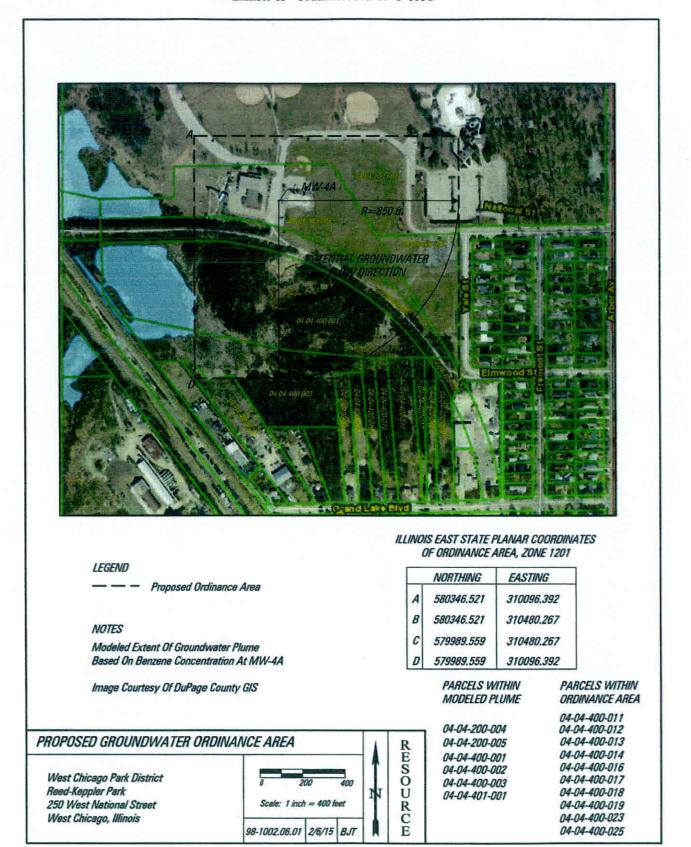


Exhibit B - Ordinance No. 15-O-0004

Legal Descriptions of Properties Within the Modeled Plume

in the Proposed Ordinance Area

The Property commonly known as Reed-Keppler Park, 250 W. National Ave., West Chicago. IL 60185.

PINs 04-040-200-004, 04-04-400-001, 04-04-401-001

That part of the North Half of the Southeast Quarter and part of the Northeast Quarter of Section 4, Township 39 North, Range 9 East of the Third Principal Meridian, described 'as beginning at a stone at the Southeast comer of the North Half of said Southeast Quarter of Section; thence North on Section line 39.27 chains (2591.82 feet) to John Spoden's line; thence West on said line 40 chains (2640 feet) to the Half section line; thence South on said line 15.68 chains (1034.88 feet) to the Northwest comer of lands of Elgin, Joliet and Eastern Railroad company; thence South 78° East 2.73 chains (180.10 feet) to the Northeast comer of lands of said railroad; thence South along the East line of said railroad lands to the Easterly line of Elgin, Joliet and Eastern Railroad Company's right of way; thence South 40° 2.43 chains (160.38 feet); thence 76 1/2° East 12.85 chains (848.10 feet) to a cotton wood tree; thence South 82 112°East 6.05 chains (399.30 feet); thence East parallel with division line, 5.596 chains (369.34 feet); thence South 45° East 10.93 chains (721.38 feet) to division line; thence East on division line, 11.484 chains (757.94 feet) to the place of the beginning, (except that part conveyed to the Chicago, Wheaton and Western Railroad Company, by deed recorded as Document 96756 and except that part conveyed to A.S. Neumer by deed recorded as Document 97713 and except that part known as Bloch Real Estate Company's First Addition to West Chicago, according to the plat recorded as document 210866) in DuPage County, Illinois.

Also partially described as:

PINs 04-040-200-004, 04-040-200-005, 04-04-400-001, 04-04-400-002

That part of the northeast quarter and the southeast quarter of Section 4, Township 39 North, Range 9 East of the Third Principal Meridian in DuPage County, Illinois, described as follows; beginning at the intersection of the north right of way line of National Street and the west right of way line of Yale Street; Thence southerly along said west right of way line of Yale Street, a distance of 636 feet, more or less, to a point on the north line extended easterly of Ward's Plat of Survey according to the plat recorded as document no. 654706 in DuPage County, Illinois; Thence westerly along said northerly line extended easterly, a distance of 406 feet, more or less, to the northwest corner of Lot 2 in said Ward's Plat of Survey; Thence northwesterly along a line at an angle of 173° 59', more or less, as measured counterclockwise from the previously described course, a distance of 226 feet; Thence northerly along a line parallel with said west right of way line of Yale Street, a distance of 615 feet, more or less, to a point on a line 33 feet north of, as measured at right angles to, the east-west quarter section line of said Section 4; Thence easterly along said parallel line, a distance of 631 feet, more or less, to the place of beginning.

Exhibit B - Ordinance No. 15-O-0004

Including land owned by the DuPage County Forest Preserve described as:

PINs 04-040-400-003 and 04-040-400-010

THAT PART OF THE NORTH HALF OF THE SOUTHEAST OUAR TER OF SECTION 4, TOWNSHIP 39 NORTH, RANGE 9, EAST OF THE THIRD PRINCIPAL MERIDIAN.

DESCRIBED BY COMMENCING ON THE DIVISION LINE. 1156.3 FEET WEST OF THE SOUTHEAST CORNER OF SAID NORTH HALF OF THE SOUTHEAST OUARTER OF SECTION 4 AND RUNNING THENCE NORTH 02 DEGREES 35 MINUTES 00 SECONDS WEST 16.5 FEET FOR A POINT OF BEGINNING: THENCE WEST 16.5 FEET NORTH OF AND PARALLEL WITH THE DIVISION LINE 258.2 FEET: THENCE NORTH 31 DEGREES 54 MINUTES 00 SECONDS WEST. 127.2 FEET: THENCE SOUTH 82 DEGREES 15 MINUTES 00 SECONDS WEST. 113 FEET: THENCE NORTH 15 DEGREES 31 MINUTES 00 SECONDS WEST. 113 FEET: THENCE NORTH 89 DEGREES 56 MINUTES 00 SECONDS WEST. 113 FEET: THENCE NORTH 89 DEGREES 56 MINUTES 00 SECONDS WEST. 113 FEET: THENCE NORTH 89 DEGREES 56 MINUTES 00 SECONDS WEST. 113 FEET: THENCE NORTH 89 DEGREES 56 MINUTES 00 SECONDS WEST. 180.2 FEET TO THE BASE LINE OF THE ELGIN. JOLIET AND EASTERN RAILROAD. 284 FEET; THENCE SOUTH 76 DEGREES 99 MINUTES 00 SECONDS EAST ALONG FENCE LINE, 846 FEET: THENCE SOUTH 83 DEGREES 35 MINUTES 00 SECONDS EAST ALONG FENCE LINE, 846 FEET: THENCE SOUTH 80 DEGREES 35 MINUTES 00 SECONDS EAST ALONG FENCE LINE, 5 FEET: THENCE SOUTH 80 DEGREES 35 MINUTES 00 SECONDS EAST ALONG FENCE LINE, 846 FEET: THENCE SOUTH 80 DEGREES 35 MINUTES 00 SECONDS EAST ALONG FENCE LINE, 5 FEET: THENCE SOUTH 80 DEGREES 35 MINUTES 00 SECONDS EAST OF THE EAST 8 RODS OF THE SOUTH 40 RODS OF THAT PIECE OF LAND CONVEYED BY DECUMENT 17184 AND EXCEPT THAT PART CONVEYED BY DOCUMENT 217255 (CORRECTED AND RECORDED AS DOCUMENT 394560) DESCRIBED AS FOLLOWS: COMMENCING AT A POINT 1288.3 FEET WEST OF THE SOUTHEAST CORNER OF SAID NORTH HALF OF THE SOUTHEAST OUARTER OF SAID SECTION 4: THENCE NORTH 89 DEGREES 51 MINUTES 00 SECONDS WEST ALONG THE NORTH LINE OF GRAND LAKE BOULEVARD (SAID NORTH LINE BEING 33 FEET NORTH LINE OF SAID GRAND LAKE BOULEVARD. 67.95 FEET TO A POINT OF BEGINNING: THENCE NORTH 89 DEGREES 51 MINUTES 00 SECONDS WEST ALONG THE NORTH LINE OF SAID GRAND LAKE BOULEVARD. 67.9

PIN 04-04-400-003 AND PIN 04-04-400-010





Agency ID: 170000343563

Media File Type: LAND

Bureau ID: 0430905825

Site Name: Reed Keppler Park Site Address1: 250 W National St

Site Address2:

Site City: West Chicago

State: IL

Zip: 60185-

This record has been determined to be partially or wholly exempt from public disclosure

Exemption Type:

Redaction

Exempt Doc #: 2

Document Date: 12/15/2022

Staff: **EMI**

Document Description: CACR -- PROPERTY OWNERS' NOTIFICATION LIST

Category ID: 21A

Category Description:

LEAKING UST TECHNICAL

Exempt Type: Redaction

Permit ID:

Date of Determination:

7 /17/2023

Exhibit C - Ordinance No. 15-O-0004

PIN	Address	Street	Owner ·	Mailing Address		<u> </u>		
04-04-200-004	250 W	National Ave.	City of West Chicago	City of West Chicago	475 Main Street	West Chicago		60185
4-04-200-005	250 W	National Ave.	City of West Chicago	City of West Chicago	475 Main Street	West Chicago		60185
14-04-400-001			City of West Chicago	City of West Chicago	475 Main Street	West Chicago		60185
4-04-400-002			Commonwealth Edison	Exelon Corporation	P.O Box 805398	Chicago		60680
4-04-400-003			Forest Preserve District	Forest Preserve District	3S580 Naperville Rd.	Wheaton	IL.	60189
4-04-400-011								
4-04-400-012								
4-04-400-013	173 W	Grand Lake Blvd.	ST BK OF IL TR 1-1196	State Bank of Illinois	600 E. Washington	West Chicago	耴	60185
4-04-400-014								
4-04-400-016								
4-04-400-017								
4-04-400-018								
4-04-400-019								
4-04-400-023			Commonwealth Edicon	Evelor Comomition	P O Boy 205392	Chicago	111	1301397
4-04-400-025								
) 404-401-00 1	250 W	National St.	City of West Chicago	City of West Chicago	475 Main Street	West Chicago	JJL.	60183



STATE OF ILLINOIS)
COUNTY OF DU PAGE)

CERTIFICATE

I, Nancy Smith, Certify that I am the duly elected and acting City Clerk of the City of West Chicago, DuPage County, Illinois.

I further certify that on March 16, 2015 the Corporate Authorities of such municipality passed and approved Ordinance No. 15-O-0004 entitled:

AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY ANY OTHER METHOD AT OR WITHIN THE SPECIFIED AREA OF REED-KEPPLER PARK – 250 W. NATIONAL STREET

Which provided by its terms that it should be published in pamphlet form.

The pamphlet form of Ordinance No. 15-O-0004 including the ordinance and a cover sheet hereof was prepared, and a copy of such ordinance posted in the municipal building, commencing on March 17, 2015 continuing for at least ten days thereafter. Copies of such ordinance were also available for public inspection upon request in the Office of the City Clerk.

Dated at West Chicago, Illinois, this 16th of March 2015.

SEAL

RESOURCE CONSULTING, INC.

APPENDIX F

Illinois EPA Forms

RECEIVED
DEC 1 5 2022
IEPA/BOL



Illinois Environmental Protection Agency

Bureau of Land • 1021 N. Grand Avenue E. • P.O. Box 19276 • Springfield • Illinois • 62794-9276

The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 – 57.17). Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false material statement or representation, orally or in writing, in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compliance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/44 and 57.17). This form has been approved by the Forms Management Center.

Leaking Underground Storage Tank Program Corrective Action Completion Report

IEMA Incident # (6- or 8-digit): 9			IEPA LPO	C# (10-digit): <u>043</u>	0905825
Site Name: West Chicago Park Di		<u> </u>			
Site Address (Not a P.O. Box): City: West Chicago	County: Du	Page		ZIP Code: 60°	185
City. West Chicago	· Oblanty: Da	- CSC		<u> 3333. <u>33</u></u>	
Site Information			:		
1. Has a Corrective Action Plan	n been approved?	 ✓ Yes	☐ No	•	
Date of approval letter: July	16, 2009	•	•	•	
2. This completion report is be	ng submitted pursua	ant to:			٠.
a. 35 III. Adm. Code 731.16	6 🗆	•		· •	
b. 35 III. Adm. Code 732.30	D(b)				
c. 35 III. Adm. Code 732.40	4 🗆			:	
d. 35 III. Adm. Code 734.34	5 🗸		•		
	•	•			RECEIVE
3. Method of remediation chose					DEC 1 5 2022
a. Soil <u>Excavation and d</u> b. Groundwater TACO er					
4. Quantity of contaminated me		or recovere	d	-	IEPA/BO
a. Soil	215 yds.3		-	•	
b. Groundwater	4,000 gals.				•
c. Free Product	10 gals.		•	•	•

C. Remedial (Corrective) Action

- 1. An executive summary that identifies the overall objectives of the corrective action and the technical approach utilized to meet those objectives. The summary shall contain the following information:
 - A brief description of the site, including but not limited to a description of the release, the applicable indicator contaminants, the contaminated media, and the extents of soil and groundwater contamination that exceeded the most stringent Tier 1 remediation objectives;

IL 532 2288 LPC 514 Rev. March 2006 Corrective Action Completion Report Page 1 of 3

- b. The major components (e.g., treatment, containment, removal) of the corrective action;
- c. The scope of the problems corrected or mitigated by the corrective action; and
- d. The anticipated post-corrective action uses of the site and areas immediately adjacent to the site;
- 2. A description of the corrective action activities conducted including:
 - a. A narrative description of the field activities conducted as part of corrective action;
 - b. A narrative description of the remedial actions implemented at the site and the performance of each remedial technology utilized;
 - c. Documentation of sampling activities:
 - i. Sample collection information;
 - ii. Sample preservation and shipment information;
 - iii. Analytical procedure information;
 - iv. Analytical results, chain of custody and control, and laboratory certification;
 - v. Field and lab blanks; and
 - vi. Table(s) comparing analytical results to remediation objectives approved for the site (include sample depths, date collected, and detection limits);
 - d. Soil boring logs and monitoring well construction diagrams.
- 3. A narrative description of any special conditions relied upon as part of corrective action including:
 - a. Engineered barriers utilized:
 - i. Type of barrier(s); and
 - ii. Map showing location(s) and dimension(s) of barrier(s);
 - b. Institutional controls utilized:
 - i. Copy of fully executed institutional control(s); and
 - ii. Map showing location(s) of controls;
 - Other conditions, if any, necessary for protection of human health and safety and the environment that are related to the issuance of a No Further Remediation Letter; and
 - d. Any information required regarding off-site access;
- An analysis of the effectiveness of the corrective action that compares the confirmation sampling results to the remediation objectives approved for the site;
- A conclusion that identifies the success in meeting the remediation objectives approved for the site;
- 6. Appendices containing references and data sources;
- 7. The water supply well survey:
 - a. Map(s) showing locations of community water supply wells and other potable wells and the setback zone for each well;
 - b. Map(s) showing regulated recharge areas and wellhead protection areas;
 - c. Map(s) showing the current extent of groundwater contamination exceeding the most stringent Tier 1 remediation objectives;
 - Map(s) showing the modeled extent of groundwater contamination exceeding the most stringent Tier 1
 remediation objectives;
 - e. Table(s) listing the setback zones for each community water supply well and other potable water supply wells;
 - f. A narrative identifying each entity contacted to identify potable water supply wells, the name and title of each person contacted, and any field observations associated with any wells identified; and
 - g. A certification from a Licensed Professional Engineer or Licensed Professional Geologist that the survey was conducted in accordance with the requirements and that the documentation submitted includes the information obtained as a result of the survey (certification of this report satisfies this requirement);

Corrective Action Completion Report Page 2 of 3

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- 8. Site map(s) meeting the requirements of 35 Ill. Adm. Code 732.110(a) or 734.440.
- 9. Development of Tier 2 or 3 remediation objectives, if applicable:
 - a. Equations used;
 - Discussion of how input variables were determined;
 - c. Map(s) depicting distances used in equation; and
 - d. Calculations; and
- 10. Property Owner Summary form.

D. Signatures

All plans, budgets, and reports must be signed by the owner or operator and list the owner's or operator's full name, address, and telephone number.

UST Owner or Operator	Consultant
Name West Chicago Park Dist.	Company Resource Consulting
Contact Michael Gasparini	Contact Dan Horvath
Address 201 W National St.	Address PO Box 123
City West Chicago	City Geneva
State Illinois	State Illinois
Zip Code 60185	Zip Code 60134
Phone 630-231-9474	Phone 630-232-9820
Signature Much / t	Signature
Date 12-1-2022	Date iz-5 torz

E. Certification

I certify under penalty of law that all activities that are the subject of this plan, budget, or report were conducted under my supervision or were conducted under the supervision of another Licensed Professional Engineer or Licensed Professional Geologist and reviewed by me; that this plan, budget, or report and all attachments were prepared under my supervision; that, to the best of my knowledge and belief, the work described in this plan, budget, or report has been completed in accordance with the Environmental Protection Act [415 ILCS 5], 35 Ill. Adm. Code 731, 732, or 734, and generally accepted standards and practices of my profession; and that the information presented is accurate and complete. I am aware there are significant penalties for submitting false statements or representations to the Illinois EPA, including but not limited to fines, imprisonment, or both as provided in Sections 44 and 57.17 of the Environmental Protection Act [415 ILCS 5/44 and 57.17].

Licensed Professional Engineer		L.P.E. SeaRECEIVED
Name Bernard A. Bono		DEC 1 5 2022
Company Bono Consulting Civil Engineers		
Address 1018 Busse Highway	•	IEPA/BOL
City Park Ridge		
State Illinois		•
Zip Code 60068		•
Phone 847-823-3300		÷.
III. Registration No. 062-044068	Signature	
License Expiration Date 11/30/2023	Date	

Corrective Action Completion Report Page 3 of 3

Electronic Filing: Received, Clerk's Office 09/20/2024



Illinois Environmental Protection Agency

Bureau of Land • 1021 N. Grand Avenue E. • P.O. Box 19276 • Springfield • Illinois • 62794-9276

The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 – 57.17). Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false material statement or representation, orally or in writing, in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compliance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/44 and 57.17). This form has been approved by the Forms Management Center.

Leaking Underground Storage Tank Program Licensed Professional Engineer Certification

۹.	Site Identification		
	IEMA Incident # (6- or 8-digit):	980814	IEPA LPC# (10-digit): 0430905825
	Site Name: West Chicago Park	Dist.	
	Site Address (Not a P.O. Box):	250 National Street	
	City: West Chicago	County: DuPage	ZIP Code: 60185

B. Certification

I certify under penalty of law that all activities that are the subject of this plan, budget, or report were conducted under my supervision or were conducted under the supervision of another Licensed Professional Engineer or Licensed Professional Geologist and reviewed by me; that this plan, budget, or report and all attachments were prepared under my supervision; that, to the best of my knowledge and belief, the work described in this plan, budget, or report has been completed in accordance with the Environmental Protection Act [415 ILCS 5], 35 Ill. Adm. Code 731, 732, or 734, and generally accepted standards and practices of my profession; and that the information presented is accurate and complete. I am aware there are significant penalties for submitting false statements or representations to the Illinois EPA, including but not limited to fines, imprisonment, or both as provided in Sections 44 and 57.17 of the Environmental Protection Act [415 ILCS 5/44 and 57.17].

Licensed Professional Engineer

Name Bernard A. Bono
Company Bono Consulting Civil Engineers
Address 1018 Busse Highway
City Park Ridge
State Illinois
Zip Code 60068
Phone 847-823-3300
III. Registration No. 062-044068
License Expiration Date Nov 30, 2023
Signature 13
Date 12/8/22

RECEIVED

L.P.E. Seal DEC 1 5 2022

IEPA/BOL

062-044068
REBISTERED
PROFESSIONAL
ENGINEER

OF 18/22



Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

General Information for the Budget and Billing Forms

LPC#: 0430905825	County:	DuPage	
City: West Chicago	Site Name:	West Chicago Park District	
Site Address: 250 West National Street			
Date this form was prepared: 11/22/2022		,	
List all IEMA Incident numbers associated	with this nackana	•	
	with this package.		
980814		with this posterior	
List all other incidents associated with this	site that are not associated	with this package:	• • •
		the second secon	
This form is being submitted as a (check o	ne, if applicable):		,
OBilling Package			
Budget Amendment (Budget amendme)	nte must include only the costs	over the previous budget)	
Sprager Amenament (prager amename	ing must module only the social	· Over the provided budgetty	
OBudget Proposal		•	
Please provide the name(s) and date(s) of report(s) documenting the	costs requested	
Name(s): FPRR/CACR	Tech Summary/CAP Ann		
Date(s): <u>Jul 12, 2013</u>	Jun 14, 2019		
This package is being submitted for the sit	e activities indicated below:	RECEIN	P POM PM
35 III. Adm. Code 734:			lares Bas
☐ Early Action ☐ Free Product Removal after Early Action	n .	DEC 1 5 · 20	122
Site Investigation	 Stage 1: ☐ Stage 2: ☐	Stage 3: Residue 1	i prima d
✓ Corrective Action			
35 III. Adm. Code 732:			
Early Action			
Free Product Removal after Early Action	ก		•
Site Classification			
Low Priority Corrective Action	•		
High Priority Corrective Action		•	
35 III. Adm. Code 731:			
Site Investigation			
Corrective Action			

IL 532 -2825 LPC 630 Rev. 6/2018

General Information for Budget and Billing Forms

Page 1 of 2

General Information for the Budget and Billing Forms

The following address will be used as the mailing address for checks and any final determination letters regarding payment from the Fund for this package.

Pay to the order of:	West Chicago Pa	rk District			
Send in care of:	Michael Gasparin	i			
Address:	201 W National S	t		,	
City:	West Chicago			State: IL	Zip: 60185
West Chicago Park	the owner or opera	el Gasparini		12/0 W-9 m	01/2022 atg nust be submitted. nere to print off a W-9 Form.
	@we-goparks.org			-	
	company of the o	wner or operator			pperator; any subsidiary, any parent, subsidiary or
		Fewer	than 101: 🕢	101 or more	: O

Please list all tanks that have ever been located at the site and tanks that are presently located at the site.

Product Stored in UST	Size (gallons)	Did US a rele		Incident No.	Type of Release Tank Leak / Overfill / Piping Leak
Gasoline	1,000	Yes 🕢	No O	980814	Ťank Leak
Diesel Fuel	1,000	Yes ()	No Ø	980814	Tank Leak
		Yes ()	No O		
		Yes ()	No O		
	•	Yes ()	No O		
the state of the s		Yes ()	No O	w	
		Yes ()	No O		·
		Yes ()	No O		



Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 - 57.19). Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false, fictitious, or fraudulent material statement or representation, orally or in writing, to the Agency, or to a unit of local government to which the Agency has delegated authority under subsection (r) of Section 4 of this Act, related to or required by this Act, a regulation adopted under this Act, any feedard law or regulation for which the Agency has responsibility, or any permit, term, or condition thereof, commits a Class 4 felony, and each such statement or writing shall be considered a separate Class 4 felony. A person who, after being convicted under paragraph 415 ILCS 5/44 (h)(8), violates paragraph 415 ILCS 5/44 (h)(8) a second or subsequent time, commits a Class 3 felony. (415 ILCS 5/44). This form has been approved by the Forms Management Center.

Leaking Underground Storage Tank Program Property Owner Summary

	-				<u> </u>	0-digit):0430905825-
	Site Name: West					
	Site Address (not					
	City: West Chica		County:	DuPage	Zip Coo	e: <u>60185</u>
	eaking UST Tech					A Pro- Aleks and a second
b a F	e implemented wagent(s) of such p	ithout approval t erson(s). These t) Letter, which n	by the title l controls ar nust be rec	holder(s) of reco nd restrictions w corded in the ch	ird for the above-na ill be identified in the	osed for this site may not med property or the e No Further operty. Failure to maintain
B. P	reventive, Engir	eering, and ins	titutional (Controls and L	and Use Limitation	as
T	he following cont	rols and restriction	ons are pro	posed for the a	bove-named site:	
[] Industrial/co	nmercial land us	e limitation	ı;		
[On-site groun		n prohibitii	ng the use of gr	oundwater beneath	the site as a potable
, [An engineere	d barrier:	Building,	asphalt/co	ncrete, or 🔲 O	her:
	(descri	otion)				•
г	✓ Concrete Base	se with no Sump	s;			
E	Building Con	trol Technology:	☐ Exis	iting 🔲 Futt	ıre	
[☑ With a N	MOU; 🗌 With	nout a MOU;	
[✓ Groundwater	ordinance:				
[worker caution r	notification;			•
[☐ Construction					•

IL 532-2551 LPC 568 Rev. Dec 2018

Property Owner Summary

Page 1 of 2

roperty Ownership Declara	tion	•	
Report Title: Corrective Action	n Completion Report		
Report Date: November 15, 2	022	•	
November 15, 2022, and that	I accept the terms and erty I own. I further affir	port entitled Corrective Action Completion Report and dated a conditions set forth therein, including any land use m that I have no objection to the recording of a No Further ons identified in the report upon the property I own.	
Name of Property Owner: C	ity of West Chicago		
Name of Officer or Agent: _	Michael	Guttman	
Mailing Address: 475 Main S	Street		
City: West Chicago		_	•
State: Illinois			
Zip Code: <u>60185</u>		_	
E-mail: Mku#man@	west-chicago.	252	
Signature: //		<u>-</u>	
Date: 11/22/22		_	
lite Description			
Real Estate Tax/Parcel Index	k Number:		
04-04-200-003, 04-04-200-0	04, 04-04-200-005, 04	-04-400-001, 04-04-401-001	
·	•		

C.

D.

Legal Descriptions of Properties Within the Modeled Plume

in the Proposed Ordinance Area

The Property commonly known as Reed-Keppler Park, 250 W. National Ave., West Chicago. IL 60185.

PINs 04-040-200-004, 04-04-400-001, 04-04-401-001

That part of the North Half of the Southeast Quarter and part of the Northeast Quarter of Section 4, Township 39 North, Range 9 East of the Third Principal Meridian, described 'as beginning at a stone at the Southeast comer of the North Half of said Southeast Quarter of Section; thence North on Section line 39.27 chains (2591.82 feet) to John Spoden's line; thence West on said line 40 chains (2640 feet) to the Half section line; thence South on said line 15.68 chains (1034.88 feet) to the Northwest comer of lands of Elgin, Joliet and Eastern Railroad company; thence South 78° East 2.73 chains (180.10 feet) to the Northeast comer of lands of said railroad; thence South along the East line of said railroad lands to the Easterly line of Elgin, Joliet and Eastern Railroad Company's right of way; thence South 40° 2.43 chains (160.38 feet); thence 76 1/2° East 12.85 chains (848.10 feet) to a cotton wood tree; thence South 82 1I2°East 6.05 chains (399.30 feet); thence East parallel with division line, 5.596 chains (369.34 feet); thence South 45° East 10.93 chains (721.38 feet) to division line; thence East on division line, 11.484 chains (757.94 feet) to the place of the beginning, (except that part conveyed to the Chicago, Wheaton and Western Railroad Company, by deed recorded as Document 96756 and except that part conveyed to A.S. Neumer by deed recorded as Document 97713 and except that part known as Bloch Real Estate Company's First Addition to West Chicago, according to the plat recorded as document 210866) in DuPage County, Illinois.

Also partially described as:

PINs 04-040-200-004, 04-040-200-005, 04-04-400-001, 04-04-400-002

That part of the northeast quarter and the southeast quarter of Section 4, Township 39 North, Range 9 East of the Third Principal Meridian in DuPage County, Illinois, described as follows; beginning at the intersection of the north right of way line of National Street and the west right of way line of Yale Street; Thence southerly along said west right of way line of Yale Street, a distance of 636 feet, more or less, to a point on the north line extended easterly of Ward's Plat of Survey according to the plat recorded as document no. 654706 in DuPage County, Illinois; Thence westerly along said northerly line extended easterly, a distance of 406 feet, more or less, to the northwest corner of Lot 2 in said Ward's Plat of Survey; Thence northwesterly along a line at an angle of 173° 59', more or less, as measured counterclockwise from the previously described course, a distance of 226 feet; Thence northerly along a line parallel with said west right of way line of Yale Street, a distance of 615 feet, more or less, to a point on a line 33 feet north of, as measured at right angles to, the east-west quarter section line of said Section 4; Thence easterly along said parallel line, a distance of 631 feet, more or less, to the place of beginning.

Electronic Filing: Received, Clerk's Office 09/20/2024 Exhibit B - Ordinance No. 15-O-0004

Including land owned by the DuPage County Forest Preserve described as:

PINs 04-040-400-003 and 04-040-400-010

THAT PART OF THE NORTH HALF OF THE SOUTHEAST OUARTER OF' SECTION 4. TOWNSHIP 39 NORTH. RANGE 9. EAST OF THE THIRD PRINCIPAL MERIDIAN. DESCRIBED BY COMMENCING ON THE DIVISION LINE, 1156.3 FEET WEST OF THE SOUTHEAST CORNER OF SAID NORTH HALF OF THE SOUTHEAST OUARTER OF SECTION 4 AND RUNNING THENCE NORTH 02 DEGREES 35 MINUTES 00 SECONDS WEST 16. 5 FEET FOR A POINT OF BEGINNING: THENCE WEST 16.5 FEET NORTH OF AND PARALLEL WITH THE DIVISION LINE 258.2 FEET: THENCE NORTH 31 DEGREES 54 MINUTES 00 SECONDS WEST 749.6 FEET: THENCE SOUTH 82 DEGREES 15 MINUTES 00 SECONDS WEST, 127.2 FEET: THENCE NORTH 15 DEGREES 31 MINUTES 00 SECONDS WEST. 113 FEET: THENCE NORTH 89 DEGREES 56 MINUTES 00 SECONDS WEST. 180.2 FEET TO THE BASE LINE OF THE ELGIN. JOLIET AND EASTERN RAILROAD: THENCE NORTH 35 DEGREES 00 MINUTES 00 SECONDS WEST ALONG SAID EAST LINE OF THE ELGIN. JOLIET AND EASTERN RAILROAD, 284 FEET; THENCE SOUTH 76 DEGREES 09 MINUTES 00 SECONDS EAST ALONG FENCE LINE, 846 FEET: THENCE SOUTH 83 DEGREES 35 MINUTES 00 SECONDS EAST. 334.5 FEET: THENCE SOUTH 714.5 FEET TO THE POINT OF BEGINNING. EXCEPT THE EAST 8 RODS OF THE SOUTH 40 RODS OF THAT PIECE OF LAND CONVEYED BY DEED DATED MAY 27. 1914 RECORDED AS DOCUMENT 117184 AND EXCEPT THAT PART CONVEYED BY DOCUMENT 217255 (CORRECTED AND RECORDED AS DOCUMENT 394560) DESCRIBED AS FOLLOWS: 'COMMENCING AT A POINT 1288,3 FEET WEST OF THE SOUTHEAST CORNER OF SAID NORTH HALF OF THE SOUTHEAST OUARTER OF SAID SECTION 4: THENCE NORTH 02 DEGREES 35 MINUTES 00 SECONDS WEST. 33 FEET: THENCE NORTH 89 DEGREES 51 MINUTES 00 SECONDS WEST ALONG THE NORTH LINE OF GRAND LAKE BOULEVARD (SAID NORTH LINE BEING 33 FEET NORTH OF AND PARALLEL WITH THE DIVISION LINE), 67. 95 FEET TO A POINT OF BEGINNING: THENCE NORTH 89 DEGREES 51MINUTES 00 SECONDS WEST ALONG THE NORTH LINE OF SAID GRAND LAKE BOULEVARD. 67.95 FEET: THENCE NORTH 31 DEGREES 54 MINUTES 00 SECONDS WEST. 423.9 FEET: THENCE SOUTH 89 DEGREES 51 MINUTES 00 SECONDS EAST. 171.1 FEET: THENCE SOUTH 18 DEGREES 18 MINUTES 00 SECONDS EAST. 380.9 FEET TO THE POINT OF BEGINNING. IN DU PAGE COUNTY, ILLINOIS.

> PIN 04-04-400-003 AND PIN 04-04-400-010

Owner/Operator and Licensed Professional Engineer/Geologist Budget Certification Form

I hereby certify that I intend to seek payment from the UST Fund for costs incurred while performi activities for Leaking UST incident 980814 I further certify that the this budget are for necessary activities and are reasonable and accurate to the best of my knowled also certify that the costs included in this budget are not for corrective action in excess of the minion of 415 ILCS 5/57, no costs are included in this budget that are not described in the corrective active acti	edge and belief. I imum requirements ion plan, and no is amounts, and is ineligible for
Costs associated with ineligible tanks.	
Costs associated with site restoration (e.g., pump islands, canopies). Costs associated with utility replacement (e.g., sewers, electrical, telephone, etc.). Costs incurred prior to IEMA notification.	RECEIVED
Costs associated with planned tank pulls.	DEC 1 5 2022
Legal fees or costs.	DEC I 9 SOSS
Costs incurred prior to July 28, 1989. Costs associated with installation of new USTs or the repair of existing USTs.	IEPA/BOL
Owner/Operator: West Chicago Park District	
Authorized Representative: Michael Gasparini Title: Superintendent	of Parks
Authorized Representative.	
Signature: 12/01/20	027
Subscribed and sworn to before me the 1st day of December	2022
Seal: Seal: Seal: Seal: State of Notary Public - Seal: Notary Publ	L SEAL State of lilinels ion Expires
In addition, I certify under penalty of law that all activities that are the subject of this plan, budget	
conducted under my supervision or were conducted under the supervision of another Licensed F	Professional Engineer
or Licensed Professional Geologist and reviewed by me: that this plan, budget, or report and all	attachments were
prepared under my supervision; that, to the best of my knowledge and belief, the work described or report has been completed in accordance with the Environmental Protection Act [415 ILCS 5].	35 III Adm. Code
722 or 724, and generally accepted standards and practices of my profession; and that the inform	mation presented is
accurate and complete. I am aware there are significant penalties for submitting talse statement	ts or representations
to the Illinois EPA, including but not limited to fines, imprisonment, or both as provided in Section	ns 44 and 57.17 of the
Environmental Protection Act [415 ILCS 5/44 and 57.17].	
L.P.E./L.P.G. Seal:	
L.P.E./L.P.G.: Daniel Horvath	3
L.P.E./L.P.G. Signature: Date: 12/05	12012
Subscribed and sworn to before me the day of,	•
Seal: Seal:	L SEAL State of Illinois
(Notary Public) \(\begin{align*} SATE OF across to the property of the p	sion Expires 3, 2026
The Illinois EPA is authorized to require this information under 415 ILCS or required. Failure to do so may result in the delay or denial of any budget or payment requested	าการกาสเอการ i hereunder.



