#### BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

ILLICO INDEPENDENT OIL CO.,	)	
Petitioner,	)	
V.	)	PCB 17-84
ILLINOIS ENVIRONMENTAL	)	(UST Appeal)
PROTECTION AGENCY,	)	
Respondent.	)	

#### **NOTICE OF FILING**

To: Hearing Officer Carol Webb Illinois Pollution Control Board 1021 North Grand Avenue East P.O. Box 19274 Springfield, Illinois 62794-9274 Carol.Webb@Illinois.gov Patrick D. Shaw Law Office of Patrick D. Shaw 80 Bellerive Road Springfield, IL 62704 pdshaw1law@gmail.com

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Pollution Control Board a Motion for Leave to File Record *Instanter* and the Certificate of Record on Appeal and the accompanying documents comprising the entire record of the decision of the Illinois Environmental Protection Agency, a copy of which is herewith served upon you.

Respectfully submitted,

PROTECTION AGENCY,

ILLINOIS ENVIRONMENTAL

Dated: July 28, 2017

Respondent,

BY:

Scott B. Sievers

Attorney Registration No. 6275924 1021 North Grand Avenue East

P.O. Box 19276

Springfield, IL 62794-9276

(217) 782-5544

Scott.Sievers@Illinois.gov

Scott B. Sievers

Special Assistant Attorney General

/s/Scott B. Sievers

#### BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

ILLICO INDEPENDENT OIL CO.,	)	
	)	
Petitioner,	)	
	)	
V.	)	PCB 17-84
	)	(UST Appeal)
ILLINOIS ENVIRONMENTAL	)	
PROTECTION AGENCY,	)	
	)	
Respondent.	)	

#### MOTION FOR LEAVE TO FILE RECORD INSTANTER

NOW COMES the Respondent, ILLINOIS ENVIRONMENTAL PROTECTION

AGENCY ("Illinois EPA"), by and through its attorney, Special Assistant Attorney General

Scott B. Sievers, and moves for leave to file the record *instanter*. In support, the Respondent states the following:

- 1. On June 27, 2017, the undersigned requested that Illinois EPA Leaking Underground Storage Tank personnel compile the record of the decision in this matter.
- 2. On July 6, 2017, the Pollution Control Board entered an Order providing, in pertinent part, that Illinois EPA was to file the entire record of its determination in this matter by July 23, 2017.
- 3. The undersigned reiterated his request to Illinois EPA LUST personnel to compile the record on July 14, 2017.
- 4. Prior to the July 23, 2017 filing deadline, Illinois EPA LUST personnel provided the undersigned with the documents constituting the record, but they were not compiled in a manner allowing filing by the July 23, 2017 deadline. Illinois EPA Division of Legal Counsel staff spent substantial time compiling the records, then worked with LUST personnel to prepare the accompanying Certificate of Record on Appeal.

5. Due in part to these unanticipated complications, the record was not timely filed, and the Respondent now moves for leave to file the record *instanter*.

WHEREFORE, the Respondent, ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, prays that this honorable Board or the honorable Hearing Officer ALLOW the Respondent's MOTION FOR LEAVE TO FILE RECORD *INSTANTER*.

Respectfully submitted,

Dated: July 28, 2017 ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,

Scott B. Sievers Attorney Registration No. 6275924 1021 North Grand Avenue East P.O. Box 19276 Springfield, IL 62794-9276 (217) 782-5544 Scott.Sievers@Illinois.gov

BY: /s/Scott B. Sievers

Respondent,

Scott B. Sievers

Special Assistant Attorney General

### BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

ILLICO INDEPENDENT OIL CO.,	)	
Petitioner,	)	.5
v.	)	PCB 17-84 (UST Appeal)
ILLINOIS ENVIRONMENTAL	Ś	(OOT rippedi)
PROTECTION AGENCY,	)	
	)	
Respondent.	)	

### **CERTIFICATE OF RECORD ON APPEAL**

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

PAGES	DOCUMENT	DATE
001	IEMA FIELD REPORT	12/03/1992
002-009	45-Day Report	03/03/1993
010-128	Stage 2 Site Investigation Results Report	10/02/2015
129-173	Stage 3 Site Investigation Plan	10/06/2015
174-237	Corrective Action Plan	12/14/2015
238-421	Site Investigation Completion Report	12/14/2015
422	Email (Marlin Environmental, Inc./Illinois EPA)	12/18/2015
423-424	OSFM Permit #00032-2016INS	01/11/2016
425	OSFM Permit #00042-2016REM	01/12/2016
426-429	Email (Marlin Environmental, Inc./Illinois EPA)	01/20/2016
430-433	Emails (Marlin Environmental, Inc./Illinois EPA)	01/28/2016
434-435	Hazardous Materials Incident Report	01/28/2016

436-437	Email (Marlin Environmental, Inc./Illinois EPA)	01/29/2016
438-442	Illinois EPA Letter (Stage 2 Site Investigation Results Report)	02/01/2016
443-446	Illinois EPA Letter (Stage 3 Site Investigation Plan)	02/01/2016
447-465	Email (Marlin Environmental, Inc./Illinois EPA)	02/18/2016
466-470	Emails (Marlin Environmental, Inc./Illinois EPA)	03/31/2016
471-516	Emails (Marlin Environmental, Inc./Illinois EPA)	04/04/2016
517-550	Emails (Marlin Environmental, Inc./Illinois EPA)	04/05/2016
551-553	Email (Marlin Environmental, Inc./Illinois EPA)	04/06/2016
554	Email (Marlin Environmental, Inc./Illinois EPA)	04/08/2016
555	Email (Green Wave Consulting, LLC/Illinois EPA)	04/08/2016
556-558	Illinois EPA Letter (Site Investigation Completion Report)	08/25/2016
559-560	Email (Green Wave Consulting, LLC/Illinois EPA)	09/28/2016
561-576	LUST TECHNICAL REVIEW NOTES	11/18/2016
577-581	Illinois EPA Letter (Corrective Action Plan dated 12/14/2015)	11/29/2016
582-583	Email (Green Wave Consulting, LLC/Illinois EPA)	12/20/2016
584-628	Corrective Action Plan	01/16/2017
629-632	Emails (Green Wave Consulting, LLC/Illinois EPA)	05/16/2017
633	Environmental Justice (EJ) Area Reporting Form for Leaking UST Program Sites	05/17/2017
634-649	Illinois EPA Letter (Corrective Action Plan dated 01/16/2017)	05/17/2017
650	Partial Key to the Emails	

651-652	PROJECT LABOR AGREEMENT DETERMINATION	05/17/2017
653-654	Right-to-Know Evaluation	05/17/2017
655-656	Handwritten Notes	
657-666	OSFM Information	

I, TRENT BENANTI, certify on information and belief that the entire record of the

Respondent's decision, as defined in 35 III. Adm. Code 105.410(b), is hereby enclosed.

BY:

Frent Benanti

Project Manager/Environmental Protection Engineer III Leaking Underground Storage Tank Section

Illinois Environmental Protection Agency

19: Weather: [] surmy [] overcast [] night

Contact person:\_\_\_

Mailing address:

Notifications: IEPA/SFM Faxed

Phone #\_\_\_

On scene

[] Sheriff

[ ] Police

1 ESDA

[] Fire\_

[]ptly. cldy. [] rain [] snow

20: Responsible Perty: ILLICO Indiependent Oil

Box 614

\_\_F wind dir.\_\_\_\_speed \_\_\_

œ.

1#

#2

123 S. Sampson

Tremont, IL 61568

[] Gas [ Liquid [] Semi-Solid [] Solid

Is this a 302 (a) Extremely Hazardous Substance?

[]Yes [] No [] Unknown

[] Yes [] No [] Unknown

\_\_\_\_\_/min.

[] Yes [] No

[] Pesticide [] Radioactive

Is this a RCRA Hazardous Wasto?

[] Aboveground tank [] Pipeline

14 Underground tank [ ] Other\_

container size: 5-6,000 gal.

[] square feet [] square yards

Amount released:

Rate of release:

11. Estimated spill extent:

13. Emergency units contacted

[] Fire\_

[ ] Sheriff

FIESDA

Other

[ ] Police

10. Cause of release:

If Yes, is this a RCRA regulated facility?

Container: [] Truck [] RR car [] Drum

CAS #:\_\_\_ UN/NA #: This Agency is suthorized to require the Christophia Code in the Chapter lend in a civil penalty up to \$25,000 for each day the Callure continues, a fine up to \$50,000 and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

Illinois Environmental Protection Agency
LEAKING UNDERGROUND STORAGE TANK PROGRAM
45 DAY REPORT

	1430653268/80000
A. SITE IDENTIFICATION	Mico Independent Oil Co. Lust/Dech
Site # (IEPA Generator number): 1430655263	a some
(leave blank if unknown	Just Old
IESDA #: 923441	•
Facility Name: ILLICO INDEPENDENT OIL CO	) <b>.</b>
Mailing address: 617 KEOKUK	SITE ADDRESS: 3712 N. UNIVERSITY, PEORIA, IL.
-	Zip Code: 62656
City: LINCOLN County: LOGAN	
Self and and the self of the s	·
SITE FROM THE UNDERGROUND STORAGE TANK Has it been demonstrated that the release associate Clean-up objectives for soil and groundwater. (CHE	ed with this incident has been remediated to Agency
OWNER DAVE GOLWITZER	OPERATOR (if different from owner)
Name: DAVE GOLWITZER	Name:
Address: 617 KEOKUK	Address:
LINCOLN, IL. 62656	
Contact Name: AL KIRWAN	Contact Name:
Phone: _MIDWEST ENV. (309) 925-5551	Phone:
	OUDVEYOR
CONSULTANT	SURVEYOR Firm:
Firm: MIDWEST ENVIRONMENTAL CONSULT:	/
Address: 123 S. SAMPSON ST., BOX 614 TREMONT, ILLINOIS 61568	Address:
	Contact Name:
Phone: (309) 925-5551	Phone:
<ul> <li>B. TYPE RELEASE (please check one) Minor</li> <li>C. SIGNATURES  I hereby affirm that all information contained in this</li> </ul>	Significant X Major  45 Day Report is true and accurate to the best of my
knowledge and belief.  OWNER	OPERATOR (if different from owner)
	name:
	title:
. / / -	nienoturo:
signature:	data: RECENT
date:	date.
LAND SURVEYOR	date: RECEIVED  MAR n 8 1993
name:	TELEVINEO
title:	
signature:	
date:	registration number:

IL 532 2019 LPC 425 9/91 SCREENED OF

# Electronic Filing: Received, Clerk's Office 17/2/2017-084) R. 003

	IESDA INCIDENT 923441
PROFESSIONAL ENGINEER	
The release from the Underground Storage Tank(s) System as the facility described in this 45 Day Report has been remediated in Subpart F, and other applicable rules and regulations. The remediation forth by the Agency in I certify under supporting documents and all attachments were prepared under my knowledge and belief, the 45 Day Report, supporting documents, at complete. I am aware that there are significant penalties for submitted first and imprisonment for knowledge and belief.	accordance with 35 III. Adm. Code, Part 731, tion has achieved the clean-up objectives set penalty of law that this 45 Day Report, direction or supervision. To the best of my and all attachments are true, accurate and
of fine and imprisonment for knowing violations.	NOTICE: SITE REMEDIATION HAS
name: James A. Stone	NOT BEEN COMPLETED  AT THIS TANKE!!!!!!!!
title: Professional Engineer	The state of the s
signature: James 14. John	_ SEAL グラグライン
date: <u>March</u> 3, 1993	
registration number: 062-025729	
D. REPORTS SUBMITTED	The state of the s
Indicate the name and date of any reports previously submitted attached to or submitted with this report which are to be included in	
SUBSURFACE INVESTIGATION PROPOSAL	
E. PERSONNEL ON THE SITE	· · · · · · · · · · · · · · · · · · ·
Provide the name, titles and dates of the regulatory or company activities (e.g. OSFM inspector, IEPA inspector, etc.).	personnel on-site during the initial abatement
NAME TITLE	DATÉ
THIS SUSPECT RELEASE WAS REPORTED TO IEMA	A BASED ON TESTS CONDUCTED BY
IDOT DURING ROAD IMPROVEMENTS AT THE INTE	ERSECTION OF UNIVERSITY AVE.
AND WAR MEMORIAL DRIVE IN PEORIA, IL. NO	STATE REGULATORY PERSONNEL
WERE PRESENT DURING THE IDOT TESTING.	<del></del>
F. TANK INFORMATION	
Table 1	
Total number of underground storage tanks at this site:5	
For each underground storage tank (UST) system removed or relea	ise remediated provide:
Capacity (gal) 12,000	
Year of Installation: 1981 Condition of UST system upon rem	
Product Stored in UST system: <u>GASOLINE</u>	
Amount released: <u>UNKNOWN</u>	
Cause of release: <u>SPILLS AND OVERFILLS (tanks a</u>	and piping have tested tight).
Capacity (gal): 12,000	
Year of Installation: 1981 Condition of UST system upon rem	noval:
Product Stored in UST system:GASOLINE	_
Amount released: <u>UNKNOWN</u>	
	and piping have tested tight)

### IESDA INCIDENT 923441\_\_\_\_\_ Capacity (gal): 12,000 Year of Installation: 1981 Condition of UST system upon removal: \_\_\_\_\_ Product Stored in UST system: GASOLINE Amount released: <u>UNKNOWN</u> Cause of release: SPILLS AND OVERFILLS (tanks and piping have tested tight). Capacity (gal): 12,000 Year of Installation: 1981 Condition of UST system upon removal: Product Stored in UST system: \_\_\_\_DIESEL\_FUEL Amount released: \_\_\_UNKNOWN\_\_\_\_ Cause of release: \_\_\_SPILLS AND OVERFILLS (tanks and piping have tested tight). Capacity (gal): \_\_\_\_\_6,000 Condition of UST system upon removal: Year of Installation: 1981 Product Stored in UST system: KEROSENE Amount released: \_\_\_UNKNOWN\_\_ Cause of release: \_\_SPILLS AND OVERFILLS (tanks and piping have tested tight). Capacity (gal):\_\_\_\_\_ Year of Installation: \_\_\_\_\_ Condition of UST system upon removal: \_\_\_\_ Product Stored in UST system: \_\_\_\_\_ Amount released: \_\_\_\_\_ Cause of release: \_\_\_\_ Capacity (gal): Year of Installation: \_\_\_\_\_ Condition of UST system upon removal: \_\_\_\_\_ Product Stored in UST system: \_\_\_\_\_\_ Amount released: \_\_\_\_\_\_ Cause of release: \_\_\_\_\_ Capacity (gal): —— Year of Installation: Condition of UST system upon removal: Product Stored in UST system: Amount released: Cause of release: \_\_\_\_ Capacity (gal): Year of Installation: \_\_\_\_\_ Condition of UST system upon removal \_\_\_\_\_ Product Stored in UST system: \_\_\_\_\_ Amount released: \_\_\_\_\_ Cause of release: Capacity (gal): Year of Installation: \_\_\_\_\_ Condition of UST system upon removal: \_\_\_\_\_ Product Stored in UST system: \_\_\_\_\_ Amount released: \_\_\_\_\_ Cause of release: \_\_\_\_

Electronic Filing: Received, Clerk's Office 17/22/2017-084) R. 004

## Electronic Filing: Received, Clerk's Office 17/28/2017 2017-084) R. 005

G.

•	IESDA INCIDENT	923441	
	ILODA INCIDENT	747771	

			IESDA IN	ICIDENT	923441	
. Is this Substa	45 Day Report i	INFORMATION in response to a release from a US d in 35 III. Adm. Code, Subtitle G,	ST System cor Section 731.11	ntaining l 12? (Che	Jsed Oil or a Hazardous ck One):	
than th	Owner/Operator lose for which g NO	r requesting site specific objectives eneric objectives have been estab	s for a release lished by the A	from a p Agency?	etroleum material other (Check One):	
If YES	, for either, prov	ride the following information:	NOTICE:		REMEDIATION HAS COMPLETED AT THI	
a.	Site Name:					
b.	Site Location:	City:				-
		County:				•
		Township:				•
		Range:				•
		Section:				
Ç.	Media of conc	ern (such as soil and/or groundwa	ter):			
u.		nmaries:				
e.	Geological/Hydand public wat	drogeological Summary: (Should in er supply well within one mile of th	nclude a map s le Site)	showing	the location of all private	•
f.	Potentially exp	osed populations:				
g.	Potentially exp	osed environments, surface water	, fish and wildl	ife, vege	etation, etc.:	
<b>h.</b>	Potential dispe	rsion pathways, prevailing winds,	direction of gro	oundwate	er flow (if known):	
i.		nup techniques; removal and treat	ment or dispos	sal, in pla	ace treatment, etc.:	
j.	Justification for	Site Specific Objectives:		<u>.</u>		

### Electronic Filing: Received, Clerk's Office 117/28/29/17 2017-084) R. 006

	IESDA INCIDENT 923441
•	ed for cleaning the tank: TANKS ARE PRESENT, ACTIVE, AND
HAVE PASSED TIGHT	NESS TESTS. THERE ARE NO FORTHCOMING PLANS IN
EXISTENCE FOR THE	REMOVAL OF THESE TANKS.
	were removed or generated during the UST system removal, describe the and storage, treatment or disposal of this material.
Product:	N/A
Tank bottoms:	N/A
Tank sludges:	N/A
Product in tanks:	_N/A
Tank rinse waters:	N/A
Tank waste-water mixtures:	N/A
Tank system:	N/A .
Other (please describe):	N/A
Date that all tank cleaning op	perations were completed: N/A
	used to transport the above material from the site.

Provide the information below:

- 1. The steps taken to test for the extent of the release considering the type of the stored substance, type of backfill, depth to groundwater and other factors appropriate for identifying the presence and source of the SUBSURFACE INVESTIGATION WILL ENABLE DETERMINATION OF THESE FACTORS.
- INVESTIGATION INITIATED. 2. The actions taken to prevent further release of the regulated substance.
- 3. If the release was associated with the lines or dispenser, briefly describe the problem. THE RELEASE IS NOT ASSOCIATED WITH PRODUCT LINES OR DISPENSERS.
- 4. Provide a discussion of the potential of utility conduits to provide a pathway for the movement of UTILITY MAINS DO EXIST ALONG PROPERTY BOUNDARY, contamination off-site. POTENTIAL FOR CONDUIT PATHWAY DOES EXIST.

#### I. FREE PRODUCT ACTION

Was free product encountered during the investigation (check one): YES NO	INV	ESTIC	SATION
If YES, the following questions must be answered:	NOT	YET	COMPLETED
1. The name of the person responsible for implementing the free product removal meas	ures.	FREE	PRODUCT

### Electronic Filing: Received, Clerk's Office 17628/2017-084) R. 007

IESDA INCIDENT	923441
ILOUA II VIDLIII	

- 2. The estimated quantity, type and thickness of free product observed or measured in wells, boreholes and the excavations.
- 3. The dates that free product was discovered, and the steps taken to remove product.
- 4. The type of free product recovery system used, including plan sheets, diagrams, description of equipment and a site map indicating the recovery system location.
- 5. An indication of whether any discharge will take place on-site or off-site during the recovery operation and where this discharge will be located.
- 6. The type of treatment applied to any discharge and the effluent quality expected.
- 7. The steps that have been or are being taken to obtain necessary permits for any discharge.
- 8. The disposition of the recovered free product.
- 9. Pursuant to 35 III. Adm. Code, Section 731.165(b) the Owner/Operator must, within 30 days of this 45 Day Report, submit a completed Corrective Action Form that includes a Groundwater Investigation Plan.

#### J. SOIL EXCAVATION

K.

Pro	ovide information on the following:
1.	Dimensions of excavation(s): NOT APPLICABLE.
	Original tank backfill material:SAND
	Native soil type: ROZETTA SILT LOAM OVERLYING SILTY GLACIAL LOESS.
	Quantity of contaminated soil removed: NONE
2.	Was groundwater encountered? (check one): YESNONO_SOIL REMOVAL HAS OCCURRED.
	If YES, pursuant to 35 Ill. Adm. Code, Section 731.165(b) the Owner/Operator must, within 30 days of this 45 Day Report, submit a completed Corrective Action Form that includes a Groundwater Investigation Plan.
3.	Describe the steps which have been taken to control and remedy hazards posed by contaminated soils that are excavated or exposed as a result of release confirmation, site investigation, abatement of corrective action activities. PRESENTLY, NO HAZARDS EXIST TO POPULATION/STRUCTURES. DURING REMEDIAL ACTIVITY, POTENTIAL HAZARDS WILL BE MINIMIZED.
4.	Has the owner/operator complied with the requirements of 35 III Adm. Code, Parts 702, 703, 705, 722 through 728, 807 through 815 and other applicable rules and regulations for the storage, treatment and/or disposal of soils managed at the site? YES_X NO
SI	TE MAPS
1.	Provide topographic map which shows the location of the site and provide the following for the site:  township: T. 9 N. range: R. 8 E. section: 29
	latitude: 40°43 · 48 · longitude: 89° 36

### Electronic Filing: Received, Clerk's Office 17/2/2017-084) R. 008

IESDA INCIDENT 923441

#### N. GROUNDWATER SAMPLING FOR VERIFICATION OF COMPLETION OF REMEDIAL ACTIVITIES

If groundwater samples were taken, the following must be provided:

- 1. A completed Laboratory Certification Form (attached) must be provided with all groundwater sample data.
- 2. A sampling protocol for groundwater collection.
- 3. Basis for determining the well location and minimum number of groundwater samples taken.
- 4. Discussion of the approach that will be taken to determine the location and number of additional samples required.
- 5. Activities taken to prevent cross-contamination between samples.
- 6. The analytical results from groundwater sampling in tabular format showing detection limits and with raw data also included as an attachment.

#### O. REMEDIATION DOCUMENTATION

- 1. Original photographs taken during the cleanup to document the site conditions and remedial activities. Photographs must show all important cleanup activities that took place on the site. Photographs must be in duplicate, mounted, and labeled.
- 2. A copy of the permit for tank removal issued by the Office of the State Fire Marshal or, if in the City of Chicago provide documentation of approval for removing the tank.

### Electronic Filing: Received, Clerk's Office 17/2/2017-084) R. 009

IESDA INCIDENT	923441	
TEODA INCIDENT	<u> </u>	

- 2. Provide a site map with locations of the:
  - UST System(s)
  - · product and dispenser lines
  - pumps and islands
  - · sewer, gas, water and electrical utility lines
  - nearby buildings, roads, etc.
- 3. Provide a site map and cross-section indicating areas of:
  - UST System(s), vertically and horizontally
  - soil excavation
  - · soil borings
  - · soil and groundwater sampling locations
  - monitoring well locations
- 4. Provide a map and cross-section showing the extent of soil and groundwater contamination.

#### L. SOIL BORINGS TO DETERMINE THE EXTENT OF CONTAMINATION

If a soil boring sampling program has been undertaken to determine the extent of contamination, provide the following: SOIL BORINGS ARE PROPOSED FOR THIS SITE.

- 1. Drilling method(s) that were used, and why these methods were chosen.
- 2. The basis for determining the location and minimum number of borings to be placed on site.
- 3. A discussion of the approach that will be taken to determine the location and number of additional borings required.
- 4. Activities taken to prevent cross-contamination between boreholes.
- 5. A discussion of how the sampling interval for each boring was determined and collected.
- 6. A discussion of how off-site soil contamination impacts will be investigated.
- 7. Copies of borings logs.

## M. SOIL SAMPLING FOR VERIFICATION OF COMPLETION OF REMEDIAL ACTIVITIES The following must be provided:

- 1. A completed Laboratory Certification Form (attached) must be provided with all soil sample data.
- 2. A sampling protocol for soil sample collection.
- Basis for determining the location and minimum number of soil samples taken.
- 4. Discussion of the approach that will be taken to determine the location and number of additional samples required.
- Activities taken to prevent cross-contamination between samples.
- 6. The analytical results from soil sampling in tabular format showing detection limits and with raw data also included as an attachment.



Electronic Filing: Received, Clerk's Office of 2017-084) R. 010

Environmental Remediation Services, Inc. "Serving Midwest Industry and Environment"

> 1430655263 – Peoria County The Premcor Refining Group, Inc. Incident # 923441 Leaking UST Technical File

#### USPS PRIORITY MAIL

October 2, 2015

Mr. Trent Benanti Illinois Environmental Protection Agency Bureau of Land - #24 Leaking Underground Storage Tank Section 1021 North Grand Avenue East P.O. Box 19276 Springfield, Illinois 62794-9276

RE: LPC #1430655263 -- Peoria County

Former Clark Store # 2093 3712 North University Street LUST INCIDENT # 923441 LUST TECHNICAL FILE

Dear Mr. Benanti:

ERS of Illinois, Inc. (ERSI) has enclosed one original and one copy of the Stage 2 Site Investigation Results Report for the above-referenced Site. ERSI prepared this Stage 2 Site Investigation Results Report on behalf of The Premcor Refining Group Inc. (Premcor).

On July 24, 2015, Illico Incorporated and Premcor reached a settlement on multiple properties that Premcor had previously taken the responsibility of conducting the environmental investigative work. Illico Incorporated has taken over control and responsibility of this Site's environmental and corrective actions.

If you have questions regarding the information presented herein, or require additional information, please do not hesitate to contact the undersigned at (630) 896-4090.

Respectfully submitted,

ERS of Illinois, Inc.

Karen Dixon

Senior Project Manager

RECEIVED

OCT 0 5 2015

IEPA/BOL

enclosure:

Stage 2 Site Investigation Results Report

IEPA-DIVISION OF RECORDS MANAGEMENT

RELFACARIE

cc:

Mr. Timothy J. Mauntel, The Premcor Refining Group Inc.

