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

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.	)	

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

By: Eric Kuhlman
Eric Kuhlman
Leaking Underground Storage Tank Section
Illinois Environmental Protection Agency

Date: 9/17/2024

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

Bradley P. Halloran, Hearing Officer
Illinois Pollution Control Board
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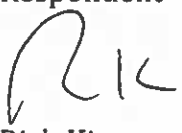
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,
Respondent



Rich Kim
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Special Assistant Attorney General
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Office of the Illinois
State Fire Marshal

General Office
217-785-0969
FAX
217-782-1062
Divisions
ARSON INVESTIGATION
217-785-0115
BOILER and PRESSURE VESSEL SAFETY
217-782-2696
FIRE PREVENTION
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PERSONNEL STANDARDS and EDUCATION
217-782-4942
PETROLEUM and CHEMICAL SAFETY
217-785-5870
PUBLIC INFORMATION
217-785-1021
WEB SITE
www.state.il.us/osfm

CERTIFIED MAIL - RECEIPT REQUESTED # Z 082 [illegible]

December 10, 1998

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

In Re: Facility No. 2-019454
IEMA Incident No. 98-0814
West Chicago Park Dist
Reed-Keppler Park/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 above and associated with the following tanks:

Eligible Tanks

Tank 1 1,000 gallon Gasoline
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 fuel which is exempt from the Motor Fuel Tax Law;
3. 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 Law

Aviation fuel

Heating oil

Kerosene

Used oil, which has been refined from crude oil used in a motor vehicle, as defined in Section 1.3 of the Motor Fuel Tax Law.

4. The owner or operator registered the tank and paid all fees in accordance with the statutory and regulatory requirements of the Gasoline Storage Act.

5. The owner or operator notified the Illinois Emergency Management Agency of a confirmed release, the costs were incurred after the notification 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.

6. The costs have not already been paid to the owner or operator under a private insurance policy, other written agreement, or court order.

7. The costs were associated with "corrective action".

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:

Dorothy Gunn, Clerk
Illinois 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 or deductibility determinations, please contact our Office at (217)785-1020 or (217)785-5878 between 3:00 - 4:00 p.m.

Sincerely,

Melvin H. Smith

Melvin H. Smith
Division Director
Division of Petroleum and Chemical Safety

MHS:

cc: IEPA
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

RE: LPC No. 043905825 – DuPage County
West Chicago/West Chicago Park District
250 West National Street
LUST Incident No. 980814
LUST Technical File

Free Product Removal Report/Corrective Action Completion Report

Dear Ms. Hawbaker:

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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TABLES

APPENDICES

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* *yds^3 (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 Ill. 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 Ill. 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 1 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-1 †	EW-2	SW-1	SW-2	WW-1	WW-2	NW-1	NW-2	Illinois EPA Tier 1 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)pyrene	<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	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	2,300	NA	4,200

†	This region of excavation re-sampled; see next section of report.
*	Concentration exceeds soil saturation limit; see next section of report.
TEXT	Concentration exceeds Illinois EPA remediation objective.
TEXT	Remediation objective exceeded by contaminant concentration.

Table II
Analytical Summary
BTEX and PNAs in Soil
Stockpiled Backfill Material and Base of Excavation
(values in mg/kg)

Sample ID	Backfill			Base	Illinois EPA Tier I Objectives		
	BF-1	BF-2	BF-3	RW-16A 8-9'			
Sampling Date	November 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
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
Benzo(a)pyrene	<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.

Table III
Analytical Summary
BTEX in Soil
Additional Sampling of Southeastern Region of Excavation
(values in mg/kg)

Sample ID	EW-1 4-5'	RW-4A 4-6'	WCPD-1 4-5'	EW-1A 4-5'	Remediation Objective
Sampling Date	November 5, 2009	November 25, 2009	February 21, 2012	March 7, 2012	
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 represent the location of sample EW-1		
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:

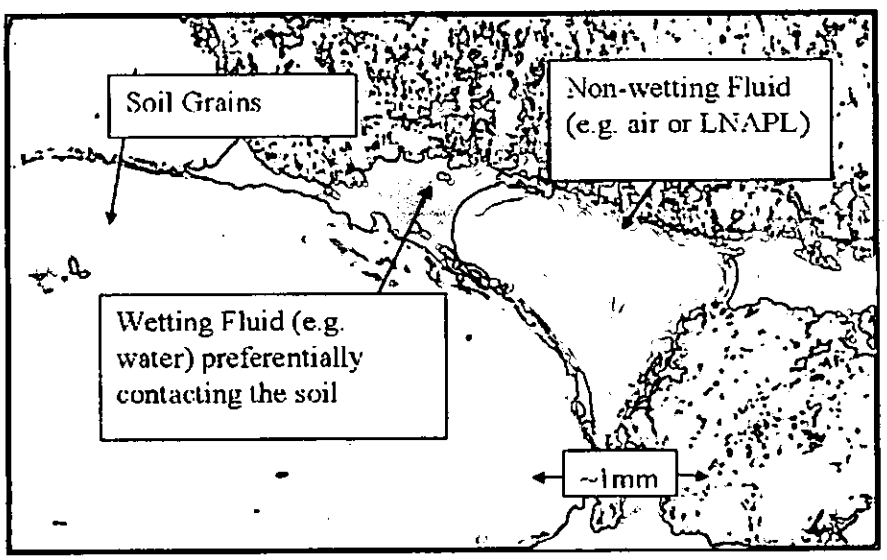
1) The soil contamination below the Site has been fully characterized through the collection of the additional soil samples.

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:

1) 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 I.

Table IV
Analytical Summary
BTEX and PNAs in Groundwater

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

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	Illinois EPA Tier 1 Objectives	
													Class I	Class II
Benzene	<0.005	<0.005	*1.570*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.005**	**0.025**
Toluene	<0.005	<0.005	0.0139	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0165	1.0	2.5
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	Concentration exceeds remediation objectives.
TEXT	Remediation objective exceeded by contaminant concentration.

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 Summary
BTEX and PNAs in Groundwater

Sampling Date: August 20, 2010
Units in mg/L

		Illinois EPA Tier 1 Objectives	
Sample ID	**RW-4A**	**Class I**	**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 contaminant 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 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 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 Ill. 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 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:

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 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. 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_{oc}), 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:

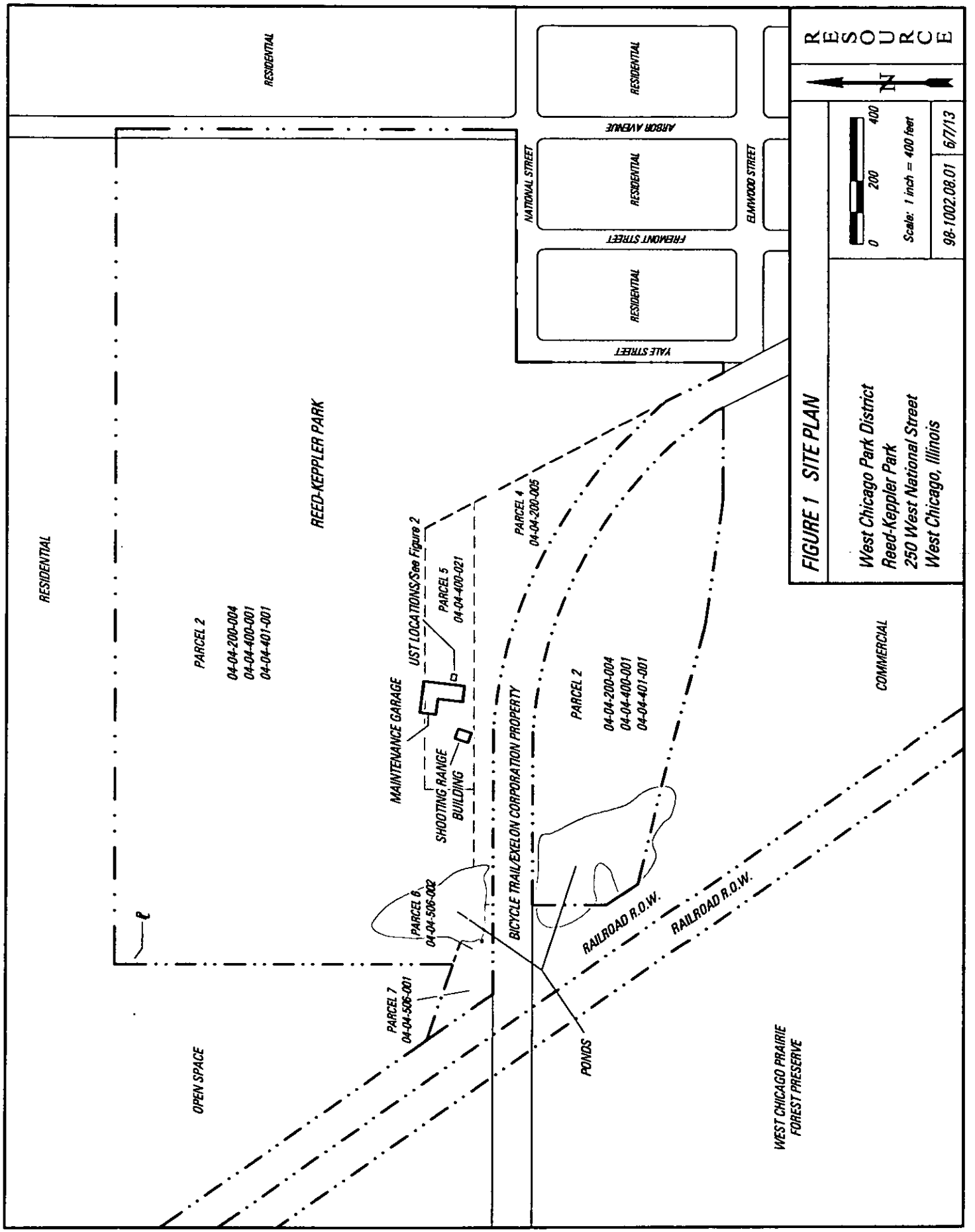
The proposal for the exclusion of the groundwater ingestion exposure route is presented in Appendix G. The documentation includes tables summarizing the input data, the calculations in spreadsheet format, and a discussion of the methods.

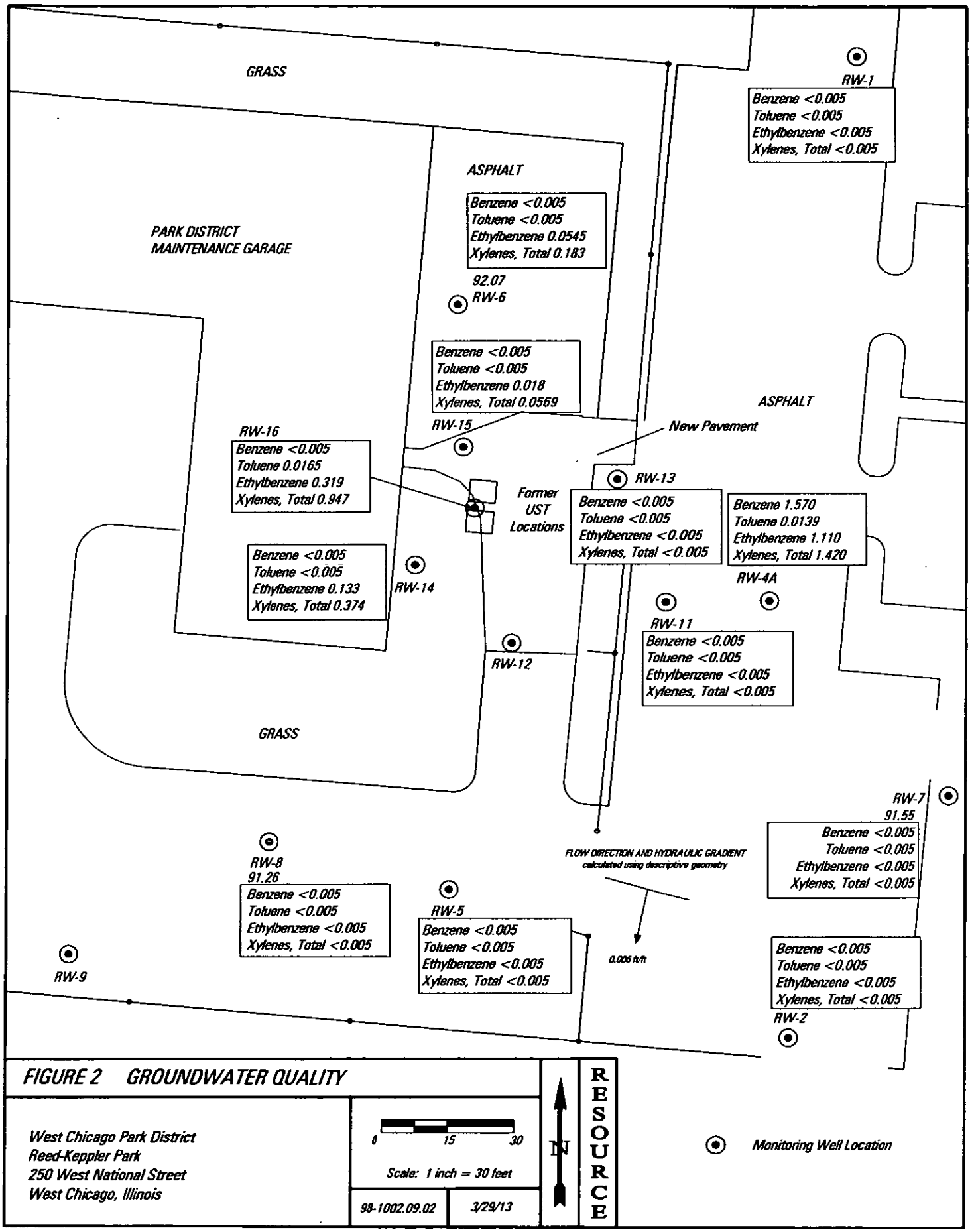
10. Property Owner Summary form:

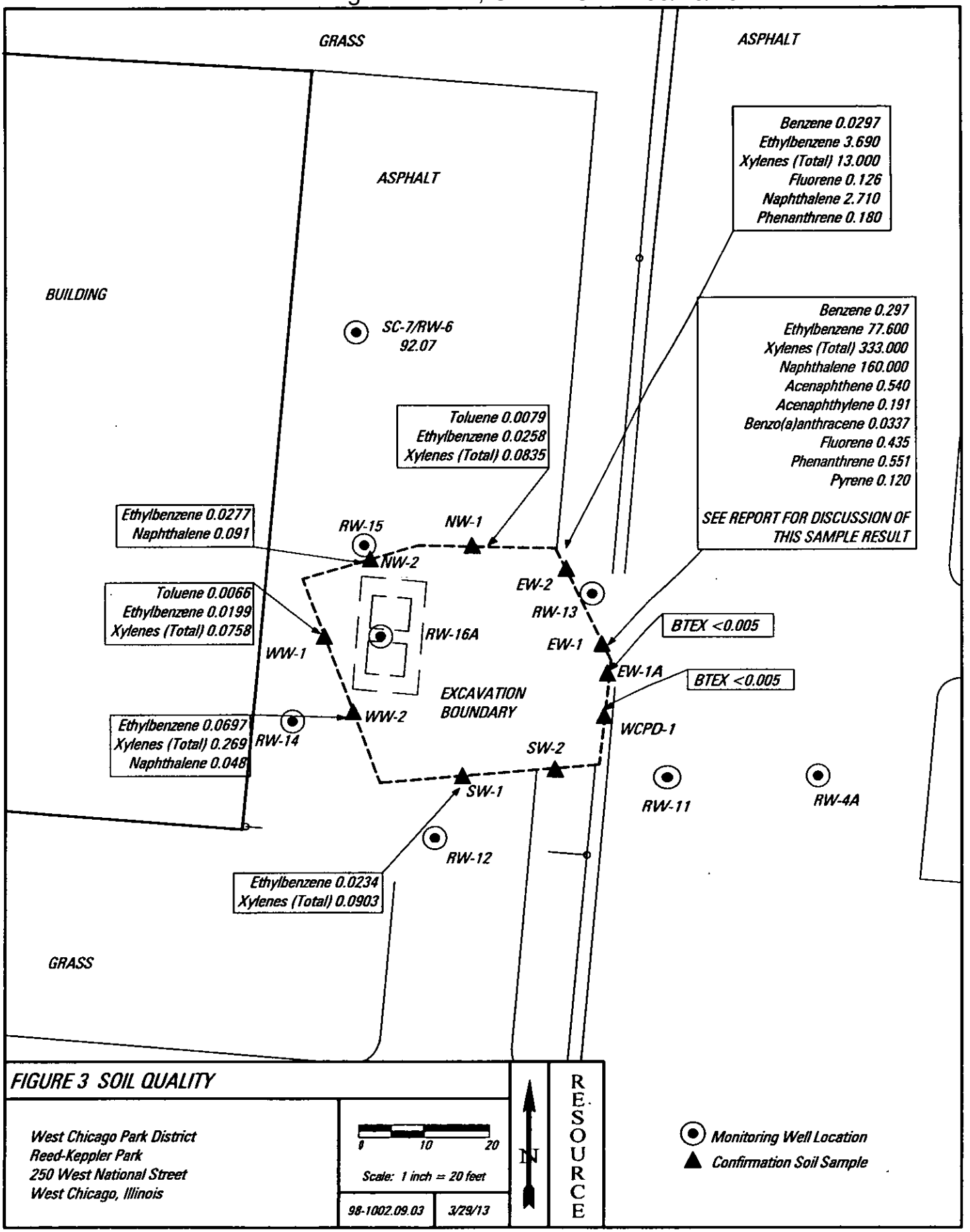
The Property Owner Summary form is included with all of the Illinois EPA's required forms related to the submission of a Corrective Action Completion Report in Appendix J.

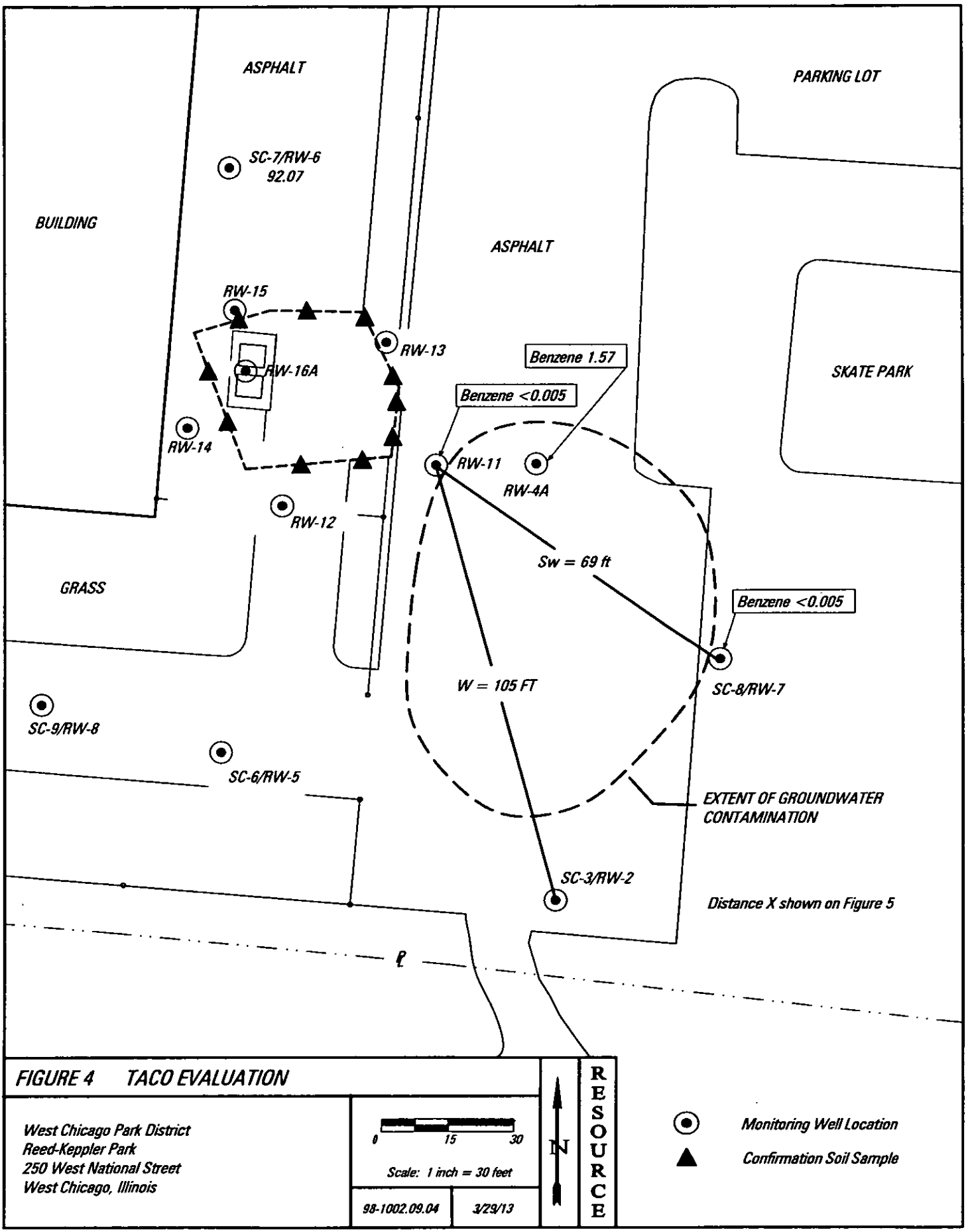
APPENDIX A

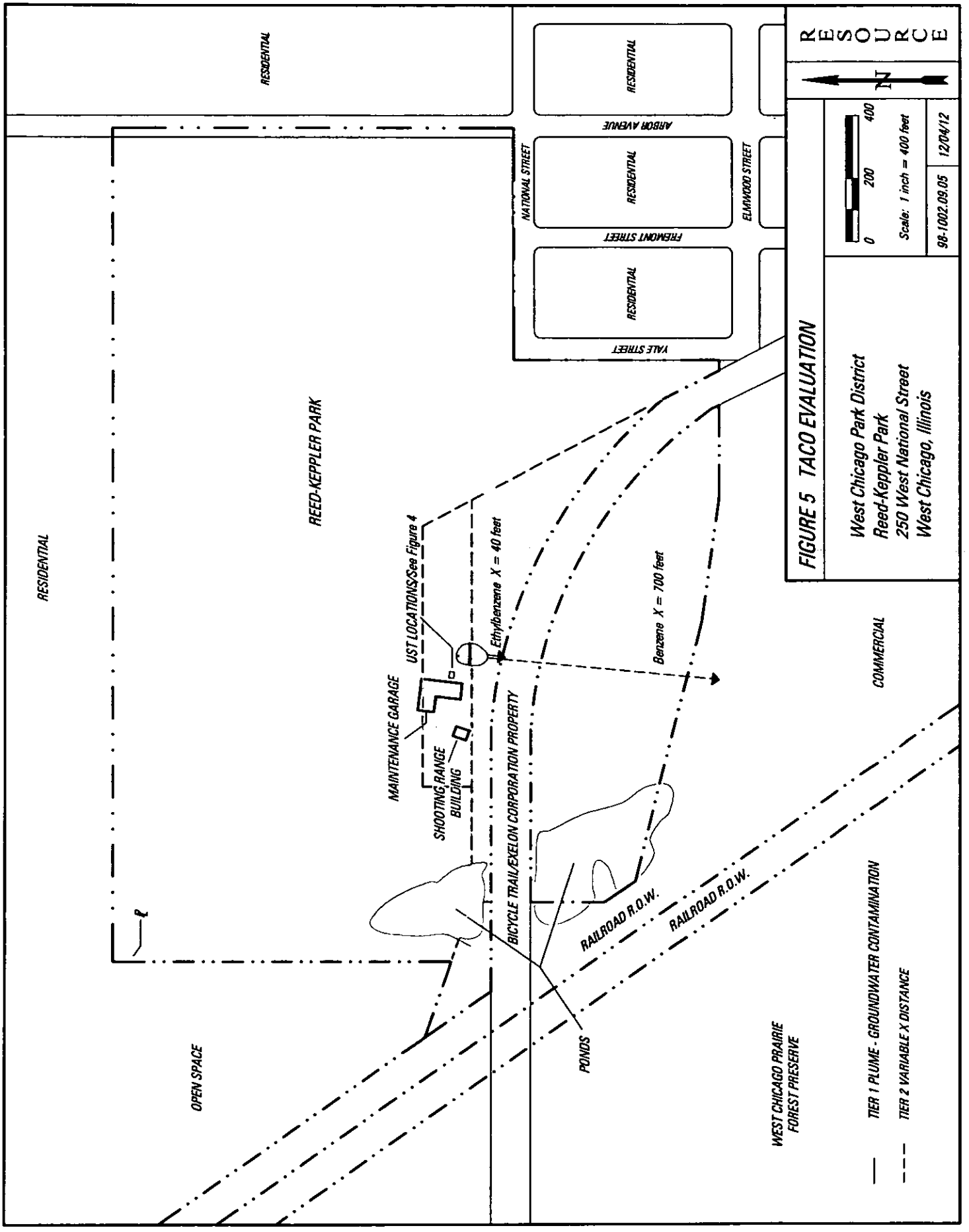
Figures


RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
ARBOR AVENUE
NATIONAL STREET
FREMONT STREET
ELMWOOD STREET
YALE STREET
REED-KEPPLER PARK
RESIDENTIAL
PARCEL 2
04-04-200-004
04-04-400-001
04-04-401-001
UST LOCATIONS/See Figure 2
PARCEL 5
04-04-400-021
PARCEL 4
04-04-200-005
MAINTENANCE GARAGE
SHOOTING RANGE BUILDING
BICYCLE TRAIL/EXELON CORPORATION PROPERTY
PARCEL 2
04-04-200-004
04-04-400-001
04-04-401-001
COMMERCIAL
PARCEL 6
04-04-506-002
RAILROAD R.O.W.
RAILROAD R.O.W.
PARCEL 7
04-04-506-001
PONDS
OPEN SPACE
WEST CHICAGO PRAIRIE FOREST PRESERVE
RESOURCE
N
0
200
400
Scale: 1 inch = 400 feet
FIGURE 1 SITE PLAN
West Chicago Park District
Reed-Keppler Park
250 West National Street
West Chicago, Illinois
98-1002.08.01
6/7/13


GRASS
RW-1
Benzene <0.005
Toluene <0.005
Ethylbenzene <0.005
Xylenes, Total <0.005
ASPHALT
Benzene <0.005
Toluene <0.005
Ethylbenzene 0.0545
Xylenes, Total 0.183
PARK DISTRICT
MAINTENANCE GARAGE
92.07
RW-6
Benzene <0.005
Toluene <0.005
Ethylbenzene 0.018
Xylenes, Total 0.0569
ASPHALT
RW-15
New Pavement
RW-16
Benzene <0.005
Toluene 0.0165
Ethylbenzene 0.319
Xylenes, Total 0.947
RW-13
Former
UST
Locations
Benzene <0.005
Toluene <0.005
Ethylbenzene <0.005
Xylenes, Total <0.005
Benzene 1.570
Toluene 0.0139
Ethylbenzene 1.110
Xylenes, Total 1.420
RW-4A
Benzene <0.005
Toluene <0.005
Ethylbenzene 0.133
Xylenes, Total 0.374
RW-14
RW-11
Benzene <0.005
Toluene <0.005
Ethylbenzene <0.005
Xylenes, Total <0.005
RW-12
GRASS
RW-7
91.55
Benzene <0.005
Toluene <0.005
Ethylbenzene <0.005
Xylenes, Total <0.005
RW-8
91.26
Benzene <0.005
Toluene <0.005
Ethylbenzene <0.005
Xylenes, Total <0.005
FLOW DIRECTION AND HYDRAULIC GRADIENT
calculated using descriptive geometry
RW-5
Benzene <0.005
Toluene <0.005
Ethylbenzene <0.005
Xylenes, Total <0.005
0.006 ft/ft
RW-9
Benzene <0.005
Toluene <0.005
Ethylbenzene <0.005
Xylenes, Total <0.005
RW-2
FIGURE 2 GROUNDWATER QUALITY
West Chicago Park District
Reed-Keppler Park
250 West National Street
West Chicago, Illinois
0 15 30
Scale: 1 inch = 30 feet
98-1002.09.02
3/29/13
N
RESOURCE
Monitoring Well Location


GRASS
ASPHALT
ASPHALT
BUILDING
Benzene 0.0297
Ethylbenzene 3.690
Xylenes (Total) 13.000
Fluorene 0.126
Naphthalene 2.710
Phenanthrene 0.180
SC-7/RW-6
92.07
Benzene 0.297
Ethylbenzene 77.600
Xylenes (Total) 333.000
Naphthalene 160.000
Acenaphthene 0.540
Acenaphthylene 0.191
Benzo(a)anthracene 0.0337
Fluorene 0.435
Phenanthrene 0.551
Pyrene 0.120
SEE REPORT FOR DISCUSSION OF THIS SAMPLE RESULT
Toluene 0.0079
Ethylbenzene 0.0258
Xylenes (Total) 0.0835
Ethylbenzene 0.0277
Naphthalene 0.091
RW-15
NW-1
NW-2
EW-2
RW-13
Toluene 0.0066
Ethylbenzene 0.0199
Xylenes (Total) 0.0758
RW-16A
BTEX <0.005
WW-1
EW-1
EW-1A
BTEX <0.005
EXCAVATION
BOUNDARY
WW-2
WCPD-1
Ethylbenzene 0.0697
Xylenes (Total) 0.269
Naphthalene 0.048
RW-14
SW-2
SW-1
RW-11
RW-4A
RW-12
Ethylbenzene 0.0234
Xylenes (Total) 0.0903
GRASS
FIGURE 3 SOIL QUALITY
West Chicago Park District
Reed-Keppler Park
250 West National Street
West Chicago, Illinois
0
10
20
Scale: 1 inch = 20 feet
98-1002.09.03
3/29/13
N
RESOURCE
Monitoring Well Location
Confirmation Soil Sample


ASPHALT
PARKING LOT
SC-7/RW-6
92.07
BUILDING
ASPHALT
RW-15
RW-13
RW-16A
Benzene 1.57
SKATE PARK
Benzene <0.005
RW-14
RW-11
RW-4A
RW-12
Sw = 69 ft
GRASS
Benzene <0.005
W = 105 FT
SC-8/RW-7
SC-9/RW-8
SC-6/RW-5
EXTENT OF GROUNDWATER CONTAMINATION
SC-3/RW-2
Distance X shown on Figure 5
℄
FIGURE 4 TACO EVALUATION
West Chicago Park District
Reed-Keppler Park
250 West National Street
West Chicago, Illinois
0 15 30
Scale: 1 inch = 30 feet
98-1002.09.04
3/29/13
N
RESOURCE
Monitoring Well Location
Confirmation Soil Sample


RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
ARBOR AVENUE
NATIONAL STREET
FREMONT STREET
ELMWOOD STREET
VALE STREET
REED-KEPPLER PARK
RESIDENTIAL
UST LOCATIONS/See Figure 4
Ethylbenzene X = 40 feet
Benzene X = 700 feet
MAINTENANCE GARAGE
SHOOTING RANGE BUILDING
BICYCLE TRAIL/EXELON CORPORATION PROPERTY
COMMERCIAL
RAILROAD R.O.W.
RAILROAD R.O.W.
PONDS
OPEN SPACE
WEST CHICAGO PRAIRIE FOREST PRESERVE
TIER 1 PLUME - GROUNDWATER CONTAMINATION
TIER 2 VARIABLE X DISTANCE
RESOURCE
N
0 200 400
Scale: 1 inch = 400 feet
98-1002.09.05 12/04/12
FIGURE 5 TACO EVALUATION
West Chicago Park District
Reed-Keppler Park
250 West National Street
West Chicago, Illinois

APPENDIX B

Waste Manifests

Vulcan
Materials Company
Midwest Division
Vulcan Construction Materials, LP

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

51972-09

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	14:25	361 BOLINGBROOK	271182

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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.

CUSTOMER 0039606 HERI
HERITAGE LOGISTICS

SALES ORDER: 764457 7

SHIP TO:
W CHGO PARK DIST
J#ATI001
250 W NATIONAL
WEST CHICAGO

J#ATI001
250 W NATIONAL
WEST CHICAGO

HAULER	TRUCK NO.	DELIVERY TYPE
904 ROMAN TRANSPORT, INC	ROM368	PICKED UP

CUSTOMER P.O.

WEIGHER CAROL

PRODUCT
547 GRADE 8

GROSS LBs (Scl	Tare Lbs (Scl 1)	Net Lbs	NET TONS	Tons Today
72,920	26,220	46,700	23.35	105.86
Gross kg	**Tare kg**	**Net Kg**	**Net Mg**	**Metric Tons Today**
33,076	11,893	21,183	21.1828	96.0346

COMMENTS

Loads Today - 5

CASH SALE ONLY

	PRODUCT	HAUL	TAX	TOTAL
Per Ton				
Amount				

612-KN REV 8-05

Vulcan
Materials Company
Midwest Division
Vulcan Construction Materials, LP

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

50312-90

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
11/06/09	06:30	393 BARTLETT	130365

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TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE.

Customer: 003960 Sales Order: 764457
HERITAGE LOGISTICS

Ship to: JB# ATI001 REED PK7 ACCURATE TANK
250 NATIONAL
WEST CHICAGO

Hauler	Truck No.	Delivery Type
497 BP& SON'S	BP91	PICKED UP
Customer P.O.	**Weigher**	
JB# ATI001	Marilyn	

Product: 547 GRADE 8

Gross Lbs (1)	Tare Lbs (1)	Net Lbs	Net Tons	Tons Today
71,060	31.660	39,400	19.70	43.19
Gross Kg	**Tare Kg**	**Net Kg**	**Net Mg**	**Metric Tons Today**
32.232	14,361	17.872	17.8715	39.1813

Comments: Loads Today = 2

CASH SALE ONLY

	PRODUCT	HAUL	TAX	TOTAL
Per Ton				
Amount				

PT 1-BILLING PT 2-DRIVER
PT. 3-CUSTOMER COPY 1 PT 4-CUSTOMER COPY 2
VMC-1850-40 (07-2005)

130365

Vulcan
Materials Company
Midwest Division
Vulcan Construction Materials, LP

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

50312-90

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.
11/06/09	07:51	393 BARTLETT	130392

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TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE.

Customer: 003960 Sales Order: 764457
HERITAGE LOGISTICS

Ship To: JB# AT1001 REED PK/ ACCURATE TANK
250 NATIONAL
WEST CHICAGO

Hauler	Truck No.	Delivery Type
497 BP& SON'S	BP91	PICKED UP

Customer P.O.	Weigher
JB# AT1001	Marilyn

Product: 547 GRADE B

Gross Lbs (1)	Tare Lbs (1)	Net Lbs	Net Tons	Tons Today
72,580	31,660	40,920	20.46	87.48

Gross Kg	Tare Kg	Net Kg	Net Mg	Metric Tons Today
32,922	14,361	18,561	18.5610	79.3605

Comments: Loads Today = 4

CASH SALES ONLY

	PRODUCT	HAUL	TAX	TOTAL
Per Ton				
Amount				

PT 1-BILLING PT 2-DRIVER
PT. 3-CUSTOMER COPY 1 PT 4-CUSTOMER COPY 2
VMC-1650-40 (07-2005)

130392

Vulcan
Materials Company
Midwest Division
Vulcan Construction Materials, LP

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

50312-90

WARNING
Read important health information on reverse.

PRECAUCIÓN
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CARRIER | RECEIVED BY

DATE	TIME	PLANT	TICKET NO
11/06/09	09:05	393 BARTLETT	130415

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TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE.

Customer: 003960 Sales Order: 764457
HERITAGE LOGISTICS

Ship To: JB# AT1001 REED PK/ ACCURATE TANK
250 NATIONAL
WEST CHICAGO

Hauler	Truck No.	Delivery Type
497 BP& SON'S	BP91	PICKED UP

Customer P.O.	Weigher
JB# AT1001	Marilyn

Product: 547 GRADE 8

Gross Lbs (1)	Tare Lbs (1)	Net Lbs	Net Tons	Tons Today
72,880	31,660	41,220	20.61	131.68
Gross Kg	**Tare Kg**	**Net Kg**	**Net Mg**	**Metric Tons Today**
33,058	14,361	18,697	18.6971	119.4581

Comments: Loads Today - 6

CASH/CHARGE ONLY

	PRODUCT	FREIGHT	TAX	TOTAL
Per Ton				
Amount				

PT 1-BILLING PT 2-DRIVER
PT 3-CUSTOMER COPY 1 PT 4-CUSTOMER COPY 2
VMC-1650-40 (07-2005)

130415

Vulcan
Materials Company
Midwest Division
Vulcan Construction Materials, LP

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

50312-90

WARNING
Read important health information on reverse.

PRECAUCIÓN
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CARRIER	RECEIVED BY

DATE	TIME	PLANT	TICKET NO.
11/06/09	10:24	393 BARTLETT	130444

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TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE.

Customer: 003960 HERITAGE LOGISTICS
Sales Order: 764457

Ship To: JB# ATI001 REED PK/ ACCURATE TANK
250 NATIONAL
WEST CHICAGO

Hauler	Truck No.	Delivery Type
497 BP& SON'S	BP91	PICKED UP

Customer P.O.	Weigher
JB# ATI001	Marilyn

Product: 547 GRADE 8

Gross Lbs (1)	Tare Lbs (1)	Net Lbs	Net Tons	Tons Today
73,060	31,660	41,400	20.70	175.50
Gross Kg	**Tare Kg**	**Net Kg**	**Net Mg**	**Metric Tons Today**
33,139	14,361	18,779	18.7787	159.2109

Comments: Loads Today - 8

CASH SALE ONLY

	PRODUCT	HAUL	TAX	TOTAL
Per Ton				
Amount				

PT 1-BILLING PT 2-DRIVER
PT. 3-CUSTOMER COPY 1 PT 4-CUSTOMER COPY 2
VMD-1850-40 (07-2005)

130444

Vulcan
Materials Company
Midwest Division
Vulcan Construction Materials, LP

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

50312-98

WARNING
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CARRIER | RECEIVED BY

DATE	TIME	PLANT	TICKET NO.
11/06/09	11:35	393 BARTLETT	130474

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TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE.

Customer: 003960 HERITAGE LOGISTICS | Sales Order: 764457

Ship To: JB# AT1001 REED PK/ ACCURATE TANK
250 NATIONAL
WEST CHICAGO

Hauler: 497 BP& SON'S | Truck No.: BP91 | Delivery Type: PICKED UP

Customer P.O.: JB# AT1001 | Weigher: Marilyn

Product: 547 GRADE B

Gross Lbs (1)	Tare Lbs (1)	Net Lbs	Net Tons	Tons Today
73,100	31,660	41,440	20.72	219.61
Gross Kg	**Tare Kg**	**Net Kg**	**Net Mg**	**Metric Tons Today**
33,158	14,361	18,797	18.7969	199.2269

Comments: Loads Today - 10

CASH SALE ONLY

	FREIGHT	HAUL	TAX	TOTAL
Per Ton				
Amount				

PT 1-BILLING PT 2-DRIVER
PT. 3-CUSTOMER COPY 1 PT 4-CUSTOMER COPY 2
VMC-1650-40 (07-2005)

130474

Vulcan
Materials Company
Midwest Division
Vulcan Construction Materials, LP

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

3481

5312-90

ATI001

WARNING
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CARRIER

RECEIVED BY

DATE	TIME	PLANT	TICKET NO.
11/06/09	07:36	393 BARTLETT	130385

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TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE.

Customer: 003960
HERITAGE LOGISTICS

Sales Order: 764457

Ship To: JB# ATI001 REED PK/ ACCURATE TANK
250 NATIONAL
WEST CHICAGO

04250003

Hauler: 937 B & V TRUCKING SER

Truck No: BVT21

Delivery Type: PICKED UP

Customer P.O.: JB# ATI001

Weigher: Marilyn

Product: 547 GRADE 8

Gross Lbs (T)	Tare Lbs (T)	Net Lbs	Net Tons	Tons Today
73,240	25,580	47,660	23.83	67.02
Gross Kg	**Tare Kg**	**Net Kg**	**Net Mg**	**Metric Tons Today**
33,221	11,603	21,618	21.6182	60.7995

Comments: Loads Today - 3

CASH SALE ONLY

	PRODUCT	HAUL	TAX	TOTAL
Per Ton				
Amount				

PT 1-BILLING PT 2-DRIVER
PT. 3-CUSTOMER COPY 1 PT 4-CUSTOMER COPY 2
VMC-1650-40 (07-2005)

130385

Vulcan
Materials Company
Midwest Division

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

Vulcan Construction Materials, LP 50312-90

0425004

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.
11/06/09	09:45	393 BARTLETT	130427

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TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE.

Customer: 003960 HERITAGE LOGISTICS

Sales Order: 764450

Ship To: JB# ATI001 REED PK/ ACCURATE TANK
250 NATIONAL
WEST CHICAGO

Nick

Hauler	Truck No.	Delivery Type
937 B & W TRUCKING SER	BWT21	PICKED UP
Customer P.O.	**Weigher**	
JB# ATI001	Marilyn	

Product: 547 GRADE 8

Gross Lbs (1)	Tare Lbs (1)	Net Lbs	Net Tons	Tons Today
71,820	25,580	46,240	23.12	154.60
Gross Kg	**Tare Kg**	**Net Kg**	**Net Mg**	**Metric Tons Today**
32,577	11,603	20,974	20.9741	140.4322

Comments: Loads Today - 7

CASH SALE ONLY

	PRODUCT	HAUL	TAX	TOTAL
Per Ton				
Amount				

PT 1-BILLING PT 2-DRIVER
PT. 3-CUSTOMER COPY 1 PT 4-CUSTOMER COPY 2
VMC-1850-40 (07-2005)

130427

Vulcan Materials Company
Midwest Division
Vulcan Construction Materials, LP

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

5031Z-98

ATI001

WARNING
Read important health information on reverse.

PRECAUCIÓN
Lease la información importante para la salud en el reverso.

CARRIER | RECEIVED BY

DATE	TIME	PLANT	TICKET NO.
11/06/09	06:28	393 BARTLETT	130364

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TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE.

Customer: 003960
HERITAGE LOGISTICS

Sales Order: 764457

Ship To: JB# ATI001 REED PK/ ACCURATE TANK
250 NATIONAL
WEST CHICAGO

0425005

Hauler	Truck No.	Delivery Type
937 B & W TRUCKING SER	BWT21	PICKED UP
Customer P.O.	**Weigher**	
JB# ATI001	Marilyn	

Product: 547 GRADE 8

Gross Lbs (1)	Tare Lbs (1)	Net Lbs	Net Tons	Tons Today
72,560	25,580	46,980	23.49	23.49
Gross Kg	**Tare Kg**	**Net Kg**	**Net Mg**	**Metric Tons Today**
32,913	11,603	21,310	21.3098	21.3098

Comments: Loads Today - 1

CASH SALE ONLY

	PRODUCT	HAUL	TAX	TOTAL
Per Ton				
Amount				

PT 1-BILLING PT 2-DRIVER
PT. 3-CUSTOMER COPY 1 PT 4-CUSTOMER COPY 2
VMC-1850-40 (07-2005)

130364

Vulcan Materials Company
Midwest Division
Vulcan Construction Materials, LP

SHIPPING LOCATION
2000 VULCAN BLVD
BARTLETT, IL 60103
(847) 695-0337
50312-90

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.
11/06/09	08:43	393 BARTLETT	130406

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TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE.

Customer: 003960 HERITAGE LOGISTICS
Sales Order: 764457

Ship To: JB# ATI001 REED PK/ ACCURATE TANK
250 NATIONAL
WEST CHICAGO

042500C

Hauler: 937 B & W TRUCKING SER	Truck No: BWT21	Delivery Type: PICKED UP
Customer P.O.: JB# ATI001	Weigher: Marilyn	

Product: 547 GRADE 8

Gross Lbs (1)	Tare Lbs (1)	Net Lbs	Net Tons	Tons Today
72,760	25,580	47,180	23.59	111.07
Gross Kg	**Tare Kg**	**Net Kg**	**Net Mg**	**Metric Tons Today**
33,003	11,603	21,400	21.4005	100.7610

Comments: Loads Today - 5

CASH SALE ONLY

	PRODUCT	HAUL	TAX	TOTAL
Per Ton				
Amount				

PT 1-BILLING PT 2-DRIVER
PT 3-CUSTOMER COPY 1 PT 4-CUSTOMER COPY 2
VMC-1850-40 (07-2005)

130406

Vulcan
Materials Company
Midwest Division
Vulcan Construction Materials, LP

2300 VULCAN BLVD
BARTLETT, IL 60103
(847) 695-0337

50312-90

0426007

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.
11/06/09	10:40	393 BARTLETT	130448

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TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE.

Customer: 003960
HERITAGE LOGISTICS

Sales Order: 764457

Ship To: JB# ATI001 REED PK/ ACCURATE TANK
250 NATIONAL
WEST CHICAGO

Hauler: 937 B & W TRUCKING SER
Truck #: BWT21
Delivery Type: PICKED UP
Customer P.O.: JB# ATI001
Weigher: Marilyn
Product: 547 GRADE 8

Gross Lbs (1)	Tare Lbs (1)	Net Lbs	Net Tons	Tons Today
72,360	25,580	46,780	23.39	198.89
Gross Kg	**Tare Kg**	**Net Kg**	**Net Mg**	**Metric Tons Today**
32,822	11,603	21,219	21.2191	180.4300

Comments: Loads today - 9

	PRODUCT	HAUL	CASH SALE ONLY TAX	TOTAL
Per Ton				
Amount				

PT 1-BILLING PT 2-DRIVER
PT. 3-CUSTOMER COPY 1 PT 4-CUSTOMER COPY 2
VMC-1830-40 (07-2005)

130448

3478

Vulcan
Materials Company
Midwest Division
Vulcan Construction Materials, LP

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

51972-09 0425008

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	13:51	361 BOLINGBROOK	271171

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TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE.

CUSTOMER 0039606 HERI
HERITAGE LOGISTICS

SALES ORDER: 764457 7

SHIP TO:
W CHGO PARK DIST
J#ATI001
250 W NATIONAL
WEST CHICAGO

J#ATI001
250 W NATIONAL
WEST CHICAGO

Nick S

HAULER	TRUCK NO.	DELIVERY TYPE
523 R.S. TRUCKING	R85	PICKED UP
CUSTOMER P.O.	WEIGHER	CAROL

PRODUCT
547 GRADE 8

GROSS LBs (Scl	Tare Lbs (Scl 1)	Net Lbs	NET TONS	Tons Today
71,200	31,020	40,180	20.09	20.09
Gross kg	**Tare kg**	**Net Kg**	**Net Mg**	**Metric Tons Today**
32,296	14,070	18,225	18.2253	18.2253

COMMENTS

Loads Today - 1

CASH SALE ONLY

	PRODUCT	HAUL	TAX	TOTAL
Per Ton				
Amount				

612-KN REV 8-05

Vulcan
Materials Company
Midwest Division
Vulcan Construction Materials, LP

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

51972-09 8425009

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 BOLINGBROOK	271187

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TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE.

CUSTOMER 0039606 HERI
HERITAGE LOGISTICS

SALES ORDER: 764457 7

SHIP TO:
W CHGO PARK DIST
J#ATI001
250 W NATIONAL
WEST CHICAGO

Nick

J#ATI001
250 W NATIONAL
WEST CHICAGO

HAULER	TRUCK NO.	DELIVERY TYPE
523 R.S. TRUCKING	R891	PICKED UP

CUSTOMER P.O. | WEIGHER CAROL

PRODUCT
547 GRADE 8

GROSS LBs (Scl	Tare Lbs (Scl 1)	Net Lbs	NET TONS	Tons Today
72,900	31,540	41,360	20.68	148.87
Gross kg	**Tare kg**	**Net Kg**	**Net Mg**	**Metric Tons Today**
33,067	14,306	18,761	18.7606	135.0526

COMMENTS | Loads Today - 7

CASH SALE ONLY

	PRODUCT	HAUL	TAX	TOTAL
Per Ton				
Amount				

812-KN REV 6-05

Vulcan
Materials Company
Midwest Division
Vulcan Construction Materials, LP

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

51972-09 0425010

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	14:46	361 BOLINGBROOK	271186

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TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE.