Electronic Filing: Received, Clerk's Office 09/20/2024

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) 524-3300

CERTIFIED MAIL

7022 2410 0001 5388 1981

APR 14,2023

Michael Gasparini West Chicago Park District 201 West National Street West Chicago, IL 60185

Re: 0430905825 -- DuPage County

West Chicago / West Chicago Park District

250 West National Street
Leaking UST Incident 980814
Leaking UST Technical File

iepa-division of records management releadable

JUN 1 2 2023

Dear Mr. Gasparini:

REVIEWER: SAB

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed the Corrective Action Completion Report (report) submitted for the above-referenced incident. This report was dated November 15, 2022 and was received by the Illinois EPA on December 15, 2022. Citations in this letter are from the Environmental Protection Act (415 ILCS 5) (Act) and Title 35 of the Illinois Administrative Code (35 Ill. Adm. Code).

Pursuant to Section 57.7(c) of the Act and 35 Ill. Adm. Code 734.505(b) and 734.510(a), the report is rejected for the reasons listed below:

1. Ordinance No. 15-O-0004 is approved contingent upon the Illinois EPA's receipt of the original Certification of the Ordinance signed by a City official meeting the requirements of 35 Ill. Adm. Code 742.1015(b)(1).

However, please be advised Exhibit B simply relates to one of the recitals providing a description of certain surrounding properties. The groundwater ordinance area is described in Section 2 of the Ordinance using coordinates for all four corners of said restricted area and also depicted on Exhibit A, which provides the PINs of the parcels that comprise the groundwater ordinance area. The parcels within the "Ordinance Area" in Exhibit A necessarily include those listed under the "Parcels Within Modeled Plume" since the Plume is located within the Ordinance Area. The description and depiction of the groundwater ordinance area in Exhibit A provides an easily identifiable and clearly defined area meeting the requirements of Section 742.1015(a)(3), and the Ordinance prohibits the installation and use of potable water supply wells (including points of withdrawal by the City) meeting the requirements of Section 742.1015(a).

Therefore, upon receipt of the original Certification of the Ordinance signed by a City official meeting the requirements of 35 Ill. Adm. Code 742.1015(b)(1), the Ordinance is

Page 2

approved for use as an institutional control for the limited restricted area described and depicted on Exhibit A and also described in Section 2 of the Ordinance, subject to these qualifications (i.e., The review is limited to the adequacy of the Ordinance in prohibiting the installation and use of potable water supply wells, and it is assumed that the other requirements of Section 742.1015 have been or will be timely met. It is also assumed that the Coordinates set forth in Section 2 and Exhibit A and the PINs set forth in Exhibit A are correct). The Certificate previously submitted certifies compliance of publication in pamphlet form. The original Certificate to be submitted must meet the requirements of Section 742.1015(b)(1) (i.e., that the copy of the attached Ordinance submitted is a true and accurate (or words to that effect) copy of the original Ordinance No. 15-O-0004 passed by the City's corporate authorities).

Note, the adequacy of the limited restricted area and the coordinates must be verified prior to re-submittal of the final approved Ordinance No. 15-O-0004.

- 2. The R26 calculations were not submitted for the chemicals that exceed the Tier I remediation objectives of Class I groundwater as shown in Table IV on page 9 of this report. These calculations should be submitted in the next report.
- 3. The Illinois EPA could not duplicate the Tier 2 remediation objectives for the indoor inhalation exposure route for the chemicals listed in Table V on page 14 of this report Additional documentation must be submitted identifying the input parameters used to calculate the Tier 2 remediation objectives for the indoor inhalation exposure route.
- 4. The Laboratory Certification for Chemical Analysis forms were not submitted in this report for the groundwater samples collected in 2017 and 2019. These forms should be submitted in the next report.

In addition, the budget is rejected for the reasons listed in Attachment A (Sections 57.7(b)(3) and 57.7(c)(4) of the Act and 35 Ill. Adm. Code 734.505(b) and 734.510(b)).

Pursuant to Section 57.12(c) and (d) of the Act and 35 Ill. Adm. Code 734.100 and 734.125, the Illinois EPA requires that a revised Corrective Action Completion Report be submitted to:

Illinois Environmental Protection Agency Bureau of Land - #24 Leaking Underground Storage Tank Section 1021 North Grand Avenue East PO Box 19276 Springfield, IL 62794-9276

Please submit all correspondence in duplicate and include the Re: block at the beginning of this letter.

Electronic Filing: Received, Clerk's Office 09/20/2024

Page 3

An underground storage tank system owner or operator may appeal this decision to the Illinois Pollution Control Board. Appeal rights are attached.

If you have any questions or need further assistance, please contact the undersigned at (217) 785-5715 or at eric.kuhlman@illinois.gov.

Sincerely,

Eric Kuhlman

Project Manager

Leaking Underground Storage Tank Section

Bureau of Land

SP:TB TB

Attachments: Attachment A

Appeal Rights

c: Dan Horvath, Resource Consulting, Inc. (electronic copy)

BOL File

Appeal Rights

An underground storage tank owner or operator may appeal this final decision to the Illinois Pollution Control Board pursuant to Sections 40 and 57.7(c)(4) of the Act by filing a petition for a hearing within 35 days after the date of issuance of the final decision. However, the 35-day period may be extended for a period not to exceed 90 days by written notice from the owner or operator 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 filing of an appeal, please contact:

Clerk of the Board Illinois Pollution Control Board James R. Thompson Center 100 West Randolph, Suite 11-500 Chicago, IL 60601 (312) 814-3620

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

Illinois Environmental Protection Agency Division of Legal Counsel 1021 North Grand Avenue East PO Box 19276 Springfield, IL 62794-9276 (217) 782-5544

Electronic Filing: Received, Clerk's Office 09/20/2024

Attachment A

Re: 0430905825 -- DuPage County
West Chicago / West Chicago Park District
250 West National Street
Leaking UST Incident 980814
Leaking UST Technical File

Citations in this attachment are from the Environmental Protection Act (415 ILCS 5) (Act) and Title 35 of the Illinois Administrative Code (35 Ill. Adm. Code).

1. A budget must include a copy of the eligibility and deductibility decision made for the above-referenced occurrence for accessing the Fund pursuant to Section 57.8 of the Act and 35 Ill. Adm. Code 734.135(a), 734.605(b)(3), and 734.630(s).

Please submit this form with your next budget.

2. The budget includes costs that lack supporting documentation. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(cc). Since there is no supporting documentation of costs, the Illinois EPA cannot determine that costs will not be used for activities in excess of those necessary to meet the minimum requirements of Title XVI of the Act. Therefore, such costs are not approved pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(o) because they may be used for site investigation or corrective action activities in excess of those required to meet the minimum requirements of Title XVI of the Act.

Please note, the Illinois EPA cannot determine which Subpart H rates to apply to each task since most line items do not include a date performed. As such, these costs cannot be approved, as submitted.

RESOURCE CONSTITUTING INC

115 Campbell Street/Suite 108

P.O. Box 123

Geneva, Illinois 60134

(630)232-9820

June 16, 2023

0430905825 -DuPage County West Chicago Park District Incident # 980814 LUST Tech File

Mr. Eric Kuhlman
Illinois Environmental Protection Agency
Bureau of Land - #24
Leaking Underground Storage Tank Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

IEPA-DIVISION OF RECORDS MAMAGEMENT

MAR 2 9 2024

REVIEWER: SAB

RE: LPC # 0430905825 -- DuPage County
West Chicago/West Chicago Park District

250 West National Street
Leaking UST Incident No. 980814
Leaking UST Technical File

RECEIVED

JUN 2 3 2023

IEPA/BOL

Dear Mr. Kuhlman:

On behalf of the West Chicago Park District, Resource Consulting, Inc. is submitting the information requested by the Illinois Environmental Protection Agency (EPA) in correspondence dated April 14, 2023.

The information is presented below following each of the items taken directly from the April 2023 Illinois EPA correspondence.

1. Ordinance No. 15-O-0004 is approved contingent upon the Illinois EPA's receipt of the original Certification of the Ordinance signed by a City official meeting the requirements of 35 Ill. Adm. Code 742.1015(b)(1).

However, please be advised Exhibit B simply relates to one of the recitals providing a description of certain surrounding properties. The groundwater ordinance area is described in Section 2 of the Ordinance using coordinates for all four corners of said restricted area and also depicted on Exhibit A, which provides the PINs of the parcels that comprise the groundwater ordinance area. The parcels within the "Ordinance Area" in Exhibit A necessarily include those listed under the "Parcels Within Modeled Plume" since the Plume is located within the Ordinance Area. The description and depiction of the groundwater ordinance area in Exhibit A provides an easily identifiable and clearly defined area meeting the requirements of Section 742.1015(a)(3), and the

RESOURCE CONSULTING, INC.

Ordinance prohibits the installation and use of potable water supply wells (including points of withdrawal by the City) meeting the requirements of Section 742.1015(a).

Therefore, upon receipt of the original Certification of the Ordinance signed by a City official meeting the requirements of 35 Ill. Adm. Code 742.1015(b)(1), the Ordinance is approved for use as an institutional control for the limited restricted area described and depicted on Exhibit A and also described in Section 2 of the Ordinance, subject to these qualifications (i.e., the review is limited to the adequacy of the Ordinance in prohibiting the installation and use of potable water supply wells, and it is assumed that the other requirements of Section 742.1015 have been or will be timely met. It is also assumed that the Coordinates set forth in Section 2 and Exhibit A and the PINs set forth in Exhibit A are correct). The Certificate previously submitted certifies compliance of publication in pamphlet form. The original Certificate to be submitted must meet the requirements of Section 742.1015(b)(1) (i.e., that the copy of the attached Ordinance submitted is a true and accurate (or words to that effect) copy of the original Ordinance No. 15-0-0004 passed by the City's corporate authorities).

Note, the adequacy of the limited restricted area and the coordinates must be verified prior to resubmittal of the final approved Ordinance 15-0-0004.

A new original certification of the Ordinance No. 15-O-0004 is included in Attachment A. The City of West Chicago has discontinued the City Clerk position, so the ordinance has been certified by Valeria Perez, former Deputy City Clerk, now Executive Office Manager.

2. The R26 calculations were not submitted for the chemicals that exceed the Tier 1 remediation objectives of Class I groundwater as shown Table IV on page 9 of this report. These calculations should be submitted in the next report.

R26 calculations for benzene, ethylbenzene, and naphthalene were submitted in correspondence dated July 15, 2020, on file with the Illinois EPA, using the values and distances provided by the Illinois EPA in correspondence dated September 17, 2013. R26 calculations for the polynuclear aromatic hydrocarbons (PNAs) are included in Attachment B.

3. The Illinois EPA could not duplicate the Tier 2 remediation objectives for the indoor inhalation exposure route for the chemicals listed in Table V on page 14 of this report. Additional documentation must be submitted identifying the input parameters used to calculate the Tier 2 remediation objectives for the indoor inhalation exposure route.

RESOURCE CONSULTING. INC.

A table identifying the input parameters used to calculate the Tier 2 ROs for the indoor inhalation exposure route is included in Attachment C.

4. The Laboratory Certification for Chemical Analysis forms were not submitted in this report for the groundwater samples collected in 2017 and 2019. These forms should be submitted in the next report.

The laboratory certification for the groundwater sample collected in 2017 was included in the correspondence dated July 15, 2020, on file with the Illinois EPA. A copy is being resubmitted in Attachment D. A laboratory certification for the groundwater sample collected in 2019 is included in Attachment D.

Electronic Correspondence

Additional information was requested by the Illinois EPA in electronic correspondence dated December 28, 2022, and March 17, 2023. Copies of these correspondences are included in Attachment E. The information is presented below.

- Upon initial review of the CACR and BUD received by the IEPA on 12/15/2022 and dated 11/15/2022, I've noticed the following items missing:
 - 1) a new certified copy of Ordinance No. 15-O-0004,

As discussed previously, a new original certification of the Ordinance No. 15-O-0004 is included in Attachment A.

2) completed and signed copies of the Laboratory Certification for Chemical Analysis form for each set of samples shipped to a laboratory, and

As discussed above, the signed laboratory certification is included in Attachment D.

3) OSFM's eligibility and deductibility statement.

A copy of the OSFM eligibility and deductibility statement is included in Attachment F.

• After review of the attached BUD in Appendix B of the CACR, I noticed that there are numerous budget entries without dates. Please note, you cannot get today's costs for tasks that were performed in the past. You can only be reimbursed for those costs that are eligible on the day they were performed.

RESOURCE CONSULTING, INC.

For example, on page 28 of the attached CACR, the budget proposed drilling costs for a soil boring to collect a soil gas sample back in 2014. However, this budget entry used the rate in 2022 which is unreasonable and not acceptable.

A new updated budget is included in Attachment G. Dates and correct budget rates have been added to the Consulting Personnel Costs Form. All other budget forms used the correct dates and budget rates when submitted with the CACR dated November 15, 2022. The drilling costs for the soil boring to collect a soil gas sample in August 2014 used the correct 2014 drilling rate of \$21.87 per foot and Subpart H minimum payment amount of \$1,457.81. The current 2022 drilling rate is \$25.36 per foot and the Subpart H minimum payment amount is \$1,690.83.

• Upon reviewing the LUST Technical File for this incident, I couldn't find any soil boring logs for these soil samples, WCPD-1 and EW-1A collected on 2/21/2012 and 3/7/2012, respectively.

There are no soil borings logs for soil samples WCPD-1 and EW-1A. Former Illinois EPA project manager, Carol Hawbaker and Resource Consulting discussed options for addressing the exceedances in sample EW-1 from the soil excavation and disposal actions. These soil samples were resamples of EW-1, collected by manual hand auger, to ensure there were no lingering issues with the results.

Please contact our office at any time with questions or comments regarding the contents of this correspondence.

Regards,

Courtney L. McGinnis

Couvery L. Mc grimms

Geologist

Attachments:

A – Ordinance No. 15-O-0004 Original Certification

B – TACO Calculations

C - J&E Input Parameters

D – Laboratory Certification

E – Illinois EPA Electronic Correspondence

F - OSFM Eligibility and Deductibility Statement

G - CACR Budget

cc: Michael Gasparini - West Chicago Park District

Attachment A Ordinance No. 15-O-0004 Original Certification

RESOURCE CONSULTING, INC.

Attachment B
TACO Calculations

Values for Vari	ables in Relevant Equations		Benzo(a)anthracene Project Name: West Chicago Park District		
SOIL MIGRATIO	N/GROUNDWATER EXPOSE	JRE ROUTE			
Variable	Source	Value	Description and units		
GWsource	R13	0.003	Groundwater concentration at the source, mg/L		
LFsw	R14		Leaching factor, mg/L/mg/kg		
GWcomp	R25		Groundwater objective at the compliance point, mg/L		
Cx/Csource	R15	4.86E-02	Steady-state attenuation along the centerline of a dissolved plume, m	g/L/mg/L	
k _s	R20	1200	Soil-water sorption coefficient, cm^3/g		
Koc	Appendix C table E	4.00E+05	Organic carbon partition coefficient, cm^3/g		
foc	surface 0.005	0.003	Organic carbon content of soil, g/g		
	subsurface 0.002				
θ_{ws}	R22 or	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3		
- 47	surface 0.15			-	
	subsurface 0.30	,			
	gravel 0.20				
	sand 0.18	ł			
	silt 0.16	ļ			
	clay 0.17	Į.			
θas	R21 or	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3		
	surface 0.28	}			
	subsurface 0.13	1			
	gravel 0.05	1			
	sand 0.14				
	silt 0.16	1			
	clay 0.17	1			
θ _τ	R23 or	0.43	Total soil porosity, cm^3/cm^3		
-•	0.43				
	gravel 0.25				
	sand 0.32				
	silt 0.40				
	clay 0.36				
H'	Appendix C table E	1.39E-04	Henry's law constant, cm^3 air/cm^3 water		
w	surface 0.1	0.2	Average soil moisture content, g/g		
	subsurface 0.2				
ρ_s	gravel 2.0	1.5	Soil bulk density, g/cm^3		
	sand 1.8	ļ			
	silt 1.6				
	clay 1.7	<u></u>			
ρw		1	Water density, g/cm^3		
			Distance along the controlling of the control control		
	•		Distance along the centerline of the ground water	212 Diamana 6	
X	site		plume emanating from the source, cm	313 Distance, ft	
ax	R16		Longitudinal dispersivity, cm (Equation R16)		
ay	R17		Transverse dispersivity, cm (Equation R17)		
az	R18	47.7012	Vertical dispersivity, cm (Equation R18)		
		i	Source width perpendicular to ground water flow direction in	1	
Sw	site	2103.12	horizontal plane, cm	69 Sw, ft	
			Source width perpendicular to ground water flow direction in vertical	.	
Sd	site	200	plane, cm	Sd, ft	
K	site		Aquifer hydraulic conductivity, cm/year	3.30E-02 K, cm/sec	
ï	site		Hydraulic gradient, cm/cm		
Ü	R19		Specific discharge, cm/day (Equation R19)		
Ugw	R24		Groundwater Darcy velocity, cm/yr		
d			Groundwater mixing zone thickness, cm		
ī			Infiltration rate, cm/yr		
-			1		
	•		Width of source area parallel to direction of wind or groundwater	105 144 6	
w	site		movement, cm	105 W, ft	
λ	Appendix C table E		First order degradation constant, day^1	Ab	
C(x)	R26		Concentration of contaminant in groundwater at the distance X from		
Csource	site	0.00276	The greatest potential concentration of the contaminant in groundwa	ater at the source of contamination, mg/l.	
			•		

Values for Variat	les in Relevant Equations		Benzo(a) pyrene Project Name: West Chicago Park District
SOIL MIGRATION	/GROUNDWATER EXPOSE	IRE ROUTE	
Variable	Source	Value	Description and units
GWsource	R13	0.001	Groundwater concentration at the source, mg/L
LFsw	R14	0.000	Leaching factor, mg/L/mg/kg
GWcomp	R25	0.0002	Groundwater objective at the compliance point, mg/L
Cx/Csource	R15	1.55E-01	Steady-state attenuation along the centerline of a dissolved plume, mg/L/mg/L
ks	R20	2370	Soil-water sorption coefficient, cm^3/g
Koc	Appendix C table E	7.90E+05	Organic carbon partition coefficient, cm^3/g
foc	surface 0.005		Organic carbon content of soil, g/g
·oc	subsurface 0.002	0.000	
θ _{ws}	R22 or	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3
	surface 0.15		·
	subsurface 0.30		
	gravel 0.20	ļ	1
	sand 0.18	İ	
	silt 0.16	ļ	
	clay 0.17	<u> </u>	
θas	R21 or	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3
	surface 0.28	1	
	subsurface 0.13	1	
	gravel 0.05		
	sand 0.14	! .	
	silt 0.16		
	clay 0.17		
θτ	R23 or	0.43	Total soil porosity, cm^3/cm^3
·	0.43		
	gravel 0.25		
	sand 0.32		
	silt 0.40		
	clay 0.36		
H,	Appendix C table E	4.50E-05	Henry's law constant, cm^3 air/cm^3 water
w	surface 0.1	0.2	Average soil moisture content, g/g
	subsurface 0.2		
ρs	gravel 2.0	1.5	Soil bulk density, g/cm^3
	sand 1.8	,	
	silt 1.6		
	clay 1.7		
Pw		1	Water density, g/cm^3
			Distance along the centerline of the ground water
X	site	5212.08	plume emanating from the source, cm171 Distance, ft
ax	R16	521.208	Longitudinal dispersivity, cm (Equation R16)
ау	R17		Transverse dispersivity, cm (Equation R17)
az	R18	26.0604	Vertical dispersivity, cm (Equation R18)
			Source width perpendicular to ground water flow direction in
Sw	site	2103.12	horizontal plane, cm 69 Sw, ft
		·	Source width perpendicular to ground water flow direction in vertical
e.i	-1	300	
Sd	site		4 · · · · · · · · · · · · · · · · · · ·
K	site site		Aquifer hydraulic conductivity, cm/year 3.30E-02 K, cm/sec Hydraulic gradient, cm/cm
Ü	R19		Specific discharge, cm/day (Equation R19)
Ugw	R24		Groundwater Darcy velocity, cm/yr
d	******		Groundwater mixing zone thickness, cm
ī			Infiltration rate, cm/yr
-		30	
16/	eito	2200.4	Width of source area parallel to direction of wind or groundwater movement, cm 105 W, ft
W	site Appendix C table E		movement, cm 105 W, ft First order degradation constant, day^1
λ C	• •		
C(x)	R26		Concentration of contaminant in groundwater at the distance X from the steady source, mg/L
Csaurce	site	0.0016	The greatest potential concentration of the contaminant in groundwater at the source of contamination, mg/L

	s in Relevant Equations		Benzo(b)fluoranthene Project Name: West Chicago	o Park District
•	GROUNDWATER EXPOSU			
Variable	Source	Value	Description and units	
GWsource	R13		Groundwater concentration at the source, mg/L	
LFsw	R14		Leaching factor, mg/L/mg/kg	
GWcomp	R25		Groundwater objective at the compliance point, mg/L	A 4 A
Cx/Csource	R15		Steady-state attenuation along the centerline of a dissolved plume, ma	g/r/mg/r
ks	R20	3150	Soil-water sorption coefficient, cm^3/g	
Koc	Appendix C table E	1.05E+06	Organic carbon partition coefficient, cm^3/g	
foc	surface 0.005	0.003	Organic carbon content of soil, g/g	
_	subsurface 0.002			
θws	R22 or	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3	
	surface 0.15			
	subsurface 0.30			
	gravel 0.20			
	sand 0.18			
	slit 0.16			
	clay 0.17			
eas	R21 or	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3	
	surface 0.28		,	
	subsurface 0.13			,
	gravel 0.05			
	sand 0.14			
	silt 0.16			
	clay 0.17			
∂ r	R23 or	0.43	Total soil porosity, cm^3/cm^3	
	0.43			
	gravel 0.25			
	sand 0.32			
	silt 0.40			
	clay 0.36			
H'	Appendix C table E	4.55E-03	Henry's law constant, cm^3 air/cm^3 water	
w	surface 0.1	0.2	Average soil moisture content, g/g	
	subsurface 0.2			
ρ_s	gravel 2.0	1.5	Soil bulk density, g/cm^3	
	sand 1.8			
	silt 1.6			
	clay 1.7			
Pw		1	Water density, g/cm^3	
			Distance along the centerline of the ground water	
x	site	6339.84	plume emanating from the source, cm	208 Distance, ft
ax	R16		Longitudinal dispersivity, cm (Equation R16)	
ay	R17		Transverse dispersivity, cm (Equation R17)	
az	R18		Vertical dispersivity, cm (Equation R18)	
			Source width perpendicular to ground water flow direction in	
Sw	site	2102 12	horizontal plane, cm	69 Sw, ft
Sw	3116	2103.12		
			Source width perpendicular to ground water flow direction in vertical	1
Sd	site		plane, cm	Sd, ft
K	site		Aquifer hydraulic conductivity, cm/year	3.30E-02 K, cm/sec
i	site		Hydraulic gradient, cm/cm	
U	R19		Specific discharge, cm/day (Equation R19)	
Ugw	R24		Groundwater Darcy velocity, cm/yr	
d			Groundwater mixing zone thickness, cm	
1		30	Infiltration rate, cm/yr	
			Width of source area parallel to direction of wind or groundwater	1 1
w	site	3200 4	movement, cm	105 W, ft
λ	Appendix C table E	5.70E-04	First order degradation constant, day^1	
Λ C(z)	• • •		Concentration of contaminant in groundwater at the distance X from	the steady source, mg/L
	R26	0.00016	and the second of the second s	
C _{sturce}	site	A AC	The greatest potential concentration of the contaminant in groundwar	tor at the earwer of contamination well

atues for Vari	ables in Relevant Equations		Benzo(k)fluoranthene Project Name: West Chica	ago Park District
DIL MIGRATIO	N/GROUNDWATER EXPOSU			
ariable	Source	Value	Description and units	
Wsource	R13	0.002	Groundwater concentration at the source, mg/L	
sw	R14	0.000	Leaching factor, mg/L/mg/kg	
Wcomp	R25	0.00017	Groundwater objective at the compliance point, mg/L	
c/Csource	R15	1.11E-01	Steady-state attenuation along the centerline of a dissolved plume,	mg/L/mg/L
	R20	3000	Soil-water sorption coefficient, cm^3/g	
oc	Appendix C table E		Organic carbon partition coefficient, cm^3/g	
			•	
c	surface 0.005	0.003	Organic carbon content of soil, g/g	
	subsurface 0.002			
evs.	R22 or	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3	
	surface 0.15			
	subsurface 0.30			
	gravel 0.20			
	sand 0.18			
	silt 0.16			
	clay 0.17			
s	R21 or	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3	
•	surface 0.28			
	subsurface 0.13			
	gravel 0.05			
	sand 0.14			
	silt 0.14			
	T I			
	clay 0.17		Was 1 - 11 25 42 fam 42	
r	R23 or	0.43	Total soil porosity, cm^3/cm^3	
	0.43			
	gravel 0.25			
	sand 0.32			
	silt 0.40			
	clay 0.36	•		
•	Appendix C table E	3.40E-05	Henry's law constant, cm^3 air/cm^3 water	
	surface 0.1	0.2	Average soil moisture content, g/g	
	subsurface 0.2			
6	gravel 2.0	1.5	Soil bulk density, g/cm^3	
-	sand 1.8		· -	
	silt 1.6			
	clay 1.7			
	(0.0) 2.0	•	Water density, g/cm^3	
			Trace density, grant 3	
			Distance along the centerline of the ground water	
	site	6492.24	plume emanating from the source, cm	213 Distance, ft
c c	R16		Longitudinal dispersivity, cm (Equation R16)	
,	R17		Transverse dispersivity, cm (Equation R17)	
2	R18		Vertical dispersivity, cm (Equation R18)	
	Ì			
			Source width perpendicular to ground water flow direction in	l colour
N	site	2103.12	horizontal plane, cm	69 Sw, ft
	[Source width perpendicular to ground water flow direction in vertice	at
į	site	200	plane, cm	Sd, ft
,	site		Aquifer hydraulic conductivity, cm/year	3.30E-02 K, cm/sec
	1		Hydraulic gradient, cm/cm	
	R19		Specific discharge, cm/day (Equation R19)	
mu	R24		Groundwater Darcy velocity, cm/yr	
gw.	ne n		Groundwater mixing zone thickness, cm	
		30	Infiltration rate, cm/yr	
	ļ	ı	Width of source area parallel to direction of wind or groundwater	
,	site	3200.4	movement, cm	105 W, ft
	Appendix C table E		First order degradation constant, day^1	
			Concentration of contaminant in groundwater at the distance X fro	m the steady source man
(x)	R26		_	· •
murce	site	0.00157	The greatest potential concentration of the contaminant in groundy	uster at the course of contamination, mail

alues for Variab	les in Relevant Equations		Chrysene Project Name: West Chicago	o Park District	I
DIL MIGRATION	/GROUNDWATER EXPOSUR	IE ROUTE			
ariable	Source	Value	Description and units	•	
Wsource	R13		Groundwater concentration at the source, mg/L		
sw	R14 [0.000	Leaching factor, mg/L/mg/kg		
Wcomp	R25 [0.0015	Groundwater objective at the compliance point, mg/L		
/Csource	R15 [6.67E-01	Steady-state attenuation along the centerline of a dissolved plume, ma	g/L/mg/L	
	R20	1200	Soil-water sorption coefficient, cm^3/g		
ec	Appendix C table E		Organic carbon partition coefficient, cm^3/g		
			-		
:	surface 0.005 subsurface 0.002	0.003	Organic carbon content of soil, g/g		
ıs	R22 or	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3		
•	surface 0.15		•		
	subsurface 0.30				
	gravel 0.20	•	•		
	sand 0.18				
	t I				
	silt 0.16				
	clay 0.17				
s	R21 or	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3		
	surface 0.28				
	subsurface 0.13				
	gravel 0.05				
	sand 0.14				
	silt 0.16				
	clay 0.17				
	R23 or	0.43	Total soil porosity, cm^3/cm^3		
	0.43	0.10	Total son porosity, and open s		
	gravel 0.25				
	sand 0.32				
	silt 0.40				
	clay 0.36				
	Appendix C table E		Henry's law constant, cm^3 air/cm^3 water		
	surface 0.1	0.2	Average soil moisture content, g/g		
	subsurface 0.2				
:	gravel 2.0	1.5	Soil bulk density, g/cm^3		
	sand 1.8				
	silt 1.6				
	clay 1.7				
	Landy 2.17	i	Water density, g/cm^3		
•	ŀ		water density, grain 3		
			Distance along the centerline of the ground water	1	
	site	1920.24	plume emanating from the source, cm	63 Distance, ft	
	R16		Longitudinal dispersivity, cm (Equation R16)	-	
	R17		Transverse dispersivity, cm (Equation R17)		
	R18				
		5.0012			
			Source width perpendicular to ground water flow direction in	1 1	
,	site	2103.12	horizontal plane, cm	69 Sw, ft	
	ľ		Source width perpendicular to ground water flow direction in vertical	-	
,		***			
-	site		plane, cm	Sd, ft	
	site		Aquifer hydraulic conductivity, cm/year	3.30E-02 K, cm/sec	
	site		Hydraulic gradient, cm/cm		
	R19		Specific discharge, cm/day (Equation R19)		
şw.	R24		Groundwater Darcy velocity, cm/yr		
	, [200	Groundwater mixing zone thickness, cm		
	Ī	30	Infiltration rate, cm/yr		
	ľ				
			Width of source area parallel to direction of wind or groundwater	1	
1	site	3200.4	movement, cm	105 W, ft	
	Appendix C table E	3.50E-04	First order degradation constant, day^1		
z)	R26	0.0015	Concentration of contaminant in groundwater at the distance X from	the steady source, mg/L	
	1144				
ource	r	0.0023	The greatest potential concentration of the contaminant in groundwa	Ann ak ak a an	^

Values for Varia	ables in Relevant Equations	ı	Napthalone Project Name: West Chic	ago Park District
	N/GROUNDWATER EXPOSE			
Variable	Source	Value	Description and units	
GWsource	R13		Groundwater concentration at the source, mg/L	
LFsw	R14		Leaching factor, mg/L/mg/kg	t
GWcomp	R25		Groundwater objective at the compliance point, mg/L	
Cx/Csource	R15	1.04E-01	Steady-state attenuation along the centerline of a dissolved plume,	mg/L/mg/L
k _s	R20	1.5	Soil-water sorption coefficient, cm^3/g	
Koc	Appendix C table E	5.00E+02	Organic carbon partition coefficient, cm^3/g	
foc	surface 0.005	0.003	Organic carbon content of soil, g/g	
•••	subsurface 0.002			
θ _{ws}	R22 or	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3	•
-415	surface 0.15	1		
	subsurface 0.30	•		
	gravel 0.20	ł		
	sand 0.18			
	silt 0.16			
	clay 0.17			
θas	R21 or	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3	
-43	surface 0.28	1		
	subsurface 0.13			
	gravel 0.05			
	sand 0.14			
	silt 0.16	1		
	clay 0.17			
θτ	R23 or	0.43	Total soil porosity, cm^3/cm^3	
•,	0.43	1	4	
	gravel 0.25			
	sand 0.32	1		
	silt 0.40	1		
	clay 0.36	1 .		
H'	Appendix C table E	1.97E-02	Henry's law constant, cm^3 air/cm^3 water	*
w	surface 0.1	0.2	Average soil moisture content, g/g	
	subsurface 0.2			
ρς	gravel 2.0	1.5	Soil bulk density, g/cm^3	
•	sand 1.8			
	silt 1.6	Ì		
	clay 1.7		,	
Pω		1	Water density, g/cm^3	
			1	
	_		Distance along the centerline of the ground water	
X	site		plume emanating from the source, cm	183 Distance, ft
ax	R16		Longitudinal dispersivity, cm (Equation R16)	•
ay	R17		Transverse dispersivity, cm (Equation R17)	
az	R18	27.8892	Vertical dispersivity, cm (Equation R18)	
			Source width perpendicular to ground water flow direction in	i i
Sw	site	2103.12	horizontal plane, cm	69 Sw, ft
			Source width perpendicular to ground water flow direction in vertice	ai I
Sd	site	200	plane, cm	Sd, ft
ĸ	site		Aquifer hydraulic conductivity, cm/year	3.30E-02 K, cm/sec
ï	site		Hydraulic gradient, cm/cm	
Ū	R19		Specific discharge, cm/day (Equation R19)	
Ugw	R24		Groundwater Darcy velocity, cm/yr	
d			Groundwater mixing zone thickness, cm	
1 .			Infiltration rate, cm/yr	
	1a] ,,,,,	Width of source area parallel to direction of wind or groundwater	105 144 6
w	site		movement, cm	105 W, ft
λ	Appendix C table E		First order degradation constant, day^1	AlAA
C(x)	R26		Concentration of contaminant in ground water at the distance X fro	
Csource	site	1.38	The greatest potential concentration of the contaminant in ground	water at the source of contamination, mg/L
			-	

Attachment C
J&E Input Parameters

Johnson & Ettinger Model Calculations – Benzene

J&E Equation	Equati	ion with inputs	Result
J&E 1	days	1×10 ⁻⁶ ×70×365	
RO _{indoor air}	$\frac{TR \times AT_c \times 365 \frac{days}{yr}}{ED \times EF \times URF \times 1000 \frac{\mu g}{mg}}$	$30 \times 350 \times 7.8 \times 10^{-6} \times 1000$	3.12x10 ⁻⁴ mg/m ³
Carc.	ED × EF × URF × 1000 mg	30 × 350 × 7.8 × 10 ° × 1000	
J&E 2			•
RO _{Indoor air}		NA	NA
Non-carc.			
J&E 3			
ppmv to mg/m³		NA	NA
J&E 4 RO _{soll gas}	RO _{indoor air} α	3.12e-4 2.23e-5	13.99 mg/m³
J&E 5 Cv ^{sat}	$\frac{P \times MW}{R \times T} \times 10^6$	$\frac{\frac{1.25}{10} \times 78.11}{0.08206 \times 286} \times 10^{6}$	4.16x10 ⁵ mg/m ³ - air
J&E 6 RO _{gw}	$\frac{RO_{soli\ gas}}{H_{rs}^{\prime}\times1000\frac{L}{m^{3}}}$	13.99 (1.34e-1)(1000)	0.104 mg/L
J&E 7 α advection & diffusion	$\left[\frac{\left(\frac{D_{ef}^{\mathcal{A}} \times A_{\theta}}{Q_{bdg} \times L_{f}}\right) \times \exp\left(\frac{Q_{eeg} \times L_{cond}}{D_{cond}^{\mathcal{A}} \times A_{cond}}\right)\right]}{\exp\left(\frac{Q_{out} \times L_{cond}}{D_{cond}^{\mathcal{A}} \times A_{cond}}\right) + \left(\frac{D_{ef}^{\mathcal{A}} \times A_{\theta}}{Q_{adg} \times L_{f}}\right) + \left(\frac{D_{ef}^{\mathcal{A}} \times A_{\theta}}{Q_{out} \times L_{f}}\right) \left\{\exp\left(\frac{Q_{out} \times L_{cond}}{D_{cond}^{\mathcal{A}} \times A_{cond}}\right) - 1\right]\right]}$	$\frac{\left(\frac{(\{1,23\text{e-4}\}(1000000)}{\{3.59\text{e4}\}(152.4)}\right) \exp\left(\frac{(83,33)10}{(5.34\text{e-4})400}\right)\right)}{\exp\left(\frac{83.33(10)}{5.34\text{e-4}(400)}\right) + \left(\frac{(1.23\text{e-4})(166)}{3.59\text{e4}(152.4)}\right) + \left(\frac{1.23\text{e-4}(166)}{83.33(152.4)}\right) \left(\exp\left(\frac{83.33(10)}{5.34\text{e-4}(400)}\right) - 1\right)}$	2.23x10 ⁻⁵
J&E 8 α Diffusion only		NA .	NA
J&E 9a	$\frac{L_{\gamma}}{\sum\limits_{i=1}^{n}L_{i}/D_{i}^{eff}}$	$\frac{152.4}{\left(\frac{114.9}{6.86e-3}\right) + \left(\frac{37.5}{3.08e-5}\right)}$	1.23x10 ⁻⁴ cm ² /s

Asir.