FFB 09 2016

REVIEWER: EMI

ERS of Illinois, Inc.

2272 Cornell Avenue

Montgomery, IL 60538

24 Hour (630) 896-4090

Fax (630) 896-4099

ERS of Ohio, Inc. 519 Ordway Avenue wiling Green. OH 43402

### Illinois Environmental Protection Agency Leaking Underground Storage Tank

### Stage 2 Site Investigation Results Report

October 2, 2015

Former Clark Store #2093 3712 North University Street Peoria, Illinois

Incident #923441

### Prepared For:

The Premcor Refining Group Inc. 201 East Hawthorne Street Hartford, Illinois 62048 Attn: Mr. Timothy J. Mauntel

Prepared By:

ERS of Illinois, Inc. 2272 Cornell Avenue Montgomery, Illinois 60538

ERSI Project # IL15-13-0020

RECEIVED

OCT 0 5 2015

**IEPA/BOL** 

IEPA-DIVISION OF RECORDS MANAGEMENT
RELEASABLE

FEB 09 2016

REVIEWER: EMI

### Electronic Filing: Received, Clerk's Office 3/28/2017 2017-084) R. 012

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 in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of configuration with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/57.17). This form has been approved by the Forms Management Center.

### Illinois Environmental Protection Agency Leaking Underground Storage Tank Program Site Investigation Plan

A.	Site Identification							
	A Incident # (6- or 8- digit			LPC # (10- digit):	_	14306	55263	
		lark Store #2093						
	Address (not a P.O. Box):		Iniversity Street					
City:	Peoria	_ County:	Peoria	Zip C	lode: _	<u>61614</u>		
Leaki	ng UST Technical File							
B.	Site Information							
	1. Will the owne Storage Tank F	-	ek payment from th		Yes	$\boxtimes$	No	
	2. If yes, is the bu	dget attached?		•	Yes		No	$\boxtimes$
c.	Site Investigation							
	Provide the following:							
	<ol> <li>Stage of investigma. Stage 2</li> <li>Stage 3</li> </ol>	gation						
	2. Summary of Sta	ge 1  or 2	⊠ site investigat	ion activities;				
	Introduction							
	ERS of Illinois, Inc. (ER: referenced Site. ERSI Premcor Refining Grou completed Stage 2 Site	prepared this sup Inc. (Premc Investigation.	Stage 2 Site Investi or). This report p	igation Results Re provides documen	eport or itation	n beha of the	If of T recer	he ntly
	On July 24, 2015, Illico Premcor had previously Illico Incorporated has corrective actions.	Incorporated ar taken the respetaken over co	nd Premcor reached onsibility of conduct ontrol and respons	I a settlement on ing the environme ibility of this Site	multiple ntal ign e's env		erties t ivelwo intal a	
	3. Characterization of	site and surrou	nding area:					2015 30L
	a. Current and pro	ojected post-rem	nediation uses;		<b>5</b> 1	! /	V	JOL

The Site is an active retail convenience store that operates Underground Storage Tanks (USTs) for retail gasoline, kerosene and diesel fuel sales. The Site features include: one

single story building for retail convenience item sales; three (3) 12,000 gallon capacity USTs containing unleaded gasoline; one (1) 12,000 gallon capacity UST containing diesel fuel, one (1) 6,000 gallon UST containing kerosene and the associated fuel dispensers and underground piping.

#### b. Physical setting:

The Site is located at 3712 North University Street in Peoria, Illinois, in the northeast ¼ of Section 29, Township 9 North, Range 8 East in Peoria County, Illinois. A Site location map is provided on **Figure 1**.

The Site is bounded to the north by commercial and residential properties; to the east by residential homes; to the west by North University Street and a commercial automobile dealership; and, to the south by War Memorial Drive and beyond by commercial properties that include a car dealership and an active gasoline service station. The surrounding properties and adjacent land uses are illustrated on **Figure 2**. The Site features are illustrated on **Figure 3**.

#### i. Environmental conditions;

#### Statement of Incident

According to the 45 Day Report dated March 2, 1993, Incident Number 923441 was reported on December 2, 1992, during the Illinois Department of Transportation (IDOT) road construction activities conducted at the intersection of North University Street and War Memorial Drive. A previous contractor (Midwest Environmental) reported the release to the Illinois Emergency Management Agency (IEMA). The Site has one reported release of gasoline, kerosene and diesel fuel (Incident Number 923441) due to spills and overfills, the amount is unknown. The on-site USTs and associated piping had tested tight when inspected to determine the source of the release.

#### **Historic Site Investigations**

In November 1999, Parsons Engineering Science, Inc. (Parsons) on behalf of Clark Retail Enterprises, Inc. (CRE) conducted Site investigation activities. The investigation consisted of advancing ten soil borings (SB-1 through SB-10) and converting four of the soil borings into 2-inch groundwater monitoring wells (MW-1 through MW-4).

On November 16, 2000, Parsons conducted off-site investigation activities. The investigation consisted of advancing three soil borings and converting the soil borings into 2-inch groundwater monitoring wells (MW-5 through MW-7).

In April 2002, Parsons advanced one soil boring off-site to the south and converted the soil boring into a 2-inch monitoring well (MW-8).

Between November 1999 and April 2002, Parsons conducted groundwater monitoring and sampling events. The groundwater samples were analyzed for BTEX and select monitoring wells were sampled for PNAs. The monitoring well locations are illustrated on **Figure 3**. The groundwater analytical results are summarized on **Table 1** and **Table 2**.

The historic site investigations were documented in the On and Off-Site Subsurface Investigation/Groundwater Monitoring Summary Report dated March 8, 2001, the Annual Groundwater Monitoring Report dated December 5, 2001 and the Corrective

Action Plan and Budget dated March 26, 2003, previously submitted to the Illinois Environmental Protection Agency (IEPA).

In the IEPA Letter dated December 7, 2011, it was requested that new soil data be collected to evaluate subsurface conditions at the Site. ERSI is not using soil data collected by the previous consultant (Parsons) when evaluating the subsurface Site conditions.

On July 11, 2011, while conducting a groundwater sampling event, ERSI measured and mapped all new structures, features and other improvements to the Site and surroundings, and generated the current figures included in this report. ERSI compared the newly generated figures to the maps prepared by Parsons in the On-Site and Off-site Subsurface Investigation/Groundwater Monitoring Summary Report dated March 8, 2001. ERSI utilized measurements from benchmarks common to both figures (i.e., buildings, property boundaries and distances between wells) in order to determine the locations of the groundwater monitoring wells.

ERSI confirmed the locations of monitoring wells MW-3 and MW-4 by collecting the total depth measurements during a Site visit. The total depths of MW-3 and MW-4 were 14.83 and 13.58, respectively. According to the Boring Logs and Well Construction Diagrams, MW-3 was screened from 6 to 16 feet and MW-4 was screened from 4 to 14 feet. Therefore, the monitoring well with the total depth of 14.83 could not be the well that was screened from 4 to 14 feet, and was determined to be monitoring well MW-3.

On July 11, 2011, ERSI conducted groundwater monitoring activities that consisted of gauging, purging and collecting groundwater samples from monitoring wells MW-1 through MW-8. Monitoring wells MW-5 and MW-8 were not located during the sampling event (MW-5 and MW-8 have since been located during the most recent site investigation activities). Free product was detected in monitoring well MW-7 and, therefore, was not sampled. The groundwater BTEX and PNA analytical results are summarized in **Table 1** and **Table 2**, respectively. The locations of the monitoring wells are illustrated on **Figure 3**. The groundwater laboratory analytical reports were previously submitted to the IEPA in the Stage 2 Site Investigation Plan (SIP) dated December 3, 2012.

On August 5, 2011, ERSI installed an oil-only absorbent sock in monitoring well MW-7, to recover free product. Between August 5, 2011 and November 22, 2011, ERSI conducted weekly free product checks in monitoring well MW-7. The free product checks consisted of inspecting the oil-only absorbent sock placed in monitoring well MW-7 and replacing the sock as-needed basis. Approximately 1.16 gallons of free product were recovered. The free product recovery results were previously submitted in the Stage 2 SIP dated February 21, 2012.

A Stage 2 SIP (dated February 21, 2012) submitted by ERSI, was rejected in an IEPA letter dated June 19, 2012. The IEPA comments included the request of ERSI to submit soil boring logs, monitoring well construction diagrams, laboratory reports, Chain-of-Custody forms and Laboratory Certification forms for Site Investigation activities conducted by previous consultants related to groundwater monitoring well MW-8. ERSI does not have access to any documents other than the ones obtained from the IEPA FOIA request. Therefore, pursuant to 35 III. Adm. Code 734.425(c) and 734.430(b), groundwater monitoring well MW-8 has been removed from the tables and figures.

In the IEPA letter dated June 19, 2012, it was noted that the IEPA does not have laboratory reports, a chain of custody, or a Laboratory Certification for Chemical Analysis form for the April 24, 2002 groundwater sampling event. ERSI has no

knowledge or files that document a groundwater sampling event on this date. Therefore, pursuant to 35 ILL. Adm. Code 734.415(a)(1), the results for the April 24, 2002 groundwater sampling event have been removed from the analytical tables.

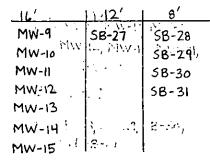
On August 7 and August 8, 2012, ERSI and GeoServe, Inc., (GeoServe) conducted subsurface investigation activities that consisted of advancing sixteen soil borings (SB-11 through SB-26) utilizing an air knife rig to approximately five (5) feet below ground surface (bgs) and a direct push drilling apparatus from five (5) feet to thirteen (13) feet bgs (maximum depth explored). Fifteen (15) soil borings were installed around the perimeter of the tank pit area, along the UST product lines and the pump islands to assess the indicator contaminants BTEX and PNAs. Two (2) soil borings (SB-20 and SB-21) were abandoned due to low recovery of the tank pit fill material. One (1) soil boring (SB-26) was advanced to collect a soil sample for geotechnical analysis. The soil analytical results are summarized in **Tables 3** and **4**. The soil boring locations are illustrated on **Figure 4**. The investigation activities and soil laboratory analytical reports were previously submitted to the IEPA in the Stage 2 SIP dated December 3, 2012.

#### **Recent Site Investigations**

On March 10, 2015, ERSI and GeoServe conducted the subsurface investigation activities that consisted of advancing twelve (12) soil borings (MW-9 through MW-15, SB-27 through SB-31) with a hollow stem and direct push drilling apparatus from the ground surface to sixteen (16) feet bgs (maximum depth explored). Seven (7) of the soil borings were converted into groundwater monitoring wells (MW-9 through MW-15). The soil boring and monitoring well locations are illustrated on **Figure 4**. Soil boring SB-31 was advanced to due to the IEPA not accepting the data collected from SB-17 that had detection limits that exceeded the Tier 1 Remediation Objectives.

During drilling activities, an ERSI geologist was on-site to observe and supervise the field activities, to collect soil samples, and to visually classify soils in accordance with the Unified Soil Classification System (USCS). The borings were continuously sampled from the surface to a maximum depth of sixteen (16) feet bgs. During drilling, ERSI collected soil samples from select borings at two (2) foot intervals using a macro core sampler. Upon recovery, the sampler was opened to reveal an undisturbed core sample. The soil core was described in accordance with the USCS, checked for odors and staining, and field screened for total volatile organic compounds (TVOCs) using a PID. ERSI conducted field screening of the soil core by placing a sample of the soil core into an airtight container; allowing the container to warm; inserting the probe of the PID equipped with a 10.6eV bulb into the container headspace for approximately 30-seconds; and, recording the highest TVOC The USCS classification, visual observations and TVOC measurement. measurements were recorded on soil boring logs. Copies of the soil boring logs are provided in Attachment A.

ERSI collected soil samples from select borings on the basis of the field screening results for submittal to an independent laboratory for analysis of BTEX and PNA. Within select borings, soil samples from each five (5) foot interval of the unsaturated zone having the most elevated PID reading and/or the sample obtained from the maximum unsaturated zone sample interval depth were selected for laboratory analysis. The portion of the sample not selected for field screening was prepared for laboratory analysis of BTEX and PNA in accordance with SW-846 Method 5035/5030. Following sample preparation, each sample container was labeled and immediately placed in an ice-filled cooler. The samples were submitted to First Environmental Laboratories, Inc. (First) of Naperville, Illinois, under chain-of-custody protocol. First analyzed the samples for BTEX and PNA using SW-846 Method 8260 and 8270 and then prepared a report documenting the results. A Site map illustrating the soil boring



Soil boring logs: Split spoon

and monitoring well locations is presented on Figure 4. The BTEX and PNA soil analytical results are summarized in Table 3 and Table 4. A copy of the soil analytical report is provided in Attachment B.

Monitoring wells MW-9 through MW-15 were constructed though the annulus of the boring using a 10 foot length of 2 inch diameter polyvinyl chloride (PVC) flush-threaded screen (0.010 inch slots) and blank PVC casing. The wells were constructed such that the screened intervals straddle the water table. Clean, inert, appropriately sized, mesh filter sands were placed in the borehole annular space of each well to approximately one foot above the top of the screened interval. A bentonite seal was placed above the sand pack to prevent down-hole migration of surface water. The well casings were completed as flush grade and secured to prohibit tampering with the well. The monitoring well construction logs are presented in **Attachment C**.

Upon completion, the permanent monitoring wells were developed by removing a minimum of five (5) submerged casing volumes of water. The top of casing of the groundwater monitoring wells were vertically surveyed to within 0.01 foot accuracy.

Soils generated during the subsurface investigations were transported to Waste Management's Peoria City/County Landfill in Brimfield, Illinois. The waste disposal documentation is provided in **Attachment D**.

On April 23, 2015, ERSI conducted groundwater monitoring activities that consisted of gauging, purging and collecting groundwater samples from monitoring wells MW-2 through MW-15. Monitoring well MW-1 was not located. Sampling activities were initiated by measuring the depth to fluid (free product and/or groundwater) in each well to within 0.01 feet using a battery operated oil/water interface probe. The interface probe was decontaminated between uses at successive well locations. ERSI collected groundwater samples from the monitoring wells using a disposable bailer and cord to minimize the potential for cross contamination. After sample collection. ERSI transferred the samples into laboratory-prepared sample containers, placed the sample containers in a cooler with ice and shipped the cooler and samples, under chain-of-custody protocol, to the project laboratory (First) for analysis of BTEX and PNA by SW-846 Method 8260 and 8270. The groundwater analytical results are summarized in Table 1 and Table 2. A copy of the groundwater analytical report is provided in Attachment E. The groundwater analytical results and the potentiometric surface contours for the groundwater monitoring event conducted on April 23, 2015, are illustrated on Figure 5. The groundwater flow direction was to the west under an approximate groundwater gradient of 0.016 feet/foot.

The groundwater purged during the groundwater sampling event was transported to Ortek in McCook, Illinois. The waste disposal documentation is provided in **Attachment F**.

ii. Geologic, hydrogeologic, and hydrologic conditions; and

The Site subsurface has been logged during Site investigation activities conducted to date. The IEPA can use the existing soil boring logs to infer the geology at the Site.

The surficial deposits at the vicinity of the Site may be representative of the Henry Formation (greater than 19.7 feet thick) or the Richland Loess (less than 19.7 feet thick) overlying the Wedron Formation, loamy and sandy diamictons (greater than 19.7 feet thick) (Berg et al., 1987).

According to the Illinois State Geological Survey (ISGS) Circular 532 entitled, "Potential for Contamination of Shallow Aquifers in Illinois" (Berg et al., 1984), the



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region underlying the Site is classified as "A2" or "E". Areas classified as "A2" are described as; "thick, permeable sand and gravel within 20 feet of the land surface. Areas classified as "E" are described as; "uniform, relatively impermeable silty or clayey till at least 50 feet thick with no evidence of interbedded sand and gravel."

Shallow groundwater was encountered in Site monitoring wells in April 2015 at depths ranging from approximately 5.52 feet to 10.90 bgs. The groundwater monitoring data and calculated potentiometric groundwater elevations indicate that the apparent direction of groundwater flow beneath the Site is toward the west.

ERSI calculated the groundwater gradient to be approximately 0.016 feet/feet (ft/ft). ERSI calculated the gradient by taking the elevation difference between two wells (MW-9 and MW-13 along the apparent groundwater flow direction to the west. The elevation difference (1.38 feet) was then divided by the distance between these two points (88 feet).

#### References

Berg, Richard C., and John P. Kempton, 1987, Stack-Unit Mapping of Geologic Materials in Illinois to a Depth of 15 Meters, Circular 542, Illinois Department of Energy and Natural Resources, State Geological Survey Division, Urbana, Illinois.

Willman, H.B., 1975, <u>Handbook of Illinois Stratigraphy</u>, Bulletin 95, Illinois State Geological Survey, Urbana, Illinois.

Berg, Richard C., John P. Kempton, and Keros Cartwright, 1984, <u>Potential for Contamination of Shallow Aquifers in Illinois, Circular 532</u>, Illinois Department of Energy and Natural Resources, State Geological Survey Division, Urbana, Illinois.

iii. Geographic and topographic conditions;

The Site surface topography at the vicinity of the retail store and motor vehicle fueling dispensers is generally flat. The Site surface elevation is approximately 650 feet above mean sea level (MSL). Peoria Lake (Illinois River) is located approximately 3.5 miles to the east/southeast. The Site location is illustrated on **Figure 1**.

- 4. Results of Stage 1 or Stage 2 site investigation:
  - a. Map(s) showing locations of all borings and groundwater monitoring wells completed to date and groundwater flow direction;

A Site Map illustrating the correct groundwater monitoring well locations and the most recent potentiometric surface contours (April 2015) is provided on **Figure 5**. A Site Map illustrating the soil boring locations is presented on **Figure 4**.

b. Map(s) showing locations of all samples collected;

A Site Map illustrating the correct groundwater monitoring well locations is provided on **Figure 3**. A Site Map illustrating the soil boring locations is presented on **Figure 4**.

c. Map(s) showing extents of soil and groundwater contamination that exceeds the most stringent Tier 1 remediation objectives;

The horizontal and vertical extents of soil and groundwater contamination exceeding Tier 1 Remediation Objectives have not been delineated. A Site Map illustrating the recently advanced soil boring locations and analytical results is provided on **Figure 4**. A Site Map

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illustrating the groundwater monitoring well locations and analytical results is provided on **Figure 5**.

d. Cross-section(s) showing the geology and the horizontal and vertical extents of soil and groundwater contamination that exceeds the most stringent Tier 1 remediation objectives;

The horizontal and vertical extents of soil and groundwater contamination exceeding Tier 1 Remediation Objectives have not been delineated.

e. Analytical results, chain of custody forms, and laboratory certifications;

The analytical results, chain-of-custody forms and laboratory certificates have been provided in **Attachment B** and **E**.

f. Table(s) comparing analytical results to the most stringent Tier 1 remediation objectives (include sample depth, date collected, and detection limits);

The groundwater BTEX and PNA analytical results are summarized in **Table 1** and **Table 2**, respectively. The soil BTEX and PNA analytical results are summarized in **Table 3** and **Table 4**, respectively. ERSI is not utilizing any soil data collected prior to 2012.

- g. Potable water supply well survey (unless provided in previous plan):
  - i. Map(s) to scale showing:
    - a) Locations of community water supply wells and other potable wells and the setback zone for each well;
    - b) Location and extent of regulated recharge areas and wellhead protection areas;
    - c) Extent of groundwater contamination exceeding the most stringent Tier 1 remediation objectives; and,
    - d) Modeled extent of groundwater contamination exceeding the most stringent Tier 1 remediation objectives (if performed as part of site investigation).
  - ii. Table(s) listing the setback zones for each community water supply well and other potable water supply wells;
  - iii. 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
  - iv. 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;

The potable well search was provided in the February 2012 Stage 2 SIP and updated by the IEPA in the letter dated June 19, 2012.

h. Soil boring logs and monitoring well construction diagrams;

The soil boring logs have been provided in **Attachment A**. The monitoring well logs have been provided in **Attachment C**.

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- i. Proposal for determining the following parameters:
  - i. Hydraulic conductivity (K);
  - ii. Soil bulk density (p<sub>b</sub>);
  - iii. Soil particle density (p<sub>s</sub>);
  - iv. Moisture content (w); and,
  - v. Organic carbon content  $(f_{\infty})$ .

On August 8, 2012, soil boring SB-26 was advanced to collect a soil sample for geotechnical analysis for site specific information required to calculate the Site-specific Remediation Objectives. The soil sample was analyzed for hydraulic conductivity (K); soil bulk density ( $p_b$ ); soil particle density ( $p_s$ ), porosity, soil classification and moisture content. The laboratory report has been previously submitted to the IEPA.

j. Budget forms of actual costs (documenting actual work performed during the previous stage).

Budget forms for the work conducted to date are included as Attachment G.

- 5. Stage 2 or 3 sampling plan:
  - a. Description of and justification for additional activities proposed as part of the plan;
  - b. A map depicting locations of proposed borings and groundwater monitoring wells; and
  - c. Depth of borings and construction details of proposed borings;

No additional activities are being proposed by ERSI or Premcor. Illico the responsible party will be submitting a plan for IEPA approval at a future date.

6. Site maps meeting the requirements of 35 Ill. Adm. Code 734.440.

**Figures 1** through **5** meet the 35 III Adm. Code 734.440. **Figures 3**, **4** and **5** are scaled diagrams and sized for ease of viewing. Offsite properties that are not in the immediate vicinity of the release may contain partial buildings, structures or other features.

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#### D. Signatures

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

UST Owner	or Operator	Consultant	
Name:	The Premcor Refining Group Inc.	Company:	ERS of Illinois, Inc.
Contact:	Mr. Timothy J. Mauntel, P.E., R.G	Contact:	Ms. Karen Dixon
Address:	201 East Hawthorne Street	Address:	2272 Cornell Avenue
City:	Hartford	City:	Montgomery
State:	Illinois	State:	Illinois
Zip Code:	62048	Zip Code:	60538
Phone:	(618) 255-5122	Phone:	(630) 896-4090
Signature:	Immonth mounts	Signature:	Kluxon
Date:	1/9/28/15	Date:	9/18/15
			•

I certify under penalty of law that all activities that are the subject of this 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 report and all attachments were prepared under my supervision; that, to the best of my knowledge and belief, the work described in this report has been completed in accordance with the Environmental Protection Act [415 ILCS 5], 35 Ill. Adm. Code 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

Mr. Scott Beasley, P.E. Name: ERS, Inc. Company: 4010 Option Pass Address: Fort Wayne City: State: Indiana Zip Code: 46818 Phone: (260) 489-7062 0620409506 Ill. Registration No.: License Expiration Date: November 30 Signature: Date:

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



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**TABLES** 

#### Table 1 Groundwater Analytical and Elevation Summary - BTEX

#### Former Clark Store #2093 3712 North University Street Peoria, Illinois 61614

	Sample Date	Elevation (feet)	Depth to Water (feet)	Free product Thickness (feet)	Water Elevation (feet)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Comments
MW-1	11/22/1999	96.00	9.33	-	86.67	1,700	140	1,200	3,240	
MW-1 (Duplicate)	11/22/1999			-		1,700	150	1,200	3,350	
	11/16/2000	96.00	8.04		87.96	2,100	180	1,100	2,650	
	04/24/2001	96.00	6.54	-	89.46	1,700	270	1,500	2,930	
MW-1	10/03/2001	96.00	8.44	-	87.56	1,900	110	1,100	2,420	
	07/11/2011	96.35	7.20	-	89.15	664	55.3	<t1 738<="" td=""><td>472</td><td>odor/no sheen</td></t1>	472	odor/no sheen
	04/23/2015				Unal	oie to Locate	Well			
	11/22/1999	98.29	8.55	-	89,74	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	11/16/2000	98.29	8.59	-	89.70	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
MW-2	04/24/2001	_98.29	6.56		91.73	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	10/03/2001	98.29	7.42		90.87	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	07/11/2011	98.58	6.41		92,17	ND<1.0	ND<1.0	ND<1.0	ND<3.0	no odor/no shee
	04/23/2015	98.58	6.58	-	92.00	ND<5.0	ND<5.0	ND<5.0	ND<5.0	no odor/no shee
	11/22/1999	99.82	9.59	-	90.23	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	11/16/2000	99.82	7.03		92.79	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
MW-3	04/24/2001	99.82	8.09		91.73	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
MITT 5	10/03/2001	99.82	8.78		91.04	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
J	07/11/2011	100.20	7.37		92.83	ND<1.0	ND<1.0	ND<1.0	ND<3.0	no odor/no shee
	04/23/2015	100.20	8.03	-	92.17	ND<5.0	ND<5.0	ND<5.0	ND<5.0	no odor/no shee
MW-4	11/22/1999	97.73	8.37		89.36	4,500	580	2,500	4,410	
11111-4	11/16/2000	97.73	7.26	-	90.47	4,000	1,000	2,600	6,400	
MW-4 (Duplicate)	11/16/2000			-		4,100	980	2,700	6,100	
	04/24/2001	97.73	6.84		90.89	4,500	2,000	2,100	5,500	
MW-4	10/03/2001	97.73	7.56		90.17	4,900	1,000	2,400	5.800	
	07/11/2011	98.19	6.46	-	91.73	1,060	101	. 1,360	1,780	odor/sheen
	04/23/2015	98.19	7.33		90.86	896	66.9	2,240	1,020	odor/sheen
	11/16/2000	95.53	10.55	-	84.98	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ļ
	04/24/2001	95.53	4.82	-	90.71	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
MW-5	10/03/2001	95.53	7.53	-	88.00	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
· l	07/11/2011	NA !	NS_		NS	NS	NS	NS	NS	
	04/23/2015	96.00	5.52	-	90.48	ND<5.0	ND<5.0	ND<5.0	ND<5.0	no odor/no shee
,	11/16/2000	95.74	_10.65		85.09	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	04/24/2001	95.74	8.35		87.39	ND<1.0	_ND<1.0	ND<1.0	ND<2.0	ļ
MW-6	10/03/2001	95.74	10.74	•	85.00	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	07/11/2011	96.27	8.71		87,56	ND<1.0	ND<1.0	ND<1.0	ND<3.0	no odor/no shee
	04/23/2015	96.27	9.48		86.79	ND<5.0	ND<5.0	ND<5.0	ND<5.0	no odor/no shee
	11/16/2000	97.27	11.73		85.54	39,000	140,000	_37,000	170,000	
	04/24/2001	97.27	9.79		87.48	26,000	43,000	5,000	23,400	
MW-7	10/03/2001	97.27	NA NA		NA	19,000	34,000	5,200	26,400	<del> </del>
	07/11/2011	97.62	9.75	0.60	88.32	NS	N\$	NS	NS_	free product
	04/23/2015	97.62	10.90		86.72	14,500	24,300	3,680	16,700	odor/sheeri
MW-9	04/23/2015	97.88	6.10	-	91.78	ND<5.0	ND<5.0	ND<5.0	ND<5.0	no odor/no shee
MW-10	04/23/2015	98.94	7.03		91.91	126	ND<5.0	ND<5.0	ND<5.0	odor/sheen
MW-11	04/23/2015	99.72	7.76		91.96	ND<5.0	ND<5.0	ND<5.0	ND<5.0	odor/no sheen
MW-12	04/23/2015	97.05	6.35	- 1	90.70	307	189	220	977	odor/no sheen
MW-13 MW-14	04/23/2015	96.73	6.11	-	90.62	10,200	9,900	2,530	10,200	odor/no sheen
	04/23/2015	97.52	5.97		91.55	386	27.4	315 ND-5.0	1,250	odor/no sheen
MW-15	04/23/2015	100.39 ediation Object	6.67	ndwater	93.72	ND<5.0	ND<5.0	ND<5.0	ND<5.0	no odor/no shee
							4 555	700	40.000	<del>,                                      </del>
		on Objectives - on Objectives -				<b>5</b>	1,000 2,500	1,000	10,000	

All results are reported in micrograms per liter (ug/L).