CUSTOMER 0039606 HERI
HERITAGE LOGISTICS

SALES ORDER: 764457 7

SHIP TO:
W CHGO PARK DIST
J#ATI001
250 W NATIONAL
WEST CHICAGO

J#ATI001
250 W NATIONAL
WEST CHICAGO

HAULER	TRUCK NO.	DELIVERY TYPE
523 R.S. TRUCKING	RS7	PICKED UP
CUSTOMER P.O.	WEIGHER	CAROL

PRODUCT
547 GRADE 8

GROSS LBs (Scl	Tare Lbs (Scl 1)	Net Lbs	NET TONS	Tons Today
72,740	28,080	44,660	22.33	128.19
Gross kg	**Tare kg**	**Net Kg**	**Net Mg**	**Metric Tons Today**
32.994	12,737	20,257	20.2574	116.2920

COMMENTS

Loads Today - 6

CASH SALE ONLY

	PRODUCT	HAUL	TAX	TOTAL
Per Ton				
Amount				

612-KN REV 6-05

Vulcan Materials Company
Midwest Division
Vulcan Construction Materials, LP

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

51972-09 R425011

WARNING
Read important health information on reverse.

PRECAUCIÓN
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CARRIER		RECEIVED BY	
DATE	TIME	PLANT	TICKET NO.
11/05/09	14:54	361 BOLINGBROOK	271188

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TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE.

CUSTOMER: 0039606 HERI
HERITAGE LOGISTICS

SALES ORDER: 764457 / 7

SHIP TO:
W CHGO PARK DIST
J#ATI001
250 W NATIONAL
WEST CHICAGO

J#ATI001
250 W NATIONAL
WEST CHICAGO

HAULER	TRUCK NO.	DELIVERY TYPE
523 R.S. TRUCKING	RS45	PICKED UP

CUSTOMER P.O.

WEIGHER CAROL

PRODUCT
547 GRADE 8

GROSS LBs (Scl	Tare Lbs (Scl 1)	Net Lbs	NET TONS	Tons Today
72,740	31,560	41,180	20.59	169.46
Gross kg	**Tare kg**	**Net Kg**	**Net Mg**	**Metric Tons Today**
32,994	14,315	18,679	18.6789	153.7315

COMMENTS

Loads Today - 8

CASH SALE ONLY

	PRODUCT	HAUL	TAX	TOTAL
Per Ton				
Amount				

812-KN REV 6-05

Vulcan
Materials Company
Midwest Division
Vulcan Construction Materials, LP

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

51972-09 0425012

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	13:53	361 BOLINGBROOK	271174

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TRUCK TARE AND GROSS WEIGHTS ARE DETERMINED WITH THE DRIVER ON THE VEHICLE.

CUSTOMER 0039606 HERI
HERITAGE LOGISTICS

SALES ORDER: 764457 7

SHIP TO:
W CHGO PARK DIST
J#ATI001
250 W NATIONAL
WEST CHICAGO

J#ATI001
250 W NATIONAL
WEST CHICAGO

Mick S

HAULER	TRUCK NO.	DELIVERY TYPE
523 R.S. TRUCKING	RS4	PICKED UP

CUSTOMER P.O.

WEIGHER CAROL

PRODUCT
547 GRADE 8

GROSS LBs (Scl	Tare Lbs (Scl 1)	Net Lbs	NET TONS	Tons Today
70,560	30,640	39,920	19.96	40.05
Gross kg	**Tare kg**	**Net Kg**	**Net Mg**	**Metric Tons Today**
32,005	13,898	18,107	18.1074	36.3327

COMMENTS

Loads Today - 2

CASH SALE ONLY

	PRODUCT	HAUL	TAX	TOTAL
Per Ton				
Amount				

812-IOI REV 6-05

Vulcan
Materials Company
Midwest Division
Vulcan Construction Materials, LP

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

51972-09 0425013

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	13:55	361 BOLINGBROOK	271176

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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.

CUSTOMER 0039606 HERI
HERITAGE LOGISTICS

SALES ORDER: 764457 7

SHIP TO:
W CHGO PARK DIST
J#ATI001
250 W NATIONAL
WEST CHICAGO

J#ATI001
250 W NATIONAL
WEST CHICAGO

Nick

HAULER
523 R.S. TRUCKING

FREIGHT
RS10

DELIVERY TYPE
PICKED UP

CUSTOMER P.O.

WEIGHER CAROL

PRODUCT
547 GRADE 8

GROSS LBs (Scl	Tare Lbs(Scl 1)	Net Lbs	NET TONS	Tons Today
69,640	26,520	43,120	21.56	61.61
Gross kg	**Tare kg**	**Net Kg**	**Net Mg**	**Metric Tons Today**
31,588	12,029	19,559	19.5589	55.8916

COMMENTS

Loads Today - 3

CASH SALE ONLY

	PRODUCT	HAUL	TAX	TOTAL
Per Ton				
Amount				

812-KN REV 8-05

Vulcan
Materials Company
Midwest Division
Vulcan Construction Materials, LP

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

51972-09 0425014

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	14:19	361 BOLINGBROOK	271181

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 for said material or the specifications set forth 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, 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 whatsoever with respect to specific gravity, absorption, whether the material is innocuous, non-deleterious, or non-reactive, or whether the material is in conformance with any plans, other specifications, regulations, ordinances, statutes, 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 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.

CUSTOMER 0039606 HERI
HERITAGE LOGISTICS

SALES ORDER: 764457 7

SHIP TO:
W CHGO PARK DIST
J#ATI001
250 W NATIONAL
WEST CHICAGO

Nick

J#ATI001
250 W NATIONAL
WEST CHICAGO

HAULER	TRUCK NO.	DELIVERY TYPE
523 R.S. TRUCKING	RS48	PICKED UP

CUSTOMER P.O.

WEIGHER CAROL

PRODUCT
547 GRADE 8

GROSS LBs (Scl	Tare Lbs (Scl 1)	Net Lbs	NET TONS	Tons Today
72,980	31,180	41,800	20.90	82.51
Gross kg	**Tare kg**	**Net Kg**	**Net Mg**	**Metric Tons Today**
33,103	14,143	18,960	18.9602	74.8518

COMMENTS

Loads Today - 4

CASH SALE ONLY

	PRODUCT	HAUL	TAX	TOTAL
Per Ton				
Amount				

812-IOH REV 8-05

REPUBLIC SERVICES, INC.

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

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 (Generator completes Ia-r)

a. Generator's US EPA ID Number	b. Manifest Document Number	c. Page 1 of

d. Generator's Name and Location:	e. Generator's Mailing Address:
West Chicago Park District 250 west National St West Chicago Il 60185 f. Phone:630 231 9474	West Chicago Park District 157 West Washington Street West Chicago, IL 60185 g. Phone:
If owner of the generating facility differs from the generator, provide:	
h. Owner's Name:	i. Owner's Phone No.:

j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers No.	m. Containers Type	n. Total Quantity	o. Unit Wt/Vol
369Y916234	03/31/10	soil contaminated with petroleum products	001	DT	20.23	Tns

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste 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.

p. Generator Authorized Agent Name (Print)	q. Signature	r. Date
Jesse Felix	Jesse Felix	11-05-09 11-5-09

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address:
RS Trucking
350 Chatam Ln
Roselle Il 60172
b. Phone:

c. Driver Name (Print)	d. Signature	e. Date
MK - ALEX TDH		11/05/09

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address:	c. US EPA Number	d. Discrepancy Indication Space:
Environtech Landfill 1800 Ashley Rd Morris Il 60450 b. Phone: 815 942 1800	0638140002	

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

e. Name of Authorized Agent (Print)	f. Signature	g. Date
Jon Flemer	Jon Flemer	11/5/09

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:	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, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

GS SERVICES, INC.

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS

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 (Generator completes Ia-r)

a. Generator's US EPA ID Number	b. Manifest Document Number	c. Page 1 of

d. Generator's Name and Location:	e. Generator's Mailing Address:
West Chicago Park District 250 west National St West Chicago Il 60185 f. Phone:630 231 9474	West Chicago Park District 157 West Washington Street West Chicago, IL 60185 g. Phone:
If owner of the generating facility differs from the generator, provide:	
h. Owner's Name:	i. Owner's Phone No.:

j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers No.	m. Containers Type	n. Total Quantity	o. Unit Wt/Vol
369Y915234	03/31/10	soil contaminated with petroleum products	001	DT	22.35	Tns

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions, I certify and warrant that the waste 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.

p. Generator Authorized Agent Name (Print)	q. Signature	r. Date
Jesse Felix	Jesse Felix	11-05-09 11-5-09

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address:
RS Trucking
350 Chatam Ln
Roselle Il 60172
b. Phone:

c. Driver Name (Print)	d. Signature	e. Date
VIK		11/05/09

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address:	c. US EPA Number	d. Discrepancy Indication Space:
Environtech Landfill 1800 Ashley Rd Morris Il 60450 b. Phone: 815 942 1800	0638140002	

I herby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

e. Name of Authorized Agent (Print)	f. Signature	g. Date
Jan Fleming	Jan Fleming	11/5/09

IV. ASBESTOS (Generator completes IVa-f and Operator complete IVg-l)

a. Operator's Name and Address:	c. Responsible Agency Name and Address:
b. Phone:	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, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

10 REPUBLIC SERVICES, INC.

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

3480

Ticket # 116863

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

RR

I. GENERATOR (Generator completes Ia-r)

a. Generator's US EPA ID Number	b. Manifest Document Number	c. Page 1 of

d. Generator's Name and Location:	e. Generator's Mailing Address:
West Chicago Park District 250 west National St West Chicago Il 60185 f. Phone:630 231 9474	West Chicago Park District 157 West Washington Street West Chicago, IL 60185 g. Phone: 0425323
If owner of the generating facility differs from the generator, provide: h. Owner's Name:	i. Owner's Phone No.:

j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers No.	m. Containers Type	n. Total Quantity	o. Unit Wt/Vol
369Y915234	03/31/10	soil contaminated with peroleum products	001	DT	1687	Tns

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste 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.

p. Generator Authorized Agent Name (Print)	q. Signature	r. Date
Jesse Felix	Jesse Felix	11-05-09 11-5-09

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address:
RS Trucking
350 Chatam Ln
Roselle Il 60172
b. Phone:

RS10

c. Driver Name (Print)	d. Signature	e. Date
MAREK KRUK		11/05/09

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address:	c. US EPA Number	d. Discrepancy Indication Space:
Environtech Landfill 1800 Ashley Rd Morris Il 60450 b. Phone: 815 942 1800	0638140002	

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

e. Name of Authorized Agent (Print)	f. Signature	g. Date
Dave Fleming	Dave Fleming	11/5/09

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:	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, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

48 REPUBLIC SERVICES, INC.

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

Ticket # 08603

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 (Generator completes Ia-r)

a. Generator's US EPA ID Number	b. Manifest Document Number	c. Page 1 of

d. Generator's Name and Location:	e. Generator's Mailing Address:
West Chicago Park District 250 west National St West Chicago Il 60185 f. Phone:630 231 9474	West Chicago Park District 157 West Washington Street West Chicago, IL 60185 g. Phone: 0425324
If owner of the generating facility differs from the generator, provide: h. Owner's Name:	i. Owner's Phone No.:

j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers No.	m. Containers Type	n. Total Quantity	o. Unit Wt/Vol
369Y915234	03/31/10	soil contaminated with peroleum products	001	DT	19.13	Tns

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste 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 Felix	Jesse Felix	11-05-09 11-5-09
p. Generator Authorized Agent Name (Print)	q. Signature	r. Date

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address: RS Trucking 350 Chatam Ln Roselle Il 60172 b. Phone:	#48 RS48	
STANISLAW LEWANDOWSKI	Stanislaw Lewandowski	11-05-09
c. Driver Name (Print)	d. Signature	e. Date

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morris Il 60450 b. Phone: 815 942 1800	c. US EPA Number 0638140002	d. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Dan Fleming	Dan Fleming	11/5/09
e. Name of Authorized Agent (Print)	f. Signature	g. Date

IV. ASBESTOS (Generator completes IVa-f and Operator complete IVg-i)

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, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

REPUBLIC SERVICES, INC.

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

RR Ticket # 086246

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 (Generator completes Ia-r)

a. Generator's US EPA ID Number	b. Manifest Document Number	c. Page 1 of

d. Generator's Name and Location:	e. Generator's Mailing Address:
West Chicago Park District 250 west National St West Chicago Il 60185 f. Phone:630 231 9474	West Chicago Park District 157 West Washington Street West Chicago, IL 60185 g. Phone: 0425325
If owner of the generating facility differs from the generator, provide: h. Owner's Name:	i. Owner's Phone No.:

j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers No.	m. Containers Type	n. Total Quantity	o. Unit Wt/Vol
369Y915234	03/31/10	soil contaminated with peroleum products	001	DT	21.06	Tns

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste 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.

p. Generator Authorized Agent Name (Print)	q. Signature	r. Date
Jesse Felix	Jesse Felix	11-05-09 11-5-09

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address:
RS Trucking
350 Chatam Ln
Roselle Il 60172
b. Phone:

RS45

c. Driver Name (Print)	d. Signature	e. Date
Shanel Reagon	Shanel Reagon	11/05/09

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address:	c. US EPA Number	d. Discrepancy Indication Space:
Environtech Landfill 1800 Ashley Rd Morris Il 60450 b. Phone: 815 942 1800	0638140002	

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

e. Name of Authorized Agent (Print)	f. Signature	g. Date
Jon Flemming	Jon Flemming	11/5/09

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:	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, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

REPUBLIC SERVICES, INC. NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

Ticket # 162307

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

RR

I. GENERATOR (Generator completes Ia-r)

a. Generator's US EPA ID Number	b. Manifest Document Number	c. Page 1 of

d. Generator's Name and Location:	e. Generator's Mailing Address:
West Chicago Park District 250 west National St West Chicago Il 60185 f. Phone:630 231 9474	West Chicago Park District 157 West Washington Street West Chicago, IL. 60185 g. Phone: 0425326
If owner of the generating facility differs from the generator, provide: h. Owner's Name:	i. Owner's Phone No.:

j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers No.	m. Containers Type	n. Total Quantity	o. Unit Wt/Vol
369Y915234	03/31/10	soil contaminated with petroleum products	001	DT	17.10	Tns

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste 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 Felix	Jesse Felix	11-05-09 11-5-09
p. Generator Authorized Agent Name (Print)	q. Signature	r. Date

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address:
RS Trucking
350 Chatam Ln
Roselle Il 60172
b. Phone:

Don Meyer		11-5-09
c. Driver Name (Print)	d. Signature	e. Date

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address:	c. US EPA Number	d. Discrepancy Indication Space:
Environtech Landfill 1800 Ashley Rd Morris Il 60450 b. Phone: 815 942 1800	0638140002	

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Jon Fleming	Jon Fleming	11-5-09
e. Name of Authorized Agent (Print)	f. 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:	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, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

REPUBLIC SERVICES, INC.

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

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

RR Ticket# 160297

I. GENERATOR (Generator completes Ia-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 Il 60185
f. Phone:630 231 9474

919

e. Generator's Mailing Address:
West Chicago Park District
157 West Washington Street
West Chicago, IL 60185
g. Phone:

0425327

If owner of the generating facility differs from the generator, provide:

h. Owner's Name:

i. Owner's Phone No.:

j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers No.	m. Containers Type	n. Total Quantity	o. Unit Wt/Vol
369Y915234	03/31/10	soil contaminated with peroleum products	001	DT	17.28	Tns

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste 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 — [signature] — 11-05-09 11-5-09

p. Generator Authorized Agent Name (Print) | q. Signature | r. Date

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address:
RS Trucking
350 Chatam Ln
Roselle Il 60172
b. Phone:

RS 7

ZDUSIGN — [signature] — 11-05-09

c. Driver Name (Print) | d. Signature | e. Date

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address:
Environtech Landfill
1800 Ashley Rd
Morris Il 60450
b. Phone: 815 942 1800

c. US EPA Number
0638140002

d. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Jan Fleming — [signature] — 11/5/09

e. Name of Authorized Agent (Print) | f. Signature | g. Date

IV. ASBESTOS (Generator completes IVa-f and Operator complete IVg-i)

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, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

REPUBLIC SERVICES, INC.

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

Ticket # 08625

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 (Generator completes Ia-r)

a. Generator's US EPA ID Number	b. Manifest Document Number	c. Page 1 of

d. Generator's Name and Location:	e. Generator's Mailing Address:
West Chicago Park District 250 west National St West Chicago Il 60185 f. Phone:630 231 9474	West Chicago Park District 157 West Washington Street West Chicago, IL 60185 g. Phone: 0425328
If owner of the generating facility differs from the generator, provide:	
h. Owner's Name:	i. Owner's Phone No.:

j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers No.	m. Containers Type	n. Total Quantity	o. Unit Wt/Vol
369Y915234	03/31/10	soil contaminated with peroleum products	001	DT	17.85	Tns

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste 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 Felix	Jesse Felix	11-05-09 11-5-09
p. Generator Authorized Agent Name (Print)	q. Signature	r. Date

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address:
RS Trucking
350 Chatam Ln
Roselle Il 60172
b. Phone:

Richard Schultz		11-05-09
c. Driver Name (Print)	d. Signature	e. Date

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morris Il 60450 b. Phone: 815 942 1800	c. US EPA Number 0638140002	d. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Dave Fleming	Dave Fleming	11-5-09
e. Name of Authorized Agent (Print)	f. Signature	g. Date

IV. ASBESTOS (Generator completes IVa-f and Operator complete IVg-i)

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, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

REPUBLIC SERVICES, INC.

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

RR Ticket # 180914

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 (Generator completes Ia-r)

a. Generator's US EPA ID Number	b. Manifest Document Number	c. Page 1 of

d. Generator's Name and Location:	e. Generator's Mailing Address:
West Chicago Park District 250 west National St West Chicago Il 60185 f. Phone:630 231 9474	West Chicago Park District 157 West Washington Street West Chicago, IL 60185 g. Phone:
If owner of the generating facility differs from the generator, provide: h. Owner's Name:	i. Owner's Phone No.:

j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers No.	m. Containers Type	n. Total Quantity	o. Unit Wt/Vol
369Y915234	03/31/10	soil contaminated with peroleum products	001	DT	21.39	Tns

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste 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 Felix	Jesse Felix	11-05-09 11-5-09
p. Generator Authorized Agent Name (Print)	q. Signature	r. Date

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address:
RS Trucking
350 Chatam Ln
Roselle Il 60172
b. Phone:

Andriy		11-05-09
c. Driver Name (Print)	d. Signature	e. Date

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morris Il 60450 b. Phone: 815 942 1800	c. US EPA Number 0638140002	d. Discrepancy Indication Space:

I herby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Jon Flemings	Jon Flemings	11/5/09
e. Name of Authorized Agent (Print)	f. 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:	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, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

REPUBLIC SERVICES, INC. NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

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 (Generator completes Ia-r)

a. Generator's US EPA ID Number	b. Manifest Document Number	c. Page 1 of

d. Generator's Name and Location:	e. Generator's Mailing Address:
West Chicago Park District 250 west National St West Chicago Il 60185 f. Phone:630 231 9474	West Chicago Park District 157 West Washington Street West Chicago, IL 60185 g. Phone:
If owner of the generating facility differs from the generator, provide:	
h. Owner's Name:	i. Owner's Phone No.:

j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers No.	m. Containers Type	n. Total Quantity	o. Unit Wt/Vol
369Y915234	03/31/10	soil contaminated with peroleum products	001	DT	26.02	Tns

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste 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.

p. Generator Authorized Agent Name (Print)	q. Signature	r. Date
Jesse Felix	Jesse Felix	11-05-09 11-5-09

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address:
RS Trucking
350 Chatam Ln
Roselle Il 60172
b. Phone:

c. Driver Name (Print)	d. Signature	e. Date
Andriy		11-05-2009

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address:	c. US EPA Number	d. Discrepancy Indication Space:
Environtech Landfill 1800 Ashley Rd Morris Il 60450 b. Phone: 815 942 1800	0638140002	

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

e. Name of Authorized Agent (Print)	f. Signature	g. Date
Dan Fleming	Dan Fleming	11/5/09

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:	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, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

REPUBLIC SERVICES, INC. NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

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 (Generator completes Ia-r)

a. Generator's US EPA ID Number	b. Manifest Document Number	c. Page 1 of

d. Generator's Name and Location:	e. Generator's Mailing Address:
West Chicago Park District 250 west National St West Chicago Il 60185 f. Phone:630 231 9474	West Chicago Park District 157 West Washington Street West Chicago, IL 60185 g. Phone:
If owner of the generating facility differs from the generator, provide: h. Owner's Name:	i. Owner's Phone No.:

j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers No.	m. Containers Type	n. Total Quantity	o. Unit Wt/Vol
369Y915234	03/31/10	soil contaminated with peroleum products	001	DT	20.34	Tns

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste 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.

p. Generator Authorized Agent Name (Print)	q. Signature	r. Date
Jesse Felix	Jesse Felix	11-05-09 11-5-09

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address:
RS Trucking
350 Chatam Ln
Roselle Il 60172
b. Phone:

c. Driver Name (Print)	d. Signature	e. Date
Roman Seluka	Roman Seluka	11-05-09

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address:	c. US EPA Number	d. Discrepancy Indication Space:
Environtech Landfill 1800 Ashley Rd Morris Il 60450 b. Phone: 815 942 1800	0638140002	

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

e. Name of Authorized Agent (Print)	f. Signature	g. Date
Jon Flemig	Jon Flemig	11/5/09

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:	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, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

REPUBLIC SERVICES, INC. NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

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 (Generator completes Ia-r)

a. Generator's US EPA ID Number	b. Manifest Document Number	c. Page 1 of

d. Generator's Name and Location:	e. Generator's Mailing Address:
West Chicago Park District 250 west National St West Chicago Il 60185 f. Phone:630 231 9474	West Chicago Park District 157 West Washington Street West Chicago, IL 60185 g. Phone:
If owner of the generating facility differs from the generator, provide: h. Owner's Name:	i. Owner's Phone No.:

j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers No.	m. Containers Type	n. Total Quantity	o. Unit Wt/Vol
369Y915234	03/31/10	soil contaminated with peroleum products	001	DT	18.57	Tns

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste 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 Felix	Jesse Felix	11-05-09 11-5-09
p. Generator Authorized Agent Name (Print)	q. Signature	r. Date

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address:
RS Trucking
350 Chatem Ln
Roselle Il 60172
b. Phone:

[illegible]	[illegible]	11.05.09
c. Driver Name (Print)	d. Signature	e. Date

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morris Il 60450 b. Phone: 815 942 1800	c. US EPA Number 0638140002	d. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Jon Fleming	Jon Fleming	11/5/09
e. Name of Authorized Agent (Print)	f. Signature	g. Date

IV. ASBESTOS (Generator completes IVa-f and Operator complete IVg-i)

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, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

REPUBLIC SERVICES, INC.

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

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 (Generator completes Ia-r)

a. Generator's US EPA ID Number	b. Manifest Document Number	c. Page 1 of

d. Generator's Name and Location:	e. Generator's Mailing Address:
West Chicago Park District 250 west National St West Chicago Il 60185 f. Phone:630 231 9474	West Chicago Park District 157 West Washington Street West Chicago, IL 60185 g. Phone:
If owner of the generating facility differs from the generator, provide: h. Owner's Name:	i. Owner's Phone No.:

j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers No.	m. Containers Type	n. Total Quantity	o. Unit Wt/Vol
369Y915234	03/31/10	soil contaminated with peroleum products	001	DT	20.50	Tns

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste 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 Felix	Jesse Felix	11-05-09 11-5-09
p. Generator Authorized Agent Name (Print)	q. Signature	r. Date

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address:
RS Trucking
350 Chatam Ln
Roselle Il 60172
b. Phone:

Don Meyer	Don Meyer	11-5-09
c. Driver Name (Print)	d. Signature	e. Date

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morris Il 60450 b. Phone: 815 942 1800	c. US EPA Number 0638140002	d. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Jan Flemings	Jan Flemings	11/5/09
e. Name of Authorized Agent (Print)	f. Signature	g. Date

IV. ASBESTOS (Generator completes IVa-f and Operator complete IVg-i)

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, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

REPUBLIC SERVICES, INC. — NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

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 (Generator completes Ia-r)

a. Generator's US EPA ID Number	b. Manifest Document Number	c. Page 1 of

d. Generator's Name and Location:	e. Generator's Mailing Address:
West Chicago Park District 250 west National St West Chicago Il 60185 f. Phone:630 231 9474	West Chicago Park District 157 West Washington Street West Chicago, IL 60185 g. Phone:
If owner of the generating facility differs from the generator, provide:	
h. Owner's Name:	i. Owner's Phone No.:

j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers No.	m. Containers Type	n. Total Quantity	o. Unit Wt/Vol
369Y915234	03/31/10	soil contaminated with peroleum products	001	DT	22.35	Tns

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, If this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste 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.

p. Generator Authorized Agent Name (Print)	q. Signature	r. Date
Jesse Felix	Jesse Felix	11-05-09 11-5-09

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address:
RS Trucking
350 Chatam Ln
Roselle Il 60172
b. Phone:

c. Driver Name (Print)	d. Signature	e. Date
Stanislaw Rayak	Rayak	11/05/09

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address:	c. US EPA Number	d. Discrepancy Indication Space:
Environtech Landfill 1800 Ashley Rd Morris Il 60450 b. Phone: 815 942 1800	0638140002	

I herby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

e. Name of Authorized Agent (Print)	f. Signature	g. Date
Jan Fleming	Jan Fleming	11/5/09

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:	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, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

REPUBLIC SERVICES, INC.

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

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 (Generator completes Ia-r)

a. Generator's US EPA ID Number	b. Manifest Document Number	c. Page 1 of

d. Generator's Name and Location:	e. Generator's Mailing Address:
West Chicago Park District 250 west National St West Chicago Il 60185 f. Phone:630 231 9474	West Chicago Park District 157 West Washington Street West Chicago, IL 60185 g. Phone:
If owner of the generating facility differs from the generator, provide: h. Owner's Name:	i. Owner's Phone No.:

j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers No.	m. Containers Type	n. Total Quantity	o. Unit Wt/Vol
369Y915234	03/31/10	soil contaminated with peroleum products	001	DT	22.21	Tns

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been property described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, If this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste 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.

p. Generator Authorized Agent Name (Print)	q. Signature	r. Date
Jesse Felix	Jesse Felix	11-05-09 11-5-09

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address:
RS Trucking
350 Chatam Ln
Roselle Il 60172
#48
b. Phone:

c. Driver Name (Print)	d. Signature	e. Date
STANISLAW LEWANDOWSKI	Stanislaw Lewandowski	11-05-09

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address:	c. US EPA Number	d. Discrepancy Indication Space:
Environtech Landfill 1800 Ashley Rd Morris Il 60450 b. Phone: 815 942 1800	0638140002	

I herby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

e. Name of Authorized Agent (Print)	f. Signature	g. Date
Jon Flemings	Jon Flemings	11/5/09

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:	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, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

REPUBLIC SERVICES, INC.

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

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 (Generator completes Ia-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 Il 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 from the generator, provide: h. Owner's Name:	i. Owner's Phone No.:	

j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers No.	m. Containers Type	n. Total Quantity	o. Unit Wt/Vol
369Y915234	03/31/10	soil contaminated with peroleum products	001	DT	18.27	Tns

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, If this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste 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 Felix	Jesse Felix	11-05-09 11-5-09
p. Generator Authorized Agent Name (Print)	q. Signature	r. Date

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address:
RS Trucking
350 Chatam Ln
Roselle Il 60172
b. Phone:

MAREK KRUK		11/05/09
c. Driver Name (Print)	d. Signature	e. Date

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address: Environtech Landfill 1800 Ashley Rd Morris Il 60450 b. Phone: 815 942 1800	c. US EPA Number 0638140002	d. Discrepancy Indication Space:

I herby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Jon Fleming	Jon Fleming	11/5/09
e. Name of Authorized Agent (Print)	f. Signature	g. Date

IV. ASBESTOS (Generator completes IVa-f and Operator complete IVg-i)

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, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

APPENDIX C

Photographs

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

Photo #2: View of north wall of excavation, facing north.

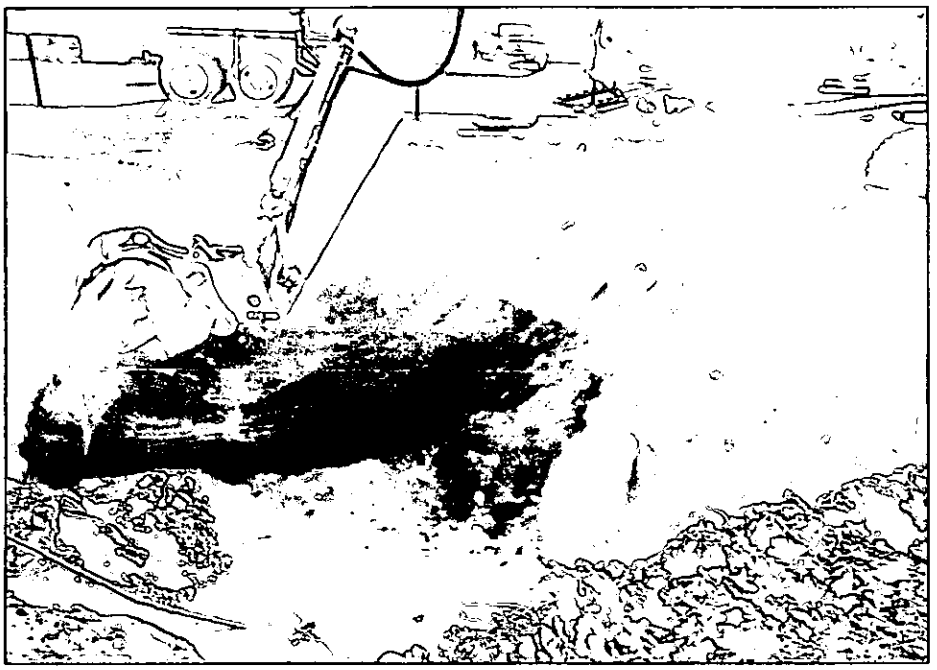


Photo #3: View of excavation, facing east.

Photo #4: View of backfill pile.

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

Photo #6: View of drainage hose on the north wall of excavation.

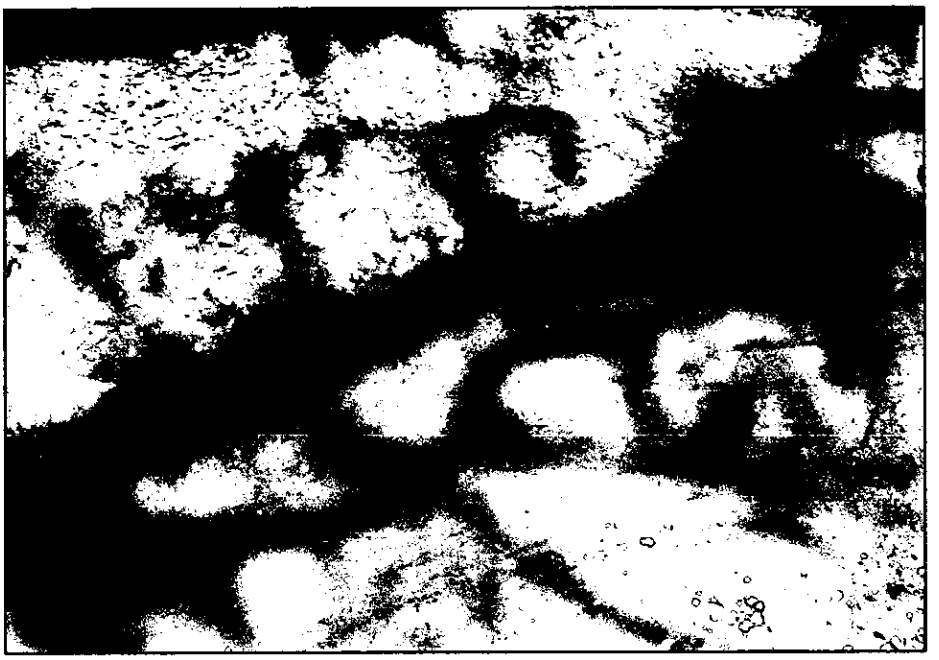
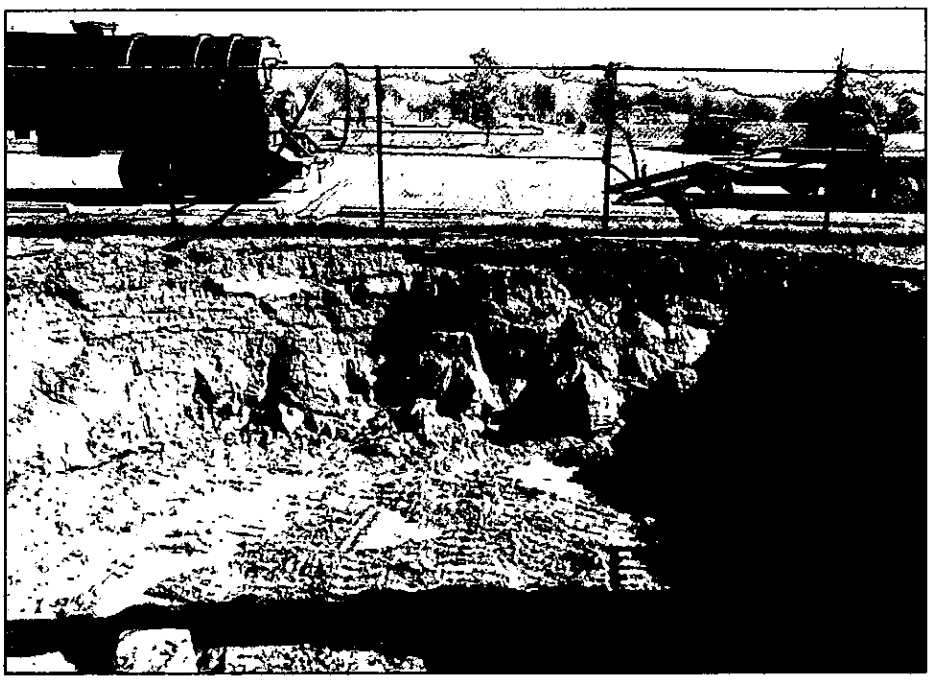


Photo #7: Close-up view of excavation wall.

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



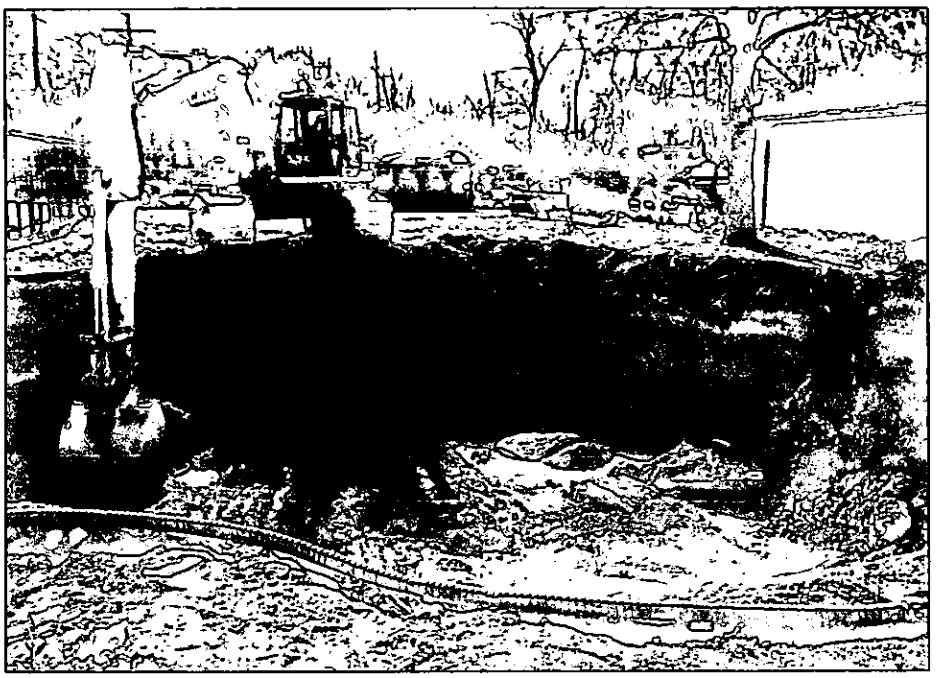


Photo #9: View of south and west walls of excavation, facing south.

Photo #10: View of excavation being filled, 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: 60185

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):

☐ Early Action ☐ Site Classification

☐ Low Priority Corrective Action ☑ High Priority Corrective Action

☐ Other (indicate activities)

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

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

If eligible for reimbursement, where should reimbursement checks be sent? Please note that only owners or operators of USTs may be eligible for reimbursement. Therefore, payment can only be made to an owner or operator.

Pay to the order of: West Chicago Park District

Send in care of: Mr. Jesse Felix

Address: 157 West Washington Street

City: West Chicago State: Illinois Zip: 60185

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:

Fewer than 101: ☑ 101 or more: ☐

Number of USTs at the site: 2 (Number of USTs includes USTs presently at the site and USTs that have been removed.)

Number of incidents reported to IEMA: 1
Incident Numbers assigned to the site due to releases from USTs: 980814

Please list all tanks which have ever been located at the site and are presently located at the site.

Product Stored	Size (gallons)	Did UST have a release?	Incident No.	Type of Release
unleaded gasoline	2,000	☑ Yes ☐ No	980814	overfill
diesel fuel	2,000	☑ Yes ☐ No	980814	overfill
		☐ Yes ☐ No		
		☐ Yes ☐ No		
		☐ Yes ☐ No		
		☐ Yes ☐ No		
		☐ Yes ☐ No		
		☐ Yes ☐ No		
		☐ Yes ☐ No		
		☐ Yes ☐ No		

A-2

This form must be submitted in duplicate.

IEMA No. 980814

B. PROPOSED BUDGET SUMMARY AND BUDGET TOTAL (fields filled in automatically)

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

This form must be submitted in duplicate.

IEMA No. 980814

C. APPROVED BUDGET SUMMARY AND BILLING SUMMARY

1. Amount 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. Amount Requested for Reimbursement

1. Investigation Costs: $_____
2. Analysis Costs: $_____
3. Personnel Costs: $_____
4. Equipment Costs: $_____
5. Field Purchases and Other Costs: $_____
6. Handling Charges: $_____

AMOUNT REQUESTED FOR REIMBURSEMENT = $_____

☐ A budget for the bills included in this billing package was approved by the Agency on _____.

☐ This billing package includes bills which were included in the Budget Amendment dated _____, and approved by the Agency on _____.

☐ Neither a budget nor a budget amendment was approved by the Agency for the bills included in this package.

This form must be submitted in duplicate.

IEMA No. 980814

D. PAYMENT CERTIFICATION - This certification must be included with every request for payment.

I, _____ the owner or operator of the Leaking UST site for which this claim is being submitted, certify that $_____ is the amount being sought in this claim for reimbursement, $_____ 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 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: ☐ 101 or more: ☐

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 _____; 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 action 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 action 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 101 or more tanks are owned or operated in Illinois.

Owner/Operator: _____ Title: _____

Signature: _____ Date: _____

Subscribed and sworn to before me the _____ day of _____,20 _____.
(This certification must be notarized when the certification is signed.)

_____ Seal:
(Notary Public)

This form must be submitted in duplicate.

IEMA No. 980814

E. INVESTIGATION COSTS

Method I ☐ Method II ☐ Method III ☐ Not Applicable ☑

1. **Drilling Costs** - This includes the costs for drilling labor, drill rig usage, and other drilling equipment. Borings which are to be completed as monitoring wells should be listed here. Costs associated with disposal of cuttings should not be included here. An indication must be made as to why each boring is being conducted (i.e., classification, monitoring wells, migration pathways).

1 borings to 15.0 feet = 15.0 feet to be bored for monitoring well

_____ borings to _____ feet = _____ feet to be bored for _____

_____ borings to _____ feet = _____ feet to be bored for _____

_____ borings to _____ feet = _____ feet to be bored for _____

_____ borings to _____ feet = _____ feet to be bored for _____

Total Feet to be Bored: 15.00

Borings: 15.00 feet x $ 16.96 per foot = $ 254.40 (or)

Hours _____ x $_____ per hour = $_____

_____ borings through _____ ft of bedrock = _____ Ft bedrock to be bored

_____ borings through _____ ft of bedrock = _____ Ft bedrock to be bored

Total Feet bedrock to be Bored: _____

Borings: _____ Ft bedrock x $_____ per ft bedrock = $_____ (or)

_____ Hours x $_____ per Hour = $_____

_____# of Mobilizations @ $_____ per mobilization = $_____

Other Costs	Number of Units	Unit Cost	Total Cost

This form must be submitted in duplicate.

IEMA No. 980814

2. **Professional Services (e.g., P.E., geologist)** - These costs must be listed in Section I, the Personnel section of the forms.

3. **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 $ 250.00 per drum = $ 250.00

Disposal of Water: _____ gallons x $_____ per gallon = $_____

Transportation Costs: $_____

Describe how the water/soil will be disposed: _____

_____

_____

Total Investigation Costs: $ 1,399.40

IEMA No. 980814

F. ANALYSIS COSTS

1. **Physical Soil Analysis** - This must only include ***analysis*** costs for classification of soil types at the site.

4 Moisture Content samples x $ 13.00 per sample = $ 52.00

_____ Soil Classification samples x $_____ per sample = $_____

Indicate method to be performed:_____

_____ Soil Particle Size samples x $_____ per sample = $_____

_____ Ex-situ Hydraulic Conductivity/Permeability samples

x $_____ per sample = $_____

Indicate the method to be performed: _____

_____ Rock Hydraulic Conductivity/Permeability samples

x $_____ per sample = $_____

2 Natural Organic Carbon Fraction (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

2. **Soil Analysis Costs** - This must be for laboratory ***analysis*** only.

_____ BTEX samples x $_____ per sample = $_____

_____ PNA samples x $_____ per sample = $_____

_____ LUST Pollutants samples x $_____ per sample = $_____

This form must be submitted in duplicate.

IEMA No. 980814

_____ 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 samples 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 = $ 88.00

4 Plate count samples x $ 145.00 per sample = $ 580.00

_____ _____ samples x $_____ per sample = $_____

_____ _____ samples x $_____ per sample = $_____

3. **Groundwater Analysis Costs** - This must be for laboratory ***analysis*** only.

1 BTEX samples x $ 60.00 per sample = $ 60.00

1 PNA samples x $ 150.00 per sample = $ 150.00

_____ LUST Pollutants samples x $_____ per sample = $_____

_____ pH Samples x $_____ per sample = $_____

_____ Lab and/or Field Blank samples x $_____ per sample = $_____

_____ Flash Point samples x $_____ per sample = $_____

4 TPH samples x $ 125.00 Per sample = $ 500.00

_____ _____ samples x $_____ Per sample = $_____

_____ _____ samples x $_____ Per sample = $_____

_____ _____ samples x $_____ Per sample = $_____

_____ _____ samples x $_____ Per sample = $_____

_____ _____ samples x $_____ Per sample = $_____

TOTAL ANALYSIS COSTS = $ 3,210.00

This form must be submitted in duplicate.

IEMA No. 980814

G. PERSONNEL

All personnel costs that are not included elsewhere in the budget/billing form must be listed here. Costs must be listed per task, not personnel type. The following are some examples of tasks: Drafting, data collection, plan, report, or budget preparation for _____ (i.e., site classification work plan, 45 day report, or high priority corrective action budget), sampling, field oversite for _____ (i.e., drilling/well installation, corrective action, or early action), of maintenance of _____. The above list is not inclusive of all possible tasks.

Professional Geologist : 8.00 hours x $ 100.33 per hour = $ 802.64
(Title)

Task to be performed for the above hours: Landfill permit management (using previous data--no data/field work)

Professional Geologist : 12.00 hours x $ 100.33 per hour = $ 1,203.96
(Title)

Task to be performed for the above hours: Startup of corrective actions--ph calls, review with contractors,staff

Professional Geologist : 10.00 hours x $ 100.33 per hour = $ 1,003.30
(Title)

Task to be performed for the above hours: backfill issues--loss of volume and extra materials needed--see text

Professional Geologist : 30.00 hours x $ 100.33 per hour = $ 3,009.90
(Title)

Task to be performed for the above hours: TACO analysis, data review, Csat issue with xylenes detection

Scientist II : 12.00 hours x $ 70.88 per hour = $ 850.56
(Title)

Task to be performed for the above hours: TACO analysis: setup of data/eqns, variable selection, proofing

Geologist III : 90.00 hours x $ 92.69 per hour = $ 8,342.10
(Title)

Task to be performed for the above hours: CACR, TACO results, Csat issue, backfull issues, etc.

Senior Professional Geologist : 20.00 hours x $ 119.95 per hour = $ 2,399.00
(Title)

Task to be performed for the above hours: Client management, TACO review, Csat and backfill issues, planning

Geologist III : 44.00 hours x $ 92.69 per hour = $ 4,078.36
(Title)

Task to be performed for the above hours: Preparation of 2007 response to IEPA request for more data

This form must be submitted in duplicate.

IEMA No. 980814

Scientist IV : 10.00 hours x $ 81.79 per hour = $ 817.90
(Title)

Task to be performed for the above hours: field work for installation of extra soil boring/monitoring well

Geologist III : 28.00 hours x $ 95.96 per hour = $2,686.88
(Title)

Task to be performed for the above hours: Preparation of budget amendment

Scientist II : 30.00 hours x $ 70.88 per hour = $2,126.40
(Title)

Task to be performed for the above hours: sealing of monitoring wells upon receipt of NFR letter

Geologist III : 40.00 hours x $ 95.96 per hour = $3,838.40
(Title)

Task to be performed for the above hours: Free product reporting, appeal of 12/07 IEPA data request

Professional Geologist : 40.00 hours x $ 100.33 per hour = $ 4,013.20
(Title)

Task to be performed for the above hours: Project management-reporting/2007 free prod. disc with IEPA

Administrative Assistant IV : 45.00 hours x $ 43.62 per hour = $1,962.90
(Title)

Task to be performed for the above hours: admin management,reimbursement, publishing, etc for above

_____ : _____ hours x $_____ per hour = $_____
(Title)

Task to be performed for the above hours: _____

_____ : _____ hours x $_____ per hour = $_____
(Title)

Task to be performed for the above hours: _____

_____ : _____ hours x $_____ per hour = $_____
(Title)

Task to be performed for the above hours: _____

_____ : _____ hours x $_____ per hour = $_____
(Title)

Task to be performed for the above hours: _____

TOTAL PERSONNEL COSTS: $ 37,135.50

This form must be submitted in duplicate.

IEMA No. 980814

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

Subtotal Page H-1_____

This form must be submitted in duplicate.

IEMA No. 980814

Equipment	Own or Rent?	Time Used	Unit Rate	Total Cost/Item

Subtotal Page H-2 _____

Total (Pages H-1 and H-2)_____

H-2

This form must be submitted in duplicate.

IEMA No. 980814

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	

Subtotal Page I-1 $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.

This form must be submitted in duplicate.

IEMA No. 980814

TOTAL OTHER COSTS = $_____

Subtotal Page I-2_____

Total (Pages I-1 and I-2) $6,825.00

This form must be submitted in duplicate.

IEMA 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**	Eligible Handling Charges as a **Percentage of Cost**
$1 - $5,000	12%
$5,001 - $15,000	$600 + 10% of amt. Over $5,000
$15,001 - $50,000	$1,600 + 8% of amt. Over $15,000
$50,001 - $100,000	$4,400 + 5% of amt. Over $50,000
$100,001 - $1,000,000	$6,900 + 2% of amt. Over $100,000

A. **Subcontractor Charges**

Subcontractor	Section in these Forms where Cost is Listed	Subcontract Amount

Subtotal Page J-1:_____

IEMA No. 980814

B. Field Purchase

Field Purchase	Field Purchase Amount

Subtotal Page J-2_____

Total (Pages J-1 and J-2):_____

Handling Charge*:_____

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

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

This form must be submitted in duplicate.

IEMA No. 980814

K. LOW PRIORITY CORRECTIVE ACTION

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

A. Preparation of the Corrective Action Plan. Attach the appropriate sections of the budget/billing forms to support 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: $_____

B. **1st Year Sampling and Analytical Costs (Quarterly Monitoring)** - Provide a summary of the 1st year costs below. Attach the appropriate sections of the budget/billing forms to support the summary of costs.

1. Analysis Costs: $_____
2. Personnel Costs: $_____
3. Equipment Costs: $_____
4. Field Purchases and Other Costs: $_____
5. Handling Charges: $_____

C. **2nd Year Sampling and Analytical Costs (Semiannual Monitoring)** - Provide a summary of the 2nd year costs below. Attach the appropriate sections of the budget/billing forms to support the summary of costs.

1. Analysis Costs: $_____
2. Personnel Costs: $_____
3. Equipment Costs: $_____
4. Field Purchases and Other Costs: $_____
5. Handling Charges: $_____

This form must be submitted in duplicate.