J&E 9b		$L_1 + L_2 = L_T$	Satisfied
J&E 10 L _T	$D_{ m source} - L_{ m F}$	162.4 - 10	152.4 cm
J&E11 D ₁ eff	$D_i \left(\frac{\theta_{d,i}^{333}}{\theta_{f,i}^3} \right) + \left(\frac{D_u}{H_{75}} \right) \left(\frac{\theta_{v,i}^{333}}{\theta_{f,i}^2} \right)$	$(8.8e-2) \left(\frac{((0.28)^{3.33})}{((0.43)^2)} \right) + \left(\frac{1.02e-5}{1.34e-1} \right) \left(\frac{((0.15)^{3.33})}{((0.43)^2)} \right)$	6.86x10 ⁻³ cm ² /s
J&E11 D ₂ eff Cap fringe	$D_{i}\left(\frac{\theta_{u,i}^{3.33}}{\theta_{\tau,i}^{2}}\right) + \left(\frac{D_{u}}{H_{75}}\right)\left(\frac{\theta_{u,i}^{3.33}}{\theta_{\tau,i}^{2}}\right)$	$(8.8e-2) \left(\frac{((0.043)^{3.33})}{((0.43)^2)} \right) + \left(\frac{1.02e-5}{1.34e-1} \right) \left(\frac{((0.387)^{3.33})}{((0.43)^2)} \right)$	3.08x10 ⁻⁵ cm ² /s
J&E 12a A _B	$(L_{\scriptscriptstyle B} \times W_{\scriptscriptstyle B})$	1000×1000	1x10 ⁶ cm ²
J&E 12b		NA	NA
J&E 13 Q _{bldg}	$\left(\frac{L_B \times W_B \times H_B \times ER}{3600 \frac{SeC}{hr}}\right)$	1000×1000×244×0.53 3600	3.59x10 ⁴ cm ³ /s
J&E 14 A _{crack}	$2\times (L_B+W_B)\times w$	2 (1000 + 1000)×0.1	400 cm²
J&E 15 D _{crack} eff	$D_{i} \left(\frac{\theta_{u,coork}^{3,33}}{\theta_{T,coork}^{2}} \right) + \left(\frac{D_{w}}{H_{TS}^{i}} \right) \left(\frac{\theta_{u,coork}^{3,33}}{\theta_{T,coork}^{2}} \right)$	$(8.8e-2) \left(\frac{((0.13)^{3.33})}{((0.43)^2)} \right) + \left(\frac{1.02e-5}{1.34e-1} \right) \left(\frac{((0.15)^{3.33})}{((0.43)^2)} \right)$	5.34x10 ⁻⁴ cm ² /s
J&E 16 Θ π		NA .	NA
J&E 17 ⊖w		NA	NA
J&E 18 ⊕ a		NA	NA

J&E Equation Parameters Benzene

The second liverage with the second liverage w	addon r drameters					
SYMBOL		VALUE	UNITS	SOURCE	T1 or Calculated	
A _B	Surface area of enclosed space	1.00E+06	cm2	J&E 12a OR 12b, App C, Table L	Res=1.0E+06, Ind/Comm=4.0E+06	
A _{crack}	Area of total cracks	400	cm2	J&E 14, App C Table L	Calculated Value	
AT _c	Averaging time for carcinogens	70	year	SSL, May 1996	70	
C _v sat	Soil vapor saturation limit	4.16E+05	mg/m3-air	J&E 5, App C Table L	Chemical-specific or Calculated	
D _{crack} eff	Effective diffusion coeff. through cracks	5.34E-04	cm2/s	J&E 15, App C Table L	Calculated Value	
Di	Diffusivity in air	8,80E-02	cm2/s	App C Table E	Chemical-specific	
D ₁ eff	Effective diffusion coefficient of soil layer 1	6.86E-03	cm2/s	J&E 11, App C Table L	Calculated Value	
D ₂ eff	Effective diffusion coefficient of soil layer 2	3.08E-05	cm2/s	J&E 11, App C Table L		
	Distance from ground surface to top of				Soil Gas Contamination=152.4, Groundwater	
D _{source}	contamination	162.4	cm	SITE-SPECIFIC Field Measurement	Contamination=304.8 OR SITE-SPECIFIC	
D _T eff	Total effective diffusion coefficient	1.23E-04	cm2/s	J&E 9, App C Table L	Calculated Value	
D _w	Diffusivity in water	1.02E-05	cm2/s	App C Table E	Chemical-specific	
ED	Exposure duration	30	year	SSL	Res=30, Ind/Comm=25	
EF	Exposure frequency	350	day/year	SSL	Res=350, Ind/Comm=250	
ER	Air exchange rate	0.53	exch/hr	ILEPA	Res=0.53, Ind/Comm=0.93	
					SOG Res=244, Ind/Comm=305 OR Site sp T3	
H _B	2.4	244	cm	IL EPA	Basement Res=427, Ind/Comm=488	
H' _{TS}	Dimensionless Henry's Law constant	1.34E-01	unitless	App C Table E	Chemical-specific	
L _B	Length of building	1000	cm	IL EPA	Res=1000, Ind/Comm-2000 or Site sp T3	
L _{crack}	Slab thickness	10	cm	USEPA Users Guide 2004	10	
L _F	Distance from ground surface to bottom of slab	10	cm	USEPA Users Guide 2004	SOG=10, Basement=200	
L ₁	Thickness of soil layer 1	114.9	cm	Field Measurement, USEPA 2004	Site-specific/for capillary fringe, 37.5cm	
L ₂	Thickness of soil layer 2 capillary fringe)	37.5	cm	Field Measurement, USEPA 2004	Site sp 152.4 (5 ft)/for capillary fringe, 37.5cm	
	Distance from bottom of slab to top of					
L _T	contamination	152.4	cm	Field Measurement OR J&E 10, App C Table L	Site-specific	
MW	Molecular weight	78.13	g/mole	ILEPA	Chemical-specific	
Р	Vapor pressure	0.125	atm	App C Table E	Chemical-specific	

					SOG Res=3.59*10^4, Ind/Comm=3.15*10^5 OR Site spT3 Basement Res 6.28*10^4,
Q _{bldg}	Building ventilation rate	3.59E+04	cm3/s	J&E 13, App C Table L	Ind/Comm=5.04*10^5 or SST3
	Volumetric flow rate of soil gas into the enclosed				
Q _{soil}	space	83.33	cm3/s	USEPA Users Guide 2004	If LT<152cm = 83.33; if LT>= 152cm = 0
R	I deal gas constant	0.08206	atm-L/mole-K	USEPA Users Guide 2004	DEFAULT
RO _{gw}	Groundwater remediation objective	0.104	mg/L	App B Table E OR J&E 6, App C Table L	Chemical-specific or Calculated
RO _{indoorair}	Indoor air remediation objective	3.12E-04	mg/m3	J&E 1 and 2, App C Table L	Calculated Value
RO _{soilgas}	Soil gas remediation objective	13.99	mg/m3	J&E 4, App C Table L	Calculated Value
Т	Temperature	286	°K	USEPA Users Guide 2004	286 (converted from 13 C)
					Res=10^-6 Ind/Comm=10^-6 at point of human
TR	Target risk	1.00E-06	unitless	SSL	exposure
URF	Unit risk factor	7.80E-06	(ug/m ³) ⁻¹	IL EPA TACO Toxicity Values spreadsheet	Toxicological-Specific
w	Floor-wall seam gap	0.1		USEPA Users Guide 2004	0.1
W _B	Width of building	1000	cm	ILEPA	Res=1000, Ind/Comm-2000 or Site sp T3
α	Attenuation factor	2.23E-05	unitless	J&E 7 OR 8, App C Table L	Site-specific
θ _{a,1}	Air-filled porosity of soil layer 1	0.28	cm3/cm3	SSL OR J&E 18, App C Table L	0.28 OR Calculated value
θ _{a,crack}	Air-filled porosity of soil in cracks	0.13	cm3/cm3	SSL OR J&E 18, App C Table L	0.13
					0.13 OR Calculated value for capillary fringe $\theta_{a,i}$ =0.1
θ _{a,2}	Air-filled porosity of layer 2 (capillary fringe)	0.043	cm3/cm3	SSL OR J&E 18, App C Table L	$\theta_{\tau,i}$
θ _{T,crack}	Total porosity of soil in cracks	0.43	cm3/cm3	SSL OR J&E 16, App C Table L	0.43
θτ	Total porosity of layers 1 and 2	0.43	cm3/cm3	SSL OR J&E 16, App C Table L	0.43 or calculated value
θ _{w,1}	Water-filled soil porosity of layer 1	0.15	cm3/cm3	SSL OR J&E 17, App CTable L	0.15 or calculated value
10,2				SSL OR J&E 17, App C Table L For cap fringe	0.15 or calculated value, for cap fringe=0.375 OR 0.9
$\theta_{w,2}$	Water-filled porosity of layer 2 (capillary fringe)	0.387	cm3/cm3	USEPA Users Guide 2004	$\Theta_{T,i}$
θ _{w,crack}	Water-filled porosity of soil in cracks	0.15	cm3/cm3	SSLORJ&E 17, App CTable L	0.15

${\bf J\&E\ Model\ Calculations-Ethylbenzene}$

J&E Equation		Equation with inputs	Results
J&E 1 RO _{indoor air} (carcinogenic)		NA	NA
J&E 2 RO _{indoor air} (non-carcinogenic)	$\frac{THQ \times AT_{nc} \times 365 \frac{days}{yr} \times RfC}{ED \times EF}$	(1)(30)(365)(1e0) (30)(350)	1.04 mg/m ³
J&E 3 ppmv to mg/m³		NA	NA
J&E 4 RO _{soil gas}	$\frac{RO_{indoor\ air}}{\alpha}$	1.04 1.64e-5	63,415 mg/m³
J&E 5 C _v ^{sat}	$\frac{P \times MW}{R \times T} \times 10^6$		DEFAULT
J&E 6 RO _{gw}	$\frac{RO_{soil\ gas}}{H_{TS}^{i} \times 1000 \frac{L}{m^{3}}}$	63415 (1.64e-1)(1000)	386.7 mg/L
J&E 7 α advection & diffusion	$ \begin{bmatrix} \left(D_{T_{-}}^{cd} \times A_{R} \right) \times \exp \left(\frac{Q_{cod} \times L_{cont}}{D_{cont}^{cd} \times A_{cont}} \right) \\ Q_{cot} \times L_{T} \right) \times \exp \left(\frac{Q_{cod} \times L_{cont}}{D_{cont}^{cd} \times A_{cont}} \right) \end{bmatrix} $ $ \exp \left(\frac{Q_{cod} \times L_{cont}}{D_{cont}^{cd} \times A_{cont}} \right) + \left(\frac{Q_{cot}^{cd} \times A_{g}}{Q_{cot}^{cd} \times L_{T}} \right) + \left(\frac{Q_{cot}^{cd} \times A_{cont}}{D_{cont}^{cd} \times A_{cont}} \right) - 1 \end{bmatrix} $	$\frac{\left(\frac{((8.96e-5)(1000000))}{((3.59e4)(152.4))}\right) exp\left(\frac{((83.33)(10))}{(4.55e-4)(400)}\right)}{exp\left(\frac{((83.33)(10))}{(4.55e-4)(400)}\right) + \left(\frac{((8.96e-5)(1000000))}{(83.33)(152.4)}\right) + \frac{((8.96e-5)(1000000))}{((83.33)(152.4))} exp\left(\frac{((83.33)(10))}{(4.55e-3)(400)} - 1\right)}$	1.64x10 ⁻⁵
J&E 8		NA	NA
J&E 9a D _T ^{eff}	$\frac{L_T}{\sum\limits_{i=1}^n L_i / D_i^{eff}}$	$\frac{152.4}{\left(\frac{114.9}{5.85e-3}\right) + \left(\frac{37.5}{2.23e-5}\right)}$	8.96x10 ⁻⁵ cm ² /s

J&E 9b		$L_1 + L_2 = L_T$	Satisfied
J&E 10 L _T	$D_{source} - L_F$	162.4-10	152.4 cm
J&E11 D ₁ eff	$D_{i} \left(\frac{\boldsymbol{\theta}_{o,i}^{3.33}}{\boldsymbol{\theta}_{r,i}^{2}} \right) + \left(\frac{D_{iw}}{H_{TS}^{2}} \left(\frac{\boldsymbol{\theta}_{w,i}^{3.33}}{\boldsymbol{\theta}_{T,i}^{2}} \right) \right)$	$(7.50e-2) \left(\frac{((0.28)^{3.33})}{((0.43)^2)} \right) + \left(\frac{7.80e-6}{1.64e-1} \right) \left(\frac{((0.15)^{3.33})}{((0.43)^2)} \right)$	5.85x10 ⁻³ cm ² /s
J&E11 D ₂ eff Cap fringe	$D_{i} \left(\frac{\boldsymbol{\theta}_{a,i}^{3,33}}{\boldsymbol{\theta}_{T,i}^{2}} \right) + \left(\frac{\boldsymbol{D}_{w}}{\boldsymbol{H}_{TS}^{*}} \left(\frac{\boldsymbol{\theta}_{w,i}^{3,33}}{\boldsymbol{\theta}_{T,i}^{2}} \right) \right)$	$(7.50e-2) \left(\frac{\left((0.043)^{3.33} \right)}{\left((0.43)^2 \right)} \right) + \left(\frac{7.80e-6}{1.64e-1} \right) \left(\frac{\left((0.387)^{3.33} \right)}{\left((0.43)^2 \right)} \right)$	2.23x10 ⁻⁵ cm ² /s
J&E 12a A _B	$(L_{\scriptscriptstyle B} \times W_{\scriptscriptstyle B})$	1000×1000	1x10 ⁶ cm ²
J&E 12b		NA	NA
J&E 13 Q _{bldg}	$\left(\frac{L_B \times W_B \times H_B \times ER}{3600 \frac{sec}{hr}}\right)$	$\frac{1000 \times 1000 \times 244 \times 0.53}{3600}$	3.59x10 ⁴ cm ³ /s
J&E 14 A _{crack}	$2\times (L_B+W_B)\times w$	2 (1000 + 1000) × 0.1	400 cm ²
J&E 15 D _{crack} eff	$D_{i} \left(\frac{\theta_{w, cruck}^{3,33}}{\theta_{T, cruck}^{2}} \right) + \left(\frac{D_{w}}{H_{TS}^{*}} \right) \left(\frac{\theta_{w, cruck}^{3,33}}{\theta_{T, cruck}^{2}} \right)$	$((7.50e-2)) \left(\frac{((0.13)^{3.33})}{((0.43)^2)} \right) + \left(\frac{(7.80e-6)}{(1.64e-1)} \right) \left(\frac{((0.15)^{3.33})}{(0.43)^2} \right) $	4.55x10 ⁻⁴ cm ² /s
J&E 16 Θτι		NA	NA
J&E 17 ⊕ _w		NA	NA
J&E 18 Θ a		NA	NA

J&E Equation Parameters Ethylbenzene

	uation Parameters	Ethylbenzene	CONTRACTOR OF THE STATE OF THE	THE WASHINGTON TO THE PROPERTY OF THE PARTY	FERRICO THE AT A SHIP IT I INSTANCE OF A SECOND WAS A SHIP OF
SYMBOL		VALUE	UNITS	SOURCE	T1 or Calculated
A _B	Surface area of enclosed space	1.00E+06	cm2	J&E 12a OR 12b, App C, Table L	Res=1.0E+06, Ind/Comm=4.0E+06
A _{crack}	Area of total cracks	400	cm2	J&E 14, App C Table L	Calculated Value
AT _{nc}	Averaging time for noncarcinogens	30	year	AT _{nc} =ED	Res=30, Ind/Comm=25
D _{crack} eff	Effective diffusion coeff. through cracks	4.55E-04	cm2/s	J&E 15, App CTable L	Calculated Value
Di	Diffusivity in air	7.50E-02	cm2/s	App C Table E	Chemical-specific
D ₁ eff	Effective diffusion coeff. of soil layer 1	5.85E-03	cm2/s	J&E 11, App C Table L	Calculated Value
D ₂ eff	Effective diffusion coeff. of soil layer 2	2.23E-05			
	Distance from ground surface to top of				Soil Gas Contamination=152.4, Groundwater
D _{source}	contamination	162.4	cm	Field Measurement	Contamination=304.8
D _T eff	Total effective diffusion coefficient	8.96E-05	cm2/s	J&E 9, App C Table L	Calculated Value
D _w	Diffusivity in water	7.80E-06	cm2/s	App C Table E	Chemical Specific
ED	Exposure duration	30	year	SSL	Res=30, Ind/Comm=25
EF	Exposure frequency		day/year	SSL	Res=350, Ind/Comm=250
ER	Air exchange rate	0.53	exch/hr	IL EPA	Res=0.53, Ind/Comm=0.93
		i Netru wa			SOG Res=244, Ind/Comm=305 OR Site sp T3
H _B	Height of building	244	cm	IL EPA	Basement Res=427, Ind/Comm=488
H' _{TS}	Dimensionless Henry's Law constant	1.64E-01	unitless	App C Table E	Chemical-specific
L _B	Length of building	1000	cm	IL EPA	Res=1000, Ind/Comm-2000 or Site sp T3
L _{crack}	Slab thickness	10	cm	USEPA Users Guide 2004	10
L _F	Distance from ground surface to bottom of slab	10	cm	USEPA Users Guide 2004	SOG=10, Basement=200
L ₁	Thickness of soil layer 1	114.9	cm	Field Measurement, USEPA 2004	Site sp 152.4 (5 ft)/for capillary fringe, 37.5cm
L ₂	Thickness of soil layer 2 capillary fringe)	37.5	cm	Field Measurement, USEPA 2004	Site sp 152.4 (5 ft)/for capillary fringe, 37.5cm
	Distance from bottom of slab to top of				
L _T	contamination	152.4	cm	Field Measurement ORJ&E 10, App C Table L	142.2 or Site sp (4 FT 8 IN)
l					SOG Res=3.59*10^4, Ind/Comm=3.15*10^5 OR Site
					sp T3 Basement Res 6.28*10^4,
Q _{bldg}	Building ventilation rate	3.59E+04	cm3/s	J&E 13, App C Table L	Ind/Comm=5.04*10^5 or SST3
	Volumetric flow rate of soil gas into the enclosed				
Q _{soil}	space	83.33	cm3/s	USEPA Users Guide 2004	If LT<152cm=83.33 If LT>=152cm=0
RfC	Reference concentration	1.00E+00	ug/m3	IL EPA TACO Toxicity Values spreadsheet	Toxicological-Specific

ROgw	Groundwater remediation objective	386.7	mg/L	App B Table E OR J&E 6, App C Table L	Chemical specific or Calculated
RO _{indoorair}	Indoor air remediation objective	1.04	mg/m3	J&E 1 and 2, App C Table L	Calculated Value
RO _{soilgas}	Soil gas remediation objective	63,415	mg/m3	J&E 4, App C Table L	Calculated Value
THQ	Target hazard quotient	1	unitless	SSL	1
w	Floor-wall seam gap	0.1	cm	USEPA Users Guide 2004	0.1
W _B	Width of building	1000	cm	IL EPA	Res=1000, Ind/Comm-2000 or Site sp T3
α	Attenuation factor	1.64E-05	unitless	J&E 7 OR 8, App C Table L	Site specific
$\theta_{a,1}$	Air-filled soil porosity of layer 1	0.28	cm3/cm3	SSL OR J&E 18, App C Table L	0.28 OR Calculated value
θ _{a,crack}	Air-filled porosity of soil in cracks	0,13	cm3/cm3	SSL ORJ&E 18, App CTable L	0.13
θ _{a,2}	Air-filled porosity of soil layer 2 (capillary fringe)	0.043	cm3/cm3	SSLORJ&E 18, App C Table L	$\Theta_{T,i}$
θ _{T,crack}	Total porosity for soil in cracks	0.43	cm3/cm3	SSLORJ&E 16, App C Table L	0.43
θτ	Total porosity of layers 1 and 2	0.43	cm3/cm3	SSL OR J&E 16, App C Table L	0.43 or calculated value
$\theta_{w,1}$	Water-filled porosity of layer 1	0.15	cm3/cm3	SSL OR J&E 17, App C Table L	0.15 or calculated value
θ _{w,crack}	Water-filled porosity for soil in cracks	0.15	cm3/cm3	SSL OR J&E 17, App C Table L	0.15
θ _{w,2}	Water-filled porosity of layer 2 (capillary fringe)	0.387	cm3/cm3	SSL OR J&E 17, App C Table L For cap fringe USEPA Users Guide 2004	0.15 or calculated value, for cap fringe=0.375 OR 0.9 $\theta_{T,i}$

J&E Model Calculations - Naphthalene

J&E Equation	Ec	Result	
J&E 1 ROindoor air (carcinogenic)		NA	NA
J&E 2 ROindoor air (non-carcinogenic)	$\frac{THQ \times AT_{nc} \times 365 \frac{days}{yr} \times RfC}{ED \times EF}$	(1)(30)(365)(3e-3) (30)(350)	3.13x10 ⁻³ mg/m ³
J&E 3 ppmv to mg/m ³		NA	NA
J&E 4 RO _{soil gas}	<u>RO _{indoor air}</u> α	3.13e-3 1.32e-4	23.71 mg/m ³
J&E 5 C _v sat		$\frac{P \times MW}{R \times T} \times 10^{\circ}$	DEFAULT
J&E 6 RO _{gw}	$\frac{RO_{soil\ gas}}{H'_{TS} \times 1000 \frac{L}{m^3}}$	23.71 (8.29e-3)(1000)	2.86 mg/L
J&E 7 α advection & diffusion	$ \begin{bmatrix} \left(\frac{D_{t}^{of} \times A_{t}}{Q_{body} \times L_{t}} \right) \times \exp \left(\frac{Q_{oof} \times L_{const}}{D_{const}^{of} \times A_{const}} \right) \\ \exp \left(\frac{Q_{oof} \times L_{const}}{D_{const}^{off} \times A_{const}} \right) + \left(\frac{D_{t}^{off} \times A_{t}}{Q_{obdy} \times L_{t}} \right) + \left(\frac{D_{t}^{off} \times A_{t}}{Q_{out} \times L_{t}} \right) + \left(\frac{Q_{oud} \times L_{const}}{Q_{out} \times L_{t}} \right) - 1 \end{bmatrix} $	$\frac{\left(\left[\frac{7.68e\text{-}4(1000000)}{((3.59e\text{4})(152.4))}\right]\exp\left[\frac{((83.33)(10))}{(3.67e\text{-}4)(400)}\right]\right)}{\left(3.67e\text{-}4)(400)} + \left[\frac{((7.68e\text{-}4)(1000000))}{(3.59e\text{4})(152.4)}\right] + \left[\frac{((7.68e\text{-}4)(1e\text{6}))}{(83.33)(152.4)}\right]\exp\left[\frac{83.33(10)}{(3.67e\text{-}4)(400)}\right] - 1\right]$	1.32x10 ⁻⁴
J&E 8 α Diffusion only		NA	NA
J&E 9a D _T ^{eff}	$\frac{L_T}{\sum_{i=1}^n L_i / D_i^{eff}}$	$\frac{152.4}{\left(\frac{114.9}{4.61e-3}\right) + \left(\frac{37.5}{2.16e-4}\right)}$	7.68x10 ⁻⁴ cm ² /s

J&E 9b		$L_1 + L_2 = L_T$	Satisfied
J&E 10 L _T	$D_{singret} - L_F$	162.4-10	152.4 cm
J&E11	$\left(\theta_{n,1}^{3,33}\right)\left(D_{n}\right)\left(\theta_{n,1}^{3,33}\right)$	(5.00c.2) (((0.28) ^{3.33})), (7.50e-6)(((0.15) ^{3.33}))	4.61x10 ⁻³ cm ² /s
D ₁ eff	$D_{i}\left(\frac{\boldsymbol{\theta}_{a,i}^{3.33}}{\boldsymbol{\theta}_{T,i}^{2}}\right) + \left(\frac{D_{w}}{H_{TS}^{2}}\right)\left(\frac{\boldsymbol{\theta}_{w,i}^{3.33}}{\boldsymbol{\theta}_{T,i}^{2}}\right)$	$(5.90e-2) \left(\frac{((0.28)^{3.33})}{((0.43)^2)} \right) + \left(\frac{7.50e-6}{8.29e-3} \right) \left(\frac{((0.15)^{3.33})}{((0.43)^2)} \right)$	
J&E11 D ₂ eff	$D_{i} \left(\frac{\theta_{u,i}^{3.33}}{\theta_{T,i}^{2}} \right) + \left(\frac{D_{w}}{H_{TX}^{i}} \right) \left(\frac{\theta_{w,i}^{3.33}}{\theta_{T,i}^{2}} \right)$	$(5.90e-2)\left[\frac{((0.043)^{3.33})}{((0.43)^2)}\right] + \left(\frac{7.50e-6}{8.29e-3}\right) \left[\frac{((0.387)^{3.33})}{((0.43)^2)}\right]$	2.16x10 ⁻⁴ cm ² /s
Cap fringe	$\left(\left(\theta_{T,i}^{2}\right)^{+}\left(H_{TS}^{+}\left(\left(\theta_{T,i}^{2}\right)\right)\right)\right)$	((0.43) ²) (8.29e-3 ((0.43) ²)	
J&E 12a A _B	$(L_{\scriptscriptstyle B} \times W_{\scriptscriptstyle B})$	1000×1000	1x10 ⁶ cm ²
J&E 12b		NA	NA
J&E 13 Q _{bldg}	$\left(\frac{L_B \times W_B \times H_B \times ER}{3600 \frac{sec}{L}}\right)$	1000 × 1000 × 244 × 0.53	3.59x10 ⁴ cm ³ /s
J&E 14 A _{crack}	$2\times (L_{_{\mathcal{B}}}+W_{_{\mathcal{B}}})\times w$	3600 2 (1000 + 1000) × 0.1	400 cm ²
J&E 15 D _{crack} eff	$D_i \left(\frac{\theta_{a,crinck}^{3,33}}{\theta_{T,crinck}^2} \right) + \left(\frac{D_{iv}}{H_{TS}^2} \right) \left(\frac{\theta_{w,crinck}^{3,33}}{\theta_{T,crinck}^2} \right)$	$(5.9e-2) \left(\frac{(0.13)^{3.33}}{(0.43)^2} \right) + \left(\frac{7.50e-6}{8.29e-3} \right) \left(\frac{(0.15)^{3.33}}{(0.43)^2} \right)$	3.67x10 ⁻⁴ cm ² /s
J&E 16 ⊕ π		NA	NA
J&E 17 Θ _w		NA	NA
J&E 18 ⊕a		NA	NA

J&E Equation Parameters Naphthalene

SYMBOL		VALUE	UNITS	SOURCE	T1 or Calculated
A _B	Surface area of enclosed space	1.00E+06	cm2	J&E 12a OR 12b, App C, Table L	Res=1.0E+06, Ind/Comm=4.0E+06
A _{crack}	Area of total cracks	400	cm2	J&E 14, App CTable L	Calculated Value
AT _{nc}	Averaging time for noncarcinogens	30	year	AT _{nc} =ED	Res=30, Ind/Comm=25
D _{crack} eff	Effective diffusion coeff. through cracks	3.67E-04	cm2/s	J&E 15, App C Table L	Calculated Value
Di	Diffusivity in air	5.90E-02	cm2/s	App C Table E	Chemical Specific
D ₁ eff	Effective diffusion coeff. for each soil layer	4.61E-03	cm2/s	J&E 11, App C Table L	Calculated Value
D ₂ eff	Effective diffusion coefficient of soil layer 2	2.16E-04	cm2/s	J&E 11, App C Table L	
	Distance from ground surface to top of				Soil Gas Contamination=152.4, Groundwater
D _{source}	contamination	162.4	cm	Field Measurement	Contamination=304.8
D _T eff	Total effective diffusion coefficient	7.68E-04	cm2/s	J&E 9, App C Table L	Calculated Value
D _w	Diffusivity in water	7.50E-06	cm2/s	App C Table E	Chemical Specific
ED	Exposure duration	30	year	SSL	Res=30, Ind/Comm=25
EF	Exposure frequency	350	day/year	SSL	Res=350, Ind/Comm=250
ER	Air exchange rate	0.53	exch/hr	IL EPA	Res=0.53, Ind/Comm=0.93
					SOG Res=244, Ind/Comm=305 OR Site sp T3
H _B	Height of building	244	cm	IL EPA	Basement Res=427, Ind/Comm=488
H' _{TS}	Dimensionless Henry's Law constant	8.29E-03	unitless	App CTable E	Chemical specific
L _B	Length of building	1000	cm	IL EPA	Res=1000, Ind/Comm-2000 or Site sp T3
L _{crack}	Slab thickness	10	cm	USEPA Users Guide 2004	10
L _F	Distance from ground surface to bottom of slab	10	cm	USEPA Users Guide 2004	SOG=10, Basement=200
4	Thickness of soil layer i	114.9	cm	Field Measurement, USEPA 2004	Site sp 152.4 (5 ft)/for capillary fringe, 37.5cm
L ₂	Thickness of soil layer 2 capillary fringe)	37.5	cm	Field Measurement, USEPA 2004	Site sp 152.4 (5 ft)/for capillary fringe, 37.5cm
	Distance from bottom of slab to top of				
L	contamination	152.4	cm	Field Measurement OR J&E 10, App C Table L	142.2 or Site sp (4 FT 8 IN)
					SOG Res=3.59*10^4, Ind/Comm=3.15*10^5 OR
					Site sp T3 Basement Res 6.28*10^4,
Q _{bldg}	Building ventilation rate	3,59E+04	cm3/s	J&E 13, App C Table L	Ind/Comm=5.04*10^5 or SST3
	Volumetric flow rate of soil gas into the enclosed				
Q _{soil}	space	83.33	cm3/s	USEPA Users Guide 2004	If LT<152cm=83.33 If LT>=152cm=0
RfC	Reference concentration	3.00E-03	ug/m3	IL EPA TACO Toxicity Values spreadsheet	Toxicological-Specific
ROgw	Groundwater remediation objective	2.86	mg/L	App BTable E OR J&E 6, App CTable L	Chemical specific or Calculated
ROindoorair	Indoor air remediation objective	3.13E-03	mg/m3	J&E 1 and 2, App CTable L	Calculated Value
RO _{soilgas}	Soil gas remediation objective	23.71	mg/m3	J&E 4, App CTable L	Calculated Value
THQ	Target hazard quotient	1	unitless	SSL	1
w	Floor-wall seam gap	0.1	cm	USEPA Users Guide 2004	0.1
W _B	Width of building	1000	cm	IL EPA	Res=1000, Ind/Comm-2000 or Site sp T3
α	Attenuation factor	1.32E-04	unitless	J&E 7 OR 8, App C Table L	Site specific
$\theta_{a,1}$	Air-filled soil porosity	0,28	cm3/cm3	SSL OR J&E 18, App C Table L	0.28 OR Calculated value
$\theta_{a,crack}$	Air-filled porosity for soil in cracks	0.28	cm3/cm3	SSL OR J&E 18, App C Table L	0.13

$\theta_{a,2}$	Air-filled porosity of soil layer 1	0.043	cm3/cm3	SSL OR J&E 18, App CTable L	0.13 OR Calculated value for capillary fringe $\theta_{a,i} \text{=} 0.1\theta_{T,i}$
θ _{T,crack}	Total porosity for soil in cracks	0.43	cm3/cm3	SSL OR J&E 16, App C Table L	0.43
θ _{τ,1}	Total porosity of soil layer 1	0.43	cm3/cm3	SSL OR J&E 16, App C Table L	0.43 or calculated value
θ _{w,1}	Water-filled soil porosity	0.15	cm3/cm3	SSL OR J&E 17, App C Table L	0.15 or calculated value
$\theta_{w,crack}$	Water-filled porosity for soil in cracks	0.15	cm3/cm3	SSL OR J&E 17, App C Table L	0.15
$\theta_{w,2}$	Water-filled porosity for soil layer 1	0.387	cm3/cm3	SSL OR J&E 17, App CTable L For cap fringe USEPA Users Guide 2004	0.15 or calculated value, for cap fringe=0.375 OR 0.9 $\theta_{\text{T},i}$

Attachment D

Laboratory Certification



Illinois Environmental Protection Agency

Bureau of Land • 1021 N. Grand Avenue E. • P.O. Box 19276 • Springfield • Illinois • 62794-9276

The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 – 57.17). Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false material statement or representation, orally or in writing, in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compliance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/44 and 57.17). This form has been approved by the Forms Management Center.