Analyses conducted using United States Environmental Protection Agency (USEPA) Methods.

Reference elevation based on temporary benchmark with an assigned elevation of 100.00 feet.

Equivalent Water elevation = Reference Elevation - Depth to Water + (0.75 X Product Thickness). ND = Analyte not detected at or above the reporting limit.

NA = Not Available.
Comments based on field observations.

Tier 1 Groundwater Remediation Objectives per Title 35, Part 742 - Tiered Approach to Corrective Action Objectives.

Bold values exceed Tier 1 Remediation Objectives.

Samples prior to 2011 collected by Parsons Engineering Science, Inc.

### Table 2 Groundwater Analytical Results - PNAs

Former Clark Store #2093 3712 North University Street Peoria, Illinois 61614

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		. /	ACES PARTY BOOK	A STATE OF THE PARTY OF THE PAR	/       /	A Partitude of the Sales	AZGLED PLENE	Diffuse Britishes Garde	SOLITOR PER BARRETHIN	TATE /
WellD	Speriote	Jeft /	Tital.	iry	A THE STATE OF THE	1HI	ON.	AST.	# /	A SULL
Well	THE I		N#Pi	Spirit /	in	(a)217	19611	Tiffue /	ari / ar	, J
'	G#	/ AC		" /		نه / م <sup>ن</sup>	N / 36		350	
		/ `	/ "		\ 48°	/ ·	/ gatt	\ 4m	/ \$8° /	
MW-1	11/22/1999	ND<2.0	1.8	ND<0.085	ND<0.061	ND<0.061	ND<0.061	ND<0.085	ND<0.037	
MW-1 (Duplicate)	11/22/1999	ND<32	ND<28	ND<1.4	ND<1.0	ND<1.0	ND<1.0	ND<1.4	ND<0.60	
mirri (propriesso)	11/16/2000	ND<1.2	ND<1.3	ND<0.067	ND<0.053	ND<0.050	ND<0.047	ND<0.040	ND<0.023	
	04/24/2001	0.12	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	
MW-1	10/03/2001	, NS	NS	NS	NS	NS	NS	NS	N\$	
	07/11/2011	ND<2.4	ND<2.4	ND<2.4	ND<2.4	ND<2.4	ND<2.4	ND<2.4	ND<2.4	
	04/23/2015	NS	NS	NS	NS	NS	NS	NS	NS	
	11/22/1999	ND<2.2	ND<1.9	ND<0.097	ND<0.069	ND<0.069	ND<0.069	ND<0.097	ND<0.042	
	11/16/2000	ND<1.2	ND<1.3	ND<0.067	ND<0.053	ND<0.050	ND<0.047	ND<0.040	ND<0.023	
MW-2	04/24/2001	NS	NS	NS	NS	NS	NS	NS NS	NS NS	
	10/03/2001 07/11/2011	NS ND<0.047	NS ND<0.047	NS ND<0.047	NS ND<0.047	NS ND<0.047	ND<0.047	ND<0.047	NS ND<0.047	
	04/23/2015	ND<10	ND<10	ND<5	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047 ND<0.17	
	11/22/1999	ND<1.6	ND<1.4	ND<0.070	ND<0.050	ND<0.050	ND<0.050	ND<0.070	ND<0.030	
	11/16/2000	ND<1.2	ND<1.3	ND<0.067	ND<0.053	ND<0.050	ND<0.047	ND<0.040	ND<0.023	
BANAS S	04/24/2001	NS	NS :	NS	NS	NS	NS	NS	NS	
MW-3	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS	
	07/11/2011	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	
	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17	
MW-4	11/22/1999	ND<32	ND<28	ND<1.4	ND<1.0	ND<1.0	ND<1.0	ND<1.4	ND<0.60	
	11/16/2000	ND<24	ND<26	ND<1.3	ND<1.1	ND<1.0	ND<0.94	ND<0.80	ND<0.46	
(W-4 (Duplicate)	11/16/2000	ND<24	ND<26	ND<1.3	ND<1.1	ND<1.0	ND<0.94	ND<0.80	ND<0.46	
	04/24/2001 10/03/2001	0.41 NS	0.075 NS	ND<0.050 NS	ND<0.050 NS	ND<0.050 NS	ND<0.050 NS	ND<0.050	ND<0.050	
MW-4	07/11/2011	ND<47.2	ND<47.2	ND<47.2	ND<47.2	ND<47.2	ND<47.2	NS ND<47.2	NS ND<47.2	
	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17	
	11/16/2000	ND<1.2	ND<1.3	ND<0.067	ND<0.053	ND<0.050	ND<0.047	ND<0.040	ND<0.023	
	04/24/2001	NS	NS	NS	NS	NS	NS	NS	NS	
MW-5	10/03/2001	NS	NS	75	NS	NS	NS	NS	NS	
	07/11/2011	NS	NS	NS	NS	NS	NS	NS	NS_	
	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17	
	11/16/2000	ND<1.2	ND<1.3	ND<0.067	0.10	0.17	0.15	0.096	0.052	
	04/24/2001	NS	NS_	NS	NS	NS	NS	NS	NS.	
MW-6	10/03/2001	NS ND c0 047	NS	NS 0.063	NS.	_NS	NS.	NS	NS	
	07/11/2011 04/23/2015	ND<0.047 ND<10	0.063 ND<10	0.063 ND<5	0.31 ND<0.13	0.33 ND<0.2	0.35 ND<0.18	0.20 ND<0.4	0.30	
	11/16/2000	ND<96,000	ND<100,000	ND<5,400	ND<4,200	ND<4,000	ND<0.18	ND<0.4	ND<0.17 ND<1,800	
	04/24/2001	7.9	3.6	2.4	1.2	ND<1.0	ND<1.0	ND<1.0	ND<1,800	
MW-7	10/03/2001	NS	NS	22	NS	NS NS	NS	NS	NS NS	
	07/11/2011	NS	NS	NS	NS	NS	NS	NS	NS NS	
	04/23/2015	ND<10	ND<10	ND<5	0.18	ND<0.2	ND<0.18	ND<0.4	ND<0.17	
MW-9	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17	
MW-10	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17	
MW-11	04/23/2015	33	ND<10	7	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17	
MW-12	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17	
MW-13	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17	
MW-14	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17	
MW-15	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17	
	ctives for Groundwater									
Class I Gro		420	210	2,100	0.13	0.20	0.18	210	0.17	
Class II Gro	oundwater	2,100	1,050	10,500	0.65	2.0	0.90	1,050	0.85	

### Groundwater Analytical Results - PNAs

Former Clark Store #2093 3712 North University Street Peoria, Illinois 61614

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	Secret	- sie	/ . /	inscr	North Paris	′ . /	NOAL /	AST PLEASE PARTY P	Restricted
West	ν / ,	<b>,</b> 0'	Chrysens	NIET.	3 retru	Fluoriero	0.3/00	Titrate	SPITE
142	Sarra.		Chi.	igh <sup>®</sup> .	May /	41 <sup>10</sup> / 2	×' / ;	20°	TARL /
			Olfrer.			inder.			
	/					<u></u>			
MW-1	11/22/1999	ND<0.061	ND<0.085	ND<0.061	ND<2.3	ND<0.098	61	ND<1.8	ND<0.073
/-1 (Duplicate)	11/22/1999	ND<1.0	ND<1.4	ND<1.0	ND<3.8	ND<1.6	48	ND<3.0	ND<1.2
	11/16/2000	ND<0.060	ND<0.053	ND<0.053	ND<0.17 0.17	ND<0.047 ND<0.050	46 120	ND<1.8 0.12	ND<0.053 ND<0.050
MW-1	04/24/2001 10/03/2001	ND<0.050 NS	ND<0.050 NS	ND<0.050 NS	0.17 NS	ND<0.050	NS NS	NS	NS NS
MAA-1	07/11/2011	ND<2.4	ND<2.4	ND<2.4	ND<2.4	ND<2.4	16.5	ND<2.4	ND<2.4
	04/23/2015	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/1999	ND<0.069	ND<0.097	ND<0.069	ND<0.26	ND<0,11	ND<1.9	ND<0.21	ND<0.083
	11/16/2000	NO<0.060	ND<0.053	ND<0.053	ND<0.17	ND<0.047	ND<1.1	ND<0.14	ND<0.053
MW-2	04/24/2001	NS	NS	NS	NS	NS	NS	NS	NS
	10/03/2001	NS	NS NS	NS	NS	NS	NS	NS	NS
	07/11/2011	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	0.12	ND<0.047	ND<0.047
	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
	11/22/1999 11/16/2000	ND<0.050	ND<0.070 ND<0.053	ND<0.50 ND<0.053	ND<0.19 ND<0.17	ND<0.080 ND<0.047	ND<1.4 ND<1.1	ND<0.15 ND<0.14	ND<0.060 ND<0.053
	04/24/2001	ND<0.060	NS NS	NS	NS	NS NS	NS NS	NS NS	NS
MW-3	10/03/2001	NS NS	NS	NS	NS	NS	NS	NS NS	NS
	07/11/2011	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047
	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
*****	11/22/1999	ND<1.0	ND<1.4	ND<1.0	ND<3.8	ND<1.6	150	ND<3.0	ND<1.2
MW-4	11/16/2000	ND<1.2	ND<1.1	ND<1.1	ND<3.4	ND<0.94	160	ND<2.8	ND<1.1
/-4 (Duplicate)	11/16/2000	ND<1.2	ND<1.1	ND<1.1	ND<3.4	ND<0.94	200	3.5	ND<1.1
	04/24/2001	ND<0.050	ND<0.050	ND<0.050	0.41	ND<0.050	210	0.27	ND<0.050
MW-4	10/03/2001	NS	NS	NS	NS	NS	NS	NS_	NS_
	07/11/2011	ND<47.2	ND<47.2	ND<47.2	ND<47.2	ND<47.2	296	ND<47.2	ND<47.2
	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	229	ND<5	ND<2
	11/16/2000 04/24/2001	ND<0.060 NS	ND<0.053 NS	ND<0.053 NS	ND<0.17 NS	ND<0.047 NS	ND<1.1 NS	ND<0.14 NS	ND<0.053 NS
MW-5	10/03/2001	NS NS	NS	NS	NS NS	NS	NS	NS NS	NS
	07/11/2011	NS	NS	NS	NS	NS	NS	· NS	NS
	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
	11/16/2000	0.08	0.068	0.24	ND<0.17	0.24	ND<1.1	0.21	0.21
	04/24/2001	N\$	NS	N\$	NS	NS	, NS	NS	NS
MW-6	10/03/2001	NS	NS_	NS	NS	NS	NS	NS	NS
	07/11/2011	0.33	0.078	0.49	ND<0.047	0.19	0.075	0.12	0.44
	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
	11/16/2000	ND<4,800_	ND<4,200	ND<4,200	ND<14,000	ND<3,800	180,000	31,000	ND<4,200 2.6
MW-7	04/24/2001 10/03/2001	ND<1.0	ND<1.0 NS	2.6 NS	9.5 NS	ND<1.0 NS	2,000 NS	ND<250 NS	NS NS
mer-r	07/11/2011	NS NS	NS NS	NS NS	NS	NS	NS	NS NS	NS NS
	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	472	ND<5	ND<2
MW-9	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
MW-10	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
MW-11	04/23/2015	ND<1.5	ND<0.3	ND<2	43	ND<0.3	41	85	ND<2
MW-12	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	13	ND<5	ND<2
MW-13	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	177	ND<5	ND<2
MW-14	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
MW-15	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
(40 A A - 1 O									
	ctives for Groundwater								
	undwater	1.5 7.5	0.30 1.5	280 1,400	280 1,400	0.43 2.15	140 220	210 1,050	210 1,050

Note:

All results are reported in micrograms per liter (ug/L).

Polynuclear Aromatic Hydrocarbons (PNA's) analyses conducted using United States Environmental Protection Agency (USEPA) Methods.

ND = Analyte not detected at or above the reporting limit.

NE = Not Established.

NS = Not Sampled.

Tier 1 Groundwater Remediation Objectives per Title 35, Part 742 - Tiered Approach to Corrective Action Objectives.

#### Table 3 Soil Analytical Results - BTEX

#### Former Clark Store #2093 3712 North University Street Peoria, Illinois 61614

Sample ID	Sample Depth (feet)	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes
\$B-11	3.5-5	08/07/2012	288	ND<64.2	58.1	332
S8-11	7-8	08/07/2012	3,980	51,600	31,600	159,000
SB-12	3.5-5	08/07/2012	51.5	ND<64.2_	ND<32.1	ND<96.2
SB-12	7-8	08/07/2012	629	ND<62.8	3,940	13,700
SB-13	3.5-5	08/07/2012	2,050	2,720	1,900	8,400
SB-13	6-7	08/07/2012	11,700	92,700	29,700	142,000
SB-14	3.5-5	08/07/2012	669	ND<64.8	213	249
SB-14	6-7	08/07/2012	833	ND<62.0	1,330	2,330
SB-15	3.5-5	08/07/2012	4,210	24,100	9,170	49,900
SB-15	5-6	08/07/2012	41,800	305,000	103,000	568,000
SB-16	3.5-5	08/07/2012	1,010	ND<65.9	164	156
SB-16	6-7	08/07/2012	3,700	ND<613	11,200	36,100
SB-17	3.5-5	08/08/2012	337	ND<126	3,140	7,820
SB-17	6-7	08/08/2012	ND<1,200	3,770	130,000	574,000
S8-18	3.5-5	08/08/2012	1,190	ND<64.6	637	645
SB-18	6-7	08/08/2012	6,790	903	27,000	112,000
SB-19	3.5-5	08/08/2012	40.5	ND<65.0	ND<32.5	ND<97.5
SB-19	6-7	08/08/2012	365	ND<59.5	69.1	ND<89.3
SB-22	3.5-5	08/08/2012	ND<24.8	ND<62.0	ND<31.0	ND<93.0
SB-22	6-7	08/08/2012	ND<24.8	ND<62.0	ND<31.0	ND<93.0
SB-23	3.5-5	08/08/2012	ND<25.5	ND<63.7	ND<31.9	ND<95.6
SB-23	5-6	08/08/2012	ND<24.5	ND<61.2	ND<30.6	ND<91.8
SB-24	3.5-5	08/08/2012	ND<25.6	ND<64.1	ND<32.0	ND<96.1
SB-25	3.5-5	08/08/2012	148	ND<64.1	ND<32.1	321
SB-27	0-4	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
SB-27	4-7	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
SB-28	0-2	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
SB-28	4-6	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
SB-29	2-4	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
SB-29	4-6	03/10/2015	ND<5.0	ND<5.0_	ND<5.0	ND<5.0
SB-30	0-2	03/10/2015	101	7.5	126	61.6
SB-30	2-4	03/10/2015	402	ND<500_	ND<500	ND<500
SB-31	2-4	03/10/2015	1,600	ND<500	9,690	24,200
SB-31	4-6	03/10/2015	16,800	27,100	243,000	1,190,000
MW-9	2-4	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
MW-9	4-6	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
MW-10	0-4	03/10/2015	ND<5.0	5.7	ND<5.0	ND<5.0
MW-11	2-4	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
MW-11	4-6	03/10/2015	ND<5.0	7,1	ND<5.0	5.2
MW-12	2-4	03/10/2015	1,660	3,620	42,300	168,000
MW-12	4-6	03/10/2015	4,230	4,660	35,500	178,000
MW-13	2-4	03/10/2015	23.0	ND<5.0	8.4	16.3
MW-13	4-6	03/10/2015	347	ND<500	2,550	6,610
MW-14	2-4	03/10/2015	ND<5.0	5.9	ND<5.0	5.8
MW-14	4-6	03/10/2015	654	ND<500	9,820	44,600
MW-15	2-4	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
MW-15	4-6	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
Exposure Route-S	pecific Values	for Soils				•
	n - Residential		12,000	16,000,000	7,800,000	16,000,000
	n - Residential		800	650,000	400,000	320,000
	onstruction We		2,300,000	410,000,000	20,000,000	41,000,000
Inhalation - Co			2,200	42,000	58,000	5,600
Ingestion - Ind			100,000	410,000,000	200,000,000	410,000,000
Inhalation - Inc	dustrial/Comm	ercial	1,600	650,000	400,000	320,000
Tier 1 Remediation Obj	ective - Class	Groundwater	30	12,000	13,000	150,000
Tier 1 Remediation Obje			170	29,000	19,000	150,000
				•		•

Benzene, Toluene, Ethylbenzene and Total Xylene (BTEX) analysis conducted using United States Environmental Protection Agency (USEPA) Methods.

NA = Not Applicable

Bold values exceed Tier 1 Remediation Objectives.

All results are reported in micrograms per kilogram (ug/kg), dry weight.

Tier 1 Soil Remediation Objectives per Title 35, Part 742 - Tiered Approach to Corrective Action Objectives.

ND = The constituent was not measured above the Method Detection Limit indicated.

Former Clark Store #2093 3712 North University Street

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	<u> </u>	1884	Stephe Chart	reserve to kee	nachtery are	. /	A September 194	ared to Daylor to Tames of	ndre (*	S. F. Life of Parks	-there
Şerre	,	A PATE	" CR	ARTICLE .	HETH.	STATE OF STA	THE PROPERTY.	S. P. YILL	ucran.	liker,	. Craft.
Est.	· /	Ne / 1	THE .	rest /	KARA	atri.	is in	2014.	DIFF.	ar.	This
	العيد ا	W / 9	, k		' / *	agric.	′/∜	ATT O	A STATE	anico.	· /
	/ •					/		/ *	/	/ *	
SB-11	3.5-5	08/07/2012	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	, 
SB-11	7-8	08/07/2012	ND<271	ND<271	ND<271	ND<271	ND<271	ND<271	ND<271	ND<271	
SB-12 SB-12	3.5-5 7-8	08/07/2012 08/07/2012	ND<21.4 ND<69.7	ND<21.4 ND<69.7	ND<21.4 ND<69.7	ND<21.4 ND<69.7	ND<21.4 ND<69.7	ND<21.4	ND<21.4	ND<21.4	
SB-13	3.5-5	08/07/2012	ND<09.7	ND<09.7	ND<22.0	ND<09.7	ND<22.0	ND<69.7 ND<22.0	ND<69.7 ND<22.0	ND<69.7 ND<22.0	
SB-13	6-7	08/07/2012	ND<104	ND<104	ND<104	ND<104	ND<104	ND<104	ND<104	ND<104	
\$B-14	3.5-5	08/07/2012	ND<21.6	ND<21.6	ND<21.6	ND<21.6	ND<21.6	ND<21.6	ND<21.6	ND<21.6	
\$B-14	6-7	08/07/2012	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	
SB-15 SB-15	3.5-5 5-6	08/07/2012 08/07/2012	ND<168 ND<261	ND<168 ND<261	ND<168 ND<261	ND<168 ND<261	ND<168 ND<261	ND<168 ND<261	ND<168 ND<261	ND<168 ND<261	
SB-16	3.5-5	08/07/2012	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<261 ND<22.0	
\$B-16	6-7	08/07/2012	ND<68 0	NO<68 0	ND<68 0	ND<68.0	ND<68 0	ND<68.0	ND<68.0	ND<68 0	
98-17	3.5-5	08/08/2012	ND<21.0	ND<21.0	ND<21.0	ND<21.0	ND<21.0	ND<21.0	ND<21.0	ND<21.0	
\$8-17 \$8-18	6-7 3.5-5	08/08/2012 08/08/2012	ND<3,190 ND<21.5	ND<3,190 _ND<21.5	ND<3,190 ND<21.5	ND<3,190 ND<21.5	ND<3,190 ND<21.5	ND<3,190	ND<3,190	ND<3,190	
SB-18	6-7	08/08/2012	ND<207	ND<207	ND<207	ND<207	ND<207	ND<21.5 ND<207	ND<21.5 ND<207	ND<21.5 ND<207	
\$B-19	3.5-5	08/08/2012	ND<21.7	ND<21.7	ND<21.7	ND<21.7	ND<21.7	_ ND<21.7	ND<21.7	ND<21.7	
SB-19	6-7	08/08/2012	43.7	ND<19.8	34.8	ND<19.8	ND<19.8	ND<19.8	ND<19.8	ND<19.8	
SB-22 \$B-22	3.5-5 6-7	08/08/2012 08/08/2012	ND<20.7 ND<20.7	ND<20.7 ND<20.7	ND<20.7 ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	
SB-23	3.5-5	08/08/2012	ND<20.7	ND<20.7	ND<21.2	ND<20.7 ND<21.2	ND<20.7 ND<21.2	ND<20.7 ND<21.2	ND<20.7 ND<21.2	ND<20.7 ND<21.2	
SB-23	5-6	08/08/2012	ND<204	ND<204	ND<20.4	ND<20.4	ND<20.4	ND<20.4	ND<204	ND<20.4	
SB-24	3.5-5	08/08/2012	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	
\$B-25 \$8-27	3.5-5 0-4	08/08/2012	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	
SB-27	4-7	03/10/2015	ND<50 ND<50	ND<50 ND<50	ND<50 ND<50	90.7 15.0	69 ND<15	76 17	ND<50 ND<50	65 14	
SB-28	0-2	03/10/2015	ND<50	ND<50	ND<50	328	297	312	176	271	
SB-28	4-6	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	
SB-29	2-4	03/10/2015	ND<50	ND<50	ND<50	14.7	17	19	ND<50	15	
\$B-29 \$B-30	4-6 0-2	03/10/2015	ND<50 ND<50	ND<50 ND<50	ND<50 ND<50	ND<8.7 43.5	ND<15 59	NO<11	ND<50 ND<50	ND<11 46	
SB-30	2-4	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	
SB-31	2-4	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	
SB-31	4-6	03/10/2015	393	ND<50	60	21.1	ND<15	ND<11	ND<50	ND<11	
MW-9	2-4 4-6	03/10/2015	ND<50 ND<50	ND<50 ND<50	ND<50 ND<50	39.4 ND<8.7	41 ND<15	39 ND<11	ND<50	46 ND<11	
MW-10	04	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	
MW-11	2-4	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	
MW-11 MW-12	4-6	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	
MW-12 MW-12	2-4 4-6	03/10/2015	ND<50 ND<50	ND<50 ND<50	ND<50 ND<50	22.2 10.5	15 ND<15	16 ND<11	ND<50 ND<50	ND<11	
MW-13	2-4	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	
MW-13	4-6	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50_	ND<11	
MW-14	2-4	03/10/2015	ND<50	ND<50	ND<50	32.7	35	38	ND<50	40	
MW-14 MW-15	4-6 2-4	03/10/2015 03/10/2015	ND<50 ND<50	ND<50 ND<50	ND<50 ND<50	ND<8.7 ND<8.7	ND<15 ND<15	ND<11 ND<11	ND<50 ND<50	ND<11	
MW-15	4-6	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50 ND<50	ND<11 ND<11	
Exposure Route									,		
	on - Residentia		4,700,000	2,300,000	23,000,000	900	90	900	2,300,000	9,000	
Inhalation - Residential   NE   NE   NE   NE   NE   NE   NE   N											
Ingestion - Construction Worker   120,000,000   610,000,000   17											
Ingestion - Industriat/Commercial 120,000,000 61,000,000 610,000,000 8,000 800 8,000 61,000,000 78,000											
	ndustrial/Comm		NE	NE	NE	NE	NE NE	NE	NE	NE	
	I Groundwater II Groundwater	·	570,000 2,900,000	85,000 420,000	12,000,000 59,000,000	2,000 8,000	8,000	5,000	27,000,000	49,000	
Concentrations of PNA		ackground Soils	2,900,000 130	70	400	1,800	82,000 2,100	25,000 2,100	130,000,000	250,000 1,700	
						-,000	, 2,100	2,100	1,700	1,,00	