IEMA No. 980814

D. **3rd Year Sampling and Analytical Costs (Annual Monitoring)** - Provide a summary of the 3rd year costs below. Attach the appropriate sections of the budget/billing forms to support the summary of costs.

1. Analysis Costs: $_____
2. Personnel Costs: $_____
3. Equipment Costs: $_____
4. Field Purchases and Other Costs: $_____
5. Handling Charges: $_____

TOTAL LOW PRIORITY CORRECTIVE ACTION COSTS: $_____

This form must be submitted in duplicate.

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. Preparation of the Correction Action Plan

1. Investigation Costs: $_____
2. Analysis Costs: $_____
3. Personnel Costs: $_____
4. Equipment Costs: $_____
5. Field Purchases and Other Costs: $_____
6. Handling Charges: $_____

B. Groundwater Remediation

1 Analysis Costs: $_____

2 Personnel Costs: $_____

3 Equipment Costs: $_____

4 Field Purchases and Other Costs: $_____

5 Handling Charges: $_____

Of the above costs, please provide a breakdown of the costs associated with operation and maintenance (O&M), if applicable, as requested below:

_____ Months of O&M x $_____ per month = $_____

C. Excavation and Disposal

1 Analysis Costs: $_____

2 Personnel Costs: $_____

3 Equipment Costs: $_____

4 Field Purchases and Other Costs: $_____

5 Handling Charges: $_____

Of the above costs, please provide a breakdown of the costs associated with excavation, transportation, and disposal as requested below:

Excavation:_____yards^3 x $_____per yards^3 = $_____

Transportation:_____yards^3 x $_____per yards^3 = $_____

Disposal:_____yards^3 x $_____per yards^3 = $_____

This form must be submitted in duplicate.

IEMA No. 980814

D. Alternate 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:_____ yards^3 x $_____ per yards^3 = $_____

Treatment:_____ yards^3 x $_____ per yards^3 = $_____

Operation and Maintenance (O&M):

_____ Months of O&M x $_____ per month = $_____

E. Backfill 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 = $_____

This form must be submitted in duplicate.

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.

This form must be submitted in duplicate.

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	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	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.
		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.	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:
9-4725-001	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 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: West Chicago Park District
Sample ID: EW-1
Sample No: 9-4725-001

Date Collected: 11/05/09
Time Collected: 14:40
Date Received: 11/06/09
Date Reported: 11/13/09

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 11/09/09				
Total Solids	88.70		%	
BTEX Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 11/09/09				
Benzene	297	5.0	ug/kg	
Ethylbenzene	77,600	5.0	ug/kg	
Toluene	< 5,000	5.0	ug/kg	
Xylene, Total	333,000	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons **Method: 8270C**		**Preparation Method 3540C**		
Analysis Date: 11/11/09		Preparation Date: 11/09/09		
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	

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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

Date Collected: 11/05/09
Time Collected: 14:43
Date Received: 11/06/09
Date Reported: 11/13/09

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 11/09/09				
Total Solids	90.28		%	
BTEX Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 11/09/09				
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 **Method: 8270C**		**Preparation Method 3540C**		
Analysis Date: 11/11/09		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.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 11/09/09				
Total Solids	94.46		%	
BTEX Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 11/09/09				
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 **Method: 8270C**		**Preparation Method 3540C**		
Analysis Date: 11/11/09		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.
Project ID: West Chicago Park District
Sample ID: SW-2
Sample No: 9-4725-004

Date Collected: 11/05/09
Time Collected: 14:55
Date Received: 11/06/09
Date Reported: 11/13/09

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 11/09/09				
Total Solids	93.46		%	
BTEX Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 11/09/09				
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 **Method: 8270C**		**Preparation Method 3540C**		
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.
Project ID: West Chicago Park District
Sample ID: WW-1
Sample No: 9-4725-005

Date Collected: 11/05/09
Time Collected: 14:59
Date Received: 11/06/09
Date Reported: 11/13/09

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 11/09/09				
Total Solids	94.71		%	
BTEX Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 11/09/09				
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 **Method: 8270C**		**Preparation Method 3540C**		
Analysis Date: 11/11/09		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.
Project ID: West Chicago Park District
Sample ID: WW-2
Sample No: 9-4725-006

Date Collected: 11/05/09
Time Collected: 15:02
Date Received: 11/06/09
Date Reported: 11/13/09

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 11/09/09				
Total Solids	94.47		%	
BTEX Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 11/09/09				
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 **Method: 8270C**		**Preparation Method 3540C**		
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	48	25	ug/kg	
Phenanthrene	< 50	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: NW-1
Sample No: 9-4725-007

Date Collected: 11/05/09
Time Collected: 15:15
Date Received: 11/06/09
Date Reported: 11/13/09

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 11/09/09				
Total Solids	83.05		%	
BTEX Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 11/09/09				
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 **Method: 8270C**		**Preparation Method 3540C**		
Analysis Date: 11/11/09		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.
Project ID: West Chicago Park District
Sample ID: NW-2
Sample No: 9-4725-008

Date Collected: 11/05/09
Time Collected: 15:20
Date Received: 11/06/09
Date Reported: 11/13/09

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 11/09/09				
Total Solids	85.76		%	
BTEX Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 11/09/09				
Benzene	< 5.0	5.0	ug/kg	
Ethylbenzene	27.7	5.0	ug/kg	
Toluene	< 5.0	5.0	ug/kg	
Xylene, Total	< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons **Method: 8270C**		**Preparation Method 3540C**		
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	91	25	ug/kg	
Phenanthrene	< 50	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: BF-1
Sample No: 9-4725-009

Date Collected: 11/05/09
Time Collected: 14:30
Date Received: 11/06/09
Date Reported: 11/13/09

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 11/09/09				
Total Solids	92.13		%	
BTEX Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 11/09/09				
Benzene	< 5.0	5.0	ug/kg	
Ethylbenzene	7.5	5.0	ug/kg	
Toluene	< 5.0	5.0	ug/kg	
Xylene, Total	27.1	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons **Method: 8270C**		**Preparation Method 3540C**		
Analysis Date: 11/11/09		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	16	11	ug/kg	
Benzo(k)fluoranthene	18	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	68	25	ug/kg	
Phenanthrene	< 50	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: BF-2
Sample No: 9-4725-010

Date Collected: 11/05/09
Time Collected: 14:30
Date Received: 11/06/09
Date Reported: 11/13/09

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 11/09/09				
Total Solids	90.87		%	
BTEX Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 11/09/09				
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 **Method: 8270C**		**Preparation Method 3540C**		
Analysis Date: 11/11/09		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)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	

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Analytical Report

Client: RESOURCE CONSULTING, INC.
Project ID: West Chicago Park District
Sample ID: BF-3
Sample No: 9-4725-011

Date Collected: 11/05/09
Time Collected: 14:30
Date Received: 11/06/09
Date Reported: 11/13/09

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 11/09/09				
Total Solids	91.77		%	
BTEX Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 11/09/09				
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 **Method: 8270C**		**Preparation Method 3540C**		
Analysis Date: 11/11/09		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	

CHAIN OF CUSTODY RECORD

Page 1 of 1 pgs

First Environmental 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 Consulting Inc.
Street Address: P.O. Box 123
City: Geneva State: IL Zip: 60134
Phone: 630 232-9820 Fax: 630 232-9824 e-mail:
Send Report To: Dan Horvath / Brian Bretz Via: Fax ☐ e-mail ☒
Sampled By: Brandi Talaga

Project I.D.: West Chicago Park District
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Date/Time Taken	Sample Description	Matrix	Analyses: BTEX	Analyses: PNA	Comments	Lab I.D.
11/5/09 2:40p	EW-1	S	X	X		9-4725-001
11/5/09 2:43p	EW-2	S	X	X		002
11/5/09 2:50p	SW-1	S	X	X		003
11/5/09 2:55p	SW-2	S	X	X		004
11/5/09 2:59p	WW-1	S	X	X		005
11/5/09 3:02p	WW-2	S	X	X		006
11/5/09 3:15p	NW-1	S	X	X		007
11/5/09 3:20p	NW-2	S	X	X		008
11/5/09 2:30p	BF-1	S	X	X		009
11/5/09 2:30p	BF-2	S	X	X		010
11/5/09 2:30p	BF-3	S	X	X		011

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes X No__ ____°C
Received within 6 hrs. of collection:____
Ice Present: Yes X No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:____°C

Containers Received Preserved: ☐ Yes ☐ No

Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions:

Relinquished By: Brandi Talaga Date/Time 11/6/09 Received By: Date/Time 11/6/09 11:05 A.M.
Relinquished By: Date/Time Received By: Date/Time

Rev. 9/08

000116

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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 Zawerski
Project Manager

First Environmental Laboratories, Inc.
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Case Narrative

RESOURCE CONSULTING, INC.

Project ID: **WCPD**

First Environmental File ID: **9-5143**

Date Received: **December 04, 2009**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	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.
		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.	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 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: WCPD
Sample ID: RW-4A (4'-6')
Sample No: 9-5143-001

Date Collected: 11/25/09
Time Collected: 10:00
Date Received: 12/04/09
Date Reported: 12/11/09

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 12/07/09				
Total Solids	89.31		%	
BTEX Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 12/08/09				
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 **Method: 8270C**		**Preparation Method 3540C**		
Analysis Date: 12/09/09		Preparation Date: 12/07/09		
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	

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Analytical Report

Client: RESOURCE CONSULTING, INC.
Project ID: WCPD
Sample ID: RW-16 (8'-9')
Sample No: 9-5143-002

Date Collected: 11/25/09
Time Collected: 11:15
Date Received: 12/04/09
Date Reported: 12/11/09

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 12/07/09				
Total Solids	84.71		%	
BTEX Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 12/07/09				
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 **Method: 8270C**		**Preparation Method 3540C**		
Analysis Date: 12/09/09		Preparation Date: 12/07/09		
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	

CHAIN OF CUSTODY RECORD

First Environmental 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 Consulting, Inc.
Street Address: P.O. Box 123
City: Geneva State: IL Zip: 60134
Phone: 630-232-9820 Fax: 630-232-9824 e-mail:
Send Report To: Dan / Brian Via: Fax ☐ e-mail ☐
Sampled By: Brian Beltz

000121

Project I.D.: WCPD
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Date/Time Taken	Sample Description	Matrix	Analyses: BTEX	Analyses: PNAs	Comments	Lab I.D.
11/25/09 10:00am	RW-4A (4'-6')	S	X	X		9-5143 001
11/25/09 11:15am	RW-16 (8'-9')	S	X	X		002

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes__ No.__ _____°C
Received within 6 hrs. of collection:_____
Ice Present: Yes X No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:_____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:_____°C

Containers Received Preserved: ☐ Yes ☐ No
Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions:

Relinquished By: Brian Beltz Date/Time 12/4/09 1530 Received By: Date/Time 12/4/09 1530
Relinquished By: Date/Time Received By: Date/Time

Rev. 9/08

First Environmental Laboratories, Inc.
IL ELAP / NELAC Accreditation # 100292
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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

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	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	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.
		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.	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
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Analytical Report

Client: RESOURCE CONSULTING, INC.
Project ID: 98-1002 WCPD
Sample ID: WCPD-1
Sample No: 12-0858-001

Date Collected: 02/21/12
Time Collected:
Date Received: 02/23/12
Date Reported: 03/01/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 02/24/12				
Total Solids	77.35		%	
BTEX Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 02/29/12				
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	

CHAIN OF CUSTODY RECORD

First Environmental Laboratories, Inc.

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

Company Name: Resource Consulting Inc.
Street Address: 115 Ford St
City: Geneva State: IL Zip: 60134
Phone: 630 232 9820 Fax: 630 232 9824
Send Report To: Daniel J Hamilton
Sampled By: Brandi Talaga

Project I.D.: 98-1002 WCPD
P.O. #:

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	BTEX								Comments	Lab I.D.
2/21/12 pm	WCPD-1		X								12-0858	001

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes X No__ _____°C
Received within 6 hrs. of collection: ___
Ice Present: Yes X No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:_____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:_____°C

Containers Received Preserved: ___
Preserved in Lab: ___

Notes and Special Instructions: _____

Relinquished By: [signature] Date/Time 2/23/12 10:15 Received By: [signature] Date/Time 2/23/11 1040
Relinquished By: _____ Date/Time _____ Received By: _____ Date/Time _____

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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**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	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.
		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.	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

Client: RESOURCE CONSULTING, INC.
Project ID: WCPD
Sample ID: EW-1A
Sample No: 12-1035-001

Date Collected: 03/07/12
Time Collected: 13:00
Date Received: 03/07/12
Date Reported: 03/13/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 03/07/12				
Total Solids	80.98		%	
BTEX Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 03/12/12				
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	

CHAIN OF CUSTODY RECORD

First Environmental 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 Consulting, Inc
Street Address: P.O. Box 123
City: Geneva State: IL Zip: 60134
Phone: 630-232-9824 Fax: 630-232-9824 e-mail:
Send Report To: Dan / Brian Via: Fax ☐ e-mail ☒
Sampled By: Brian Beetz

Project I.D.: WCPD
P.O. #:

Matrix Codes: S = Soil W = Water O = Other

Date/Time Taken	Sample Description	Matrix	Analyses: BTEX	Comments	Lab I.D.
3/7/12 1:00 PM	EW-1A	S	X		12-1035-001

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes ✓ No__ ____°C
Received within 6 hrs. of collection:____
Ice Present: Yes ✓ No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:____°C

Containers Received Preserved: ☐ Yes ☐ No

Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions:

Relinquished By: [signature] Date/Time 3/7/12 1:29 PM Received By: [signature] Date/Time 3/7/12 1:29
Relinquished By: [signature] Date/Time ____ Received By: [signature] Date/Time ____

Rev. 9/08

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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/ Reed-Keppler Park* Address: *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)	Detailed Soil Descriptions	Natural Moisture Content %	Hand Penetrometer	OVA/PID/FID/OVM	Remarks
				0					
					Asphalt and gravel				
1	GP	49"	SC	2				0.0	
				4	*Clayey sand; dark brown, appears disturbed to 4', black discoloration and petroleum odors 4'-6'*			0.0	BTEX/PNAs 8-9'
				6				298	
2	GP	55"	SM	8	*Silty sand; light brown, saturated*			315	
				10				180	
			CL	12	*Silty clay; gray, very silty, saturated, low plasticity, moderately soft*			–	
3	GP	54"		14	*End of Boring*			–	
				16					
				18					
				20					

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Groundwater Depth While Drilling: *6.5'* Groundwater Depth After Drilling: *6.5'*	Auger Depth: *15'* Driller/Co. *Drilling Unlimited*	Drilling Rig: *Combo* Logged By: *BCB*

RESOURCE CONSULTING, INC.	Boring Number: *RW-16A*	Page: *1 of 1*
Site Name: *West Chicago Park District/ Reed-Keppler Park* Address: *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 Soil Descriptions	Natural Moisture Content %	Hand Penetrometer	OVA/PID/FID/OVM	Remarks
				0					
1	GP	51"	NA	2				0.0	
				4	*Gravel fill*			0.0	
				6					
2	GP	53"		8				2.9	
			SM	10	*Silty sand; brown / tan, saturated*			5.1	*BTEX/PNAs 8-9'*
				12				0.0	
			CL		*Silty clay; gray, very silty, saturated, low to medium plasticity*				
3	GP	48"		14	*End of Boring*			0.0	
				16					
				18					
				20					

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Groundwater Depth While Drilling: *6.5'* Groundwater Depth After Drilling: *6.5'*	Auger Depth: *14'* Driller/Co. *Drilling Unlimited*	Drilling Rig: *Combo* Logged By: *BCB*

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

Well Construction Materials

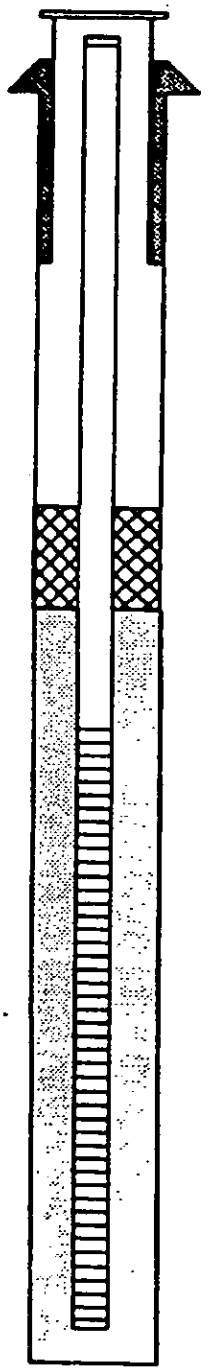
	Stainless Steel Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint			NA
Riser pipe above w.t.		sch. 40	
Riser Pipe below w.t.	--	--	NA
Screen		sch. 40	
Coupling joint screen to riser			threads
Protective casing			gal. steel

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	

Completed by: BJT



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

98.00 Top of Seal
1.00 Total Seal Interval
97.00 Top of Sand

96.00 Top of Screen

10.00 Total Screen Interval

86.50 Bottom of Screen
86.00 Bottom of Borehole

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

Well Construction Materials

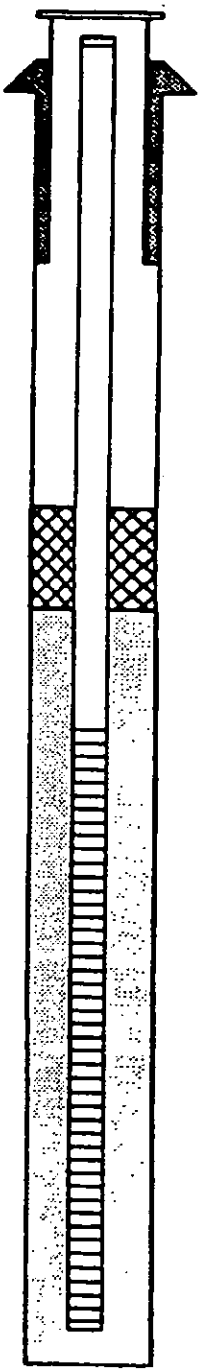
	Stainless Steel Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint			NA
Riser pipe above w.t.		sch. 40	
Riser Pipe below w.t.	–	–	NA
Screen		sch. 40	
Coupling joint screen to riser			threads
Protective casing			gal. steel

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	

Completed by: BJT



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

98.00 Top of Seal
1.00 Total Seal Interval
97.00 Top of Sand

95.00 Top of Screen

10.00 Total Screen Interval

85.50 Bottom of Screen
85.00 Bottom of Borehole

APPENDIX G

Exposure Route Evaluation

A. Discussion of Regulatory Requirements

As allowed under 35 Ill. Adm. Code Section 742.800(a), the following information is provided to evaluate the current aquifer conditions in accordance with 35 Ill. 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 Ill. 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;

c) Any soil which contains contaminants of concern shall not exhibit any of the characteristics of reactivity for hazardous waste as determined under 35 Ill. Adm. Code 721.123;

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 Ill. 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 Ill. 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 Ill. 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 Ill. 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 Ill. 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 Ill. 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 fumes 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 Ill. 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 Ill. 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 Ill. 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) <u>Sections 742.300 and 742.305</u>

The previous sections of this appendix demonstrate that the requirements of 35 Ill. 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 Ill. 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 1
Contaminant-Related Variables

Input for Solutions to Equation R26

Variable	Variable Description	Source of Value	Values		Comments
			Benzene in groundwater	Ethylbenzene in groundwater	
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_w	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.
S_d	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 Ill. 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.
K	Hydraulic conductivity, cm/s	Field data	6.4×10^{-2}	This is the value determined for the Site in accordance with previous Illinois EPA directives.
f_{oc}	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, cm^3/cm^3	Default value for clay	0.13	Default values from 35 Ill. Adm. Code Part 742.
θ_{ws}	Volumetric Water Content of soil, cm^3/cm^3	Default value for clay	0.3	
θ_T	Total Soil Porosity, cm^3/cm^3	Default value for clay	0.43	
w	Average soil moisture content, g/g	Default value for subsurface soil	0.2	
ρ_b	Soil bulk density, g/cm^3	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	C_x, 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 Variables in Relevant Equations

Project Name: West Chicago Park District

LPC number 0430905825

SOIL MIGRATION/GROUNDWATER EXPOSURE ROUTE — **BENZENE**

Variable	*Source*	*Value*	*Description and units*		
GWsource	R13	1.232	Groundwater concentration at the source, mg/L		
LFsw	R14	0.098	Leaching factor, mg/L/mg/kg		
GWcomp	R25	0.005	Groundwater objective at the compliance point, mg/L		
Cx/Csource	R15	4.06E-03	Steady-state attenuation along the centerline of a dissolved plume, mg/L/mg/L		
k_s	R20	0.18848	Soil-water sorption coefficient, cm^3/g		
K_{oc}	Appendix C table E	58.9	Organic carbon partition coefficient, cm^3/g		
f_{oc}	surface 0.005 subsurface 0.002	0.0032	Organic carbon content of soil, g/g		
θ_{ws}	R22 or surface 0.15 subsurface 0.30 gravel 0.20 sand 0.18 silt 0.16 clay 0.17	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3		
θ_{as}	R21 or surface 0.28 subsurface 0.13 gravel 0.05 sand 0.14 silt 0.16 clay 0.17	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3		
θ_T	R23 or 0.43 gravel 0.25 sand 0.32 silt 0.40 clay 0.36	0.43	Total soil porosity, cm^3/cm^3		
H'	Appendix C table E	0.228	Henry's law constant, cm^3 air/cm^3 water		
w	surface 0.1 subsurface 0.2	0.2	Average soil moisture content, g/g		
ρ_s	gravel 2.0 sand 1.8 silt 1.6 clay 1.7	1.64	Soil bulk density, g/cm^3		
ρ_w		1	Water density, g/cm^3		
X	site	21336	Distance along the centerline of the ground water plume emanating from the source, cm	700	Distance, ft
ax	R16	2133.6	Longitudinal dispersivity, cm (Equation R16)		
ay	R17	711.2	Transverse dispersivity, cm (Equation R17)		
az	R18	106.68	Vertical dispersivity, cm (Equation R18)		
Sw	site	2103.12	Source width perpendicular to ground water flow direction in horizontal plane, cm	69	Sw, ft
Sd	site	91.44	Source width perpendicular to ground water flow direction in vertical plane, cm	3	Sd, ft
K	site	5.53E+03	Aquifer hydraulic conductivity, cm/day	6.40E-02	K, cm/sec
i	site	0.006	Hydraulic gradient, cm/cm		
U	R19	77.1572093	Specific discharge, cm/day (Equation R19)		
Ugw	R24	1.21E+04	Groundwater Darcy velocity, cm/yr		
d		200	Groundwater mixing zone thickness, cm		
I		30	Infiltration rate, cm/yr		
W	site	3200.4	Width of source area parallel to direction of wind or groundwater movement, cm	105	W, ft
λ	Appendix C table E	0.0009	First order degradation constant, day^-1		
$C_{(x)}$	R26	0.005	Concentration of contaminant in groundwater at the distance X from the steady source, mg/L		
C_{source}	site	1.23	The greatest potential concentration of the contaminant in groundwater at the source of contamination, mg/L		

INHALATION & INGESTION EXPOSURE ROUTES				
AT_c		70	Averaging time for carcinogens, yr	
AT_n	R = 30 I = 25 W= 0.115	30	Averaging time for noncarcinogens, yr	
BW		70	Adult body weight, kg	
ED	R= 30 I= 25 W= 1	30	Exposure duration, yr	
EF	R= 350 I= 250 C= 30	350	Exposure Frequency, d/yr	
IR_{air}		20	Daily outdoor inhalation rate, m^3/d	
IR_{soil}	R= 100 I= 50 C= 480	100	Soil ingestion rate, mg/d	
IR_w	R = 2 I= 1	2	Daily water ingestion rate, L/d	
L_s		100	Depth to subsurface soil sources, cm	
M		0.5	Soil to skin adherence factor	
Pe		6.9E-14	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_o		1	Oral relative absorption factor	
THQ		1	Target hazard quotient	
TR at the point of human exposure	R= 10^{-6} I= 10^{-6} W= 10^{-6}	0.000001	Target cancer risk	
U_{air}		225	Average wind speed above ground surface in ambient mixing zone, cm/s	
δ_{air}		200	Ambient air mixing zone heights, cm	
π		3.1416	pi	
T		946000000	Averaging time for vapor flux, s	
k_s (non-ionizing organics)		0.183	Soil water sorption coefficient, cm^3 water / g soil	
	R20			
VF_p	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 / mg/m^3 soil) or kg/m^3	
VF_{ss}	R3 and R4	6.16E-06	Volatilization factor for surficial soils, kg/m^3	
d	site	50	Lower depth of surficial soil zone (not to exceed 100), cm	
D^{air}	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_s^{eff}	R6	0.001	Effective diffusion coefficient in soil based on vapor-phase concentration, cm^2/s	
$RBSL_{air}$	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_i	IEPA	8.60E-03	Inhalation reference dose, mg/(kg-d)	benzene
RfD_o	IEPA	4.00E-03	Oral reference dose, mg/(kg-d)	benzene
SA	IEPA	3,160	Skin surface area, cm^2/d	
SF_i	IEPA	2.70E-02	Inhalation cancer slope factor, (mg/kg-d)^-1	benzene
SF_o	IEPA	5.50E-02	Oral slope factor, (mg/kg-d)^-1	benzene

DO NOT PUBL

SOIL MIGRATION / GROUNDWATER EXPOSURE ROUTE

Eqn. R12: RO = $\frac{1.23192563}{0.09790134}$

= 12.583 mg/kg Tier 2 Remediation Objective

Eqn. R13: GWsource $\frac{0.005}{0.00405869}$

= 1.232E+00

Eqn. R14: LFsw = $\frac{1.64}{0.3\ 0.1885\ 1.64\ 0.228\ 0.13\ 1 + \frac{12110}{30}\ \frac{200}{3200.4}}$

= 0.098

Eqn. R15: C(x) / Csource = exp $\frac{21336}{4267.2}$ 1 - 1 + $\frac{0.0036}{77.157}$ 2133.6 erf $\frac{2103.1}{15582}$ erf $\frac{91.44}{3017.4}$

= 0.004

Eqn. R16: ax = 0.1 21336

= 2133.600

Eqn. R17: ay = $\frac{2133.6}{3}$

= 711.200

Eqn. R18: az = $\frac{2133.6}{20}$

= 106.680

Eqn. R19: U = $\frac{5529.6\ \ 0.006}{0.43}$

= 77.157

Eqn. R20: ks = 58.9 0.0032

= 0.188

Eqn. R21: qws = $\frac{0.2\ \ 1.64}{1}$

= 0.328

Eqn. R22: qas = 0.43 $\frac{0.2}{1}$ 1.64

= 0.141

Eqn. R23: qT = 0.469

Eqn. R24: Ugw = 5529.6 0.006

= 1.21E+04

Eqn. R25: $\frac{0.000001}{0.055}$ $\frac{70}{2}$ $\frac{70}{350}$ $\frac{365}{30}$

= 0.002

Eqn. R26: C(x) = 1.23 $\frac{21336}{4267.2}$ 1 - 1 + $\frac{0.0036}{77.157}$ 2133.6 erf $\frac{2103.1}{15582}$ erf $\frac{91.44}{3017.4}$

= 0.005

Values for Variables in Relevant Equations

Project Name: West Chicago Park District

SOIL MIGRATION/GROUNDWATER EXPOSURE ROUTE — ETHYLBENZENE

LPC number 0430905825

Variable	Source	Value	Description and units		
GWsource	R13	1.343	Groundwater concentration at the source, mg/L		
LFsw	R14	0.721	Leaching factor, mg/L/mg/kg		
GWcomp	R25	0.7	Groundwater objective at the compliance point, mg/L		
Cx/Csource	R15	0.521	Steady-state attenuation along the centerline of a dissolved plume, mg/L/mg/L		
k_s	R20	1.089	Soil-water sorption coefficient, cm^3/g		
K_{oc}	Appendix C table E	363	Organic carbon partition coefficient, cm^3/g		
f_{oc}	surface 0.005 subsurface 0.002	0.003	Organic carbon content of soil, g/g		
θ_{ws}	R22 or surface 0.15 subsurface 0.13 gravel 0.05 sand 0.18 silt 0.16 clay 0.17	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3		
θ_{as}	R21 or surface 0.28 subsurface 0.13 gravel 0.05 sand 0.18 silt 0.16 clay 0.17	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3		
θ_T	R23 or 0.43 gravel 0.25 sand 0.32 silt 0.40 clay 0.36	0.43	Total soil porosity, cm^3/cm^3		
H'	Appendix C table E	0.323	Henry's law constant, cm^3 air/cm^3 water		
w	surface 0.1 subsurface 0.2	0.2	Average soil moisture content, g/g		
ρ_b	gravel 2.0 sand 1.8 silt 1.6 clay 1.7	1.64	Soil bulk density, g/cm^3		
ρ_w		1	Water density, g/cm^3		
X	site	1219.2	Distance along the centerline of the ground water plume emanating from the source, cm	40	Distance, ft
ax	R16	121.92	Longitudinal dispersivity, cm (Equation R16)		
ay	R17	40.64	Transverse dispersivity, cm (Equation R17)		
az	R18	6.096	Vertical dispersivity, cm (Equation R18)		
Sw	site	2103.12	Source width perpendicular to ground water flow direction in horizontal plane, cm	69	Sw, ft
Sd	site	91.44	Source width perpendicular to ground water flow direction in vertical plane, cm	3	Sd, ft
K	site	5529.6	Aquifer hydraulic conductivity, cm/day	6.40E-02	K, cm/sec
i	site	0.006	Hydraulic gradient, cm/cm		
U	R19	77.1572093	Specific discharge, cm/day (Equation R19)		
Ugw	R24	33.178	Groundwater Darcy velocity, cm/yr		
d		200	Groundwater mixing zone thickness, cm		
I		30	Infiltration rate, cm/yr		
W	site	3200.4	Width of source area parallel to direction of wind or groundwater movement, cm	105	W, ft
λ	Appendix C table E	0.003	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		
C_{source}	site	1.22	The greatest potential concentration of the contaminant in groundwater at the source of contamination, r		

INHALATION & INGESTION EXPOSURE ROUTES				
AT_c		70	Averaging time for carcinogens, yr	
AT_n	R = 30 I = 25 W= 0.115	30	Averaging time for noncarcinogens, yr	
BW		70	Adult body weight, kg	
ED	R= 30 I= 25 W= 1	30	Exposure duration, yr	
EF	R= 350 I= 250 C= 30	350	Exposure Frequency, d/yr	
IR_{air}		20	Daily outdoor inhalation rate, m^3/d	
IR_{soil}	R= 100 I= 50 C= 480	100	Soil ingestion rate, mg/d	
IR_w	R = 2 I= 1	2	Daily water ingestion rate, L/d	
L_s		100	Depth to subsurface soil sources, cm	
M		0.5	Soil to skin adherence factor	
Pe		6.9E-14	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_o		1	Oral relative absorption factor	
THQ		1	Target hazard quotient	
TR at the point of human exposure	R= 10^{-5} I= 10^{-6} W= 10^{-6}	0.000001	Target cancer risk	
U_{air}		225	Average wind speed above ground surface in ambient mixing zone, cm/s	
δ_{air}		200	Ambient air mixing zone heights, cm	
π		3.1416	pi	
t		946000000	Averaging time for vapor flux, s	
K_s (non-ionizing organics)		0.183	Soil water sorption coefficient, cm^3 water / g soil	
	R20			
VF_p	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 / mg/m^3 soil) or kg/m^3	
VF_{ss}	R3 and R4	6.16E-06	Volatilization factor for surficial soils, kg/m^3	
d	site	50	Lower depth of surficial soil zone (not to exceed 100), cm	
D^{air}	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_s^{eff}	R6	0.001	Effective diffusion coefficient in soil based on vapor-phase concentration, cm^2/s	
$RBSL_{air}$	R9	#DIV/0!	Carcinogenic risk-based screening level for air, ug/m^3	
$RBSL_{air}$	R10	1058.5	Non-carcinogenic risk-based screening level for air, ug/m^3	
RfD_i	IEPA	2.90E-01	Inhalation reference dose, mg/(kg-d)	ethylbenzene
RfD_o	IEPA	1.00E-01	Oral reference dose, mg/(kg-d)	ethylbenzene
SA	IEPA	3,160	Skin surface area, cm^2/d	
SF_i	IEPA		Inhalation cancer slope factor, (mg/kg-d)^-1	ethylbenzene
SF_o	IEPA		Oral slope factor, (mg/kg-d)^-1	ethylbenzene

SOIL MIGRATION / GROUNDWATER EXPOSURE ROUTE

Eqn. R12: RO = $\frac{1.343282132}{0.720874203}$

= 1.863E+00 mg/kg Tier 2 Remediation Objective

Eqn. R13: GWsource $\frac{0.7}{0.521111673}$

= 1.343E+00

Eqn. R14: LFsw = $\frac{1.64}{\frac{0.3}{1.089} \quad \frac{1.64}{0.323} \quad 0.13 \; 1 + \frac{33.178}{\frac{200}{30}\;\frac{3200.4}{}}}$

= 0.721

Eqn. R15: C(x) / Csource = exp $\frac{1219.2}{243.84}$ 1 - 1 + $\frac{0.012}{77.157}$ 121.92 erf $\frac{2103.1}{890.38}$ erf $\frac{91.44}{172.42}$

= 5.21E-01

Eqn. R16: ax = 0.1 1219.2

= 121.920

Eqn. R17: ay = $\frac{121.92}{3}$

= 40.640

Eqn. R18: az = $\frac{121.92}{20}$

= 6.096

Eqn. R19: U = $\frac{5529.6 \quad 0.006}{0.43}$

= 77.157

Eqn. R20: ks = 363 0.003

= 1.089

Eqn. R21: qws = $\frac{0.2 \quad 1.64}{1}$

= 0.328

Eqn. R22: qas = 0.43 $\frac{0.2 \quad 1.64}{1}$

= 0.141

Eqn. R23: qT = 0.469

Eqn. R24: Ugw = 5529.6 0.006

= 33.178

Eqn. R25: $\frac{0.000001 \quad 70 \quad 70 \quad 365}{0 \quad 2 \quad 350 \quad 30}$

= #DIV/0!

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

= 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
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: **9-5293**

Date Received: **December 16, 2009**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	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.
		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.	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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Analytical Report

Client: RESOURCE CONSULTING, INC.
Project ID: 98-1002 WCPD
Sample ID: RW-1
Sample No: 9-5293-001

Date Collected: 12/14/09
Time Collected:
Date Received: 12/16/09
Date Reported: 12/22/09

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds	**Method: 5030B/8260B**			
Analysis Date: 12/17/09				
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.
Project ID: 98-1002 WCPD
Sample ID: RW-2
Sample No: 9-5293-002

Date Collected: 12/14/09
Time Collected:
Date Received: 12/16/09
Date Reported: 12/22/09

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds	**Method: 5030B/8260B**			
Analysis Date: 12/17/09				
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.
Project ID: 98-1002 WCPD
Sample ID: RW-4a
Sample No: 9-5293-003

Date Collected: 12/14/09
Time Collected:
Date Received: 12/16/09
Date Reported: 12/22/09

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds	**Method: 5030B/8260B**			
Analysis Date: 12/18/09				
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.
Project ID: 98-1002 WCPD
Sample ID: RW-5
Sample No: 9-5293-004

Date Collected: 12/14/09
Time Collected:
Date Received: 12/16/09
Date Reported: 12/22/09

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds	**Method: 5030B/8260B**			
Analysis Date: 12/17/09				
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.
Project ID: 98-1002 WCPD
Sample ID: RW-6
Sample No: 9-5293-005

Date Collected: 12/14/09
Time Collected:
Date Received: 12/16/09
Date Reported: 12/22/09

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds	**Method: 5030B/8260B**			
Analysis Date: 12/17/09				
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.
Project ID: 98-1002 WCPD
Sample ID: RW-7
Sample No: 9-5293-006

Date Collected: 12/14/09
Time Collected:
Date Received: 12/16/09
Date Reported: 12/22/09

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 12/17/09				
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.
Project ID: 98-1002 WCPD
Sample ID: RW-8
Sample No: 9-5293-007

Date Collected: 12/14/09
Time Collected:
Date Received: 12/16/09
Date Reported: 12/22/09

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 12/17/09				
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.
Project ID: 98-1002 WCPD
Sample ID: RW-11
Sample No: 9-5293-008

Date Collected: 12/14/09
Time Collected:
Date Received: 12/16/09
Date Reported: 12/22/09

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds **Method: 5030B/8260B** Analysis Date: 12/17/09				
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 **Method: 8270C** Analysis Date: 12/18/09		**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.
Project ID: 98-1002 WCPD
Sample ID: RW-13
Sample No: 9-5293-009

Date Collected: 12/14/09
Time Collected:
Date Received: 12/16/09
Date Reported: 12/22/09

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 12/17/09				
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	
Polynuclear Aromatic Hydrocarbons **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 12/18/09		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.
Project ID: 98-1002 WCPD
Sample ID: RW-14
Sample No: 9-5293-010

Date Collected: 12/14/09
Time Collected:
Date Received: 12/16/09
Date Reported: 12/22/09

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds **Method: 5030B/8260B** Analysis Date: 12/17/09				
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 **Method: 8270C** Analysis Date: 12/18/09		**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.
Project ID: 98-1002 WCPD
Sample ID: RW-15
Sample No: 9-5293-011

Date Collected: 12/14/09
Time Collected:
Date Received: 12/16/09
Date Reported: 12/22/09

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds **Method: 5030B/8260B** Analysis Date: 12/17/09				
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 **Method: 8270C** **Preparation Method 3510C** Analysis Date: 12/18/09 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.
Project ID: 98-1002 WCPD
Sample ID: RW-16a
Sample No: 9-5293-012

Date Collected: 12/14/09
Time Collected:
Date Received: 12/16/09
Date Reported: 12/22/09

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 12/17/09				
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 **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 12/18/09		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	46	10	ug/L	
Phenanthrene	< 5	5	ug/L	
Pyrene	< 2	2	ug/L	

CHAIN OF CUSTODY RECORD

First Environmental Laboratories, Inc.

First Environmental Laboratories
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Phone: (630) 778-1200 • Fax: (630) 778-1233
24 Hr. Pager (708) 569-7507
E-mail: info@firstenv.com
IEPA Certification# 100292

Company Name: RESOURCE CONSULTING Inc.
Street Address: 115 FORD ST
City: GENEVA State: IL Zip: 60134
Phone: 630 232-9820 Fax: 630 232 9824
Send Report To: DJH/Resource
Sampled By: BGB/BJT

Project I.D.: 98-1002 WCPA
P.O. #:

Matrix Codes: S = Soil W = Water O = Other

Analyses: BTEX, PNAS

Date/Time Taken	Sample Description	Matrix	BTEX	PNAS	Comments	Lab I.D.
12-14-09 pm	RW-1	W			9-	5293-001
	RW-2					002
	RW-4a					003
	RW-5					004
	RW-6					005
	RW-7					006
	RW-8					007
	RW-11					008
	RW-13		X			009
	RW-14		X			010
	RW15		X			011
	RW-16a		X			012

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes✓ No__ ____°C
Received within 6 hrs. of collection:____
Ice Present: Yes✓ No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:____°C

Containers Received Preserved: ✓
Preserved in Lab: __

Notes and Special Instructions: ____

Relinquished By: [signature] Date/Time 12-15-0910 am Received By: [signature] Date/Time 12/16/09 0930
Relinquished By: ____ Date/Time ____ Received By: ____ Date/Time ____

Rev. 10/04

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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 Zawiński
Project Manager

First Environmental Laboratories, Inc.
IL ELAP / NELAC Accreditation # 100292
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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.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	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.
		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.	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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Analytical Report

Client: RESOURCE CONSULTING, INC.
Project ID: WCPD
Sample ID: MW-4A
Sample No: 10-3362-001

Date Collected: 08/20/10
Time Collected: 13:10
Date Received: 08/20/10
Date Reported: 08/25/10

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 08/24/10				
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

First Environmental Laboratories, Inc.

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IEPA Certification #100292

Company Name: Resource Consulting
Street Address: 115 Ford St
City: Geneva State: IL Zip: 60134
Phone: 630 232-7820 Fax: e-mail:
Send Report To: Dan Horvath Via: Fax ☐ e-mail ☑
Sampled By: BTT

Project I.D.: WCPD
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Date/Time Taken	Sample Description	Matrix	BTEX	Comments	Lab I.D.
8/20/10 1:10pm	MW-4A	W	X		10-2362-001

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes✓ No__ ____°C
Received within 6 hrs. of collection:____
Ice Present: Yes✓ No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:____°C

Containers Received Preserved: ☑ Yes ☐ No
Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions: ____

Relinquished By: BTT Date/Time 8/20/10 1:40 Received By: [signature] Date/Time 8/20/10 1340
Relinquished By: ____ Date/Time ____ Received By: ____ Date/Time ____

Rev. 9/08

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APPENDIX I

Hydraulic Properties of Aquifer

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: 12/14/2009	ROD ELEVATION ft	RELATIVE POINT ELEVATION, ft.	DEPTH TO WATER, ft.	WATER TABLE ELEVATION, ft. rel. point - depth to water
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

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: $AC = 134.80$

Distance from A to point of Intersection D, ft: $AD = AC \times \frac{Y - X}{Z - X}$

$= 48.26$

Distance from A to E (point of right angle with A and B): $AE = 48.60$

Hydraulic Gradient: $\frac{Y - X}{AE} = \frac{0.29}{48.60}$

$= 0.00597$

000174

APPENDIX J

Illinois EPA Forms

Illinois Environmental Protection Agency

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Leaking Underground Storage Tank Program
Property Owner Summary

A. 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 West National Street

City: West Chicago County: DuPage Zip Code: 60185

Leaking UST Technical File

Engineered barriers, institutional controls, and other use restrictions, if any, proposed for this site may not be implemented without approval by the title holder(s) of record for the above-named property or the agent(s) of such person(s). These controls and restrictions will be identified in the No Further Remediation (NFR) Letter, which must be recorded in the chain of title for the property. Failure to maintain these controls is grounds for voidance of the NFR Letter.

B. Preventive, Engineering, and Institutional Controls and Land Use Limitations

The following controls and restrictions are proposed for the above-named site:

- ☐ Industrial/commercial land use limitation;
- ☐ On-site groundwater restriction prohibiting the use of groundwater beneath the site as a potable water supply;
- ☐ An engineered barrier: ☐ Building, ☐ asphalt/concrete, or ☐ Other (*description*) _____
- ☑ Groundwater ordinance: ☑ With a MOU, ☐ Without a MOU;
- ☑ Construction worker caution notification;
- ☐ Other: _____
- ☐ None (There are no proposed institutional controls other than the NFR Letter.)

C. Property Ownership Declaration

I hereby affirm that I have reviewed the attached report entitled Free Product Removal Report/ Corrective Action Completion Report and dated April 2013, and that I accept the terms and conditions set forth therein, including any land use limitations, that apply to property I own. I further affirm that I have no objection to the recording of a No Further Remediation Letter containing the terms and conditions identified in the report upon the property I own.

Name of Property Owner: West Chicago Park Dist.

Name of Officer or Agent: Jesse Felix

Mailing Address: 157 West Washington St.

City West Chicago

State Illlinois

Zip Code 60185

Signature Jesse Felix

Date 4/28/13

D. Site Description

Real Estate Tax/Parcel Index Number: _____

Legal Description of Site (must be provided on a separate sheet)

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
Free Product Removal

A. 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 West National Street

City: West Chicago County: DuPage ZIP Code: 60185

Leaking UST Technical File

B. Information Provided

1. Free Product Removal Plan ☐
2. Free Product Removal Budget ☐
3. Free Product Removal Report ☒

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C. Free Product Removal

Provide the following:

1. The name(s) of the person(s) responsible for implementing the free product removal measures;
2. The estimated quantity, type, and thickness of free product observed or measured in boreholes, wells, excavation, etc.;
3. The type of free product recovery system used and technical justification for the method of recovery chosen;
4. Whether any discharge will take place on- or off-site during the recovery operation and where this discharge (point) will be located;
5. The type of treatment applied to, and the effluent quality 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 product; and
9. A schedule of future activities necessary to complete the recovery of free product still exceeding one-eighth of an inch in depth.

D. Supporting Documentation

Provide the following:

1. Site map meeting the requirements of 35 Ill. 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 Ill. 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

Name West Chicago Park Dist.
Contact Jesse Felix
Address 157 West Washington St.
City West Chicago
State Illinois
Zip Code 60185
Phone 630-231-9474
Signature Jesse Felix
Date 4/28/13

Consultant

Company Resource Consulting
Contact Dan Horvath
Address PO Box 123
City Geneva
State Illinois
Zip Code 60134
Phone 630-232-9820
Signature
Date 6/13/13

Continue on to next page.

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

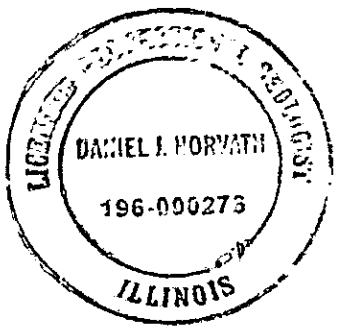
Ill. Registration No. 196-000276

License Expiration Date Nov 30, 2013

Signature

Date 6/13/13

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



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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 performing corrective action 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 Ill. Adm. Code 732 or 734. I further certify that costs ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 732.606 or 734.630 are not included in the budget proposal or amendment. Such ineligible costs include but are not limited to:

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.
Costs associated with planned tank pulls.
Legal fees or costs.
Costs incurred prior to July 28, 1989.
Costs associated with installation of new USTs or the repair of existing USTs.

Owner/Operator: West Chicago Park Dist.

Authorized Representative: Jesse Felix Title: Superintendent of Parks

Signature: Jesse Felix Date: 4/28/13

Subscribed and sworn to before me the 28 day of April, 2013.

Daisy Fernandez (Notary Public) Seal:

OFFICIAL SEAL
DAISY FERNANDEZ
Notary Public - State of Illinois
My Commission Expires Mar 5, 2017

In addition, 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 the plan, budget, or report has been completed in accordance with the Environmental Protection Act [415 ILCS 5], 35 Ill. Adm. Code 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].

L.P.E./L.P.G.: Dan Horvath L.P.E./L.P.G. Seal:

L.P.E./L.P.G. Signature: Dan Horvath Date: 6/13/13

Subscribed and sworn to before me the 13th day of June, 2013.

(Notary Public) Seal:

OFFICIAL SEAL
ELIZABETH CAPE
NOTARY PUBLIC, STATE OF ILLINOIS
MY 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

A. 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 West National St.

City: West Chicago County: DuPage ZIP Code: 60185

B. Site Information

1. Will the owner or operator seek reimbursement from the Underground Storage Tank Fund? ☑ Yes ☐ No
2. If yes, is the budget attached? ☑ Yes ☐ No
3. Is this an amended plan? ☑ Yes ☐ No
4. Identify the material(s) released: unleaded gasoline, diesel fuel
5. This Corrective Action Plan is submitted pursuant to:
   - a. 35 Ill. Adm. Code 731.166 ☐
     The material released was:
     - -petroleum ☐
     - -hazardous substance (see Environmental Protection Act Section 3.215) ☐
   - b. 35 Ill. Adm. Code 732.404 ☑
   - c. 35 Ill. Adm. Code 734.335 ☐

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C. Proposed Methods of Remediation

1. Soil Excavation and disposal
2. Groundwater TACO evaluation

D. Soil and Groundwater Investigation Results

(for incidents subject to 35 Ill. Adm. Code 731 only or 732 that were classified using Method One or Two, if not previously provided)

Provide the following:

1. Description of investigation activities performed to define the extents of soil and/or groundwater contamination;
2. Analytical results, chain-of-custody forms, and laboratory certifications;
3. Tables comparing analytical results to applicable remediation objectives;

4. Boring logs;
5. Monitoring well logs; and
6. Site maps meeting the requirements of 35 Ill. 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;
   b. 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:
   a. 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:
   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. 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);

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 Ill. Adm. Code 732.110(a) or 734.440;
10. Engineering design specifications, diagrams, schematics, calculations, manufacturer's specifications, etc.;
11. 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;
    c. Map(s) depicting distances used in equations; and
    d. Calculations; and
14. Provide documentation to demonstrate the following for alternative technologies:
    a. 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;
    c. 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 Ill. Adm. Code 721.123;
   d. Contaminated soils do not exhibit a pH $\leq$ 2.0 or $\geq$ 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 Ill. Adm. Code 721.124.
2. A discussion of how any exposure pathways are to be excluded.