Leaking Underground Storage Tank Program Laboratory Certification for Chemical Analysis

A.	Sit	e Identification			
	ſEſ	VA Incident # (6- or 8-digit):	980814	IEPA LPC# (10-digit): 04309058	25
	Sit	e Name: West Chicago Parl	c District		
	Sit	e Address (Not a P.O. Box):	250 West National Street		
	Cit	y: West Chicago	County: DuPage	ZIP Code: 60185	
	Lea	aking UST Technical File			
B.	Sa	mple Collector			
	l ce	ertify that:			0
	1.	Appropriate sampling equip	ment/methods were utilized to o	obtain representative samples.	(Initial)
	2.	Chain-of-custody procedure	es were followed in the field.		[Initial)
	3.	Sample integrity was maint	ained by proper preservation.		<u>PG</u> (Initial)
	4.	All samples were properly i	abeled.		300
C.	La	boratory Representativ	/e		(Irdifəl)
	l ce	ertify that:			
	1.	Proper chain-of-custody pro	ocedures were followed as docu	mented on the chain-of-custody forms	26
	2.	Sample integrity was mainte	nined by proper preservation.		(Initial)
	3.	All samples were properly la	abeled.	•	(Initial) MG
	4.	Quality assurance/quality co	ontrol procedures were establish	ned and carried out.	(Initial) (Initial)
	5.	Sample holding times were	not exceeded.		M6 (Initial)
					trainment

IL 532 2283 LPC 509 Rev. March 2006 Laboratory Certification for Chemical Analysis
Page 1 of 2

6. SW-846 Analytical Laboratory Procedure (USEPA) methods were used for the analyses.

(Initial)

7. An accredited lab performed quantitative analysis using test methods identified in 35 IAC 186,180 (for samples collected on or after January 1, 2003).

D. Signatures

I hereby affirm that all information contained in this form is true and accurate to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample Collector	Laboratory Representative		
Name Brandi Talaga	Name Ryun Geris ck. Title 1-2) et Manger		
Title Environmental Technician	Title 1-0) cot homogen		
Company Resource Consulting, Inc.	Company First Environmental Labs, Inc.		
Address P.O. Box 123	Address 1600 Shore Road		
City Geneva	City Naperville		
State Illinois	State Illinois		
Zip Code 60134	Zip Code 60540		
Phone 630-232-9820	Phone 630-778-1200		
Signature Bury CF Talaba	Signature 2		
Date Jul 15, 2020	Date 1 7-16-20		



Site Identification

Illinois Environmental Protection Agency

Bureau of Land • 1021 N. Grand Avenue E. • P.O. Box 19276 • Springfield • Illinois • 62794-9276

The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 – 57.17). Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false material statement or representation, orally or in writing, in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compliance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/44 and 57.17). This form has been approved by the Forms Management Center.

Leaking Underground Storage Tank Program Laboratory Certification for Chemical Analysis

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ms MG (Initial)
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r

IL 532 2283 LPC 509 Rev. March 2006 Laboratory Certification for Chemical Analysis

Page 1 of 2

6. SW-846 Analytical Laboratory Procedure (USEPA) methods were used for the analyses.

M 6 (Initial)

7. An accredited lab performed quantitative analysis using test methods identified in 35 IAC 186.180 (for samples collected on or after January 1, 2003).

(Initial)

D. Signatures

I hereby affirm that all information contained in this form is true and accurate to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample Collector	Laboratory Representative
Name Courtney McGinnis	Name Bill Mottashed Ryn Genrich
Title Geologist/Project Manager	Title Project Manager
Company Resource Consulting, Inc.	Company First Environmental Laboratories, Inc.
Address PO Box 123	Address 1600 Shore Road
City Geneva	City Naperville
State Illinois	State Illinois
Zip Code 60134	Zip Code 60563
Phone 620-232-9820	Phone 630-778-1200
Signature C.MWWWW	Signature
Date 02/07/23	Date 2-7-23

RESOURCE CONSULTING, INC.

Attachment E
Illinois EPA Electronic Correspondence

Eric.Kuhlman@illinois.gov < Eric.Kuhlman@Illi...

December 28, 2022 at 2:36 PM



RE: [External] West Chicago Park District/0430905825

To: Courtney McGinnis

Siri found updated contact info Eric Kuhlman (217) 785-5715 update... (2)

Upon initial review of the CACR and BUD received by IEPA on 12/15/2022 and dated 11/15/2022. I've noticed the following items missing:

- 1) a new certified copy of Ordinance No. 15-O-0004.
- 2) completed and signed copies of the Laboratory Certification for Chemical Analysis form for each set of samples shipped to a laboratory <see attached form>, and

3) OSFM's eligibility and deductibility statement.

Please submit these items as soon as possible.

Thanks.

Eric Kuhlman Project Manager Leaking UST Section Illinois EPA Phone: (217) 785-5715

----Original Message----

From: Courtney McGinnis < cmcginnis@resourceillinois.com>

Sent: Wednesday, December 14, 2022 3:08 PM To: Kuhlman, Eric < Eric, Kuhlman@Illinois.gov>

Subject: [External] West Chicago Park District/0430905825

Attached is the CACR for West Chicago Park District/0430905825. It was malled to the Illinois EPA last week, Let me know if you have any questions/comments once you review it.

See More

mail in error, please notify the sender immediately by e-mail or by calling 630,232,9820 and delete the original message and any backups from your computer system. All personal messages express views solely of the sender, which are not to be attributed to Resource Consulting. Inc. and may not be distributed without this disclaimer. If you have any questions concerning this message, please contact the sender. Thank you for your cooperation.

State of Illinois - CONFIDENTIALITY NOTICE: The information contained in this communication is confidential, may be attorney-client privileged or attorney work product, may constitute inside information or internal deliberative staff communication, and is intended only for the use of the addressee. Unauthorized use, disclosure or copying of this communication or any part thereof is strictly prohibited and may be unlawful. If you have received this communication in error, please notify the sender immediately by return e-mail and destroy this communication and all copies thereof, including all attachments. Receipt by an unintended recipient does not waive attorney-client privilege, attorney work product privilege, or any other exemption from disclosure.

Eric.Kuhlman@illinois.gov < Eric.Kuhlman@Illinois.gov>



March 17, 2023 at 8:33 AM

FW: [External] West Chicago Park District/0430905825

To: Daniel Horvath. Cc: Courtney McGinnis

Siri found updated contact info Eric Kuhlman (217) 785-5715

update..

Details

Hey Dan.

After review of the attached BUD in Appendix B of the CACR, I noticed that there are numerous budget entries without dates. Please note, you cannot get today's costs for tasks that were performed in the past. You can only be reimbursed for those costs that are eligible on the day they were performed.

For example, on page 28 of the attached CACR, the budget proposed drilling costs for a soil boring to collect a soil gas sample back in 2014. However, this budget entry used the rate in 2022 which is unreasonable and not acceptable.

Therefore, I'm giving you an opportunity to add dates to all the entries for past activities. Please let me know if/when the new updated budget will be submitted to me.

FYI. I will be sending an update of DLC's review of the Ordinance No. 15-O-0004.

Respectfully.

Eric Kuhlman Project Manager Leaking UST Section Illinois EPA Phone: (217) 785-5715

----Original Message-----

From: Courtney McGinnis < cmcginnis@resourceillinois.com>

Sent: Wednesday, December 14, 2022 3:08 PM To: Kuhlman, Eric < Eric. Kuhlman@illinois.gov>

Subject: [External] West Chicago Park District/0430905825

Eric:

Attached is the CACR for West Chicago Park District/0430905825. It was mailed to the Illinois EPA last week. Let me know if you have any questions/comments once you review it.

See More

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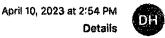
State of Illinois - CONFIDENTIALITY NOTICE: The information contained in this communication is confidential, may be attorney-client privileged or attorney work product, may constitute inside information or internal deliberative staff communication, and is intended only for the use of the addressee. Unauthorized use, disclosure or copying of this communication or any part thereof is strictly prohibited and may be unlawful. If you have received this communication in error, please notify the sender immediately by return e-mail and destroy this communication and all copies thereof, including all attachments. Receipt by an unintended recipient does not waive attorney-client privilege, attorney work product privilege, or any other exemption from disclosure.



Daniel Horvath

Re: West Chicago Park District -- LUST Incident 980814

To: Eric.Kuhlman@illinois.gov < Eric.Kuhlman@illinois.gov >, Cc: Courtney McGinnis



Siri found new contact info Daniel Horvath dhorvath@resourceillinois.com

add..

Eric:

There are no soil boring logs for samples WCPD-1 and EW-1A. Carol Hawbaker and I discussed options for addressing the exceedances in sample EW-1 from the soil excavation and disposal actions a few years earlier, and we settled on resampling. 2 were taken to ensure there was no lingering issue with the results.

We are still working on the ordinance. If possible, we will ask for a 30-day extension since the due date is Friday, I believe.

Thank you,

Daniel J. Horvath
Resource Consulting, Inc.

- (0) (630)232-9820
- (c) (630)292-9820
- (f) (630)232-9824

www.resourceillinois.com

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On Mar 17, 2023, at 11:06 AM, Kuhlman, Eric < Eric.Kuhlman@lilinois.gov> wrote:

Hey Dan,

Upon reviewing the LUST Technical File for this incident, I couldn't find any soil boring logs for these soil samples, WCPD-1 and EW-1A collected on 2/21/2012 and 3/7/2012, respectively. So, could you send March an electronic copy?

Thanks.

Eric Kuhlman Project Manager Leaking UST Section Illinois EPA Phone: (217) 785-5715

----Original Message----

From: Courtney McGinnis < cmcginnis@resourceillinois.com>

Sent: Wednesday, December 14, 2022 3:08 PM To: Kuhlman, Eric < Eric. Kuhlman@Illinois.gov>

Subject: (External) West Chicago Park District/0430905825

Attachment F
OSFM Eligibility and Deductibility Statement



State Fire Marshal

General GISee 217-763-0969 FAX

217.782.1082 Distance

ARSON DIVESTIGATION 217-762-0116 BOILER ON PRESSURE

VERREL GAFETY
217-782-2696
FIRE PREVENTION
217-785-4714

MANAGEMENT SERVICES 217-702-9899 BUTHS 217-789-5828

MUMBUN RESOURCES 717-745-1020 PERSONNEL STANDARDS

and EDUCATION 217-782-4342 PETRICLEUM and CHEMICAL SAFETY

217-703-5870 PUBLIC RIFORMATION 217-705-1021

WEB SITE

CERTIFIED MAIL - RECEIPT REQUESTED # 2 082 44

1 4 1998

DEC

December 10, 1998

West Chicago Park District 157 W. Washington West Chicago, IL 60185-0

In Re:

Facility No. 24019454
IEMA Incident No. 98-0814
West Chicago Fark Dist
Reed-Keppier Haml&Fremont
250 W National
West Chicago, Du Page Co., IL

Dear Applicant:

The Reimbursement Eligibility and Deductible Application, received on October 30, 1998 for the above referenced occurrence has been reviewed. The following determinations have been made based upon this review.

It has been determined that you are eligible to seek payment of costs in excess of \$10,000. The costs must be in response to the occurrence referenced allows and associated with the following tanks:

Eligible Tanks

Tank 1 1,000 gallon Gasolino Tank 2 1,000 gallon Diesel

You must contact the Illinois Environmental Protection Agency to receive a packet of Agency billing forms for submitting your request for payment.

An owner or operator is eligible to access the Underground Storage Tank Fund if the eligibility requirements are satisfied:

- 1. Neither the owner nor the operator is the United States Government;
- 2. The tank does not contain first which is exempt from the Motor Fuel Tax Law;
- The costs were incurred as a result of a confirmed release of any of the following substances:

"Fuel", as defined in Section 1, 19 of the Motor Fuel Tax Low

Aviation feet

Heating oil

1035 Stevenson Drive - Springfield, Illinois 82703-4258

000424

Kerosene

Used oil, which has been refinned from crude oil used in a motor vehicle, as defined in Section 1.3 of the Motor Fuel Tax Law.

- The owner or operator registered the tank and paid all fees in accordance with the statutory and regulatory requirements of the Gasofine Storage Act.
- The owner or operator notified the Illinois Emergency Management Agency of a confirmed release, the costs were incurred after the polification and the costs were a result of a release of a substance listed in this Section. Costs of corrective action or indemnification incurred before providing that notification shall not be eligible for payment. 5.
- The costs have not already been paid to the owner or operator under a private insurance policy, other written agreement, or count private. 6.
- 7. The costs were associated with "corrective

This constitutes the final decision as it relates to your eligibility and deductibility. We reserve the right to change the deductible determination should additional information that would change the determination become available. An underground storage tank owner or operator may appeal the decision to the Illinois Pollution Control Board (Board), pursuant to Section 57.9 (c) (2). An owner or operator who seeks to appeal the decision shall file a petition for a hearing before the Board within 35 days of the date of mailing of the final decision (35 Illinois Administrative Code 105.102(a) (2)).

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

Dozothy Gum, Clerk Illimois Pollution Control Board State of Illinois Center 100 West Randolph, Suite 11-500 Chicago, Illinois 60601 (312)814-3620

If you have any questions regarding the eligibility of deductibility determinations, please contact our Office at (217)785-1020 or (217)785-5878 between 3:00-4:00 p.m.

Melvin H

Sincerely,

Melvin H. Smith Division Director

Division of Petroleum and Chemical Safety

MHS:

IEPA Facility File

RESOURCE CONSULTING, INC.

Attachment G CACR Budget

Budget Summary

734	Free Product	Stage 1 Site Investigation	Stage 2 Site Investigation	Stage 3 Site Investigation	Corrective Action	
Drilling and Monitoring Well Costs Form	\$	\$	\$	\$	\$ 3,035.95	
Analytical Costs Form	\$	\$	\$	\$	\$ 978.00	
Remediation and Disposal Costs Form	\$	\$	\$	\$	\$	
UST Removal and Abandonment Costs Form	\$	\$	\$	\$	\$	
Paving, Demolition, and Well Abandonment Costs Form	\$	\$	\$	\$	\$ 1,535.81	
Consulting Personnel Costs Form	\$	\$	\$	\$	\$ 43,250.34	
Consultant's Materials Costs Form	\$	\$	\$	\$	\$ 147.52	
Handling Charges Form	Handling charges will be determined at the time a billing package is submitted to the Illinois EPA. The amount of allowable handling charges will be determined in accordance with the Handling Charges Form.					
Total	\$	\$	\$	\$	\$ 48,947.62	

Drilling and Monitoring Well Costs Form

1. Drilling

Number of Borings to Be Drilled	Type HSA/PUSH/ Injection	Depth (feet) of Each Boring	Total Feet Drilled	Reason for Drilling
1	PUSH	10.00	10.00	Soil boring for soil gas sample (Aug. 2014).

Subpart H minimum payment amount applies.

	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:			
Total Feet via PUSH:	10.00	21.87	218.70
Total Feet for Injection via PUSH:			
		Total Drilling Costs:	1,457.81

2. Monitoring / Recovery Wells

Number of Wells	Type of Well HSA / PUSH / 4" or 6" Recovery / 8" Recovery	Diameter of Well (inches)	Depth of Well (feet)	Total Feet of Wells to Be Installed
				:

Well Installation	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:			
Total Feet via PUSH:			
Total Feet of 4" or 6" Recovery:			
Total Feet of 8" or Greater Recovery:			
		Total Well Costs:	

Total Drilling and Monitoring Well Costs:	\$1,457.81
Total Drilling and Monitoring Well Costs:	\$1,457.81

Drilling and Monitoring Well Costs Form

1. Drilling

Number of Borings to Be Drilled	Type HSA/PUSH/ Injection	Depth (feet) of Each Boring	Total Feet Drilled	Reason for Drilling
1	PUSH	10.00	10.00	Soil boring/temporary monitoring well installation
				(Aug. 2019)

Subpart H minimum payment amount applies.

	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:			
Total Feet via PUSH:	10.00	23.67	236.70
Total Feet for Injection via PUSH:			
		Total Drilling Costs:	1,578.14

2. Monitoring / Recovery Wells

Number of Wells	Type of Well HSA / PUSH / 4" or 6" Recovery / 8" Recovery	Diameter of Well (inches)	Depth of Well (feet)	Total Feet of Wells to Be Installed

Well installation	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:			
Total Feet via PUSH:		•	
Total Feet of 4" or 6" Recovery:			
Total Feet of 8" or Greater Recovery:			
		Total Well Costs:	

Total Drilling and Monitoring Well Costs:	\$1,578.14

Analytical Costs Form

Laboratory Analysis	Number of Samples		Cost (\$) per Analysis		Total per Parameter
Chemical Analysis				·	
BETX Soil with MTBE EPA 8260		X		=	<u> </u>
BETX Water with MTBE EPA 8260		X		=	
COD (Chemical Oxygen Demand)		X		=	
Corrosivity		Х		=	
Flash Point or Ignitability Analysis EPA 1010		Х		=	
Fraction Organic Carbon Content (foc) ASTM-D 2974-00		Х		=	
Fat, Oil, & Grease (FOG)		Х		=	
LUST Pollutants Soil - analysis must include volatile, base/ neutral, polynuclear aromatics and metals list in Section 732. Appendix B and 734.Appendix B		x		=	
Dissolved Oxygen (DO)		X		=	··
Paint Filter (Free Liquids)	<u> </u>	X		=	
PCB / Pesticides (combination)		Х		=	
PCBs		X		=	
Pesticides		X		=	
рН		X		=	
Phenol		X		=	·
Polynuclear Aromatics PNA, or PAH SOIL EPA 8270		X		=	
Polynuclear Aromatics PNA, or PAH WATER EPA 8270	ļ	X		=	
Reactivity		X		-	
SVOC - Soil (Semi-Volatile Organic Compounds)		X		-	
SVOC - Water (Semi-Volatile Organic Compounds)		X		-	
TKN (Total Kjeldahl) "nitrogen"		X		=	
TPH (Total Petroleum Hydrocarbons)	ļ	X			
VOC (Volatile Organic Compounds) - Soil (Non-Aqueous)	ļ	X	ļ		
VOC (Volatile Organic Compounds) - Water	ļ		400.00	-	0.400.00
2 Bulk density and 1 BTEX/MTBE Soil Gas sample (Aug. 2014)	1	X	460.00		\$460.00
BTEX Water with MTBE EPA 8620 (July 2017)	. 1	X	60.00	=	\$60.00
PNA Water EPA 8270 (July 2017)	1	X	150.00	=	\$150.00
BTEX Water with MTBE EPA 8620 (Aug. 2019)	1 1	X	60.00 150.00	-	\$60.00 \$150.00
PNA Water EPA 8270 (Aug. 2019) Geo-Technical Analysis	<u> </u>		130.00	=	\$150.00
Soil Bulk Density (pb) ASTM D2937-94		X	T	=	
Ex-situ Hydraulic Conductivity / Permeability	1	X		=	
Moisture Content (w) ASTM D2216-92 / D4643-93		Х		=	 -
Porosity		Х		=	··
Rock Hydraulic Conductivity Ex-situ		X		=	
Sieve / Particle Size Analysis ASTM D422-63 / D1140-54		X		=	
Soil Classification ASTM D2488-90 / D2487-90		X		=	
Soil Particle Density (ps) ASTM D854-92		X		=	
Soil Bulk Density (Aug. 2019)	1	Х	80.00	=	\$80.00
Moisture Content (Aug. 2019)	1	X	18.00	=	\$18.00
		х		=	

Analytical Costs Form

Metals Analysis				
illetais Alialysis				
Soil preparation fee for Metals TCLP Soil (one fee per soil sample)) x		=	
Soil preparation fee for Metals Total Soil (one fee per soil sample))		=	
Water preparation fee for Metals Water (one fee per water sample))		=	
Arsenic TCLP Soil	Х		=	
Arsenic Total Soil) x		=	
Arsenic Water	Х		=	
Barium TCLP Soil	Х		=	
Barium Total Soil	X		=	
Barium Water	Х		=	
Cadmium TCLP Soil	X		=	
Cadmium Total Soil	X		=	
Cadmium Water	Х		=	
Chromium TCLP Soil	Х		=	
Chromium Total Soil	K		=	
Chromium Water	Х		=	
Cyanide TCLP Soil	Х		=	
Cyanide Total Soil	Х		=	
Cyanide Water	Х		=	
Iron TCLP Soil	Х		=	
Iron Total Soil	Х		=	
Iron Water	Х		=	
Lead TCLP Soil	Х		=	
Lead Total Soil	X		=	_
Lead Water	X		=	
Mercury TCLP Soil	X		=	
Mercury Total Soil	x		=	
Mercury Water	x	·	=	
Selenium TCLP Soil	X		=	
Selenium Total Soil	x		=	
Selenium Water	x		=	
Silver TCLP Soil	X		=	
Silver Total Soil	x		=	<u></u>
Silver Water	X		=	
Metals TCLP Soil (a combination of all metals) RCRA	Х		=	
Metals Total Soil (a combination of all metals) RCRA	X		=	
Metals Water (a combination of all metals) RCRA	X		=	
	х		=	
	х		=	
	Х		=	
	Х		=	
Other	· · · · · · · · · · · · · · · · · · ·			
EnCore® Sampler, purge-and-trap sampler, or equivalent sampling device	X		=	
Sample Shipping per sampling event ¹	Х		=	

¹A sampling event, at a minimum, is all samples (soil and groundwater) collected in a calendar day.

Total Analytical Costs: \$ 978.00

Paving, Demolition, and Well Abandonment Costs Form

A. Concrete and Asphalt Placement/Replacement

• .		

Total Concrete and Asphalt
Placement/Replacement Costs:

B. Building Destruction or Dismantling and Canopy Removal

Item to Be Destroyed, Dismantled, or Removed	Unit Cost (\$)	Total Cost (\$)
:		
		· · · · · · · · · · · · · · · · · · ·

Total Building Destruction or Dismantling and	
Canopy Removal Costs:	

Paving, Demolition, and Well Abandonment Costs Form

C. Well Abandonment

Monitoring Well ID #	Type of Well (HSA / PUSH / Recovery)	Depth of Well (feet)	Cost (\$) per Foot	Total Cost
RW-1	HSA	14.00	14.09	\$197.26
RW-2	HSA	17.00	14.09	\$239.53
RW-4	HSA	14.00	14.09	\$197.26
RW-5	HSA	12.00	14.09	\$169.08
RW-6	HSA	13.00	14.09	\$183.17
RW-7	HSA	13.00	14.09	\$183.17
RW-8	HSA	13.00	14.09	\$183.17
RW-9	HSA	13.00	14.09	\$183.17
-				
				·
······································				

Total Monitoring Well Abandonment Costs:	\$1,535.81
--	------------

Total Paving, Demolition, and Well Abandonment Costs:	\$1,535.81
---	------------

Consulting Personnel Costs Form

Employee Name	Personnel Title	Hours	Rate* (\$)	Total Cost		
Remediation Category		Task				
		Senior Project Manager	10.00	119.11	\$1,191.10	
	Evaluation of CACR rejection from IEPA; Planning for additional requirements (Sept. 2013).					
	F	Senior Project Manager	10.00	119.11	\$1,191.10	
	Correspondence	with staff and IEPA re: regulatory	evaluation and i	ndoor inhalation	exposure route	
		Project Manager	10.00	107.20	\$1,072.00	
	Project manage	ment with staff and IEPA re: CACR	rejection, TACO	, data, budget re	evisions (2013).	
		<u></u>		· ·		
	· · · · · · · · · · · · · · · · · · ·	Project Manager	3.00	107.20	\$321.60	
	Review/editing of TACO calculations; correspondence with PM re: indoor inhalation requirement.					
		Project Manager	6.00	109.34	\$656.04	
	Field work plann	ing for soil vapor and bulk density s	ampling (Aug. 2	014).		
	 			····		
	<u> </u>	Geologist III	5.00	106.91	\$534.55	
	On-site for soil s	ampling (Aug. 2014)				
		Project Manager	6.00	109.34	\$656.04	
	Analysis/evaluat	ion of soil gas data, correspondence	e with lab and IE	PA re: data ana	lysis (2014).	
				· · · · · · · · · · · · · · · · · · ·		
	, ,,,-	Senior Project Manager	20.00	121.49	\$2,429.80	
	Preparation of o	rdinance: research, planning, corres	pondence with	City (2014).		
				<u> </u>		
		Geologist III	20.00	106.91	\$2,138.20	
	Preparation of di	raft ordinance document for submiss	sion to Public W	orks Departmen	(2014).	

Employee Name	9	Personnel Title	Hours	Rate* (\$)	Total Cost	
Remediation Category		Task				
		2200		1		
	·	Geologist III	5.00	106.91	\$534.55	
	Preparation of n	naps and supporting documents for	draft ordinance	using IEPA requ	irements 2014).	
		Project Manager	10.00	109.34	\$1,093.40	
	Ordinance desig	n and preparation of documents wit	h staff and city	(2014).		
		Project Manager	6.00	109.34	\$656.04	
	TACO modeling	calculations for ordinance (2014).				
		Project Manager	10.00	109.34	\$1,093.40	
	Review of ordina	ance and supporting documents for	final enactment	by City (2014/20	15).	
		Project Manager	10.00	109.34	\$1,093.40	
	Project manage	ment with City personnel re: propert	y owner summa	ary and approval	of ordinance (2(
		Senior Project Manager	3.00	125.15	\$375.45	
	Project manage	ment with Illinois EPA re: indoor inha	alation and Site	land use classific	cation (June 20	
		Senior Scientist	20.00	106.38	\$2,127.60	
	Preparation of C	ACR response documentation inclu	ding TACO mod	deling, ordinance	work (June 201	
		Project Manager	5.00	113.76	\$568.80	
	Review of data	and project needs for contaminated	groundwater an	d soil gas; planni	ng for field worl	
	· · · · · · · · · · · · · · · · · · ·	Geologist III	6.00	111.24	\$667.44	
	On-site for moni	toring well sampling and sample ma	nagement (July	2017).		

Employee Name		Personnel Title	Hours	Rate* (\$)	Total Cost		
Remediation Category		Task					
		Project Manager	5.00	113.76	\$568.80		
	Review of groun	ndwater quality data and planning re	sponse for indo	or inhalationroute	e evaluation (20		
		Senior Project Manager	5.00	126.40	\$632.00		
	Project manage	ment with IEPA and client re: re-san	npling monitorin	g well for J&E eq	uation (2017).		
	<u> </u>	Project Manager	5.00	116.04	\$580.20		
	Review of proje	ct needs and budgeting for next pha	se of project (20)19).			
3.	·····	Geologist III	20.00	113.46	\$2,269.20		
	Preparation of to	echnical summary/CAP amendment	text and mappi	ng (2019).			
		Senior Admin. Assistant	3.00	58.02	\$174.06		
	Forms manager	ment - preparation, editing, publishin	g, corresponder	nce (2019).			
		Senior Project Manager	3.00	128.93	\$386.79		
	Review of techn	ical summary/CAP amendment (201	9).				
		Senior Admin. Assistant	2.00	58.02	\$116.04		
	Edit and publish	technical summary/CAP amendment	nt (2019)				
		Senior Project Manager	2.00	131.51	\$263.02		
	Project manage	ment - soil and groundwater sampling	ng with new IEP	A project manag	er (2019).		
		Project Manager	2.00	118.36	\$236.72		
10000-000	Field work plans	ning with staff, review of scope of wo	rk and project n	eeds (2019).			

Employee Name		Personnel Title	Hours	Rate* (\$)	Total Cost
Remediation Category		Task			
	 	Project Manager		<u> </u>	
	1	1 Tojour Mullagor	3.00	118.36	\$355.08
	Project manage	ment and correspondence w/ new l	EPA project ma	nager (2019).	
		Geologist III	2.00	115.73	\$231.46
	Preparation for	field work and scheduling including	correspondence	with WCPD and	staff (2019).
		Geologist III	5.00	115.73	\$578.65
	On-site for soil I	boring/monitoring well installation (A	aug. 2019).		
,		Geologist III	20.00	115.73	\$2,314.60
	Review of lab d	ata, preparation of data table, forms		11	
		Senior Admin. Assistant	6.00	59.18	\$355.08
	Edit and publish	n CAP amendment (2020).			
		Project Manager	2.00	120.73	\$241.46
	Data analysis a	nd historical data review (2021).			
	· · · · · · · · · · · · · · · · · · ·	Geologist III	15.00	118.04	\$1,770.60
	Preparation of J	&E calculations (2021).			
		Project Manager	8.00	120.73	\$965.84
	Review and eva	aluation of indoor inhalation modelin	g, data, and IEP	'A requirements (2021).
		Senior Admin. Assistant	20.00	60.36	\$1,207.20
	Clerical work, in	voicing, budgeting documentation (2021).		

Employee Name		Personnel Title	Hours	Rate* (\$)	Total Cost	
Remediation Category		Task				
 				, , , , , , , , , , , , , , , , , , , 		
		Geologist III	20.00	123.99	\$2,479.80	
	Preparation of C	ACR budget amendment (2022).				
		Senior Admin. Assistant	15.00	63.41	\$951.15	
	Preparation of b	illing package (2022).				
		Geologist III	50.00	123.99	\$6,199.50	
	Preparation of c	omprehensive CACR at request of r	new PM (2022).	***		
• • • • • • • • • • • • • • • • • • • •		Geologist III	10.00	123.99	\$1,239.90	
	Review and pre	paration of J&E equation for final do	cumentation (20) 22).		
		Professional Engineer	4.00	183.17	\$732.68	
	Review and cert	ification of CACR (2022).				
	e c					
		<u> </u>				
					, , , , , , , , , , , , , , , , , , ,	
	γ					
		l				
Pefer to the applicable Maximum	<u> </u>		 			

^{*}Refer to the applicable Maximum Payment Amounts document.

Total of Consulting Personnel Costs	\$43,250.34
--	-------------

Consultant's Materials Costs Form

Materials, Equipment, or Field Purchase		Time or Amount Used	Rate (\$)	Unit	Total Cost			
Remediation Category		Description/Justification						
Mileage (Aug. 2014)		14.00	.56		\$7.8			
CACR								
Sampling Equipment (2014)	· · · · · · · · · · · · · · · · · · ·	1.00	124.00		\$124.0			
CACR Hellum detector for so		il gas sampling.						
Mileage (July 2017)		14.00	.54		\$7.5			
Mileage (Aug. 2019)		14.00	.58		\$8.1			
s								
	· · · · · · · · · · · · · · · · · · ·				······			
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			<u>l</u> _					
				1				
		Total of Consultant	t Materials Cost	ts	\$147.52			

Kim, Richard

Electronic Filing: Received, Clerk's Office 09/20/2024

From:

Kuhlman, Eric

Sent:

Wednesday, October 25, 2023 12:05 PM

To:

'Daniel Horvath'

Subject:

RE: [External] West Chicago Park District/980814

Thanks, Dan.

ERIC KUHLMAN
Project Manager
Leaking UST Section
Illinois EPA

Phone: (217) 785-5715



From: Daniel Horvath < dhorvath@resourceillinois.com>

Sent: Wednesday, October 25, 2023 12:51 PM **To:** Kuhlman, Eric < Eric.Kuhlman@Illinois.gov>

Cc: Putrich, Steve <Steve.Putrich@Illinois.gov>; Courtney McGinnis <cmcginnis@resourceillinois.com>

Subject: Re: [External] West Chicago Park District/980814

OK thank you for the clarification. We are working on gathering the requested information and will submit it as soon as it's ready.

Daniel J. Horvath Resource Consulting, Inc.

(o) (630)232-9820

(c) (630)292-9820

(f) (630)232-9824

www.resourceillinois.com

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On Oct 24, 2023, at 9:07 AM, Kuhlman, Eric < Eric.Kuhlman@Illinois.gov> wrote:

Good morning, Électronic Filing: Received, Clerk's Office 09/20/2024

No, this is not an official review. An official review, as you know, is an IEPA response letter dated and signed by me that has been mailed or sent electronically. There are no other points, or issues at this time, however that is subject to change depending on the information submitted or reviewed.

Case and point, since any plan, budget, and reports submitted to the LUST Section are reviewed by project managers, lead workers, and unit managers. And with each person having different views, one cannot guarantee that there will not be other points.