See SB-31

Former Clark Store #2093 3712 North University Street

Peoria, Illinois 61614											
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	NAME OF STREET	10 Car	Server Date	Christa	AS.FIF	<b>Josephine</b>	Fluggere	13.73 /	Machine Market M	THE REAL PROPERTY.	PATER
/ 5"	/ /	THOU S	5° /	" <i>/</i>		* /	` / *	re /	W. /		
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		<i></i>		<i></i>	<i></i>						/
\$8-11 \$B-11	3.5-5 7-8	08/07/2012 08/07/2012	ND<21.4 ND<271	ND<21.4 ND<271	ND<21.4 ND<271	ND<21.4 ND<271	ND<21.4 ND<271	89.8 4.630	ND<21.4 ND<271	ND<21.4 ND<271	1
SB-12	3.5-5	08/07/2012	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	41.6	ND<271	ND<271	1
\$B-12	7-8	08/07/2012	ND<69.7	ND<69.7	ND<69.7	ND<69.7	ND<69.7	836	ND<69.7	ND<69.7	1
58-13	3.5-5	08/07/2012	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	396	ND<22.0	ND<22.0	1
SB-13 SB-14	6-7 3.5-5	08/07/2012 08/07/2012	ND<104 ND<21.6	ND<104 ND<21.6	ND<104 ND<21.6	ND<104 ND<21.6	ND<104 ND<21.6	1,660 ND<21.6	ND<104	ND<104 ND<21.6	
SB-14	6-7	08/07/2012	ND<21.6 ND<20.7	ND<20.7	ND<21.6	ND<21.6	ND<21.6	130	ND<21.6 ND<20.7	ND<20.7	
SB-15	35-5	08/07/2012	ND<168	ND<168	ND<168	ND<168	ND<168	2,150	ND<168	ND<168	1
SB-15	5-6	08/07/2012	ND<261	ND<261	ND<261	ND<261	ND<261	5,340	ND<261	ND<261	1
SB-16	3.5-5	08/07/2012	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	4
\$8-16 SB-17	6-7 3.5-5	08/07/2012 08/08/2012	ND<68.0 ND<21.0	ND<68.0 ND<21.0	ND<68 0 ND<21.0	ND<68.0 ND<21.0	ND<68.0 ND<21.0	791_ 313	141 39.2	ND<68.0 ND<21.0	1
SB-17	6-7	08/08/2012	ND<3,190	ND<3,190	ND<3,190	ND<3,190	ND<3,190	45,300	ND<3.190	ND<3,190	
SB-18	3.5-5	08/08/2012	ND<21.5	ND<21.5	ND<21.5	ND<21.5	ND<21.5	88.9	ND<21.5	ND<21.5	1
SB-18	6-7	08/08/2012	ND<207	ND<207	ND<207	ND<207	ND<207	4,160	ND<207	ND<207	
SB-19 SB-19	3.5-5 6-7	08/08/2012 08/08/2012	ND<21.7 ND<19.8	ND<21.7 ND<19.8	ND<21.7 ND<19.8	ND<21.7 92.1	ND<21.7 ND<19.8	ND<21.7	ND<21.7	ND<21.7 ND<19.8	1
SB-22	3.5-5	08/08/2012	ND<20.7	ND<20.7	ND<19.8	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<19.8 ND<20.7	
SB-22	6-7	08/08/2012	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	
\$B-23	3.5-5	08/08/2012	ND<21.2	ND<21.2	ND<21.2	ND<21.2	ND<21.2	ND<21.2	ND<21.2	ND<21.2	
SB-23	5-6	08/08/2012	ND<204	ND<20.4	ND<20.4	ND<20.4	ND<20.4	ND<20.4	ND<20.4	ND<20.4	
SB-24 SB-25	3.5-5 3.5-5	08/08/2012 08/08/2012	ND<21.4 ND<21.4	ND<21.4 ND<21.4	ND<21.4 ND<21.4	ND<21.4 ND<21.4	ND<21.4 ND<21.4	ND<21.4 ND<21.4	ND<21.4 ND<21.4	ND<21.4 ND<21.4	
SB-27	0-4	03/10/2015	77	ND<20	189	ND<50	51	ND<25	135	151	
SB-27	4-7	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND50	
SB-28	0-2	03/10/2015	253	51	483	ND<50	188	ND<25	180	429	
SB-28 SB-29	4-6 2-4	03/10/2015	ND<50 ND<50	ND<20 ND<20	ND<50 ND<50	ND<50 ND<50	ND<29 ND<29	ND<25 ND<25	_ND<50 ND<50	ND<50 ND<50	ł
SB-29	4.6	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
SB-30	0-2	03/10/2015	66	ND<20	87	ND<50	50	423	ND<50	86	
SB-30	2-4	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
SB-31 SB-31	2-4 4-6	03/10/2015	ND<50 ND<50	ND<20 ND<20	ND<50 65	ND<50 432	ND<29 ND<29	574 20,700	93 935	ND<50 149	1
MW-9	2-4	03/10/2015	ND<50	ND<20	82	ND<50	33	ND<25	ND<50	75	
MW-9	4-6	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
MW-10	0-4	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	i
MW-11 MW-11	2-4 4-6	03/10/2015 03/10/2015	ND<50 ND<50	ND<20 ND<20	ND<50 ND<50	ND<50 ND<50	ND<29 ND<29	ND<25 ND<25	ND<50 ND<50	ND<50 ND<50	1
MW-12	2-4	03/10/2015	ND<50	ND<20	70	ND<50	ND<29	4,200	88	63	1
MW-12	4-6	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	1,990	51	ND<50	j
MW-13	2-4	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	1
MW-13 MW-14	4-6 2-4	03/10/2015	ND<50 ND<50	ND<20 ND<20	ND<50	ND<50 ND<50	ND<29	272 ND<25	ND<50 ND<50	ND<50 ND<50	1
MW-14	4-6	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	288	ND<50	ND<50	1
MW-15	2-4	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	1
MW-15	4-6	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	j
Exposure Route			90.000	80	2 400 000	" 3 400 00c "	000	4 000 000	2 200 000	5 200 000	4
	tion - Residentia		88,000 NE	90 NE	3,100,000 NE	3,100,000 NE	900 NE	1,600,000 170,000	2,300,000 NE	2,300,000 NE	1
	Construction V		17,000,000	17,000	82,000,000	82,000,000	170,000	4,100,000	61,000,000	61,000,000	1
Inhalation -	Construction V	Norker	NE	NE	NE	NE	NE	1,800	NE	NE	]
Ingestion - Industrial/Commercial 780,000 800 82,000,000 82,000,000 800 41,000,000 61,000,000 61,000,000											
	Industrial/Com: I Groundwater		NE 160,000	NE 2,000	NE 4,300,000	NE 560,000	NÉ 14,000	270,000 12,000	NE 22 > 200;000	NE 4,200,000	210,000
	s II Groundwater		800,000	7,600	21,000,000	2,800,000	69,000	18,000	1,000,000	21,000,000	1,100,000
Concentrations of PNA			2,700	420	4,100	180	1,600	200	2,500	3,000	1,100,000
iotes:											•

See SB-31

Polynuclear aromatic hydrocarbon (PNAs) analysis conducted using United States Environmental Protection Agency (USEPA) Methods.

All results are reported in micrograms per kilogram (ug/kg), dry weight.

Tier 1 Soil Remediation Objectives per Title 35, Part 742 - Tiered Approach to Corrective Action Objectives.

ND = The constituent was not measured above the Method Detection Limit indicated.

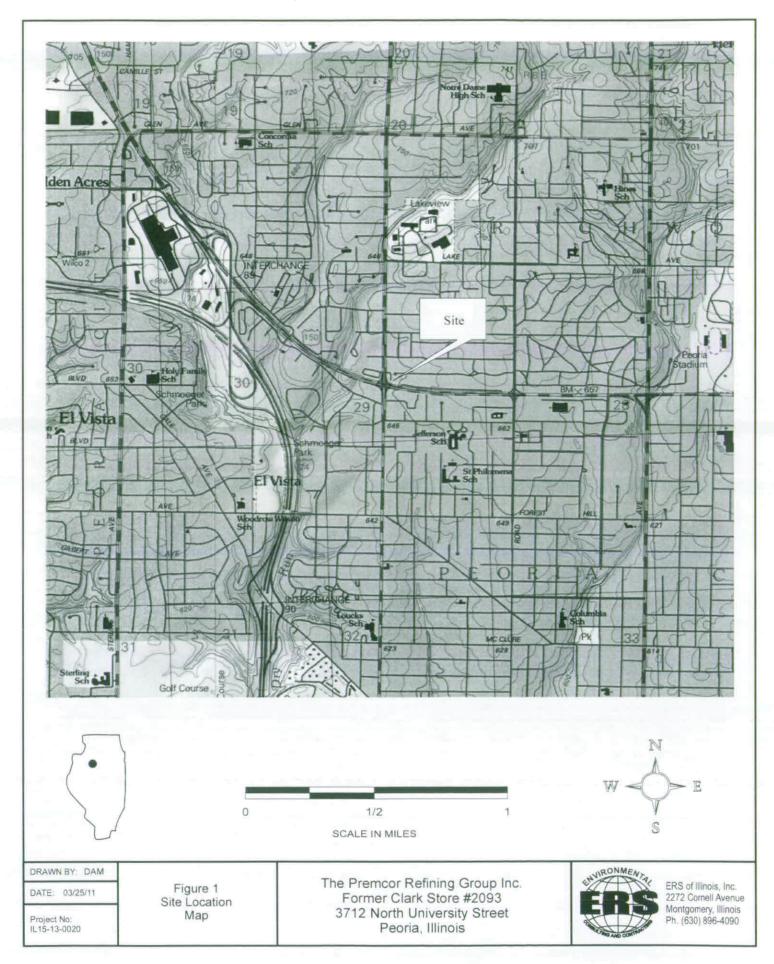
NE = Not Established.

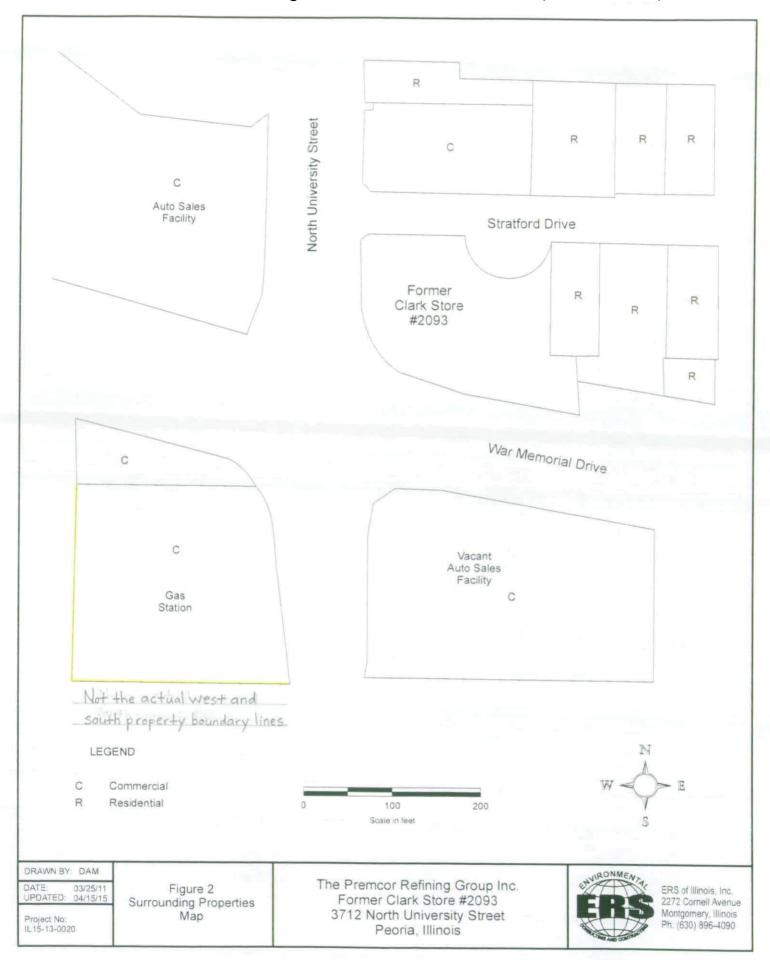
NA = Not Applicable

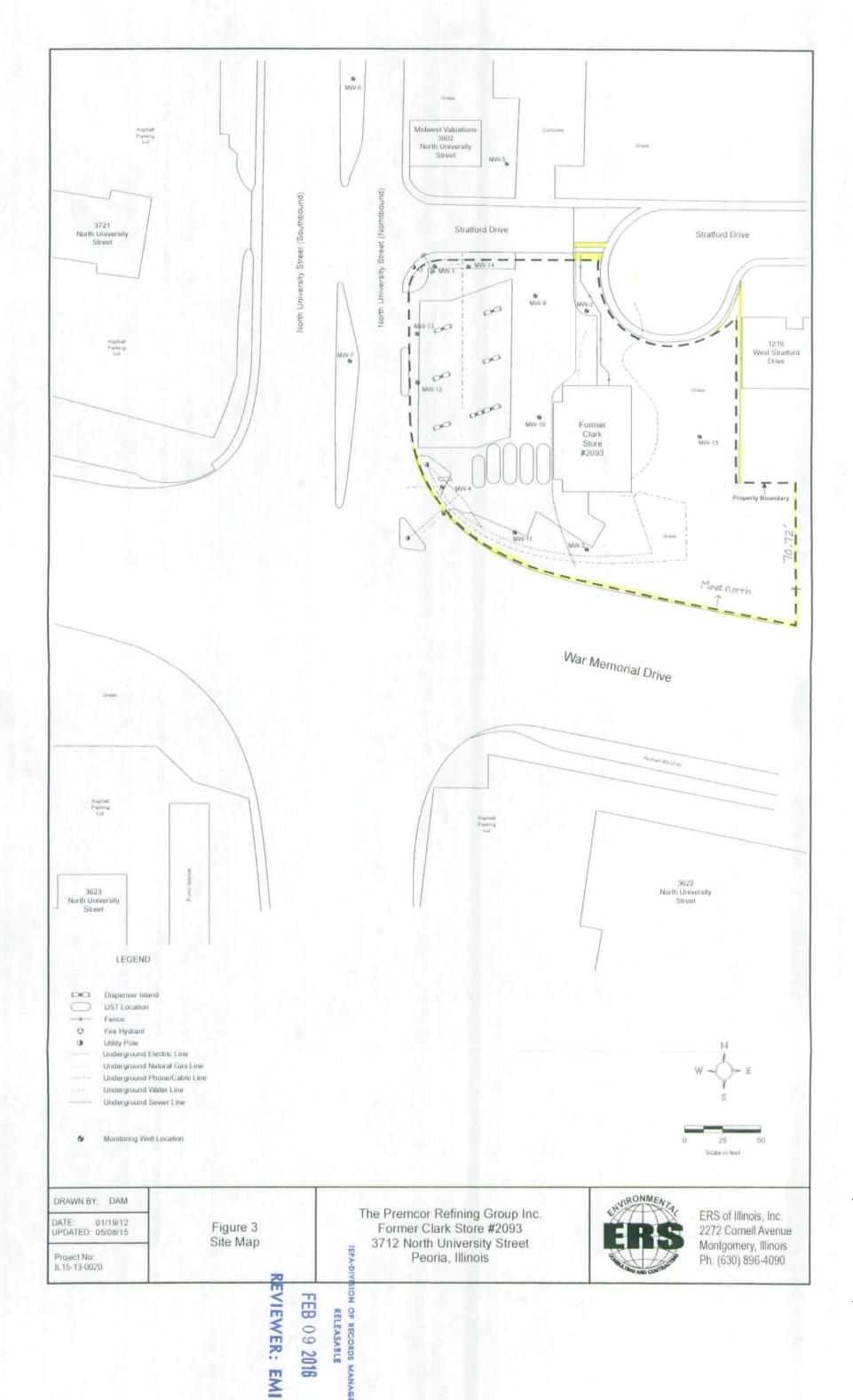
Bold values exceed Tier 1 Remediation Objectives

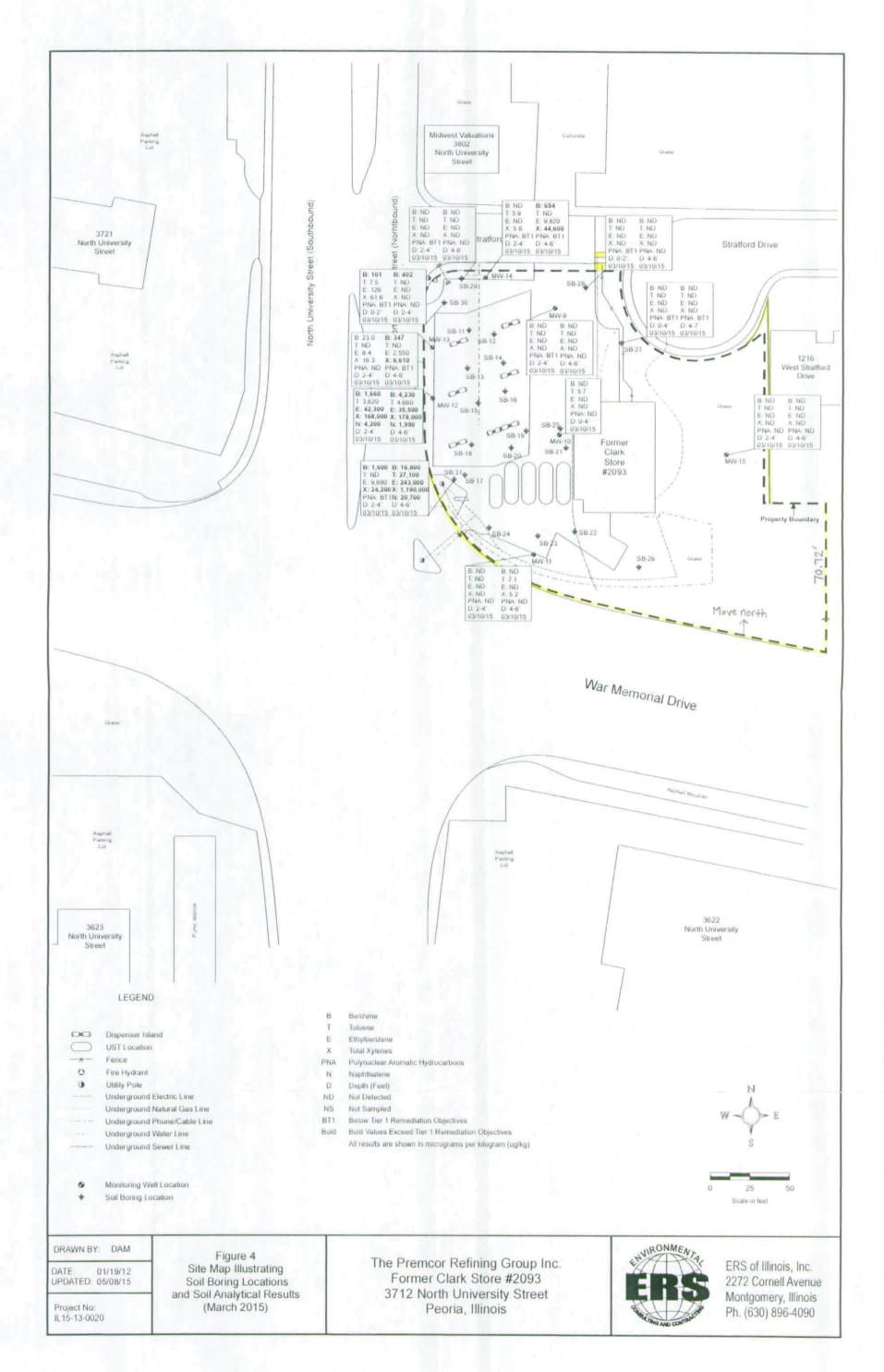
Electronic Filing: Received, Clerk's Office 2/28/2017/017-084) R. 028

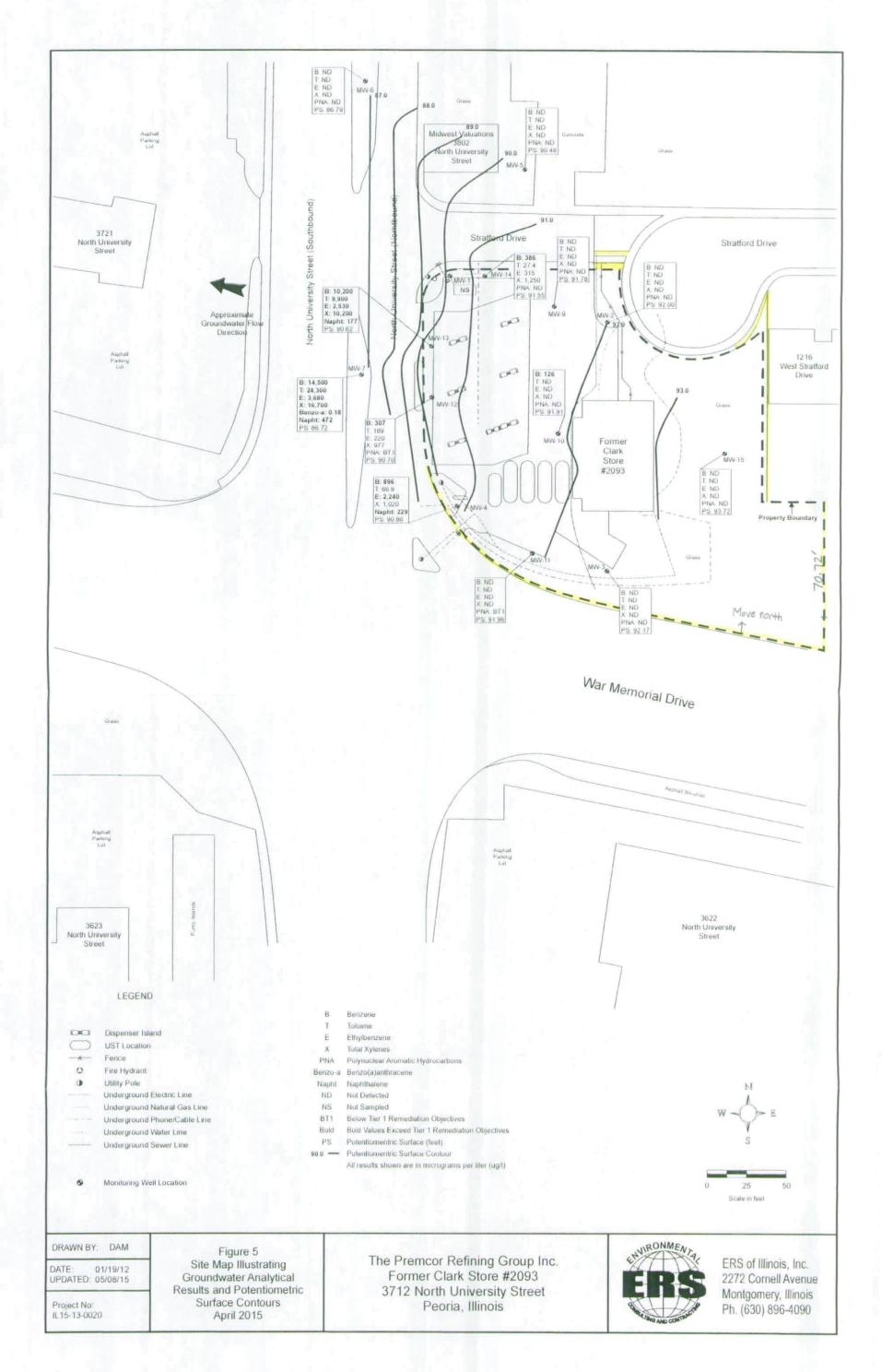
**FIGURES** 











ATTACHMENT A

incid	cident Numbers: 923441							Boring Nu	ımb	er:	MW-	9	Pag	e:	1	of 1
,													Dat	e:	Start	3/10/2015
Site N Addr	lame: ess:		3		orth	Univ	ore #2093 Persity Street	Boring Lo See site m		on:					Finish	3/10/2015
Sample Number	Sample Type	Well Diagram	1	Sample Recovery		Sample Depth	Detailed Soil and Rock Descrip	otion	Na			L.L% ure Co		Penetrometer (TSF)	OVA/PID/FID	Remarks
X	SS			50%		1 -	Brown fine grained sand and gradark gray silty clay (SC), damp.	vel with							0.3	
X	ss	E)		50%	F	3 -	Black-gray silty clay (CL), soft, da	amp.							5.0	Sample submitted for laboratory analysis of BTEX and PNA (2-4 feet bgs.)
X	ss		18 7 18	75%		5 -	Brown gray silty clay (CL), very s	tiff, damp.						!	0.5	Sample submitted for laboratory analysis of BTEX and PNA (4-6 feet bgs.)
X	SS		1	75%	E	7 <b>-</b> 8 <b>-</b>	Same as above but wet.								0.7	
X	SS			75%	H	9 <b>-</b> 10 <b>-</b>	Brown-orange sand with fine grai and gravel. Wet.	ned silt							0.3	
X	SS			75%		11 — 12 —	Brown-orange fine grained sand and gravel (SC), wet.	with silt							0.1	
X	ss			75%	_	13 <b>-</b> 14 <b>-</b>	Brown silt, soft, wet.								0.1	
X	SS			75%		- 15 <b>-</b> -	Same as above with fine grained lenses.	sand							0.1	
	End of boring Set well at 13' bgs.							6' bgs.								
	Note:	Strati	fica	ation (in	1		approximate; insitu transition between	en soil type	s m	v he	grade	ual				
<b>▼</b>	Groun Depth 6.0 Depth	dwate While	er I Dri	Data rilling	.03	ui <del>U</del>	Auger Depth 16-feet  Rotary Depth -  Driller GeoServe	Rig Type Geologist	Ge		be					ERS of Illinois, Inc. 2272 Comell Avenue Montgomery, Illinois Ph: (630) 896-4090