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

Name West Chicago Park Dist.
Contact Jesse Felix
Address 157 West Washington St.
City West Chicago
State Illinois
Zip Code 60185
Phone 630-231-9474
Signature Jesse Felix
Date 4/28/13

Consultant

Company Resource Consulting
Contact Dan Horvath
Address PO Box 123
City Geneva
State Illinois
Zip Code 60134
Phone 630-232-9820
Signature
Date 6/13/13

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 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 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 3/31/15
Signature
Date 6/13/13

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

LICENSED PROFESSIONAL GEOLOGIST
DANIEL J. HORVATH
196-000276
ILLINOIS

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

Illinois Environmental Protection Agency

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Leaking Underground Storage Tank Program
Corrective Action Completion Report

A. 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 West National Street

City: West Chicago County: DuPage ZIP Code: 60185

B. Site Information

1. Has a Corrective Action Plan been approved? ☑ Yes ☐ No

   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 ☑

   d. 35 Ill. Adm. Code 734.345 ☐

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3. Method of remediation chosen:

   a. Soil Excavation and disposal

   b. Groundwater TACO evaluation

4. Quantity of contaminated media remediated and/or recovered

   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. 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;

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;
   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; and
   d. 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;
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;
   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);

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;
   b. 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

Name West Chicago Park Dist.
Contact Jesse Felix
Address 157 West Washington St.
City West Chicago
State Illinois
Zip Code 60185
Phone 630-231-9474
Signature Jesse Felix
Date 7/28/13

Consultant

Company Resource Consulting
Contact Dan Horvath
Address PO Box 123
City Geneva
State Illinois
Zip Code 60134
Phone 630-232-9820
Signature
Date 6/18/13

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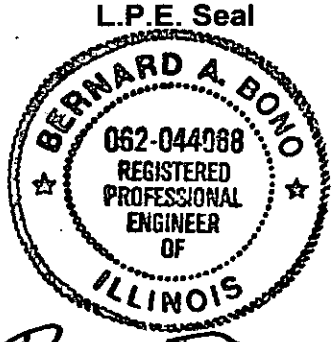
E. Certification

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

Name Bernard A. Bono
Company Resource Consulting
Address PO Box 123
City Geneva
State Illinois
Zip Code 60134
Phone 630-232-9820
Ill. Registration No. 062-044068
License Expiration Date 11/30/13

L.P.E. Seal



Signature
Date 6/13/13

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. Site Identification

IEMA Incident # (6- or 8-digit): 980814 IEPA LPC# (10-digit): 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. Sample Collector

I certify that:

1. Appropriate sampling equipment/methods were utilized to obtain representative samples. _____ (Initial)
2. Chain-of-custody procedures were followed in the field. _____ (Initial)
3. Sample integrity was maintained by proper preservation. _____ (Initial)
4. All samples were properly labeled. _____ (Initial)

C. Laboratory Representative

I certify that:

1. Proper chain-of-custody procedures were followed as documented on the chain-of-custody forms SS✓ (Initial)
2. Sample integrity was maintained by proper preservation. SS✓ (Initial)
3. All samples were properly labeled. SS✓ (Initial)
4. Quality assurance/quality control procedures were established and carried out. SS✓ (Initial)
5. Sample holding times were not exceeded. SS✓ (Initial)

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

Name Brandi Talaga
Title Environmental Technician
Company Resource Consulting, Inc.
Address P.O. Box 123
City Geneva
State Illinois
Zip Code 60134
Phone (630)232-9820
Signature Brandi Talaga
Date 7/17/13

Laboratory Representative

Name Stan Zaworski
Title Project Manager
Company First Environmental Labs, Inc.
Address 1600 Shore Road
City Naperville
State Illinois
Zip Code 60540
Phone (630778-1200
Signature
Date 8/16/13

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. Site Identification

IEMA Incident # (6- or 8-digit): 980814 IEPA LPC# (10-digit): 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. Sample Collector

I certify that:

1. Appropriate sampling equipment/methods were utilized to obtain representative samples. _____ (Initial)
2. Chain-of-custody procedures were followed in the field. _____ (Initial)
3. Sample integrity was maintained by proper preservation. _____ (Initial)
4. All samples were properly labeled. _____ (Initial)

C. Laboratory Representative

I certify that:

1. Proper chain-of-custody procedures were followed as documented on the chain-of-custody forms SSV (Initial)
2. Sample integrity was maintained by proper preservation. SSV (Initial)
3. All samples were properly labeled. SSV (Initial)
4. Quality assurance/quality control procedures were established and carried out. SSV (Initial)
5. Sample holding times were not exceeded. SSV (Initial)

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

Name Brandi Talaga
Title Environmental Technician
Company Resource Consulting, Inc.
Address P.O. Box 123
City Geneva
State Illinois
Zip Code 60134
Phone (630)232-9820
Signature Brandi Talaga
Date 7/19/13

Laboratory Representative

Name Stan Zaworski
Title Project Manager
Company First Environmental Labs, Inc.
Address 1600 Shore Road
City Naperville
State Illinois
Zip Code 60540
Phone (630778-1200
Signature
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Illinois Environmental Protection Agency

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

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Leaking Underground Storage Tank Program
Laboratory Certification for Chemical Analysis

A. Site Identification

IEMA Incident # (6- or 8-digit): 980814 IEPA LPC# (10-digit): 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. Sample Collector

I certify that:

1. Appropriate sampling equipment/methods were utilized to obtain representative samples. _____ (Initial)
2. Chain-of-custody procedures were followed in the field. _____ (Initial)
3. Sample integrity was maintained by proper preservation. _____ (Initial)
4. All samples were properly labeled. _____ (Initial)

C. Laboratory Representative

I certify that:

1. Proper chain-of-custody procedures were followed as documented on the chain-of-custody forms SG (Initial)
2. Sample integrity was maintained by proper preservation. SG (Initial)
3. All samples were properly labeled. SG (Initial)
4. Quality assurance/quality control procedures were established and carried out. SG (Initial)
5. Sample holding times were not exceeded. SG (Initial)

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

Owner/Operator and Licensed Professional Engineer/Ge 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 Ill. Adm. Code 732 or 734. I further certify that costs ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 732.606 or 734.630 are not included in the budget proposal or amendment. Such ineligible costs include but are not limited to:

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.
Costs associated with planned tank pulls.
Legal fees or costs.
Costs incurred prior to July 28, 1989.
Costs associated with installation of new USTs or the repair of existing USTs.

RECEIVED
SEP 11 2013
IEPA/BOL

Owner/Operator: West Chicago Park Dist.

Authorized Representative: Jesse Felix Title: Superintendent of Parks

Signature: Jesse Felix Date: 4/28/13

Subscribed and sworn to before me the 28 day of April, 2013.

Daisy Fernandez (Notary Public) Seal:

OFFICIAL SEAL
DAISY FERNANDEZ
Notary Public - State of Illinois
My Commission Expires Mar 6, 2017

In addition, 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 the plan, budget, or report has been completed in accordance with the Environmental Protection Act [415 ILCS 5], 35 Ill. Adm. Code 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].

L.P.E./L.P.G.: Dan Horvath L.P.E./L.P.G. Seal:

L.P.E./L.P.G. Signature: Date: 6/13/13

Subscribed and sworn to before me the 13th day of June, 2013.

Elizabeth Cape (Notary Public) Seal:

OFFICIAL SEAL
ELIZABETH CAPE
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 3-28-2015

IEPA/DIVISION OF RECORDS MANAGEMENT
RELEASABLE
OCT 07 2013
REVIEWER JZJ

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

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

7012 0470 0001 2974 2873

SEP 17 2013

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 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:

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/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

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:

   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:

A) The name and address of the unit of local government that adopted the ordinance;
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.

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/cm^3.

d) The owner is utilizing a value of 58.9 cm^3/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 50.0 cm$^3$/g for the $K_{oc}$ value and 0.230 for the H` value.

e) The owner is utilizing a value of 363 cm^3/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 cm$^3$/g for the $K_{oc}$ 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

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.

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

ILLINOIS ENVIRONMENTAL PROTECTION 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

7012 0470 0001 2974 2873

SEP 17 2013

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 96-0908 [illegible] Ill. Adm.

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

West Chicago Park District
Attn: Jesse Felix
157 West Washington Street
West Chicago, IL 60185

DRAFT 9-24

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

980814 HAC/CH

Service Type
☑ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

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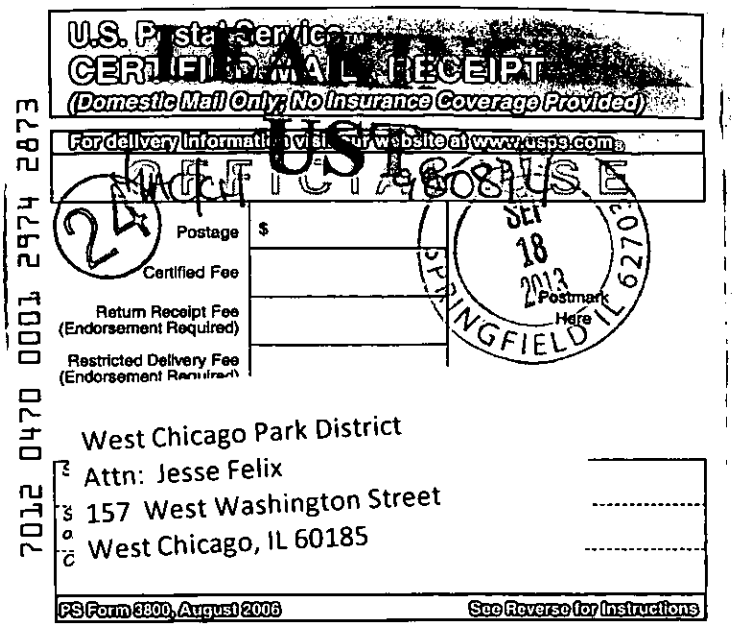
2. Article Number (Transfer from service label) 7012 0470 0001 2974 2873

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540



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Illinois Environmental Protection Agency
1021 North Grand Avenue East,
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Springfield, IL 62794-9276

0430905825 – 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 • (630)232-9820

June 14, 2019

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

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

Technical Summary/CAP Amendment

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.

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/ 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.		
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.

Table II Laboratory Analytical Summary BTEX and PNAs in Groundwater Sample (values in mg/kg)			
Sampling Date	**July 24, 2017**	**Illinois EPA Remediation Objectives**	
Sample ID	**RW-4A**	**Groundwater**	
		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

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

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.
Project ID: **WCPD**

Lab File ID: **14-5486**
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.
C	Sample received in an improper container for this test.	M	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.
H	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.
Project ID: WCPD
Sample ID: RW-4B
Sample No: 14-5486-001

Date Collected: 08/26/14
Time Collected:
Date Received: 09/16/14
Date Reported: 10/09/14

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: TO-15**				
Analysis Date: 09/19/14				
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

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.
Project ID: WCPD
Sample ID: GP-1 (2'-3')
Sample No: 14-5486-002

Date Collected: 08/26/14
Time Collected:
Date Received: 09/16/14
Date Reported: 10/09/14

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

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

CHAIN OF CUSTODY RECORD

First Environmental Laboratories, Inc.

First Environmental Laboratories
1600 Shore Road, Suite D
Naperville, Illinois 60563
Phone: (630) 778-1280 • Fax: (630) 778-1233
E-mail: firstinfo@firstenv.com
IEPA Certification #100292

Company Name: Pleasure Consulting, Inc.
Street Address: P.O. Box 123
City: Geneva State: IL Zip: 60134
Phone: 630-232-9910 Fax: 630-232-9924 e-mail:
Send Report To: Dan / Brian Via: Fax ☐ e-mail ☑
Sampled By: Brian Beer

Project I.D.: WCPD
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Analyses: BTEX/MTBE; Bulk Density

Date/Time Taken	Sample Description	Matrix										Comments	Lab I.D.
9/26/14 PM	RW-4B	aV	X										14-5486-001
8/20/14 PM	GP-1 (2'-3')	S		X									002
8/20/14 PM	GP-1 (5'-6')	S		X									003

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes__ No~~✓~~ 23.4 °C
Received within 6 hrs. of collection: ~~yes~~
Ice Present: Yes__ No~~✓~~

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:_____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:_____°C

Preservation Requirements Met: ☑ Yes ☐ No
Need to meet: IL TACO ☐ IN. RISC ☐

Notes and Special Instructions:

Relinquished By: [signature] Date/Time 9/16/14 12:40 Received By: [signature] Date/Time 9/16/14 1240
Relinquished By: Date/Time Received By: Date/Time

Rev. 6/12

000214

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
A	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.
C	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.
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.

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:**	07/24/17
Project ID:	98-1002 WCPD	**Time Collected:**	12:00
Sample ID:	RW-41A	**Date Received:**	07/24/17
Sample No:	17-3893-001	**Date Reported:**	08/01/17

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 07/31/17				
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 Hydrocarbons Method: 8270C		**Preparation Method 3510C**		
Analysis Date: 07/31/17		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	

CHAIN OF CUSTODY RECORD

Page 1 of 1 pgs

First Environmental 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 Consulting, Inc.
Street Address: P.O. BOX 123
City: Geneva State: IL Zip: 60134
Phone: 630-232-9820 e-mail: dhorvath@resourceillinois.com
Send Report To: Don Horvath
Sampled By: Courtney McGinnis

Project I.D. 98-1032 WCPD
P.O. #:

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	BTEX	PNAs	Hold – Do Not Analyze	Comments	Lab I.D.
7/24/17 12pm	RW-4A	W	X	X			17-3893-001

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes / No 4 °C
Received within 6 hrs. of collection: ____
Ice Present: Yes / No

Sample Refrigerated: Yes__ No__
Refrigerator Temperature: ____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature: ____°C

Program: ☐ TACO ☐ CCDD ☐ NPDES ☐ LUST

Notes and Special Instructions:

Relinquished By: C. McGinnis Date/Time 7/24/17 1:35pm Received By: [signature] Date/Time 7/24/17 1335

Relinquished By: ____ Date/Time ____ Received By: ____ Date/Time ____

Rev. 8/15

000219

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

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
www.resourceillinois.com

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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
www.resourceillinois.com

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
www.resourceillinois.com

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).

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

RE: LPC No. 0430905825 – 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. 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 1 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/m^3)			
Sampling Date	**August 26, 2014**	**Indoor Inhalation Remediation 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 Ill. 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**	
Sample ID	**RW-4A**	**Indoor Inhalation / Groundwater**	
		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 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 Ill. 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:

A) The name and address of the unit of local government that adopted the ordinance;

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/cm^3.

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 cm^3/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 cm^3/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 cm^3/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 cm^3/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,

Daniel J. Horvath
Hydrogeologist/Senior Project Manager

cc: 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 Zawolski
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**

Lab File ID: **14-5486**
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.
C	Sample received in an improper container for this test.	M	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.
H	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:**	08/26/14
Project ID:	WCPD	**Time Collected:**	
Sample ID:	RW-4B	**Date Received:**	09/16/14
Sample No:	14-5486-001	**Date Reported:**	10/09/14

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: TO-15**				
Analysis Date: 09/19/14				
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

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:**	08/26/14
Project ID:	WCPD	**Time Collected:**	
Sample ID:	GP-1 (2'-3')	**Date Received:**	09/16/14
Sample No:	14-5486-002	**Date Reported:**	10/09/14

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

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:**	08/26/14
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

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

CHAIN OF CUSTODY RECORD

Page 1 of 1 pgs

First Environmental Laboratories, Inc.

First Environmental Laboratories
1600 Shore Road, Suite D
Naperville, Illinois 60563
Phone: (630) 778-1280 • Fax: (630) 778-1233
E-mail: firstinfo@firstenv.com
IEPA Certification #100292

Company Name: Resource Consulting, Inc.
Street Address: P.O. Box 123
City: Geneva State: IL Zip: 60134
Phone: 630-232-9910 Fax: 630-232-9924 e-mail:
Send Report To: Dan / Brian Via: Fax ☐ e-mail ☑
Sampled By: Brian Beeler

Project I.D.: WCPD
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Analyses: BTEX/MTBE; Bulk Density

Date/Time Taken	Sample Description	Matrix									Comments	Lab I.D.
8/26/14 PM	RW-4B	aV	X									14-5486-001
8/26/14 PM	GP-1 (2'-3')	S		X								002
8/26/14 PM	GP-1 (5'-6')	S		X								003

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes__ No✓ 23.4 °C
Received within 6 hrs. of collection: ASA
Ice Present: Yes__ No✓

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:_____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:_____°C

Preservation Requirements Met: ☑ Yes ☐ No
Need to meet: IL TACO ☐ IN. RISC ☐

Notes and Special Instructions: _____

Relinquished By: [signature] Date/Time 9/16/14 12:40 Received By: [signature] Date/Time 9/16/14 1240
Relinquished By: _____ Date/Time _____ Received By: _____ Date/Time _____

Rev. 4/12

000243

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.
Project ID: **98-1002 WCPD**

Lab File ID: **17-3893**
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.
Project ID: **98-1002 WCPD**

Lab File ID: **17-3893**
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
A	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.
C	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.
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.

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:**	07/24/17
Project ID:	98-1002 WCPD	**Time Collected:**	12:00
Sample ID:	RW-41A	**Date Received:**	07/24/17
Sample No:	17-3893-001	**Date Reported:**	08/01/17

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 07/31/17				
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 Hydrocarbons **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 07/31/17		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	

CHAIN OF CUSTODY RECORD

First Environmental 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 Consulting, Inc.
Street Address: P.O. BOX 123
City: Geneva State: IL Zip: 60134
Phone: 630-232-9820 e-mail: dhorvath@resourceillinois.com
Send Report To: Dan Horvath
Sampled By: Courtney McGinnis

Project I.D. 98-1032 WCPD
P.O. #:

Matrix Codes: S = Soil W = Water O = Other

Date/Time Taken	Sample Description	Matrix	BTEX	PNAs							Comments	Lab I.D.
7/24/17 12pm	RW-4A	W	X	X								17-3893-001

Analyses: BTEX, PNAs, Hold – Do Not Analyze

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes ✓ No__ 4 °C
Received within 6 hrs. of collection:____
Ice Present: Yes__ No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:____°C

Program: ☐ TACO ☐ CCDD ☐ NPDES ☐ LUST

Notes and Special Instructions:

Relinquished By: C. McGinnis Date/Time 7/24/17 1:35pm Received By: [signature] Date/Time 7/24/17 1335
Relinquished By: Date/Time Received By: Date/Time

Rev. 8/15

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:

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. Penalties. 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. Severability. 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.

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.

Alderman L. Chassee	Aye	Alderman J. Beifuss	Aye
Alderman A. Hallett	Aye	Alderman J. Banas	Aye
Alderman M. Birch	Aye	Alderman S. Dimas	Aye
Alderman K. Meissner	Absent	Alderman R. Stout	Aye
Alderman L. Grodoski	Aye	Alderman D. F. Earley	Aye
Alderman M. Fuesting	Aye	Alderman M. Edwalds	Aye
Alderman J. Smith	Absent	Alderman J. C. Smith, Jr.	Aye

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

Exhibit A - Ordinance No. 15-O-0004

ILLINOIS EAST STATE PLANAR COORDINATES OF ORDINANCE AREA, ZONE 1201

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

LEGEND

— — — *Proposed Ordinance Area*

NOTES

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

Image Courtesy Of DuPage County GIS

PARCELS WITHIN MODELED PLUME

04-04-200-004
04-04-200-005
04-04-400-001
04-04-400-002
04-04-400-003
04-04-401-001

PARCELS WITHIN ORDINANCE AREA

04-04-400-011
04-04-400-012
04-04-400-013
04-04-400-014
04-04-400-016
04-04-400-017
04-04-400-018
04-04-400-019
04-04-400-023
04-04-400-025

PROPOSED GROUNDWATER ORDINANCE AREA

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

0 200 400

Scale: 1 inch = 400 feet

98-1002.06.01 | 2/6/15 | BJT

N

RESOURCE

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 173^0 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 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 51 MINUTES 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 DUPAGE COUNTY, ILLINOIS.

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

SID: 73480

Illinois EPA FOIA Exemption Reference Sheet

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 #: 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

Parcels in proposed ordinance area								
PIN	**Address**	**Street**	**Owner**	**Mailing Address**				
04-04-200-004	250 W	National Ave.	City of West Chicago	City of West Chicago	475 Main Street	West Chicago	IL	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
04-04-400-012	181 W	Grand Lake Blvd.	Tribble, Michael & Day	Michael Tribble	181 W. Grand Lake Blvd.	West Chicago	IL	60185
04-04-400-013	173 W	Grand Lake Blvd.	ST BK OF IL TR 1-1196	State Bank of Illinois	600 E. Washington	West Chicago	IL	60185
04-04-400-014	[redacted]	[redacted]	[redacted]	[redacted]	27W030 Hickory Lane	West Chicago	IL	60185
04-04-400-016	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	IL	60108
04-04-400-017	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
04-04-400-018	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
04-04-400-019	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
04-04-400-023			Commonwealth Edison	Exelon Corporation	P.O Box 805398			
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	IL	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.

SEAL

Nancy M Smith

Nancy Smith, City Clerk

ATTACHMENT C

Tier 2 Evaluations

Values for Variables in Relevant Equations

Project Name: West Chicago Park District

LPC number 0430905825

SOIL MIGRATION/GROUNDWATER EXPOSURE ROUTE **BENZENE**

Variable	*Source*	*Value*	*Description and units*		
GWsource	R13	1.133	Groundwater concentration at the source, mg/L		
LFsw	R14	0.188	Leaching factor, mg/L/mg/kg		
GWcomp	R25	0.005	Groundwater objective at the compliance point, mg/L		
Cx/Csource	R15	4.41E-03	Steady-state attenuation along the centerline of a dissolved plume, mg/L/mg/L		
k_s	R20	0.16	Soil-water sorption coefficient, cm^3/g		
K_{oc}	Appendix C table E	50	Organic carbon partition coefficient, cm^3/g		
f_{oc}	surface 0.005 subsurface 0.002	0.0032	Organic carbon content of soil, g/g		
θ_{ws}	R22 or surface 0.15 subsurface 0.30 gravel 0.20 sand 0.18 silt 0.16 clay 0.17	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3		
θ_{as}	R21 or surface 0.28 subsurface 0.13 gravel 0.05 sand 0.14 silt 0.16 clay 0.17	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3		
θ_T	R23 or 0.43 gravel 0.25 sand 0.32 silt 0.40 clay 0.36	0.43	Total soil porosity, cm^3/cm^3		
H'	Appendix C table E	0.23	Henry's law constant, cm^3 air/cm^3 water		
w	surface 0.1 subsurface 0.2	0.2	Average soil moisture content, g/g		
ρ_s	gravel 2.0 sand 1.8 silt 1.6 clay 1.7	1.5	Soil bulk density, g/cm^3		
ρ_w		1	Water density, g/cm^3		
X	site	25908	Distance along the centerline of the ground water plume emanating from the source, cm	850	Distance, ft
ax	R16	2590.8	Longitudinal dispersivity, cm (Equation R16)		
ay	R17	863.6	Transverse dispersivity, cm (Equation R17)		
az	R18	129.54	Vertical dispersivity, cm (Equation R18)		
Sw	site	2103.12	Source width perpendicular to ground water flow direction in horizontal plane, cm	69	Sw, ft
Sd	site	200	Source width perpendicular to ground water flow direction in vertical plane, cm	3	Sd, ft
K	site	2.85E+03	Aquifer hydraulic conductivity, cm/day	3.30E-02	K, cm/sec
i	site	0.006	Hydraulic gradient, cm/cm		
U	R19	39.78418605	Specific discharge, cm/day (Equation R19)		
Ugw	R24	6.24E+03	Groundwater Darcy velocity, cm/yr		
d		200	Groundwater mixing zone thickness, cm		
I		30	Infiltration rate, cm/yr		
W	site	3200.4	Width of source area parallel to direction of wind or groundwater movement, cm	105	W, ft
λ	Appendix C table E	0.0009	First order degradation constant, day^-1		
$C_{(x)}$	R26	0.005	Concentration of contaminant in groundwater at the distance X from the steady source, mg/L		
C_{source}	site	1.23	The greatest potential concentration of the contaminant in groundwater at the source of contamination, mg/L		

Tier 2 Risk-Based Corrective Action Equations
Solutions to Equations

INHALATION & INGESTION EXPOSURE ROUTES

Eqn. R1:

		0.000001	70	70	365								
	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 Remediation Objective

Eqn R2:

	1	70	30	365								
	350	30	1E-06	100	1	3,160	0.5	0.5		20	6E-06	5E-12
					0.004						0.0086	

= 309.830

Eqn. R3: VF_{ss} =

2	3200.4	1.5	1000		sqrt	0.0005	0.23						
	225	200				3.1416	0.3	0.16	1.5	0.23	0.13	946000000

= 5.76E-05

Eqn. R4: VF_{ss}=

3200.4	1.5	50	1000
225	200	9E+08	

= 5.63848E-06

Eqn. 5: VF_p =

6.9E-14	3200.4	1000	
	225	200	

= 4.90728E-12

Eqn. R6: D_s^{eff} =

0.088	0.0011	1E-05	0.0181	
0.1849		0.23	0.1849	

= 0.001

Eqn. R7:

0.315432099	0.001
0.0002182	

= 1.45 mg/kg Tier 2 Remediation Objective

Eqn R8:

31.39	0.001
0.0002182	

= 143.859

Eqn R9: $RBSL_{air}$ =

0.000001	70	70	365	1000	
0.027	20	350	30		

= 0.315

Eqn R10: $RBSL_{air}$ =

1	0.0086	70	30	365	1000	
20	350	30				

= 31.390

Eqn. R11: VF_{samb} =

0.23	1.5	1000								
0.3	0.183	1.5	0.23	0.13	1+		225	200		100
								0.0005		3200.4

= 0.000

SOIL MIGRATION / GROUNDWATER EXPOSURE ROUTE

Eqn. R12: $RO = \frac{1.133473891}{0.1879093}$

$= 6.032$ mg/kg Tier 2 Remediation Objective

Eqn. R13: $GWsource = \frac{0.005}{0.004411218}$

$= 1.133E+00$

Eqn. R14: $LFsw = \frac{1.5}{0.3\ \ 0.16\ \ 1.5\ \ 0.23\ \ 0.13\ 1 + \frac{6244.1}{30}\ \ \frac{200}{3200.4}}$

$= 0.188$

Eqn. R15: $\frac{C(x)}{Csource} = \exp\left(\frac{25908}{5181.6}\ 1 - \left(1 + \frac{0.0036}{39.784}\ 2590.8\ \mathrm{erf}\left(\frac{2103.1}{18921}\right)\right)\ \mathrm{erf}\left(\frac{200}{3663.9}\right)\right)$

$= 0.004$

Eqn. R16: $ax = 0.1\ \ 25908$

$= 2590.800$

Eqn. R17: $ay = \frac{2590.8}{3}$

$= 863.600$

Eqn. R18: $az = \frac{2590.8}{20}$

$= 129.540$

Eqn. R19: $U = \frac{2851.2\ \ 0.006}{0.43}$

$= 39.784$

Eqn. R20: $ks = 50\ \ 0.0032$

$= 0.160$

Eqn. R21: $qws = \frac{0.2\ \ 1.5}{1}$

$= 0.300$

Eqn. R22: $qas = 0.43\ \frac{0.2\ \ 1.5}{1}$

$= 0.129$

Eqn. R23: $qT = 0.429$

Eqn. R24: $Ugw = 2851.2\ \ 0.006$

$= 6.24E+03$

Eqn. R25: $\frac{0.000001\ \ 70\ \ 70\ \ 365}{0.055\ \ 2\ \ 350\ \ 30}$

$= 0.002$

Eqn. R26: $C(x) = 1.23\left(\frac{25908}{5181.6}\ 1 - \left(1 + \frac{0.0036}{39.784}\ 2590.8\ \mathrm{erf}\left(\frac{2103.1}{18921}\right)\right)\ \mathrm{erf}\left(\frac{200}{3663.9}\right)\right)$

$= 0.005$

Values for Variables in Relevant Equations

Project Name: West Chicago Park District

SOIL MIGRATION/GROUNDWATER EXPOSURE ROUTE **ETHYLBENZENE** **LPC number** 0430905825

Variable	*Source*	*Value*	*Description and units*		
GWsource	R13	1.229	Groundwater concentration at the source, mg/L		
LFsw	R14	0.060	Leaching factor, mg/L/mg/kg		
GWcomp	R25	0.7	Groundwater objective at the compliance point, mg/L		
Cx/Csource	R15	0.570	Steady-state attenuation along the centerline of a dissolved plume, mg/L/mg/L		
k_s	R20	0.96	Soil-water sorption coefficient, cm^3/g		
K_{oc}	Appendix C table E	320	Organic carbon partition coefficient, cm^3/g		
f_{oc}	surface 0.005 subsurface 0.002	0.003	Organic carbon content of soil, g/g		
θ_{ws}	R22 or surface 0.15 subsurface 0.13 gravel 0.05 sand 0.18 silt 0.16 clay 0.17	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3		
θ_{as}	R21 or surface 0.28 subsurface 0.13 gravel 0.05 sand 0.18 silt 0.16 clay 0.17	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3		
θ_T	R23 or 0.43 gravel 0.25 sand 0.32 silt 0.40 clay 0.36	0.43	Total soil porosity, cm^3/cm^3		
H'	Appendix C table E	0.324	Henry's law constant, cm^3 air/cm^3 water		
w	surface 0.1 subsurface 0.2	0.2	Average soil moisture content, g/g		
ρ_b	gravel 2.0 sand 1.8 silt 1.6 clay 1.7	1.5	Soil bulk density, g/cm^3		
ρ_w		1	Water density, g/cm^3		
X	site	1981.2	Distance along the centerline of the ground water plume emanating from the source, cm	65	Distance, ft
ax	R16	198.12	Longitudinal dispersivity, cm (Equation R16)		
ay	R17	66.04	Transverse dispersivity, cm (Equation R17)		
az	R18	9.906	Vertical dispersivity, cm (Equation R18)		
Sw	site	2103.12	Source width perpendicular to ground water flow direction in horizontal plane, cm	69	Sw, ft
Sd	site	200	Source width perpendicular to ground water flow direction in vertical plane, cm		Sd, ft
K	site	2851.2	Aquifer hydraulic conductivity, cm/day	3.30E-02	K, cm/sec
i	site	0.006	Hydraulic gradient, cm/cm		
U	R19	39.78418605	Specific discharge, cm/day (Equation R19)		
Ugw	R24	6244.128	Groundwater Darcy velocity, cm/yr		
d		200	Groundwater mixing zone thickness, cm		
I		30	Infiltration rate, cm/yr		
W	site	3200.4	Width of source area parallel to direction of wind or groundwater movement, cm	105	W, ft
λ	Appendix C table E	0.003	First order degradation constant, day^ 1		
$C_{(x)}$	R26	0.695	Concentration of contaminant in groundwater at the distance X from the steady source, mg/L		
C_{source}	site	1.22	The greatest potential concentration of the contaminant in groundwater at the source of contamination, r		

Tier 2 Risk-Based Corrective Action Equations
Solutions to Equations

INHALATION & INGESTION EXPOSURE ROUTES

Eqn. 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 Remediation Objective

Eqn R2:

		1	70	30	365								
		350	30	1E-06	100	1	3,160	0.5	0.5		20	6E-06	5E-12
						0.1						0.29	

= 7858.875

Eqn. R3: VF_{ss} =

	2	3200.4	1.5	1000		sqrt	0.0005	0.324					
		225	200				3.1416	0.3	0.96	1.5	0.324	0.13	946000000

= 3.86E-05

Eqn. R4: VF_{ss}=

3200.4	1.5	50	1000	
225	200	9E+08		

= 5.63848E-06

Eqn. 5: VF_{ia} =

6.9E-14	3200.4	1000	
	225	200	

= 4.90728E-12

Eqn. R6: D_s^{eff} =

0.088	0.0011	1E-05	0.0181	
0.1849		0.324	0.1849	

= 0.001

Eqn. R7:

#DIV/0!	0.001
0.000300606	

= #DIV/0! mg/kg Tier 2 Remediation Objective

Eqn R8:

1058.5	0.001
0.000300606	

= 3521.216

Eqn R9: $RBSL_{air}$ =

0.000001	70	70	365	1000	
0	20	350	30		

= #DIV/0!

Eqn R10: $RBSL_{air}$ =

1	0.29	70	30	365	1000	
20	350	30				

= 1058.500

Eqn. R11: VF_{samb} =

0.324	1.5	1000								
0.3	0.183	1.5	0.324	0.13	1+		225	200		100
								0.0005		3200.4

= 0.000

SOIL MIGRATION / GROUNDWATER EXPOSURE ROUTE

Eqn. R12: RO = $\frac{1.229030655}{0.060091077}$

= 2.045E+01 mg/kg Tier 2 Remediation Objective

Eqn. R13: GWsource $\frac{0.7}{0.569554549}$

= 1.229E+00

Eqn. R14: LFsw = $\frac{1.5}{0.3 \quad 0.96 \quad 1.5 \quad 0.324 \quad 0.13 \; 1 + \frac{6244.1}{30} \quad \frac{200}{3200.4}}$

= 0.060

Eqn. R15: C(x) / Csource = exp $\frac{1981.2}{396.24}$ 1 - 1 + $\frac{0.012}{39.784}$ 198.12 erf $\frac{2103.1}{1446.9}$ erf $\frac{200}{280.18}$

= 5.70E-01

Eqn. R16: ax = 0.1 1981.2

= 198.120

Eqn. R17: ay = $\frac{198.12}{3}$

= 66.040

Eqn. R18: az = $\frac{198.12}{20}$

= 9.906

Eqn. R19: U = $\frac{2851.2 \quad 0.006}{0.43}$

= 39.784

Eqn. R20: ks = 320 0.003

= 0.960

Eqn. R21: qws = $\frac{0.2 \quad 1.5}{1}$

= 0.300

Eqn. R22: qas = 0.43 $\frac{0.2}{1}$ 1.5

= 0.129

Eqn. R23: qT = 0.429

Eqn. R24: Ugw = 2851.2 0.006

= 6244.128

Eqn. R25: $\frac{0.000001 \quad 70 \quad 70 \quad 365}{0 \quad 2 \quad 350 \quad 30}$

= #DIV/0!

Eqn. R26: C(x) = 1.22 $\frac{1981.2}{396.24}$ 1 - 1 + $\frac{0.012}{39.784}$ 198.12 erf $\frac{2103.1}{1446.9}$ erf $\frac{200}{280.18}$

= 0.695

Values for Variables in Relevant Equations

Project Name: West Chicago Park District

LPC number 0430905825

SOIL MIGRATION/GROUNDWATER EXPOSURE ROUTE **NAPHTHALENE**

Variable	*Source*	*Value*	*Description and units*		
GWsource	R13	6.708	Groundwater concentration at the source, mg/L		
LFsw	R14	0.040	Leaching factor, mg/L/mg/kg		
GWcomp	R25	0.14	Groundwater objective at the compliance point, mg/L		
Cx/Csource	R15	2.09E-02	Steady-state attenuation along the centerline of a dissolved plume, mg/L/mg/L		
k_s	R20	1.6	Soil-water sorption coefficient, cm^3/g		
K_{oc}	Appendix C table E	5.00E+02	Organic carbon partition coefficient, cm^3/g		
f_{oc}	surface 0.005 subsurface 0.002	0.0032	Organic carbon content of soil, g/g		
θ_{ws}	R22 or surface 0.15 subsurface 0.30 gravel 0.20 sand 0.18 silt 0.16 clay 0.17	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3		
θ_{as}	R21 or surface 0.28 subsurface 0.13 gravel 0.05 sand 0.14 silt 0.16 clay 0.17	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3		
θ_T	R23 or 0.43 gravel 0.25 sand 0.32 silt 0.40 clay 0.36	0.43	Total soil porosity, cm^3/cm^3		
H'	Appendix C table E	1.97E-02	Henry's law constant, cm^3 air/cm^3 water		
w	surface 0.1 subsurface 0.2	0.2	Average soil moisture content, g/g		
ρ_s	gravel 2.0 sand 1.8 silt 1.6 clay 1.7	1.5	Soil bulk density, g/cm^3		
ρ_w		1	Water density, g/cm^3		
X	site	10972.8	Distance along the centerline of the ground water plume emanating from the source, cm	360	Distance, ft
ax	R16	1097.28	Longitudinal dispersivity, cm (Equation R16)		
ay	R17	365.76	Transverse dispersivity, cm (Equation R17)		
az	R18	54.864	Vertical dispersivity, cm (Equation R18)		
Sw	site	2103.12	Source width perpendicular to ground water flow direction in horizontal plane, cm	69	Sw, ft
Sd	site	200	Source width perpendicular to ground water flow direction in vertical plane, cm	3	Sd, ft
K	site	2.85E+03	Aquifer hydraulic conductivity, cm/day	3.30E-02	K, cm/sec
i	site	0.006	Hydraulic gradient, cm/cm		
U	R19	39.78418605	Specific discharge, cm/day (Equation R19)		
Ugw	R24	6.24E+03	Groundwater Darcy velocity, cm/yr		
d		200	Groundwater mixing zone thickness, cm		
I		30	Infiltration rate, cm/yr		
W	site	3200.4	Width of source area parallel to direction of wind or groundwater movement, cm	105	W, ft
λ	Appendix C table E	2.70E-03	First order degradation constant, day^-1		
$C_{(x)}$	R26	3.339	Concentration of contaminant in groundwater at the distance X from the steady source, mg/L		
C_{source}	site	160	The greatest potential concentration of the contaminant in groundwater at the source of contamination, mg/L		

Tier 2 Risk-Based Corrective Action Equations
Solutions to Equations

INHALATION & INGESTION EXPOSURE ROUTES

Eqn. 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 Remediation Objective

Eqn R2:

1	70	30	365									
350	30	1E-06	100	1	3,160	0.5	0.5		20	6E-06	5E-12	
				0.02						0.0009		

= 415.652

Eqn. 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

Eqn. R4: VF_{ss}=

3200.4	1.5	50	1000
225	200	9E+08	

= 5.63848E-06

Eqn. 5: VF_p =

6.9E-14	3200.4	1000	
	225	200	

= 4.90728E-12

Eqn. R6: D_s^{eff} =

0.088	0.0011	1E-05	0.0181	
0.1849		0.0197	0.1849	

= 0.001

Eqn. R7:

#DIV/0!	0.001
2.12006E-05	

= #DIV/0! mg/kg Tier 2 Remediation Objective

Eqn R8:

3.139	0.001
2.12006E-05	

= 148.062

Eqn R9: $RBSL_{air}$ =

0.000001	70	70	365	1000	
0	20	350	30		

= #DIV/0!

Eqn R10: $RBSL_{air}$ =

1	0.0009	70	30	365	1000	
20	350	30				

= 3.139

Eqn. R11: VF_{samb} =

0.0197	1.5	1000								
0.3	0.183	1.5	0.0197	0.13	1+		225	200	100	
								0.0006	3200.4	

= 0.000

SOIL MIGRATION / GROUNDWATER EXPOSURE ROUTE

Eqn. R12: RO = $\frac{6.708312928}{0.039625196}$

= 169.294 mg/kg Tier 2 Remediation Objective

Eqn. R13: GWsource $\frac{0.14}{0.020869629}$

= 6.708E+00

Eqn. R14: LFsw = $\frac{1.5}{0.3 \quad 1.6 \quad 1.5 \quad 0.0197 \quad 0.13 \; 1 + \frac{6244.1}{30} \quad \frac{200}{3200.4}}$

= 0.040

Eqn. R15: C(x) / Csource = exp $\frac{10973}{2194.6}$ 1 - 1 + $\frac{0.0108}{39.7842}$ 1097.3 erf $\frac{2103.1}{8013.4}$ erf $\frac{200}{1551.8}$

= 0.021

Eqn. R16: ax = 0.1 10973

= 1097.280

Eqn. R17: ay = $\frac{1097.28}{3}$

= 365.760

Eqn. R18: az = $\frac{1097.28}{20}$

= 54.864

Eqn. R19: U = $\frac{2851.2 \quad 0.006}{0.43}$

= 39.784

Eqn. R20: ks = 500 0.0032

= 1.600

Eqn. R21: qws = $\frac{0.2 \quad 1.5}{1}$

= 0.300

Eqn. R22: qas = 0.43 $\frac{0.2}{1}$ 1.5

= 0.129

Eqn. R23: qT = 0.429

Eqn. R24: Ugw = 2851.2 0.006

= 6.24E+03

Eqn. R25: $\frac{0.000001 \quad 70 \quad 70 \quad 365}{0 \quad 2 \quad 350 \quad 30}$

= #DIV/0!

Eqn. R26: C(x) = 160 $\frac{10973}{2194.6}$ 1 - 1 + $\frac{0.0108}{39.7842}$ 1097.3 erf $\frac{2103.1}{8013.4}$ erf $\frac{200}{1551.8}$

= 3.339

Eqn. S18 Cw = 20 0.14

= 2.8

Eqn. S19 Kd = 500 0.0032

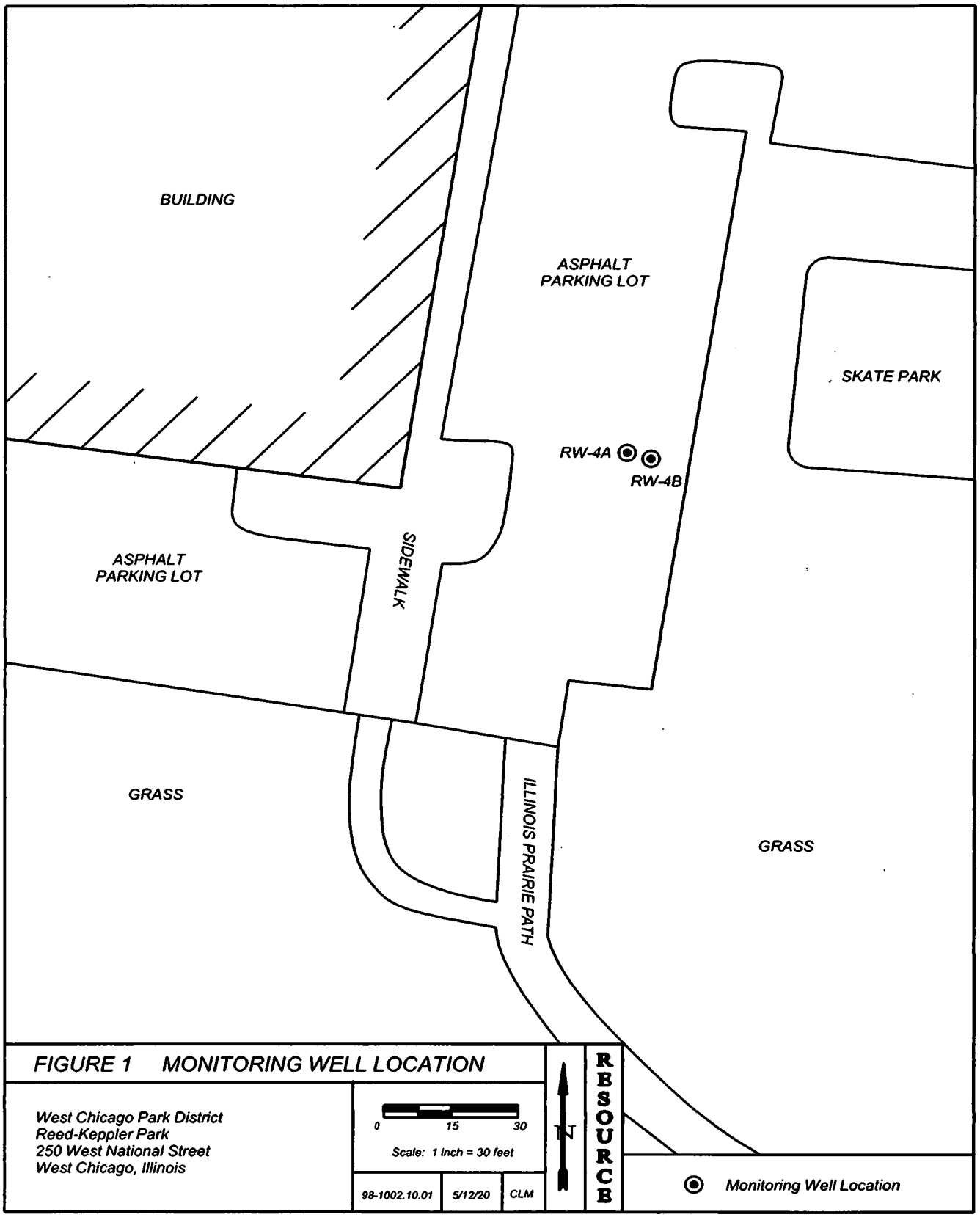
= 1.6

Eqn. S17 R.O. = 2.8 1.6 0.3 $\frac{0.13}{1.5}$ 1.97E-02

= 5.044780533

ATTACHMENT D

Figure


BUILDING
ASPHALT PARKING LOT
SKATE PARK
RW-4A
RW-4B
SIDEWALK
ASPHALT PARKING LOT
GRASS
ILLINOIS PRAIRIE PATH
GRASS
FIGURE 1 MONITORING WELL LOCATION
West Chicago Park District
Reed-Keppler Park
250 West National Street
West Chicago, Illinois
0 15 30
Scale: 1 inch = 30 feet
98-1002.10.01
5/12/20
CLM
N
RESOURCE
Monitoring Well Location

ATTACHMENT E

Illinois EPA Forms

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. Site Identification

IEMA Incident # (6- or 8-digit): 980814 IEPA LPC# (10-digit): 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. Sample Collector

I certify that:

1. Appropriate sampling equipment/methods were utilized to obtain representative samples. BJT (Initial)
2. Chain-of-custody procedures were followed in the field. BJT (Initial)
3. Sample integrity was maintained by proper preservation. BJT (Initial)
4. All samples were properly labeled. BJT (Initial)

C. Laboratory Representative

I certify that:

1. Proper chain-of-custody procedures were followed as documented on the chain-of-custody forms NJG (Initial)
2. Sample integrity was maintained by proper preservation. NJG (Initial)
3. All samples were properly labeled. NJG (Initial)
4. Quality assurance/quality control procedures were established and carried out. NJG (Initial)
5. Sample holding times were not exceeded. NJG (Initial)

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

Name Brandi Talaga
Title Environmental Technician
Company Resource Consulting, Inc.
Address P.O. Box 123
City Geneva
State Illinois
Zip Code 60134
Phone 630-232-9820
Signature Brandi C. Talaga
Date Jul 15, 2020

Laboratory Representative

Name Ryan Gerrick
Title Project Manager
Company First Environmental Labs, Inc.
Address 1600 Shore Road
City Naperville
State Illinois
Zip Code 60540
Phone 630-778-1200
Signature
Date 7-16-20

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. Site Identification

IEMA Incident # (6- or 8-digit): 980814 IEPA LPC# (10-digit): 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. Sample Collector

I certify that:

1. Appropriate sampling equipment/methods were utilized to obtain representative samples. BJT (Initial)
2. Chain-of-custody procedures were followed in the field. BJT (Initial)
3. Sample integrity was maintained by proper preservation. BJT (Initial)
4. All samples were properly labeled. BJT (Initial)

C. Laboratory Representative

I certify that:

1. Proper chain-of-custody procedures were followed as documented on the chain-of-custody forms MG (Initial)
2. Sample integrity was maintained by proper preservation. MG (Initial)
3. All samples were properly labeled. MG (Initial)
4. Quality assurance/quality control procedures were established and carried out. MG (Initial)
5. Sample holding times were not exceeded. MG (Initial)

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

Name Brandi Talaga
Title Environmental Technician
Company Resource Consulting, Inc.
Address P.O. Box 123
City Geneva
State Illinois
Zip Code 60134
Phone 630-232-9820
Signature Brandi C. Talaga
Date Jul 15, 2020

Laboratory Representative

Name Ryan Gerrick
Title Project Manager
Company First Environmental Labs, Inc.
Address 1600 Shore Road
City Naperville
State Illinois
Zip Code 60540
Phone 630-778-1200
Signature
Date 7-16-20

0430905825 – 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

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.

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	**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.		

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 cm^3/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	Tier 2 Remediation Objective
Benzene	0.386	4.22
Ethylbenzene	3.16	4.95
Naphthalene	1.38	6.29

NOTE: All detections are below their respective Tier 2 remediation objectives.

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	–
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, 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

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**

Lab File ID: **19-4658**
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.

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**

Lab File ID: **19-4658**
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 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.
C	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.
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.