But these are my points for the CACR and BUD dated June 16, 2023 for the above referenced incident, the CACR is missing the following items:

- The new certification of Ordinance No. 15-O-0004 included in Attachment A does not include
 the official copies of records belonging to City of West Chicago as stated on the certificate.
 Therefore, an updated copy will need to be submitted for review since the IEPA does not know
 what the Executive Office Manager, Valeria Perez was certifying on 4/11/2023.
- 2. The RBCA Input Parameters for Use with Tier 2 Calculations form and input value data were not submitted. Therefore, a completed Input Parameters form and will need to be submitted to the IEPA for technical review, as well as a small narrative regarding the laboratory data behind input values chosen.
- 3. J&E Input Parameters and Calculations for ethylbenzene and naphthalene could not be duplicated. As such, further investigation may be required to address the Indoor Inhalation exposure route. This exposure will need to be addressed, maybe by resampling the groundwater and/or soil gas in that location, or possibly utilizing an industrial/commercial property use restriction for just the maintenance garage.

And the BUD is/was missing the following items: .

- General Information for the Budget and Billing forms,
- 2. Owner/Operator and Licensed Professional Engineer/Geologist Budget Certification form,
- 3. Analytical Costs for chemical analysis of (2) bulk density and (1) BETX/MTBE soil gas sample (August of 2014) needs to be broken out since the IEPA cannot determine whether bulk density analysis rate exceeds \$26.73 per analysis.
- 4. Analytical Costs for chemical analysis of (1) bulk density (August of 2019) exceeds the bulk density analysis rate of \$28.93 per analysis.
- 5. Analytical Costs for chemical analysis of (1) moisture content (August of 2019) exceeds the moisture content analysis rate of \$15.78 per analysis.
- 6. A good number of line items in Consulting Personnel Costs form either do not have month and year, or do not have a month. As such, the proposed rates may be either reduced or deducted due to lack of documentation. (6) line items have a plus (+) and no month and year so these will be deducted.

7. Consultant's Material Costs for mileage will need to be adjusted for 13 miles roundtrip and samplin Electronic Hellingte Received, Serkis reffide 09/20/2004 such costs exceed the minimum requirements because isopropyl alcohol can be used instead.

However, with the 60-day extension that you have provided, we should have the time to resolve them.

Respectfully,

ERIC KUHLMAN
Project Manager
Leaking UST Section
Illinois EPA

Phone: (217) 785-5715

<image001.png><image002.png><image003.jpg><image004.png>

From: Daniel Horvath < dhorvath@resourceillinois.com >

Sent: Monday, October 23, 2023 12:39 PM
To: Kuhlman, Eric < Eric.Kuhlman@Illinois.gov >
Cc: Putrich, Steve < Steve.Putrich@Illinois.gov >

Subject: Re: [External] West Chicago Park District/980814

Is your October 10, 2023, email the official record of the Illinois EPA's review of the recent submission? No other points to cover?

Thank you,

Daniel J. Horvath Resource Consulting, Inc.

(o) (630)232-9820

(c) (630)292-9820

(f) (630)232-9824

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On Oct 12, 2023, at 11:33 AM, Kuhlman, Eric < Eric.Kuhlman@Illinois.gov> wrote:

In the IEPA will need something more official, like a cover letter with your company's letterhelies Filing Preceived Clerk's Office 09/20/2024

ERIC KUHLMAN
Project Manager
Leaking UST Section
Illinois EPA

Phone: (217) 785-5715

<image001.png><image002.png><image003.jpg><image004.png>

From: Daniel Horvath < dhorvath@resourceillinois.com>

Sent: Thursday, October 12, 2023 11:27 AM **To:** Kuhlman, Eric < Eric.Kuhlman@Illinois.gov **Cc:** Putrich, Steve < Steve.Putrich@Illinois.gov

Subject: Re: [External] West Chicago Park District/980814

On behalf of the West Chicago Park District, a 60-day extension of the 120-day review period for the project's CACR is requested.

Thank you,

Daniel J. Horvath Resource Consulting, Inc.

(o) (630)232-9820

(c) (630)292-9820

(f) (630)232-9824

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On Oct 12, 2023, at 11:04 AM, Kuhlman, Eric < Eric.Kuhlman@Illinois.gov wrote:

That's my recommendation. Is that acceptable?

Project Manager Leaking UST Section Illinois EPA

Phone: (217) 785-5715

<image001.png><image002.png><image003.jpg><image004.png>

From: Daniel Horvath < dhorvath@resourceillinois.com >

Sent: Thursday, October 12, 2023 11:02 AM

To: Kuhlman, Eric < Eric.Kuhlman@Illinois.gov

Cc: Putrich, Steve < Steve.Putrich@Illinois.gov

Subject: Re: [External] West Chicago Park District/980814

OK will an extension be granted? 60-day minimum correct?

Daniel J. Horvath Resource Consulting, Inc.

(o) (630)232-9820

(c) (630)292-9820

(f) (630)232-9824

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On Oct 12, 2023, at 7:43 AM, Kuhlman, Eric <Eric.Kuhlman@Illinois.gov> wrote:

I don't think I can resolve these issues before 10/21/2023. I will need more time since a draft copy of the review letter should have already be submitted to management. I also have other LUST incidents that

need to be reviewed, bu, if you drike the to resolve

Electronic Filing Received, Clerk's Office 09/20/2024

Otherwise, my draft letter goes on to management.

ERIC KUHLMAN
Project Manager
Leaking UST Section
Illinois EPA

Phone: (217) 785-5715

<image001.png><image002.png><image003.jpg><image003.jpg>

e004.png>

From: Daniel Horvath < dhorvath@resourceillinois.com >

Sent: Wednesday, October 11, 2023 2:05 PM
To: Kuhlman, Eric < Eric.Kuhlman@Illinois.gov
Cc: Putrich, Steve < Subject: Re: [External] West Chicago Park

District/980814

Please see my comments below. We should be able to reach common ground before 10/21/2023.

Thank you,

Daniel J. Horvath
Resource Consulting, Inc.

(o) (630)232-9820

(c) (630)292-9820

(f) (630)232-9824

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- > On Oct 10, 2023, at 2:40 PM, Kuhlman, Eric
- < Eric.Kuhlman@Illinois.gov > wrote:

>

> Good afternoon, Daniel.

>

> After review of the CACR and BUD dated June 16, 2023 for the above referenced incident, I have concluded that the CACR cannot be approved as submitted. The BUD is missing the following items:

>

> 1) The new certification of Ordinance No. 15-O-0004 included in Attachment A does not include the official copies of records belonging to City of West Chicago as stated on the certificate. Therefore, an updated copy will need to be submitted for review since the IEPA does not know what the Executive Office Manager, Valeria Perez was certifying on 4/11/2023.

We will provide the certificate again with the 2015 ordinance attached.

>

> 2) The RBCA Input Parameters for Use with Tier 2 Calculations form and input value data were not submitted. Therefore, a completed Input Parameters form and will need to be submitted to the IEPA for technical review, as well as a small narrative regarding the laboratory data behind input values chosen.

I believe you are referring to the indoor inhalation evaluation. All of the input parameters are in tables after each summary of equations. We can complete the forms if needed.

>

> Note, a slug test may need to be conducted to determine hydraulic conductivity (K).

Slug testing and K value determination were completed and provided in the 2003 CACR.

>

> 3) J&E Input Parameters and Calculations for ethylbenzene and naphthalene could not be duplicated. As such, further investigation may be required to address the Indoor Inhalation exposure route. This exposure will need to be addressed, maybe by resampling the groundwater and/or soil gas in that location, or possibly utilizing an industrial/commercial property use restriction for just the maintenance garage.

Electronic Phind. Received? Crerk's Office 09/20/2024

Inhalation evaluation. Maybe the Illinois EPA can share

its results so that the evaluation is completed?

We were explicitly told that the park is residential:

<image005.jpg>

Resampling has also been done at least twice.

> I have concluded that the BUD cannot be approved as submitted.

> 1) General Information for the Budget and Billing

> 2) Owner/Operator and Licensed Professional Engineer/Geologist Budget Certification form,

These forms were provided in PDF form and the originals arrived in the Illinois EPA mail room 10/10/2023 at approximately 11am.

>

> 3) Analytical Costs for chemical analysis of (2) bulk density and (1) BETX/MTBE soil gas sample (August of 2014) needs to be broken out since the IEPA cannot determine whether bulk density analysis rate exceeds \$26.73 per analysis.

> 4) Analytical Costs for chemical analysis of (1) bulk density (August of 2019) exceeds the bulk density analysis rate of \$28.93 per analysis.

> 5) Analytical Costs for chemical analysis of (1) moisture content (August of 2019) exceeds the moisture content analysis rate of \$15.78 per analysis.

Please amend the budget accordingly.

> 6) A good number of line items in Consulting Personnel Costs form either do not have month and year, or do not have a month. As such, the proposed rates may be either reduced or deducted due to lack of documentation. (6) line items have a plus (+) and no month and year so these will be deducted.

The Illinois EPA forms do not expand with text addition. The forms can be corrected in a timely manner.

> 7) Consultant's Material Costs for mileage will need to be adjusted for 13 miles roundtrip and sampling equipment (helium detector for soil gas sampling) will be deducted since such costs exceed the minimum requirements because isopropyl alcohol can be used instead.

USEPA guidance (attached) only mentions helium. The Illinois EPA website states: "A tracer gas or other leak apparatus detection system approved by the Illinois EPA must be used during the sampling to confirm there are no leaks around the soil gas sampling train." I cannot find any other guidance at the Illinois EPA website nor has anyone notified my firm of an isopropyl alcohol leak detection alternative.

```
> So, I'd like to know if you need more time to correct
these issues, or would you like me to proceed with my
review letter?
> Respectfully,
> Eric Kuhlman
> Project Manager
> Leaking UST Section
> Illinois EPA
> Phone: (217) 785-5715
> -----Original Message-----
> From: Kuhlman, Eric
> Sent: Tuesday, October 3, 2023 1:14 PM
> To: Daniel Horvath < <a href="mailto:dhorvath@resourceillinois.com">dhorvath@resourceillinois.com</a>
> Subject: RE: [External] West Chicago Park
District/980814
>
> Do you have the new IEPA budget forms yet? Please
note, I will also need an e-copy of the certified copy of
the Groundwater Ordinance for DLC for their records.
> Eric Kuhlman
> Project Manager
> Leaking UST Section
```

```
> -----Original Message-----
> From: Daniel Horvath
<dhorvath@resourceillinois.com>
> Sent: Monday, September 25, 2023 2:48 PM
> To: Kuhlman, Eric < Eric. Kuhlman@Illinois.gov>
> Subject: Re: [External] West Chicago Park
District/980814
> Park District contacts were out of their office last
week - the forms will be completed very soon and
submitted. Please don't have this delay your review.
> Thank you,
> Daniel J. Horvath
> Resource Consulting, Inc.
> (o) (630)232-9820
> (c) (630)292-9820
> (f) (630)232-9824
> www.resourceillinois.com
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> >> On Sep 19, 2023, at 1:27 PM, Kuhlman, Eric <Eric.Kuhlman@Illinois.gov> wrote: >> I'm afraid the regulations are quite clear. >>

on forms prescribed and provided by the Agency and, if specified by the Agency in writing, in an electronic format.

>>

>> Therefore, you will need to submit new IEPA forms to the Agency for the new budget submitted.

>>

>>

>> Eric Kuhlman

>> Project Manager

>> Leaking UST Section

>> Illinois EPA

>> Phone: (217) 785-5715

>>

>>

>> -----Original Message-----

>> From: Daniel Horvath

com>

>> Sent: Tuesday, September 19, 2023 1:01 PM >> To: Kuhlman, Eric < Eric.Kuhlman@Illinois.gov>

>> Subject: Re: [External] West Chicago Park

District/980814

>>

>> These forms are in the forms appendix, not the budget appendix, of the November 2022 submission.

>>

>> Daniel J. Horvath

>> Resource Consulting, Inc.

>>

>> (o) (630)232-9820

>> (c) (630)292-9820

>> (f) (630)232-9824

>> http://secure-

web.cisco.com/1QQvIJswgK4E9VKmfqxtheXVhgxt1wwZ 60dZ7dFoDI2YWKwwFaDfuOnb2MUaWzLyGj88hIQhBM Ev4lgasIQ1QIPPn0ZC8atfawknLrOtiKBzyvL-

wsfCi uz4Xhk-YZEu60nB2u-

isTAuDjH6vxtXtTW755kMPL16GKiSj2wDR08vMLngljYXd NcHTal7ijD 83DQmRiZIAJH-

RWjhmzjm2BkEyZkdJ3aulOIKFCag-AhvcvNulmjf3xllsZg-f9CE96Bh435vOOP0He P7ui5nKMlxxQTJ7lG55ChNdH38 6OAjZLFMbtgjbjid2UL2GED8O6WVztx3ue91dXaRkPpp8 1PXuMa6FugoM8CK9ZcOqQrMXhGn3jvqJZAgCTlNm5V M-xxrHZ-

vosowe0MrCXHfllb1iUKB1dIG7ZsMUBuyo/http%3A%2F
%2Fwww.resourceillinois.com

>>

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```
>>
>>
>>> On Sep 19, 2023, at 8:25 AM, Kuhlman, Eric
< Eric. Kuhlman@Illinois.gov> wrote:
>>>
>>> Well, after initial review the CACR and BUD for this
incident is missing the attached IEPA BUD forms.
>>>
>>>
>>> Eric Kuhlman
>>> Project Manager
>>> Leaking UST Section
>>> Illinois EPA
>>> Phone: (217) 785-5715
>>>
>>>
>>> -----Original Message-----
>>> From: Daniel Horvath
<dhorvath@resourceillinois.com>
>>> Sent: Monday, September 18, 2023 10:22 AM
>>> To: Kuhlman, Eric < Eric. Kuhlman@Illinois.gov>
>>> Subject: [External] West Chicago Park
District/980814
>>>
>>> Any news on this Eric?
>>>
>>> Thank you,
>>> Daniel J. Horvath
>>> Resource Consulting, Inc.
>>>
>>> (o) (630)232-9820
>>> (c) (630)292-9820
>>> (f) (630)232-9824
>>> http://secure-
```

web.cisco.com/1QQvIJswgK4E9VKmfqxtheXVhgxt1wwZ

LEAKING UST TECHNICAL REVIEW NOTES

Reviewed by: Eric Kuhlman Re: 0430905825 -- DuPage County

West Chicago / West Chicago Park District

Date Reviewed: 9/19/2023 250 West National Street

Leaking UST Incident 980814 Leaking UST Technical File

Document(s) Reviewed:

TEPA-DIVISION OF RECORDS MANAGEMENT TELEASABLE

CACR / BUD

MAR 2 9 2024 REVIEWER: SAB

General Site Information:

Site subject to: 732 / 734

MA date(s): 10/20/1998 Payment from the Fund? (Y/N/unknown):			
UST system removed? (Y/N): Y	OSFM Fac. ID #: 2019454		
Encountered groundwater? (Y/N): Y	SWAP mapping and evaluation completion date: 7/16/2021		
Free product? (Y/N/unknown): Y	Site placement correct in SWAP? (Y/N): U		
Current/past land use: public utility maintenance garage / Reed-Keepler Park	Inspection Required? (Date/Plan): NA		
Size & product of USTs: Tank 1 - 1,000-gallor Tank 2 - 1,000-diese	-		
Is site located in EJ area? Y (red)	Is investigation of indoor inhalation exposure route required? Y		
Has enough sampling been completed to perform a Right-to-Know Evaluation? Y	PLA Checklist Complete? N		

BOL File Information:(optional) (Arranged chronologically):

(See DocuWare)

On 8/26/2014, (1) SB (GP-1) was drilled to 6 feet bgs. Soil samples were collected and analyzed for dry soil bulk density (ρ_b). Analytical results indicated ρ_b of 94.8 lbs/ft³ for GP-1@2-3' and ρ_b of 94.3 lbs/ft³ for GP-1@5-6'.

On 8/26/2014, (1) SG sample [RW-4B] was collected from area of RW-4A and analyzed for BETX/MTBE. Analytical results indicated COCs > Tier I SGROs for Res Ind Inh in RW-4B(B) in accordance with 35 IAC 74.227 and 742.App.B. Table H: Tier I SG/GROs for Ind Inh Exposure Route – Diffusion and Advection.

On 7/24/2017, water samples were collected from RW-4A and analyzed for BETX and PNAs. Analytical results indicated COCs > Tier I GROs for GCGI in RW-4A (B, BkF).

Page 2

On 10/25/2018, IEPA conducted record review and determine limited information has been received documenting remediation of this release since 9/17/2013.

On 6/18/2019, RCI submitted **MISC CORR** dated 6/14/2019 that provided laboratory results (SG/GW) and email from previous IEPA PM (Carol Hawbaker) stating *IEPA position that this site is park and cannot have I/C property use restriction since it's residential property.*

On 7/3/2019, RCI returned to site to resample RW-4A. However, parking lot had been paved and MW was no longer accessible.

On 8/2/2019, RCI returned to site to install TMW [MW-4B] near RW-4A. Soil samples were collected and analyzed for bulk density (ρ_b), and moisture content (ω). Analytical results indicated ρ_b of 94.3 lbs/ft³ and ω of 9.5%.

On 8/2/2019, water samples were collected from RW-4B and analyzed for BETX and PNAs. Analytical results indicated COCs > Tier I GROs for GCGI in RW-4B(BE, BaA, BaP, BbF, C, IcP, N).

On 7/22/2020, RCI submitted **MISC CORR** dated 7/15/2020 that responded to *IEPA letter dated 9/17/2013* and provided laboratory results (SG/GW), Ordinance No. 15-O-0004, Tier 2 Evaluations, Site Maps, and IEPA forms.

On 4/12/2021, RCI submitted CACR dated 4/6/2021 that provided laboratory results and J&E Model Calculations (B).

On 12/15/2022, RCI submitted **CACR** dated 11/15/2022 that provided **BUD**, laboratory results, J&E Model Calculations (BEN), Ordinance (15-O-0004, not approved by IEPA), and IEPA forms. *IEPA rejected CACR and BUD* on 4/14/2023.

Corrective Action Completion Report Review Notes:

On 6/23/2023, RCI submitted **CACR** dated 6/16/2023 that responded to *IEPA letter dated* 4/14/2023 and provided Ordinance No. 15-O-0004, RBCA Calculations (PNAs), J&E Calculations (BEN), IEPA forms (LC), IEPA email, OSFM RE&D form, and **BUD**.

On 10/10/2023, RCI submitted MISC CORR dated 10/6/2023 that provided IEPA forms.

On 10/16/2023, RCI submitted MISC CORR dated 10/16/2023 that requested IEPA waive right of review of CACR dated 6/16/2023 for a minimum of 60 days.

Page 3

On 12/8/2023, RCI submitted **MISC CORR** dated 11/22/2023 that responded to IEPA in email dated 10/10/2023 that provided Ordinance No. 15-O-0004 (certified), RBCA Input forms, Parcel Map, **BUD**, and USEPA Soil Gas Sampling Guidance.

On 12/15/2023, RCI submitted MISC CORR dated 12/15/2023 that requested IEPA waive right of review of CACR dated 6/16/2023 for a minimum of 60 days.

Illinois EPA Decision:

PM recommends CACR be approved, and BUD be modified...

[see IEPA letters]

Please note, DLC has approved an e-version of Ordnance No. 15-O-0004, and IEPA we were waiting for certified copy via mail before issuing NFR letter.

Response Due:

10/21/2023, extended to 2/14/2024

RESOURCE CONSULTING, INC.

115 Campbell Street

P.O. Box 123

Geneva, Illinois 60134

Phone: (630)232-9820

Fax: (630)232-9824

October 6, 2023

0430905825 - DuPage County West Chicago Park District Incident # 980814 LUST Tech File

Mr. Eric Kuhlman
Illinois Environmental Protection Agency
Leaking Underground Storage Tank Section
Bureau of Land
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

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OCT 10 2023
IEPA/BOL

RE:

LPC No. 0430905825 - DuPage County

West Chicago/West Chicago Park District - Reed Keppler Park

250 West National Street Leaking UST Incident 980814 Leaking UST Technical File

Dear Mr. Kuhlman:

On behalf of the West Chicago Park District, Resource Consulting, Inc. is submitting the requested Budget Certification and General Information forms for the above-referenced incident. These forms are related to the June 2023 submittal for this project.

Please contact our office at any time with questions or comments.

IEPA-DIVISION OF RECORDS MANAGEMENT RELEASABLE

MAR 2 9 2024

REVIEWER: SAB

Regards,

Daniel L. Horvath

Hydrogeologist/Senior Project Manager

Enclosure:

Forms

RECEIVED
OCT 1 0 2023

IEPA/BOL

cc:

Ms. Gina Radun, West Chicago Park District



Electronic Eiling: Received, Clerk's Office 09/20 1111015 Environmental Pro West Chi

O430905825 - DuPage County
West Chicago Park District
Incident # 980814

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinc , LUST Tech File

General Information for the Budget and Billing Forms

LPC#:	0430905825		County:		DuPage	
City:	City: West Chicago		Site Name:	West Chica	West Chicago Park District	
Site Ad	Idress: 250 West Natio	nal Street				
Date th	nis form was prepared:	Sep 22, 2023	<u> </u>			
List all	IEMA Incident number	s associated with th	is package:			
98081						
List all	other incidents associ	ated with this site th	at are not associate	d with this package	:	
					Prosin.	
This fo	orm is being submitted	as a (check one, if a	pplicable):		RECEIVES COT 10 2023 EPA/BOL	
\bigcirc i	Billing Package				10 2023	
<u></u>	Dining i dokage			I	EPA/BOI	
⊘ I	Budget Amendment (Bud	lget amendments mus	st include only the cos	sts over the previous	budget.)	
\sim	Dudget Despesal					
Oi	Budget Proposal					
ı	Please provide the name	(s) and date(s) of rep	ort(s) documenting th	e costs requested:		
	Name(s): FPRR/CACE	R Tech	Summary/CAP An	CACR		
	Date(s): Jul 12, 2013	Jun	14, 2019	Nov 15, 2022		
This pa	ackage is being submit	ted for the site activ	ities indicated belov	/:		
35 I	III. Adm. Code 734:					
	Early Action					
	Free Product Removal af	ter Early Action				
	Site Investigation	Stage 1	:	Stage 3:		
V	Corrective Action					
35	III. Adm. Code 732:					
	Early Action					
	Free Product Removal af	ter Early Action				
_ _;	Site Classification					
	Low Priority Corrective A	ction		_		
	High Priority Corrective A	ection		•		
35	III. Adm. Code 731:				•	
	Site Investigation					
	Corrective Action					

Electralistrange therefore the durant conditions for the conditions fo

The following address will be used as the mailing address for checks and any final determination letters regarding payment from the Fund for this package.

Pay to the order of:	West Chicago Par	rk District				
Send in care of:	Gina Radun					
Address:	201 W. National S	St				
City:	West Chicago			State: IL	Z	Zip: <u>6</u> 0185
The payee is the:	Owner 🗸	Operator 🗸	(Check one or	r both.)		
Lil	ads -				7.256	23
Signature of	the owner or opera	tor of the UST(s)	(required)		Date	
West Chicago Park	District c/o Gina R	adun				e submitted. o print off a W-9 Form.
Printed name of	of the owner or ope	rator of the UST(s) (required)	હ	MON HOLO III	<u> </u>
Email: gradun@we	e-goparks.org				_	
Number of petroleur parent or joint stock joint stock company	company of the o	wner or operator	•		-	
		Fewer	than 101: 🕢	101 or	more: (ŧ

Please list all tanks that have ever been located at the site and tanks that are presently located at the site.

Product Stored in UST	Size (gallons)	Did UST have a release?		1 Incident No.	Type of Release Tank Leak / Overfill Piping Leak	
Gasoline	1,000	Yes 🕢	No 🔾	980814	Tank Leak	
Diesel Fuel	1,000	Yes 🔾	No Ø	980814	Tank Leak	
)		Yes 🔾	No 🔾			
		Yes 🔾	No 🔾			
		Yes 🔾	No 🔾			
		Yes 🔾	No 🔾			
		Yes 🔾	No 🔾			
		Yes 🔾	No 🔾			



Owner/Operator and Licensed Professional Engineer/Geologist Budget Certification Form

I hereby certify that I intend to seek payment from the UST Fund for costs incurred we activities for Leaking UST incident 980814. I further costs budget are for necessary activities and are reasonable and accurate to the best of also certify that the costs included in this budget are not for corrective action in excess of 415 ILCS 5/57, no costs are included in this budget that are not described in the costs exceed Subpart H: Maximum Payment Amounts, Appendix D Sample Handling Appendix E Personnel Titles and Rates of 35 III. Adm. Code 732 or 734. I further cerpayment from the Fund pursuant to 35 III. Adm. Code 732.606 or 734.630 are not included amendment. Such ineligible costs include but are not limited to:	ertify that the costs set forth in of my knowledge and belief. I s of the minimum requirements orrective action plan, and no and Analysis amounts, and tify that costs ineligible for
Costs associated with ineligible tanks. Costs associated with site restoration (e.g., pump islands, canopies). Costs associated with utility replacement (e.g., sewers, electrical, telephone Costs incurred prior to IEMA notification. Costs associated with planned tank pulls. Legal fees or costs.	, etc.).
Costs incurred prior to July 28, 1989. Costs associated with installation of new USTs or the repair of existing UST	s.
Owner/Operator: West Chicago Park District	
• • • • • • • • • • • • • • • • • • •	
Authorized Representative: Gina Radun Title: Exec	cutive Director
Signature: Date:	1-25-23
Subscribed and sworn to before me the 25th day of 5 cptember	. <u>2023</u> .
	FFICIAL SEAL
HNOIST (HNOIST) NOT ARY PU	SSA L MEDEIROS IBLIC STATE OF ILLINOIS ISLON EXPIRES: 9/18/2025
In addition, I certify under penalty of law that all activities that are the subject of this p conducted under my supervision or were conducted under the supervision of another	lan, badget, or report dere' ' '
or Licensed Professional Geologist and reviewed by me; that this plan, budget, or rep	ort and all attachments were
prepared under my supervision; that, to the best of my knowledge and belief, the work or report has been completed in accordance with the Environmental Protection Act [4]	
732 or 734, and generally accepted standards and practices of my profession; and th	at the information presented is
accurate and complete. I am aware there are significant penalties for submitting false to the Illinois EPA, including but not limited to fines, imprisonment, or both as provided	· ·
Environmental Protection Act [415 ILCS 5/44 and 57.17].	a in occiono 44 ana oz. 17 or ma
L.P.E./L.P.G.: Daniel Horvath L.P.E./L.P.G. Seal:	
L.P.E./L.P.G. Signature: Date:	10/2/23
Subscribed and sworn to before me the	1013
(Notary Public) Seal:	ELIZABETH A CAPE OFFICIAL SEAL Intery Public - State of Illing
(Notary Public)	AA. Commission Evnires

The Illinois EPA is authorized to require this information under 415 ILCS 51. Selectors in the information is required. Failure to do so may result in the delay or denial of any budget or payment requested hereunder.

Electronic Filing: Received, Clerk's Office 09/200202825 - DuPage County

/<u>049/090582</u>5 – DuPage County West Chicago Park District Incident # 980814 LUST Tech File

RESOURCE CONSULTING, INC

115 Campbell Street Suite 108

P.O. Box 123

Geneva, Illinois 60134

(630)232-9820

October 16, 2023

Mr. Eric Kuhlman
Illinois Environmental Protection Agency
Bureau of Land #24
Leaking Underground Storage Tank Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

RE: LPC No. 043905825 - DuPage County

West Chicago/West Chicago Park District

250 West National Street
LUST Incident No. 980814
LUST Technical File

RECEIVED

OCT 27 2023

IEPA/BOL

Dear Mr. Kuhlman:

On behalf of the West Chicago Park District, Resource Consulting, Inc. is submitting this request to extend the Illinois Environmental Protection Agency's (EPA) current October 21, 2023, review deadline an additional 60 days for the project's Corrective Action Completion Report and associated budget. This request is being submitted in accordance with Title 35 of the Illinois Administrative Code Section 734.505(d).

The extension is requested so that any questions or concerns of the Illinois EPA related to the groundwater well prohibition ordinance, the indoor inhalation modeling, or any other topic can be discussed and addressed in the most timely manner possible.

Please contact our office at any time with questions or comments regarding this request.

Regards,

Daniel J. Horvath

Hydrogeologist/Senior Project Manager

REPA-DIVISION OF RECORDS MANAGEMENT RELEASABLE

MAR 1 8 2024

REVIEWER: SAB

115 Campbell Street/Suite 108

P.O. Box 123

Geneva, Illinois 60134

(630)232-9820

November 22, 2023

Mr. Eric Kuhlman
Illinois Environmental Protection Agency
Bureau of Land - #24
Leaking Underground Storage Tank Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

0430905825 - DuPage County West Chicago Park District Incident # 980814 LUST Tech File

RE:

LPC No. 043905825 - DuPage County
West Chicago/West Chicago Park District
250 West National Street
LUST Incident No. 980814
LUST Technical File

(EPA-CIVISION OF RECORDS MANAGEMENT RELEASABLE

MAR 2 9 2024

REVIEWER: SAB

Dear Mr. Kuhlman:

On behalf of the West Chicago Park District, Resource Consulting, Inc. is submitting the information requested by the Illinois Environmental Protection Agency (EPA) in the email correspondence dated October 10, 2023, for the above referenced incident.

The information is presented below following each of the items taken directly from the October 2023 Illinois EPA correspondence.

The new certification of Ordinance No. 15-O-0004 included in Attachment A does not include the
official copies of records belonging to City of West Chicago as stated on the certificate. Therefore,
an updated copy will need to be submitted for review since the IEPA does not know what the
Executive Office Manager, Valeria Perez was certifying on 4/11/2023.

The certification of Ordinance No. 15-O-0004 with the ordinance is included in Attachment A.

2. The RBCA Input Parameters for Use with Tier 2 Calculations form and input value data were not submitted. Therefore, a completed Input Parameters form and will need to be submitted to the IEPA for technical review, as well as a small narrative regarding the laboratory data behind input values chosen.

Note, a slug test may need to be conducted to determine hydraulic conductivity (K). DEC 08 2023

IEPA/BOL

The completed Input Parameters forms are included in Attachment B. The laboratory data and input parameters along with a narrative regarding this information were presented in the Corrective Action Completion Report (CACR) dated May 31, 2003 and the Corrective Action Plan (CAP) dated July 17, 2008, both on file with the Illinois EPA. The input parameters were then modified with Illinois EPA input in the correspondence dated July 15, 2020, on file with the Illinois EPA.

Slug testing and hydraulic conductivity determination were completed and provided in the CACR dated May 31, 2003, and modified with Illinois EPA input in the correspondence dated July 15, 2020.

3. J&E Input Parameters and Calculations for ethylbenzene and naphthalene could not be duplicated. As such, further investigation may be required to address the Indoor Inhalation exposure route. This exposure will need to be addressed, maybe by resampling the groundwater and/or soil gas in that location, or possibly utilizing an industrial/commercial property use restriction for just the maintenance garage.

It is not clear what the Agency is requesting for this item. It appears that the benzene calculations were acceptable, but the ethylbenzene and naphthalene calculations were not. Resource Consulting requested the Illinois EPA's version of these calculations in a recent email correspondence but received no response. We will provide any additional revised calculations or information about the input parameters at the Agency's request.

Since the adoption of indoor inhalation as an exposure route by the Illinois EPA, both soil gas and groundwater have been re-sampled and do not meet the generic remediation objectives (ROs). Also, as shown on the attached parcel map in Attachment C, placing an industrial commercial land-use restriction on the parcels containing the contamination seems unsuitable since the parcels also include significant portions of the park itself. It was made clear by the Illinois EPA at the onset of the need for the evaluation of the indoor inhalation exposure route that the park property must be considered residential land use.

Resource Consulting and the Park District will work with Illinois EPA to address this exposure concern.

I have concluded that the BUD cannot be approved as submitted.

- 1) General Information for the Budget and Billing forms,
- 2) Owner/Operator and Licensed Professional Engineer/Geologist Budget Certification form,

The General Information form and Budget Certification form were provided to the Illinois EPA in PDF form and arrived in the Illinois EPA mail room on October 10, 2023.

€

0430905825 - DuPage County West Chicago Park District Incident # 980814 LUST Tech File

- 3) Analytical Costs for chemical analysis of (2) bulk density and (1) BETX/MTBE soil gas sample (August of 2014) needs to be broken out since the IEPA cannot determine whether bulk density analysis rate exceeds \$26.73 per analysis.
- 4) Analytical Costs for chemical analysis of (1) bulk density (August of 2019) exceeds the bulk density analysis rate of \$28.93 per analysis.
- 5) Analytical Costs for chemical analysis of (1) moisture content (August of 2019) exceeds the moisture content analysis rate of \$15.78 per analysis.
- 6) A good number of line items in Consulting Personnel Costs form either do not have month and year, or do not have a month. As such, the proposed rates may be either reduced or deducted due to lack of documentation. (6) line items have a plus (+) and no month and year so these will be deducted.

Updated budget forms have been included in Attachment D.

7) Consultant's Material Costs for mileage will need to be adjusted for 13 miles roundtrip and sampling equipment (helium detector for soil gas sampling) will be deducted since such costs exceed the minimum requirements because isopropyl alcohol can be used instead.

USEPA guidance, included in Attachment E, only mentions helium detection for soil gas sampling. The Illinois EPA website states: "A tracer gas or other leak apparatus detection system approved by the Illinois EPA must be used during the sampling to confirm there are no leaks around the soil gas sampling train." Resource Consulting cannot find any other guidance at the Illinois EPA website, nor have we been notified of an isopropyl alcohol leak detection alternative.

Please contact our office at any time with questions or comments regarding the contents of this correspondence.