Incid	ncident Numbers: 923441								Boring No	ımber	: М	IW-10	Pag	e:	1	of 1
													Dat	e:	Start	3/10/2015
Site N Addre			3		nth	Univ	ore #2093 versity Street		Boring Lo See site m	cation	1:				Finish	3/10/2015
Sample Number	Sample Type	Well Diagram		Sample Recovery		Sample Depth	Detailed Soil	l and Rock Descri	iption		ral Mo	L.L. oisture C		Penetrometer (TSF)	OVA/PID/FID	Remarks
K 7	1	İΤ	Т			-	Concrete.									
X	ss			20%	E	1 <b>-</b> 2 <b>-</b>									0.1	Sample submitted for laboratory analysis of
X	SS			20%		3 -	Brown mediu	m grained sand (S	W), dry.						0.1	BTEX and PNA (0-4 feet bgs.)
X	SS		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	75%		5 <b>-</b>	Gray-green si	ilty clay with trace;	pebbies						2.5	
X	SS		1.5	75%	Ę	~ √- 8 -	(CL), wet.								273.1	
X	\$S	-		50%	-	9 <b>-</b> 10 <b>-</b>	Black mediun (SW), wet, ga	n grained sand with asoline odor.	h some silt						296.4	
X	SS		25 . 25	50%	<u> </u>	11 <del>-</del> 11 <del>-</del> 12 <del>-</del>	Brown-gray si (CL), wet.	ilt and clay with tra	ce pebbles						6.8	
X	ss	0 T		20%	-	13 <b>-</b> 13 <b>-</b>	Brown silt and	d medium grained	sand (SM)						0.1	
X	ss			20%	-	15 -	with gravel, w	vet.		****					0.1	
						17 = 18 = 19 = 20 =	End of boring Set well at 13 Samples sub									
$\vdash$	Note:	ı Strati	fica	ation lii	nes	are	approximate; in	nsitu transition bety	veen soil type	s may	be g	radual		<u> </u>		
<b>▼</b>	Groundwater Data Depth While Drilling  4.0-feet Depth After Drilling  7.03-feet						Auger Depth Rotary Depti Driller	16-feet	Rig Type  Geologis	Geo	Probe	<u>a</u>				ERS of Illinois, Inc. 2272 Cornell Avenue Montgomery, Illinois Ph: (630) 896-4090

Incid	ent Nur	nbers:	923441			Boring Nu	mbe	r: N	W-11	Pa	ge:	1	of 1
	•		-			12 :==1	47-			Г	te:	Start	3/10/2015
Site N Addre		3		rth Univ	ore #2093 ersity Street	Boring Lo See site m		n:				Finish	3/10/2015
Sample Number	Sample Type	Well Diagram	Sample Recovery	Sample Depth	Detailed Soil and Rock Descrip	tion		ural M	L.L foisture C		Penetrometer (TSF)	OVA/PID/FID	Remarks
X	SS		75%	- 1 -	Brown-tan-black mottled silty clay	/ (CL) with						0.0	
X	SS		75%	3 -	trace pebbles, dry.			1				0.1	Sample submitted for laboratory analysis of BTEX and PNA (2-4 feet bgs.)
X	ss		75%	5	Same as above, damp.							0.2	Sample submitted for laboratory analysis of BTEX and PNA (4-6 feet bgs.)
X	SS		75%	7 - 8 -								0.2	
X	ss		75%	9 -	Brown-gray silt with clay (CL), ver	∿ soft. wet.						0.2	
X	ss		75%	11 12								0.2	·
X	ss	ğ	75%	13 — 14 —								0.2	
X	ss		75%	15 -	gamp.	bles (CL),						0.1	
				17 — 17 — 18 —	End of boring. Set well at 13' bgs. Samples submitted at 2-4' and 4-6	6' bgs.							
				- 19 - - 20 -								,	
	Note:	Stratific	ation lin	es are a	pproximate; insitu transition betwe	en soil type	s may	/ be g	radual			_	
<b>▼</b>	Depth 6.0 Depth	dwater While D -feet After Dr 5-feet	rilling -		Auger Depth 16-feet  Rotary Depth -  Driller GeoServe	Rig Type		Prob		TANK THE	ONM		ERS of Illinois, Inc. 2272 Cornell Avenue Montgomery, Illinois Ph : (630) 896-4090

7.76': Monitoring Well Construction Diagram and Table 1.

Incid	ident Numbers: 923441							Boring Nu	ımb	er:	МΝ	/-12		Pag	e:	1	of 1	
Site N	ama:		E	ormer I	Cla	dr S	žo.	re #2093	Boring Lo	cati	on.				Date	<b>)</b> ;	Start	3/10/2015
Addre			3		rth	Uni			See site m		OII.						Finish	3/10/2015
Sample Number	Sample Type	Well Diagram		Sample Recovery		Sample Depth		Detailed Soil and Rock Descript	tion	Na		Mois	L. sture			Penetrometer (TSF)	OVA/PID/FID	Remarks
X	SS			60%		1 .		3" is concrete/gravel then gravel a silty clay (CL) with dry roots, gasol									591.8	
X	SS	7 1 1	A 24	60%		3 4		Samuel dama									2355	Sample submitted for laboratory analysis of BTEX and PNA (2-4 feet bgs.)
X	SS	1	4	75%		5		Same as above, damp.									3419	Sample submitted for laboratory analysis of BTEX and PNA (4-6 feet bgs.)
X	SS	*	1.2	75%		7 8		Gray-green silt (ML), wet.							-		1142	
X	SS			80%		9 .		Gray-green silt (ML) and black me grained sand lenses, wet.	dium								1071	
X	ss			80%		11		Brown medium grained sand (SW brown-gray silt, wet.	) with								8.2	
X	ss			80%	$\vdash$	13		Brown-gray silt (ML), damp.								-	16.6	
X	SS			80%	┝	15								1	-		NA	
		17 Set well at 1						End of boring. Set well at 13' bgs. Samples submitted at 2-4' and 4-6	)' bgs.					3 4 1 1 2 4 4 4 1				
		19 — — — 20 —								!						:		N.
	Note:	Strati	fica	ation lin	es	are	a	oproximate; insitu transition betwee	an soil type	s m	ay be	grad	lsut		4			
<b>▼</b>	Groundwater Data Depth While Drilling 6.0-feet Depth After Drilling 6.35-feet							Rotary Depth	Rig Type		K. D							ERS of Illinois, Inc. 2272 Cornell Avenue Montgomery, Illinois Ph : (630) 896-4090

Incid	sident Numbers: 923441								Boring Nu	mb	er:	MW	-13	Paç	e:	ſ	of 1
1														Dat	<b>e</b> :	Start	3/10/2015
Site N								e #2093	Boring Lo	cati	on:			<b>-</b>			
Addre	<b>ss</b> :			/12 No eoria, I			vei	sity Street	See site m	ар						Finish	3/10/2015
	1		_		_		_								r	<del>,</del>	<del></del>
ě		ء		ery		Ë	1								Penetrometer (TSF)		
T T	Τ̈́γ	ğ		\ooa		Dep		Detailed Soil and Rock Descript	ion				L.L% ture Co		ter (	I I	
Sample Number	Sample Type	Well Diagram		Sample Recovery	1	Sample Depth	ľ	betailed oon and nock bosonpt		144			1010 00	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	e e	OVA/PID/FID	Remarks
Sam	Sar	₹		amp		San									netr	8	
				s				<u> </u>			20	4	0	60_	ď		
N/	]		П		$\vdash$		┥										
IX	SS		П	50%		1 -	٦,	3" is concrete/gravel then green-g	ray silty							8.8	
$\langle \cdot \rangle$		Н	Н		七	2 -	- 1	clay (CL) with trace pebbles, dry, godor.	gasoline					+			Sample submitted for
X	ss	[]		50%	_	3 -	4	54011								27.2	laboratory analysis of BTEX and PNA
$\angle \Delta$					上	4 -	1							1			(2-4 feet bgs.)
V	SS			75%	E	5 <b>-</b>	Ⅎ,	Same as above, damp.								668.2	Sample submitted for laboratory analysis of
$\Lambda$	33			13/0	F.		7	Jame as above, uamp.								000.2	BTEX and PNA (4-6 feet bgs.)
	ļ	. · ·	П		Ė	<b>∨-</b> -	#							1			( / 0 100, 0 90.)
ΙX	SS	<u> </u>		75%	-	7 -	١;	Same as above, wet.								394.2	
$\langle \cdot \rangle$					Ę	8	7				<u> </u>			-			
V	ss			75%		9 -	- (	Gray-green silt with fine sand (SM	), wet.							268.8	
$/\!\!\!\!/$		ľ			H	- 10-	+										
$\nabla$					$\vdash$	-		Gray-green medium grained sand silt.	(SM) with								
X	SS			75%		11 <b>-</b>	1	••••								75.8	ì
$\left\langle \cdot \right\rangle$	-	( )			t	12 -	+	<del> </del>					-				
X	ss			80%	F	13-	4									61.1	
$\angle \Delta$			Ц		上	- - 14		Brown silt with clay and trace pebl	oles (CL),		-						
$\mathbb{N}$	ss			80%	L	- 15 <b>-</b>	7	stiff, damp.								11.9	
$ \Lambda $	33			OU 76	F	-	7									11.3	
$\vdash$	$\vdash$	<del>                                     </del>	4		t	16 <b>-</b> -	_	End of boring.			-		+-				† <b> </b>
ļ					-	17 –		Set well at 13' bgs. Samples submitted at 2-4' and 4-6	bgs.								
			j		_	18 <b>-</b>	_	•	-								
İ						- 19 <b>-</b>											ĺ
			-		$\vdash$	-	┥										
<b></b>	Note:	Stratif	ice	tion lir		20 <b>-</b>	<u> </u>	proximate; insitu transition betwee	an soil tune	s m:	av he	utac	lual	1			
					103	210	Ť						1341				
	Groun Depth						ľ	Auger Depth 16-feet	Rig Type	Ge	eoPro	be		CHY!	ZON ME	N Par	ERS of Illinois, Inc.
	8.0-feet Depth After Drilling						þ	Rotary Depth						斧			2272 Cornell Avenue Montgomery, Illinois
abla	6.11-feet						ŀ	Oriller GeoServe	Geologist		K, D	ixon	_	Sales V		Track!	Ph : (630) 896-4090
ĭ							- 1										

Incid	ncident Numbers: 923441							Boring Nu	ımb	er:	MW-	14	Pag	e:	1	of 1
1													Date	ə:	Start	3/10/2015
Site N Addre			37	12 No		ive	re #2093 rrsity Street	Boring Lo See site m		on:		_			Finish	3/10/2015
Sample Number	Sample Type	Well Diagram		Sample Recovery	Sample Depth		Detailed Soil and Rock Descript	tion	Na			L.L% cure Cor	ntent	Penetrometer (TSF)	OVA/PID/FID	Remarks
	+	_	Н			$\dashv$	Mulch and rocks.		_	1	-41	-	00		-	
X	ss			80%	-		Brown sand, clay silt and gravel (	SP).							0.2	
X	\$S			80%	3		Brown medium grained sand (SP) gravel and clay, last 3" is brown-g clay (CL), dry.								0.4	Sample submitted for laboratory analysis of BTEX and PNA (2-4 feet bgs.)
X	SS			80%	_ 5 _ 6		Black silty clay with trace pebbles grades to green-gray at 6', damp.								163.3	Sample submitted for laboratory analysis of BTEX and PNA (4-6 feet bgs.)
X	ss			80%	- 7 - 8		Brown-green-gray silty clay (CL) w	vith trace							866.1	
X	ss	r		90%	- 9 - 10		pebbles, wet.								539.6	
X	ss			90%	— — 11 — 12	4	Black-green fine grained sand and brown silt at 11.5', wet.	d silt (SM),							67.8	
X	SS			80%	_ _ 13 _		Brown-rust sift (ML), wet								1.5	:
X	ss			80%	_ _ 15 _										0.5	
		Set well					End of boring. Set well at 13' bgs. Samples submitted at 2-4' and 4-6	6' bgs.								
	Note: Stratification lines are approximate; insitu transition by															
	Note:	Stratif	tica	tion lir	nes are	e a	pproximate; insitu transition betwe	en soil type	es ma	ay be	grad	uai				
<b>▼</b>	Groundwater Data Depth While Drilling 6.0-feet Depth After Drilling 6.11-feet						Auger Depth 16-feet  Rotary Depth -  Driller GeoServe	Rig Type		K. D						ERS of Illinois, Inc. 2272 Cornell Avenue Montgomery, Illinois Ph: (630) 896-4090

5.97': MW Construction Diagram and Table 1.

Incid	cident Numbers: 923441							Boring Nu	mb	r:	MW	-15	ſ	Page	):	1	of 1
														Date	:	Start	3/10/2015
Site N Addre			3		orth Uni		e #2093 rsity Street	Boring Lo See site m		on:						Finish	3/10/2015
Sample Number	Sample Type	Well Diagram		Sample Recovery	Sample Depth		Detailed Soil and Rock Descript	tion	Na		Mois	L.L sture (			Penetrometer (TSF)	OVA/PID/FID	Remarks
X	SS			75%	_ ·		Brown clayey topsoil then brown s (CL) with trace pebbles, dry.	silty clay					7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9			0.1	
X	ss		7.74. 31's	75%	3		Brown silty clay with trace pebbles	s (CL), dry.								0.2	Sample submitted for laboratory analysis of BTEX and PNA (2-4 feet bgs.)
X	ss			80%	- 5		Black-brown-orange silty clay with pebbles (CL), damp.	trace				_				0.3	Sample submitted for laboratory analysis of BTEX and PNA (4-6 feet bgs.)
X	\$S			80%	7		Same as above but wet.	i						-	<del></del>	0.1	
X	ss		· · ·	80%	9									-		0.2	
X	ss			80%	11.	<b>-</b> (	Grey-brown silt with trace clay (Mt	L), wet.						-	·	0.1	
X	ss	) , ,		80%	13										<del></del>	0.3	
X	ss			80%	_ 15·		Brown silt (ML) with fine grained s enses and trace pebbles, very sti							-		0.4	
	16 - 17 - 18 - 19 - 19 - 19						End of boring. Set well at 13' bgs. Samples submitted at 2-4' and 4-6	6' bgs.	i	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							
	Na'-		on goll hors		a,, b		100										
	Note:	orat	HC	auon iir	ies are	ap	proximate; insitu transition between	en son type	:a [f]	ау ое	grat	JUBI				•	
<b>▼</b>	Groundwater Data Depth While Drilling 6.0-feet Depth After Drilling 6.67-feet Driller GeoSe							Rig Type Geologist			be	.					ERS of Illinois, Inc. 2272 Cornell Avenue Montgomery, Illinois Ph: (630) 896-4090
	- 0.0		-	•		ľ			_			$\Box$					. <u></u>

Incid	lent Nur	nbers:	92344	1		Boring Nu	mbe	er:	\$B-27	Pa	ge:	1	of 1
										Da	ite:	Start	3/10/2015
Site I Addr	Name: ess:	:		orth Univ	ore #2093 ersity Street	Boring Lo See site m		on:				Finish	3/10/2015
Sample Number	Sample Type	Well Diagram	Sample Recovery	Sample Depth	Detailed Soil and Rock Descrip	tion	Nai		L.l Moisture ( 40		Penetrometer (TSF)	OVA/PID/FID	Remarks
X	SS		25%	1 -	Brown silty clay (CL), gravel and t	orown						0.0	Sample submitted for laboratory analysis of
X	ss		25%	3 -	medium grained sand with silt (SM	И), dry.						0.0	BTEX and PNA (0-4 feet bgs.)
X	SS		25%	5 -	Brown medium grained sand (SP wet at 7' bgs.	)with silt,						0.0	Sample submitted for laboratory analysis of BTEX and PNA
X	ss		25%	- <b>∀</b> -	wet at r bys.							0.0	(4-7 feet bgs.)
X	SS		80%	9 -	Brown-gray silty clay (CL).							0.0	
X	SS		80%	11-	Brown fine grained sand with silt a pebbles (SM).	bne	1					0.0	1
				13 — 14 — 15 — 16 — 17 — 18 — — 19 — 20 —	End of boring. Samples submitted at 0-4' and 4-7								
	Note:	Stratific	ation lin	ies are a	pproximate; insitu transition between	en soil types	ma	y be	gradual				
<b>▼</b>	Depth 1	-feet	Drilling		Rotary Depth	Rig Type _		oProb K. Dix			The state of the s		ERS of Illinois, Inc. 2272 Cornell Avenue Montgamery, Illinois Ph : (630) 896-4090

Incid	ent Nur	nbers:	92344			Boring Nu	mbe	r:	SB-28		Pag	e;	1	of 1
Site N	lame:		Former	Clark Sto	ore #2093	Boring Loc	atio	on:			Date	<b>3</b> :	Start	3/10/2015
Addre	988:		3712 No Peoria,		ersity Street	See site ma							Finish	3/10/2015
Sample Number	Sample Type	Well Diagram	Sample Recovery	Sample Depth	Detailed Soil and Rock Descrip	tion		ural N	L Moisture 40			Penetrometer (TSF)	OVA/PID/FID	Remarks
X	SS		80%	1 =	Brown silty clay with gravel (CL),	dry.							0.1	Sample submitted for laboratory analysis of BTEX and PNA (0-2 feet bgs.)
X	ss		80%	3 -	Brown-gray silty clay (CL), dry, so	ft.							0.2	
X	SS		80%	5 -	Black-brown-gray mottled silty cla damp, stiff.	y (CL),	1						0.2	Sample submitted for laboratory analysis of BTEX and PNA (4-6 feet bgs.)
X	ss		80%	7 - 7 - 8 -	Same as above but soft.								0.1	
	Note:	Stratifi	cation lir	10 — 11 — 12 — 13 — 14 — 15 — 16 — 17 — 18 — 19 — 20 — 20 — 20 — 20 — 20 — 20 — 20 — 2	End of boring.  Samples submitted at 0-2' and 4-6		ma	ybe	gradual					
	Groun				Auger Depth 8-feet			oProt		Γ		ON#4-	·	
▼ ▽	Depth Depth	Vhile IA	Drilling		Rotary Depth  Driller GeoServe	Geologist_		K. Di						ERS of Illinois, Inc. 2272 Cornell Avenue Montgomery, Illinois Ph: (630) 896-4090

Incid	ent Nur	nbers:	923441		<del></del>	Boring No	mbe	r: SE	3-29	Pag	e:	1	of 1
Site N	ame:		ormer (	Clark Sto	ore #2093	Boring Lo	catlo	n:		Dat	e:	Start	3/10/2015
Addre		;		rth Univ	ersity Street	See site m						Finish	3/10/2015
Sample Number	Sample Type	Well Diagram	Sample Recovery	Sample Depth	Detailed Soil and Rock Descrip	ition	!	ıral Mo	L.L% isture Co		Penetrometer (TSF)	OVA/PID/FID	Remarks
X	ss		75%	- 1 <del>-</del>	Brown medium grained sand with pebbles (SP).	clay and		1				0.1	
X	SS		75%	3 -	Dark brown silty clay (CL), dry, st	iff,						0.1	Sample submitted for laboratory analysis of BTEX and PNA (2-4 feet bgs.)
X	SS		-	5 -	Dark gray silty clay with trace pet damp.	bles (CL),						0.1	Sample submitted for laboratory analysis of BTEX and PNA (4-6 feet bgs.)
X	SS		-	7 -	Same as above but soft.						•	0.2	
	Note	Stratific	ation lin	11 — 12 — 13 — 14 — 15 — 16 — 17 — 18 — 19 — 20 — es are a	End of boring. Samples submitted at 2-4' and 4-		s maa	, be gr	actual				
	Note:	Stratific	ation lin	es are a	approximate; insitu transition between	en soil type	s may	/ be gra	adual				
<b>▼</b>	Depth Depth	dwater While ( NA After D NA	Orilling		Auger Depth 8-feet  Rotary Depth  Driller GeoServe	Rig Type Geologist		Probe	-		ON M		ERS of Illinois, Inc. 2272 Cornell Avenue Montgomery, Illinois Ph: (630) 896-4090

Incid	ent Nur	nbers:	923441	1		Boring Nu	mber:	SB-30	Page:	1	of 1
									Date:	Start	3/10/2015
Site N Addre		3		rth Unive	ore #2093 ersity Street	Boring Lo See site m				Finish	3/10/2015
Sample Number	Sample Type	Well Diagram	Sample Recovery	Sample Depth	Detailed Soil and Rock Descrip	tion		6L.L% Moisture Ca	1 5	OVA/PID/FID	Remarks
					Concrete-gravel						Sample submitted for
X	SS		80%	- 1 - - 2 -	Dark brown silty clay with trace p	ebbles	_			65.4	laboratory analysis of BTEX and PNA (0-2 feet bgs.)
X	SS		80%	3 -	(CL), dry.					7.3	Sample submitted for laboratory analysis of BTEX and PNA (2-4 feet bgs.)
X	\$S		80%	- 5 -	Green-gray silty clay with trace pe	ebbles				57.6	
X	SS		80%	7 -	(CL), wet at 5' bgs.  End of boring.	į	8 8 8 8 8 8			601.3	
				9 — 10 — 11 — 12 — 13 — 14 — 15 — 16 — 17 — 18 — 19 — 20 —	Samples submitted at 0-2' and 2-						
	Note:	Stratific	ation lir	nes are a	pproximate; insitu transition between	en soil type	s may b	e graduai			<u>-</u>
<b>▼</b>	Depth 5.0 Depth	dwater While D -feet After Di IA	Orilling		Auger Depth 8-feet  Rotary Depth -  Driller GeoServe	Rig Type - Geologist	GeoPr	obe Dixon	E COMA		ERS of Illinois, Inc. 2272 Cornell Avenue Montgomery, Illinois Ph: (630) 896-4090

Incid	ent Nur	nbers	92344	1		Boring Nu	mbe	r:	SB-3	11	Pag	e:	1	of 1
											Date	e:	Start	3/10/2015
	lame:				ore #2093	Boring Lo		n:			1	-		
Addre	ess:		3712 No Peoria,		ersity Street	See site m	ар						Finish	3/10/2015
<u> </u>			i cona,	112						,			, ,,,,	<u> </u>
<u>.</u>						l						3F)		
Sample Number	Sample Type	Well Diagram	Sample Recovery	Sample Depth			F	P.L%-		L.L%		Penetrometer (TSF)	OVA/PID/FID	
2 2	<u>e</u>	Slag	Se l	e D	Detailed Soil and Rock Descrip	tion	Na	tural	Moist	ure Cor	tent	nete	J G	Remarks
m pk	amg	l le	를	d He								itro	\ \{\}	
Sa	S	5	San	Š								Pane	"	
_		ļ , ,	-		Concrete and gravel		2	0	40	) (	0			
$\mathbb{N}$	ss		80%	_ , _	Concrete and graver								117.6	
lΛ	33		80%	F'-									117.0	
<u> </u>	<del>}</del> —	H		2 -	Green-grey-brown mottled silty cla	ay (CL),			-	-				Sample submitted for
V	ss		80%	3 -	dry.								954.5	laboratory analysis of
				<b>├</b>	-									BTEX and PNA (2-4 feet bgs.)
				<u> </u>										Sample submitted for
X	SS		75%	<b>-</b> 5 -	Brown medium grained sand (SW	), damp.				ŀ			2238	laboratory analysis of BTEX and PNA
$\angle$		Ll l												(4-6 feet bgs.)
$\mathbb{N}$	]		750/										4000	•
IX	SS		75%	7 -	Brown-green silt (ML), wet, soft.			i					1629	II.
<u> </u>	1			8 -	End of boring.				-+					
			İ	9 -	Samples submitted at 2-4' and 4-4	3' bgs.								
	<u> </u>			_ 10_		1							:	
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				20 —										
	Note:	Stratifi	cation li	nes are a	pproximate; insitu transition betwe	en soil type	s ma	y be	gradi	Jal				
	Groun				Auger Depth 8-feet	Rig Type	Ge	oPro	be_		THU!	ONMA	NA.	ERS of Illinois, Inc.
		While -feet	Drilling		Rotary Depth									2272 Comell Avenue
$\nabla$	Depth	After D	Prilling			Castanta		V 5	<b>.</b> -	'	1	Ų.		Montgomery, Illinois Ph : (630) 896-4090
	^	NA	_		Dritler <u>GeoServe</u>	Geologist		K. Di	xon					_

ATTACHMENT B



Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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

March 20, 2015

Ms. Karen Dixon

ERS of ILLINOIS, INC.