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.
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 **Method: 5030B/8260B**				
Analysis Date: 08/06/19				
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 Hydrocarbons **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 08/09/19		Preparation Date: 08/08/19		
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

First Environmental 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 • www.firstenv.com
IEPA Certification #100292

Company Name: Resource Consulting, Inc.
Street Address: PO BOX 123
City: Geneva State: IL Zip: 60134
Phone: 630-732-9820 e-mail: cmcginnis@resourceillinois.com
Send Report To: Courtney McGinnis / Dan Horvath
Sampled By: Courtney McGinnis

Project I.D.: 98-1002 WCPD
P.O. #:

Matrix Codes: S = Soil W = Water O = Other

Date/Time Taken	Sample Description	Matrix	Dry Bulk Density	Moisture Content	BTEX	PNAs				Hold – Do Not Analyze	Comments	Lab I.D.
8/2/19 0900	RW-4B	S	X	X						X		—
8/2/19 0915	RW-4B	W			X	X						19-46558-001

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes X No__ 5 °C
Received within 6 hrs. of collection: X
Ice Present: Yes X No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:____°C

Program: ☐ TACO/SRP ☐ CCDD ☐ NPDES ☐ LUST ☐ SDWA

Notes and Special Instructions:

Relinquished By: [signature] Date/Time 8/2/19 1005 Received By: AEJ Date/Time 8/2/19 1005
Relinquished By: Date/Time Received By: Date/Time

Rev. 5/17

First Environmental Laboratories, Inc.
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

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**

Lab File ID: **19-5004**
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*

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: **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 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.
C	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.
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.

First Environmental Laboratories, Inc.
IL ELAP / NELAC Accreditation # 100292
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Analytical Report

Client: RESOURCE CONSULTING, INC.
Project ID: 98-1002 WCPD
Sample ID: RW-4B
Sample No: 19-5004-001

Date Collected: 08/02/19
Time Collected: 9:00
Date Received: 08/02/19
Date Reported: 08/28/19

Results are reported on an "as received" basis.

Analyte		Result	R.L.	Units	Flags
Dry Soil Bulk Density	**Method: D2937-94**				
Analysis Date: 08/28/19					
Dry Soil Bulk Density		94.3		lbs/ft3	N S
Moisture	**Method: 160.3**				
Analysis Date: 08/22/19					
Moisture		9.52	0.01	%	H

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IEPA Certification #100292

CHAIN OF CUSTODY RECORD

Company Name: Resource Consulting, Inc.
Street Address: PO BOX 123
City: Geneva State: IL Zip: 60134
Phone: 630-232-9820 e-mail: cmcginnis@resourceillinois.com
Send Report To: Courtney McGinnis / Dan Horvath
Sampled By: Courtney McGinnis

Project I.D.: 98-1002 WCPD
P.O. #:

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	Per Courtney: OH Hold 8/9/19	Dry Bulk Density	Moisture Content	BTEX	PNAs				Hold – Do Not Analyze	Comments	Lab I.D.
8/2/19 0900	RW-4B	S	X	X								19-5004-001	
8/2/19 0915	RW-4B	W			X	X							~~19-4658-001~~

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes X No__ 5 °C
Received within 6 hrs. of collection: X
Ice Present: Yes X No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:____°C

Program: ☐ TACO/SRP ☐ CCDD ☐ NPDES ☐ LUST ☐ SDWA

Notes and Special Instructions:

Relinquished By: [signature] Date/Time 8/2/19 1005 Received By: AEJ Date/Time 8/2/19 1005
Relinquished By: Date/Time Received By: Date/Time

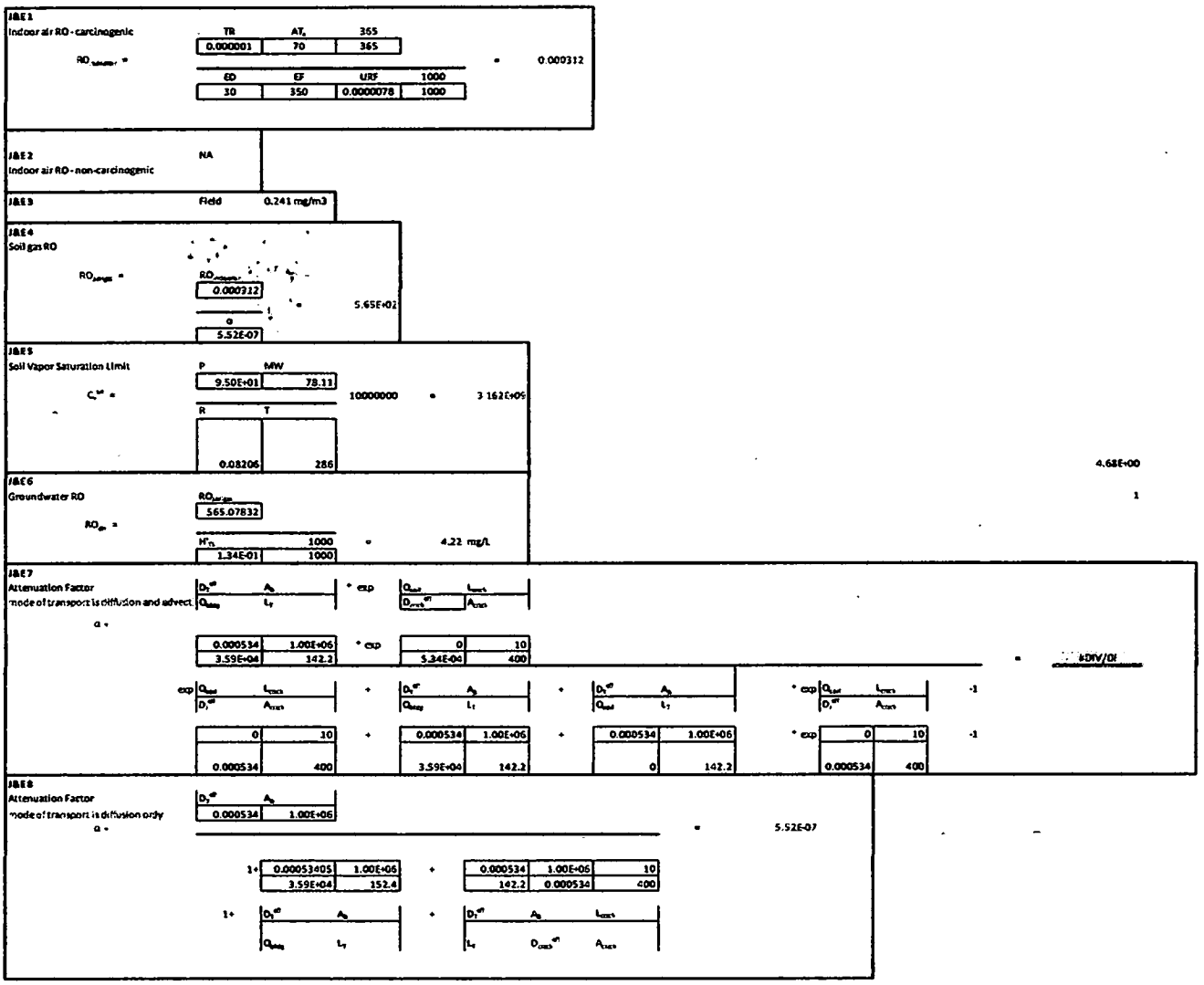
Rev. 5/17

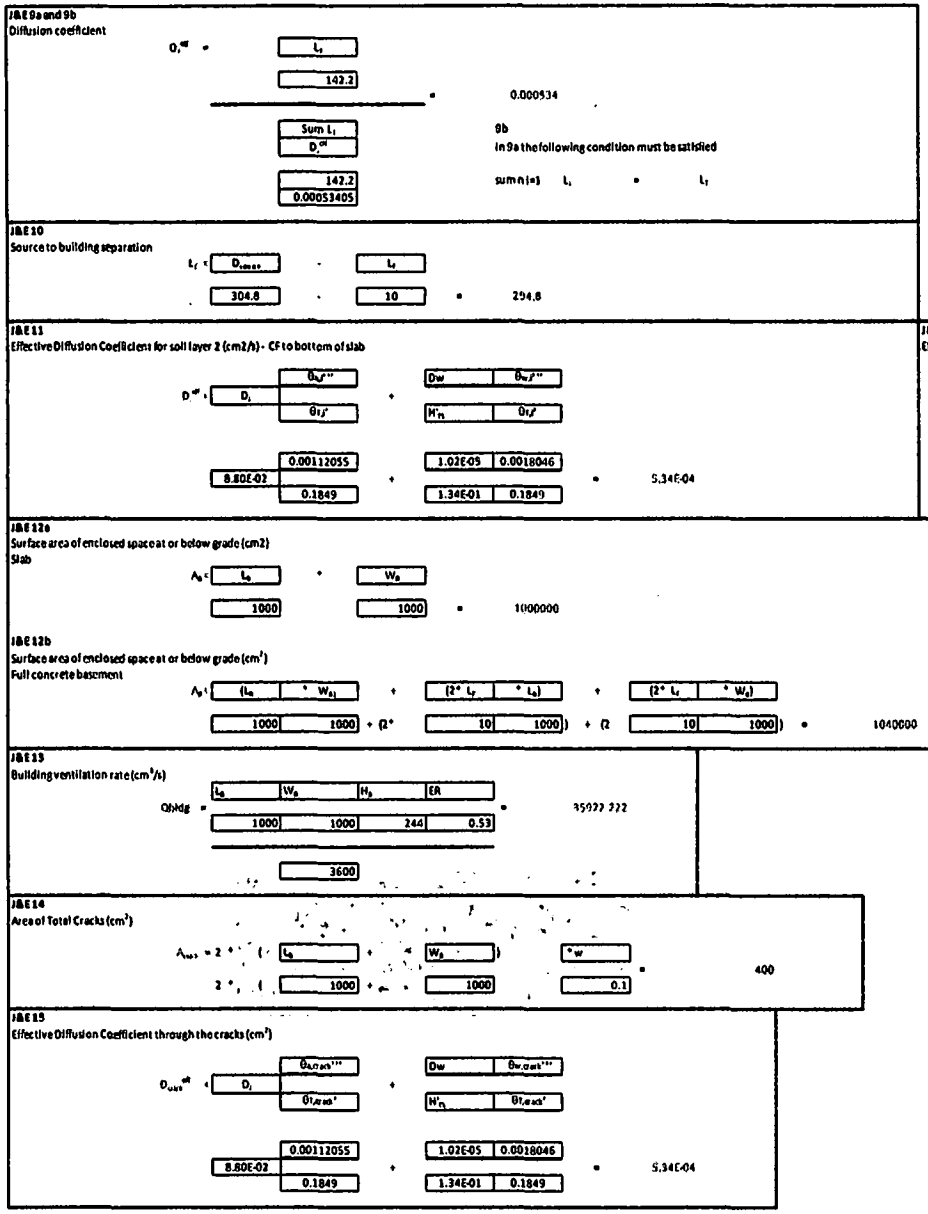
J&E Equation Parameters

Gray text - default values

SYMBOL		VALUE	UNITS	SOURCE	TI 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
AT_{NC}	Averaging time for noncarcinogens	30	year	AT_{NC}=ED	Res=30, Ind/Comm=25
C_v^{sat}	Soil vapor saturation limit	3.16E+09	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
D_i	Diffusivity in air	8.80E-02	cm2/s	App C Table E	Chemical Specific
D_i^{eff}	Effective diffusion coeff. for each soil layer	5.34E-04	cm2/s	J&E 11, App C Table L	Calculated Value
D_{source}	Distance from ground surface to top of contamination	304.8	cm	Field Measurement	Soil Gas Contamination=152.4, Groundwater Contamination=304.8
D_T^{eff}	Total effective diffusion coefficient	5.34E-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	IL EPA	Res=0.53, Ind/Comm=0.93
f_{oc}	Fraction organic carbon content	0.002	g/g	SSL OR Field Measurement, App C Table F	0.002 or site-specific
H_B	Height of building	244	cm	IL EPA	SOG Res=244, Ind/Comm=305 OR Site sp T3 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_p	Distance from ground surface to bottom of slab	10	cm	USEPA Users Guide 2004	SOG=10, Basement=200
L_i	Thickness of soil layer i	152.4	cm	Field Measurement, USEPA 2004	Site sp 152.4 (5 ft)/for capillary fringe, 37.5cm
L_T	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)
MW	Molecular weight	78.11	g/mole	IL EPA	Chemical Specific
n	Total number of layers	1	unitless (layers)	Field Measurement	
P	Vapor pressure	9.50E+01	atm	App C Table E	Chemical Specific
Q_{soil}	Building ventilation rate	3.59E+04	cm3/s	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
Q_{soil}	Volumetric flow rate of soil gas into the enclosed space	0	cm3/s	USEPA Users Guide 2004	If LT<152cm=83.33 If LT>=152cm=0
R	Ideal gas constant	0.08206	atm-L/mole-K	USEPA Users Guide 2004	0.0826
RfC	Reference concentration	3.00E+01	ug/m3	IL EPA TACO Toxicity Values spreadsheet	Toxicological-Specific
RO_{gw}	Groundwater remediation objective	0.005	mg/L	App B Table E OR J&E 6, App C Table L	Chemical specific or Calculated
$RO_{indoorair}$	Indoor air remediation objective	0.000311966	mg/m3	J&E 1 and 2, App C Table L	Calculated Value
$RO_{soilgas}$	Soil gas remediation objective	565.0783175	mg/m3	J&E 4, App C Table L	Calculated Value
S	Solubility in water	1.80E+03	mg/L	App C Table E	Chemical Specific
T	Temperature	286	°K	USEPA Users Guide 2004	286 (converted from 13 C)
THQ	Target hazard quotient	1	unitless	SSL	1
TR	Target risk	0.000001	unitless	SSL	Res=10^-6 Ind/Comm=10^-6 at point of human 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	cm	USEPA Users Guide 2004	0.1
W	Moisture content	9.52	g water/g soil	Field Measurement, App C Table F	Site specific
W_B	Width of building	1000	cm	IL EPA	Res=1000, Ind/Comm-2000 or Site sp T3
α	Attenuation factor	5.52075E-07	unitless	J&E 7 OR 8, App C Table L	Site specific
θ_a	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	0.13	cm3/cm3	SSL OR J&E 18, App C Table L	0.13
$\theta_{a,1}$	Air-filled porosity of soil layer 1	0.13	cm3/cm3	SSL OR J&E 18, App C Table L	0.13 OR Calculated value for capillary fringe θ_{a1}=0.1 $\theta_{T,1}$
$\theta_{T,crack}$	Total porosity for soil in cracks	0.43	cm3/cm3	SSL OR J&E 16, App C Table L	0.43
$\theta_{T,1}$	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	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
$\theta_{w,1}$	Water-filled porosity for soil layer 1	0.15	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 θ_T
ρ_b	Dry soil bulk density	1.5	g/cm3	SSL OR Field Measurement, App C Table F	1.5 or Calculated value
ρ_s	Soil particle density	2.65	g/cm3	SSL OR Field Measurement, App C Table F	2.65 or calculated value
ρ_w	Density of water	1	g/cm3	IL EPA	1

$\theta_{a,1}$	Air-filled porosity of soil layer 1 => CAP FRINGE	0.0375	cm3/cm3	SSL OR J&E 18, App C Table L	0.13 OR Calculated value for capillary fringe θ_{a1}=0.1 $\theta_{T,1}$
$\theta_{w,1}$	Water-filled porosity for soil layer 1 => CAP FRINGE	0.375	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 θ_T
$\theta_{T,1}$	Total porosity of soil layer 1	0.4125	cm3/cm3	SSL OR J&E 16, App C Table L	0.43 or calculated value


JBE1
Indoor air RD - carcinogenic
TR
AT,
365
0.000001
70
365
ED
EF
URF
1000
30
350
0.0000078
1000
0.000312
JBE2
Indoor air RD - non-carcinogenic
NA
JBE3
Field
0.241 mg/m3
JBE4
Soil gas RD
0.000312
5.65E+02
5.52E-07
JBE5
Soil Vapor Saturation Limit
P
MW
9.50E+01
78.11
10000000
3.162E+09
R
T
0.08206
286
4.68E+00
1
JBE6
Groundwater RD
565.07832
1.34E-01
1000
1000
4.22 mg/L
JBE7
Attenuation Factor
mode of transport is diffusion and advect.
0.000534
1.00E+06
0
10
3.59E-04
142.2
5.34E-04
400
0.000534
1.00E+06
0.000534
1.00E+06
0.000534
1.00E+06
0
10
0.000534
400
3.59E-04
142.2
0
142.2
0.000534
400
JBE8
Attenuation Factor
mode of transport is diffusion only
0.000534
1.00E+06
5.52E-07
0.00053405
1.00E+06
0.000534
1.00E+06
10
3.59E-04
152.4
142.2
0.000534
400

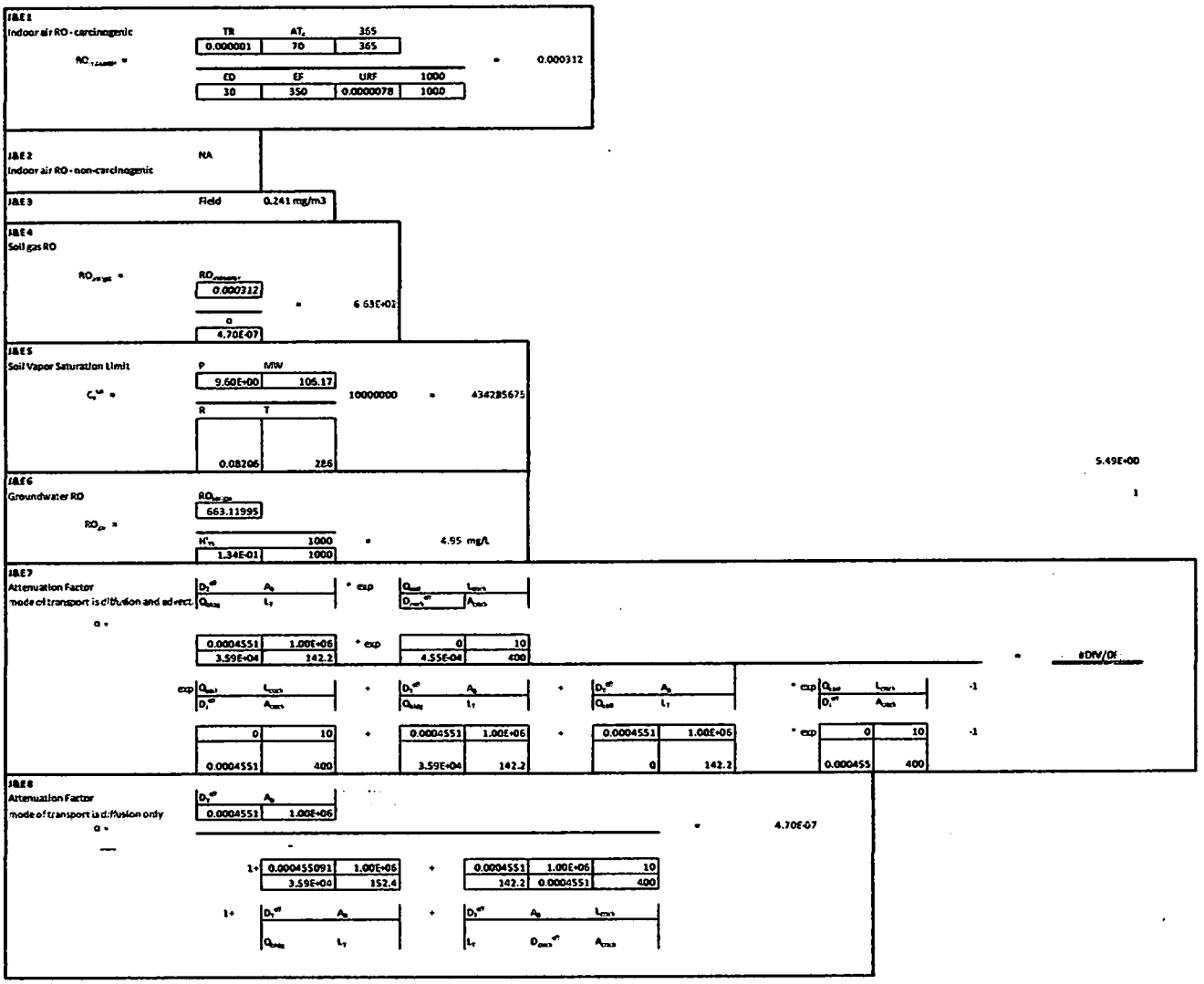


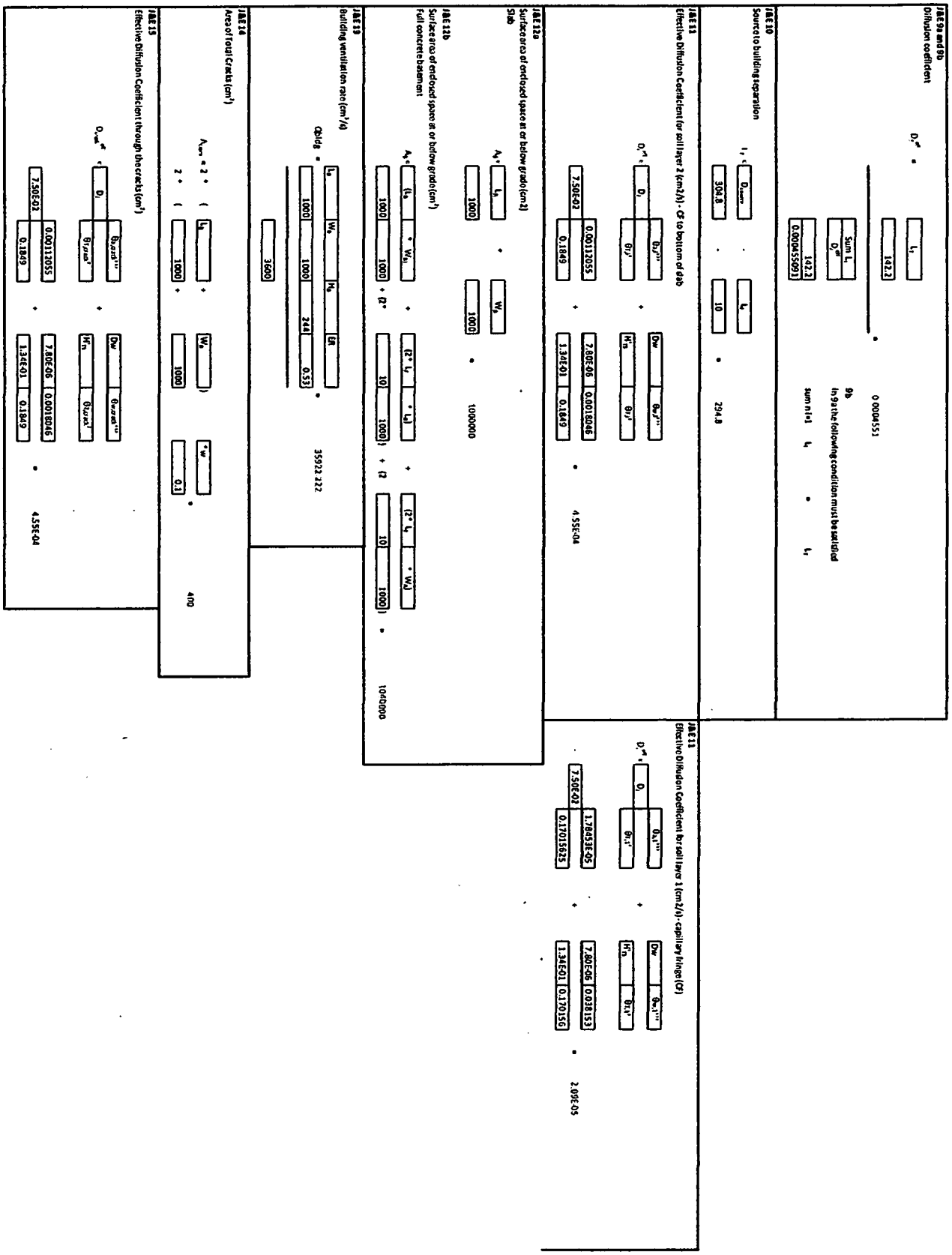
J&E Equation Parameters

Gray text - default values

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
AT_{nc}	Averaging time for noncarcinogens	30	year	AT_{nc}=ED	Res=30, Ind/Comm=25
C_v^{sat}	Soil vapor saturation limit	4.34E+08	mg/m3-air	J&E 5, App C Table L	Chemical specific or Calculated
D_{crack}^{eff}	Effective diffusion coeff. through cracks	4.55E-04	cm2/s	J&E 15, App C Table L	Calculated Value
D_i	Diffusivity in air	7.50E-02	cm2/s	App C Table E	Chemical Specific
D_i^{eff}	Effective diffusion coeff. for each soil layer	4.55E-04	cm2/s	J&E 11, App C Table L	Calculated Value
D_{source}	Distance from ground surface to top of contamination	304.8	cm	Field Measurement	Soil Gas Contamination=152.4, Groundwater Contamination=304.8
D_T^{eff}	Total effective diffusion coefficient	4.55E-04	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	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
f_{oc}	Fraction organic carbon content	0.002	g/g	SSL OR Field Measurement, App C Table F	0.002 or site-specific
H_B	Height of building	244	cm	IL EPA	SOG Res=244, Ind/Comm=305 OR Site sp T3 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_e	Distance from ground surface to bottom of slab	10	cm	USEPA Users Guide 2004	SOG=10, Basement=200
L_i	Thickness of soil layer i	152.4	cm	Field Measurement, USEPA 2004	Site sp 152.4 (5 ft)/for capillary fringe, 37.5cm
L_T	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)
MW	Molecular weight	106.17	g/mole	IL EPA	Chemical Specific
n	Total number of layers	1	unitless (layers)	Field Measurement	
P	Vapor pressure	9.60E+00	atm	App C Table E	Chemical Specific
Q_{soil}	Building ventilation rate	3.59E+04	cm3/s	J&E 13, App C Table L	SOG Res=3.59*10^4, Ind/Comm=3.15*10^5 OR Site sp T3 Basemant Res 6.28*10^4, Ind/Comm=5.04*10^5 or SST3
Q_{soil}	Volumetric flow rate of soil gas into the enclosed space	0	cm3/s	USEPA Users Guide 2004	If LT<152cm=83.33 If LT>=152cm=0
R	Ideal gas constant	0.08206	atm-L/mole-K	USEPA Users Guide 2004	0.0826
RfC	Reference concentration	1.00E+00	ug/m3	IL EPA TACO Toxicity Values spreadsheet	Toxicological-Specific
RO_{gw}	Groundwater remediation objective	7.00E-01	mg/L	App B Table E OR J&E 6, App C Table L	Chemical specific or Calculated
$RO_{indoorair}$	Indoor air remediation objective	0.000311966	mg/m3	J&E 1 and 2, App C Table L	Calculated Value
$RO_{soilgas}$	Soil gas remediation objective	663.1199511	mg/m3	J&E 4, App C Table L	Calculated Value
S	Solubility in water	1.70E+02	mg/L	App C Table E	Chemical Specific
T	Temperature	286	°K	USEPA Users Guide 2004	286 (converted from 13 C)
THQ	Target hazard quotient	1	unitless	SSL	1
TR	Target risk	0.000001	unitless	SSL	Res=10^-6 Ind/Comm=10^-6 at point of human 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	cm	USEPA Users Guide 2004	0.1
W	Moisture content	9.52	g water/g soil	Field Measurement, App C Table F	Site specific
W_B	Width of building	1000	cm	IL EPA	Res=1000, Ind/Comm=2000 or Site sp T3
α	Attenuation factor	4.70452E-07	unitless	J&E 7 OR 8, App C Table L	Site specific
θ_a	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	0.13	cm3/cm3	SSL OR J&E 18, App C Table L	0.13
$\theta_{a,1}$	Air-filled porosity of soil layer 1	0.13	cm3/cm3	SSL OR J&E 18, App C Table L	0.13 OR Calculated value for capillary fringe θ_{a1}=0.1 θ_{T1}
$\theta_{T,crack}$	Total porosity for soil in cracks	0.43	cm3/cm3	SSL OR J&E 16, App C Table L	0.43
$\theta_{T,1}$	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	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
$\theta_{w,1}$	Water-filled porosity for soil layer 1	0.15	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 θ_n
ρ_b	Dry soil bulk density	1.5	g/cm3	SSL OR Field Measurement, App C Table F	1.5 or Calculated value
ρ_s	Soil particle density	2.65	g/cm3	SSL OR Field Measurement, App C Table F	2.65 or calculated value
ρ_w	Density of water	1	g/cm3	IL EPA	1

$\theta_{a,1}$	Air-filled porosity of soil layer 1 => CAP FRINGE	0.0375	cm3/cm3	SSL OR J&E 18, App C Table L	0.13 OR Calculated value for capillary fringe θ_{a1}=0.1 θ_{T1}
$\theta_{w,1}$	Water-filled porosity for soil layer 1 => CAP FRINGE	0.375	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 θ_n
$\theta_{T,1}$	Total porosity of soil layer 1	0.4125	cm3/cm3	SSL OR J&E 16, App C Table L	0.43 or calculated value


I&E 1
Indoor air RO - carcinogenic
TR
AT
365
0.000001
70
365
ED
EF
URF
1000
30
350
0.0000078
1000
0.000312
I&E 2
Indoor air RO - non-carcinogenic
NA
I&E 3
Field
0.241 mg/m3
I&E 4
Soil gas RO
0.000312
a
4.70E-07
6.63E+02
I&E 5
Soil Vapor Saturation Limit
P
MW
9.60E+00
106.17
R
T
0.08206
286
10000000
434285675
I&E 6
Groundwater RO
663.11995
1.34E-01
1000
1000
4.95 mg/L
5.49E+00
1
I&E 7
Attenuation Factor
mode of transport is diffusion and advect.
a =
0.0004551
1.00E+06
3.59E+04
142.2
exp
0
10
4.55E-04
400
0.000455
I&E 8
Attenuation Factor
mode of transport is diffusion only
a =
0.0004551
1.00E+06
4.70E-07
0.000455091
3.59E+00
152.4
10


JAE9a and 9b
Diffusion coefficient
0.0004551
9b
In 9a the following condition must be satisfied
JAE10
Source to building separation
JAE11
Effective Diffusion Coefficient for soil layer 2 (cm2/s) - CF to bottom of slab
JAE12a
Surface area of enclosed space at or below grade (cm2)
Slab
JAE12b
Surface area of enclosed space at or below grade (cm2)
Full concrete basement
JAE11
Effective Diffusion Coefficient for soil layer 1 (cm2/s) - capillary hinge (CF)
JAE13
Building ventilation rate (cm3/s)
JAE14
Area of Total Cracks (cm2)
JAE15
Effective Diffusion Coefficient through the cracks (cm2/s)

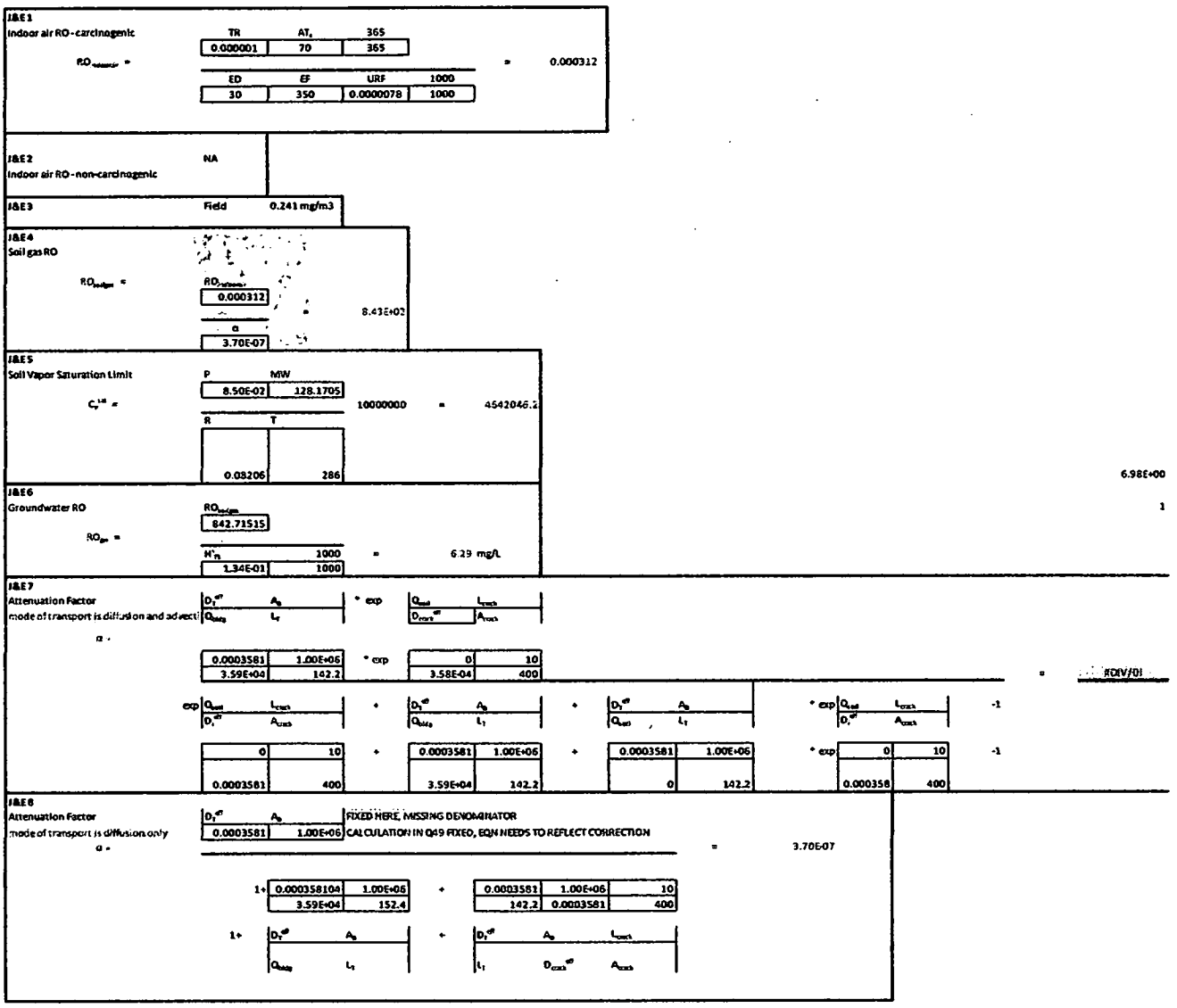
J&E Equation Parameters

Residential w/ basement values WHY/not in this one, Benzene at RW-4/diffusion only

Gray text - used default values

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
AT_{nc}	Averaging time for noncarcinogens	30	year	AT_{nc}=ED	Res=30, Ind/Comm=25
C_v^{sat}	Soil vapor saturation limit	4.64E+06	mg/m3-air	J&E 5, App C Table L	Chemical specific or Calculated
D_{crack}^{eff}	Effective diffusion coeff. through cracks	3.58E-04	cm2/s	J&E 15, App C Table L	Calculated Value
D_i	Diffusivity in air	5.90E-02	cm2/s	App C Table E	Chemical Specific
D_i^{eff}	Effective diffusion coeff. for each soil layer	3.58E-04	cm2/s	J&E 11, App C Table L	Calculated Value
D_{source}	Distance from ground surface to top of contamination	304.8	cm	Field Measurement	Soil Gas Contamination=152.4, Groundwater Contamination=304.8
D_T^{eff}	Total effective diffusion coefficient	3.58E-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
f_{oc}	Fraction organic carbon content	0.002	g/g	SSL OR Field Measurement, App C Table F	0.002 or site-specific
H_B	Height of building	244	cm	IL EPA	SOG Res=244, Ind/Comm=305 OR Site sp T3 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_p	Distance from ground surface to bottom of slab	10	cm	USEPA Users Guide 2004	SOG=10, Basement=200
L_i	Thickness of soil layer i	152.4	cm	Field Measurement, USEPA 2004	Site sp 152.4 (5 ft)/for capillary fringe, 37.5cm
L_T	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)
MW	Molecular weight	128.1705	g/mole	IL EPA	Chemical Specific
n	Total number of layers	1	unitless (layers)	Field Measurement	
P	Vapor pressure	8.50E-02	atm	App C Table E	Chemical Specific
Q_{soil}	Building ventilation rate	3.59E+04	cm3/s	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
Q_{soil}	Volumetric flow rate of soil gas into the enclosed space	0	cm3/s	USEPA Users Guide 2004	If LT<152cm=83.33 If LT>=152cm=0
R	Ideal gas constant	0.08206	atm-L/mole-K	USEPA Users Guide 2004	0.0826
RfC	Reference concentration	3.00E-03	ug/m3	IL EPA TACO Toxicity Values spreadsheet	Toxicological-Specific
RO_{gw}	Groundwater remediation objective	0.14	mg/L	App B Table E OR J&E 6, App C Table L	Chemical specific or Calculated
RO_{indoor}	Indoor air remediation objective	0.000311966	mg/m3	J&E 1 and 2, App C Table L	Calculated Value
$RO_{soilgas}$	Soil gas remediation objective	842.7151499	mg/m3	J&E 4, App C Table L	Calculated Value
S	Solubility in water	3.10E+01	mg/L	App C Table E	Chemical Specific
T	Temperature	286	°K	USEPA Users Guide 2004	286 (converted from 13 C)
THQ	Target hazard quotient	1	unitless	SSL	1
TR	Target risk	0.000001	unitless	SSL	Res=10^-6 Ind/Comm=10^-6 at point of human 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	cm	USEPA Users Guide 2004	0.1
W	Moisture content	9.52	g water/g soil	Field Measurement, App C Table F	Site specific
W_B	Width of building	1000	cm	IL EPA	Res=1000, Ind/Comm=2000 or Site sp T3
α	Attenuation factor	3.70191E-07	unitless	J&E 7 OR 8, App C Table L	Site specific
θ_a	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	0.13	cm3/cm3	SSL OR J&E 18, App C Table L	0.13
$\theta_{a,1}$	Air-filled porosity of soil layer 1	0.13	cm3/cm3	SSL OR J&E 18, App C Table L	0.13 OR Calculated value for capillary fringe $\theta_{a,f}$=0.1 $\theta_{T,1}$
$\theta_{T,crack}$	Total porosity for soil in cracks	0.43	cm3/cm3	SSL OR J&E 16, App C Table L	0.43
$\theta_{T,1}$	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	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
$\theta_{w,1}$	Water-filled porosity for soil layer 1	0.15	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 θ_w
ρ_b	Dry soil bulk density	1.5	g/cm3	SSL OR Field Measurement, App C Table F	1.5 or Calculated value
ρ_s	Soil particle density	2.65	g/cm3	SSL OR Field Measurement, App C Table F	2.65 or calculated value
ρ_w	Density of water	1	g/cm3	IL EPA	1

$\theta_{a,1}$	Air-filled porosity of soil layer 1 => CAP FRINGE	0.0375	cm3/cm3	SSL OR J&E 18, App C Table L	0.13 OR Calculated value for capillary fringe $\theta_{a,f}$=0.1 $\theta_{T,1}$
$\theta_{w,1}$	Water-filled porosity for soil layer 1 => CAP FRINGE	0.375	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 θ_w
$\theta_{T,1}$	Total porosity of soil layer 1	0.4125	cm3/cm3	SSL OR J&E 16, App C Table L	0.43 or calculated value


J&E1
Indoor air RO - carcinogenic
TR 0.000001
AT, 70
365 365
ED 30
EF 350
URF 0.0000078
1000 1000
= 0.000312
J&E2
Indoor air RO - non-carcinogenic
NA
J&E3
Field 0.241 mg/m3
J&E4
Soil gas RO
0.000312
α 3.70E-07
= 8.43E+02
J&E5
Soil Vapor Saturation Limit
P 8.50E-02
MW 128.1705
R 0.08206
T 286
10000000 = 4542046.2
J&E6
Groundwater RO
842.71515
H'TS 1.34E-01
1000 1000
= 6.29 mg/L
6.98E+00
1
J&E7
Attenuation Factor
mode of transport is diffusion and advecti
α =
0.0003581 1.00E+06 * exp 0 10
3.59E+04 142.2 3.58E-04 400
= #DIV/0!
exp 0 10 + 0.0003581 1.00E+06 + 0.0003581 1.00E+06 * exp 0 10 -1
0.0003581 400 3.59E+04 142.2 0 142.2 0.000358 400
J&E8
Attenuation Factor
mode of transport is diffusion only
α =
0.0003581 1.00E+06
FIXED HERE, MISSING DENOMINATOR
CALCULATION IN Q49 FIXED, EQN NEEDS TO REFLECT CORRECTION
= 3.70E-07
1+ 0.000358104 1.00E+06 + 0.0003581 1.00E+06 10
3.59E+04 152.4 142.2 0.0003581 400
1+ +

J&E 9a and 9b
Diffusion coefficient

D_i^{eff} = L_T / 142.2 = 0.0003581

9b
In 9a the following condition must be satisfied

Sum L_i / D_i^{eff} = 142.2 / 0.000358104

sum n i=1 L_i = L_T

J&E 10
Source to building separation

L_T = D_{source} - L_b = 304.8 - 10 = 294.8

J&E 11
Effective Diffusion Coefficient for soil layer 2 (cm2/s) - CF to bottom of slab

D_i^{eff} = D_i / ($\theta_{a,i}^{3.33}$ / $\theta_{T,i}^{2}$) + Dw $\theta_{w,i}^{3.33}$ / H'_n $\theta_{T,i}^{2}$

5.90E-02 / (0.00112055 / 0.1849) + 7.50E-06 0.0018046 / 1.34E-01 0.1849 = 3.58E-04

J&E 11
Effective Diffusion Coefficient for soil layer 1 (cm2/s) - capillary fringe (CF)

D_i^{eff} = D_i / ($\theta_{a,i}^{3.33}$ / $\theta_{T,i}^{2}$) + Dw $\theta_{w,i}^{3.33}$ / H'_n $\theta_{T,i}^{2}$

5.90E-02 / (1.78453E-05 / 0.17015625) + 7.50E-06 0.038153 / 1.34E-01 0.170156 = 1.87E-05

J&E 12a
Surface area of enclosed space at or below grade (cm2)
Slab

A_B = L_B * W_B = 1000 * 1000 = 1000000

J&E 12b
Surface area of enclosed space at or below grade (cm^2)
Full concrete basement

A_B = (L_B * W_B) + (2 * L_T * L_B) + (2 * L_T * W_B)

1000 1000 + (2 * 10 1000) + (2 * 10 1000) = 1040000

J&E 13
Building ventilation rate (cm^3/s)

Qbldg = L_B W_B H_B ER / 3600 = 1000 1000 244 0.53 / 3600 = 35922.222

J&E 14
Area of Total Cracks (cm^2)

A_{crack} = 2 * (L_B + W_B) * η_w

2 * (1000 + 1000) * 0.1 = 400

J&E 15
Effective Diffusion Coefficient through the cracks (cm^2)

D_{crack}^{eff} = D_i / ($\theta_{a,crack}^{3.33}$ / $\theta_{T,crack}^{2}$) + Dw $\theta_{w,crack}^{3.33}$ / H'_n $\theta_{T,crack}^{2}$

5.90E-02 / (0.00112055 / 0.1849) + 7.50E-06 0.0018046 / 1.34E-01 0.1849 = 3.58E-04

0430905825 – 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

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

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.

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

RESOURCE CONSULTING, INC.

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

RESOURCE CONSULTING, INC.

CORRECTIVE ACTION COMPLETION REPORT

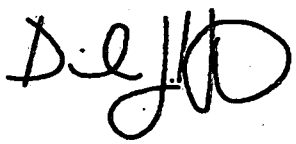
West Chicago Park District
Reed-Keppler Park Maintenance Garage
250 West National Street
West Chicago, Illinois

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

November 15, 2022

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TABLES

APPENDICES

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

1. Has a Corrective Action Plan been approved? No
   Date of approval letter: N/A

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 yds^3 *(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 Ill. 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 Ill. 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/m^3)

Sampling Date	August 26, 2014	Indoor Inhalation Remediation 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.		
TEXT	Remediation objective exceeded in sample.		

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 chain-of-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 Ill. 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**	
Sample ID	**RW-4A**	**Indoor Inhalation/Groundwater**	
		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(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 objective exceeded by groundwater 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 Ill. 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.		

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 Ill. 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 Ill. Adm. Code Part 742.

Table IV 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	--
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, 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. 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_{oc}), 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.

Table V
Remediation Objectives Summary
BTEX and PNAs in Soil Gas & Groundwater Samples
(values in mg/L)

Chemical	Data of Concern	Detected Concentration	Tier 2 Remediation Objective
Benzene	Soil gas	1.1 mg/m^3	14.04 mg/m^3
	Groundwater	0.386 mg/L	0.404 mg/L
Ethylbenzene	Groundwater	3.16 mg/L	396.34 mg/L
Naphthalene	Groundwater	1.38 mg/L	2.86 mg/L

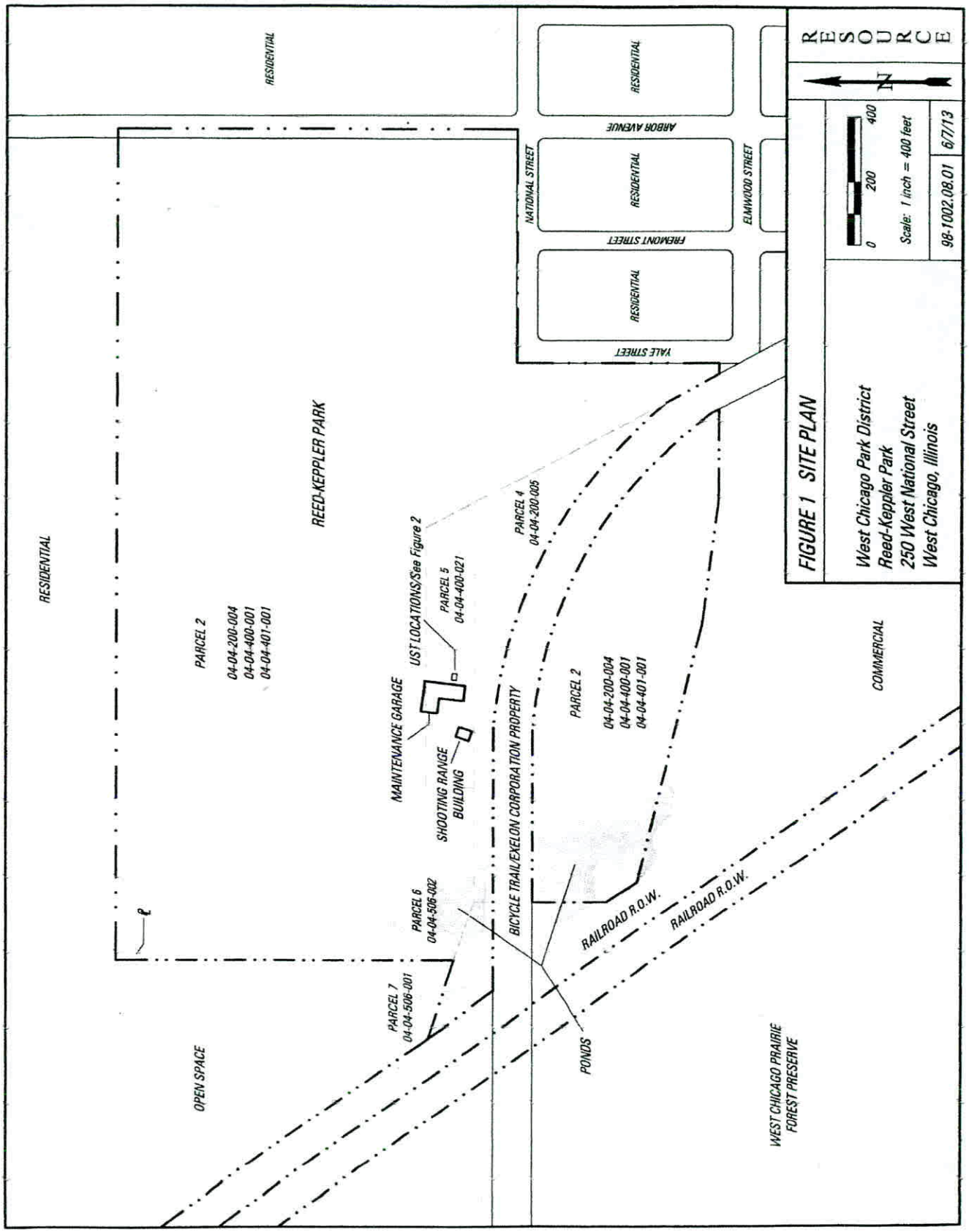
The information in the above table demonstrates that the concentrations of benzene, ethylbenzene and naphthalene detected are below their respective calculated remediation objectives. All of the J&E model calculations for this analysis are included in Appendix D.