Regards,

Couvering d. Mc Jims

Courtney L. McGinnis

Geologist/Project Manager

Attachments: A - Ordinance No. 15-O-0004

B ~ Input Parameters Forms

C - Parcel Map

D - Budget Forms

E - USEPA Soil Gas Sampling Guidance

RECEIVED

DEC 08 2023

IEPA/BOL

Attachment A
Ordinance No. 15-O-0004

Attachment B
Input Parameters Forms



IL 532-2861

LPC 646 8/07

Site identification

IEMA Incident # (6- or 8-digit): 980814

Site Name: West Chicago Park District

Site Address (not a P.O. Box): 250 West National Street

Illinois Environmental Protection Agency

IEPA LPC # (10-digit):

Bureau of Land • 1021 N. Grand Avenue E. • P.O. Box 19276 • Springfield • Illinois • 62794-9276

The Illinois EPA is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 LCS 5/4, 5/57 - 57.17). Fallure to disclose this information may result in a civil pensity of not to exceed \$30,000.00 for the violation and an additional civil pensity of not to exceed \$10,000.00 for each day during which the violation continues (415 LCS 5/42). Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the fillnois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony (415 LCS 5/44(h) and 57.17). This form has been approved by the Forms Management Center.

Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations

City:	West C	hicago	County: Dut	Page	_ Zip C	ode: <u>'60185</u>	
Leaking	UST T	echnical File			•		
B. Tier 2	Calcul	ation Informati	on				
Equation	on(s) Us	sed (ex: R12, R14	, R26): R26				
		ation for Individua		d Calculations:			550
				•			11
Land U	se: R	esidential		_ Soil Type			
Ground	water:	⊠ Class I	Class II	243			
Mass L	imit: 📮	Yes No I	f Yes, then Spec	cify Acreage:	<u> </u>	1 []2 []5	[] 10
Result	from S1	7/S28 used in R2	6?	No Spec	ify C _{source} (from S17/S28 _	mg/L
the Ui - Maps	ndergro depicti	e site-specific pa ound Storage Tai ng source width be submitted in	nk Fund. 1, plume dimens	sions, distance			iitted.
Symbol			Unit	Symbol			Unit
AT _c	=	70	yr	d	=	200	cm
AΤη	=	30	yr	Dap	=	0.051	cm²/s
BW	=	70	kg	Dwater	=	9.00E-06	cm²/s
C _{source}	=	0.00276	mg/L	D _s eff	=	0.007	cm²/s
C _(x)	=	0.00013	mg/L	ED	==	30	yr

RBCA Input Parameters

1 of 3

Incident #:			Chemical: Ben	zo(a)anthracene	La	Land Use: Residential		
Symbol			Unit	Symbol			Unit	
erf	=		unitless	RAF _d (PNAs)	=	0.05	unitless	
foc	="	0.003	g/g	RAF _d (inorganics)	=	0	unitless	
GW _{comp}	=	0.00013	rng/L '	RAF ₀	=	1.0	unitless	
GW _{source}	=	0.003	mg/L	RBSL _{air} (carcinogenic)	=	0.315	µg/m³	
H'	=	1.39E-04	cm³ _{water} /cm³ _{alr}	RBSL _{eir} (noncarcinogenic)	=	31.39	µg/m³	
i ==	=	0.006	cm/cm	RfDi	=	8.60E-03	mg/kg-id	
<u>*</u> 1	=	30	cm/yr	RfD _o	=	4.00E-03	mg/kg-d	
IR _{eir}	=	20	m³/d	SA	=	3,160	cm²/d	
IR _{soil}	=	100	mg/d	Sd	=	200	cm	
IR _w	=	2	L/d	S _w	=	2103.12	cm	
К	=	2.85E+03	cm/d for R15, R19, R26; cm/yr for R24	SFi	=	2.70E-02	(mg/kg-d) ⁻¹	
Koc	=	4.00E+05	cm³/g or L/kg	SF.	=	5.50E-02	(mg/kg-d) ⁻¹	
k _s (non-ionizing organics)	=	1200	cm³ _{water} /g _{soil}	THQ	=	1	unitless	
k, (ionizing organics)	=1	1200	cm³ _{water} /g _{soil}	TR	=	0.000001	unitless	
k _s (inorganics)	=		cm³ _{water} /g _{soil}	,, u	=	39.7841860	cm/d	
L ₈	=	100	cm	Uair	=	225	cm/s	
LF _{aw}	=	0.000	(mg/L _{water}) /(mg/kg _{soll})	Ugw	=	6.24E+03	cm/yr	
М	=	0.5	mg/cm²	VFp	=	4.91E-06	kg/m³	
Pe	=	6.9 -10-14	g/cm²-s	VF _{samb}	=	0.000 (n	ng/m³ _{sir})/mg/kg _{soil}) or kg/m³	
RAF₄	=	0.5	unitiess	VF _{ss}	=	5.64E-06	kg/m³	

RBCA Input Parameters 2 of 3

Incident #: 98	0814		Chemical: Be	enzo(a)anthracene	Lar	nd Use: Re	sidential
Symbol			Unit	Symbol			Unit
w	=	3200.4	cm	θ _{as}	=	0.13	cm³ _{air} /cm³ _{soil}
w	=	0.2	9water/9soil	θ _{we}	=	0.3	cm³ _{water} /cm³ _{soli}
×	=	9540.24	cm	θτ	=	0.43	cm³/cm³ _{soll}
Cl _X	=	954.24	cm	λ	=	5.10E-04	d-1
a _y	=	318.008	cm	π	=	3.1416	
az	=	47.7012	cm	Рь	=	1.5	g/cm³
δ_{air}	=	200	cm	ρ _w	=	1	g/cm³
$\delta_{\rm gw}$	=	200	cm .	τ	=	9.46 ·10 ⁸	S

	Result	Unit(s)	
=	3.28	mg/kg	
Ē	309.830	mg/kg	
=	163.98	mg/kg	
=	16318.009	mg/kg	
=	44.932	mg/kg	
=	0.002	mg/L	
	= =	= 3.28 = 309.830 = 163.98 = 16318.009 = 44.932	



Site Identification

Illinois Environmental Protection Agency

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Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations

		ent # (6- or 8-digit):	980814		IEPA LPC#	(10-digit):	0430905825
		West Chicago Park				<u> </u>	
		s (not a P.O. Box):			Zin Co	de: 6018	B
		Chicago	County: D	urage	Zip Co	ue. <u>6016</u>	<u> </u>
Lea	aking US	Technical File					
B. Tie	r 2 Calc	ulation Information	on				
Eq	uation(s)	Used (ex: R12, R14,	R26): R26				
Cor	ntact Info	rmation for Individua	Who Perforn	ned Calculation	ons:		
Lar	nd Use:	Residential		Soil T	уре:		yō.
Gro	oundwate	r: 🔀 Class I	Class II				
Ma	ss Limit:	☐ Yes ☐ No If	Yes, then Sp	ecify Acreage	: [0.5]	1 🗀 2 🖟	51030
Res	sult from	S17/S28 used in R26	6?	⊠ No S	pecify C _{source} fr	om S17/S2	28 mg/L
- M	ass Limi	t Acreage other tha	n defaults m	ust always b	e rounded up	1	
th - M	e Under aps depl	use site-specific pa ground Storage Tar cting source width st be submitted in 1	ik Fund. , plume dime	nsions, dista			
Symbo	i	at da addilittad ili i	Unit	Symb	ol a		Unit
AT _c	=	70	yr	d	=	50	cm
ΑTη	. =	30	yr	Deir	=	0.043	cm²/s
BW	=	70	kg	Dwate	=	9.4E-06	cm²/s
Csource	=	0.0016	mg/L	D _s eff	=	0.022	cm²/s
C _(x)	=	0.0002	mg/L	ED	= .	30	уг
C _(x) /C _{sou}	irce ==	1.55E-01	unitless	EF	=	350	d/yr

IL 532-2861 LPC 646 8/07 **RBCA** Input Parameters 1 of 3

Incident#:	980814		Chemical: B	enzo(a)pyrene	Lar	Land Use: Residential		
Symbol		_	Unit	Symbol			Unit	
erf	=		unitless	RAF _d (PNAs)	=	0.05	unitless	
fac	=	0.003	9/9	RAF _d (inorganics)	=	0	unitless	
GW _{comp}	=	0.0002	mg/L	RAF ₀	=	1.0	unittess	
GW _{source}	=	0.001	mg/L	RBSL _{air} (carcinogenic)	=	0.315	µg/m³	
H'	=	4.50E-05	cm³ _{water} /cm³ _{sir}	RBSL _{air} (noncarcinogenic)	=	31.39	µg/m³	
i	=	0.006	cm/cm	RfD _i	=	8.60E-03	mg/kg-d	
l e	=	30	cm/yr	RfD _o	=	4.00E-03	mg/kg-d	
IR _{air}	=	20	m³/d	SA	=	3,160	cm²/d	
(R _{soll}	=	100	mg/d	Sd	=	200	cm	
IR _w	=	2	L/d	S _w	=	2103.12	cm	
к	=	2.85E+03	cm/d for R15, R19, R26; cm/yr for R24	SFi	=	2.70E-02	(mg/kg-d) ⁻¹	
K _{ac}	=	7.90E+05	cm³/g or L/kg	SF _e	=	5.50E-02	(mg/kg-d) ⁻¹	
k _e (non-ionizing organics)	Ē	2370	cm³ _{water} /g _{eoil}	THQ	=	1	unitiess	
k _a (ionizing organics)	=	2370	cm³ _{water} /g _{soll}	TR	=	0.000001	unitless	
k _s (inorganics)	=		cm ³ water/geoil	U	=	39.78	cm/d	
Ls	=	100	cm	Usir	=	225	cm/s	
LF _{EW}	=	0.00003	(mg/L _{water}) /(mg/kg _{soil})	Ugw	=	6.24E+03	cm/yr	
М	=	0.5	mg/cm²	VFp	=	4.91E-12	kg/m³	
Pe	=	6.9 •10-14	g/cm²-s	VF _{samb}	=	0.000	mg/m³ _{air})/mg/kg _{soil}) or kg/m³	
RAF _d	=	0.5	unitless	VFss	=	5.64E-06	kg/m³	

RBCA Input Parameters 2 of 3

ident #: _98	0814		Chemical: Ben	Benzo(a)pyrene Land Use: Residentia			sidenti <u>al</u>
Symbol			Unit	Symbol			Unit
W	=	3200.4	cm	θ _{as}	=	0.13	cm³ _{air} /cm³ _{soi}
w	=	0.2	Gwater/Gaoil	θ _{ws}	=	0.3	cm³ _{water} /cm³ _s
x	=	5212.08	cm	θτ	=	0.43	cm³/cm³ _{soil}
a_x	=	521.208	cm	λ	=	5.10E-04	d-1
ay	2	173.736	cm	π	=	3.1416	
az	=	26.0604	cm	Рь	=	1.5	g/cm ³
δ_{air}	=	200	cm	$\rho_{\rm w}$	=	1	g/cm³
δ_{gw}	=	200	cm	T	=	9.46 -10 ⁸	\$

	Result	Unit(s)
=	3.28	mg/kg
=	309.830	mg/kg
=	172.31	mg/kg
=	17147.607	mg/kg
=	42.761	mg/kg
=	0.002	mg/L
	= =	= 3.28 = 309.830 = 172.31 = 17147.607 = 42.761



Site Identification

IEMA Incident # (6- or 8-digit): 980814
Site Name: West Chicago Park District

Site Address (not a P.O. Box): 250 West National Street

Illinois Environmental Protection Agency

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Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations

City:	West Ch	nicago	County: DuF	age	Zip Cod	le: <u>60185</u>	
Leaking	UST T	echnical File					
. Tier 2	Calcula	ation Informati	on				
Equation	n(s) Us	ed (ex: R12, R14	, R26): <u>R26</u>				
Contact	Informa	ation for Individue	al Who Performe	d Calculations:			
Land U	se: _			Soil Type:			
Ground	water:	⊠ Class I	Class II				
Mass Li	imit: 「	Yes [No I	f Yes. then Spec	ifv Acreage: Γ	_i0.5	□ ₁ 2 □ 5	T 10 T 30
Result 1	from S1	7/S28 used in R2	.6? ☐: Yes ▷	K No Specif	fy C _{source} fro	m S17/S28 _	mg/l
- Mass	Limit A	creage other th	an defaults mus	t always be ro	unded up.		
		site-specific p		e allowed coul	d affect pa	yment from	
		und Storage Ta ng source width		ione distance	ate must	aleo ha suhm	nitted
•	-	ng source width be submitted in			, etc. mast	6130 DC 341811	11000
Symbol			Unit	Symbol			Unit
ATc	=	70	уг	d	=	50	cm
ΑTη	=	30	yr	Deir	=	0.0223	cm²/s
BW	=	70	kg	Dwater	=	5.56E-06	cm²/s
Csource	=	0.0017	mg/L	D _a eff	\$2.5	0.0003	cm²/s
C(x)	=	0.00018	mg/L	ED	=	30	уг
C(x)/Csource	=	1.08E-01	unitless	EF	=	350	d/yr

IL 532-2861 LPC 646 8/07 RBCA Input Parameters 1 of 3 0430905825

IEPA LPC # (10-digit):

Incident #:	Incident #:980814		Chemical: Benz	o(b)fluoranthene	La	nd Use: R	Residential		
Symbol			Unit	Symbol			Unit		
erf	=		unitless	RAF _d (PNAs)	=	0.05	unitless		
foc	=	0.003	g/g	RAF _d (inorganics)	=	0	unitless		
GW _{comp}	==	0.00018	mg/L	RAF ₀	=	1.0	unitless		
GW _{source}	=	0.002	mg/L	RBSL _{sir} (carcinogenic)	=	0.315	hā/w ₃		
H'	=	4.55E-03	cm³ _{water} /cm³ _{air}	RBSL _{air} (noncarcinogenic)	=	31.39	µg/m³		
i	=	0.006	cm/cm	RfDi	=	8.60E-03	mg/kg-d		
1	=	30	cm/yr	RfD _o	=	4.00E-03	mg/kg-d		
IR _{str}	=	20	m³/d	SA	=	3,160	cm²/d		
IR _{soll}	=	100	mg/d	· S _d	=	200	cm		
IR _w	=	2	L/d	S _w	=	2103.12	cm		
к	=	2.85E+03	cm/d for R15, R19, R26; cm/yr for R24	SFi	=	2.70E-02	(mg/kg-d) ⁻¹		
Koc	=	1.05E+06	cm³/g or L/kg	SF _o	=	5.50E-02	(mg/kg-d) ⁻¹		
k _s (non-ionizing organics)	=	3150	cm³ _{water} /g _{soil}	THQ	=	1	unitless		
k _a (ionizing organics)	=	3150	cm³ _{water} /g _{soil}	TR	=	0.000001	unitless		
k _s (inorganics)	=		cm³ _{water} /g _{soil}	U	=	39.78	cm/d		
L _s	=	100	cm	Uair	=	225	cm/s		
LF _{sw}	=	0.00002	(mg/L _{water}) /(mg/kg _{soll})	Ugw	a T	6.24E+03	cm/yr		
М	=	0.5	mg/cm²	VFp	=	4.91E-12	kg/m³		
Pe	=	6.9 •10-14	g/cm²-s	VF _{samb}	=	0.000	(mg/m³ _{air})/mg/kg _{soll}) or kg/m³		
RAF _d	=	0.5	unitless	VF _{ss}	=	5.64E-06	kg/m³		

RBCA Input Parameters 2 of 3

Incident #: 9	80814		Chemical:	Benzo(b)fluroanthene	La	nd Use: Re	esidential
Symbol			Unit	Symbol			Unit
w	=	3200.4	cm	θ _{as}	=	0.13	cm³ _{sir} /cm³ _{soil}
w	=	0.2	gwater/geod	θ _{ws}	=	0.3	cm³ _{water} /cm³ _{soil}
х	=	6339.84	cm	θτ	=	0.43	cm³/cm³ _{soil}
G _K	=	633.984	cm	λ	=	5.10E-04	d-1
ay	=	211.328	cm	п	=	3.1416	
G _Z	=	31.6992	cm	ρ _δ	=	1.5	g/cm ³
δ _{air}	=	200	cm	ρ _w	=	1	g/cm ³
$\delta_{\rm gw}$	=	200	cm	τ	=	9.46 •108	S

Equation		Result	Unit(s)
R1	=	3.28	mg/kg
R2	=	309.830	mg/kg
R7	=	50.18	mg/kg
R8	=	4994.047	mg/kg
R12	=	73.221	mg/kg
R25	=	0.002	mg/L



Site Identification

Illinois Environmental Protection Agency

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Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations

		# (6- or 8-digit):	980814		EPA LPC#	(10-digit):	0430905825
	_	est Chicago Park					
		not a P.O. Box):					
City:	West Ch	icago	County: Du	Page	Zip Co	de: <u>60185</u>	
Leaking	UST T	echnical File					
B. Tier 2	Calcula	ation Information	on				
Equation	on(s) Us	ed (ex: R12, R14	, R26): R26	3			
Contac	t Informa	ation for Individua	l Who Performe	d Calculations	s:		
			- 13		(
Land U	lse:			Soil Typ	e:		
Ground	lwater:	X Class I	Class II				
		- 33	-			. = = =	
Mass L	imit: 📋	yes ☐ No If	Yes, then Spec	cify Acreage:	1 0.5	1]2	5 10 30
DIt	O4	7/S28 used in R2	co E Voc I	V. No. Coo	cify C _{squrce} fr	om 647/62	8 mg/
Kesuit	iioiii 3 i	7/320 useu III R2	U: 1 <u>.</u> 169	VIIIO Obe	City Cagurca II	0111 0 11702	·
- Maps - Input	depicti	und Storage Tar ng source width be submitted in t	, plume dimens the designated	unit.	ce, etc. mus	t also,be s	ubmitted. Unit
Symbol			Unit	Symbol	-		Onit
AT _c	=	70 ·	yr	d	=	50	cm
AT_{η}	=	30	уг	Dair	=	0.0223	cm²/s
BW	=	70	kg	Dwages	=	5.56E-06	cm²/s
C _{source}	=	0.00157	mg/L	D _s eff	=	0.029	cm²/s
C _(x)	=	0.00017	mg/L	ED	=	30	yr
C(x)/C _{source}	=	1.11E-01	unitless	EF	=	350	d/yr

IL 532-2861 LPC 646 8/07 RBCA Input Parameters 1 of 3

Incident#:	ecident #: 980814		Chemical: Benz	o(k)fluoranthene	Lar	nd Use: R	esidential '
Symbol			Unit	Symbol			Unit
erf	=		unitless	RAF _d (PNAs)		0.05	unitless
foc	=	0.003	9/9	RAF _d (inorganics)	=	0	unitless
GW _{comp}	=	0.00017	mg/L	RAF ₀	=	1.0	unitless
GW _{source}	=	0.002	mg/L	RBSL _{air} (carcinogenic)	=	0.315	hg/w ₃
H'	=	3.40E-05	cm³ _{water} /cm³ _{sir}	RBSL _{air} (noncarcinogenic)	=	31.39	μg/m³
i	=	0.006	cm/cm	RfDi	=	8.60E-03	mg/kg-d
1 - 1	=	30	cm/yr	RfD。	==	4.00E-03	mg/kg-d
IR _{eir}	=	20	m³/d	SA	=	3,160	cm²/d
IR _{soil}	=	100	mg/d	Sd	=	200	cm
IR _w	23	2	L/d	Sw	=	2103.12	cm
К	=	2.85E+03	cm/d for R15, R19, R26; cm/yr for R24	SFi	=	2.70E-02	(mg/kg-d) ⁻¹
Koc	=	1.00E+06	cm³/g or L/kg	SF _o	=	5.50E-02	(mg/kg-d) ⁻¹
k _s (non-ionizing organics)	Ē	3000	cm³ _{water} /g _{soli}	THQ	=	1	unitless
k _s (ionizing organics)	=	3000	cm³ _{water} /g _{soil}	TR	=	0.000001	unitless
k _s (inorganics)	=		cm³ _{water} /g _{eoil}	U	=	39.78	cm/d
L _a	=	100	cm	U _{air}	=	225	cm/s
LF _{EW}	=	0.00002	(mg/L _{water}) /(mg/kg _{soil})	Ugw	=	6.24E+03	cm/yr
М	=	0.5	mg/cm²	VFp	=	4.91E-12	kg/m³
Pe	=	6.9 •10-14	g/cm²-s	VF _{samb}	=	0.000	(mg/m³ _{air})/mg/kg _{soil}) or kg/m³
RAF	=	0.5	unitless	VF _{ss}	=	5.64E-06	kg/m³

RBCA input Parameters 2 of 3

Incident #: 9	80814		Chemical:	Benzo(k)fluoranthene	Lar	nd Use: _	Residential
Symbol			Unit	Symbol			Unit
w	=	3200.4	cm	θ _{as}	=	0.13	cm³ _{sir} /cm³ _{sol}
w	=	0.2	Gwater/Gscil	θ _{ws}	=	0.3	cm³ _{water} /cm³ _{sol}
X	=	6492.24	cm	θτ	=	0.43	cm³/cm³ _{soil}
a_{x}	=	649.224	cm	λ	=	1.60E-04	4 d ⁻¹
a _y		216.408	cm	π	=	3.1416	
az	=	32.4612	cm	ρ _b	=	1.5	g/cm ³
δ_{air}	=	200	cm	ρ _w .	=	1	g/cm ³
δ_{gw}	-	200	cm	τ	=	9.46 •10	8 S

Equation		Result	Unit(s)
R1	=	3.28	mg/kg
R2	=	309.830	mg/kg
R7	=	173.34	mg/kg
R8	=	17250.299	mg/kg
R12	=	64.539	mg/kg
R25	=,	0.002	mg/L



II 532-2881

LPC 646 8/07

Site Identification

IEMA Incident # (6- or 8-digit): 980814
Site Name: West Chicago Park District

Site Address (not a P.O. Box): 250 West National Street

Illinois Environmental Protection Agency

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Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations

City:	West Ch	icago	County: DuP	'age	ZIP	Jode: 60185	
Leaking	UST T	echnical File					
3. Tier 2	Calcula	ation Informati	on				
Equation	on(s) Us	ed (ex: R12, R14	, R26): R26				
Contac	t Informa	ation for Individua	al Who Performed	d Calculations:			
		c					
Land U	lse:			Soil Type:			
Ground	lwater:	X. Class I	Class II				
441	too to		·	έ. A Γ	-05 F	54 F3 F5	□ 40 □30
Mass L	imit: j	! Yes _ No I	t Yes, then Speci	ny Acreage:	0.5	T ₁ 1 T ₁ 2 T 5	1 10 1 30
Result 1	from S17	7/\$28 used in R2	26?	No Specif	y C _{source}	from S17/S28 _	mg/L
- Mass	Limit A	creage other th	an defaults mus	t always be ro	unded u	ıp.	
- Failur	e to use	site-specific p	arameters where	allowed coul	d affect	payment from	
		und Storage Ta					
- Maps	depiction	ng source width	, plume dimens	ions, distance	, etc. m	ust also be subm	itted.
- Input	s must t	e submitted in	the designated	unit.			
Symbol		"	Unit	Symbol			Unit
ATc	=	70	уг	d	=	50	cm
AT _n	=	30	yr	Deir	=	0.0244	cm²/s
BW	=	70	kg	Dwater	=	6.21E-06	cm²/s
						· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
Csource	=	0.023	mg/L	D ₆ eff	=	0.001	cm²/s
C _(x)	=	0.0015	mg/L	ED	=	30	yr
C _(x) /C _{source}	=	0.667	unitless	EF	=	350	d/yr

RBCA Input Parameters

1 of 3

0430905825

IEPA LPC # (10-digit):

Incident #:	Incident #: 980814		Chemical:	Chrysene	La	nd Use: Resid	ential	
Symbol			Unit	Symbol			ay Unit >	
erf	=		unitless	RAF _d (PNAs)	=	0.05	unitless	
f _{oc}	=	0.003	g/g	RAF _d (inorganics)	=	0	unitless	
GW _{comp}	=	0.0015	mg/L	RAF ₀	=	1.0	unitless	
GW _{source}	=	0.002	mg/L	RBSL _{eir} (carcinogenic)	=	0.315	h8/w ₃	
H'	=	3.90E-03	cm³ _{water} /cm³ _{air}	RBSL _{air} (noncarcinogenic)	=	31.39	µg/m³	
i	=	0.006	cm/cm	RfD _i	=	8.60E-03	mg/kg-d	
ı	=	30	ст/уг	RfD _o	=	4.00E-03	mg/kg-d	
IR _{sir}	=	20	m³/d	SA	=	3,160	cm²/d	
IR _{soil}	=	100	mg/d	Sd	=	200	cm	
IR _w	=	2	L/d	S _w	=	2103.12	cm	
К	=	2.85E+03	cm/d for R15, R19, R26; cm/yr for R24	SFi	=	2.70E-02	(mg/kg-d)-1	
K _{oc}	=	4.00E+05	cm³/g or L/kg	SF _o	=	5.50E-02	(mg/kg-d) ⁻¹	
k _a (non-ionizing organics)		1200	cm³ _{water} /g _{soil}	THQ	=	1	unitless	
k _s (ionizing organics)	=	1200	cm³ _{water} /g _{soll}	TR	=	0.000001	unitless	
k _s (inorganics)	=		cm³ _{water} /g _{soil}	U	=	39.78	cm/d	
L _s	=	100	cm	U _{eir}	=	225	cm/s	
LF _{sw}	=	0.0001	(mg/L _{water}) /(mg/kg _{soll})	Ugw	=	6.24+03	cm/yr	
М	=	0.5	mg/cm²	VF _p	=	4.91E-12	kg/m³	
Pe	=	6.9 -10-14	g/cm²-s	VF _{samb}	=	0.000 (mg	/m³ _{air})/mg/kg _{soil}) or kg/m³	
RAF _d	=	0.5	unitless	VF _{ss}	=	5.64E-06	kg/m³	

RBCA Input Parameters 2 of 3

Incident #:	980814		Chemical: Ch	rysene	Lar	nd Use: Re	sidential `
Symbo	I		Unit	Symbol			Unit
w	=	3200.4	cm	θ _{as}	=	0.13	cm³ _{air} /cm³ _{aoil}
w	=	0.2	Gwater/Gsoil	θ _{ws}	=	0.3	cm³ _{water} /cm³ _{soil}
x	=	1920.24	cm	θτ	=	0.43	cm³/cm³ _{eoil}
ax	*	192.024	cm	λ	=	3.50E-04	d-1
α _y	=	64.008	cm	π	=	3.1416	
az	=	9.6012	cm	Рь	=	1.5	g/cm³
δ _{air}	=	200	cm	ρw	=	1	g/cm³
$\delta_{\rm gw}$	=	200	cm	τ	=	9.46 •108	s

Equation		Result	Unit(s)
R1	=	3.28	mg/kg
R2	=	309.830	mg/kg
R7	=	55.90	mg/kg
R8	=	5562.372	mg/kg
R12	=	37.795	mg/kg
R25	=	0.002	mg/L

RBCA Input Parameters 3 of 3



Site Identification

Illinois Environmental Protection Agency

Bureau of Land • 1021 N. Grand Avenue E. • P.O. Box 19276 • Springfield • Illinois • 62794-9276

The Illine's EPA is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 - 57.17). Failure to disclose this information may result in a civil penalty of not to exceed \$10,000.00 for each day during which the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false, fictificus, 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) and 67.17). This form has been approved by the Forms Management Center.

Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations

IEMA III	Cidelit #	(6- or 8-digit):	980814		PA LPC # (10-digit)): <u>0430905825</u>
Site Nar	ne: We	st Chicago Park	District			
Site Add	iress (n	ot a P.O. Box):	250 West Nation	al Street		
City: V	Vest Chi	cago	County: DuPa	ige '	Zip Code: 60	185
Leaking	UST Te	chnical File				
Tier 2 (Calcula	tion Informatio	n			
Equation	n(s) Use	d (ex: R12, R14,	R26): R26			
Contact	Informa	tion for Individual	Who Performed	Calculations:		
Land Us	se:			Soil Type		
Ground	water:	X Class I	Class II			
Maceli	mit: 🗀	Yes TI No. If	Yes, then Specif	v Acreage:	<u> </u>	∏5 ∏10 <u>∏</u>
141039 FI		163 [_] 110	100,			
Result f	rom S17	/S28 used in R26	3? ☐ Yes 🗵	No Spec	ify C _{source} from S17	/S28 mg
	-	creage other tha				
the Ur - Maps	idergroi depictir	und Storage Tan	k Fund.	Allowed Cod	ild affect payment	
Symbol					e, etc. must also t	e submitted.
AT _c		ng source width, ne submitted in t			e, etc. must also b	e submitted.
	=		he designated u	ınit.	e, etc. must also be	Unit
ΑTη	=	e submitted in t	the designated unit	symbol		
		e submitted in t	Unit	Symbol	= 50	∴ Unit cm 59 cm²/s
ΑTη	=	70	Unit yr	Symbol d Deir	= 0.09	
AT _η	=	70 30	Unit yr kg	Symbol d Deir Dwater	= 50 = 0.09 = 7.50E	59 cm²/s cm cm²/s cm²/s

IL 532-2861 LPC 646 8/07 RBCA Input Parameters 1 of 3

Incident #:	9808	314	Chemical:	Naphthalene	Land Use: Re		sidential
Symbol			Unit	Symbol			Unit
erf	=		unitless	RAF _d (PNAs)	=	0.05	unitless
foc	=	0.003	g/g	RAF _d (inorganics)	=	0	unitless
GW _{comp}	=	0.14	mg/L	RAF ₀	=	1.0	unitless
GW _{source}	=	1.04E-01	mg/L	RBSL _{air} (carcinogenic)	=	0.315	μg/m³
H	=	1.97E-02	cm³ _{water} /cm³ _{air}	RBSL _{eir} (noncarcinogenic)	=	31.39	µg/m³
i	=	0.006	cm/cm	RfDi	=	8.60E-03	mg/kg-d
1	=	30	cm/yr	RfD.	=	4.00E-032	mg/kg-d
IR _{sir}	=	20	m³/d	· SA	=	3,160	cm²/d
IR _{soll}	=	100	mg/d	S _d	=	200	cm
IR _w	- 45	2	L/d	S _w	=	2103.12	cm
К	=	2.85E+03	cm/d for R15, R19, R26; cm/yr for R24	SFı	=	2.70E-02	(mg/kg-d) ⁻¹
Koc	=	5.00E+02	cm³/g or L/kg	SF.	=	5.50E-02	(mg/kg-d) ⁻¹
k _a (non-ionizing organics)	=	1.5	cm³ _{water} /g _{soll}	THQ	=	1	unitless
k _e (ionizing organics)	=	1.5	cm³ _{water} /g _{soil}	TR	=	0.000001	unitless
k _s (inorganics)	=		cm³ _{water} /g _{soil}	U	=	39.78	cm/d
Ls	=	100	cm	U _{elr}	=	225	cm/s
LF _{sw}	=	0.042	(mg/L _{water}) /(mg/kg _{soli})	Ugw	=	6.24E+03	cm/yr
М	=	0.5	mg/cm²	VFp	=	4.91E-12	kg/m³
Pe	=	6.9 •10-14	g/cm²-s	VFsamb	=	0.000	(mg/m³ _{air})/mg/kg _{soil}) or kg/m³
RAF _d	=	0.5	unitless	VF _{ss}	=	5.64E-06	kg/m³

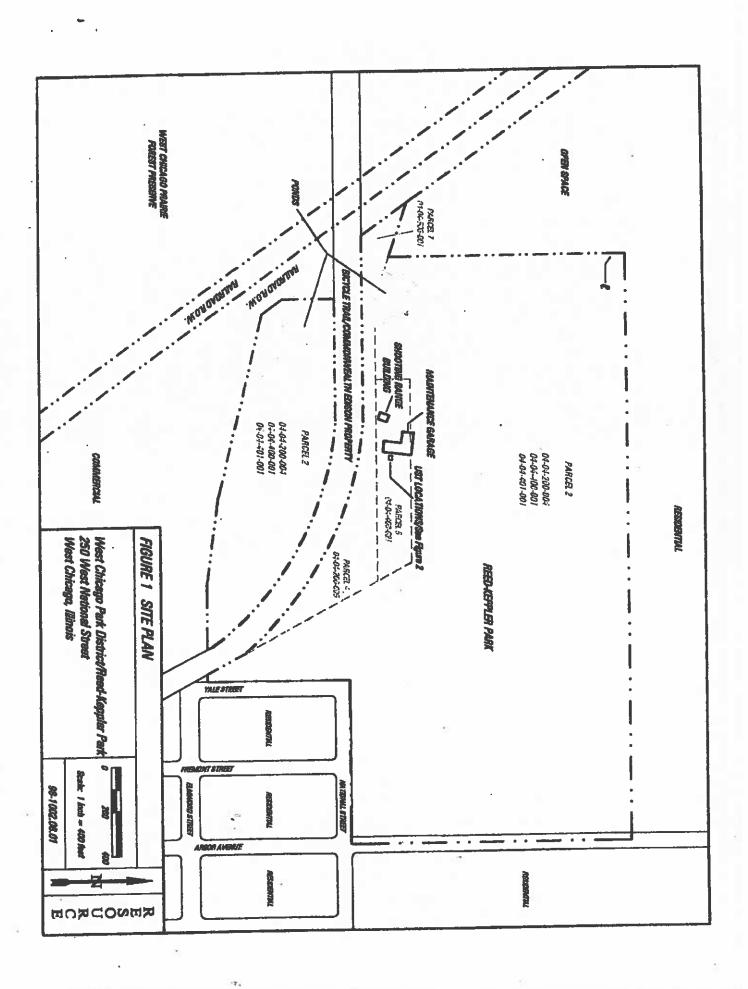
RBCA input Parameters 2 of 3

ncident #: 980814		Chemical: Naphthalene		Land Use: Re		sidential	
		Unit	Symbol			Unit	
=	3200.4	cm	θ _{as}	= *	0.13	cm³ _{el} /cm³ _{soll}	
=	0.2	Gweter/Geoil	€ _{ws}	=	0.3	cm³ _{water} /cm³ _{eoil}	
=	5577.84	cm	θτ	=	0.43	cm³/cm³ _{eoil}	
-	557.784	cm	λ	=	2.70E-03	d-1	
=	185.928	cm	π	=	3.1416		
=	27.8892	cm ·	Рь	=	1.5	g/cm ³	
=	200	cm	$\rho_{\rm w}$	=	1	g/cm³	
, =	200.	cm	τ	=	9.46 ·10 ⁸	s	
	= = = =	= 3200.4 = 0.2 = 5577.84 = 557.784 = 185.928 = 27.8892 = 200	Unit = 3200.4 cm = 0.2 gwater/geoll = 5577.84 cm = 557.784 cm = 185.928 cm = 27.8892 cm = 200 cm	Unit Symbol = 3200.4 cm θ _{ass} = 0.2 g _{water} /g _{eoll} θ _{ws} = 5577.84 cm θ _T = 557.784 cm λ = 185.928 cm π = 27.8892 cm ρ _b = 200 cm ρ _w	Unit Symbol = 3200.4 cm θ _{ass} = · = 0.2 g _{water} /g _{eol} θ _{wa} = = 5577.84 cm θ _T = = 557.784 cm λ = = 185.928 cm π = = 27.8892 cm ρ _b = = 200 cm ρ _w =	Unit Symbol = 3200.4 cm θ _{ass} = 0.13 = 0.2 g _{water} /g _{soll} θ _{ws} = 0.3 = 5577.84 cm θ _T = 0.43 = 557.784 cm λ = 2.70E-03 = 185.928 cm π = 3.1418 = 27.8892 cm ρ _b = 1.5 = 200 cm ρ _w = 1	

Equation		Result	Unit(s)
R1	, =	3.28	mg/kg
R2	=	309.830	_mg/kg
R7	=	14.88	mg/kg
R8	=	1480.618	mg/kg
R12	=	32.105	mg/kg
R25	=	0.002	mg/L

RESOURCE CONSULTING, INC.