2272 Cornell Avenue

Montgomery, IL 60538

Project ID: Premcor 2093

First Environmental File ID: 15-1022 Date Received: March 12, 2015

Dear Ms. Karen Dixon:

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 03/28/2015.

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



# Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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

#### **Case Narrative**

ERS of ILLINOIS, INC.

Lab File ID: 15-1022

Project ID: Premcor 2093

Date Received: March 12, 2015

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
15-1022-001	MW-9 @ 2-4'	3/10/2015 8:40
15-1022-002	MW-9 @ 4-6'	3/10/2015 8:45
15-1022-003	MW-10 @ 0-4'	3/10/2015 9:30
15-1022-004	MW-11 @ 2-4'	3/10/2015 10:10
15-1022-005	MW-11 @ 4-6'	3/10/2015 10:15
15-1022-006	MW-12 @ 2-4'	3/10/2015 11:00
15-1022-007	MW-12 @ 4-6'	3/10/2015 11:10
15-1022-008	MW-13 @ 2-4'	3/10/2015 11:40
15-1022-009	MW-13 @ 4-6'	3/10/2015 11:45
15-1022-010	MW-14 @ 2-4'	3/10/2015 12:10
15-1022-011	MW-14 @ 4-6'	3/10/2015 12:15
15-1022-012	MW-15 @ 2-4'	3/10/2015 13:00
15-1022-013	MW-15 @ 4-6'	3/10/2015 13:10
15-1022-014	SB-27 @ 0-4'	3/10/2015 13:50
15-1022-015	SB-27 @ 4-7'	3/10/2015 13:55
15-1022-016	SB-28 @ 0-2'	3/10/2015 14:10
15-1022-017	SB-28 @ 4-6'	3/10/2015 14:15
15-1022-018	SB-29 @ 2-4'	3/10/2015 14:20
15-1022-019	SB-29 @ 4-6'	3/10/2015 14:25
15-1022-020	SB-30 @ 0-2'	3/10/2015 14:40
15-1022-021	SB-30 @ 2-4'	3/10/2015 14:40
15-1022-022	SB-31 @ 2-4'	3/10/2015 15:00
15-1022-023	SB-31 @ 4-6'	3/10/2015 15:10



# 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

#### ERS of ILLINOIS, INC.

Project ID: Premeor 2093

Lab File ID: 15-1022

Date Received: March 12, 2015

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:**

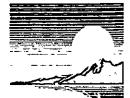
Sample acceptance criteria were met.

#### **Method Comments**

Lab Number	Sample ID	Comments:
15-1022-009	MW-13 @ 4-6'	BTEX Organic Compounds  The reporting limits are elevated due to matrix interference.
15-1022-011	MW-14 @ 4-6'	BTEX Organic Compounds  The reporting limits are elevated due to matrix interference.
15-1022-021	SB-30 @ 2-4'	BTEX Organic Compounds  The reporting limits are elevated due to matrix interference.
15-1022-022	SB-31 @ 2-4'	BTEX Organic Compounds  The reporting limits are elevated due to matrix interference.

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



### 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:

ERS of ILLINOIS, INC.

**Date Collected:** 03/10/15

Project ID:

Premcor 2093

Time Collected: 8:40

Sample ID: M

MW-9 @ 2-4'

Date Received: 03/12/15

Sample No: 15-1022-001

Date Reported: 03/20/15

Results are reported on a dry weight basis.

Results are reported on a dry weight basis		D '	D.	TT-*4	
Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B				
Total Solids		78.81		%	
BTEX Organic Compounds Analysis Date: 03/13/15	Method: 5035A/8	8260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		< 5.0	5.0	ug/kg	
Toluene		< 5.0	5.0	ug/kg	
Xylene, Total		< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/13/15	Method: 8270C			Method 354 Date: 03/12/15	
Acenaphthene		< 50	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene		< 50	50	ug/kg	
Benzo(a)anthracene		39.4	8.7	· ug/kg	
Benzo(a)pyrene		41	15	ug/kg	
Benzo(b)fluoranthene		39	11	ug/kg	
Benzo(k)fluoranthene		46	11	ug/kg	
Benzo(ghi)perylene		< 50	50	ug/kg	
Chrysene		< 50	50	ug/kg	
Dibenzo(a,h)anthracene		< 20	20	ug/kg	
Fluoranthene		82	50	ug/kg	
Fluorene		< 50	50	ug/kg	
Indeno(1,2,3-cd)pyrene		33	29	ug/kg	
Naphthalene		< 25	25	ug/kg	
Phenanthrene		< 50	50	ug/kg	
Pyrene		75	50	ug/kg	



#### First **Environmental** Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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

#### **Analytical Report**

Client:

ERS of ILLINOIS, INC.

Date Collected:

03/10/15

Project ID:

Premcor 2093

Time Collected: 8:45

Sample ID:

03/12/15

Sample No:

MW-9 @ 4-6' 15-1022-002

Date Received: Date Reported: 03/20/15

Results are reported on a dry weight basis

Result	R.L.	Units	Flags
Method: 2540B			
81.42		%	
Method: 5035A/8260B			
< 5.0	5.0	ug/kg	
< 5.0	5.0	ug/kg	
< 5.0	5.0	ug/kg	
< 5.0	5.0	ug/kg	
	Method: 2540B  81.42  Method: 5035A/8260B  < 5.0 < 5.0 < 5.0 < 5.0	Method: 2540B  81.42  Method: 5035A/8260B  < 5.0	Method: 2540B  81.42 %  Method: 5035A/8260B  < 5.0 5.0 ug/kg < 5.0 5.0 ug/kg < 5.0 5.0 ug/kg < 5.0 5.0 ug/kg

loidelle	*		0 0	
Xylene, Total	< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/13/15	Method: 8270C		Method 3546 Date: 03/12/15	
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:

ERS of ILLINOIS, INC.

Date Collected: 03/10/15

Project ID:

Premcor 2093

Time Collected: 9:30

Sample ID:

MW-10 @ 0-4'

Date Received: 03/12/15

Sample No:

15-1022-003

Date Reported: 03/20/15

Results are reported on a dry weight basis					
Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B			-	
Total Solids		92.97		%	
BTEX Organic Compounds Analysis Date: 03/13/15	Method: 5035A/	8260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		< 5.0	5.0	ug/kg	
Toluene		5.7	5.0	ug/kg	
Xylene, Total		< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/13/15	Method: 8270C			Method 354 Date: 03/12/15	
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	



## Environmental

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#### **Analytical Report**

Client:

ERS of ILLINOIS, INC.

Date Collected: 03/10/15

Project ID:

Premcor 2093

Time Collected: 10:10

Sample ID:

MW-11@2-4'

Date Received: 03/12/15

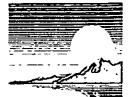
Sample No:

15-1022-004

Date Reported: 03/20/15

Results are reported on a dry weight basis

Results are reported on a dry weight basis	5.				
Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B				
Total Solids		77.63		%	
BTEX Organic Compounds Analysis Date: 03/13/15	Method: 5035A/8	260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		< 5.0	5.0	ug/kg	
Toluene		< 5.0	5.0	ug/kg	
Xylene, Total		< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/13/15	Method: 8270C		Preparation Method 3546 Preparation Date: 03/12/15		
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:

ERS of ILLINOIS, INC.

Date Collected: 03/10/15

Project ID:

Premcor 2093

Time Collected: 10:15

Sample ID:

MW-11 @ 4-6'

Date Received: 03/12/15

Sample No:

15-1022-005

Date Reported: 03/20/15

Results are reported on a dry weight basis.							
Analyte		Result	R.L.	Units	Flags		
Solids, Total Analysis Date: 03/12/15	Method: 2540B						
Total Solids		77.86		%			
BTEX Organic Compounds Analysis Date: 03/13/15	Method: 5035A/82	60B					
Benzene	<	5.0	5.0	ug/kg			
Ethylbenzene	<	5.0	5.0	ug/kg			
Toluene		7.1	5.0	ug/kg			
Xylene, Total		5.2	5.0	ug/kg			
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/13/15	Method: 8270C		Preparation Preparation D				
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:

ERS of ILLINOIS, INC.

**Date Collected:** 03/10/15

Project ID:

Premcor 2093

Time Collected: 11:00

Sample ID:

MW-12@2-4'

Date Received: 03/12/15

Sample No:

15-1022-006

Date Reported: 03/20/15

Results are reported on a dry weight basis

Results are reported on a dry weight basis	<u> </u>				
Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B				
Total Solids		79.27		<u> </u>	
BTEX Organic Compounds Analysis Date: 03/16/15	Method: 5035A/8	8260B			
Benzene		1,660	5.0	ug/kg	
Ethylbenzene		42,300	5.0	ug/kg	
Toluene		3,620	5.0	ug/kg	
Xylene, Total		168,000	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/13/15	Method: 8270C	Preparation Method 3546 Preparation Date: 03/12/15			
Acenaphthene		< 50	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene -		< 50	50	ug/kg	
Benzo(a)anthracene		22.2	8.7	ug/kg	
Benzo(a)pyrene		15	15	ug/kg	
Benzo(b)fluoranthene		16	11	ug/kg	
Benzo(k)fluoranthene		14	11	ug/kg	
Benzo(ghi)perylene		< 50	50	ug/kg	
Chrysene		< 50	50	ug/kg	
Dibenzo(a,h)anthracene		< 20	20	ug/kg	
Fluoranthene		70	50	ug/kg	
Fluorene		< 50	50	ug/kg	
Indeno(1,2,3-cd)pyrene		< 29	29	ug/kg	
Naphthalene		4,200	25	ug/kg	
Phenanthrene		88	50	ug/kg	
Pyrene		63	50	ug/kg	



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IL ELAP / NELAC Accreditation # 100292

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**Analytical Report** 

Client:

ERS of ILLINOIS, INC.

Date Collected: 03/10/15

Project ID:

Premcor 2093

Time Collected: 11:10

Sample ID:

MW-12 @ 4-6'

Date Received: 03/12/15

Sample No:

15-1022-007

Date Reported: 03/20/15

Results are reported on a dry weight basis	•	Decult	R.L.	Units	Flags
Analyte		Result	K.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B				
Total Solids		79.43		<u></u> %	
BTEX Organic Compounds Analysis Date: 03/16/15	Method: 5035A/	8260B			
Benzene		4,230	5.0	ug/kg	
Ethylbenzene		35,500	5.0	ug/kg	
Toluene		4,660	5.0	ug/kg	
Xylene, Total		178,000	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/14/15	Method: 8270C		Preparation Preparation I	<b>Method 35</b> 4 Date: 03/12/15	6
Acenaphthene		< 50	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene		< 50	50	ug/kg	
Benzo(a)anthracene		10.5	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		1,990	25	ug/kg	
Phenanthrene		51	50	ug/kg	
Pyrene		< 50	50	ug/kg	



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**Analytical Report** 

Client:

ERS of ILLINOIS, INC.

Date Collected: 03/10/15

Project ID:

Premcor 2093

Time Collected: 11:40

Sample ID:

MW-13 @ 2-4'

Date Received: 03/12/15

Sample No:

Results are reported on a dry weight basis.

15-1022-008

Date Reported: 03/20/15

Analyte	Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B		•	
Total Solids	79.89		%	
BTEX Organic Compounds Analysis Date: 03/13/15	Method: 5035A/8260B			

Analysis Date: 03/13/15	Method: 3035A/8200B		
Benzene	23.0	5.0	ug/kg
Ethylbenzene	8.4	5.0	ug/kg
Toluene	< 5.0	5.0	ug/kg
Xylene, Total	16.3	5.0	ug/kg

Toluene	< 5.0	5.0	ug/kg	
Xylene, Total	16.3	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/14/15	Method: 8270C		<b>Method 3546</b> Date: 03/12/15	
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:

ERS of ILLINOIS, INC.

**Date Collected:** 03/10/15

Project ID:

Premcor 2093

Time Collected: 11:45

Sample ID:

MW-13 @ 4-6'

Date Received:

03/12/15

Sample No:

15-1022-009

Date Reported: 03/20/15

operad on a dry waight basis

Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B	_	<del></del>		
Total Solids		82.74		%	
BTEX Organic Compounds Analysis Date: 03/16/15	Method: 5035A/8	3260B			
Benzene		347	5.0	ug/kg	
Ethylbenzene	,	2,550	5.0	ug/kg	
Toluene		< 500	5.0	ug/kg	
Xylene, Total		6,610	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/14/15	Method: 8270C			<b>Method 354</b> Date: 03/12/15	
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		272	25	ug/kg	
Phenanthrene		< 50	50	ug/kg	
Pyrene		< 50	50	ug/kg	



### **Environmental** Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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**Analytical Report** 

Client:

ERS of ILLINOIS, INC.

Date Collected: 03/10/15

Project ID:

Premcor 2093

Time Collected: 12:10

Sample ID:

MW-14@2-4'

Date Received:

03/12/15

Sample No:

15-1022-010

Date Reported: 03/20/15

Results are reported on a dry weight basis.

Analyte	<u> </u>	Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B				
Total Solids		83.29		<u></u> %	
BTEX Organic Compounds Analysis Date: 03/13/15	Method: 5035A/8	3260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		< 5.0	5.0	ug/kg	
Toluene		5.9	5.0	ug/kg	
Xylene, Total		5.8	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/14/15	Method: 8270C			Method 354 Date: 03/12/15	
Acenaphthene		< 50	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene		< 50	50	ug/kg	
Benzo(a)anthracene		32.7	8.7	ug/kg	
Benzo(a)pyrene		35	15	ug/kg	
Benzo(b)fluoranthene		38	11	ug/kg	
Benzo(k)fluoranthene		40	<b>i</b> 1	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		33	29	ug/kg	
Naphthalene		< 25	25	ug/kg	
Phenanthrene		< 50	50	ug/kg	
Pyrene		< 50	50	ug/kg	



#### First **Environmental** Laboratories, Inc.

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#### **Analytical Report**

Client:

ERS of ILLINOIS, INC.

Premcor 2093

Project ID: Sample ID:

MW-14 @ 4-6'

Sample No:

15-1022-011

Date Collected: 03/10/15

Time Collected: 12:15

Date Received:

03/12/15

Date Reported: 03/20/15

Results are reported on a dry weight basis					
Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540E	3			-
Total Solids		79.41		%	
BTEX Organic Compounds Analysis Date: 03/16/15	Method: 5035A	A/8260B			
Benzene		654	5.0	ug/kg	
Ethylbenzene		9,820	5.0	ug/kg	
Toluene		< 500	5.0	ug/kg	
Xylene, Total		44,600	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/14/15	Method: 82700	2		Method 354 Date: 03/12/15	
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		288	25	ug/kg	
Phenanthrene		< 50	50	ug/kg	
Pyrene		< 50	50	ug/kg	



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#### **Analytical Report**

Client:

ERS of ILLINOIS, INC.

Date Collected: 03/10/15

Project ID:

Premcor 2093

Time Collected: 13:00

Sample ID:

MW-15 @ 2-4'

Date Received: 03/12/15

Sample No:

Chrysene

Fluorene

Pyrene

Fluoranthene

Naphthalene

Phenanthrene

Dibenzo(a,h)anthracene

Indeno(1,2,3-cd)pyrene

15-1022-012

Date Reported: 03/20/15

Method: 2540B   Solids   Total   Solids   Total   Solids   Solid	Results are reported on a dry weight basis	· · · · · · · · · · · · · · · · · · ·	T3 1:		TT 1.	T31
Analysis Date: 03/12/15   Total Solids   79.87   %	Analyte		Result	R.L.	Units	Flags
### Recomposed of the image of	Solids, Total Analysis Date: 03/12/15	Method: 2540B				
Analysis Date: 03/13/15         Benzene       < 5.0	Total Solids		79.87		%	
Ethylbenzene         < 5.0         5.0         ug/kg           Toluene         < 5.0	BTEX Organic Compounds Analysis Date: 03/13/15	Method: 5035A/	8260B			
Toluene	Benzene		< 5.0	5.0	ug/kg	
Toluene	Ethylbenzene		< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons         Method: 8270C         Preparation Method 3546           Analysis Date: 03/14/15         < 50	Toluene		< 5.0	5.0	ug/kg	
Analysis Date:       03/14/15       Preparation Date:       03/12/15         Acenaphthene       < 50	Xylene, Total		< 5.0	5.0	ug/kg	
Acenaphthylene       < 50	Polynuclear Aromatic Hydrocarbons Analysis Date: 03/14/15	Method: 8270C				
Acenaphthylene       < 50	Acenaphthene		< 50	50	ug/kg	
Anthracene       < 50	•		< 50	50	ug/kg	
Benzo(a)pyrene < 15 15 ug/kg Benzo(b)fluoranthene < 11 11 ug/kg Benzo(k)fluoranthene < 11 11 ug/kg	Anthracene		< 50	50	ug/kg	
Benzo(a)pyrene < 15 15 ug/kg Benzo(b)fluoranthene < 11 11 ug/kg Benzo(k)fluoranthene < 11 11 ug/kg	Benzo(a)anthracene		< 8.7	8.7	ug/kg	
Benzo(b)fluoranthene < 11 11 ug/kg Benzo(k)fluoranthene < 11 11 ug/kg	Benzo(a)pyrene		< 15	15	ug/kg	
Benzo(k)fluoranthene < 11 11 ug/kg	Benzo(b)fluoranthene		< 11	11	ug/kg	
Benzo(ghi)perylene < 50 ug/kg	Benzo(k)fluoranthene		< 11	11	ug/kg	
	• •		< 50	50	ug/kg	

< 50

< 20

< 50

< 50

< 29

< 25

< 50

< 50

50

20

50

50

29

25

50

50

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg



#### **First Environmental** Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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

#### **Analytical Report**

Client:

ERS of ILLINOIS, INC.

Date Collected: 03/10/15

**Project ID:** 

Premcor 2093

Time Collected: 13:10

Sample ID:

MW-15 @ 4-6'

Date Received:

03/12/15

Sample No:

15-1022-013

Date Reported: 03/20/15

Results are reported on a dry weight basis.

Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B				
Total Solids		79.79		%	
BTEX Organic Compounds Analysis Date: 03/13/15	Method: 5035A/8	8260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		< 5.0	5.0	ug/kg	
Toluene		< 5.0	5.0	ug/kg	
Xylene, Total		< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/14/15	Method: 8270C			<b>Method 35</b> 4 Date: 03/12/15	
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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Laboratories, Inc.

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#### **Analytical Report**

Client:

ERS of ILLINOIS, INC.

Project ID:

Premcor 2093

Sample ID:

SB-27 @ 0-4'

Sample No:

15-1022-014

Date Collected: 03/10/15 Time Collected: 13:50

Date Received:

03/12/15

Date Reported: 03/20/15

Results are reported on a dry weight basis.

Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B				
Total Solids		89.53		%	
BTEX Organic Compounds Analysis Date: 03/13/15	Method: 5035A/	8260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		< 5.0	5.0	ug/kg	
Toluene		< 5.0	5.0	ug/kg	
Xylene, Total		< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/14/15	Method: 8270C			Method 354 Date: 03/12/15	
Acenaphthene		< 50	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene		< 50	50	ug/kg	
Benzo(a)anthracene		90.7	8.7	ug/kg	
Benzo(a)pyrene		69	15	ug/kg	
Benzo(b)fluoranthene		76	11	ug/kg	
Benzo(k)fluoranthene		65	11	ug/kg	
Benzo(ghi)perylene		< 50	50	ug/kg	
Chrysene		77	50	ug/kg	
Dibenzo(a,h)anthracene		< 20	20	ug/kg	
Fluoranthene		189	50	ug/kg	
Fluorene		< 50	50	ug/kg	
Indeno(1,2,3-cd)pyrene		51	29	ug/kg	
Naphthalene		< 25	25	ug/kg	
Phenanthrene		135	50	ug/kg	
Pyrene		151	50	ug/kg	



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#### **Analytical Report**

Client:

ERS of ILLINOIS, INC.

Premcor 2093

Project ID: Sample ID:

SB-27 @ 4-7'

Sample No:

Pyrene

15-1022-015

Date Collected: 03/10/15

Time Collected: 13:55

Date Received:

03/12/15 Date Reported: 03/20/15

Results are reported on a dry weight basis

Analyte	Res	sult	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B				
Total Solids	82	.11		%	
BTEX Organic Compounds Analysis Date: 03/13/15	Method: 5035A/8260B	}			
Benzene	< 5.0	)	5.0	ug/kg	
Ethylbenzene	< 5.0	)	5.0	ug/kg	
Toluene	< 5.0	)	5.0	ug/kg	
Xylene, Total	< 5.0	O	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/14/15	Method: 8270C			<b>Method 35</b> 4 Date: 03/12/15	
Acenaphthene	< 50	)	50	ug/kg	
Acenaphthylene	< 50	)	50	ug/kg	
Anthracene	< 50	)	50	ug/kg	
Benzo(a)anthracene	15	0.0	8.7	ug/kg	
Benzo(a)pyrene	< 15	i	15	ug/kg	
Benzo(b)fluoranthene	17	'	11	ug/kg	
Benzo(k)fluoranthene	14		11	ug/kg	
Benzo(ghi)perylene	< 50	)	50	ug/kg	
Chrysene	< 50	)	50	ug/kg	
Dibenzo(a,h)anthracene	< 20	)	20	ug/kg	
Fluoranthene	< 50	)	50	ug/kg	
Fluorene	< 50		50	ug/kg	
ndeno(1,2,3-cd)pyrene	< 29		29	ug/kg	
Naphthalene	< 25		25	ug/kg	
Phenanthrene	< 50	)	50	ug/kg	
			- ^		

< 50

50

ug/kg



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#### **Analytical Report**

Client:

ERS of ILLINOIS, INC.

Date Collected: 03/10/15

Project ID:

Premcor 2093

Time Collected: 14:10

Sample ID:

Date Received: 03/12/15

Sample No:

SB-28 @ 0-2' 15-1022-016

Date Reported: 03/20/15

Results are reported on a dry weight basis

Results are reported on a dry weight basis	<del></del>	D 14	D.T.	TI-14-	T21
Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B				
Total Solids		82.61		%	<del></del>
BTEX Organic Compounds Analysis Date: 03/13/15	Method: 5035A/	8260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		< 5.0	5.0	ug/kg	
Toluene		< 5.0	5.0	ug/kg	
Xylene, Total		< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/14/15	Method: 8270C			Method 354 Date: 03/12/15	
Acenaphthene		< 50	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene		< 50	50	ug/kg	
Benzo(a)anthracene		328	8.7	ug/kg	
Benzo(a)pyrene		297	15	ug/kg	
Benzo(b)fluoranthene		312	11	ug/kg	
Benzo(k)fluoranthene		271	11	ug/kg	
Benzo(ghi)perylene		176	50	ug/kg	
Chrysene		253	50	ug/kg	
Dibenzo(a,h)anthracene		51	20	ug/kg	
Fluoranthene	•	483	50	ug/kg	
Fluorene		< 50	50	ug/kg	
Indeno(1,2,3-cd)pyrene		188	29	ug/kg	
Naphthalene		< 25	25	ug/kg	
Phenanthrene		180	50	ug/kg	
Pyrene		429	50	ug/kg	



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## **Analytical Report**

ERS of ILLINOIS, INC. Client:

Project ID: Premcor 2093 Sample ID: SB-28 @ 4-6'

15-1022-017 Sample No:

Time Collected: 14:15 Date Received: 03/12/15 Date Reported: 03/20/15

Date Collected: 03/10/15

Results are reported on a dry weight basis					
Analyte	_	Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B				
Total Solids		79.46		%	
BTEX Organic Compounds Analysis Date: 03/13/15	Method: 5035A/8	3260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		< 5.0	5.0	ug/kg	
Toluene		< 5.0	5.0	ug/kg	
Xylene, Total		< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/19/15	Method: 8270C			Method 354 Date: 03/18/15	
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:

ERS of ILLINOIS, INC.

Premcor 2093 Project ID:

Sample ID:

SB-29 @ 2-4'

Pyrene

Naphthalene

Phenanthrene

Indeno(1,2,3-cd)pyrene

15 1022 010

Date Collected: 03/10/15

Time Collected: 14:20

Date Received:

03/12/15

Data Danartade 02/20/15

Sample No: 15-1022-018			Date Reported: 03/20/15			
Results are reported on a dry weight basis	S					
Analyte		Result	R.L.	Units	Flags	
Solids, Total Analysis Date: 03/12/15	Method: 2540B					
Total Solids		78.65		%		
BTEX Organic Compounds Analysis Date: 03/13/15	Method: 5035A/8	8260B				
Benzene		< 5.0	5.0	ug/kg		
Ethylbenzene		< 5.0	5.0	ug/kg		
Toluene		< 5.0	5.0	ug/kg		
Xylene, Total		< 5.0	5.0	ug/kg		
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/19/15	Method: 8270C			Method 354 Date: 03/18/15		
Acenaphthene		< 50	50	ug/kg		
Acenaphthylene		< 50	50	ug/kg		
Anthracene		< 50	50	ug/kg		
Benzo(a)anthracene	•	14.7	8.7	ug/kg		
Benzo(a)pyrene		17	15	ug/kg		
Benzo(b)fluoranthene		19	11	ug/kg		
Benzo(k)fluoranthene		15	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		

< 29

< 25

< 50

< 50

29

25

50

50

ug/kg

ug/kg

ug/kg

ug/kg



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## **Analytical Report**

ERS of ILLINOIS, INC. Client:

Premcor 2093 Project ID:

SB-29 @ 4-6' Sample ID: 15-1022-019 Sample No:

Date Collected: 03/10/15

Time Collected: 14:25

Date Received: 03/12/15 Date Reported: 03/20/15

Results are reported on a dry weight basis					
Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B				
Total Solids		80.28		%	
BTEX Organic Compounds Analysis Date: 03/13/15	Method: 5035A/8	260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		< 5.0	5.0	ug/kg	
Toluene		< 5.0	5.0	ug/kg	
Xylene, Total		< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/19/15	Method: 8270C			Method 354 Date: 03/18/15	
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:

ERS of ILLINOIS, INC.