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


RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
ARBOR AVENUE
NATIONAL STREET
FREMONT STREET
ELMWOOD STREET
YALE STREET
REED-KEPPLER PARK
RESIDENTIAL
PARCEL 2
04-04-200-004
04-04-400-001
04-04-401-001
UST LOCATIONS/See Figure 2
PARCEL 5
04-04-400-021
PARCEL 4
04-04-200-005
MAINTENANCE GARAGE
SHOOTING RANGE BUILDING
BICYCLE TRAIL/EXELON CORPORATION PROPERTY
PARCEL 2
04-04-200-004
04-04-400-001
04-04-401-001
COMMERCIAL
PARCEL 6
04-04-506-002
RAILROAD R.O.W.
RAILROAD R.O.W.
PARCEL 7
04-04-506-001
PONDS
OPEN SPACE
WEST CHICAGO PRAIRIE FOREST PRESERVE
RESOURCE
N
0
200
400
Scale: 1 inch = 400 feet
98-1002.08.01
6/7/13
FIGURE 1 SITE PLAN
West Chicago Park District
Reed-Keppler Park
250 West National Street
West Chicago, Illinois

2017

2021

FIGURE 2 SITE LAYOUTS

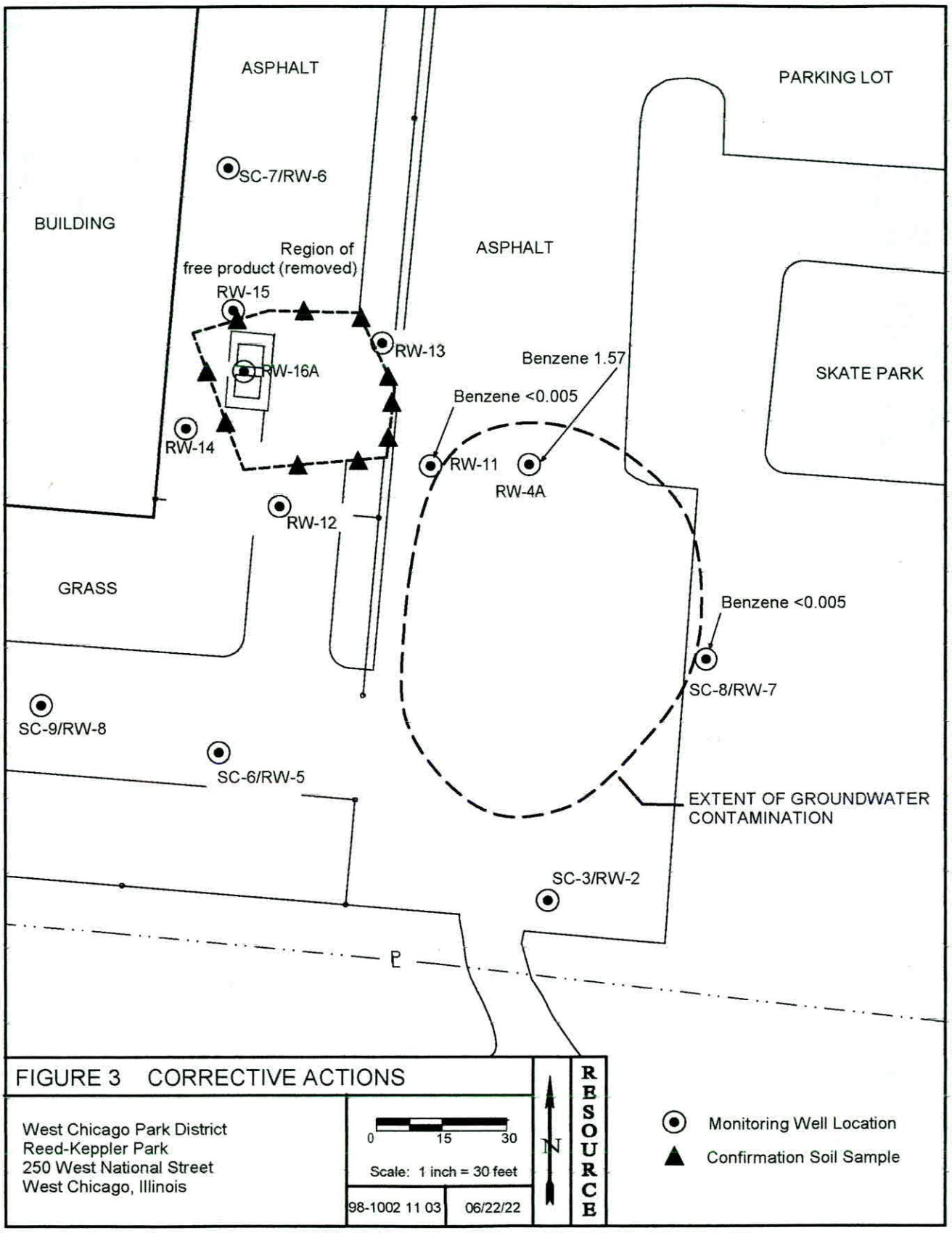
Reed Keppler Park
250 West National Street
West Chicago, Illinois

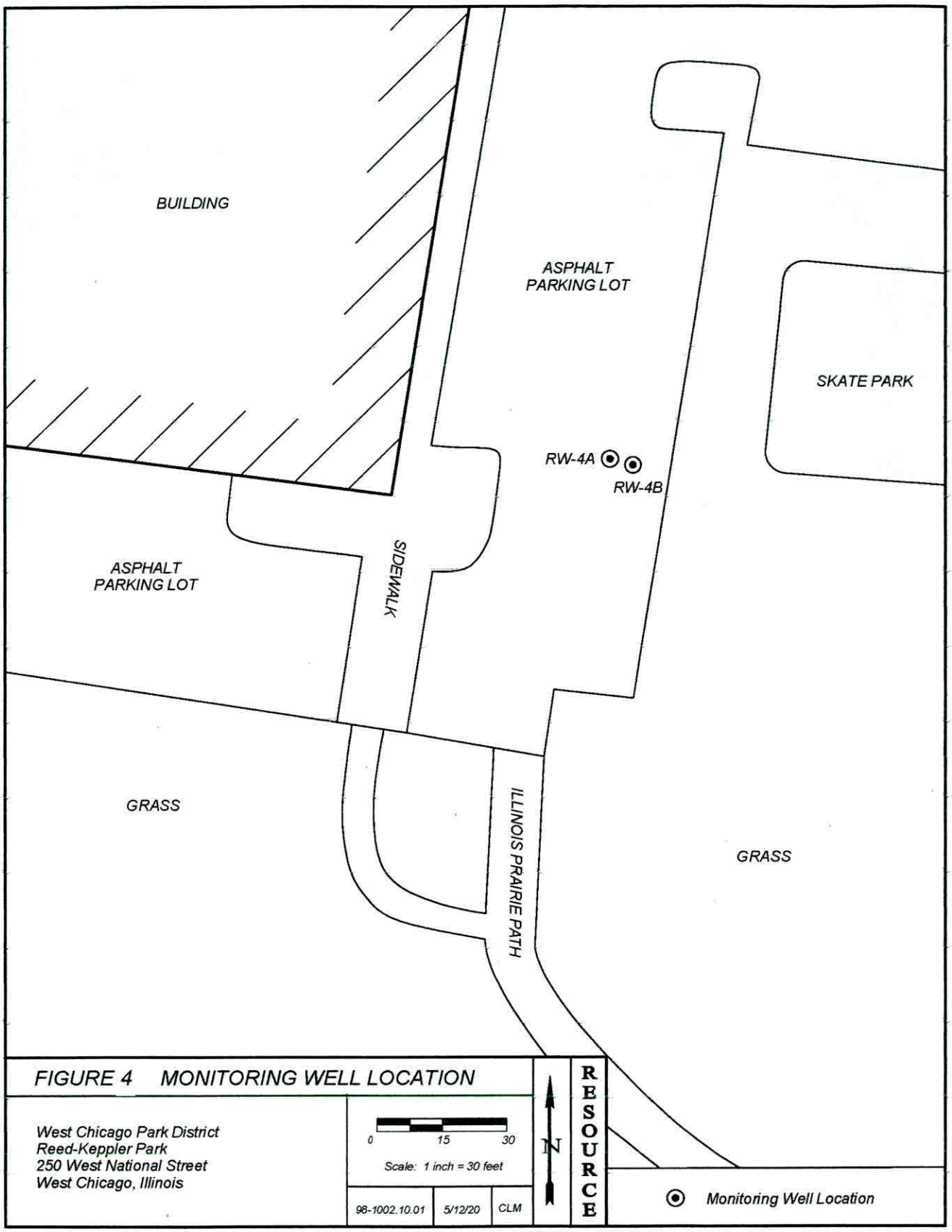
Scale: shown above

98-1002 11 02	06/27/22	DjH

N

RESOURCE


ASPHALT
PARKING LOT
SC-7/RW-6
BUILDING
Region of
free product (removed)
ASPHALT
RW-15
RW-13
RW-16A
Benzene 1.57
SKATE PARK
Benzene <0.005
RW-14
RW-11
RW-4A
RW-12
GRASS
Benzene <0.005
SC-8/RW-7
SC-9/RW-8
SC-6/RW-5
EXTENT OF GROUNDWATER
CONTAMINATION
SC-3/RW-2
P
FIGURE 3 CORRECTIVE ACTIONS
West Chicago Park District
Reed-Keppler Park
250 West National Street
West Chicago, Illinois
0 15 30
Scale: 1 inch = 30 feet
98-1002 11 03
06/22/22
N
RESOURCE
Monitoring Well Location
Confirmation Soil Sample


BUILDING
ASPHALT PARKING LOT
SKATE PARK
RW-4A
RW-4B
SIDEWALK
ASPHALT PARKING LOT
GRASS
ILLINOIS PRAIRIE PATH
GRASS
FIGURE 4 MONITORING WELL LOCATION
West Chicago Park District
Reed-Keppler Park
250 West National Street
West Chicago, Illinois
0 15 30
Scale: 1 inch = 30 feet
98-1002.10.01
5/12/20
CLM
N
RESOURCE
Monitoring Well Location

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	$	$	$	$	$ 3,035.95
Analytical Costs Form	$	$	$	$	$ 978.00
Remediation and Disposal Costs Form	$	$	$	$	$
UST Removal and Abandonment Costs Form	$	$	$	$	$ 1,535.81
Paving, Demolition, and Well Abandonment Costs Form	$	$	$	$	$
Consulting Personnel Costs Form	$	$	$	$	$ 45,852.47
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	$	$	$	$	$ 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/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 (2019).

☒ 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

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:	$1,578.14

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		X		=	
Flash Point or Ignitability Analysis EPA 1010		X		=	
Fraction Organic Carbon Content (f_{oc}) 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		=	
PCBs		X		=	
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)		X		=	
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)	1	X	60.00	=	$60.00
PNA Water EPA 8270 (2017)	1	X	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 (p_b) ASTM D2937-94		X		=	
Ex-situ Hydraulic Conductivity / Permeability		X		=	
Moisture Content (w) ASTM D2216-92 / D4643-93		X		=	
Porosity		X		=	
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 (p_s) ASTM D854-92		X		=	
Soil Bulk Density (2019)	1	X	80.00	=	$80.00
Moisture Content (2019)	1	X	18.00	=	$18.00
		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		=	
		X		=	
		X		=	
		X		=	
		X		=	
Other					
EnCore® Sampler, purge-and-trap sampler, or equivalent sampling device		X		=	
Sample Shipping per sampling event[1]		X		=	

[1]A 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

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

For this form to function properly, Adobe Reader 8.0 or higher is required

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	Task			
	Senior Project Manager	10.00	140.80	$1,408.00
	Evaluation of CACR rejection from IEPA; Planning for additional requirements.			
	Senior Project Manager	10.00	140.80	$1,408.00
	Correspondence with staff and IEPA re: regulatory evaluation and indoor inhalation exposure route.			
	Project Manager	10.00	126.81	$1,268.10
	Project management with staff and IEPA re: CACR rejection, TACO, data, budget revisions.			
	Project Manager	3.00	126.81	$380.43
	Review/editing of TACO calculations; correspondence with PM re: indoor inhalation requirement.			
	Project Manager	6.00	126.81	$760.86
	Field work planning for soil vapor and bulk density sampling (2014, 2017 and 2019).			
	Geologist III	5.00	123.99	$619.95
	On-site for soil sampling.			
	Project Manager	6.00	126.81	$760.86
	Analysis/evaluation of soil gas data, correspondence with lab and IEPA re: data analysis.			
	Senior Project Manager	20.00	140.90	$2,818.00
	Preparation of ordinance: research, planning, correspondence with City.			
	Geologist III	20.00	123.99	$2,479.80
	Preparation of draft ordinance document for submission to Public Works Department.			

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	**Task**			
	Geologist III	5.00	123.99	$619.95
	Preparation of maps and supporting documents for draft ordinance using IEPA requirements.			
	Project Manager	10.00	.00	$.00
	Ordinance design and preparation of documents with staff and city.			
	Project Manager	6.00	126.81	$760.86
	TACO modeling calculations for ordinance.			
	Project Manager	10.00	126.81	$1,268.10
	Review of ordinance and supporting documents for final enactment by City.			
	Project Manager	10.00	126.81	$1,268.10
	Project management with City personnel re: property owner summary and approval of ordinance.			
	Senior Project Manager	3.00	140.90	$422.70
	Project management with Illinois EPA re: indoor inhalation and Site land use classification.			
	Senior Scientist	20.00	119.77	$2,395.40
	Preparation of CACR response documentation including TACO modeling, ordinance work.			
	Project Manager	5.00	126.81	$634.05
	Review of data and project needs for contaminated groundwater and soil gas; planning for field work.			
	Geologist III	6.00	123.99	$743.94
	On-site for monitoring well sampling and sample management.			

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	**Task**			
	Project Manager	5.00	126.81	$634.05
	Review of groundwater quality data and planning response for indoor inhalationroute evaluation.			
	Project Manager	5.00	126.81	$634.05
	Review of project needs and budgeting for next phase of project (2019).			
	Senior Project Manager	5.00	140.90	$704.50
	Project management with IEPA and client re: re-sampling monitoring well for J&E equation (2014).			
	Geologist III	20.00	123.99	$2,479.80
	Preparation of technical summary/CAP amendment text and mapping (2019).			
	Senior Admin. Assistant	3.00	63.41	$190.23
	Forms management - preparation, editing, publishing, correspondence.			
	Senior Project Manager	3.00	140.90	$422.70
	Review of technical summary/CAP amendment.			
	Senior Admin. Assistant	2.00	63.41	$126.82
	Edit and publish technical summary/CAP amendment.			
	Senior Project Manager	2.00	140.90	$281.80
	Project management - soil and groundwater sampling with new IEPA project manager (2019).			
	Project Manager	2.00	126.81	$253.62
	Field work planning with staff, review of scope of work and project needs.			

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	**Task**			
	Project Manager	3.00	126.81	$380.43
	Project management and correspondence w/ new IEPA project manager.			
	Geologist III	2.00	123.99	$247.98
	Preparation for field work and scheduling including correspondence with WCPD and staff.			
	Geologist III	5.00	123.99	$619.95
	On-site for soil boring/monitoring well installation.			
	Geologist III	20.00	123.99	$2,479.80
	Review of lab data, preparation of data table, forms, mapping, sb logs, CAP amendment text (2022).			
	Senior Admin. Assistant	6.00	63.41	$380.46
	Edit and publish CAP amendments (3).			
	Project Manager	2.00	126.81	$253.62
	Data analysis and historical data review.			
	Geologist III	15.00	123.99	$1,859.85
	Preparation of J&E calculations.			
	Project Manager	8.00	126.81	$1,014.48
	Review and evaluation of indoor inhalation modeling, data, and IEPA requirements.			
	Senior Admin. Assistant	20.00	63.41	$1,268.20
	Clerical work, invoicing, budgeting documentation.			

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	Task			
	Geologist III	20.00	123.99	$2,479.80
	Preparation of CACR budget amendment.			
	Senior Admin. Assistant	15.00	63.41	$951.15
	Preparation of billing package.			
	Geologist III	50.00	123.99	$6,199.50
	Preparation of comprehensive CACR at request of new PM.			
	Geologist III	10.00	123.99	$1,239.90
	Review and preparation of J&E equation for final documentation.			
	Senior Prof. Engineer	4.00	183.17	$732.68
	Review and certification of CACR.			

*Refer to the applicable Maximum Payment Amounts document.

Add Another Page | Delete Last Page

Total of Consulting Personnel Costs	$45,852.47

Consultant's Materials Costs Form

For this form to function properly, Adobe Reader 8.0 or higher is required

Materials, Equipment, or Field Purchase	Time or Amount Used	Rate ($)	Unit	Total Cost
Remediation Category	Description/Justification			
Mileage (2014)	14.00	.56		$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		$8.12

Add Another Page | Delete Last Page

Total of Consultant Materials Costs	$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.
Project ID: 98-1002 WCPD

Lab File ID: 17-3893
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
A	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.
C	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.
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.

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:**	07/24/17
Project ID:	98-1002 WCPD	**Time Collected:**	12:00
Sample ID:	RW-41A	**Date Received:**	07/24/17
Sample No:	17-3893-001	**Date Reported:**	08/01/17

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 07/31/17				
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 Hydrocarbons **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 07/31/17		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	

CHAIN OF CUSTODY RECORD

First Environmental 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 Consulting, Inc.
Street Address: P.O. Box 123
City: Geneva State: IL Zip: 60134
Phone: 630-232-9820 e-mail: dhorvath@resourceillinois.com
Send Report To: Dan Horvath
Sampled By: Courtney McGinnis

Project I.D.: 98-1032 WCPD
P.O. #:

Matrix Codes: S = Soil W = Water O = Other

Date/Time Taken	Sample Description	Matrix	BTEX	PNAs							Comments	Lab I.D.
											Hold – Do Not Analyze	
7/24/17 12pm	RW-4A	W	X	X								17-3893-001

Analyses

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes No 4 °C
Received within 6 hrs. of collection:
Ice Present: Yes No

Sample Refrigerated: Yes No
Refrigerator Temperature: °C
5035 Vials Frozen: Yes No
Freezer Temperature: °C

Program: ☐ TACO ☐ CCDD ☐ NPDES ☐ LUST

Notes and Special Instructions:

Relinquished By: C. McGinnis Date/Time 7/24/17 1:35pm Received By: Date/Time 7/24/17 1335
Relinquished By: Date/Time Received By: Date/Time

Rev. 8/15

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

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: **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.

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: **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
A	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.
C	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.
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.

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:**	9:15
Sample ID:	RW-4B	**Date Received:**	08/02/19
Sample No:	19-4658-001	**Date Reported:**	08/09/19

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds **Method: 5030B/8260B** Analysis Date: 08/06/19				
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 Hydrocarbons **Method: 8270C** **Preparation Method 3510C** Analysis Date: 08/09/19 Preparation Date: 08/08/19				
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

First Environmental 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 • www.firstenv.com
IEPA Certification #100292

Company Name: Resource Consulting, Inc.
Street Address: PO BOX 123
City: Geneva State: IL Zip: 60134
Phone: 630-232-9820 e-mail: cmcginnis@resourceillinois.com
Send Report To: Courtney McGinnis / Dan Horvath
Sampled By: Courtney McGinnis

Project I.D.: 98-1002 WCPD
P.O. #:

Matrix Codes: S = Soil W = Water O = Other

Date/Time Taken	Sample Description	Matrix	Dry Bulk Density	Moisture content	BTEX	PNAs				Hold – Do Not Analyze	Comments	Lab I.D.
			Analyses									
8/2/19 0900	RW-4B	S	X	X						X		—
8/2/19 0915	RW-4B	W			X	X						19-46558-001

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes X No 5 °C
Received within 6 hrs. of collection: X
Ice Present: Yes X No

Sample Refrigerated: Yes No
Refrigerator Temperature: °C
5035 Vials Frozen: Yes No
Freezer Temperature: °C

Program: ☐ TACO/SRP ☐ CCDD ☐ NPDES ☐ LUST ☐ SDWA

Notes and Special Instructions:

Relinquished By: C. McGinnis Date/Time 8/2/19 1005 Received By: AEJ Date/Time 8/2/19 1005
Relinquished By: Date/Time Received By: Date/Time

Rev. 5/17

APPENDIX D

Indoor Inhalation Evaluation

Johnson & Ettinger Model Calculations – Benzene

J&E Equation	Equation with inputs		Result
J&E 1 $RO_{indoor\ air}$ Carc.	$\frac{TR \times AT_c \times 365\frac{days}{yr}}{ED \times EF \times URF \times 1000\frac{\mu g}{mg}}$	$\frac{1\times10^{-6}\times70\times365}{30\times350\times7.8\times10^{-6}\times1000}$	$3.12x10^{-4}$ mg/m³
J&E 2 $RO_{indoor\ air}$ Non-carc.	NA		NA
J&E 3 ppmv to mg/m³	NA		NA
J&E 4 $RO_{soil\ gas}$	$\frac{RO_{indoor\ air}}{\alpha}$	$\frac{3.12e\text{-}4}{2.23e\text{-}5}$	13.99 mg/m³
J&E 5 C_v^{sat}	$\frac{P\times MW}{R\times T}\times10^6$	$\frac{\frac{1.25}{10}\times78.11}{0.08206\times286}\times10^6$	$4.16x10^5$ mg/m³-air
J&E 6 RO_{gw}	$\frac{RO_{soil\ gas}}{H'_{TS}\times1000\frac{L}{m^3}}$	$\frac{13.99}{(1.34e\text{-}1)(1000)}$	0.104 mg/L
J&E 7 α advection & diffusion	$\frac{\left[\left(\frac{D_T^{eff}\times A_B}{Q_{soil}\times L_T}\right)\times\exp\left(\frac{Q_{soil}\times L_{crack}}{D_{crack}^{eff}\times A_{crack}}\right)\right]}{\left[\exp\left(\frac{Q_{soil}\times L_{crack}}{D_{crack}^{eff}\times A_{crack}}\right)+\left(\frac{D_T^{eff}\times A_B}{Q_{soil}\times L_T}\right)+\left(\frac{D_T^{eff}\times A_B}{Q_{soil}\times L_T}\right)\left[\exp\left(\frac{Q_{soil}\times L_{crack}}{D_{crack}^{eff}\times A_{crack}}\right)-1\right]\right]}$	$\frac{\left(\frac{((1.23e\text{-}4)(1000000)}{(3.59e4)(152.4)}\right)\exp\left(\frac{(83.33)10}{(5.34e\text{-}4)400}\right)}{\exp\left(\frac{83.33(10)}{5.34e\text{-}4(400)}\right)+\left(\frac{(1.23e\text{-}4)(1e6)}{3.59e4(152.4)}\right)+\left(\frac{1.23e\text{-}4(1e6)}{83.33(152.4)}\right)\left[\exp\left(\frac{83.33(10)}{5.34e\text{-}4(400)}\right)\text{-}1\right]}$	$2.23x10^{-5}$
J&E 8 α Diffusion only	NA		NA
J&E 9a $D_T^{eff.}$	$\frac{L_T}{\sum_{i=1}^{n} L_i / D_i^{eff}}$	$\frac{152.4}{\left(\frac{114.9}{6.86e\text{-}3}\right)+\left(\frac{37.5}{3.08e\text{-}5}\right)}$	$1.23x10^{-4}$ cm²/s

J&E 9b	$L_1 + L_2 = L_T$		**Satisfied**
J&E 10 L_T	$D_{source} - L_F$	162.4 - 10	**152.4 cm**
J&E11 D_1^{eff}	$D_i\left(\frac{\theta_{aj}^{3.33}}{\theta_{Tj}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{wj}^{3.33}}{\theta_{Tj}^2}\right)$	$(8.8e\text{-}2)\left(\frac{((0.28)^{3.33})}{((0.43)^2)}\right)+\left(\frac{1.02e\text{-}5}{1.34e\text{-}1}\right)\left(\frac{((0.15)^{3.33})}{((0.43)^2)}\right)$	**$6.86x10^{-3}$ cm^2/s**
J&E11 D_2^{eff} **Cap fringe**	$D_i\left(\frac{\theta_{aj}^{3.33}}{\theta_{Tj}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{wj}^{3.33}}{\theta_{Tj}^2}\right)$	$(8.8e\text{-}2)\left(\frac{((0.043)^{3.33})}{((0.43)^2)}\right)+\left(\frac{1.02e\text{-}5}{1.34e\text{-}1}\right)\left(\frac{((0.387)^{3.33})}{((0.43)^2)}\right)$	**$3.08x10^{-5}$ cm^2/s**
J&E 12a A_B	$(L_B \times W_B)$	1000×1000	**$1x10^6$ cm^2**
J&E 12b		**NA**	**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}	$2 \times (L_B + W_B) \times w$	$2(1000 + 1000) \times 0.1$	**400 cm^2**
J&E 15 D_{crack}^{eff}	$D_i\left(\frac{\theta_{a,crack}^{3.33}}{\theta_{T,crack}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{w,crack}^{3.33}}{\theta_{T,crack}^2}\right)$	$(8.8e\text{-}2)\left(\frac{((0.13)^{3.33})}{((0.43)^2)}\right)+\left(\frac{1.02e\text{-}5}{1.34e\text{-}1}\right)\left(\frac{((0.15)^{3.33})}{((0.43)^2)}\right)$	**$5.34x10^{-4}$ cm^2/s**
J&E 16 Θ_{TI}		**NA**	**NA**
J&E 17 Θ_w		**NA**	**NA**
J&E 18 Θ_a		**NA**	**NA**

J&E Model Calculations – Ethylbenzene

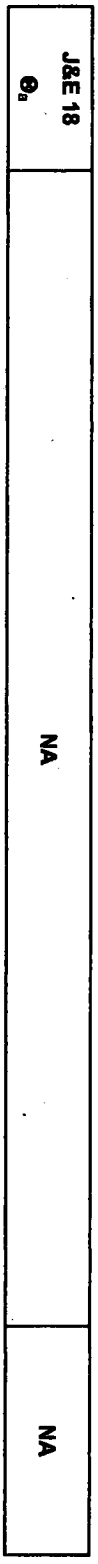
J&E Equation	Equation with inputs		Results
J&E 1 $RO_{indoor\ air}$ (carcinogenic)	NA		NA
J&E 2 $RO_{indoor\ air}$ (non-carcinogenic)	$\frac{THQ \times AT_{nc} \times 365\frac{days}{yr} \times RfC}{ED \times EF}$	$\frac{(1)(30)(365)(1e0)}{(30)(350)}$	1.04 mg/m^3
J&E 3 ppmv to mg/m^3	NA		NA
J&E 4 $RO_{soil\ gas}$	$\frac{RO_{indoor\ air}}{\alpha}$	$\frac{1.04}{1.60e\text{-}5}$	65,000 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}	$\frac{RO_{soil\ gas}}{H'_{TS} \times 1000\frac{L}{m^3}}$	$\frac{65000}{(1.64e\text{-}1)(1000)}$	396.34 mg/L
J&E 7 α advection & diffusion	$\frac{\left[\left(\frac{D_T^{eff} \times A_p}{Q_{soil} \times L_T}\right) \times \exp\left(\frac{Q_{soil} \times L_{crack}}{D_{crack}^{eff} \times A_{crack}}\right)\right]}{\left[\exp\left(\frac{Q_{soil} \times L_{crack}}{D_{crack}^{eff} \times A_{crack}}\right) + \left(\frac{D_T^{eff} \times A_p}{Q_{soil} \times L_T}\right) + \left(\frac{D_T^{eff} \times A_p}{Q_{soil} \times L_T}\right)\left[\exp\left(\frac{Q_{soil} \times L_{crack}}{D_{crack}^{eff} \times A_{crack}}\right) - 1\right]\right]}$	$\frac{\left(\left(\frac{(8.96e\text{-}5)(1000000)}{(3.59e4)(152.4)}\right)\exp\left(\frac{(83.33)10}{(5.85e\text{-}3)400}\right)\right]}{\exp\left(\frac{83.33(10)}{(5.85e\text{-}3)(400)}\right) + \left(\frac{(8.96e\text{-}5)(1e6)}{3.59e4(152.4)}\right) + \left(\frac{(8.96e\text{-}5)(1e6)}{83.33(152.8)}\right)\left[\exp\left(\frac{83.33(10)}{(5.83e\text{-}3)(400)}\right) - 1\right]}$	1.60x10^{-5}
J&E 8 α Diffusion only	NA		NA
J&E 9a D_T^{eff}	$\frac{L_T}{\sum_{i=1}^{n} L_i / D_i^{eff}}$	$\frac{152.4}{\left(\frac{114.9}{5.85e\text{-}3}\right) + \left(\frac{37.5}{2.23e\text{-}5}\right)}$	8.96x10^{-5} cm^2/s

J&E 9b	$L_1 + L_2 = L_T$		Satisfied
J&E 10 L_T	$D_{stone} - L_f$	162.4-10	152.8 cm
J&E11 D_1^{eff}	$D_i\left(\frac{\theta_{a,i}^{3.33}}{\theta_{T,i}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{w,i}^{3.33}}{\theta_{T,i}^2}\right)$	$(7.50e\text{-}2)\left(\frac{((0.28)^{3.33})}{((0.43)^2)}\right)+\left(\frac{7.80e\text{-}6}{1.64e\text{-}1}\right)\left(\frac{((0.15)^{3.33})}{((0.43)^2)}\right)$	$5.85x10^{-3}$ cm²/s
J&E11 D_2^{eff} Cap fringe	$D_i\left(\frac{\theta_{a,i}^{3.33}}{\theta_{T,i}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{w,i}^{3.33}}{\theta_{T,i}^2}\right)$	$(7.50e\text{-}2)\left(\frac{((0.043)^{3.33})}{((0.43)^2)}\right)+\left(\frac{7.80e\text{-}6}{1.64e\text{-}1}\right)\left(\frac{((0.387)^{3.33})}{((0.43)^2)}\right)$	$2.23x10^{-5}$ cm²/s
J&E 12a A_B	$(L_B \times W_B)$	1000×1000	$1x10^6$ cm²
J&E 12b	NA		NA
J&E 13 Q_{bldg}	$\left(\frac{L_B \times W_B \times H_B \times ER}{3600\frac{sec}{hr}}\right)$	$\frac{1000 \times 1000 \times 244 \times 0.53}{3600}$	$3.59x10^4$ cm³/s
J&E 14 A_{crack}	$2\times(L_B + W_B)\times w$	$2(1000 + 1000)\times 0.1$	400 cm²
J&E 15 D_{crack}^{eff}	$D_i\left(\frac{\theta_{a,crack}^{3.33}}{\theta_{T,crack}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{w,crack}^{3.33}}{\theta_{T,crack}^2}\right)$	$(7.50e\text{-}2)\left(\frac{((0.28)^{3.33})}{((0.43)^2)}\right)+\left(\frac{7.80e\text{-}6}{1.64e\text{-}1}\right)\left(\frac{((0.15)^{3.33})}{((0.43)^2)}\right)$	$5.85x10^{-3}$ cm²/s
J&E 16 Θ_{TI}	NA		NA
J&E 17 Θ_w	NA		NA
J&E 18 Θ_a	NA		NA

J&E Model Calculations – Naphthalene

J&E Equation	Equation with inputs		Result
J&E 1 $RO_{indoor\ air}$ (carcinogenic)	NA		NA
J&E 2 $RO_{indoor\ air}$ (non-carcinogenic)	$\frac{THQ \times AT_{nc} \times 365\frac{days}{yr} \times RfC}{ED \times EF}$	$\frac{(1)(30)(365)(3e\text{-}3)}{(30)(350)}$	$3.13x10^{-3}$ mg/m³
J&E 3 ppmv to mg/m³	NA		NA
J&E 4 $RO_{soil\ gas}$	$\frac{RO_{indoor\ air}}{\alpha}$	$\frac{3.13e\text{-}3}{1.32e\text{-}4}$	23.71 mg/m³
J&E 5 C_v^{sat}	$\frac{P \times MW}{R \times T} \times 10^6$		DEFAULT
J&E 6 RO_{gw}	$\frac{RO_{soil\ gas}}{H'_{TS} \times 1000\frac{L}{m^3}}$	$\frac{23.71}{(8.29e\text{-}3)(1000)}$	2.86 mg/L
J&E 7 α advection & diffusion	$\frac{\left[\left(\frac{D_T^{eff} \times A_p}{Q_{soil} \times L_T}\right) \times \exp\left(\frac{Q_{soil} \times L_{crack}}{D_{crack}^{eff} \times A_{crack}}\right)\right]}{\left[\exp\left(\frac{Q_{soil} \times L_{crack}}{D_{crack}^{eff} \times A_{crack}}\right) + \left(\frac{D_T^{eff} \times A_p}{Q_{soil} \times L_T}\right) + \left(\frac{D_T^{eff} \times A_p}{Q_{soil} \times L_T}\right)\left[\exp\left(\frac{Q_{soil} \times L_{crack}}{D_{crack}^{eff} \times A_{crack}}\right) - 1\right]\right]}$	$\frac{\left[\left(\frac{(7.68e\text{-}4)(1000000)}{(3.59e4)(152.4)}\right)\exp\left(\frac{(83.33)10}{(4.61e\text{-}3)400}\right)\right]}{\exp\left(\frac{83.33(10)}{(4.61e\text{-}3)(400)}\right) + \left(\frac{(7.68e\text{-}4)(1e6)}{(3.59e4)(152.4)}\right) + \left(\frac{(7.68e\text{-}4)(1e6)}{83.33(152.8)}\right)\left(\exp\left(\frac{83.33(10)}{(4.61e\text{-}3)(400)}\right) - 1\right)}$	$1.32x10^{-4}$
J&E 8 α Diffusion only	NA		NA

J&E 9a D_T^{eff}	$\frac{L_T}{\sum_{i=1}^{n} L_i / D_i^{eff}}$	$\frac{152.4}{\left(\frac{114.9}{4.61e\text{-}3}\right)+\left(\frac{37.5}{2.16e\text{-}4}\right)}$	7.68×10^{-4} cm²/s
J&E 9b	$L_1 + L_2 = L_T$		Satisfied
J&E 10 L_T	$D_{source} - L_F$	162.4-10	152.4 cm
J&E11 D_1^{eff}	$D_i\left(\frac{\theta_{a,i}^{3.33}}{\theta_{T,i}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{w,i}^{3.33}}{\theta_{T,i}^2}\right)$	$(5.90e\text{-}2)\left(\frac{((0.28)^{3.33})}{((0.43)^2)}\right)+\left(\frac{7.50e\text{-}6}{8.29e\text{-}3}\right)\left(\frac{((0.15)^{3.33})}{((0.43)^2)}\right)$	4.61×10^{-3} cm²/s
J&E11 D_2^{eff} Cap fringe	$D_i\left(\frac{\theta_{a,i}^{3.33}}{\theta_{T,i}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{w,i}^{3.33}}{\theta_{T,i}^2}\right)$	$(5.90e\text{-}2)\left(\frac{((0.043)^{3.33})}{((0.43)^2)}\right)+\left(\frac{7.50e\text{-}6}{8.29e\text{-}3}\right)\left(\frac{((0.387)^{3.33})}{((0.43)^2)}\right)$	2.16×10^{-4} cm²/s
J&E 12a A_B	$(L_B \times W_B)$	1000×1000	1×10^6 cm²
J&E 12b	NA		NA
J&E 13 Q_{bldg}	$\left(\frac{L_B \times W_B \times H_B \times ER}{3600 \frac{sec}{hr}}\right)$	$\frac{1000 \times 1000 \times 244 \times 0.53}{3600}$	3.59×10^4 cm³/s
J&E 14 A_{crack}	$2 \times (L_B + W_B) \times w$	$2(1000 + 1000) \times 0.1$	400 cm²
J&E 15 D_{crack}^{eff}	$D_i\left(\frac{\theta_{a,crack}^{3.33}}{\theta_{T,crack}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{w,crack}^{3.33}}{\theta_{T,crack}^2}\right)$	$(5.90e\text{-}2)\left(\frac{((0.28)^{3.33})}{((0.43)^2)}\right)+\left(\frac{7.50e\text{-}6}{8.29e\text{-}3}\right)\left(\frac{((0.15)^{3.33})}{((0.43)^2)}\right)$	4.61×10^{-3}cm²/s
J&E 16 Θ_{TI}	NA		NA
J&E 17 Θ_w	NA		NA


J&E 18
NA
NA

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-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:

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. Penalties. 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. Severability. 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.

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.

Alderman L. Chassee	Aye	Alderman J. Beifuss	Aye
Alderman A. Hallett	Aye	Alderman J. Banas	Aye
Alderman M. Birch	Aye	Alderman S. Dimas	Aye
Alderman K. Meissner	Absent	Alderman R. Stout	Aye
Alderman L. Grodoski	Aye	Alderman D. F. Earley	Aye
Alderman M. Fuesting	Aye	Alderman M. Edwalds	Aye
Alderman J. Smith	Absent	Alderman J. C. Smith, Jr.	Aye

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

Exhibit A - Ordinance No. 15-O-0004

ILLINOIS EAST STATE PLANAR COORDINATES OF ORDINANCE AREA, ZONE 1201

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

LEGEND

— — — *Proposed Ordinance Area*

NOTES

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

Image Courtesy Of DuPage County GIS

PARCELS WITHIN MODELED PLUME

04-04-200-004
04-04-200-005
04-04-400-001
04-04-400-002
04-04-400-003
04-04-401-001

PARCELS WITHIN ORDINANCE AREA

04-04-400-011
04-04-400-012
04-04-400-013
04-04-400-014
04-04-400-016
04-04-400-017
04-04-400-018
04-04-400-019
04-04-400-023
04-04-400-025

PROPOSED GROUNDWATER ORDINANCE AREA

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

0 200 400

Scale: 1 inch = 400 feet

98-1002.06.01	2/6/15	BJT

N

RESOURCE

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 173^0 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 S0UTHEAST 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 MAY27. 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

SID: 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 #: 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

Parcels in proposed ordinance area								
PIN	Address	Street	Owner	Mailing Address				
04-04-200-004	250 W	National Ave.	City of West Chicago	City of West Chicago	475 Main Street	West Chicago	IL	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								
04-04-400-012								
04-04-400-013	173 W	Grand Lake Blvd.	ST BK OF IL TR 1-1196	State Bank of Illinois	600 E. Washington	West Chicago	IL	60185
04-04-400-014								
04-04-400-016								
04-04-400-017								
04-04-400-018								
04-04-400-019								
04-04-400-023			Commonwealth Edison	Exelon Corporation	P.O Box 805398	Chicago	IL	60680
04-04-400-025								
0404-401-001	250 W	National St.	City of West Chicago	City of West Chicago	475 Main Street	West Chicago	IL	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.

SEAL

Nancy M Smith

Nancy Smith, City Clerk

APPENDIX F

Illinois EPA Forms

Illinois Environmental Protection Agency

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

Leaking Underground Storage Tank Program
Corrective Action Completion Report

A. 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): 201 W National St.

City: West Chicago County: DuPage ZIP Code: 60185

B. Site Information

1. Has a Corrective Action Plan been approved? ☑ Yes ☐ No

   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 ☐

   d. 35 Ill. Adm. Code 734.345 ☑

RECEIVED
DEC 15 2022
IEPA/BOL

3. Method of remediation chosen:

   a. Soil Excavation and disposal

   b. Groundwater TACO evaluation

4. Quantity of contaminated media remediated and/or recovered

   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. 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;

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;
   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; and
   d. 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;
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;
   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);

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;
   b. 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

Name West Chicago Park Dist.
Contact Michael Gasparini
Address 201 W National St.
City West Chicago
State Illinois
Zip Code 60185
Phone 630-231-9474
Signature
Date 12-1-2022

Consultant

Company Resource Consulting
Contact Dan Horvath
Address PO Box 123
City Geneva
State Illinois
Zip Code 60134
Phone 630-232-9820
Signature
Date 12-5-2022

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. Seal

RECEIVED
DEC 15 2022
IEPA/BOL

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
Ill. Registration No. 062-044068
License Expiration Date 11/30/2023

Signature
Date

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

A. 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

Leaking UST Technical File

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

Ill. Registration No. 062-044068

License Expiration Date Nov 30, 2023

Signature

Date 12/8/22

L.P.E. Seal

BERNARD A. BONO 062-044068 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

12/8/22

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 package:

980814

List all other incidents associated with this site that are not associated with this package:

This form is being submitted as a (check one, if applicable):

- ○ Billing Package
- ◉ Budget Amendment (Budget amendments must include only the costs over the previous budget.)
- ○ Budget Proposal

Please provide the name(s) and date(s) of report(s) documenting the costs requested:

Name(s):	FPRR/CACR	Tech Summary/CAP Am[redacted]	
Date(s):	Jul 12, 2013	Jun 14, 2019	

This package is being submitted for the site activities indicated below:

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DEC 15 2022
IEPA/BOL

35 Ill. Adm. Code 734:

- ☐ Early Action
- ☐ Free Product Removal after Early Action
- ☒ Site Investigation ..... Stage 1: ☐ Stage 2: ☒ Stage 3: ☐
- ☑ Corrective Action

35 Ill. Adm. Code 732:

- ☐ Early Action
- ☐ Free Product Removal after Early Action
- ☐ Site Classification
- ☐ Low Priority Corrective Action
- ☐ High Priority Corrective Action

35 Ill. Adm. Code 731:

- ☐ Site Investigation
- ☐ Corrective Action

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 Park District

Send in care of: Michael Gasparini

Address: 201 W National St.

City: West Chicago State: IL Zip: 60185

The payee is the: Owner ☑ Operator ☑ (Check one or both.)

Signature of the owner or operator of the UST(s) (required)

12/01/2022
Date

West Chicago Park District c/o Michael Gasparini

Printed name of the owner or operator of the UST(s) (required)

W-9 must be submitted.
Click here to print off a W-9 Form.

Email: mgasparini@we-goparks.org

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:

Fewer than 101: ✓ 101 or more: ○

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?	Incident No.	Type of Release Tank Leak / Overfill / Piping Leak
Gasoline	1,000	Yes ✓ No ○	980814	Tank Leak
Diesel Fuel	1,000	Yes ○ No ✓	980814	Tank Leak
		Yes ○ No ○		
		Yes ○ No ○		
		Yes ○ No ○		
		Yes ○ No ○		
		Yes ○ No ○		
		Yes ○ No ○		

Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

Leaking Underground Storage Tank Program
Property Owner Summary

A. Site Identification

IEMA Incident # (6- or 8-digit): 980814 IEPA LPC# (10-digit): 0430905825

Site Name: West Chicago Park District/Reed Keppler Park

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

City: West Chicago County: DuPage Zip Code: 60185

Leaking UST Technical File

Engineered barriers, institutional controls, and other use restrictions, if any, proposed for this site may not be implemented without approval by the title holder(s) of record for the above-named property or the agent(s) of such person(s). These controls and restrictions will be identified in the No Further Remediation (NFR) Letter, which must be recorded in the chain of title for the property. Failure to maintain these controls is grounds for voidance of the NFR Letter.

B. Preventive, Engineering, and Institutional Controls and Land Use Limitations

The following controls and restrictions are proposed for the above-named site:

- ☐ Industrial/commercial land use limitation;
- ☐ On-site groundwater restriction prohibiting the use of groundwater beneath the site as a potable water supply;
- ☐ An engineered barrier: ☐ Building, ☐ asphalt/concrete, or ☐ Other:
  (*description*) _____
- ☑ Concrete Base with no Sumps;
- ☐ Building Control Technology: ☐ Existing ☐ Future
- ☑ Groundwater ordinance: ☑ With a MOU; ☐ Without a MOU;
- ☐ Construction worker caution notification;
- ☐ Maintain a clean soil barrier (indoor inhalation):
- ☐ Other: _____
- ☐ None (There are no proposed institutional controls other than the NFR Letter.).

C. Property Ownership Declaration

Report Title: Corrective Action Completion Report

Report Date: November 15, 2022

I hereby affirm that I have reviewed the attached report entitled *Corrective Action Completion Report* and dated November 15, 2022, and that I accept the terms and conditions set forth therein, including any land use limitations, that apply to property I own. I further affirm that I have no objection to the recording of a No Further Remediation Letter containing the terms and conditions identified in the report upon the property I own.

Name of Property Owner: City of West Chicago

Name of Officer or Agent: Michael Guttman

Mailing Address: 475 Main Street

City: West Chicago

State: Illinois

Zip Code: 60185

E-mail: MGuttman@westchicago.org

Signature:

Date: 11/22/22

D. Site Description

Real Estate Tax/Parcel Index Number:

04-04-200-003, 04-04-200-004, 04-04-200-005, 04-04-400-001, 04-04-401-001

Legal Description of Site (must be provided on a separate sheet):

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 173^0 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 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 51 MINUTES 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 performing corrective action 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 Ill. Adm. Code 732 or 734. I further certify that costs ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 732.606 or 734.630 are not included in the budget proposal or amendment. Such ineligible costs include but are not limited to:

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.
Costs associated with planned tank pulls.
Legal fees or costs.
Costs incurred prior to July 28, 1989.
Costs associated with installation of new USTs or the repair of existing USTs.

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Owner/Operator: West Chicago Park District

Authorized Representative: Michael Gasparini Title: Superintendent of Parks

Signature: [signature] Date: 12/01/2022

Subscribed and sworn to before me the 1st day of December, 2022

[signature] (Notary Public)

Seal: NOTARY PUBLIC STATE OF ILLINOIS — ELIZABETH A CAPE OFFICIAL SEAL Notary Public - State of Illinois My Commission Expires June 23, 2026

In addition, 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 the plan, budget, or report has been completed in accordance with the Environmental Protection Act [415 ILCS 5], 35 Ill. Adm. Code 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].

L.P.E./L.P.G.: Daniel Horvath L.P.E./L.P.G. Seal:

L.P.E./L.P.G. Signature: [signature] Date: 12/05/2022

Subscribed and sworn to before me the ____ day of _____, _____.

[signature] (Notary Public)

Seal: NOTARY PUBLIC STATE OF ILLINOIS — ELIZABETH A CAPE OFFICIAL SEAL Notary Public - State of Illinois My Commission Expires June 23, 2026

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
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

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 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

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.