Attachment C
Parcel Map



RESOURCE CONSULTING, INC.

Attachment D Budget Forms

Budget Summary

Choose the applicable regulation: (© 734 () 732

734	Free Product	Stage 1 Site Investigation	Stage 2 Site Investigation	Stage 3 Site Investigation	Corrective Action
Drilling and Monitoring Well Costs Form	5	8	8	\$	\$ 3,035.95
Analytical Costs Form	8	\$	\$	\$	\$ 939.10
Remediation and Disposal Costs Form	\$	s	\$	\$	\$
UST Removal and Abandonment Costs Form	8	\$	\$	\$	•
Paving, Demolition, and Well Abandonment Costs Form	s	\$	\$	8	\$ 1,535.81
Consulting Personnel Costs Form	8	\$	s	\$	\$ 43,137.62
Consultant's Materials Costs Form	8	\$	5	8	\$ 145.84
Handling Charges Form	the Illinois EPA.	es will be determine The amount of a the Handling Ch	llowable handling	billing package is g charges will be o	s submitted to determined in
Total	8	s	8	\$	\$ 48,794.32

Drilling and Monitoring Well Costs Form

For this form to function property.

Adobe Reader 9.0 is required.

1. Drilling

	Number of lorings to Be Drilled	۲	Type ISA/PUS Injection		D	epth (feet) of Each Boring	Total Feet Drilled	Reason for Drilling
	_1		PUSH	*		10.00	10.00	Soil boring for soil gas sample (Aug. 2014).
Ц				Ţ				
Ц		L		_				
Ц				_				
Ц		L				<u></u>		
Ц		L		~				
П				₩				

Subpart H
minimum payment
amount applies.

	Total Feet	Rate per Foot (\$)	Total Cost (\$)	
Total Feet via HSA:	.00		.00.	
Total Feet via PUSH:	10.00	21.87	218.70	
Total Feet for Injection via PUSH:	.00.		.00.	
		Total Drilling Costs:	1,457.81	

2. Monitoring / Recovery Wells

Number o	of	Type of Well HSA / PUSH / 4" or 6" Recovery / 8" Recovery	Diameter of Well (inches)	Depth of Well (feet)	Total Feet of Wells to Be Installed		
		₹,					
		▼					
		▼					
		•					
		•					

Well Installation	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:	.00		.00
Total Feet via PUSH:	.00		.00
Total Feet of 4" or 6" Recovery:	.00		.00
Total Feet of 8" or Greater Recovery:	.00		.00
		Total Well Costs:	.00.

Total Drilling and Monitoring Well Costs: \$1,457.81
--

Drilling and Monitoring Well Costs Form

For this form to function property.

Adobe Reader 9.0 is required.

1. Drilling

	Number of Borings to Be Drilled		Type HSA/PUSH/ Injection			apth (feet) of Each Boring	Total Feet Orilled	Reason for Orllling
	1		PUSH	-		10.00	10.00	Soil boring/temporary monitoring well installation
				•				(Aug. 2019)
				•				
				~	_l		_	
		П		•				
L				•		· .		
1				_				

Subpart H
minimum payment amount applies.

	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:	.00		.00
Total Feet via PUSH:	10.00	23.67	236.70
Total Feet for Injection via PUSH:	.00		.00
		Total Drilling Costs:	1,578.14

2. Monitoring / Recovery Wells

Number of Wells	Type of Well HSA / PUSH / 4" or 6" Recovery / 8" Recovery	Diameter of Well (inches)	Depth of Well (feet)	Total Feet of Wells to Be Installed	
	▼				
	▼			6	
	•	150.5	- 2		
	▼				
	₹				

Well Installation	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:	.00		.00
Total Feet via PUSH:	.00		.00
Total Feet of 4" or 6" Recovery:	.00		.00.
Total Feet of 8" or Greater Recovery:	.00		.00
	91	Total Well Costs:	.00.

Total Drilling and Monitoring Well Costs:	\$1,578.14
---	------------

Analytical Costs Form

Laboratory Analysis	Number of Samples		Cost (\$) per Analysis		Total per Parameter
Chemical Analysis			· · · · · · · · · · · · · · · · · · ·		
BETX Soil with MTBE EPA 8260		X		=	
BETX Water with MTBE EPA 8280		Х		=	
COD (Chemical Oxygen Demand)		X		=	
Соггозічіту		X		=	
Flash Point or Ignitability Analysis EPA 1010	12140412	X		=	
Fraction Organic Carbon Content (foc) ASTM-D 2974-00		X		=	
Fat, Oil, & Grease (FOG)	100000000000000000000000000000000000000	X		=	
LUST Pollutants Soil - analysis must include volatile, base/ neutral, polynuclear aromatics and metals list in Section 732. Appendix B and 734.Appendix B		X		=	
Dissolved Oxygen (DO)		X		=	
Paint Filter (Free Liquids)	1	X		=	
PCB / Pesticides (combination)		X		=	
PCBs		X		=	
Pesticides	15576 6550	X	Adda to 7 to to	=	
PH		X	المنطبنيس	=	
Phenol	11.71.71	X		=	
Polynuclear Aromatics PNA, or PAH SOIL EPA 8270		X		=	
Polynuclear Aromatics PNA, or PAH WATER EPA 8270	- 1 111 · · ·	X	The latest terminal t	=	
Reactivity		Х		=	
SVOC - Soil (Semi-Volatile Organic Compounds)	111111111111111	X		=	
SVOC - Water (Semi-Volatile Organic Compounds)		X		=	
TKN (Total Kjeldahl) "nitrogen"		Х	1 1 1 1 1 1 1 1	=	
TPH (Total Petroleum Hydrocarbons)		X		=	
VOC (Volatile Organic Compounds) - Soil (Non-Aqueous)	**************************************	X	ا	=	
VOC (Volatile Organic Compounds) - Water		X		=	17 1
BTEXMTRE Soil Gas sample (Aug. 2014)	1-1100000000000000000000000000000000000	X	240.00	2	\$240.00
BTEX Water with MTBE EPA 8820 (July 2017)		X	102.39	=	\$102.39
PNA Water EPA 8270 (July 2017)		X	192.14	=	\$192.14
BTEX Water with MTBE EPA 8820 (Aug. 2019)		X	108:52	=	\$106.52
PNA Water EPA 8270 (Aug. 2019)	1000000	X	-199.90	=	\$199.90
Geo-Technical Analysis			<u></u>		
Soil Bulk Density (pb) ASTM D2937-94		X		Ξ	
Ex-situ Hydraulic Conductivity / Permeability		х		=	
Moisture Content (w) ASTM D2216-92 / D4643-93		×		=	
Porosity		X		=	
Rock Hydraulic Conductivity Ex-situ		X		=	
Sieve / Perticle Size Analysis ASTM D422-83 / D1140-54	100	X		=	
Soil Classification ASTM D2488-90 / D2487-90		X	1	=	
Soil Particle Density (pg) ASTM D854-92	-	X	960 DO	=	
		X	28:72	=	\$53.44
Soil Bulk Density (Aug. 2014) Soil Bulk Density (Aug. 2019)	11	X	28.93	=	\$28.93
DOM DOME THRUSHA TWING SOLDAY		X	15:78	=	\$15.78

Analytical Costs Form

Metals Analysis					
Soil preparation fee for Metals TCLP Soil (one fee per soil sample)		X		=	
Soil preparation fee for Metals Total Soil (one fee per soil sample)		X	7:		
Water preparation fee for Metals Water (one fee per water sample)		X	 	=	
Water proparation les for meters water force les ber water sample)		-			
Arsenic TCLP Soil		X		=	
Arsenic Total Soil	100	Х		=	
Arsenic Water		Х		=	
Berium TCLP Soil		X		=	
Barium Total Soil		X		=	
Barium Water		X		=	
Cadmium TCLP Soil		Х		=	
Cadmium Total Soil		X		=	
Cadmium Water		X		=	
Chromium TCLP Soil		X		=	
Chromium Total Soil		X		=	2
Chromium Water	1 1 10 1	X	W 18	=	
Cyanide TCLP Soil		X		=	
Cyanide Total Soil		Х		=	
Cyanide Water		Х		=	
Iron TCLP Soil		X		=	
tron Total Soil		X		=	
iron Water	*	X		=	
Lead TCLP Soil		X		=	
Lead Total Soil	127	X	77.	=	
Lead Water		Х		=	
Mercury TCLP Soil	***	X		=	
Mercury Total Soil	170	X		=	
Mercury Water		X		=	
Setenium TCLP Soil		X		3	
Selenium Total Soil		X		=	
Selenium Water.		X		=	
Silver TCLP Soil		X		=	
Silver Total Soil	1 (2) (2)	X		2	
Silver Water		X		=	
Metals TCLP Soil (a combination of all metals) RCRA	72	ŮΧ	- 5-	=	
Metals Total Soil (a combination of all metals) RCRA	****	X		=	
Metals Water (a combination of all metals) RCRA		X		=	
		, X		=	
		X		=	
		X		=	
		X		=	
Other		1 22		1	
EnCore® Sampler, purge-and-trap sampler, or equivalent sampling device		×		=	
Sample Shipping per sampling event ¹		X		=	

¹A sampling event, at a minimum, is all samples (soil and groundwater) collected in a calendar day.

Total Analytical Costs: \$ 939.10

Paving, Demolition, and Well Abandonment Costs Form

A. Concrete and Asphalt Placement/Replacement

Number of Square Feet			r of Asphait or Thickness Cost (\$) per Feet Concrete (inches) Square Foot		Replacement or Placement for an Engineered Barrier	Total Cost	
		Livid Krein	E 2 1 1 1				
Daniel S					/\\\		
		و المنظم المراوية					
			M. A. L. M.				
SAEVES SE		Head State of					
		N SHINE WHEN I					
ines estellecture							
一种的限		N DAYS OF THE					

Total Concrete and Asphalt
Placement/Replacement Costs:

B. Building Destruction or Dismantling and Canopy Removal

item to Be Destroyed, Dismantied, or Removed		Unit Cost (\$)	Total Cost (\$)	
	i			
	\perp	1		
		1		

Total Building Destruction or Dismantling and	
Canopy Removal Costs:	

Paving, Demolition, and Well Abandonment Costs Form

C. Well Abandonment

Monitoring Well ID #	Type of Well (HSA / PUSH / Recovery)		Depth of Weil (feet)	Cost (\$) per Foot	Total Cost
RW-1	HSA	-	14.00	14.09	\$197.26
RW-2	HSA	▼	17.00	14.09	\$239.53
RW-4	HSA	▼ _	14.00	14.09	\$197.28
RW-5	HSA	•	12.00	14.09	\$169.08
RW-6	HSA	▼	13.00	14.09	\$183.17
RW-7	HSA	▼	13.00	14.09	\$183.17
RW-8	HSA	•	13.00	14.09	\$ <u>183.17</u>
RW-9	HSA	•	13.00	14.09	\$183.17
		+			
		7			
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		7			-

Total Monitoring Well Abandonment Costs:	\$1,535.81
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Total Paving, Demoiltion, and Well Abandonment Costs:	\$1,535.81
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Consulting Personnel Costs Form

For this form to function property. Adobe Reader 8.0 or higher is required

Employee Name		Personnel Title Hou		Rate* (\$)	Total Cost	
Remediation Category		Task				
			,			
		Senior Project Manager	10.00	119.11	\$1,191.10	
•	Evaluation of CA	ACR rejection from IEPA; Planning I	or additional rec	uirements (Sept	. 2013).	
		Senior Project Manager	10,00	119,11	\$1,191.10	
	Corr. w/staff and	I IEPA re: regulatory evaluation.indo	oor inhalation ex	posure route (09	9/2013-08/2014)).	
		Project Manager	10.00	107.20	\$1,072.00	
	Management wi	staff and IEPA re: CACR rejection,				
	ividital enterit wi	SIZIT ENGILETA IN. CACATIGOROGI,	17100, 00.0, 90		***************************************	
		Particul Manager				
		Project Manager	3.00	107.20	\$321.60	
	Preparation ot T	ACO; correspondence with PM re:	indoor inhalation	requirement (O	9/2013-06/2014)	
		Project Manager	6.00	109.34	\$656.04	
-	Field work plann	ning for soil vapor and bulk density s	sempling (Aug. 2	014).		
			·			
19	×	Geologist III	5.00	106.91	\$534.55	
	On-site for soil s	sampling (Aug. 2014)				
			1			
		Project Manager	6.00	109.34	\$656.04	
•	Analysis/evalual	lion of soil gas date, correspondenc	e with lab and i	PA re: date and	alysis (Aug. 2014).	
		Senior Project Manager	20.00	121.49	\$2,429.80	
•	Preparation of o	rdinance: research, planning, corre	spondence with	City (08/2014-1:	2/2014).	
					1	
		Geologist III ▼	20.00	106.91	\$2,138.20	
7	Preparation of d	reft ordinance document for submis	ssion to Public V	/orks Dept. (08/	2014-12/2014).	

Employee Name		Personnel Title		Hours	Rate* (\$)	Total Cost
Remediation Category		Task	K			
		Geologist III		5.00	106.91	\$534.55
Y	Prep. of maps a	nd supporting documents for draf	î on	dinance (08/20	14-12/2014).	
		Project Manager		10.00	109.34	\$1,093.40
	Ordinance desig	n and preparation of documents	with	staff and city (08/2014-12/201	4).
		Project Manager	-	6.00	109.34	\$656.04
	TACO modeling	calculations for ordinance (08/20)14-	12/2014).		
		Project Manager		10.00	109.34	\$1,093.40
	Review of ordin	ance and supporting documents f	for fi	inel enectment	by City (08/2014	-08/2015).
		Project Manager	-][10.00	109.34	\$1,093.40
	Project manage	ment with City personnel re: form	15 &	approval of org	linance (01/201	5-06/2015).
		Senior Project Manager	7	3.00	125.15	\$375.45
14	Project manage	ment w/Illinois EPA re: indoor inh	nalat	tion and Site te	nd use classifica	tion (June 2017).
		Senior Scientist		20.00	106.38	\$2,127.60
.	Prep. of CACR	response documentation including	g T/	ACO modeling,	ordinance work	(June 2017).
		Project Manager		5.00	113.76	\$568.80
7	Review of data/	project needs for groundwater an	d sc	oil gas sampling); field work plan	ining (July 2017)
		Geologist III	-	6.00	. 111.24	\$687.44
<u> </u>	On-site for mon	itoring well sampling and sample	mai	nagement (July	2017).	

Employee Name	Personnel Title	Hours	Rate* (\$)	Total Cost		
Remediation Category	Task	Task				
		1	7[
	Project Manager -	5.00	113.76	\$568.8		
Review	of groundwater data & planning response	for indoor inhala	ation route evaluat	ion (Aug. 2017).		
	Senior Project Manager	5.00	126.40	\$632.0		
Manage	ament with IEPA and client re: re-sampling	monitoring well	for J&E equation	(Aug. 2017).		
	Project Manager	5.00	116.04	\$580.2		
Review	of project needs and budgeting for next pl		01/2019-06/2019)			
	Geologist Itl	20.00	113,46	\$2,289.2		
Prepare	ation of technical summary/CAP amendme	1				
	Senior Admin. Assistant	3.00	58.02	\$174.0		
Forms	manegement - preparation, editing, publish	ing, correspond	lence (June 2019)			
	Senior Project Manager	3.00	128.93	\$386.7		
Review	of technical summary/CAP amendment (une 2019).				
	Senior Admin. Assistant	2.00	58.02	\$116.0		
▼ Edit and	d publish technical summary/CAP amenda	nent (June 2019)			
	Senior Project Manager	2.00	131.51	\$263.0		
Project	management - soil and groundwater sam	-1		ger (July 2019).		
	Project Manager	2.00	118.38	\$236.7		
		-1				

Employee Name		Personnel Title		Hours	Rate* (\$)	Total Cost
Remediation Category		Ta	sk			
		Project Monager				<u></u>
		Project Manager		3.00	118.36	\$355.08
	Project manage	ement and correspondence w/ n	new IE	PA project mar	nager (July 2019).
		Geologist III	-	2.00	115.73	\$231.46
•	Preparation for	field work and scheduling inclu	ding o	orrespondence	with WCPD and	staff (July 2019).
		Geologist III	7	5.00	115.73	\$578.65
	On-site for soil	boring/monitoring well installation	on (Au			
	•					
		Geologist III	*	20.00	115.73	\$2,314.60
	Preparation of	data table, forms, mapping, sb l	ogs, C	AP amendmer	nt text (01/2020-	06/2020).
		Senior Admin. Assistant	7	6.00	59.18	\$355.08
<u> </u>	Edit and publis	th CAP amendment (June 2020))			
		Project Manager	-	2.00	120.73	\$241,46
•	Data analysis a	and historical data review (Janua	ery 20	21).		
•		Geologist III	-	15.00	118.04	\$1,770.60
·	Preparation of	J&E calculations (01/2021-04/2	021).			
		Project Manager	-	8.00	120.73	\$965.84
	Review/evalua	tion of indoor inhelation modelin	ng, dat			
	11	Senior Admin, Assistent		20.00	60.36	\$1,207.20
<u> </u>	Clerical work, I	nvoicing, budgeting documentar	tion (O	1/2021-06/202	1)	

Employee Name	Pers	onnel Title	Hours	Rate* (\$)	Total Cost
Remediation Category		Task			
	Geologist III		20.00	123.99	\$2,479.80
	reparation of CACR budget a	mendment (07/2022-	11/2022).		
	Senior Admir	n. Assistant	45.00	02.44	PDS4 45
			15,00	63.41	\$951.15
<u> </u>	reparation of billing package	(07/2022-11/2022).		•	
	Geologist III	+	50.00	123.99	\$6,199.50
7.	reparation of comprehensive	CACR at request of r	new PM (07/202	2-11/2022).	
	Geologist III		10.00	123.99	\$1,239.90
▼ R	teview and preparation of J&E	equation for final do	cumentation (07	//2022-11/2022).	
	Professional	Engineer			
	Professional	Lingition	4.00	154.99	\$619.96
	teview and certification of CA	CR (Nov. 2022).			3
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*Refer to the applicable Maximum Pi	avment Amounts document	nt.			
Add Another Page Delete Las	st Page T	otal of Consulting	g Personnel (Costs	\$43,137.62

Consultant's Materials Costs Form

For this form to function properly. Adobe Reader 8.0 or higher is required

Materials, Equipment, o	r Field Purchase	Time or Amount Used	Rate (\$)	Unit	. Total /
Remediation Category		Description/.	Justification		
Mileage (Aug. 2014)		13.00	.56		\$7.28
CACR -					
Sampling Equipment (2014)		1.00	124.00		\$124.00
CACR ▼	Helium detector for soil ga	'			
Mileage (July 2017)		13.00			\$7.02
Mileage (Aug. 2019)		13.00	.58		\$7.54
▼					
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Add Another Page Delete La	st Page	Total of Consultan	t Materials Cos	ts	\$145.84

RESOURCE CONSULTING, INC.

Attachment E
USEPA Soil Gas Sampling Guidance

Laboratory Servi	Region 4 mental Protection Agency ices & Applied Science Division Athens, Georgia
Ope	erating Procedure
Title: Soil Gas Sampling	ID: LSASDPROC-307-R5
Issuing Authority: Field Services Bran	nch Supervisor
Effective Date: April 22, 2023	Review Due Date: February 06, 2024
Method Reference: N/A	SOP Author: Landon Pruitt

Purpose

This document describes general and specific procedures, methods and considerations to be used and observed when collecting soil gas samples for field screening or laboratory analysis.

Scope/Application

The procedures contained in this document are to be used by field personnel when collecting and handling soil gas samples in the field. On the occasion that LSASD field personnel determine that any of the procedures described in this section are inappropriate, inadequate or impractical and that another procedure must be used to obtain a soil gas sample, the variant procedure will be documented in the field log book, along with a description of the circumstances requiring its use. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

Soil Gas Sampling Effective Date: April 22, 2023

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0	References	
0	Revision History.	
7	ICVISIUH 11344 V	/

1 General Information

1.1 Documentation/Verification

This procedure was prepared by persons deemed technically competent by LSASD management, based on their knowledge, skills and abilities and has been tested in practice and reviewed in print by a subject matter expert. The official copy of this procedure resides on the LSASD Local Area Network (LAN). The Document Control Coordinator (DCC) is responsible for ensuring the most recent version of the procedure is placed on LAN and for maintaining records of review conducted prior to its issuance.

1.2 General Precautions

1.2.1 Safety

Proper safety precautions must be observed when collecting soil gas samples. Refer to the LSASD Safety, Health and Environmental Management Program (SHEMP) Procedures and Policy Manual and any pertinent site-specific Health and Safety Plans (HASP) for guidelines on safety precautions. These guidelines should be used to complement the judgment of an experienced professional. Address chemicals that pose specific toxicity or safety concerns and follow any other relevant requirements, as appropriate.

1.2.2 Procedural Precautions

The following precautions should be considered when collecting soil gas samples.

- 1.2.2.1 Special care must be taken not to contaminate samples. This includes storing samples in a secure location to preclude conditions which could alter the properties of the sample.
- 1.2.2.2 Samples shall be custody sealed during long-term storage or shipment.
- 1.2.2.3 Custody seals should not be placed on the canisters due to VOCs that may out-gas from the adhesives. Custody seals should be placed on the outside of canister shipping containers.
- 1.2.2.4 Sample identification tags shall be attached to the canister using wire, cable tie, or string. Adhesive labels should be affixed to the tag and not be placed directly on the canister.
- 1.2.2.5 Collected samples are in the custody of the sampler or sample custodian until the samples are relinquished to another party.
- 1.2.2.6 If samples are transported by the sampler, they will remain under his/her custody or be secured until they are relinquished.
- 1.2.2.7 Shipped samples shall conform to all U.S. Department of

Transportation (DOT) and/or International Air Transportation Association (IATA) hazardous materials shipping requirements.

- 1.2.2.8 Documentation of field sampling is done in a bound logbook.
- 1.2.2.9 Chain-of-custody (COC) documents shall be filled out and remain with the samples until custody is relinquished.
- 1.2.2.10 Canister Sample Identification Tags and COC and Field

 Logbook should list the unique canister serial number and the starting time that
 the sample was collected.
- 1.2.2.11 All shipping documents, such as air bills, bills of lading etc., shall be retained by the project leader and stored in a secure place.

2.0 Special Sampling Considerations

2.1 Special Considerations for Sampling

The tubing used as part of either of the described sampling systems should be Teflon® or stainless steel. As most current soil gas sampling will be conducted to investigate the presence or extent of organic compounds (not including PFAS compounds), Teflon® tubing is required to ensure the integrity of the sample.

Extreme care should be taken to protect all VOC sampling equipment whose surfaces will come in direct contact with the collection of the sample. For instance, a Geoprobe® or other drilling rig should not be used to carry or transport sampling equipment because of diesel and other VOC emissions. In addition, other field support vehicles should not be operated in the proximity of the sampling site shortly before or during sampling.

2.2 Special Precautions for Soil Gas Sampling

- 2.2.1 A clean pair of new, non-powdered, disposable gloves (gloves) will be worn each time a different location is sampled, and the gloves should be donned immediately prior to sampling. The gloves should be changed any time during sample collection when their cleanliness is compromised.
- 2.2.2 If possible, one member of the field sampling team should take all the notes and photographs fill out tags, etc., while the other member(s) collect the samples.
- 2.2.3 Using O-rings on all PRT tooling, adapters, and probe rods will ensure that the entire sampling train is air-tight. This will prevent soil ingress during installation and to maintain sample integrity by ensuring that no ambient air is introduced into the sample during collection.

2.3 Sample Handling Requirements

- 2.3.1 Soil gas samples will typically be collected by directly filling an evacuated, 6-liter passivated stainless-steel canister after sample delivery line purging.
- 2.3.2 The canister will be labeled and identified according to LSASD Operating Procedure for Packaging, Marking, Labeling and Shipping of Environmental and Waste Samples (LSASDPROC-209).

2.4 Quality Control

Quality control sampling for soil gas sampling investigations will consist of collection of the following types of samples, as appropriate.

- 2.4.1 Control Sample: If applicable to the study or investigation, a control (or background) sample should be collected from a location not affected by the possible contaminants of concern and submitted with the other samples.
- 2.4.2 Trip Blank: A canister trip blank, prepared prior to the investigation by LSB personnel, should follow alongside the traditional samples and be submitted with the sample set during the investigation.
- 2.4.3 Equipment rinsate blank: Equipment rinsate blanks should be collected if equipment, such as PRT adapters, probe rods, or other sampling equipment is field cleaned and re-used in the sample train to document that low-level contaminants were not introduced into the sample by the decontaminated equipment.
- 2.4.4 Field Split: Field split samples, at a minimum frequency of one for every ten samples should be collected. Split samples are collected from one single sample port or installation by attaching the center leg of a Swagelok® "Tee" to the end of the sample tubing. The remaining legs of the "Tee" are connected to two sample containers (usually two flow controllers with roughly the same calibrated flow) which are opened and filled simultaneously.

2.5 Records

Information generated or obtained by LSASD personnel will be organized and accounted for in accordance with LSASD records management procedures found in the LSASD Operating Procedure for Control of Records (LSASDPROC-002). Field notes, recorded in a bound field logbook, will be generated, as well as chain-of-custody documentation according to the procedures found in LSASD Operating Procedure Logbooks (LSASDPROC-010) and LSASD Operating Procedure for Sample and Evidence Management (LSASDPROC-005).

3 Geoprobe® PRT System Installation

3.1 General

Single event or grab sampling may be conducted using the Post-Run Tubing System (PRT). Using this system, soil gas samples can be collected quickly and with a high degree of assurance that the samples are representative of the targeted depth.

The downhole components of the PRT system include:

- 3.1.1 Sample delivery tubing
- 3.1.2 Probe rods
- 3.1.3 PRT Adapter
- 3.1.4 Expendable point holder
- 3.1.5 Expendable point

O-ring seals are used on the PRT Adapter and the expendable point holder. O-rings can also be used at all rod joints, preventing soil ingress which can prevent air-tight docking of the PRT adapter.

3.2 PRT System Installation Procedures

The following procedures are used to collect soil gas samples using the Geoprobe® PRT system. The PRT system is available for 1.0-inch, 1.25-inch and 1.5-inch diameter probe rods. In LSASD practice, 1.25-inch rods are used. All parts or accessories used in the PRT system must be selected with the appropriate diameter probe rod in mind to ensure compatibility of all components.

- 3.2.1 Ensure that the sampling location has been cleared using the procedures detailed in the Site Safety Plan. The plan should stipulate that: prior to site arrival the proposed soil gas sampling locations will be cleared using the One Call utility locating service. Upon arrival at the site each individual soil gas sampling location will be cleared using a pipe scanner and metal locater.
- 3.2.2 Cut a 4-foot by 4-foot section of disposable plastic sheeting and place on the ground next to the sampling location.
- 3.2.3 Hand auger a 4-foot deep hole using a clean stainless-steel hand auger emptying the soil cuttings on the plastic sheeting.
- 3.2.4 Don a clean set of gloves. To ensure there is no thread damage to the internal threads of the expendable point holder or the PRT adapter, hand screw the PRT adapter counter-clockwise into the expendable point holder using only your fingertips. The two components should screw together smoothly. If they do not replace them and repeat the test. Note: PRT fittings are left-hand threaded; turn counterclockwise to tighten.
- 3.2.5 Place O-ring on PRT expendable point holder and attach to initial section of probe rod.
- 3.2.6 Place O-ring on expendable point and press into expendable point holder.

- 3.2.7 Add drive cap to probe rod and push PRT system through the augured hole into ground to the bottom of the sampling interval. Take special care to assure that the rods are in line with the push axis of the probe machine.
- 3.2.8 It is important to leave at least a 2-foot interval of undisturbed native soil between the augured hole and the top of the sampling interval. The native soil layer will be used to support the bentonite/soil layers described in Step 11.
- 3.2.9 At the bottom of the desired sampling depth, attach a point popper to an extension rod and insert extension rod string into rods so that the point popper rests on the expendable point. Using the rod puller and taking special care to maintain probe alignment with the rods, begin pulling the rods while maintaining pressure on the extension rods. The extension rods should drop when the pull is started, indicating that the expendable point has been ejected. The rods can then be pulled to expose the desired open sampling interval.
- 3.2.10 Using a properly decontaminated water level sounder, check, if conditions warrant, to make sure groundwater is not present at the bottom of the rod string. If groundwater is present, the sampling location should be properly abandoned, and an alternate sampling location determined. Soil gas samples should never be collected if there is a high possibility that groundwater may enter the sampling equipment. The groundwater will ruin the sampling and analysis equipment and invalidate the soil gas sample.
- 3.2.11 The drive rods that are contained in the augured hole will be "sealed" by first adding 12 inches of bentonite clay crumbles (not pellets) and hydrating with deionized water. Second, the augured hole will be filled with alternating layers of soil cuttings and hydrated bentonite clay crumbles while being hand packed with a clean stainless-steel auger handle or similar device.
- 3.2.12 Secure the PRT adapter to a length of Teflon® tubing sufficient to reach from the sampling interval to the surface, with several feet of excess tubing extending beyond the top of the probe rod to facilitate sampling. Straighten the first two feet of tubing above the adapter by pulling it between your thumb and forefinger. This will ease the docking of the tubing.
- 3.2.13 Run the tubing and adapter into the probe rod and, using steady downward pressure turn the tubing counter-clockwise to dock the adapter into the top of the expendable point holder. Tug gently on the tubing to ensure that the adapter engaged with the expendable point holder. Continue rotating the tubing until the adapter is firmly seated. Failure to dock could indicate that soil intruded during the push or that the expendable point was lost during the push.
- 3.2.14 At this point, the PRT system has been installed and is ready to be helium leak tested (Section 6) before sampling. If the sample cannot be collected immediately, the end of the tubing should be capped with a stainless-steel Swagelok® cap or crimped by bending over and securing with a cable tie. Sampling is conducted using one of the

procedures described in Section 7.

3.3 Decommissioning PRT Sample Locations

Because it is impractical to pump grout through the PRT adapter on the lead probe rod, the entire string of rod must be removed before decommissioning can commence. The following methods are available, depending on conditions related to sample depth and post-removal probe hole wall stability:

- 3.3.1 Direct Placement of Pellets or Grout If the sampling depth was relatively shallow, on the order of ten feet or less, or the bore hole did not penetrate a water table, grouting/sealing the open hole can be accomplished by directly placing bentonite pellets, hydrated in lifts or pouring a 30% solids bentonite grout mixture from the surface. The acceptable maximum depth for this option is somewhat dependent on the stability of the hole and these methods may be used at slightly greater depths if the holes do not collapse after removal of the rod.
- 3.3.2 Re-entry Grouting For locations where sampling was conducted at somewhat greater depths, where groundwater was penetrated, or where the surficial formations tend to collapse, the only viable option for grout placement may be to reprobe the entire depth with a new expendable point. After reaching the original sample depth, the expendable point is ejected and the hole is grouted by directly injecting grout through the inside of the rod string, as it is removed. Use of this option is dependent on the relative degree of hole stability.

4 Geoprobe® Permanent Soil Gas Implant Installation

4.1 General

Long-term soil gas sampling may be conducted using permanent soil gas sampling implants installed with the Geoprobe®. Stainless steel implants may be installed at any depth achievable by the Geoprobe® and may be installed using various diameters of probe rod. In LSASD practice, 2.25-inch probe rods are used. The implants may be installed in custom lengths, configured using a wide assortment of available implant lengths and connections. The implant screens are double-woven stainless steel mesh with 0.0057-inch (0.15 mm) pore openings.

Permanent soil gas sampling implants may also be installed using 2.125-inch diameter rods utilizing an advancing thin-walled corer to facilitate placement of the implant (see Geoprobe Systems, Direct Push Installation of Devices for Active Soil Gas Sampling & Monitoring, Technical Bulletin No. MK3098 for details of this application).

4.2 Installation of Permanent Soil Gas Sampling Implants (Typical)

The following procedures are used by LSASD to install a permanent soil gas sampling implant using the Geoprobe®. These are the general procedures which are used with 2.25-inch diameter probe rod.