Date Collected: 03/10/15

**Project ID:** 

Premcor 2093

Time Collected: 14:40

Sample ID: SB-30 @ 0-2' Date Received: 03/12/15

15-1022-020 Sample No:

Results are reported on a dry weight basis					
Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B				
Total Solids		80.63		%	
BTEX Organic Compounds Analysis Date: 03/13/15	Method: 5035A	/8260B			
Benzene		101	5.0	ug/kg	
Ethylbenzene		126	5.0	ug/kg	
Toluene		7.5	5.0	ug/kg	
Xylene, Total		61.6	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/19/15	Method: 8270C			Method 354 Date: 03/18/15	
Acenaphthene		< 50	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene		< 50	50	ug/kg	
Benzo(a)anthracene		43.5	8.7	ug/kg	
Benzo(a)pyrene		59	15	ug/kg	
Benzo(b)fluoranthene		71	11	ug/kg	
Benzo(k)fluoranthene		46	11	ug/kg	
Benzo(ghi)perylene		< 50	50	ug/kg	
Chrysene		66	50	ug/kg	
Dibenzo(a,h)anthracene		< 20	20	ug/kg	
Fluoranthene		87	50	ug/kg	
Fluorene		< 50	50	ug/kg	
Indeno(1,2,3-cd)pyrene		50	29	ug/kg	
Naphthalene		423	25	ug/kg	
Phenanthrene		< 50	50	ug/kg	
Pyrene		86	50	ug/kg	



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## **Analytical Report**

Client:

ERS of ILLINOIS, INC.

Date Collected: 03/10/15

Project ID:

Premcor 2093

Time Collected: 14:40

Sample ID:

SB-30 @ 2-4'

Date Received: 03/12/15

Sample No:

15-1022-021

Date Reported: 03/20/15

Results are reported on a dry weight basis.

Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B				
Total Solids		81.84		%	
BTEX Organic Compounds Analysis Date: 03/16/15	Method: 5035A/	8260B			
Benzene		402	5.0	ug/kg	
Ethylbenzene		< 500	5.0	ug/kg	
Toluene		< 500	5.0	ug/kg	
Xylene, Total		< 500	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/19/15	Method: 8270C			Method 354 Date: 03/18/15	
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:

ERS of ILLINOIS, INC.

Date Collected: 03/10/15

Project ID:

Premcor 2093

Time Collected: 15:00

Sample ID: SB-31 @ 2-4' Sample No: 15-1022-022

Date Received: 03/12/15 Date Reported: 03/20/15

Results are reported on a dry weight basis					
Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B				
Total Solids		76.61		%	
BTEX Organic Compounds Analysis Date: 03/16/15	Method: 5035A	/8260B			
Benzene		1,600	5.0	ug/kg	
Ethylbenzene		9,690	5.0	ug/kg	
Toluene		< 500	5.0	ug/kg	
Xylene, Total		24,200	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/19/15	Method: 8270C			Method 354 Date: 03/18/15	
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		574	25	ug/kg	
Phenanthrene		93	50	ug/kg	
Pyrene		< 50	50	ug/kg	



# Environmental Laboratories, Inc.

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## **Analytical Report**

Client: ERS of ILLINOIS, INC.

Premcor 2093

**Sample ID:** SB-31 @ 4-6' **Sample No:** 15-1022-023

**Project ID:** 

**Date Collected:** 03/10/15

Time Collected: 15:10

**Date Received:** 03/12/15

Results are reported on a dry weight basis	<b>5.</b>				
Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 03/12/15	Method: 2540B				
Total Solids		93.41		%	
BTEX Organic Compounds Analysis Date: 03/16/15	Method: 5035A/	8260B			
Benzene		16,800	5.0	ug/kg	
Ethylbenzene		243,000	5.0	ug/kg	
Toluene		27,100	5.0	ug/kg	
Xylene, Total		1,190,000	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 03/19/15	Method: 8270C			Method 354 Date: 03/18/15	
Acenaphthene		393	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene		60	50	ug/kg	
Benzo(a)anthracene		21.1	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		65	50	ug/kg	
Fluorene		432	50	ug/kg	
Indeno(1,2,3-cd)pyrene		< 29	29	ug/kg	
Naphthalene		20,700	25	ug/kg	
Phenanthrene		935	50	ug/kg	
Pyrene		149	50	ug/kg	



# CHAIN OF CUSTODY RECORD Electronic Filing: Received, Clerk's Office 7/28/2017

Company Name: ERS Do Illinois, LNC.		
Street Address: 2272 Cornell Avenu	Ll_	
city: Montgomery	State://_	zip: (20538
City: Montgomery Phone: 630 896 4010, Fax: 630896 4099	e-mail:	
	ia: Fax 🔲	e-mail
Sampled By: / <a a="" a<="" td=""><td></td><td></td></a>		

1600 Shore Road, Suite D	City: Montgomery	State: / C	Zip: (2023)
Naperville, Illinois 60563	Phone: 630 896 4010 Fax: 6	308944099 e-mail:	
Phone: (630) 778-1200 • Fax: (630) 778-1233	Send Report To: Karen Dixix	Via: Fax	e-mail
E-mail: firstinfo@firstenv.com IEPA Certification #100292	Sampled By: /Laran Sixon	)	
TEFA Certification #100292	- /X BICH DIXON -		
	, . A	Analyses	
Project I.D.: Preman 2093			
P.O. #.:		' / / / /	
	_ / / / /		
	/ N / / / /		
Matrix Codes: S = Soil W = Water O = Other		( ( —	
Date/Time Taken Sample Description	Matrix	Comments	Lab LD.
310115 CX40 MW 9 a 2-41	SXX		15-1022-001
0845 MW-70 4-6			<i>@</i> 2_
1930 MW-100 0-4'			<i>a</i> u3
100 MW-11 @ 2-41			004
1015 MW-11 @ 4-6'			005
1100 MW-12 00 2-41		tot	006
110 MW-12 @ 4-6'		Hot	007
140 MW-13 @ 2.4'			008
1145 MW-13 0 4-6		HOT	609
1210 MW 14 0 2 4'			0/0
125 MW-14 @ 4-10'		1401	011
- 1370 MW-15 @ 2-41			012
FOR LAB USE ONLY:		- · · · - · · · · · · · · · · · · ·	
Cooler Temperature: 0.1-6°C Yes_No	Sample Refrigerated: Yes No Preservation Rec	uirements Met: Yes No	
Ice Present: Yes No	5035 Vials Frozen: Yes No Need to meet:	IL. TACO . IN. RISC .	
	Freezer Temperature:°C		
Notes and Special Instructions:			
0			
, X			_1 1
Relinquished By:	vate/Time 3/ 12/15 0930 Received By:	Date/Time_	3/12/15 930
, , , , , , ,	rate/Time Received By:	Date/Time	
		<del></del>	

Rev. 6/12

Rev. 6/12



CHAIN OF CUSTODY RECORD
Electronic Filing: Received, Clerk's Office 7/28/2017

Page 2	of Apgs	
~1	7.7.	

T70 4	<b>T</b> 3 •			
First	Environ	mental	Labor	atories

1600 Shore Road, Suite D Naperville, Illinois 60563

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

E-mail: firstinfo@firstenv.com HEPA Cartification #100202

Company Name: FRS A 1		,
Street Address: 2272 Cornell Aux	enul	
city: Montgomery	State:	zip60538
Phone: 6308964090 Fax: 896 4099	e-mail:	
Send Report To: Karen Nivon	Via: Fax	e-mail
Sampled By: King Nixon		

TEPA Certification #100.	292				<del>, (</del>	UIZI	1-/-	ay j					<del></del>	
								. A	nalyses				_	
	mcoc 2093	-			<del>_</del>	//	//	7/	7/	7/	7/			
			/		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			//		//		,		
	Soil W = Water O = Other		/ A	(X)	3				/ /	/ ,				
Date/Time Taken	Sample Description	Matrix		`		<u></u>	<u> </u>				C	omments	Lab	
5/10/15 13/0 I	MW-15@ 4-6'		LX.	$X_{-}$					<u> </u>				15-107	22-013
1 /350	5B-240 0-41		1						<u>                                       </u>					014
1355	SB-270 4-71		11_											0/5
1410	5B-28 a 0-21		Ш.	<u> </u>										0/6
1415	5B-280 4-6°							ļ						017
1420	SB. 29 @ 2-41		Ц_	$\coprod$										015
1405	SB-29 0 4-61													019
1440.	SB-30 @ 0-21													120
1440	SB-300 2.41													021
1500	SB-31 02-4					<u> </u>								OLL
15/0	SB-31 04-6"		<b></b> -						<u>                                     </u>					023
Received within 6 hrs & Ice Present: Yes No_	f collection:	Sample Refrig Refrigerator To 5035 Vials Fro Freezer Temp	empera ozen: Y erature:	ture: 'es f :	º( No	0			uirement		Yes	□ No		
Notes and Special Ins	structions:													
Relinquished By:	IX Dn Dat	e/Time_3/10/	 115 l	YIY		ceived l	 Ву:_	Py	C	1		_ Date/Time _	3/11/15	930
Relinquished By:	Dat	e/Time			Re	ceived l	<u></u> Bv:₋					_ Date/Time _		
												_		



## 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

۹.	Sit	e Identification			
	IEI	MA Incident # (6- or 8-digit):	923441I	EPA LPC# (10-digit): 14306552	263
	Sit	e Name: Former Clark Store	e #2093		
	Sit	e Address (Not a P.O. Box):	3712 North University Street		
	Cit	y: <u>Peoria</u>	County: Peoria	ZIP Code: 61614	
	Lea	aking UST Technical File			
3.	Sa	mple Collector			
	I ce	ertify that:			. / 1
	1.	Appropriate sampling equip	oment/methods were utilized to obtain re	presentative samples.	101)
					(Initial)
	2.	Chain-of-custody procedure	es were followed in the field.		(Injitial)
	3.	Sample integrity was maint	ained by proper preservation.		£1)"
	۷.	cample integrity was main	amou by propor processuation.		(Initial)
	4.	All samples were properly l	abeled.		(1)
					(Initial)
Э.	Lal	boratory Representati	/e		
	I ce	ertify that:			
	1.	Proper chain-of-custody pro	ocedures were followed as documented	on the chain-of-custody forms	590
		, ,		• · · · · · · · · · · · · · · · · · · ·	(Initial)
	2.	Sample integrity was maint	ained by proper preservation.		39
					(Initial) くら
	3.	All samples were properly I	abeled.		(Initial)
	4.	Quality assurance/quality o	ontrol procedures were established and	carried out	55~
	\lnot.	Guanty assurance/quality t	ontrol procedures were established and	carried out.	(Initial)
	5.	Sample holding times were	not exceeded.		57

(Initial)

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

(Initial)

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

(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.

Laboratory Representative					
Name STAV ZAWUZSYI					
Title PROJECT MANAGER					
Company First Environmental Laboratories, Inc.					
Address 1600 Shore Road, Suite D					
City Naperville					
State Illinois					
Zip Code 60563					
Phone 630-778-1200					
Signature					
Date 3/20/5					

ATTACHMENT C

)

ncident No:923441			Well N	lo:	MW-9	
Site Name: Former Clark St				rilled Start:		5
Orilling Contractor: GeoServe, Inc.			=			5
						on
Drilling Method: Hollow Stem AL	iger		Drilling	g Fluids (type	e): <u>NA</u>	
Annular Space Details					Elevatio	ns01 ft.
Type of Surface Seal: <u>Concrete</u> Type of Annular Sealant: <u>Bentoni</u> Type of Bentonite Seal (Granula	te Chips		<del></del>		98.13 97.88 NA 97.71 NA	Top of Protective Casing Top of Riser Pipe Ground Surface Top of Annular Sealant Casing Stickup
Type of Sand Pack: 10/20 Silica S			· ·			casing stickup
Well Construction Materials	22				97.71	Top of Seal
	ales ify	. is	.≧		1.67	Total Seal Interval
	Stainless Steel Specify Type	PVC Specify Type Other	Specify Type		96.04	Top of Sand
Riser coupling joint	S S S =	Schedule 40	<u>s = 1</u>			top of ource
Riser pipe above w.t.		Schedule 40				
Riser pipe below w.t.					95.04	Top of Screen
Screen		Schedule 40			75.01	top of Sercen
Coupling joint screen to riser		Flush Thread				
Protective casing						
	0.01 ft. (wher	e applicable)				
Measurements to				ı —		
Riser pipe length	2.8-	4				
Riser pipe length	2.8-				10.00	Total Screen Interval
Riser pipe length Screen length Screen slot size		0			_10.00_	Total Screen Interval
Riser pipe length Screen length Screen slot size Protective casing length	.010 .010 .NA	0				Total Screen Interval
Riser pipe length Screen length Screen slot size Protective casing length Depth to water	10.0 .010 NA 6.10	0			10.00	Total Screen Interval
Riser pipe length Screen length Screen slot size Protective casing length Depth to water Elevation of water	10.0 .010 NA 6.10 91.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			_10.00_	Total Screen Interval
Riser pipe length Screen length Screen slot size Protective casing length Depth to water Elevation of water Free Product thickness	10.0 .010 NA 6.10 91.	0 0 0 78			10.00	Total Screen Interval
Riser pipe length Screen length Screen slot size Protective casing length Depth to water Elevation of water Free Product thickness Gallons removed (develop)	10.0 .010 NA 6.10 91.	0 0 0 78			10.00	Total Screen Interval
Riser pipe length Screen length Screen slot size Protective casing length Depth to water Elevation of water Free Product thickness Gallons removed (develop) Gallons removed (purge)	10.0 .010 NA 6.10 91.	0 0 0 78			10.00	Total Screen Interval
Riser pipe length Screen length Screen slot size Protective casing length Depth to water Elevation of water Free Product thickness Gallons removed (develop)	10.0 .010 NA 6.10 91.	0 0 0 78			10.00	Total Screen Interval  Bottom of Screen

Illinois Environme	ntal Protection	on Agency		,	Well Comp	letion Report	
Incident No: 923441			Well N	o:	MW-10		
Site Name: Former Clark S	ore #2093		. Date D	rilled Start:	03/10/2015		
Drilling Contractor: GeoServe, Inc.			Date Co	ompleted:	03/10/2015		
Driller:						Karen Dixon	
			-				
Drilling Method: Hollow Stem Al	iger		Drilling	g Fiuids (type)	): <u>NA</u>		
Annular Space Details				· <del>-</del> · ·	Elevatio	ns01 ft.	
					99.19	Top of Protective Casing	
Type of Surface Seal: Concrete					98.94		
Type of Annular Sealant: Benton	ite Chips			$A \cap I$	NA_		
Type of Bentonite Seal (Granula	r, Pellet): <u>Ber</u>	ntonite			98.69 NA		
Type of Sand Pack: 10/20 Silica S	and						
•							
	•						
Well Construction Materials							
-							
	1		<del></del>		_98,69	Top of Seal	
	1 %			-		•	
	nle il city	e er	e e		1.38	Total Seal Interval	
	Stainless Steel Specify Type	PVC Specify Type Other	Specify Type		97.31	Top of Sand	
Riser coupling joint	37 37 37 (	Schedule 40	•				
Riser pipe above w.t.		Schedule 40					
Riser pipe below w.t.					<u>96.31</u>	Top of Screen	
Screen		Schedule 40				Top of Scient	
Coupling joint screen to riser		Flush Thread					
Protective casing							
			<u></u>				
Measurements to	0.01 ft. (wher	e annlicable)					
Wedstrements	0.01 11. ( 11101	e applicable)					
Riser pipe length	2.6	1					
Screen length	10.				•		
Screen slot size	.01				10.00	Total Screen Interval	
Protective casing length	NA NA				·		
Depth to water	7.0				:		
Elevation of water	91.						
Free Product thickness	N.A						
Gallons removed (develop)	4.5						
•							
(Gallons removed (purge)				1 =	i		
Gallons removed (purge) Other							
					<u>86.31</u> <u>83.19</u>		

ncident No: 923441			. Well N	No:	<u>MW-11</u>	-	
Site Name: Former Clark St	ore #2093			Orilled Start:		5	
Orilling Contractor: GeoServe, Inc.						5	
-						Karen Dixon	
· · · · · · · · · · · · · · · · · · ·				-			
Orilling Method: Hollow Stem Au	iger		. Dallin	ig Fluids (type)	: <u>NA</u>		
Annular Space Details					Elevatio	ns01 ft.	
					99.97	Top of Protective Casin	
Type of Surface Seal: Concrete					99.72	Top of Riser Pipe	
Type of Annular Sealant: Bentoni					NA 00 55	Ground Surface	
Type of Bentonite Seal (Granula	r, Pellet): <u>Be</u>	ntonite			99.55 NA	Top of Annular Sealant Casing Stickup	
Type of Sand Pack: 10/20 Silica S			· · ·			,	
Well Construction Materials							
	<u> </u>				99.55	Top of Seal	
	ess fy	_ احد ا	ے		1.72	Total Seal Interval	
	Stainless Steel Specify Type	PVC Specify Type Other	Specify Type		97.83	Top of Sand	
			<del></del>			•	
Riser coupling joint		Schedule 40	i				
Riser coupling joint Riser pipe above w.t.	-	Schedule 40 Schedule 40					
					96,83	Top of Screen	
Riser pipe above w.t.					96,83	Top of Screen	
Riser pipe above w.t. Riser pipe below w.t.		Schedule 40			<u>96.83</u>	Top of Screen	
Riser pipe above w.t. Riser pipe below w.t. Screen		Schedule 40 Schedule 40			96.83	Top of Screen	
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser		Schedule 40 Schedule 40			<u>96.83</u>	Top of Screen	
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing	0.01 ft. (when	Schedule 40 Schedule 40			96.83	Top of Screen	
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing	0.01 ft. (when	Schedule 40 Schedule 40 Flush Thread			<u>96.83</u>	Top of Screen	
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing	0.01 ft. (wher	Schedule 40 Schedule 40 Flush Thread re applicable)			<u>96,83</u>	Top of Screen	
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to	· · · · · · · · · · · · · · · · · · ·	Schedule 40 Schedule 40 Flush Thread re applicable)				•	
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to Riser pipe length	2.8	Schedule 40 Schedule 40 Flush Thread re applicable)			<u>96.83</u> 	Top of Screen  Total Screen Interval	
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to  Riser pipe length Screen length Screen slot size Protective casing length	2.8	Schedule 40 Schedule 40 Flush Thread re applicable)					
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to  Riser pipe length Screen length Screen slot size Protective casing length Depth to water	2.8 10. .01 N.A	Schedule 40 Schedule 40 Flush Thread  re applicable)  0 0					
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to  Riser pipe length Screen length Screen slot size Protective casing length Depth to water Elevation of water	2.8 10. .01 N.3 7.7 91.	Schedule 40 Schedule 40 Flush Thread  re applicable)  0 0 0 0 4 6 96					
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to  Riser pipe length Screen length Screen slot size Protective casing length Depth to water Elevation of water Free Product thickness	2.8 10. .01 N.2 7.7 91. N.2	Schedule 40 Schedule 40 Flush Thread  re applicable)  9 0 0 4 6 96					
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to  Riser pipe length Screen length Screen slot size Protective casing length Depth to water Elevation of water Free Product thickness Gallons removed (develop)	2.8 10. .01 N.3 7.7 91.	Schedule 40 Schedule 40 Flush Thread  re applicable)  9 0 0 4 6 96					
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to  Riser pipe length Screen length Screen slot size Protective casing length Depth to water Elevation of water Free Product thickness Gallons removed (develop) Gallons removed (purge)	2.8 10. .01 N.2 7.7 91. N.2	Schedule 40 Schedule 40 Flush Thread  re applicable)  9 0 0 4 6 96					
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to  Riser pipe length Screen length Screen slot size	2.8 10. .01 N.2 7.7 91. N.2	Schedule 40 Schedule 40 Flush Thread  re applicable)  9 0 0 4 6 96					

ncident No: 923441			_ Wel	l No:		MW-12	
ite Name: Former Clark St	ore #2093		_ Date	Drilled Sta	rt:	03/10/201	5
Orilling Contractor: GeoServe, Inc.			Date	Date Completed:		03/10/2015	
Oriller:						Karen Dixon	
Orilling Method: Hollow Stem At							
	·5·!		_ Dim	ing raids (	iype).		
Annular Space Details					I	Elevatio	ns01 ft.
				- J		97.30	Top of Protective Casin
Type of Surface Seal: Concrete				=	<b>=</b> T	97.05	Top of Riser Pipe
Type of Annular Sealant: <u>Bentoni</u>	te Chips				1	NA_	Ground Surface
ype of Bentonite Seal (Granula	r, Pellet): <u>Be</u>	ntonite				96.88 <u>N.A</u>	Top of Annular Sealant Casing Stickup
			<del></del>			17.3	Casing Suckup
Type of Sand Pack: 10/20 Silica S	and						
		•					
Well Construction Materials							
wen Construction Materials							
	<u> </u>	<u>,                                     </u>				96.33	Top of Soal
	N N			<del></del>		70.00	Top of Seal
i e	\ \chi_2 \	<u>←</u>	<u>.</u>		1 1	<u>1.53</u>	Total Seal Interval
}	17 4 5 4	1 12 6 1 5	: -∃ [	1 1	1		
	stainl steel speci	VC peci ype	pecil			95.35	Top of Sand
Riser counting joint	Stainless Steel Specify Type	PVC Specify 1ype	Specify Type			95.35	Top of Sand
Riser coupling joint Riser pipe above w.t.	Stainl Steel Speci Type	Schedule 40	Specii Type			95.35	Top of Sand
Riser pipe above w.t.	Stainl Steel Speci	1	Speci Type				·
	Staint Steel Speci	Schedule 40	Speci Type			95.35	Top of Screen
Riser pipe above w.t. Riser pipe below w.t.	Staint Steel Speci	Schedule 40 Schedule 40	Specii Type				·
Riser pipe above w.t. Riser pipe below w.t. Screen	Staint Steel Speci	Schedule 40 Schedule 40 Schedule 40	Speci Type				·
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser	Staint Steel Speci	Schedule 40 Schedule 40 Schedule 40	Speci Type				·
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing		Schedule 40 Schedule 40 Schedule 40 Flush Thread					·
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing	Speci	Schedule 40 Schedule 40 Schedule 40 Flush Thread					·
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to	0.01 ft. (when	Schedule 40 Schedule 40 Schedule 40 Flush Thread re applicable					·
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to Riser pipe length	0.01 ft. (when	Schedule 40 Schedule 40 Schedule 40 Flush Thread re applicable				94.35	Top of Screen
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to  Riser pipe length Screen length	0.01 ft. (when	Schedule 40 Schedule 40 Schedule 40 Flush Thread re applicable					·
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to Riser pipe length	0.01 ft. (where	Schedule 40 Schedule 40 Schedule 40 Flush Thread  re applicable				94.35	Top of Screen
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to  Riser pipe length Screen length Screen slot size	0.01 ft. (where the content of the c	Schedule 40 Schedule 40 Schedule 40 Flush Thread  re applicable				94.35	Top of Screen
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to  Riser pipe length Screen length Screen slot size Protective casing length	0.01 ft. (where 2.7 10	Schedule 40 Schedule 40 Schedule 40 Flush Thread  re applicable				94.35	Top of Screen
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to  Riser pipe length Screen length Screen slot size Protective casing length Depth to water	0.01 ft. (where 2.7 10	Schedule 40 Schedule 40 Schedule 40 Flush Thread  re applicable  70 0 0 A 35 .70				94.35	Top of Screen
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to  Riser pipe length Screen length Screen slot size Protective casing length Depth to water Elevation of water	0.01 ft. (when 2.7 1001 N.2 6.3 90.	Schedule 40 Schedule 40 Schedule 40 Flush Thread  re applicable  70 0 0 A 85 .70				94.35	Top of Screen
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to  Riser pipe length Screen length Screen slot size Protective casing length Depth to water Elevation of water Free Product thickness	0.01 ft. (when  2.7  10.  .01  N.A  6.3  90.  N.A	Schedule 40 Schedule 40 Schedule 40 Flush Thread  re applicable  70 0 0 A 85 .70				94.35	Top of Screen
Riser pipe above w.t. Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing  Measurements to  Riser pipe length Screen length Screen slot size Protective casing length Depth to water Elevation of water Free Product thickness Gallons removed (develop)	0.01 ft. (when  2.7  10.  .01  N.A  6.3  90.  N.A	Schedule 40 Schedule 40 Schedule 40 Flush Thread  re applicable  70 0 0 A 85 .70				94.35	Top of Screen

ncident No: 923441			Well N	o:	MW-13	
ite Name: Former Clark St						5
Orilling Contractor: GeoServe, Inc.						5
Oriller:			_			con
Orilling Method: Hollow Stem Au			Drilling	g Fluids (type	e): <u>NA</u>	
Annular Space Details		<del></del>			Elevatio	ns01 ft.
ima of Surface Seel: Commis				<del></del>	96.98 96.73	Top of Protective Casir Top of Riser Pipe
Type of Surface Seal: Concrete					70.73 NA	Ground Surface
ype of Annular Sealant: Bentoni			,		96.56	Top of Annular Sealant
ype of Bentonite Seal (Granula					NA NA	Casing Stickup
Type of Sand Pack: 10/20 Silica S						
Well Construction Materials						
	1				96.56	Top of Seal
	SS €	ج. ا	ح.		_1.92_	Total Seal Interval
	Stainless Steel Specify Type	PVC Specify Type Other	Specify Type		94,64	Top of Sand
Riser coupling joint	0, 9, 0; =	Schedule 40	<u> </u>			•
i do tr to up mag jo ma		Schedule 40				
Riser pipe above w.t.					į.	
Riser pipe above w.t. Riser pipe below w.t.			<del></del>		93.64	Ton of Screen
Riser pipe above w.t. Riser pipe below w.t. Screen		Schedule 40			93.64	Top of Screen
Riser pipe below w.t. Screen					93.64	Top of Screen
Riser pipe below w.t.		Schedule 40			93.64	Top of Screen
Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing	0.01 ft. (when	Schedule 40			93.64	Top of Screen
Riser pipe below w.t. Screen Coupling joint screen to riser Protective casing	0.01 ft. (when	Schedule 40 Flush Thread re applicable)			93.64	Top of Screen
Riser pipe below w.t.  Screen  Coupling joint screen to riser  Protective casing  Measurements to	<u> </u>	Schedule 40 Flush Thread Te applicable)				
Riser pipe below w.t.  Screen  Coupling joint screen to riser  Protective casing  Measurements to  Riser pipe length	3.0	Schedule 40 Flush Thread  re applicable)			93.64	Top of Screen  Total Screen Interval
Riser pipe below w.t.  Screen  Coupling joint screen to riser  Protective casing  Measurements to  Riser pipe length  Screen length	3.0	Schedule 40 Flush Thread  re applicable)  9 0 0				
Riser pipe below w.t.  Screen  Coupling joint screen to riser  Protective casing  Measurements to  Riser pipe length  Screen length  Screen slot size	3.0 10.	Schedule 40 Flush Thread  re applicable)  0 0				
Riser pipe below w.t.  Screen  Coupling joint screen to riser  Protective casing  Measurements to  Riser pipe length  Screen length  Screen slot size  Protective casing length	3.0 10. .01 N.:	Schedule 40 Flush Thread  re applicable)  0 0				
Riser pipe below w.t.  Screen  Coupling joint screen to riser  Protective casing  Measurements to  Riser pipe length  Screen length  Screen slot size  Protective casing length  Depth to water	3.0 10. .01 N.:	Schedule 40 Flush Thread  re applicable) 0 0 1 62				
Riser pipe below w.t.  Screen  Coupling joint screen to riser  Protective casing  Measurements to  Riser pipe length  Screen length  Screen slot size  Protective casing length  Depth to water  Elevation of water	3.0 10. .01 N.4 6.1	Schedule 40 Flush Thread  re applicable)  0 0 0 A 11 62				
Riser pipe below w.t.  Screen  Coupling joint screen to riser  Protective casing  Measurements to  Riser pipe length  Screen length  Screen slot size  Protective casing length  Depth to water  Elevation of water  Free Product thickness  Gallons removed (develop)  Gallons removed (purge)	3.0 10. .01 N.2 6.1 90	Schedule 40 Flush Thread  re applicable)  0 0 0 A 11 62				
Riser pipe below w.t.  Screen  Coupling joint screen to riser  Protective casing  Measurements to  Riser pipe length  Screen length  Screen slot size  Protective casing length  Depth to water  Elevation of water  Free Product thickness  Gallons removed (develop)	3.0 10. .01 N.2 6.1 90	Schedule 40 Flush Thread  re applicable)  0 0 0 A 11 62				