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
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

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 CONSULTING, 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

RE: LPC # 0430905825 -- DuPage County
West Chicago/West Chicago Park District
250 West National Street
Leaking UST Incident No. 980814
Leaking UST Technical File

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

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-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 15-O-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.*

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.*

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
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

Attachment B
TACO Calculations

Values for Variables in Relevant Equations | **Benzo(a)anthracene** | **Project Name:** West Chicago Park District

SOIL MIGRATION/GROUNDWATER EXPOSURE ROUTE

Variable	*Source*	*Value*	*Description and units*		
GWsource	R13	0.003	Groundwater concentration at the source, mg/L		
LFsw	R14	0.000	Leaching factor, mg/L/mg/kg		
GWcomp	R25	0.00013	Groundwater objective at the compliance point, mg/L		
Cx/Csource	R15	4.86E-02	Steady-state attenuation along the centerline of a dissolved plume, mg/L/mg/L		
k_s	R20	1200	Soil-water sorption coefficient, cm^3/g		
K_{oc}	Appendix C table E	4.00E+05	Organic carbon partition coefficient, cm^3/g		
f_{oc}	surface 0.005 subsurface 0.002	0.003	Organic carbon content of soil, g/g		
θ_{ws}	R22 or surface 0.15 subsurface 0.30 gravel 0.20 sand 0.18 silt 0.16 clay 0.17	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3		
θ_{as}	R21 or surface 0.28 subsurface 0.13 gravel 0.05 sand 0.14 silt 0.16 clay 0.17	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3		
θ_T	R23 or 0.43 gravel 0.25 sand 0.32 silt 0.40 clay 0.36	0.43	Total soil porosity, cm^3/cm^3		
H'	Appendix C table E	1.39E-04	Henry's law constant, cm^3 air/cm^3 water		
w	surface 0.1 subsurface 0.2	0.2	Average soil moisture content, g/g		
ρ_s	gravel 2.0 sand 1.8 silt 1.6 clay 1.7	1.5	Soil bulk density, g/cm^3		
ρ_w		1	Water density, g/cm^3		
X	site	9540.24	Distance along the centerline of the ground water plume emanating from the source, cm	313	Distance, ft
ax	R16	954.024	Longitudinal dispersivity, cm (Equation R16)		
ay	R17	318.008	Transverse dispersivity, cm (Equation R17)		
az	R18	47.7012	Vertical dispersivity, cm (Equation R18)		
Sw	site	2103.12	Source width perpendicular to ground water flow direction in horizontal plane, cm	69	Sw, ft
Sd	site	200	Source width perpendicular to ground water flow direction in vertical plane, cm		Sd, ft
K	site	2.85E+03	Aquifer hydraulic conductivity, cm/year	3.30E-02	K, cm/sec
i	site	0.006	Hydraulic gradient, cm/cm		
U	R19	39.78418605	Specific discharge, cm/day (Equation R19)		
Ugw	R24	6.24E+03	Groundwater Darcy velocity, cm/yr		
d		200	Groundwater mixing zone thickness, cm		
I		30	Infiltration rate, cm/yr		
W	site	3200.4	Width of source area parallel to direction of wind or groundwater movement, cm	105	W, ft
λ	Appendix C table E	5.10E-04	First order degradation constant, day^-1		
$C_{(x)}$	R26	0.00013	Concentration of contaminant in groundwater at the distance X from the steady source, mg/L		
C_{source}	site	0.00276	The greatest potential concentration of the contaminant in groundwater at the source of contamination, mg/L		

Values for Variables in Relevant Equations **Benzo(a)pyrene** **Project Name:** West Chicago Park District

SOIL MIGRATION/GROUNDWATER EXPOSURE 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
k_s	R20	2370	Soil-water sorption coefficient, cm^3/g
K_{oc}	Appendix C table E	7.90E+05	Organic carbon partition coefficient, cm^3/g
f_{oc}	surface 0.005 subsurface 0.002	0.003	Organic carbon content of soil, g/g
θ_{ws}	R22 or surface 0.15 subsurface 0.30 gravel 0.20 sand 0.18 silt 0.16 clay 0.17	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3
θ_{as}	R21 or surface 0.28 subsurface 0.13 gravel 0.05 sand 0.14 silt 0.16 clay 0.17	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3
θ_T	R23 or 0.43 gravel 0.25 sand 0.32 silt 0.40 clay 0.36	0.43	Total soil porosity, cm^3/cm^3
H'	Appendix C table E	4.50E-05	Henry's law constant, cm^3 air/cm^3 water
w	surface 0.1 subsurface 0.2	0.2	Average soil moisture content, g/g
ρ_s	gravel 2.0 sand 1.8 silt 1.6 clay 1.7	1.5	Soil bulk density, g/cm^3
ρ_w		1	Water density, g/cm^3
X	site	5212.08	Distance along the centerline of the ground water plume emanating from the source, cm
ax	R16	521.208	Longitudinal dispersivity, cm (Equation R16)
ay	R17	173.736	Transverse dispersivity, cm (Equation R17)
az	R18	26.0604	Vertical dispersivity, cm (Equation R18)
Sw	site	2103.12	Source width perpendicular to ground water flow direction in horizontal plane, cm
Sd	site	200	Source width perpendicular to ground water flow direction in vertical plane, cm
K	site	2.85E+03	Aquifer hydraulic conductivity, cm/year
i	site	0.006	Hydraulic gradient, cm/cm
U	R19	39.78418605	Specific discharge, cm/day (Equation R19)
Ugw	R24	6.24E+03	Groundwater Darcy velocity, cm/yr
d		200	Groundwater mixing zone thickness, cm
I		30	Infiltration rate, cm/yr
W	site	3200.4	Width of source area parallel to direction of wind or groundwater movement, cm
λ	Appendix C table E	6.50E-04	First order degradation constant, day^-1
$C_{(x)}$	R26	0.0002	Concentration of contaminant in groundwater at the distance X from the steady source, mg/L
C_{source}	site	0.0016	The greatest potential concentration of the contaminant in groundwater at the source of contamination, mg/L

171	Distance, ft	
69	Sw, ft	
	Sd, ft	
3.30E-02	K, cm/sec	
105	W, ft	

Values for Variables in Relevant Equations **Benzo(b)fluoranthene** **Project Name:** West Chicago Park District

SOIL MIGRATION/GROUNDWATER EXPOSURE ROUTE

Variable	*Source*	*Value*	*Description and units*
GWsource	R13	0.002	Groundwater concentration at the source, mg/L
LFsw	R14	0.000	Leaching factor, mg/L/mg/kg
GWcomp	R25	0.00018	Groundwater objective at the compliance point, mg/L
Cx/Csource	R15	1.08E-01	Steady-state attenuation along the centerline of a dissolved plume, mg/L/mg/L
k_s	R20	3150	Soil-water sorption coefficient, cm^3/g
K_{oc}	Appendix C table E	1.05E+06	Organic carbon partition coefficient, cm^3/g
f_{oc}	surface 0.005 subsurface 0.002	0.003	Organic carbon content of soil, g/g
θ_{ws}	R22 or surface 0.15 subsurface 0.30 gravel 0.20 sand 0.18 silt 0.16 clay 0.17	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3
θ_{as}	R21 or surface 0.28 subsurface 0.13 gravel 0.05 sand 0.14 silt 0.16 clay 0.17	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3
θ_T	R23 or 0.43 gravel 0.25 sand 0.32 silt 0.40 clay 0.36	0.43	Total soil porosity, cm^3/cm^3
H'	Appendix C table E	4.55E-03	Henry's law constant, cm^3 air/cm^3 water
w	surface 0.1 subsurface 0.2	0.2	Average soil moisture content, g/g
ρ_s	gravel 2.0 sand 1.8 silt 1.6 clay 1.7	1.5	Soil bulk density, g/cm^3
ρ_w		1	Water density, g/cm^3
X	site	6339.84	Distance along the centerline of the ground water plume emanating from the source, cm
ax	R16	633.984	Longitudinal dispersivity, cm (Equation R16)
ay	R17	211.328	Transverse dispersivity, cm (Equation R17)
az	R18	31.6992	Vertical dispersivity, cm (Equation R18)
Sw	site	2103.12	Source width perpendicular to ground water flow direction in horizontal plane, cm
Sd	site	200	Source width perpendicular to ground water flow direction in vertical plane, cm
K	site	2.85E+03	Aquifer hydraulic conductivity, cm/year
i	site	0.006	Hydraulic gradient, cm/cm
U	R19	39.78418605	Specific discharge, cm/day (Equation R19)
Ugw	R24	6.24E+03	Groundwater Darcy velocity, cm/yr
d		200	Groundwater mixing zone thickness, cm
I		30	Infiltration rate, cm/yr
W	site	3200.4	Width of source area parallel to direction of wind or groundwater movement, cm
λ	Appendix C table E	5.70E-04	First order degradation constant, day^-1
$C_{(x)}$	R26	0.00018	Concentration of contaminant in groundwater at the distance X from the steady source, mg/L
C_{source}	site	0.0017	The greatest potential concentration of the contaminant in groundwater at the source of contamination, mg/L

208	Distance, ft
69	Sw, ft
	Sd, ft
3.30E-02	K, cm/sec
105	W, ft

Values for Variables in Relevant Equations **Benzo(k)fluoranthene** **Project Name:** West Chicago Park District

SOIL MIGRATION/GROUNDWATER EXPOSURE ROUTE

Variable	*Source*	*Value*	*Description and units*
GWsource	R13	0.002	Groundwater concentration at the source, mg/L
LFsw	R14	0.000	Leaching factor, mg/L/mg/kg
GWcomp	R25	0.00017	Groundwater objective at the compliance point, mg/L
Cx/Csource	R15	1.11E-01	Steady-state attenuation along the centerline of a dissolved plume, mg/L/mg/L
k_s	R20	3000	Soil-water sorption coefficient, cm^3/g
K_{oc}	Appendix C table E	1.00E+06	Organic carbon partition coefficient, cm^3/g
f_{oc}	surface 0.005 subsurface 0.002	0.003	Organic carbon content of soil, g/g
θ_{ws}	R22 or surface 0.15 subsurface 0.30 gravel 0.20 sand 0.18 silt 0.16 clay 0.17	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3
θ_{as}	R21 or surface 0.28 subsurface 0.13 gravel 0.05 sand 0.14 silt 0.16 clay 0.17	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3
θ_T	R23 or 0.43 gravel 0.25 sand 0.32 silt 0.40 clay 0.36	0.43	Total soil porosity, cm^3/cm^3
H'	Appendix C table E	3.40E-05	Henry's law constant, cm^3 air/cm^3 water
w	surface 0.1 subsurface 0.2	0.2	Average soil moisture content, g/g
ρ_s	gravel 2.0 sand 1.8 silt 1.6 clay 1.7	1.5	Soil bulk density, g/cm^3
ρ_w		1	Water density, g/cm^3
X	site	6492.24	Distance along the centerline of the ground water plume emanating from the source, cm
ax	R16	649.224	Longitudinal dispersivity, cm (Equation R16)
ay	R17	216.408	Transverse dispersivity, cm (Equation R17)
az	R18	32.4612	Vertical dispersivity, cm (Equation R18)
Sw	site	2103.12	Source width perpendicular to ground water flow direction in horizontal plane, cm
Sd	site	200	Source width perpendicular to ground water flow direction in vertical plane, cm
K	site	2.85E+03	Aquifer hydraulic conductivity, cm/year
i	site	0.006	Hydraulic gradient, cm/cm
U	R19	39.78418605	Specific discharge, cm/day (Equation R19)
Ugw	R24	6.24E+03	Groundwater Darcy velocity, cm/yr
d		200	Groundwater mixing zone thickness, cm
I		30	Infiltration rate, cm/yr
W	site	3200.4	Width of source area parallel to direction of wind or groundwater movement, cm
λ	Appendix C table E	1.60E-04	First order degradation constant, day^-1
$C_{(x)}$	R26	0.00017	Concentration of contaminant in groundwater at the distance X from the steady source, mg/L
C_{source}	site	0.00157	The greatest potential concentration of the contaminant in groundwater at the source of contamination, mg/L

213	Distance, ft	
69	Sw, ft	
	Sd, ft	
3.30E-02	K, cm/sec	
105	W, ft	

Values for Variables in Relevant Equations | **Chrysene** | **Project Name:** West Chicago Park District

SOIL MIGRATION/GROUNDWATER EXPOSURE ROUTE

Variable	*Source*	*Value*	*Description and units*
GWsource	R13	0.002	Groundwater concentration at the source, mg/L
LFsw	R14	0.000	Leaching factor, mg/L/mg/kg
GWcomp	R25	0.0015	Groundwater objective at the compliance point, mg/L
Cx/Csource	R15	6.67E-01	Steady-state attenuation along the centerline of a dissolved plume, mg/L/mg/L
k_s	R20	1200	Soil-water sorption coefficient, cm^3/g
K_{oc}	Appendix C table E	4.00E+05	Organic carbon partition coefficient, cm^3/g
f_{oc}	surface 0.005 subsurface 0.002	0.003	Organic carbon content of soil, g/g
θ_{ws}	R22 or surface 0.15 subsurface 0.30 gravel 0.20 sand 0.18 silt 0.16 clay 0.17	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3
θ_{as}	R21 or surface 0.28 subsurface 0.13 gravel 0.05 sand 0.14 silt 0.16 clay 0.17	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3
θ_T	R23 or 0.43 gravel 0.25 sand 0.32 silt 0.40 clay 0.36	0.43	Total soil porosity, cm^3/cm^3
H'	Appendix C table E	3.90E-03	Henry's law constant, cm^3 air/cm^3 water
w	surface 0.1 subsurface 0.2	0.2	Average soil moisture content, g/g
ρ_s	gravel 2.0 sand 1.8 silt 1.6 clay 1.7	1.5	Soil bulk density, g/cm^3
ρ_w		1	Water density, g/cm^3
X	site	1920.24	Distance along the centerline of the ground water plume emanating from the source, cm
ax	R16	192.024	Longitudinal dispersivity, cm (Equation R16)
ay	R17	64.008	Transverse dispersivity, cm (Equation R17)
az	R18	9.6012	Vertical dispersivity, cm (Equation R18)
Sw	site	2103.12	Source width perpendicular to ground water flow direction in horizontal plane, cm
Sd	site	200	Source width perpendicular to ground water flow direction in vertical plane, cm
K	site	2.85E+03	Aquifer hydraulic conductivity, cm/year
i	site	0.006	Hydraulic gradient, cm/cm
U	R19	39.78418605	Specific discharge, cm/day (Equation R19)
Ugw	R24	6.24E+03	Groundwater Darcy velocity, cm/yr
d		200	Groundwater mixing zone thickness, cm
I		30	Infiltration rate, cm/yr
W	site	3200.4	Width of source area parallel to direction of wind or groundwater movement, cm
λ	Appendix C table E	3.50E-04	First order degradation constant, day^-1
$C_{(x)}$	R26	0.0015	Concentration of contaminant in groundwater at the distance X from the steady source, mg/L
C_{source}	site	0.0023	The greatest potential concentration of the contaminant in groundwater at the source of contamination, mg/L

63	Distance, ft	
69	Sw, ft	
	Sd, ft	
3.30E-02	K, cm/sec	
105	W, ft	

Values for Variables in Relevant Equations | **Napthalene** | **Project Name:** West Chicago Park District

SOIL MIGRATION/GROUNDWATER EXPOSURE ROUTE

Variable	*Source*	*Value*	*Description and units*
GWsource	R13	1.347	Groundwater concentration at the source, mg/L
LFsw	R14	0.042	Leaching factor, mg/L/mg/kg
GWcomp	R25	0.14	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
K_{oc}	Appendix C table E	5.00E+02	Organic carbon partition coefficient, cm^3/g
f_{oc}	surface 0.005 subsurface 0.002	0.003	Organic carbon content of soil, g/g
θ_{ws}	R22 or surface 0.15 subsurface 0.30 gravel 0.20 sand 0.18 silt 0.16 clay 0.17	0.3	Volumetric water content of vadose zone soils, cm^3/cm^3
θ_{as}	R21 or surface 0.28 subsurface 0.13 gravel 0.05 sand 0.14 silt 0.16 clay 0.17	0.13	Volumetric air content of vadose zone soils, cm^3/cm^3
θ_T	R23 or 0.43 gravel 0.25 sand 0.32 silt 0.40 clay 0.36	0.43	Total soil porosity, cm^3/cm^3
H'	Appendix C table E	1.97E-02	Henry's law constant, cm^3 air/cm^3 water
w	surface 0.1 subsurface 0.2	0.2	Average soil moisture content, g/g
ρ_s	gravel 2.0 sand 1.8 silt 1.6 clay 1.7	1.5	Soil bulk density, g/cm^3
ρ_w		1	Water density, g/cm^3
X	site	5577.84	Distance along the centerline of the ground water plume emanating from the source, cm
ax	R16	557.784	Longitudinal dispersivity, cm (Equation R16)
ay	R17	185.928	Transverse dispersivity, cm (Equation R17)
az	R18	27.8892	Vertical dispersivity, cm (Equation R18)
Sw	site	2103.12	Source width perpendicular to ground water flow direction in horizontal plane, cm
Sd	site	200	Source width perpendicular to ground water flow direction in vertical plane, cm
K	site	2.85E+03	Aquifer hydraulic conductivity, cm/year
i	site	0.006	Hydraulic gradient, cm/cm
U	R19	39.78418605	Specific discharge, cm/day (Equation R19)
Ugw	R24	6.24E+03	Groundwater Darcy velocity, cm/yr
d		200	Groundwater mixing zone thickness, cm
I		30	Infiltration rate, cm/yr
W	site	3200.4	Width of source area parallel to direction of wind or groundwater movement, cm
λ	Appendix C table E	2.70E-03	First order degradation constant, day^-1
$C_{(x)}$	R26	0.14	Concentration of contaminant in groundwater at the distance X from the steady source, mg/L
C_{source}	site	1.38	The greatest potential concentration of the contaminant in groundwater at the source of contamination, mg/L

183	Distance, ft	
69	Sw, ft	
	Sd, ft	
3.30E-02	K, cm/sec	
105	W, ft	

Attachment C
J&E Input Parameters

Johnson & Ettinger Model Calculations – Benzene

J&E Equation	Equation with inputs	Result
J&E 1 $RO_{indoor\ air}$ Carc.	$\frac{TR \times AT_c \times 365\frac{days}{yr}}{ED \times EF \times URF \times 1000\frac{\mu g}{mg}}$ $\frac{1\times10^{-6}\times70\times365}{30\times350\times7.8\times10^{-6}\times1000}$	3.12×10^{-4} mg/m^3
J&E 2 $RO_{indoor\ air}$ Non-carc.	NA	NA
J&E 3 ppmv to mg/m^3	NA	NA
J&E 4 $RO_{soil\ gas}$	$\frac{RO_{indoor\ air}}{\alpha}$ $\frac{3.12e\text{-}4}{2.23e\text{-}5}$	13.99 mg/m^3
J&E 5 C_v^{sat}	$\frac{P\times MW}{R\times T}\times10^6$ $\frac{\frac{1.25}{10}\times78.11}{0.08206\times286}\times10^6$	4.16×10^5 mg/m^3-air
J&E 6 RO_{gw}	$\frac{RO_{soil\ gas}}{H'_{TS}\times1000\frac{L}{m^3}}$ $\frac{13.99}{(1.34e\text{-}1)(1000)}$	0.104 mg/L
J&E 7 α advection & diffusion	$\frac{\left[\left(\frac{D_T^{eff}\times A_B}{Q_{soil}\times L_T}\right)\times\exp\left(\frac{Q_{soil}\times L_{crack}}{D_{crack}^{eff}\times A_{crack}}\right)\right]}{\left[\exp\left(\frac{Q_{soil}\times L_{crack}}{D_{crack}^{eff}\times A_{crack}}\right)+\left(\frac{D_T^{eff}\times A_B}{Q_{soil}\times L_T}\right)+\left(\frac{D_T^{eff}\times A_B}{Q_{soil}\times L_T}\right)\left[\exp\left(\frac{Q_{soil}\times L_{crack}}{D_{crack}^{eff}\times A_{crack}}\right)-1\right]\right]}$ $\frac{\left(\frac{((1.23e\text{-}4)(1000000)}{(3.59e4)(152.4)}\right)\exp\left(\frac{(83,33)10}{(5.34e\text{-}4)400}\right)}{\exp\left(\frac{83.33(10)}{5.34e\text{-}4(400)}\right)+\left(\frac{(1.23e\text{-}4)(1e6)}{3.59e4(152.4)}\right)+\left(\frac{1.23e\text{-}4(1e6)}{83.33(152.4)}\right)\left(\exp\left(\frac{83.33(10)}{5.34e\text{-}4(400)}\right)\text{-}1\right)}$	2.23×10^{-5}
J&E 8 α Diffusion only	NA	NA
J&E 9a D_T^{eff}	$\frac{L_T}{\sum_{i=1}^{n}L_i/D_i^{eff}}$ $\frac{152.4}{\left(\frac{114.9}{6.86e\text{-}3}\right)+\left(\frac{37.5}{3.08e\text{-}5}\right)}$	1.23×10^{-4} 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}	$D_i\left(\frac{\theta_{a,i}^{3.33}}{\theta_{T,i}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{w,i}^{3.33}}{\theta_{T,i}^2}\right)$	$(8.8e\text{-}2)\left(\frac{((0.28)^{3.33})}{((0.43)^2)}\right)+\left(\frac{1.02e\text{-}5}{1.34e\text{-}1}\right)\left(\frac{((0.15)^{3.33})}{((0.43)^2)}\right)$	**$6.86x10^{-3}$ cm^2/s**
J&E11 D_2^{eff} **Cap fringe**	$D_i\left(\frac{\theta_{a,i}^{3.33}}{\theta_{T,i}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{w,i}^{3.33}}{\theta_{T,i}^2}\right)$	$(8.8e\text{-}2)\left(\frac{((0.043)^{3.33})}{((0.43)^2)}\right)+\left(\frac{1.02e\text{-}5}{1.34e\text{-}1}\right)\left(\frac{((0.387)^{3.33})}{((0.43)^2)}\right)$	**$3.08x10^{-5}$ cm^2/s**
J&E 12a A_B	$(L_B \times W_B)$	1000×1000	**$1x10^6$ cm^2**
J&E 12b	**NA**		**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}	$2\times(L_B + W_B)\times w$	$2\,(1000 + 1000)\times 0.1$	**400 cm^2**
J&E 15 D_{crack}^{eff}	$D_i\left(\frac{\theta_{a,crack}^{3.33}}{\theta_{T,crack}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{w,crack}^{3.33}}{\theta_{T,crack}^2}\right)$	$(8.8e\text{-}2)\left(\frac{((0.13)^{3.33})}{((0.43)^2)}\right)+\left(\frac{1.02e\text{-}5}{1.34e\text{-}1}\right)\left(\frac{((0.15)^{3.33})}{((0.43)^2)}\right)$	**$5.34x10^{-4}$ cm^2/s**
J&E 16 Θ_{Ti}	**NA**		**NA**
J&E 17 Θ_w	**NA**		**NA**
J&E 18 Θ_a	**NA**		**NA**

J&E Equation Parameters — Benzene

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
D_i	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	
D_{source}	Distance from ground surface to top of contamination	162.4	cm	SITE-SPECIFIC Field Measurement	Soil Gas Contamination=152.4, Groundwater 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	IL EPA	Res=0.53, Ind/Comm=0.93
H_B	2.4	244	cm	IL EPA	**SOG** Res=244, Ind/Comm=305 OR Site sp T3 **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
L_T	Distance from bottom of slab to top of contamination	152.4	cm	Field Measurement OR J&E 10, App C Table L	Site-specific
MW	Molecular weight	78.11	g/mole	IL EPA	Chemical-specific
P	Vapor pressure	0.125	atm	App C Table E	Chemical-specific

Q_{bldg}	Building ventilation rate	3.59E+04	cm3/s	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
Q_{soil}	Volumetric flow rate of soil gas into the enclosed space	83.33	cm3/s	USEPA Users Guide 2004	If LT<152cm = 83.33; if LT>= 152cm = 0
R	Ideal 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
T	Temperature	286	°K	USEPA Users Guide 2004	286 (converted from 13 C)
TR	Target risk	1.00E-06	unitless	SSL	Res=10^-6 Ind/Comm=10^-6 at point of human 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	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	2.23E-05	unitless	J&E 7 OR 8, App C Table L	Site-specific
$\theta_{a,1}$	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
$\theta_{a,crack}$	Air-filled porosity of soil in cracks	0.13	cm3/cm3	SSL OR J&E 18, App C Table L	0.13
$\theta_{a,2}$	Air-filled porosity of layer 2 (capillary fringe)	0.043	cm3/cm3	SSL OR J&E 18, App C Table L	0.13 OR Calculated value for capillary fringe $\theta_{a,i}$=0.1 $\theta_{T,i}$
$\theta_{T,crack}$	Total porosity of soil in cracks	0.43	cm3/cm3	SSL OR J&E 16, App C Table L	0.43
θ_T	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 soil porosity of layer 1	0.15	cm3/cm3	SSL OR J&E 17, App C Table L	0.15 or calculated value
$\theta_{w,2}$	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 $\theta_{T,i}$
$\theta_{w,crack}$	Water-filled porosity of soil in cracks	0.15	cm3/cm3	SSL OR J&E 17, App C Table L	0.15

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)	$\frac{THQ \times AT_{nc} \times 365\frac{days}{yr} \times RfC}{ED \times EF}$	$\frac{(1)(30)(365)(1e0)}{(30)(350)}$	1.04 mg/m^3
J&E 3 ppmv to mg/m^3	NA		NA
J&E 4 $RO_{soil\ gas}$	$\frac{RO_{indoor\ air}}{\alpha}$	$\frac{1.04}{1.64e\text{-}5}$	63,415 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}	$\frac{RO_{soil\ gas}}{H'_{TS} \times 1000\frac{L}{m^3}}$	$\frac{63415}{(1.64e\text{-}1)(1000)}$	386.7 mg/L
J&E 7 α advection & diffusion	$\frac{\left[\left(\frac{D_T^{eff} \times A_B}{Q_{bldg} \times L_T}\right) \times \exp\left(\frac{Q_{soil} \times L_{crack}}{D_{crack}^{eff} \times A_{crack}}\right)\right]}{\left[\exp\left(\frac{Q_{soil} \times L_{crack}}{D_{crack}^{eff} \times A_{crack}}\right) + \left(\frac{D_T^{eff} \times A_B}{Q_{bldg} \times L_T}\right)\left[\exp\left(\frac{Q_{soil} \times L_{crack}}{D_{crack}^{eff} \times A_{crack}}\right) - 1\right]\right]}$	$\frac{\left(\frac{((8.96e\text{-}5)(1000000))}{((3.59e4)(152.4))}\right)\exp\left(\frac{((83.33)(10))}{(4.55e\text{-}4)(400)}\right)}{\exp\left(\frac{((83.33)(10))}{(4.55e\text{-}4)(400)}\right)+\left(\frac{((8.96e\text{-}5)(1000000))}{(83.33)(152.4)}\right)+\frac{((8.96e\text{-}5)(1000000))}{((83.33)(152.4))}\exp\left(\frac{((83.33)(10))}{(4.55e\text{-}3)(400)}\text{-}1\right)}$	1.64x10^{-5}
J&E 8 α Diffusion only	NA		NA
J&E 9a D_T^{eff}	$\frac{L_T}{\sum_{i=1}^{n} L_i / D_i^{eff}}$	$\frac{152.4}{\left(\frac{114.9}{5.85e\text{-}3}\right)+\left(\frac{37.5}{2.23e\text{-}5}\right)}$	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}	$D_i\left(\frac{\theta_{a,i}^{3.33}}{\theta_{T,i}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{w,i}^{3.33}}{\theta_{T,i}^2}\right)$	$(7.50e\text{-}2)\left(\frac{((0.28)^{3.33})}{((0.43)^2)}\right)+\left(\frac{7.80e\text{-}6}{1.64e\text{-}1}\right)\left(\frac{((0.15)^{3.33})}{((0.43)^2)}\right)$	$5.85x10^{-3}$ cm²/s
J&E11 D_2^{eff} Cap fringe	$D_i\left(\frac{\theta_{a,i}^{3.33}}{\theta_{T,i}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{w,i}^{3.33}}{\theta_{T,i}^2}\right)$	$(7.50e\text{-}2)\left(\frac{((0.043)^{3.33})}{((0.43)^2)}\right)+\left(\frac{7.80e\text{-}6}{1.64e\text{-}1}\right)\left(\frac{((0.387)^{3.33})}{((0.43)^2)}\right)$	$2.23x10^{-5}$ cm²/s
J&E 12a A_B	$(L_B \times W_B)$	1000×1000	$1x10^6$ cm²
J&E 12b	NA		NA
J&E 13 Q_{bldg}	$\left(\frac{L_B \times W_B \times H_B \times ER}{3600\frac{sec}{hr}}\right)$	$\frac{1000 \times 1000 \times 244 \times 0.53}{3600}$	$3.59x10^4$ cm³/s
J&E 14 A_{crack}	$2\times(L_B + W_B)\times w$	$2(1000 + 1000) \times 0.1$	400 cm²
J&E 15 D_{crack}^{eff}	$D_i\left(\frac{\theta_{a,crack}^{3.33}}{\theta_{T,crack}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{w,crack}^{3.33}}{\theta_{T,crack}^2}\right)$	$((7.50e\text{-}2))\left(\frac{((0.13)^{3.33})}{((0.43)^2)}\right)+\left(\frac{(7.80e\text{-}6)}{(1.64e\text{-}1)}\right)\left(\frac{((0.15)^{3.33})}{(0.43)^2}\right)$	$4.55x10^{-4}$ cm²/s
J&E 16 Θ_{Ti}	NA		NA
J&E 17 Θ_w	NA		NA
J&E 18 Θ_a	NA		NA

J&E Equation Parameters — Ethylbenzene

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 C Table L	Calculated Value
D_i	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			
D_{source}	Distance from ground surface to top of contamination	162.4	cm	Field Measurement	Soil Gas Contamination=152.4, Groundwater 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	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
H_B	Height of building	244	cm	IL EPA	**SOG** Res=244, Ind/Comm=305 OR Site sp T3 **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
L_T	Distance from bottom of slab to top of 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, Ind/Comm=5.04*10^5 or SST3
Q_{bldg}	Building ventilation rate	3.59E+04	cm3/s	J&E 13, App C Table L	
Q_{soil}	Volumetric flow rate of soil gas into the enclosed 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

RO_{gw}	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
$\theta_{a,crack}$	Air-filled porosity of soil in cracks	0.13	cm3/cm3	SSL OR J&E 18, App C Table L	0.13
$\theta_{a,2}$	Air-filled porosity of soil layer 2 (capillary fringe)	0.043	cm3/cm3	SSL OR J&E 18, App C Table L	$\theta_{T,i}$
$\theta_{T,crack}$	Total porosity for soil in cracks	0.43	cm3/cm3	SSL OR J&E 16, App C Table L	0.43
θ_T	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
$\theta_{w,crack}$	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 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	Equation with inputs		Result
J&E 1 $RO_{indoor\ air}$ (carcinogenic)	NA		NA
J&E 2 $RO_{indoor\ air}$ (non-carcinogenic)	$\frac{THQ \times AT_{nc} \times 365\frac{days}{yr} \times RfC}{ED \times EF}$	$\frac{(1)(30)(365)(3e\text{-}3)}{(30)(350)}$	$3.13x10^{-3}$ mg/m³
J&E 3 ppmv to mg/m³	NA		NA
J&E 4 $RO_{soil\ gas}$	$\frac{RO_{indoor\ air}}{\alpha}$	$\frac{3.13e\text{-}3}{1.32e\text{-}4}$	23.71 mg/m³
J&E 5 C_v^{sat}	$\frac{P \times MW}{R \times T} \times 10^6$		DEFAULT
J&E 6 RO_{gw}	$\frac{RO_{soil\ gas}}{H'_{TS} \times 1000\frac{L}{m^3}}$	$\frac{23.71}{(8.29e\text{-}3)(1000)}$	2.86 mg/L
J&E 7 α advection & diffusion	$\frac{\left[\left(\frac{D_T^{eff} \times A_B}{Q_{building} \times L_T}\right) \times \exp\left(\frac{Q_{soil} \times L_{crack}}{D_{crack}^{eff} \times A_{crack}}\right)\right]}{\left[\exp\left(\frac{Q_{soil} \times L_{crack}}{D_{crack}^{eff} \times A_{crack}}\right) + \left(\frac{D_T^{eff} \times A_B}{Q_{building} \times L_T}\right) + \left(\frac{D_T^{eff} \times A_B}{Q_{soil} \times L_T}\right)\left[\exp\left(\frac{Q_{soil} \times L_{crack}}{D_{crack}^{eff} \times A_{crack}}\right) - 1\right]\right]}$	$\frac{\left[\left(\frac{(7.68e\text{-}4)(1000000)}{(3.59e4)(152.4)}\right)\exp\left(\frac{(83.33)(10)}{(3.67e\text{-}4)(400)}\right)\right]}{\exp\left(\frac{83.33(10)}{(3.67e\text{-}4)(400)}\right) + \left(\frac{(7.68e\text{-}4)(1000000)}{(3.59e4)(152.4)}\right) + \left(\frac{(7.68e\text{-}4)(1e6)}{(83.33)(152.4)}\right)\left(\exp\left(\frac{83.33(10)}{(3.67e\text{-}4)(400)}\right) - 1\right)}$	$1.32x10^{-4}$
J&E 8 α Diffusion only	NA		NA
J&E 9a D_T^{eff}	$\frac{L_T}{\sum_{i=1}^{n} L_i / D_i^{eff}}$	$\frac{152.4}{\left(\frac{114.9}{4.61e\text{-}3}\right) + \left(\frac{37.5}{2.16e\text{-}4}\right)}$	$7.68x10^{-4}$ cm²/s

J&E 9b	$L_1 + L_2 = L_T$		Satisfied
J&E 10 L_T	$D_{source} - L_F$	162.4-10	152.4 cm
J&E11 D_1^{eff}	$D_i\left(\frac{\theta_{a,i}^{3.33}}{\theta_{T,i}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{w,i}^{3.33}}{\theta_{T,i}^2}\right)$	$(5.90e\text{-}2)\left(\frac{((0.28)^{3.33})}{((0.43)^2)}\right)+\left(\frac{7.50e\text{-}6}{8.29e\text{-}3}\right)\left(\frac{((0.15)^{3.33})}{((0.43)^2)}\right)$	$4.61x10^{-3}$ cm²/s
J&E11 D_2^{eff} Cap fringe	$D_i\left(\frac{\theta_{a,i}^{3.33}}{\theta_{T,i}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{w,i}^{3.33}}{\theta_{T,i}^2}\right)$	$(5.90e\text{-}2)\left(\frac{((0.043)^{3.33})}{((0.43)^2)}\right)+\left(\frac{7.50e\text{-}6}{8.29e\text{-}3}\right)\left(\frac{((0.387)^{3.33})}{((0.43)^2)}\right)$	$2.16x10^{-4}$ cm²/s
J&E 12a A_B	$(L_B \times W_B)$	1000×1000	$1x10^6$ cm²
J&E 12b	NA		NA
J&E 13 Q_{bldg}	$\left(\frac{L_B \times W_B \times H_B \times ER}{3600\frac{sec}{hr}}\right)$	$\frac{1000 \times 1000 \times 244 \times 0.53}{3600}$	$3.59x10^4$ cm³/s
J&E 14 A_{crack}	$2\times(L_B + W_B)\times w$	$2(1000 + 1000)\times 0.1$	400 cm²
J&E 15 D_{crack}^{eff}	$D_i\left(\frac{\theta_{a,crack}^{3.33}}{\theta_{T,crack}^2}\right)+\left(\frac{D_w}{H_{TS}}\right)\left(\frac{\theta_{w,crack}^{3.33}}{\theta_{T,crack}^2}\right)$	$(5.9e\text{-}2)\left(\frac{(0.13)^{3.33}}{(0.43)^2}\right)+\left(\frac{7.50e\text{-}6}{8.29e\text{-}3}\right)\left(\frac{(0.15)^{3.33}}{(0.43)^2}\right)$	$3.67x10^{-4}$ cm²/s
J&E 16 Θ_{Ti}	NA		NA
J&E 17 Θ_w	NA		NA
J&E 18 Θ_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 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	3.67E-04	cm2/s	J&E 15, App C Table L	Calculated Value
D_i	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	
D_{source}	Distance from ground surface to top of contamination	162.4	cm	Field Measurement	Soil Gas Contamination=152.4, Groundwater 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
H_B	Height of building	244	cm	IL EPA	**SOG** Res=244, Ind/Comm=305 OR Site sp T3 **Basement** Res=427, Ind/Comm=488
H'_{TS}	Dimensionless Henry's Law constant	8.29E-03	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_i	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
L_T	Distance from bottom of slab to top of contamination	152.4	cm	Field Measurement OR J&E 10, App C Table L	142.2 or Site sp (4 FT 8 IN)
Q_{bldg}	Building ventilation rate	3.59E+04	cm3/s	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
Q_{soil}	Volumetric flow rate of soil gas into the enclosed 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
RO_{gw}	Groundwater remediation objective	2.86	mg/L	App B Table E OR J&E 6, App C Table L	Chemical specific or Calculated
$RO_{indoorair}$	Indoor air remediation objective	3.13E-03	mg/m3	J&E 1 and 2, App C Table L	Calculated Value
$RO_{soilgas}$	Soil gas remediation objective	23.71	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	1.32E-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 C Table L	0.13 OR Calculated value for capillary fringe $\theta_{a,i}=0.1\ \theta_{T,i}$
$\theta_{T,crack}$	Total porosity for soil in cracks	0.43	cm3/cm3	SSL OR J&E 16, App C Table L	0.43
$\theta_{T,1}$	Total porosity of soil layer 1	0.43	cm3/cm3	SSL OR J&E 16, App C Table L	0.43 or calculated value
$\theta_{w,1}$	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 C Table L For cap fringe USEPA Users Guide 2004	0.15 or calculated value, for cap fringe=0.375 OR 0.9 $\theta_{T,i}$

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. Site Identification

IEMA Incident # (6- or 8-digit): 980814 IEPA LPC# (10-digit): 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. Sample Collector

I certify that:

1. Appropriate sampling equipment/methods were utilized to obtain representative samples. BJT (Initial)
2. Chain-of-custody procedures were followed in the field. BJT (Initial)
3. Sample integrity was maintained by proper preservation. BJT (Initial)
4. All samples were properly labeled. BJT (Initial)

C. Laboratory Representative

I certify that:

1. Proper chain-of-custody procedures were followed as documented on the chain-of-custody forms MG (Initial)
2. Sample integrity was maintained by proper preservation. MG (Initial)
3. All samples were properly labeled. MG (Initial)
4. Quality assurance/quality control procedures were established and carried out. MG (Initial)
5. Sample holding times were not exceeded. MG (Initial)

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

Name Brandi Talaga
Title Environmental Technician
Company Resource Consulting, Inc.
Address P.O. Box 123
City Geneva
State Illinois
Zip Code 60134
Phone 630-232-9820
Signature Brandi C. Talaga
Date Jul 15, 2020

Laboratory Representative

Name Ryan Gerrick
Title Project Manager
Company First Environmental Labs, Inc.
Address 1600 Shore Road
City Naperville
State Illinois
Zip Code 60540
Phone 630-778-1200
Signature
Date 7-16-20

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. 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): 157 West Washington St.

City: West Chicago County: DuPage ZIP Code: 60185

Leaking UST Technical File

B. Sample Collector

I certify that:

1. Appropriate sampling equipment/methods were utilized to obtain representative samples. CM (Initial)
2. Chain-of-custody procedures were followed in the field. CM (Initial)
3. Sample integrity was maintained by proper preservation. CM (Initial)
4. All samples were properly labeled. CM (Initial)

C. Laboratory Representative

I certify that:

1. Proper chain-of-custody procedures were followed as documented on the chain-of-custody forms NG (Initial)
2. Sample integrity was maintained by proper preservation. NG (Initial)
3. All samples were properly labeled. NG (Initial)
4. Quality assurance/quality control procedures were established and carried out. NG (Initial)
5. Sample holding times were not exceeded. NG (Initial)

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

Name Courtney McGinnis
Title Geologist/Project Manager
Company Resource Consulting, Inc.
Address PO Box 123
City Geneva
State Illinois
Zip Code 60134
Phone 620-232-9820
Signature C. McGinnis
Date 02/07/23

Laboratory Representative

Name ~~Bill Mottashed~~ MG Ryan Gerrish
Title Project Manager
Company First Environmental Laboratories, Inc.
Address 1600 Shore Road
City Naperville
State Illinois
Zip Code 60563
Phone 630-778-1200
Signature Ryan Gerrish
Date 2-7-23

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...

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

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

Eric.Kuhlman@illinois.gov <Eric.Kuhlman@Illinois.gov>

March 17, 2023 at 8:33 AM

Details

FW: [External] West Chicago Park District/0430905825

To: Daniel Horvath, Cc: Courtney McGinnis

Siri found updated contact info Eric Kuhlman (217) 785-5715 update...

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

0430905825W

Daniel Horvath

April 10, 2023 at 2:54 PM
Details

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.

(o) (630)232-9820
(c) (630)292-9820
(f) (630)232-9824
www.resourceillinois.com

> On Mar 17, 2023, at 11:06 AM, Kuhlman, Eric <Eric.Kuhlman@illinois.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

Office of the Illinois
State Fire Marshal

General Office
217-785-0969
FAX
217-782-1062
Divisions
ARSON INVESTIGATION
217-782-9116
BOILER and PRESSURE VESSEL SAFETY
217-782-2696
FIRE PREVENTION
217-785-4714
MANAGEMENT SERVICES
217-782-9889
OSFIRS
217-785-3828
HUMAN RESOURCES
217-785-1020
PERSONNEL STANDARDS and EDUCATION
217-782-4542
PETROLEUM and CHEMICAL SAFETY
217-785-5878
PUBLIC INFORMATION
217-785-1021
WEB SITE
www.state.il.us/osfm

CERTIFIED MAIL - RECEIPT REQUESTED # Z 082 400 280

RECEIVED
DEC 14 1998

December 10, 1998

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

In Re: Facility No. 2-019454
IEMA Incident No. 98-0814
West Chicago Park Dist
Reed-Keppler Park&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 above and associated with the following tanks:

Eligible Tanks

Tank 1 1,000 gallon Gasoline
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 fuel which is exempt from the Motor Fuel Tax Law;
3. 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 Law

Aviation fuel

Heating oil

Kerosene

Used oil, which has been refined from crude oil used in a motor vehicle, as defined in Section 1.3 of the Motor Fuel Tax Law.

4. The owner or operator registered the tank and paid all fees in accordance with the statutory and regulatory requirements of the Gasoline Storage Act.

5. The owner or operator notified the Illinois Emergency Management Agency of a confirmed release, the costs were incurred after the notification 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.

6. The costs have not already been paid to the owner or operator under a private insurance policy, other written agreement, or court order.

7. The costs were associated with "corrective action".

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:

Dorothy Gunn, Clerk
Illinois 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 or deductibility determinations, please contact our Office at (217)785-1020 or (217)785-5878 between 3:00 - 4:00 p.m.

Sincerely,

Melvin H. Smith

Melvin H. Smith
Division Director
Division of Petroleum and Chemical Safety

MHS:

cc: IEPA
Facility File

Attachment G
CACR Budget

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	$	$	$	$	$ 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

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		=	
BETX Water with MTBE EPA 8260		X		=	
COD (Chemical Oxygen Demand)		X		=	
Corrosivity		X		=	
Flash Point or Ignitability Analysis EPA 1010		X		=	
Fraction Organic Carbon Content (f_{oc}) 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		=	
PCBs		X		=	
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)		X		=	
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 (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	X	60.00	=	$60.00
PNA Water EPA 8270 (Aug. 2019)	1	X	150.00	=	$150.00
Geo-Technical Analysis					
Soil Bulk Density (p_b) ASTM D2937-94		X		=	
Ex-situ Hydraulic Conductivity / Permeability		X		=	
Moisture Content (w) ASTM D2216-92 / D4643-93		X		=	
Porosity		X		=	
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 (p_s) ASTM D854-92		X		=	
Soil Bulk Density (Aug. 2019)	1	X	80.00	=	$80.00
Moisture Content (Aug. 2019)	1	X	18.00	=	$18.00
		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		=	
		X		=	
		X		=	
		X		=	
		X		=	
Other					
EnCore® Sampler, purge-and-trap sampler, or equivalent sampling device		X		=	
Sample Shipping per sampling event[1]		X		=	

[1]A 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

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).			
	Senior Project Manager	10.00	119.11	$1,191.10
	Correspondence with staff and IEPA re: regulatory evaluation and indoor inhalation exposure route			
	Project Manager	10.00	107.20	$1,072.00
	Project management with staff and IEPA re: CACR rejection, TACO, data, budget revisions (2013).			
	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 planning for soil vapor and bulk density sampling (Aug. 2014).			
	Geologist III	5.00	106.91	$534.55
	On-site for soil sampling (Aug. 2014)			
	Project Manager	6.00	109.34	$656.04
	Analysis/evaluation of soil gas data, correspondence with lab and IEPA re: data analysis (2014).			
	Senior Project Manager	20.00	121.49	$2,429.80
	Preparation of ordinance: research, planning, correspondence with City (2014).			
	Geologist III	20.00	106.91	$2,138.20
	Preparation of draft ordinance document for submission to Public Works Department (2014).			

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	Task			
	Geologist III	5.00	106.91	$534.55
	Preparation of maps and supporting documents for draft ordinance using IEPA requirements 2014).			
	Project Manager	10.00	109.34	$1,093.40
	Ordinance design and preparation of documents with 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 ordinance and supporting documents for final enactment by City (2014/2015).			
	Project Manager	10.00	109.34	$1,093.40
	Project management with City personnel re: property owner summary and approval of ordinance (2			
	Senior Project Manager	3.00	125.15	$375.45
	Project management with Illinois EPA re: indoor inhalation and Site land use classification (June 20			
	Senior Scientist	20.00	106.38	$2,127.60
	Preparation of CACR response documentation including TACO modeling, ordinance work (June 20			
	Project Manager	5.00	113.76	$568.80
	Review of data and project needs for contaminated groundwater and soil gas; planning for field wor			
	Geologist III	6.00	111.24	$667.44
	On-site for monitoring well sampling and sample management (July 2017).			

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	Task			
	Project Manager	5.00	113.76	$568.80
	Review of groundwater quality data and planning response for indoor inhalationroute evaluation (20			
	Senior Project Manager	5.00	126.40	$632.00
	Project management with IEPA and client re: re-sampling monitoring well for J&E equation (2017).			
	Project Manager	5.00	116.04	$580.20
	Review of project needs and budgeting for next phase of project (2019).			
	Geologist III	20.00	113.46	$2,269.20
	Preparation of technical summary/CAP amendment text and mapping (2019).			
	Senior Admin. Assistant	3.00	58.02	$174.06
	Forms management - preparation, editing, publishing, correspondence (2019).			
	Senior Project Manager	3.00	128.93	$386.79
	Review of technical summary/CAP amendment (2019).			
	Senior Admin. Assistant	2.00	58.02	$116.04
	Edit and publish technical summary/CAP amendment (2019)			
	Senior Project Manager	2.00	131.51	$263.02
	Project management - soil and groundwater sampling with new IEPA project manager (2019).			
	Project Manager	2.00	118.36	$236.72
	Field work planning with staff, review of scope of work and project needs (2019).			

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	**Task**			
	Project Manager	3.00	118.36	$355.08
	Project management and correspondence w/ new IEPA project manager (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 boring/monitoring well installation (Aug. 2019).			
	Geologist III	20.00	115.73	$2,314.60
	Review of lab data, preparation of data table, forms, mapping, sb logs, CAP amendment text (2020).			
	Senior Admin. Assistant	6.00	59.18	$355.08
	Edit and publish CAP amendment (2020).			
	Project Manager	2.00	120.73	$241.46
	Data analysis and 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 evaluation of indoor inhalation modeling, data, and IEPA requirements (2021).			
	Senior Admin. Assistant	20.00	60.36	$1,207.20
	Clerical work, invoicing, 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 CACR budget amendment (2022).			
	Senior Admin. Assistant	15.00	63.41	$951.15
	Preparation of billing package (2022).			
	Geologist III	50.00	123.99	$6,199.50
	Preparation of comprehensive CACR at request of new PM (2022).			
	Geologist III	10.00	123.99	$1,239.90
	Review and preparation of J&E equation for final documentation (2022).			
	Professional Engineer	4.00	183.17	$732.68
	Review and certification of CACR (2022).			

*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		$7.84
CACR				
Sampling Equipment (2014)	1.00	124.00		$124.00
CACR	Helium detector for soil gas sampling.			
Mileage (July 2017)	14.00	.54		$7.56
Mileage (Aug. 2019)	14.00	.58		$8.12

Total of Consultant Materials Costs	$147.52

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

On Oct 24, 2023, at 9:07 AM, Kuhlman, Eric <Eric.Kuhlman@Illinois.gov> wrote:

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:

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.

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: .

1. ~~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 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.

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
www.resourceillinois.com

On Oct 12, 2023, at 11:33 AM, Kuhlman, Eric <Eric.Kuhlman@Illinois.gov> wrote:

The IEPA will need something more official, like a cover letter with your company's letterhead requesting the 60-day extension in accordance with Section 740.505(b).

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
www.resourceillinois.com

> On Oct 12, 2023, at 11:04 AM, Kuhlman, Eric <Eric.Kuhlman@Illinois.gov> wrote:
>
> That's my recommendation. Is that acceptable?

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 11:02 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
www.resourceillinois.com

> 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. So, if you'd like me to resolve these issues, I need more time.

Otherwise, my draft letter goes on to management.

ERIC KUHLMAN
Project Manager
Leaking UST Section
Illinois EPA
Phone: (217) 785-5715


From: Daniel Horvath <dhorvath@resourceillinois.com>
Sent: Wednesday, October 11, 2023 2:05 PM
To: Kuhlman, Eric <Eric.Kuhlman@Illinois.gov>
Cc: Putrich, Steve <Steve.Putrich@Illinois.gov>
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
www.resourceillinois.com

> 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.

We have submitted at least 2 versions of the Indoor 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 forms,
>
> 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 <dhorvath@resourceillinois.com>
> 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

> Illinois EPA
> Phone: (217) 785-5715
>
>
> -----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.
>>

>> In accordance with Section 734.135(a), all plans, budgets and reports must be submitted to the Agency 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 <dhorvath@resourceillinois.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/1QQvIJswgK4E9VKmfqxtheXVhgxt1wwZ60dZ7dFoDI2YWKwwFaDfuOnb2MUaWzLyGj88hlQhBMEv4lgasIQ1QIPPn0ZC8atfawknLrOtiKBzyvL-wsfCi_uz4Xhk-YZEu60nB2u-isTAuDjH6vxtXtTW755kMPL16GKiSj2wDR08vMLngljYXdNcHTaI7ijD_83DQmRiZIAJH-RWjhmzjm2BkEyZkdJ3aulOIKFCag-AhvcvNuImjf3xllsZg-f9CE96Bh435vOOP0He_P7ui5nKMlxxQTJ7IG55ChNdH386OAjZLFMbtgjbjid2UL2GED8O6WVztx3ue91dXaRkPpp81PXuMa6FugoM8CK9ZcOqQrMXhGn3jvqJZAgCTINm5VM-xxrHZ-vosowe0MrCXHfIlb1IUKB1dIG7ZsMUBuyo/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

Date Reviewed: 9/19/2023

Re: 0430905825 -- DuPage County
West Chicago / West Chicago Park District
250 West National Street
Leaking UST Incident 980814
Leaking UST Technical File

Document(s) Reviewed:

CACR / BUD

General Site Information:

Site subject to: 732 / 734

IEMA date(s): 10/20/1998	Payment from the Fund? (Y/N/unknown): Y
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-gallon gasoline **(980814)** Tank 2 - 1,000-diesel fuel **(980814)**	
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/ft^3 for GP-1@2-3' and ρ_b of 94.3 lbs/ft^3 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).