4.2.1 Ensure that the sampling location has been cleared using the procedures detailed in the Site Safety Plan. The plan should stipulate that: prior to site arrival

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the proposed soil gas sampling locations will be cleared using the One Call utility locating service. Upon arrival at the site each individual soil gas sampling location will be cleared using a pipe scanner and metal locater.

- 4.2.2 Cut a 4-foot by 4-foot section of disposable plastic sheeting and place on the ground next to the sampling location.
- 4.2.3 Hand auger a 4-foot deep hole using a clean stainless-steel hand auger emptying the soil cuttings on the plastic sheeting.
- 4.2.4 Don a clean set of gloves. To ensure there is no thread damage to the internal threads of the expendable implant anchor or the implant, hand screw the implant counterclockwise into the expendable implant anchor using only your fingertips. The two components should screw together smoothly. If they do not replace them and repeat the test. Note: implant fittings are left-hand threaded; turn counterclockwise to tighten.
- 4.2.5 Place o-ring on PRT expendable implant anchor and attach to initial section of probe rod.
- 4.2.6 Add drive cap to probe rod and push PRT system through the augured hole into ground to the bottom of the sampling interval. Take special care to assure that the rods are in line with the push axis of the probe machine. Do not retract rod or removed expendable point yet.
- 4.2.7 Using a properly decontaminated water level sounder, check, if conditions warrant, to make sure groundwater is not present at the bottom of the rod string. If groundwater is present, the sampling location should be properly abandoned, and an alternate sampling location determined. Soil gas samples should never be collected if there is a high possibility that groundwater may enter the sampling equipment. The groundwater will ruin the sampling and analysis equipment and invalidate the soil gas sample.
- 4.2.8 Install an o-ring on the docking end of the implant. Next, secure the implant to a length of 1/4"Teflon® tubing sufficient to reach from the sampling interval to the surface, with several feet of excess tubing extending beyond the top of the probe rod to facilitate sampling. Use electrical tape or a cable tie to temporarily cap the end of the tubing. Straighten the first two feet of tubing above the adapter by pulling it between your thumb and forefinger. This will ease the docking of the tubing.
- 4.2.9 Run the tubing and implant into the probe rod and, using steady downward pressure turn the tubing counter-clockwise to dock the adapter into the top of the expendable point holder. Tug gently on the tubing to ensure that the adapter engaged with the expendable point holder. Continue rotating tubing until the adapter is firmly seated. If docking is difficult, try running the implant and tubing thru an appropriate length of 1/2" PVC tremie pipe to better align the implant with the expendable point to facilitate docking. Remove the tremie pipe once docking is achieved. Failure to dock could indicate that soil intruded during the push or that the expendable point was lost

- during the push. If the implant does not dock, it is possible to salvage the installation by removing the implant and sealing the small hole on the bottom of the implant, if present, with foil or with a small sheet metal screw, then returning the implant to the hole.
- 4.2.10 After the implant has been docked, use a pull cap and pull the probe rod approximately one foot while applying slight downward pressure on the tubing connected to the implant. This should start to expose the implant in the sampling interval. Take care while moving the rod and observe the tubing to make sure that the anchor and implant remained in place and is not being pulled with the rod.
- 4.2.11 If the implant remained in place, slowly pour a measured amount of 60-100 mesh glass beads down the inside of the probe rod. The glass beads are used as a filter pack around the implant. The implant should be covered with beads to approximately six inches above the top of the implant. The volume of beads should be calculated based on the length of implant used, alternatively, a water level sounder can be used to measure the top of the bead layer. While pouring the beads, it is advisable to gently shake the tubing to prevent the beads from bridging inside the probe rod.
- 4.2.12 After placing the beads, the implant is sealed using a flowable mixture of the glass beads and fine-powdered bentonite. To accomplish this, at least 6 inches of rod is pulled, and the mixture is slowly poured into the rod above the bead-packed implant. As with the bead placement, similar care should be taken to avoid bridging of this mixture.
- 4.2.13 After placement of the seal, the rod string is removed, and the resultant annular space is grouted using the following procedures which are dependent on the depth and stability of the open hole.
- 4.2.14 If the resultant open hole is shallow (ten feet or less) and the hole walls are stable, the hole may either be filled with bentonite pellets, hydrated in lifts or grouted using a 30% solids bentonite grout, poured from the surface.
- 4.2.15 If the hole is deeper than ten to fifteen feet, better results may be obtained by using a tremie pipe to place a pumpable grout. One half inch PVC tremie pipe or Geoprobe nylon grout tubing is threaded down the annulus to the top of the bead/bentonite seal. The tremie is pulled off the bottom to prevent jetting out the seal and grout is pumped until the annulus is filled. Procedures are similar to those for well annular seals described in LSASDGUID-101, Section 2.3.5.
- 4.2.16 For permanent or long-term installations, the tubing should be protected by an appropriate surface completion, such as a flush vault or well protective casing, similar to well protective casings, as described in LSASDGUID-101. After the installation of the vault, cut off the end of the tubing with the previously installed electrical tape or cable tie and cap with a stainless-steel capping fitting.
- 4.2.17 After installation is complete the soil gas implant is sampled using one of the methods described in Section 7.

4.2.18 Helium leak testing is not practical nor required for permanent soil gas installations.

5 Sub-Slab Soil Gas Sampling Port Installations

5.1 General

For soil gas samples that need to be collected under a current structure, sub-slab soil gas ports should be installed. Temporary or long-term installations may be installed depending on the project needs. Stainless steel screens may be installed if loose or unconsolidated soils lie underneath the slab. Extreme care should be taken in the location of the drilled sample ports.

5.2 Installation of Temporary Sub-slab Soil Gas Sampling Ports

The following procedures are used to install a temporary sub-slab soil gas sampling port.

- 5.2.1 Ensure that the sampling location has been cleared using the procedures detailed in the Site Safety Plan. As most if not all of these applications will be inside, a One Call utility locating service might not help. Upon arrival at the site, each individual sub-slab sampling location should be cleared verbally and visually with a site engineer or home owner, whoever is available with the most knowledge on the structure.
- 5.2.2 Don a clean pair of gloves and drill in the desired location with a 1/2" masonry bit. After drilling, make sure the bit is completely through the slab either by running something rigid along the inside of the borehole to feel the slab end or by visually observing soil cuttings on or from the drill bit. Ensure there is no water in the borehole before moving on. Again, soil gas samples should never be collected if there is a high possibility that groundwater may enter the sampling equipment. The groundwater will ruin the sampling and analysis equipment and invalidate the soil gas sample. If so, choose another sample location.
- 5.2.3 Cut a piece of Teflon® tubing to a length of the slab thickness, plus two feet for room to reach sampling equipment. Straighten the end of the tubing and place it down the borehole to a height just above the bottom of the slab. If there is unconsolidated soil present that could potentially clog the sampling inlet, a clean stainless-steel screen can be fastened to the end of the tubing.
- 5.2.4 After brushing away concrete dust, a VOC-free clay or putty like media is then used to secure the tubing and create an air tight seal at the slab interface. After a leak test is conducted according to Section 6.3, the end of the sampling tube is then connected to the sampling device or crimped and secured if sampling is to happen later.

After sample collection according to a method described in Section 7, the holes are immediately abandoned by filling the borehole with cement. A slightly thin mixture of cement will ensure no bridging of the mixture as it pours and makes a more solid patch. A small diameter piece of wire is good for working cement into hole. Check the cement patch for effectiveness before leaving the site.

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- 5.3 Installation of Permanent Sub-slab Soil Gas Sampling Ports

 The following procedures are used to install a permanent sub-slab soil gas sampling port.
 - 5.3.1 Each sample location should be cleared to the best of the sampling team's ability following step 1 in Section 5.2 above.
 - 5.3.2 Don a clean pair of gloves and drill in the desired location with a 1" masonry bit to a depth needed to just submerge the permanent sample port body into the concrete to have a flush final product. Finish drilling the remainder of the slab thickness with a 1/2" masonry bit. After drilling, make sure the bit is completely through the slab either by running something rigid along the inside of the borehole to feel the slab end or by visually seeing soil cuttings on the drill bit. Ensure there is no water in the borehole before moving on. If so, choose another sample location.
 - 5.3.3 The port should be made of stainless steel with an air tight connection to a length of stainless steel 1/4" tubing long enough to reach down to just above the bottom of the slab and have a cap or plug that can make an air tight seal when left between sampling events. Again, a clean stainless-steel screen can be added to the end of the sample tube if needed to prevent soil from penetrating the sample inlet.
 - 5.3.4 Place the permanent sample port into the drilled borehole with a piece of malleable VOC-free media to seal the hole where it narrows (to keep the cement off the sample inlet). Seal the sample port in place using anchor cement and allow to set overnight.
 - 5.3.5 After port is set, perform a leak test as described in Section 6.3. If the sample port passes the leak test, samples may then be collected by one of the methods described in Section 7. Leak tests should be completed for every sampling event, as torquing the plug can crack the anchor cement over time.

6 Helium Leak Testing of PRT Soil Gas Sampling Installations

6.1 General

Leak testing of soil gas sampling installations should be conducted if the sampling equipment has a connection that if compromised would emit ambient air into the soil gas sample. For sub-slab soil gas sample ports, it is most important to leak test temporary sample ports as the integrity of the seal made by the malleable VOC-free media used can be easily damaged.

6.2 Helium Leak Testing Procedures for PRT Soil Gas Sampling Installations

- 6.2.1 The sampling system will be leak checked by inserting a 1/8" diameter Teflon® tubing into the drive rod next to the 1/4-inch diameter Teflon® sampling tubing, until it bottoms out a few inches above PRT adaptor. The 1/8" diameter tubing will be connected to a 99.999% pure helium source.
- 6.2.2 A second length of 1/4" Teflon® tubing will be inserted into the drive rod to a point

approximately one foot below the top of the rod. The free end of this tubing will be connected to a helium meter that will monitor the helium content of the drive rod during the leak test.

6.2.3 The top of the drive rod and tubing will be sealed with Parafilm® to retain the helium for the leak test. The drive rod will be filled with helium to a concentration of greater than 90%, while a soil gas sample is collected into a Tedlar® bag through the 1/4" Teflon® sample tube for on-site sample analysis of helium content. When the Tedlar® bag is disconnected from the sample tubing the sample tubing is crimped and held with a rubber band or cable tie, to prevent ambient air from entering the sample tube. The helium concentration in the Tedlar® bag must be less than 10% of the helium concentration in the drive rod to insure integrity of the soil gas sampling well. When the leak test is complete, the Parafilm®, helium supply, and monitoring tubes will be removed, leaving the sample tube.

6.3 Helium Leak Testing Procedures for Sub-slab Soil Gas Sample Ports

- 6.3.1 The sampling system will be leak checked by covering the sample port with a shroud that can be filled from a 99.999% pure helium source. The shroud will allow two other ports where the leak check sample can be pulled and the helium concentration in the shroud can be testing similar to the set-up in Section 5.2 above.
- 6.3.2 The shroud will be filled with helium to a concentration of greater than 90%, while a soil gas sample is collected into a Tedlar® bag through the 1/4" Teflon® sample tube for onsite sample analysis of helium content. When the Tedlar® bag is disconnected from the sample tubing the sample tubing is crimped and held with a rubber band or cable tie, to prevent ambient air from entering the sample tube. The helium concentration in the Tedlar® bag must be less than 10% of the helium concentration in the shroud to insure integrity of the soil gas sampling port. When the leak test is complete, the shroud, helium supply, and monitoring tubes will be removed, leaving the sample tube connected to the port.
- 6.3.3 For temporary sub-slab sample ports, if the leak test fails, the malleable VOC-free media can be reinserted, added to, or shifted and tested again. After the sample port passes, take care in not moving or shifting the seal media before sample collection.

7 Sampling Soil Gas Installations

7.1 Soil gas samples may be collected from PRT and permanent soil gas implant installations using one of several methods, listed below. Canister sampling is the most common method utilized by LSASD.

7.1.1 Canister Sampling for Laboratory Analysis – After installation is complete and immediately prior to sampling, a flow-limiting device, consisting of a Nupro® 7-micron sintered stainless steel filter, a critical orifice and gauge is attached to an evacuated canister for sampling. A sampler leak check is conducted by plugging the inlet of the flow control device and opening the canister valve momentarily. After the valve

Approved by FSB Supervisor

Page 13 of 17

has been closed the needle on the gauge should not move (remain at full vacuum) indicating that at the sampler is leak free.

- 7.1.2 Once the PRT installation or the sub-slab sample port has passed the helium leak test as described in Section 5 and the sampler leak check has been completed, the Teflon® sample tube is connected to the flow-limiting device using a Swagelok® or other suitable secure connection. After connection, the rubber band (if used) is cut and the crimp in the Teflon® tubing straightened and the valve on the canister is opened, pulling soil gas from the implant into the canister. Typically, the sample is collected over a one-hour period (depending on soil conditions), at which time the canister valve is closed, and the canister tagged with pertinent sampling information. When using this type of device, it is advisable to check the canister vacuum throughout the sampling period to verify filling. The initial and final gauge pressure/vacuum reading should be recorded in the project logbook.
- 7.1.3 Real-time Field Analytical Methods Real-time analytical measurements may be obtained from PRT, soil gas implant, or sub-slab port installations using appropriate instrumentation. The soil gas to be analyzed may be drawn directly into the instrument by the instrument pump or the instrument may be placed in line and the sample drawn into the instrument using a suitable pump connected to the discharge side of the instrument. Results may be qualitative, such as those obtained with flame ionization or photoionization detectors, or they may be quantitative, for instruments which can be calibrated to specific compounds.

8 References

Geoprobe® Systems Tools and Equipment Catalog, Kejr Engineering, Inc., Salinas, Kansas, 1997.

International Air Transport Authority (IATA). Dangerous Goods Regulations, Most Recent Version

LSASD Operating Procedure for Control of Records, LSASDPROC-002, Most Recent Version

LSASD Operating Procedure for Equipment Inventory and Management, LSASDPROC-104, Most Recent Version

LSASD Operating Procedure for Field Equipment Cleaning and Decontamination, LSASDPROC-205, Most Recent Version

LSASD Operating Procedure for Field Sampling Quality Control, LSASDPROC-011, Most Recent Version

LSASD Operating Procedure for Logbooks, LSASDPROC-010, Most Recent Version

LSASD Operating Procedure for Packaging, Marking, Labeling and Shipping of Environmental and Waste Samples, LSASDPROC-209, Most Recent Version

LSASD Operating Procedure for Sample and Evidence Management, LSASDPROC-005, Most Recent Version

The Yellow Field Book®, Compellation of GeoProbe Equipment, Kejr Engineering, Inc., Salinas, Kansas, 2000.

US EPA. 1999. Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, Compendium Method TO-15, Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS); Center for Environmental Research Information, Office of Research and Development, Cincinnati, OH; EPA/625/R-96/010b

US EPA. Laboratory Services Branch Laboratory Operations and Quality Assurance Manual. Region 4 LSASD, Athens, GA, Most Recent Version

US EPA. April 13, 1981. Final Regulation Package for Compliance with DOT Regulations in the Shipment of Environmental Laboratory Samples. Memo from David Weitzman, Work Group Chairman, Office of Occupational Health and Safety (PM-273)

US EPA. Safety, Health and Environmental Management Program Procedures and Policy Manual. Region 4 LSASD, Athens, GA, Most Recent Version

Geoprobe Systems, Direct Push Installation of Devices for Active Soil Gas Sampling & Monitoring,

Approved by FSB Supervisor

Page 15 of 17

Soil Gas Sampling Effective Date: April 22, 2023

Technical Bulletin No. MK3098, Prepared May, 2006.

Geoprobe Soil Gas Sampling/ PRT Operation Instructions, October 24, 2017 https://geoprobe.com/literature/soil-gas-samplingprt-operation-instructions

Dielectric Technologies Model MGD-2002 Multi Gas Leak Detector Instruction Manual, IB-417 RevA PartNo. 84671 http://www.enviroequipment.com/sites/default/files/documents/instruments/Dielectric-MGD-2002-Manual.pdf

Page 16 of 17

9 Revision History

The top row of this table shows the most recent changes to this controlled document. For previous revision history information, archived versions of this document are maintained by the LSASD Quality Assurance Coordinator on the LSASD local area network (LAN).

History Replaced Chief with Supervisor; General formatting revisions.				Effective Date April 22, 2023
General: Corrected any typo Soil gas sampling procedures slab sampling procedures wer LSASD.	57			
Cover Page: Changed the Av Enforcement and Investigation Science and Ecosystem Supp	on Branch to Apport Division to	plied Sciences Bran Laboratory Services	ch. Changed and Applied	
Masters. Revision History: Changes	were made to re	flect the current pra		
Masters. Revision History: Changes vincluding the most recent changes. LSASDPROC-307-R3,	were made to re	flect the current praion history.		May 14, 2014
Masters. Revision History: Changes including the most recent changes the control of the control	were made to re	flect the current praion history.	ctice of only	May 14, 2014 September 8, 2010
Science Division. Quality Masters. Revision History: Changes including the most recent chance LSASDPROC-307-R2, LSASDPROC-307-R2, LSASDPROC-307-R1 LSASDPROC-307-R1, LSASDPROC-307-R0	were made to renges in the revis	flect the current praion history. Sampling,	replaces	

Kim, Richard

From:

Kuhlman, Eric

Sent:

Friday, December 15, 2023 10:39 AM

To:

'Daniel Horvath'

Subject:

RE: [External] West Chicago Park District/980814

Thanks, Dan. I really appreciate that but I'll just print off a copy and send it to the File Room.

ERIC KUHLMAN
Project Manager
Leaking UST Section

Illinois EPA

Phone: (217) 785-5715



From: Daniel Horvath < dhorvath@resourceillinois.com >

Sent: Friday, December 15, 2023 10:29 AM To: Kuhlman, Eric < Eric.Kuhlman@Illinois.gov>

Cc: Putrich, Steve <Steve.Putrich@Illinois.gov>; Courtney McGinnis <cmcginnis@resourceillinois.com>

Subject: Re: [External] West Chicago Park District/980814

Importance: High

Please let us know if you require a hard copy to be submitted.

Thank you,

Daniel J. Horvath Resource Consulting, Inc.

(o) (630)232-9820

(c) (630)292-9820

(f) (630)232-9824

www.resourceillinois.com

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Electronic Filing: Received, Clerk's Office 09/20/2024 On Dec 15, 2023, at 10:27 AM, Daniel Horvath dhorvath@resourceillinois.com/ wrote:

Attached.

Daniel J. Horvath Resource Consulting, Inc.

(o) (630)232-9820

(c) (630)292-9820

(f) (630)232-9824

www.resourceillinois.com

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<980814 WCPD IEPA Review Ext Rqst 12-15-2023.pdf>

On Dec 15, 2023, at 10:00 AM, Kuhlman, Eric < Eric.Kuhlman@Illinois.gov > wrote:

Good morning, Dan.

So, what's the status of that extension request? Please keep in mind, I leave for vacation today around 3:30 pm.

ERIC KUHLMAN Project Manager Leaking UST Section Illinois EPA

Phone: (217) 785-5715

<image001.png><image002.png><image003.jpg><image004.png>

From: Daniel Horvath dhorvath@resourceillinois.com

Sent: Tuesday, December 12, 2023 2:27 PM To: Kuhlman, Eric < Eric. Kuhlman@Illinois.gov>

Cc: Putrich, Steve <<u>Steve.Putrich@Illinois.gov</u>>; Courtney McGinnis

<cmcginnis@resourceillinois.com>

Subject: Re: [External] West Chicago Park District/980814

Eric:

Another extension is not out of the question. It doesn't seem like the amount of information that needs to be reviewed is that much, but it is down to a week or so for

the current due date, and, as noted in my 10/22/2023 email, we need information from the Illinois EPA in order to fully address the IEPA's comments.

Please review what was submitted a few weeks ago as soon as you can. We requested more information about the J&E modeling comments you made in your October 10th and 24th emails. Did benzene work, but not ethylbenzene and naphthalene? Can we have a copy of the Agency's version of the calculations? Can I work with Carol Hawbaker or someone else versed in Tier 2 indoor inhalation evaluation methods on revised calculations?

The groundwater and soil gas have been sampled at least twice each (going from memory here — might have done soil gas once and groundwater sampling 2x). I am not confident that this is a solution. The parcel map included in the document shows that placing an I/C restriction on the parcel that includes the building will not work since a not-insignificant part of the park would be included. I don't think that would be acceptable to the Illinois EPA. Also the most recent data may exceed the I/C ROs too.

Another extension request will be prepared and submitted this week.

Daniel J. Horvath Resource Consulting, Inc.

- (o) (630)232-9820
- (c) (630)292-9820
- (f) (630)232-9824

www.resourceillinois.com

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On Dec 8, 2023, at 11:03 AM, Kuhlman, Eric < <u>Eric. Kuhlman@Illinois.gov</u>> wrote:

Well, due to the amount of information that needs to be reviewed, would it out of the question to receive another extension?

ERIC KUHLMAN
Project Manager
Leaking UST Section

Illinois EPA

Phone: (217) 785-5715

<image001.png><image002.png><image003.jpg><image004.png>

From: Daniel Horvath < dhorvath@resourceillinois.com>

Sent: Friday, December 8, 2023 11:00 AM **To:** Kuhlman, Eric < Eric. Kuhlman@Illinois.gov>

Subject: Re: [External] West Chicago Park District/980814

The information was submitted via email on November 22. Courtney just forwarded it you again around 1015am this morning. The paper copies are being delivered today according to USPS.

Daniel J. Horvath Resource Consulting, Inc.

(o) (630)232-9820

(c) (630)292-9820

(f) (630)232-9824

www.resourceillinois.com

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On Dec 8, 2023, at 9:37 AM, Kuhlman, Eric < cric.Kuhlman@Illinois.gov wrote:

Good morning, Dan.

With the holidays and the extended IEPA response dated of 12/20/2023 fast approaching, what would you like to do with this site? Do you need more time to compile the requested information stated below? Do you want to submit another waiver for the CAP and BUD dated 6/16/2023, or would you want me to issue the IEPA response letter?

KESOURCE CONSULTING, INC.

15 Campbell Street Suite 108 • P.O. Box 123 • Geneva, Illinois 60134 • (630)232-9820

December 15, 2023

Mr. Eric Kuhlman
Illinois Environmental Protection Agency
Bureau of Land #24
Leaking Underground Storage Tank Section
1021 Morth Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

RE: LPC No. 043905825 - DuPage County
West Chicago/West Chicago Park District
250 West National Street
LUST Incident No. 980814
LUST Technical File

Dear Mr. Kuhlman:

On behalf of the West Chicago Park District, Resource Consulting, Inc. is submitting this request to extend the Illinois Environmental Protection Agency's (EPA) current December 20, 2023, review deadline an additional 60 days for the project's Corrective Action Completion Report and associated budget. This request is being submitted in accordance with Title 35 of the Illinois Administrative Code Section 734.505(d).

The extension is requested so that any questions or concerns of the Illinois EPA related to the groundwater well prohibition ordinance, the indoor inhalation modeling, or any other topic can be discussed and addressed in the most timely manner possible.

Please contact our office at any time with questions or comments regarding this request.

Regards,

Daniel J. Horvath Hydrogeologist/Senior Project Manager

Mr. Michael Gasparini, West Chicago Park District

Kim, Richard

From:

Kuhlman, Eric

Sent:

Wednesday, February 14, 2024 10:38 AM

To:

'Daniel Horvath'

Subject:

RE: [External] WCPD 980814

Thanks, Daniel.

ERIC KUHLMAN
Project Manager
Leaking UST Section
Illinois EPA

Phone: (217) 785-5715



From: Daniel Horvath < dhorvath@resourceillinois.com>

Sent: Wednesday, February 14, 2024 10:37 AM **To:** Kuhlman, Eric < Eric. Kuhlman@Illinois.gov>

Subject: Re: [External] WCPD 980814

The original certification is scheduled to arrive by tomorrow at 6pm. It is en route from the Chicago distribution center to Springfield today.

I can confirm delivery with you tomorrow.

If you have any questions or comments and would like to speak with me directly, please call my cell number below.

Thank you,

Daniel J. Horvath
Resource Consulting, Inc.

(o) (630)232-9820

(c) (630)292-9820

(f) (630)232-9824

www.resourceillinois.com

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Resource Consulting, Inc. and may not be distributed without this disclaimer. If you have any questions concerning this message, please contact the sender. Thank you for your cooperation.

On Feb 14, 2024, at 9:39 AM, Kuhlman, Eric < Eric.Kuhlman@Illinois.gov> wrote:

Good morning, Daniel.

I forwarded the attached ordinance to DLC and "The language in the e-copy is good. The GWO will be acceptable once you receive the original certification."

So, when should I receive the certified copy of Ordnance 15-O-0004?

ERIC KUHLMAN
Project Manager
Leaking UST Section
Illinois EPA

Phone: (217) 785-5715

<image001.png><image002.png><image003.jpg><image004.png>

From: Daniel Horvath < dhorvath@resourceillinois.com >

Sent: Monday, February 12, 2024 5:08 PM **To:** Kuhlman, Eric < <u>Eric.Kuhlman@Illinois.gov</u>>

Subject: [External] WCPD 980814

Eric:

I am picking up the original ordinance certification tomorrow morning. I believe the new deadline is 2/18/2024 which is effectively Friday. Is everything besides this matter addressed, ie. should the certification be sent via FedEx to ensure it is in the files ASAP? Or are there other outstanding matters?

If you have any questions or comments and would like to speak with me directly, please call my cell number below.

Thank you,

Daniel J. Horvath Resource Consulting, Inc.

(o) (630)232-9820

(c) (630)292-9820

(f) (630)232-9824

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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

9589 0710 5270 1328 8588 99

FEB 1 6 2024

Michael Gasparini West Chicago Park District 201 West National Street West Chicago, IL 60185

IEPA
Division of Records Management
Releasable

Re:

0430905825 -- DuPage County

West Chicago / West Chicago Park District

201 West National Street Leaking UST Incident 980814 Leaking UST Technical File MAY 1 4 2024

Reviewer: KAW

Dear Mr. Gasparini:

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed the Corrective Action Completion Report (report) submitted for the above-referenced incident. This report included a Corrective Action Plan Budget (budget). This report was dated June 16, 2023 and was received by the Illinois EPA on June 23, 2023. Citations in this letter are from the Environmental Protection Act (415 ILCS 5) (Act) and Title 35 of the Illinois Administrative Code (35 Ill. Adm. Code).

The budget is modified pursuant to Sections 57.7(b)(3) and 57.7(c) of the Act and 35 Ill. Adm. Code 734.505(b) and 734.510(b). Based on the modifications listed in Section 2 of Attachment A, the amounts listed in Section 1 of Attachment A are approved. Please note that the costs must be incurred in accordance with the approved plan. Be aware that the amount of payment from the Fund may be limited by Sections 57.7(c), 57.8(d), 57.8(e) and 57.8(g) of the Act, as well as 35 Ill. Adm. Code 734.630 and 734.655.

All future correspondence must be submitted to:

Illinois Environmental Protection Agency Bureau of Land - #24 Leaking Underground Storage Tank Section 1021 North Grand Avenue East Post Office Box 19276 Springfield, IL 62794-9276

Please submit all correspondence in duplicate and include the Re: block shown at the beginning of this letter.

Page 2

An underground storage tank system owner or operator may appeal this decision to the Illinois Pollution Control Board. Appeal rights are attached.

If you have any questions or need further assistance, please contact the Illinois EPA project manager, Eric Kuhlman, at 217-785-5715.

Sincerely,

Eric Kuhlman Project Manager

Leaking Underground Storage Tank Section

Bureau of Land

SP:

Attachments: Appeal Rights

Attachment A

c: Dan Horvath, Resource Consulting, Inc. (e-copy) dhorvath@resourceillinois.com

BOL File

Appeal Rights

An underground storage tank owner or operator may appeal this final decision to the Illinois Pollution Control Board pursuant to Sections 40 and 57.7(c)(4) of the Act by filing a petition for a hearing within 35 days after the date of issuance of the final decision. However, the 35-day period may be extended for a period not to exceed 90 days by written notice from the owner or operator 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 filing of an appeal, please contact:

Clerk of the Board Illinois Pollution Control Board 60 East Van Buren Street, Ste. 630 Chicago, IL 60605 (312) 814-3461

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

Illinois Environmental Protection Agency Division of Legal Counsel 1021 North Grand Avenue East P.O. Box 19276 Springfield, IL 62794-9276 (217) 782-5544

Attachment A

Re: 0430905825 -- DuPage County
West Chicago / West Chicago Park District
201 West National Street
Leaking UST Incident 980814
Leaking UST Technical File

SECTION 1

Based on the modifications in Section 2 of this Attachment A, the following amounts have been approved:

\$3,035.95	Drilling and Monitoring Well Costs
\$939.10	Analytical Costs
\$0.00	Remediation and Disposal Costs
\$0.00	UST Removal and Abandonment Costs
\$0.00	Paving, Demolition, and Well Abandonment Costs
\$25,859.69	Consulting Personnel Costs
\$145.78	Consultant's Materials Costs

Handling charges will be determined at the time an application for payment is reviewed by the Illinois EPA. The amount of allowable handling charges will be determined in accordance with Section 57.1(a) of the Environmental Protection Act (415 ILCS 5) (Act) and 35 Illinois Administrative Code (35 Ill. Adm. Code) 734.635.

Please note, Resource Consulting, Inc. submitted additional information dated November 22, 2023, and received by the Illinois EPA on December 8, 2023 that included updated budget forms. This information was requested by the Illinois EPA in an email dated October 10, 2023.

SECTION 2

Note. The Illinois EPA has approved the drilling and monitoring wells costs presented in this budget, even though, Resource Consulting, Inc has not yet submitted the soil boring logs and well completion report for GP-1 and MW-4B, respectively. However, such costs can/will be deducted if the Illinois EPA does not receive this supporting documentation, prior to reviewing the reimbursement claim.

- 1. \$38.90 will be deducted from Analytical Costs in the original budget dated June 16, 2023, which was received on June 23, 2023 since the budget summary totals are different from the updated budget forms.
- 2. \$1,535.81 for well abandonment costs which lack supporting documentation. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(cc). Since there is no supporting documentation of costs, the Illinois EPA cannot determine

that costs will not be used for activities and associated materials or services exceeding the minimum requirements necessary to comply with the Act. Therefore, such costs are not approved pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(o).

Please note, the Illinois EPA was told the parking lot had been paved and the wells no longer accessible, as stated on page 2 of the addendum to the Corrective Action Completion Report dated April 6, 2021, and received by the Illinois EPA on April 22, 2021. As such, the Illinois EPA will need additional supporting documentation to determine whether these costs are eligible for payment from the Fund.

3. \$112.72 will be deducted from Consulting Personnel Costs in the original budget dated June 16, 2023, which was received on June 23, 2023 since the budget summary totals are different from the updated budget forms.

Note: Since there was no correspondence between Resource Consulting, Inc. and the Illinois EPA between August 26, 2014 and June 17, 2019; any consulting personnel costs proposed during this time period will not be approved, except for field activities.

4. \$10,453.93 for consulting personnel costs which lack supporting documentation. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(cc). Since there is no supporting documentation of costs, the Illinois EPA cannot determine that costs will not be used for activities and associated materials or services exceeding the minimum requirements necessary to comply with the Act. Therefore, such costs are not approved pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(o).

Costs associated with consulting personnel between August 26, 2014 and June 17, 2019 will not be approved, except for field activities, since no supporting documentation was submitted to the Illinois EPA during this time frame. As such, the Illinois EPA cannot determine whether such costs were used for activities and associated materials or services that exceeded the minimum requirements necessary to comply with the Act.

5. \$618.10 for consulting personnel costs which lack supporting documentation. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(cc). Since there is no supporting documentation of costs, the Illinois EPA cannot determine that costs will not be used for activities and associated materials or services exceeding the minimum requirements necessary to comply with the Act. Therefore, such costs are not approved pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(o).

Costs associated with project management by the Senior Project Manager and Project Manager lacks supporting documentation since this task description is too vague to determine that costs were used for activities and associated materials or services exceeding the minimum requirements necessary to comply with the Act.

6. \$1,207.20 for indirect corrective action costs for personnel, materials, service, or equipment charged as direct costs. Such costs are ineligible for payment from the Fund

pursuant to 35 Ill. Adm. Code 734.630(v). In addition, such costs are not approved pursuant to Section 57.7(c)(3) of the Act because they are not reasonable.

Costs associated with clerical work and invoicing by Senior Administrative Assistant are ineligible for payment from the Fund since such costs are indirect corrective action costs for personnel, materials, service, or equipment charged as direct costs.

- 7. \$6,199.50 for site investigation or corrective action costs for consulting personnel that are not reasonable as submitted. Such costs are ineligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(dd).
 - Costs associated with preparation of comprehensive CACR are not reasonable as submitted since these actions already included the preparation of CACR budget amendment and J&E equations, which are also submitted as separate tasks.
- 8. \$1.68 will be deducted from Consulting Personnel Costs in the original budget dated June 16, 2023, which was received on June 23, 2023 since the budget summary totals are different from the updated budget forms.
- 9. \$0.07 for vehicle costs that lack supporting documentation. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(cc). Since there is no supporting documentation of costs, the Illinois EPA cannot determine that costs will not be used for activities and associated materials or services exceeding the minimum requirements necessary to comply with the Act. Therefore, such costs are not approved pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(o).

Pursuant to 35 Ill. Adm. Code 734.850(b), costs associated with activities that do not have a maximum payment amount set forth in Subpart H of 35 Ill. Adm. Code 734 must be determined on a site-specific basis, and the owner or operator must demonstrate to the Illinois EPA the amounts sought for reimbursement are reasonable.

In addition, without supporting documentation, the rate requested for vehicle costs are unreasonable as submitted. Such costs are ineligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(dd).

The Illinois EPA will reimburse for mileage at a rate of \$0.535 per mile when sufficient documentation has not been submitted for vehicle costs. Based on the round-trip mileage from the consultant's office to the site location of 13 miles per trip and a total of 1 trip, a proposed allowable reimbursement amount is \$6.96. Based on this, \$0.065 is being deducted from the consultant's materials costs portion of the budget.