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/ft^3 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.

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

0430905825 - DuPage County
West Chicago Park District
Incident # 980814
LUST Tech File

October 6, 2023

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

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.

Regards,

Daniel J. Horvath
Hydrogeologist/Senior Project Manager

Enclosure: Forms

cc: Ms. Gina Radun, West Chicago Park District

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinc

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: Sep 22, 2023

List all IEMA Incident numbers associated with this package:

980814

List all other incidents associated with this site that are not associated with this package:

This form is being submitted as a (check one, if applicable):

- ○ Billing Package
- ⊘ Budget Amendment (Budget amendments must include only the costs over the previous budget.)
- ○ Budget Proposal

Please provide the name(s) and date(s) of report(s) documenting the costs requested:

Name(s):	FPRR/CACR	Tech Summary/CAP Am	CACR
Date(s):	Jul 12, 2013	Jun 14, 2019	Nov 15, 2022

This package is being submitted for the site activities indicated below:

35 Ill. Adm. Code 734:

- ☐ Early Action
- ☐ Free Product Removal after Early Action
- ☐ Site Investigation . . . . . Stage 1: ☐ Stage 2: ☐ Stage 3: ☐
- ☑ Corrective Action

35 Ill. Adm. Code 732:

- ☐ Early Action
- ☐ Free Product Removal after Early Action
- ☐ Site Classification
- ☐ Low Priority Corrective Action
- ☐ High Priority Corrective Action

35 Ill. Adm. Code 731:

- ☐ Site Investigation
- ☐ Corrective Action

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 Park District

Send in care of: Gina Radun

Address: 201 W. National St

City: West Chicago State: IL Zip: 60185

The payee is the: Owner ☑ Operator ☑ (Check one or both.)

G. Radun 9.25.23

Signature of the owner or operator of the UST(s) (required) **Date**

West Chicago Park District c/o Gina Radun

Printed name of the owner or operator of the UST(s) (required)

W-9 must be submitted.
Click here to print off a W-9 Form.

Email: gradun@we-goparks.org

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:

Fewer than 101: ⊘ 101 or more: ○

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?**	**Incident No.**	**Type of Release** Tank Leak / Overfill / Piping Leak
Gasoline	1,000	Yes ⊘ No ○	980814	Tank Leak
Diesel Fuel	1,000	Yes ○ No ⊘	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 while performing corrective action 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 Ill. Adm. Code 732 or 734. I further certify that costs ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 732.606 or 734.630 are not included in the budget proposal or amendment. Such ineligible costs include but are not limited to:

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.
Costs associated with planned tank pulls.
Legal fees or costs.
Costs incurred prior to July 28, 1989.
Costs associated with installation of new USTs or the repair of existing USTs.

Owner/Operator: West Chicago Park District

Authorized Representative: Gina Radun Title: Executive Director

Signature: [signature] Date: 9.25.23

Subscribed and sworn to before me the 25th day of September, 2023.

[signature] Seal: OFFICIAL SEAL MELISSA L MEDEIROS NOTARY PUBLIC STATE OF ILLINOIS MY COMMISSION EXPIRES: 9/18/2025

(Notary Public)

In addition, 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 the plan, budget, or report has been completed in accordance with the Environmental Protection Act [415 ILCS 5], 35 Ill. Adm. Code 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].

L.P.E./L.P.G.: Daniel Horvath L.P.E./L.P.G. Seal:

L.P.E./L.P.G. Signature: [signature] Date: 10/2/23

Subscribed and sworn to before me the 2nd day of October, 2023.

[signature] Seal: NOTARY PUBLIC STATE OF ILLINOIS ELIZABETH A CAPE OFFICIAL SEAL Notary Public - State of Illinois My Commission Expires June 23, 2026

(Notary Public)

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.

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

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

cc: Mr. Michael Gasparini, West Chicago Park District

RESOURCE CONSULTING, INC.
115 Campbell Street/Suite 108 • P.O. Box 123 • Geneva, Illinois 60134 • (630)232-9820

November 22, 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

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 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.

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.*

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).

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.

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,

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

Attachment A
Ordinance No. 15-O-0004

Attachment B
Input Parameters Forms

Illinois Environmental Protection Agency

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

Leaking Underground Storage Tank Program
RBCA Input Parameters for Use with Tier 2 Calculations

A. Site Identification

IEMA Incident # (6- or 8-digit): 980814 IEPA LPC # (10-digit): 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. Tier 2 Calculation Information

Equation(s) Used (ex: R12, R14, R26): R26

Contact Information for Individual Who Performed Calculations:

Land Use: Residential Soil Type:

Groundwater: ☒ Class I ☐ Class II

Mass Limit: ☐ Yes ☐ No If Yes, then Specify Acreage: ☐ 0.5 ☐ 1 ☐ 2 ☐ 5 ☐ 10 ☐ 30

Result from S17/S28 used in R26? ☐ Yes ☒ No Specify C_{source} from S17/S28 _____ mg/L

- **Mass Limit Acreage other than defaults must always be rounded up.**
- **Failure to use site-specific parameters where allowed could affect payment from the Underground Storage Tank Fund.**
- **Maps depicting source width, plume dimensions, distance, etc. must also be submitted.**
- **Inputs must be submitted in the designated unit.**

Symbol			Unit	Symbol			Unit
AT_c	=	70	yr	d	=	200	cm
AT_n	=	30	yr	D^{air}	=	0.051	cm^2/s
BW	=	70	kg	D^{water}	=	9.00E-06	cm^2/s
C_{source}	=	0.00276	mg/L	D_s^{eff}	=	0.007	cm^2/s
$C_{(x)}$	=	0.00013	mg/L	ED	=	30	yr
$C_{(x)}/C_{source}$	=	4.86E-02	unitless	EF	=	350	d/yr

Incident #: 980814 Chemical: Benzo(a)anthracene Land Use: Residential

Symbol			Unit
erf	=		unitless
f_{oc}	=	0.003	g/g
GW_{comp}	=	0.00013	mg/L
GW_{source}	=	0.003	mg/L
H'	=	1.39E-04	cm^3_{water}/cm^3_{air}
i	=	0.006	cm/cm
I	=	30	cm/yr
IR_{air}	=	20	m^3/d
IR_{soil}	=	100	mg/d
IR_w	=	2	L/d
K	=	2.85E+03	cm/d for R15, R19, R26; cm/yr for R24
K_{oc}	=	4.00E+05	cm^3/g or L/kg
k_s (non-ionizing organics)	=	1200	cm^3_{water}/g_{soil}
k_s (ionizing organics)	=	1200	cm^3_{water}/g_{soil}
k_s (inorganics)	=		cm^3_{water}/g_{soil}
L_s	=	100	cm
LF_{sw}	=	0.000	$(mg/L_{water})/(mg/kg_{soil})$
M	=	0.5	mg/cm^2
Pe	=	$6.9 \cdot 10^{-14}$	g/cm^2-s
RAF_d	=	0.5	unitless

Symbol			Unit
RAF_d (PNAs)	=	0.05	unitless
RAF_d (inorganics)	=	0	unitless
RAF_o	=	1.0	unitless
$RBSL_{air}$ (carcinogenic)	=	0.315	$\mu g/m^3$
$RBSL_{air}$ (noncarcinogenic)	=	31.39	$\mu g/m^3$
RfD_i	=	8.60E-03	mg/kg-d
RfD_o	=	4.00E-03	mg/kg-d
SA	=	3,160	cm^2/d
S_d	=	200	cm
S_w	=	2103.12	cm
SF_i	=	2.70E-02	$(mg/kg\text{-}d)^{-1}$
SF_o	=	5.50E-02	$(mg/kg\text{-}d)^{-1}$
THQ	=	1	unitless
TR	=	0.000001	unitless
U	=	9.7841860	cm/d
U_{air}	=	225	cm/s
U_{gw}	=	6.24E+03	cm/yr
VF_p	=	4.91E-06	kg/m^3
VF_{samb}	=	0.000	$(mg/m^3_{air})/mg/kg_{soil})$ or kg/m^3
VF_{ss}	=	5.64E-06	kg/m^3

Incident #: 980814 Chemical: Benzo(a)anthracene Land Use: Residential

Symbol			Unit
W	=	3200.4	cm
w	=	0.2	g_{water}/g_{soil}
X	=	9540.24	cm
α_x	=	954.24	cm
α_y	=	318.008	cm
α_z	=	47.7012	cm
δ_{air}	=	200	cm
δ_{gw}	=	200	cm

Symbol			Unit
θ_{as}	=	0.13	cm^3_{air}/cm^3_{soil}
θ_{ws}	=	0.3	cm^3_{water}/cm^3_{soil}
θ_T	=	0.43	cm^3/cm^3_{soil}
λ	=	5.10E-04	d^{-1}
π	=	3.1416	
ρ_b	=	1.5	g/cm^3
ρ_w	=	1	g/cm^3
τ	=	$9.46 \cdot 10^8$	s

Equation		Result	Unit(s)
R1	=	3.28	mg/kg
R2	=	309.830	mg/kg
R7	=	163.98	mg/kg
R8	=	16318.009	mg/kg
R12	=	44.932	mg/kg
R25	=	0.002	mg/L

Illinois Environmental Protection Agency

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

Leaking Underground Storage Tank Program
RBCA Input Parameters for Use with Tier 2 Calculations

A. Site Identification

IEMA Incident # (6- or 8-digit): 980814 IEPA LPC # (10-digit): 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. Tier 2 Calculation Information

Equation(s) Used (ex: R12, R14, R26): R26

Contact Information for Individual Who Performed Calculations: _____

_____

Land Use: Residential Soil Type: _____

Groundwater: ☒ Class I ☐ Class II

Mass Limit: ☐ Yes ☐ No If Yes, then Specify Acreage: ☐ 0.5 ☐ 1 ☐ 2 ☐ 5 ☐ 10 ☐ 30

Result from S17/S28 used in R26? ☐ Yes ☒ No Specify C_{source} from S17/S28 _____ mg/L

- **Mass Limit Acreage other than defaults must always be rounded up.**
- **Failure to use site-specific parameters where allowed could affect payment from the Underground Storage Tank Fund.**
- **Maps depicting source width, plume dimensions, distance, etc. must also be submitted.**
- **Inputs must be submitted in the designated unit.**

Symbol			Unit	Symbol			Unit
AT_c	=	70	yr	d	=	50	cm
AT_n	=	30	yr	D^{air}	=	0.043	cm^2/s
BW	=	70	kg	D^{water}	=	9.4E-06	cm^2/s
C_{source}	=	0.0016	mg/L	D_s^{eff}	=	0.022	cm^2/s
$C_{(x)}$	=	0.0002	mg/L	ED	=	30	yr
$C_{(x)}/C_{source}$	=	1.55E-01	unitless	EF	=	350	d/yr

Incident #: 980814 Chemical: Benzo(a)pyrene Land Use: Residential

Symbol			Unit
erf	=		unitless
f_{oc}	=	0.003	g/g
GW_{comp}	=	0.0002	mg/L
GW_{source}	=	0.001	mg/L
H'	=	4.50E-05	cm^3_{water}/cm^3_{air}
i	=	0.006	cm/cm
I	=	30	cm/yr
IR_{air}	=	20	m^3/d
IR_{soil}	=	100	mg/d
IR_w	=	2	L/d
K	=	2.85E+03	cm/d for R15, R19, R26; cm/yr for R24
K_{oc}	=	7.90E+05	cm^3/g or L/kg
k_s (non-ionizing organics)	=	2370	cm^3_{water}/g_{soil}
k_s (ionizing organics)	=	2370	cm^3_{water}/g_{soil}
k_s (inorganics)	=		cm^3_{water}/g_{soil}
L_s	=	100	cm
LF_{sw}	=	0.00003	$(mg/L_{water})/(mg/kg_{soil})$
M	=	0.5	mg/cm^2
Pe	=	$6.9 \cdot 10^{-14}$	g/cm^2-s
RAF_d	=	0.5	unitless

Symbol			Unit
RAF_d (PNAs)	=	0.05	unitless
RAF_d (inorganics)	=	0	unitless
RAF_0	=	1.0	unitless
$RBSL_{air}$ (carcinogenic)	=	0.315	$\mu g/m^3$
$RBSL_{air}$ (noncarcinogenic)	=	31.39	$\mu g/m^3$
RfD_i	=	8.60E-03	mg/kg-d
RfD_o	=	4.00E-03	mg/kg-d
SA	=	3,160	cm^2/d
S_d	=	200	cm
S_w	=	2103.12	cm
SF_i	=	2.70E-02	$(mg/kg\text{-}d)^{-1}$
SF_o	=	5.50E-02	$(mg/kg\text{-}d)^{-1}$
THQ	=	1	unitless
TR	=	0.000001	unitless
U	=	39.78	cm/d
U_{air}	=	225	cm/s
U_{gw}	=	6.24E+03	cm/yr
VF_p	=	4.91E-12	kg/m^3
VF_{samb}	=	0.000	$(mg/m^3_{air})/mg/kg_{soil})$ or kg/m^3
VF_{ss}	=	5.64E-06	kg/m^3

Incident #: 980814 Chemical: Benzo(a)pyrene Land Use: Residential

Symbol			Unit
W	=	3200.4	cm
w	=	0.2	g_{water}/g_{soil}
X	=	5212.08	cm
α_x	=	521.208	cm
α_y	=	173.736	cm
α_z	=	26.0604	cm
δ_{air}	=	200	cm
δ_{gw}	=	200	cm

Symbol			Unit
θ_{as}	=	0.13	cm^3_{air}/cm^3_{soil}
θ_{ws}	=	0.3	cm^3_{water}/cm^3_{soil}
θ_T	=	0.43	cm^3/cm^3_{soil}
λ	=	5.10E-04	d^{-1}
π	=	3.1416	
ρ_b	=	1.5	g/cm^3
ρ_w	=	1	g/cm^3
τ	=	$9.46 \cdot 10^8$	s

Equation		Result	Unit(s)
R1	=	3.28	mg/kg
R2	=	309.830	mg/kg
R7	=	172.31	mg/kg
R8	=	17147.607	mg/kg
R12	=	42.761	mg/kg
R25	=	0.002	mg/L

Illinois Environmental Protection Agency

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Leaking Underground Storage Tank Program
RBCA Input Parameters for Use with Tier 2 Calculations

A. Site Identification

IEMA Incident # (6- or 8-digit): 980814 IEPA LPC # (10-digit): 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. Tier 2 Calculation Information

Equation(s) Used (ex: R12, R14, R26): R26

Contact Information for Individual Who Performed Calculations: _____

_____

Land Use: _____ Soil Type: _____

Groundwater: ☒ Class I ☐ Class II

Mass Limit: ☐ Yes ☐ No If Yes, then Specify Acreage: ☐ 0.5 ☐ 1 ☐ 2 ☐ 5 ☐ 10 ☐ 30

Result from S17/S28 used in R26? ☐ Yes ☒ No Specify C_{source} from S17/S28 _____ mg/L

- **Mass Limit Acreage other than defaults must always be rounded up.**
- **Failure to use site-specific parameters where allowed could affect payment from the Underground Storage Tank Fund.**
- **Maps depicting source width, plume dimensions, distance, etc. must also be submitted.**
- **Inputs must be submitted in the designated unit.**

Symbol			Unit	Symbol			Unit
AT_c	=	70	yr	d	=	50	cm
AT_n	=	30	yr	D^{air}	=	0.0223	cm^2/s
BW	=	70	kg	D^{water}	=	5.56E-06	cm^2/s
C_{source}	=	0.0017	mg/L	D_s^{eff}	=	0.0003	cm^2/s
$C_{(x)}$	=	0.00018	mg/L	ED	=	30	yr
$C_{(x)}/C_{source}$	=	1.08E-01	unitless	EF	=	350	d/yr

Incident #: 980814 Chemical: Benzo(b)fluoranthene Land Use: Residential

Symbol			Unit
erf	=		unitless
f_{oc}	=	0.003	g/g
GW_{comp}	=	0.00018	mg/L
GW_{source}	=	0.002	mg/L
H'	=	4.55E-03	cm^3_{water}/cm^3_{air}
i	=	0.006	cm/cm
I	=	30	cm/yr
IR_{air}	=	20	m^3/d
IR_{soil}	=	100	mg/d
IR_w	=	2	L/d
K	=	2.85E+03	cm/d for R15, R19, R26; cm/yr for R24
K_{oc}	=	1.05E+06	cm^3/g or L/kg
k_s (non-ionizing organics)	=	3150	cm^3_{water}/g_{soil}
k_s (ionizing organics)	=	3150	cm^3_{water}/g_{soil}
k_s (inorganics)	=		cm^3_{water}/g_{soil}
L_s	=	100	cm
LF_{sw}	=	0.00002	$(mg/L_{water})/(mg/kg_{soil})$
M	=	0.5	mg/cm^2
Pe	=	$6.9 \cdot 10^{-14}$	g/cm^2-s
RAF_d	=	0.5	unitless

Symbol			Unit
RAF_d (PNAs)	=	0.05	unitless
RAF_d (inorganics)	=	0	unitless
RAF_0	=	1.0	unitless
$RBSL_{air}$ (carcinogenic)	=	0.315	$\mu g/m^3$
$RBSL_{air}$ (noncarcinogenic)	=	31.39	$\mu g/m^3$
RfD_i	=	8.60E-03	mg/kg-d
RfD_o	=	4.00E-03	mg/kg-d
SA	=	3,160	cm^2/d
S_d	=	200	cm
S_w	=	2103.12	cm
SF_i	=	2.70E-02	$(mg/kg\text{-}d)^{-1}$
SF_o	=	5.50E-02	$(mg/kg\text{-}d)^{-1}$
THQ	=	1	unitless
TR	=	0.000001	unitless
U	=	39.78	cm/d
U_{air}	=	225	cm/s
U_{gw}	=	6.24E+03	cm/yr
VF_p	=	4.91E-12	kg/m^3
VF_{samb}	=	0.000	$(mg/m^3_{air})/mg/kg_{soil}$ or kg/m^3
VF_{ss}	=	5.64E-06	kg/m^3

Incident #: 980814 Chemical: Benzo(b)fluroanthene Land Use: Residential

Symbol			Unit
W	=	3200.4	cm
w	=	0.2	g_{water}/g_{soil}
X	=	6339.84	cm
α_x	=	633.984	cm
α_y	=	211.328	cm
α_z	=	31.6992	cm
δ_{air}	=	200	cm
δ_{gw}	=	200	cm

Symbol			Unit
θ_{as}	=	0.13	cm^3_{air}/cm^3_{soil}
θ_{ws}	=	0.3	cm^3_{water}/cm^3_{soil}
θ_T	=	0.43	cm^3/cm^3_{soil}
λ	=	5.10E-04	d^{-1}
π	=	3.1416	
ρ_b	=	1.5	g/cm^3
ρ_w	=	1	g/cm^3
τ	=	$9.46 \cdot 10^8$	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

Illinois Environmental Protection Agency

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Leaking Underground Storage Tank Program
RBCA Input Parameters for Use with Tier 2 Calculations

A. Site Identification

IEMA Incident # (6- or 8-digit): 980814 IEPA LPC # (10-digit): 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. Tier 2 Calculation Information

Equation(s) Used (ex: R12, R14, R26): R26

Contact Information for Individual Who Performed Calculations: _____

_____

Land Use: _____ Soil Type: _____

Groundwater: ☒ Class I ☐ Class II

Mass Limit: ☐ Yes ☐ No If Yes, then Specify Acreage: ☐ 0.5 ☐ 1 ☐ 2 ☐ 5 ☐ 10 ☐ 30

Result from S17/S28 used in R26? ☐ Yes ☒ No Specify C_{source} from S17/S28 _____ mg/L

- **Mass Limit Acreage other than defaults must always be rounded up.**
- **Failure to use site-specific parameters where allowed could affect payment from the Underground Storage Tank Fund.**
- **Maps depicting source width, plume dimensions, distance, etc. must also be submitted.**
- **Inputs must be submitted in the designated unit.**

Symbol			Unit	Symbol			Unit
AT_c	=	70	yr	d	=	50	cm
AT_n	=	30	yr	D^{air}	=	0.0223	cm^2/s
BW	=	70	kg	D^{water}	=	5.56E-06	cm^2/s
C_{source}	=	0.00157	mg/L	D_s^{eff}	=	0.029	cm^2/s
$C_{(x)}$	=	0.00017	mg/L	ED	=	30	yr
$C_{(x)}/C_{source}$	=	1.11E-01	unitless	EF	=	350	d/yr

Incident #: 980814 Chemical: Benzo(k)fluoranthene Land Use: Residential

Symbol			Unit
erf	=		unitless
f_{oc}	=	0.003	g/g
GW_{comp}	=	0.00017	mg/L
GW_{source}	=	0.002	mg/L
H'	=	3.40E-05	cm^3_{water}/cm^3_{air}
I	=	0.006	cm/cm
I	=	30	cm/yr
IR_{air}	=	20	m^3/d
IR_{soil}	=	100	mg/d
IR_w	=	2	L/d
K	=	2.85E+03	cm/d for R15, R19, R26; cm/yr for R24
K_{oc}	=	1.00E+06	cm^3/g or L/kg
k_s (non-ionizing organics)	=	3000	cm^3_{water}/g_{soil}
k_s (ionizing organics)	=	3000	cm^3_{water}/g_{soil}
k_s (inorganics)	=		cm^3_{water}/g_{soil}
L_s	=	100	cm
LF_{sw}	=	0.00002	$(mg/L_{water})/(mg/kg_{soil})$
M	=	0.5	mg/cm^2
Pe	=	$6.9 \cdot 10^{-14}$	g/cm^2-s
RAF_d	=	0.5	unitless

Symbol			Unit
RAF_d (PNAs)	=	0.05	unitless
RAF_d (inorganics)	=	0	unitless
RAF_0	=	1.0	unitless
$RBSL_{air}$ (carcinogenic)	=	0.315	$\mu g/m^3$
$RBSL_{air}$ (noncarcinogenic)	=	31.39	$\mu g/m^3$
RfD_i	=	8.60E-03	mg/kg-d
RfD_o	=	4.00E-03	mg/kg-d
SA	=	3,160	cm^2/d
S_d	=	200	cm
S_w	=	2103.12	cm
SF_i	=	2.70E-02	$(mg/kg-d)^{-1}$
SF_o	=	5.50E-02	$(mg/kg-d)^{-1}$
THQ	=	1	unitless
TR	=	0.000001	unitless
U	=	39.78	cm/d
U_{air}	=	225	cm/s
U_{gw}	=	6.24E+03	cm/yr
VF_p	=	4.91E-12	kg/m^3
VF_{samb}	=	0.000	$(mg/m^3_{air})/mg/kg_{soil})$ or kg/m^3
VF_{ss}	=	5.64E-06	kg/m^3

Incident #: 980814 Chemical: Benzo(k)fluoranthene Land Use: Residential

Symbol			Unit
W	=	3200.4	cm
w	=	0.2	g_{water}/g_{soil}
X	=	6492.24	cm
α_x	=	649.224	cm
α_y	=	216.408	cm
α_z	=	32.4612	cm
δ_{air}	=	200	cm
δ_{gw}	=	200	cm

Symbol			Unit
θ_{as}	=	0.13	cm^3_{air}/cm^3_{soil}
θ_{ws}	=	0.3	cm^3_{water}/cm^3_{soil}
θ_T	=	0.43	cm^3/cm^3_{soil}
λ	=	1.60E-04	d^{-1}
π	=	3.1416	
ρ_b	=	1.5	g/cm^3
ρ_w	=	1	g/cm^3
τ	=	$9.46 \cdot 10^8$	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

Illinois Environmental Protection Agency

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

Leaking Underground Storage Tank Program
RBCA Input Parameters for Use with Tier 2 Calculations

A. Site Identification

IEMA Incident # (6- or 8-digit): 980814 IEPA LPC # (10-digit): 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. Tier 2 Calculation Information

Equation(s) Used (ex: R12, R14, R26): R26

Contact Information for Individual Who Performed Calculations: _____

_____

Land Use: _____ Soil Type: _____

Groundwater: [x] Class I [ ] Class II

Mass Limit: [ ] Yes [ ] No If Yes, then Specify Acreage: [ ] 0.5 [ ] 1 [ ] 2 [ ] 5 [ ] 10 [ ] 30

Result from S17/S28 used in R26? [ ] Yes [x] No Specify C_{source} from S17/S28 _____ mg/L

- **Mass Limit Acreage other than defaults must always be rounded up.**
- **Failure to use site-specific parameters where allowed could affect payment from the Underground Storage Tank Fund.**
- **Maps depicting source width, plume dimensions, distance, etc. must also be submitted.**
- **Inputs must be submitted in the designated unit.**

Symbol			Unit	Symbol			Unit
AT_c	=	70	yr	d	=	50	cm
AT_n	=	30	yr	D^{air}	=	0.0244	cm^2/s
BW	=	70	kg	D^{water}	=	6.21E-06	cm^2/s
C_{source}	=	0.023	mg/L	D_s^{eff}	=	0.001	cm^2/s
$C_{(x)}$	=	0.0015	mg/L	ED	=	30	yr
$C_{(x)}/C_{source}$	=	0.667	unitless	EF	=	350	d/yr

Incident #: 980814 Chemical: Chrysene Land Use: Residential

Symbol			Unit
erf	=		unitless
f_{oc}	=	0.003	g/g
GW_{comp}	=	0.0015	mg/L
GW_{source}	=	0.002	mg/L
H'	=	3.90E-03	cm^3_{water}/cm^3_{air}
i	=	0.006	cm/cm
I	=	30	cm/yr
IR_{air}	=	20	m^3/d
IR_{soil}	=	100	mg/d
IR_w	=	2	L/d
K	=	2.85E+03	cm/d for R15, R19, R26; cm/yr for R24
K_{oc}	=	4.00E+05	cm^3/g or L/kg
k_s (non-ionizing organics)	=	1200	cm^3_{water}/g_{soil}
k_s (ionizing organics)	=	1200	cm^3_{water}/g_{soil}
k_s (inorganics)	=		cm^3_{water}/g_{soil}
L_s	=	100	cm
LF_{sw}	=	0.0001	$(mg/L_{water})/(mg/kg_{soil})$
M	=	0.5	mg/cm^2
Pe	=	$6.9 \cdot 10^{-14}$	g/cm^2-s
RAF_d	=	0.5	unitless

Symbol			Unit
RAF_d (PNAs)	=	0.05	unitless
RAF_d (inorganics)	=	0	unitless
RAF_0	=	1.0	unitless
$RBSL_{air}$ (carcinogenic)	=	0.315	$\mu g/m^3$
$RBSL_{air}$ (noncarcinogenic)	=	31.39	$\mu g/m^3$
RfD_i	=	8.60E-03	mg/kg-d
RfD_o	=	4.00E-03	mg/kg-d
SA	=	3,160	cm^2/d
S_d	=	200	cm
S_w	=	2103.12	cm
SF_i	=	2.70E-02	$(mg/kg\text{-}d)^{-1}$
SF_o	=	5.50E-02	$(mg/kg\text{-}d)^{-1}$
THQ	=	1	unitless
TR	=	0.000001	unitless
U	=	39.78	cm/d
U_{air}	=	225	cm/s
U_{gw}	=	6.24+03	cm/yr
VF_p	=	4.91E-12	kg/m^3
VF_{samb}	=	0.000	$(mg/m^3_{air})/mg/kg_{soil})$ or kg/m^3
VF_{ss}	=	5.64E-06	kg/m^3

Incident #: 980814 Chemical: Chrysene Land Use: Residential

Symbol			Unit
W	=	3200.4	cm
w	=	0.2	g_{water}/g_{soil}
X	=	1920.24	cm
α_x	=	192.024	cm
α_y	=	64.008	cm
α_z	=	9.6012	cm
δ_{air}	=	200	cm
δ_{gw}	=	200	cm

Symbol			Unit
θ_{as}	=	0.13	cm^3_{air}/cm^3_{soil}
θ_{ws}	=	0.3	cm^3_{water}/cm^3_{soil}
θ_T	=	0.43	cm^3/cm^3_{soil}
λ	=	3.50E-04	d^{-1}
π	=	3.1416	
ρ_b	=	1.5	g/cm^3
ρ_w	=	1	g/cm^3
τ	=	$9.46 \cdot 10^8$	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

Illinois Environmental Protection Agency

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Leaking Underground Storage Tank Program
RBCA Input Parameters for Use with Tier 2 Calculations

A. Site Identification

IEMA Incident # (6- or 8-digit): 980814 IEPA LPC # (10-digit): 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. Tier 2 Calculation Information

Equation(s) Used (ex: R12, R14, R26): R26

Contact Information for Individual Who Performed Calculations: _____

_____

Land Use: _____ Soil Type: _____

Groundwater: [X] Class I [ ] Class II

Mass Limit: [ ] Yes [ ] No If Yes, then Specify Acreage: [ ]0.5 [ ]1 [ ]2 [ ]5 [ ]10 [ ]30

Result from S17/S28 used in R26? [ ] Yes [X] No Specify C_{source} from S17/S28 _____ mg/L

- **Mass Limit Acreage other than defaults must always be rounded up.**
- **Failure to use site-specific parameters where allowed could affect payment from the Underground Storage Tank Fund.**
- **Maps depicting source width, plume dimensions, distance, etc. must also be submitted.**
- **Inputs must be submitted in the designated unit.**

Symbol			Unit	Symbol			Unit
AT_c	=	70	yr	d	=	50	cm
AT_n	=	30	yr	D^{air}	=	0.059	cm^2/s
BW	=	70	kg	D^{water}	=	7.50E-06	cm^2/s
C_{source}	=	1.38	mg/L	D_s^{eff}	=	0.001	cm^2/s
$C_{(x)}$	=	0.14	mg/L	ED	=	30	yr
$C_{(x)}/C_{source}$	=	1.04E-01	unitless	EF	=	350	d/yr

Incident #: 980814 Chemical: Naphthalene Land Use: Residential

Symbol			Unit
erf	=		unitless
f_{oc}	=	0.003	g/g
GW_{comp}	=	0.14	mg/L
GW_{source}	=	1.04E-01	mg/L
H'	=	1.97E-02	cm^3_{water}/cm^3_{air}
i	=	0.006	cm/cm
I	=	30	cm/yr
IR_{air}	=	20	m^3/d
IR_{soil}	=	100	mg/d
IR_w	=	2	L/d
K	=	2.85E+03	cm/d for R15, R19, R26; cm/yr for R24
K_{oc}	=	5.00E+02	cm^3/g or L/kg
k_s (non-ionizing organics)	=	1.5	cm^3_{water}/g_{soil}
k_s (ionizing organics)	=	1.5	cm^3_{water}/g_{soil}
k_s (inorganics)	=		cm^3_{water}/g_{soil}
L_s	=	100	cm
LF_{sw}	=	0.042	$(mg/L_{water})/(mg/kg_{soil})$
M	=	0.5	mg/cm^2
Pe	=	$6.9 \cdot 10^{-14}$	g/cm^2-s
RAF_d	=	0.5	unitless

Symbol			Unit
RAF_d (PNAs)	=	0.05	unitless
RAF_d (inorganics)	=	0	unitless
RAF_0	=	1.0	unitless
$RBSL_{air}$ (carcinogenic)	=	0.315	$\mu g/m^3$
$RBSL_{air}$ (noncarcinogenic)	=	31.39	$\mu g/m^3$
RfD_i	=	8.60E-03	mg/kg-d
RfD_o	=	4.00E-032	mg/kg-d
SA	=	3,160	cm^2/d
S_d	=	200	cm
S_w	=	2103.12	cm
SF_i	=	2.70E-02	$(mg/kg\text{-}d)^{-1}$
SF_o	=	5.50E-02	$(mg/kg\text{-}d)^{-1}$
THQ	=	1	unitless
TR	=	0.000001	unitless
U	=	39.78	cm/d
U_{air}	=	225	cm/s
U_{gw}	=	6.24E+03	cm/yr
VF_p	=	4.91E-12	kg/m^3
VF_{samb}	=	0.000	$(mg/m^3_{air})/mg/kg_{soil})$ or kg/m^3
VF_{ss}	=	5.64E-06	kg/m^3

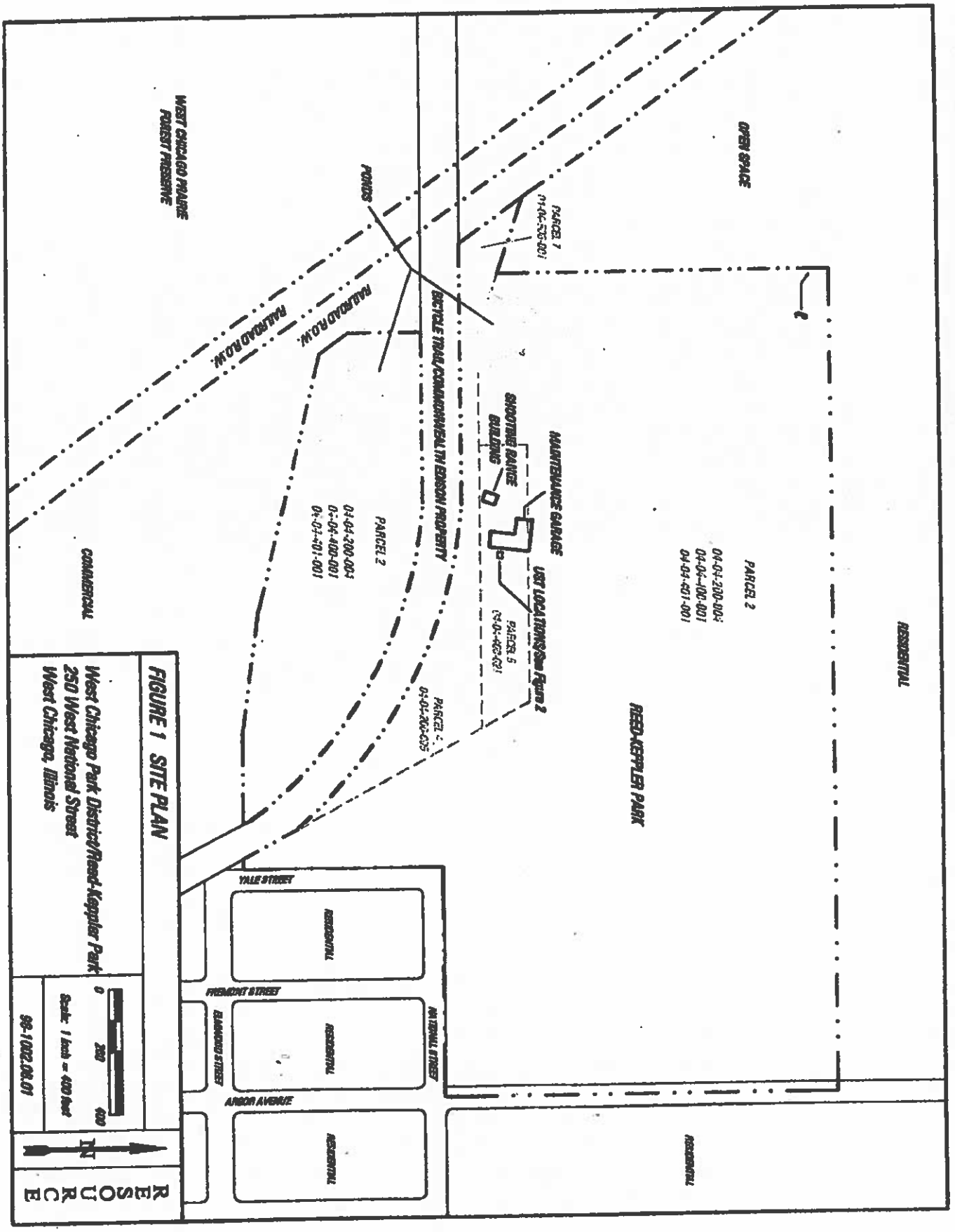
Incident #: 980814 Chemical: Naphthalene Land Use: Residential

Symbol			Unit
W	=	3200.4	cm
w	=	0.2	g_{water}/g_{soil}
X	=	5577.84	cm
α_x	=	557.784	cm
α_y	=	185.928	cm
α_z	=	27.8892	cm
δ_{air}	=	200	cm
δ_{gw}	=	200	cm

Symbol			Unit
θ_{as}	=	0.13	cm^3_{air}/cm^3_{soil}
θ_{ws}	=	0.3	cm^3_{water}/cm^3_{soil}
θ_T	=	0.43	cm^3/cm^3_{soil}
λ	=	2.70E-03	d^{-1}
π	=	3.1416	
ρ_b	=	1.5	g/cm^3
ρ_w	=	1	g/cm^3
τ	=	$9.46 \cdot 10^8$	s

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

Attachment C
Parcel Map


WEST CHICAGO PRAIRIE FOREST PRESERVE
PONDS
RAILROAD R.O.W.
RAILROAD R.O.W.
BICYCLE TRAIL/COMMONWEALTH EDISON PROPERTY
OPEN SPACE
PARCEL 1
03-04-300-001
PARCEL 2
03-04-200-004
03-04-400-001
03-04-401-001
SHOOTING RANGE BUILDING
MAINTENANCE GARAGE
UST LOCATIONS See Figure 2
PARCEL 5
03-04-400-021
PARCEL 6
03-04-200-035
COMMERCIAL
RESIDENTIAL
REED-KEPPLER PARK
YALE STREET
FREMONT STREET
RAMSDELL STREET
NATIONAL STREET
ARBOR AVENUE
FIGURE 1 SITE PLAN
West Chicago Park District/Reed-Keppler Park
250 West National Street
West Chicago, Illinois
99-1002.08.01
Scale: 1 inch = 400 feet
0
200
400
N
RECOSE
RECCE

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	$	$	$	$	$ 3,035.95
Analytical Costs Form	$	$	$	$	$ 939.10
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	$	$	$	$	$ 43,137.62
Consultant's Materials Costs Form	$	$	$	$	$ 145.84
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	$	$	$	$	$ 48,794.32

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 (Aug. 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/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:	.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

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:	$1,578.14

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		X		=	
Flash Point or Ignitability Analysis EPA 1010		X		=	
Fraction Organic Carbon Content (f_{oc}) 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		=	
PCBs		X		=	
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)		X		=	
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		=	
BTEX/MTBE Soil Gas sample (Aug. 2014)	1	X	240.00	=	$240.00
BTEX Water with MTBE EPA 8620 (July 2017)	1	X	102.39	=	$102.39
PNA Water EPA 8270 (July 2017)	1	X	192.14	=	$192.14
BTEX Water with MTBE EPA 8620 (Aug. 2019)	1	X	106.52	=	$106.52
PNA Water EPA 8270 (Aug. 2019)	1	X	199.90	=	$199.90
Geo-Technical Analysis					
Soil Bulk Density (ρ_b) ASTM D2937-94		X		=	
Ex-situ Hydraulic Conductivity / Permeability		X		=	
Moisture Content (w) ASTM D2216-92 / D4643-93		X		=	
Porosity		X		=	
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 (ρ_s) ASTM D854-92		X		=	
Soil Bulk Density (Aug. 2014)	2	X	26.72	=	$53.44
Soil Bulk Density (Aug. 2019)	1	X	28.93	=	$28.93
Moisture Content (Aug. 2019)	1	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		=	
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		=	
		X		=	
		X		=	
		X		=	
		X		=	
Other					
EnCore® Sampler, purge-and-trap sampler, or equivalent sampling device		X		=	
Sample Shipping per sampling event[1]		X		=	

[1]A 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	Asphalt or Concrete	Thickness (inches)	Cost ($) per Square Foot	Replacement or Placement for an Engineered Barrier	Total Cost

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

For this form to function properly, Adobe Reader 8.0 or higher is required

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).			
	Senior Project Manager	10.00	119.11	$1,191.10
	Corr. w/staff and IEPA re: regulatory evaluation.indoor inhalation exposure route (09/2013-08/2014)).			
	Project Manager	10.00	107.20	$1,072.00
	Management w/staff and IEPA re: CACR rejection, TACO, data, budget revisions (09/2013-08/2014).			
	Project Manager	3.00	107.20	$321.60
	Preparation ot TACO; correspondence with PM re: indoor inhalation requirement (09/2013-08/2014)			
	Project Manager	6.00	109.34	$656.04
	Field work planning for soil vapor and bulk density sampling (Aug. 2014).			
	Geologist III	5.00	106.91	$534.55
	On-site for soil sampling (Aug. 2014)			
	Project Manager	6.00	109.34	$656.04
	Analysis/evaluation of soil gas data, correspondence with lab and IEPA re: data analysis (Aug. 2014).			
	Senior Project Manager	20.00	121.49	$2,429.80
	Preparation of ordinance: research, planning, correspondence with City (08/2014-12/2014).			
	Geologist III	20.00	106.91	$2,138.20
	Preparation of draft ordinance document for submission to Public Works Dept. (08/2014-12/2014).			

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	**Task**			
	Geologist III	5.00	106.91	$534.55
	Prep. of maps and supporting documents for draft ordinance (08/2014-12/2014).			
	Project Manager	10.00	109.34	$1,093.40
	Ordinance design and preparation of documents with staff and city (08/2014-12/2014).			
	Project Manager	6.00	109.34	$656.04
	TACO modeling calculations for ordinance (08/2014-12/2014).			
	Project Manager	10.00	109.34	$1,093.40
	Review of ordinance and supporting documents for final enactment by City (08/2014-06/2015).			
	Project Manager	10.00	109.34	$1,093.40
	Project management with City personnel re: forms & approval of ordinance (01/2015-06/2015).			
	Senior Project Manager	3.00	125.15	$375.45
	Project management w/Illinois EPA re: indoor inhalation and Site land use classification (June 2017).			
	Senior Scientist	20.00	106.38	$2,127.60
	Prep. of CACR response documentation including TACO modeling, ordinance work (June 2017).			
	Project Manager	5.00	113.76	$568.80
	Review of data/project needs for groundwater and soil gas sampling; field work planning (July 2017)			
	Geologist III	6.00	111.24	$667.44
	On-site for monitoring well sampling and sample management (July 2017).			

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	**Task**			
	Project Manager	5.00	113.76	$568.80
	Review of groundwater data & planning response for indoor inhalation route evaluation (Aug. 2017).			
	Senior Project Manager	5.00	126.40	$632.00
	Management with IEPA and client re: re-sampling monitoring well for J&E equation (Aug. 2017).			
	Project Manager	5.00	116.04	$580.20
	Review of project needs and budgeting for next phase of project (01/2019-06/2019).			
	Geologist III	20.00	113.46	$2,269.20
	Preparation of technical summary/CAP amendment text and mapping (01/2019-06/2019).			
	Senior Admin. Assistant	3.00	58.02	$174.06
	Forms management - preparation, editing, publishing, correspondence (June 2019).			
	Senior Project Manager	3.00	128.93	$386.79
	Review of technical summary/CAP amendment (June 2019).			
	Senior Admin. Assistant	2.00	58.02	$116.04
	Edit and publish technical summary/CAP amendment (June 2019).			
	Senior Project Manager	2.00	131.51	$263.02
	Project management - soil and groundwater sampling with new IEPA project manager (July 2019).			
	Project Manager	2.00	118.36	$236.72
	Field work planning with staff, review of scope of work and project needs (July 2019).			

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	Task			
	Project Manager	3.00	118.36	$355.08
	Project management and correspondence w/ new IEPA project manager (July 2019).			
	Geologist III	2.00	115.73	$231.46
	Preparation for field work and scheduling including correspondence with WCPD and staff (July 2019).			
	Geologist III	5.00	115.73	$578.65
	On-site for soil boring/monitoring well installation (Aug. 2019).			
	Geologist III	20.00	115.73	$2,314.60
	Preparation of data table, forms, mapping, sb logs, CAP amendment text (01/2020-06/2020).			
	Senior Admin. Assistant	6.00	59.18	$355.08
	Edit and publish CAP amendment (June 2020).			
	Project Manager	2.00	120.73	$241.46
	Data analysis and historical data review (January 2021).			
	Geologist III	15.00	118.04	$1,770.60
	Preparation of J&E calculations (01/2021-04/2021).			
	Project Manager	8.00	120.73	$965.84
	Review/evaluation of indoor inhalation modeling, data, and IEPA requirements (01/2021-04/2021).			
	Senior Admin. Assistant	20.00	60.36	$1,207.20
	Clerical work, invoicing, budgeting documentation (01/2021-06/2021).			

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	Task			
	Geologist III	20.00	123.99	$2,479.80
	Preparation of CACR budget amendment (07/2022-11/2022).			
	Senior Admin. Assistant	15.00	63.41	$951.15
	Preparation of billing package (07/2022-11/2022).			
	Geologist III	50.00	123.99	$6,199.50
	Preparation of comprehensive CACR at request of new PM (07/2022-11/2022).			
	Geologist III	10.00	123.99	$1,239.90
	Review and preparation of J&E equation for final documentation (07/2022-11/2022).			
	Professional Engineer	4.00	154.99	$619.96
	Review and certification of CACR (Nov. 2022).			

*Refer to the applicable Maximum Payment Amounts document.

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Total of Consulting 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, or Field Purchase	Time or Amount Used	Rate ($)	Unit	Total Cost
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 gas sampling.			
Mileage (July 2017)	13.00	.54		$7.02
Mileage (Aug. 2019)	13.00	.58		$7.54

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Total of Consultant Materials Costs	$145.84

Attachment E

USEPA Soil Gas Sampling Guidance

Region 4 U.S. Environmental Protection Agency Laboratory Services & Applied Science Division Athens, Georgia	
Operating Procedure	
Title: Soil Gas Sampling	ID: LSASDPROC-307-R5
Issuing Authority: Field Services Branch 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.

TABLE OF CONTENTS

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 de-ionized 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 re-probe 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

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 counter-clockwise 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.

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 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 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

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,

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

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	Effective Date
Replaced Chief with Supervisor; General formatting revisions.	April 22, 2023
LSASDPROC-307-R4, *Soil Gas Sampling*, replaces LSASDPROC-307-R3 **General:** Corrected any typographical, grammatical, and/or editorial errors. Soil gas sampling procedures were updated, and helium leak testing and sub-slab sampling procedures were added to the document. SESD updated to LSASD. **Cover Page:** Changed the Author from Tim Slagle to Landon Pruitt. Changed Enforcement and Investigation Branch to Applied Sciences Branch. Changed Science and Ecosystem Support Division to Laboratory Services and Applied Science Division. Quality manager Bobby Lewis was changed to Stacy Masters. **Revision History:** Changes were made to reflect the current practice of only including the most recent changes in the revision history.	February 7, 2020
LSASDPROC-307-R3, *Soil Gas Sampling*, replaces LSASDPROC-307-R2	May 14, 2014
LSASDPROC-307-R2, *Soil Gas Sampling*, replaces LSASDPROC-307-R1	September 8, 2010
LSASDPROC-307-R1, *Soil Gas Sampling*, replaces LSASDPROC-307-R0	November 1, 2007
LSASDPROC-307-R0, Soil Gas Sampling, Original Issue	February 05, 2007

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

On Dec 15, 2023, at 10:27 AM, Daniel Horvath <dhorvath@resourceillinois.com> wrote:

Attached.

Daniel J. Horvath
Resource Consulting, Inc.

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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 <Steve.Putrich@Illinois.gov>; 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.

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On Dec 8, 2023, at 11:03 AM, Kuhlman, Eric <Eric.Kuhlman@Illinois.gov> 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.

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(f) (630)232-9824
www.resourceillinois.com

> On Dec 8, 2023, at 9:37 AM, Kuhlman, Eric <Eric.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?

RESOURCE CONSULTING, INC.

115 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 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

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

cc: 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.

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(c) (630)292-9820
(f) (630)232-9824
www.resourceillinois.com

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


From: Daniel Horvath <dhorvath@resourceillinois.com>
Sent: Monday, February 12, 2024 5:08 PM
To: Kuhlman, Eric <Eric.Kuhlman@Illinois.gov>
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.

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

(217) 524-3300

CERTIFIED MAIL
9589 0710 5270 1328 8588 99

FEB 16 2024

Michael Gasparini
West Chicago Park District
201 West National Street
West Chicago, IL 60185

Re: 0430905825 -- DuPage County
West Chicago / West Chicago Park District
201 West National Street
Leaking UST Incident 980814
Leaking UST Technical File

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.

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
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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.