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ncident No:923441			- Well	No:	<u>MW-14</u>	
ite Name: Former Clark St	ore #2093		_ Date	Drilled Start:	03/10/201	5
Orilling Contractor: GeoServe, Inc.			Date	Completed:		5
Oriller:			_	_		con
Orilling Method: Hollow Stem Au				_		
	· · · · · · · · · · · · · · · · · · ·			ng r raido (t) pe	). <u></u>	, , , , , , , , , , , , , , , , , , ,
Annular Space Details		· · · · · · · · · · · · · · · · · · ·			Elevatio	ns01 ft.
					97,77	Top of Protective Casin
ype of Surface Seal: Concrete				<del></del>	97.52	Top of Riser Pipe
Type of Annular Sealant: Bentoni					NA_	· · · · · · · · · · · · · · · · · · ·
ype of Bentonite Seal (Granula				4	97,35	Top of Annular Sealant
•					<u>NA</u>	Casing Stickup
Type of Sand Pack: 10/20 Silica S.						
Type of Sand Lack. 10/20/3/11ca/3.	and		<del></del>			
Well Construction Materials						
					97.35	Top of Seal
	Z. css		.>		1.75	Total Seal Interval
	Stainless Steel Specify Type	PVC Specify Type Other	Specify Type			
	Sta Ste Sp. (2)	<u>y</u> <u>%</u> <u>y</u> <u>P</u>	Speci Type		<u>95.60</u>	Top of Sand
Riser coupling joint		Schedule 40				
Riser pipe above w.t.		Schedule 40				
Riser pipe below w.t.					94.60	Top of Screen
Screen		Schedule 40				
Coupling joint screen to riser		Flush Thread				
Protective casing	1					
Measurements to	0.01 ft. (whei	re applicable)				
	<del>-</del>					
Riser pipe length	2.9	12				
	10.	0			10.00	Total Screen Interval
Screen length		0				
Screen slot size	.01	1			1	
Screen slot size Protective casing length	N.ª					
Screen slot size Protective casing length Depth to water	N.: 5.9	17				
Screen slot size Protective casing length Depth to water Elevation of water	5.9 91.	55				
Screen slot size Protective casing length Depth to water Elevation of water Free Product thickness	N# 5.9 91 N#	55				
Screen slot size Protective casing length Depth to water Elevation of water Free Product thickness Gallons removed (develop)	5.9 91.	55				
Screen slot size Protective casing length Depth to water Elevation of water Free Product thickness	N# 5.9 91 N#	55				

Incident No: 923441  Site Name: Former Clark S  Drilling Contractor: GeoServe, Inc.	tore #2093		_ Date _ Date	Drilled Start: Completed:	03/10/20	5
Drilling Method: Hollow Stem Al						Kon
Annular Space Details		·				ns01 ft.
Type of Surface Seal: <u>Concrete</u> Type of Annular Sealant: <u>Benton</u> Type of Bentonite Seal (Granula	ite Chips	ntonite			100.64 100.39 NA 100.22 NA	Top of Protective Casing Top of Riser Pipe Ground Surface Top of Annular Sealant Casing Stickup
Type of Sand Pack: 10/20 Silica S						
Well Construction Materials						
	<del>                                     </del>	<del></del>			100.22	Top of Seal
	css fy	<u> </u>	ے ا		1.72	Total Seal Interval
	Stainless Steet Specify Type	PVC Specify Type Other	Specify Type		98.50	Top of Sand
Riser coupling joint		Schedule 40				
Riser pipe above w.t.		Schedule 40				
Riser pipe below w.t. Screen		Schedule 40			97.50	Top of Screen
Coupling joint screen to riser		Flush Thread				
Protective casing		r tush Titlead				
Measurements to	0.01 ft. (wher	<del></del>				
Riser pipe length	2.8					
Screen length Screen slot size	10.				10.00	Total Screen Interval
Protective casing length	.010 NA					
Depth to water	6.6					
Elevation of water	93.					
Free Product thickness	NA					
Gallons removed (develop)	5.0	0				
Gallons removed (purge)						
Other						_
				·	87.50	Bottom of Screen

ATTACHMENT D



10350271

15220 lb

20 lb

0.01

15200 1b\*

Peoria City/County Landfill Ticket# 990728

Volume 5.0

11501 W. Cottonwood Rd Brimfield, IL, 61517 Ph.: 309/565-4291

Customer Name ERS OF ILLINOIS INC ERS OF IL Carrier ERS

Vehicle#

Container

Driver Check#

0000823 Billing #

Gen EPA ID

Grid

Destination

Generator

Manifest

Foute

FO

Ticket Date

Manual Ticket#

Hauling Ticket#

State Waste Code

PREMODE 2093

Payment Type Credit Account

04/13/2015

612706IL (EXCLUDED UST CONTAMINATED SOIL ) Profile

117-PREMODR 2093 PREMODR 2093

Time

04/13/2015 12:42:22

Gut 04/13/2015 12:42:38

Comments

### Maste Management

Product LDX	Oty UDM	Rate Fee	Amount	Origin
1 Declassified SPW-E 100	5 Each			FEORIA

Total Fees Total Ticket

Tare

Tons

-Net

Drimann's Signature



# Industrial Waste Tracking Receipt (Non-Special) Profile Number: 6127061L

Expiration Date: 04/01/2016

## ALL LOADS MUST BE SCHEDULED 24 HOURS IN ADVANCE

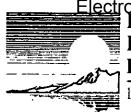
2 Copies needed with each driver on their 1st load of each day

Generator Information

Section A

Premeor #2093	Technical Contact and Phone: Karen Dixon 630-896-4090
Street Address: 3712University Street	: Peoria, IL 61614
County: Peoria	
On Site Contact: Karen Dixon	630-896-4090
Waste Name: Excluded UST Contam	
Volume/Number of Drums:	
Special Conditions:	
	SPORTER INFORMATION
Transporter: ERS of I	Minois, FAC.
Driver Signature: Matt Pays	ings
Truck Number: 12-44	Date: 4-/3-/5
Section C DISPO	SAL SITE INFORMATION
Site Name: Peoria City County #2	IEPA ID Number: <u>1438165003</u>
Authorized Signature	Date (MM/DD/YY)
Load 1 Load 2	Load 3 Load 5

ATTACHEMENT E



# Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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

May 01, 2015

Ms. Karen Dixon

ERS of ILLINOIS, INC.

2272 Cornell Avenue

Montgomery, IL 60538

Project ID: Premcor 2093

First Environmental File ID: 15-1975

Date Received: April 24, 2015

Dear Ms. Karen Dixon:

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 003596: effective 03/24/2015 through 03/28/2016.

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



# Environmental Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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### **Case Narrative**

ERS of ILLINOIS, INC.

Lab File ID: 15-1975

Project ID: Premcor 2093

Date Received: April 24, 2015

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 Collecte	d
15-1975-001	MW-2	4/23/2015 16:05	
15-1975-002	MW-3	4/23/2015 15:05	
15-1975-003	MW-4	4/23/2015 15:30	1
15-1975-004	MW-5	4/23/2015 14:45	i .
15-1975-005	MW-6	4/23/2015 13:45	,
15-1975-006	MW-7	4/23/2015 14:10	)
15-1975-007	MW-9	4/23/2015 13:15	;
15-1975-008	MW-10	4/23/2015 12:40	)
15-1975-009	MW-11	4/23/2015 16:25	i
15-1975-010	MW-12	4/23/2015 16:50	)
15-1975-011	MW-13	4/23/2015 17:15	
15-1975-012	MW-14	4/23/2015 17:40	)
15-1975-013	MW-15	4/23/2015 18:05	;

### Sample Batch Comments:

Sample acceptance criteria were met.



# Environmental Laboratories, Inc.

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## Case Narrative

ERS of ILLINOIS, INC.

Lab File ID: 15-1975

Project ID: Premcor 2093

Date Received: April 24, 2015

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



## **Environmental** Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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## **Analytical Report**

Client:

ERS of ILLINOIS, INC.

Date Collected: 04/23/15

Project ID:

Premcor 2093

15-1975-001

Time Collected: 16:05

Date Received:

04/24/15

Sample ID: Sample No:

MW-2

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 04/30/15	Method: 5030B/8260B			
Benzene	< 5.0	5.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	

Aylene, Total		· J.0	5.0	ug/L	
Polynuclear Aromatic Hydrocarbons Analysis Date: 04/30/15	Method: 8270C		Preparation D	Method 3510C ate: 04/29/15	
Acenaphthene		< 10	10	ug/L	
Acenaphthylene		< 10	10	ug/L	
Anthracene		< 5	5	ug/L	
Benzo(a)anthracene		< 0.13	0.13	ug/L	
Benzo(a)pyrene		< 0.2	0.2	ug/L	
Benzo(b)fluoranthene		< 0.18	0.18	ug/L	
Benzo(k)fluoranthene		< 0.17	0.17	ug/L	
Benzo(ghi)perylene		< 0.4	0.4	ug/L	
Chrysene		< 1.5	1.5	ug/L	
Dibenzo(a,h)anthracene		< 0.3	0.3	ug/L	
Fluoranthene		< 2	2	ug/L	
Fluorene		< 2	2	ug/L ·	
Indeno(1,2,3-cd)pyrene		< 0.3	0.3	ug/L	
Naphthalene		< 10	10	ug/L	
Phenanthrene		< 5	5	ug/L	
Pyrene		< 2	2	ug/L	



## First **Environmental** Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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## **Analytical Report**

Client: ERS of ILLINOIS, INC.

Project ID: Premcor 2093

Sample ID:

MW-3

Sample No:

15-1975-002

Date Collected: 04/23/15

Time Collected: 15:05

Date Received: 04/24/15

Analyte		Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 04/30/15	Method: 5030B/	8260B			
Benzene		< 5.0	5.0	ug/L	
Ethylbenzene		< 5.0	5.0	ug/L	
Toluene		< 5.0	5.0	ug/L	
Xylene, Total		< 5.0	5.0	ug/L	
Polynuclear Aromatic Hydrocarbons Analysis Date: 04/30/15	Method: 8270C		Preparation Preparation I	Method 351 Date: 04/29/15	
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: ERS of ILLINOIS, INC.

Project ID: Premcor 2093

Sample ID: MW-4

Sample No: 15-1975-003

Date Collected: 04/23/15

Time Collected: 15:30

Date Received: 04/24/15

Analyte		Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 04/30/15	Method: 5030B/	8260B			
Benzene		896	5.0	ug/L	
Ethylbenzene		2,240	5.0	ug/L	
Toluene		66.9	5.0	ug/L	
Xylene, Total		1,020	5.0	ug/L	
Polynuclear Aromatic Hydrocarbons Analysis Date: 04/30/15	Method: 8270C			Method 351 Date: 04/29/15	
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		229	10	ug/L	
Phenanthrene		< 5	5	ug/L	
Pyrene		< 2	2	ug/L	



## Environmental

Laboratories, Inc. IL ELAP / NELAC Accreditation # 100292

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## **Analytical Report**

Client: ERS of ILLINOIS, INC.

Project ID: Premcor 2093

Premcor 2093

Sample ID: MW-5

Sample No: 15-1975-004

**Date Collected:** 04/23/15 **Time Collected:** 14:45

Date Received: 04/24/15

Analyte	Rest	ılt R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 04/30/15	Method: 5030B/8260B			-
Benzene	< 5.0	5.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	
Polynuclear Aromatic Hydrocarbons Analysis Date: 04/30/15	Method: 8270C		n Method 35 Date: 04/29/1:	
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	7 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	



## Environmental Laboratories, Inc.

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## **Analytical Report**

Client:

ERS of ILLINOIS, INC.

Project ID:

Premcor 2093

Sample ID:

MW-6

Sample No:

15-1975-005

Date Collected: 04/23/15

Time Collected: 13:45

Date Received: 04/24/15

Analyte		Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 04/30/15	Method: 5030B/	8260B			
Benzene		< 5.0	5.0	ug/L	
Ethylbenzene		< 5.0	5.0	ug/L	
Toluene		< 5.0	5.0	ug/L	
Xylene, Total		< 5.0	5.0	ug/L	
Polynuclear Aromatic Hydrocarbons Analysis Date: 04/30/15	Method: 8270C		Preparation Preparation I	Method 351 Date: 04/29/15	1 <b>0C</b>
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	



## **Environmental** Laboratories, Inc.

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## **Analytical Report**

Client: Project ID: ERS of ILLINOIS, INC.

Premcor 2093

15-1975-006

Sample ID:

Sample No:

MW-7

Date Collected: 04/23/15

Time Collected: 14:10

Date Received:

04/24/15

Analyte		Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 04/30/15	Method: 5030B/	8260B			
Benzene		14,500	5.0	ug/L	
Ethylbenzene		3,680	5.0	ug/L	
Toluene		24,300	5.0	ug/L	
Xylene, Total		16,700	5.0	ug/L	
Polynuclear Aromatic Hydrocarbons Analysis Date: 04/30/15	Method: 8270C			Method 351 Date: 04/29/15	
Acenaphthene		< 10	10	ug/L	
Acenaphthylene		< 10	10	ug/L	
Anthracene		< 5	5	ug/L	
Benzo(a)anthracene		0.18	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		472	10	ug/L	
Phenanthrene		< 5	5	ug/L	
Pyrene		< 2	2	ug/L	



# **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:

ERS of ILLINOIS, INC.

Project ID:

Premcor 2093

Sample ID:

MW-9

Sample No:

15-1975-007

Date Collected: 04/23/15

Time Collected: 13:15 Date Received:

04/24/15

Analyte	R	esult	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 04/30/15	Method: 5030B/8260	В			-
Benzene	< 5	.0	5.0	ug/L	
Ethylbenzene	< 5	.0	5.0	ug/L	
Toluene	< 5	.0	5.0	ug/L	
Xylene, Total	< 5	.0	5.0	ug/L	
Polynuclear Aromatic Hydrocarbons Analysis Date: 04/30/15	Method: 8270C Preparation Method 351 Preparation Date: 04/29/15				
Acenaphthene	<	0	10	ug/L	
Acenaphthylene	< 1	0	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	1.4	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	<del>)</del>	2	ug/L	
Indeno(1,2,3-cd)pyrene	< 0	).3	0.3	ug/L	
Naphthalene	< 1	0	10	ug/L	
Phenanthrene	< 5	5	5	ug/L	
Pyrene	< 2	)	2	ug/L	



IL ELAP / NELAC Accreditation # 100292

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## **Analytical Report**

Client:

ERS of ILLINOIS, INC.

Date Collected: 04/23/15

Project ID:

Premcor 2093

Time Collected: 12:40

Date Received:

04/24/15

Sample ID:	MW-10
Sample No:	15-1975-008

Analyte	Resi	ılt R.L.	Units	Flags		
BTEX Organic Compounds Analysis Date: 04/30/15	Method: 5030B/8260B					
Benzene	126	5.0	ug/L			
Ethylbenzene	< 5.0	5.0	ug/L			
Toluene	< 5.0	5.0	ug/L			
Xylene, Total	< 5.0	5.0	ug/L			
Polynuclear Aromatic Hydrocarbons Analysis Date: 04/30/15	Method: 8270C		Preparation Method 3510C Preparation Date: 04/29/15			
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	7 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			



# **Environmental**

Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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## **Analytical Report**

Client:

ERS of ILLINOIS, INC.

Date Collected: 04/23/15

Project ID:

Premcor 2093

Time Collected: 16:25

ug/L

0.4

MW-11 Sample ID:

Date Received:

04/24/15

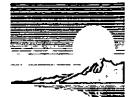
Sample No:

15-1975-009

Date Reported: 05/01/15

Analyte	Result	R.L.	Ünits	Flags		
BTEX Organic Compounds Analysis Date: 04/30/15	Method: 5030B/8260B					
Benzene	< 5.0	5.0	ug/L			
Ethylbenzene	< 5.0	5.0	ug/L			
Toluene	< 5.0	5.0	ug/L			
Xylene, Total	< 5.0	5.0	ug/L			
Polynuclear Aromatic Hydrocarbons Analysis Date: 04/30/15	Method: 8270C	Preparation Method 3510C Preparation Date: 04/29/15				
Acenaphthene	33	10	ug/L			
Acenaphthylene	< 10	10	ug/L			
Anthracene	7	5	ug/L			
Benzo(a)anthracene	< 0.13	0.13	ug/L			
Benzo(a)pyrene	< 0.2	0.2	ug/L			
Delize(u)pyrelie			17			
Benzo(b)fluoranthene	< 0.18	0.18	ug/L			

< 0.4



# 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: ERS of ILLINOIS, INC.

Project ID: Premcor 2093

**Sample ID:** MW-12 **Sample No:** 15-1975-010

Date Collected: 04/23/15
Time Collected: 16:50
Date Received: 04/24/15

Analyte		Result	R.L.	Units	Flags	
BTEX Organic Compounds Analysis Date: 04/30/15	Method: 5030B/8	3260B				
Benzene		307	5.0	ug/L		
Ethylbenzene		220	5.0	ug/L		
Toluene		189	5.0	ug/L		
Xylene, Total		977	5.0	ug/L		
Polynuclear Aromatic Hydrocarbons Analysis Date: 04/30/15	Method: 8270C		Preparation Method 3510C Preparation Date: 04/29/15			
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		13	10	ug/L		
Phenanthrene		< 5	5	ug/L		
Pyrene		< 2	2	ug/L		

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# **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:

ERS of ILLINOIS, INC.

Date Collected: 04/23/15

Project ID:

Premcor 2093

Time Collected: 17:15

Sample ID:

04/24/15 Date Received:

Sample No:

MW-13 15-1975-011

Date Reported: 05/01/15

Analyte	Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 04/30/15	Method: 5030B/8260B			
Benzene	10,200	5.0	ug/L	
Ethylbenzene	2,530	5.0	ug/L	
Toluene	9,900	5.0	ug/L	
Xylene, Total	10,200	5.0	ug/L	

Aylene, Total		10,200	3.0	ug/L
Polynuclear Aromatic Hydrocarbons Analysis Date: 04/30/15	Method: 8270C			Method 3510C Date: 04/29/15
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		177	10	ug/L
Phenanthrene		< 5	5	ug/L
Pyrene		< 2	2	ug/L

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# **Environmental Laboratories, Inc.**

IL ELAP / NELAC Accreditation # 100292

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

## **Analytical Report**

Client: Project ID: ERS of ILLINOIS, INC.

Premcor 2093

Sample ID:

MW-14

Sample No:

15-1975-012

Date Collected: 04/23/15

Time Collected: 17:40

Date Received: 04/24/15

Date Reported: 05/01/15

Analyte		Result	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 04/30/15	Method: 5030B/8	260B			
Benzene		386	5.0	ug/L	
Ethylbenzene		315	5.0	ug/L	
Toluene		27.4	5.0	ug/L	
Xylene, Total		1,250	5.0	ug/L	
Polynuclear Aromatic Hydrocarbons Analysis Date: 04/30/15	Method: 8270C		Preparation Preparation D		
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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# **Environmental** Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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

## **Analytical Report**

Client: Project ID: ERS of ILLINOIS, INC.

Premcor 2093

Sample ID:

MW-15

Sample No:

15-1975-013

Date Collected: 04/23/15

Time Collected: 18:05

Date Received:

04/24/15

Date Reported: 05/01/15

Analyte	Re	esult	R.L.	Units	Flags
BTEX Organic Compounds Analysis Date: 04/30/15	Method: 5030B/8260I	3			
Benzene	< 5.	.0	5.0	ug/L	
Ethylbenzene	< 5.	.0	5.0	ug/L	
Toluene	< 5.	.0	5.0	ug/L	
Xylene, Total	< 5.	.0	5.0	ug/L	
Polynuclear Aromatic Hydrocarbons Analysis Date: 04/30/15	Method: 8270C		<b>Preparation</b> Preparation D		
Acenaphthene	< 10	0	10	ug/L	
Acenaphthylene	< 10	0	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	0	10	ug/L	
Phenanthrene	< 5		5	ug/L	
Pyrene	< 2		2	ug/L	

**CHAIN OF CUSTODY RECORD**Electronic Filing: Received, Clerk's Office 7/28/2017

Page	$\frac{1}{1}$ of $\frac{2}{1}$ pgs
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Laboratories, Inc.	•	Company Name: ERS of ILLINOIS, INC.  Street Address: 2272 Carnell Ave.								
First Environmental Laboratories		Street Address: 2272 Cornell Ave								
1600 Shore Road, Suite D		City	. M	ontgor	1000			State:	zip: 60538	
Naperville, Illinois 60563									Zip: ////JJA	
Phone: (630) 778-1200 • Fax: (630) 778-1233 E-mail: firstinfo@firstenv.com		Send	16: <u>/&gt; \\</u>	89840	290 Fax:		35.	e-mail: n: Fax		
IEPA Certification #100292		Sam	pled By:	To: Karen Mat	L KOLL	Ma12	VIE	ı: Pax	e-mail	
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Matrix Codes: S = Soil W = Water O = Other			P\0	Y /			/ to			
Date/Time Taken Sample Description	Matrix	<b>'</b>	( )	<b>′</b>			(	Comments	Lab I.D.	
4-23-15 1605 MW-Z	W	×	$\times$		<del>  </del>	<del>-   </del>	<u> </u>	Comments	<del></del>	
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1410 MW-7									206	
1315 MW-9							3.5		$\alpha$	
1240 MW-10							1.4		008	
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1 1940 MW-14							: :		dlr	
Cooler Temperature: 0.1-6°C Yes No. Cooler Temperature: 0.1-6°C Yes No. Coolection: Coolec	Sample Refrig Refrigerator Te 5035 Vials Fro	mperat	ure:	<b>ºC</b>			s Met: <del>  Yes</del>	<del></del> .		
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Rev. 8/14					·	1		Date I line		



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

Project I.D.: Premcor

4-2345/1805 MW-15

P.O. #.:\_\_\_\_

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

2093

Sample Description

1600 Shore Road, Suite D

Naperville, Illinois 60563

Date/Time Taken

FOR LAB USE ONLY:

Ice Present: Yes\_\_No\_\_

E-mail: firstinfo@firstenv.com IEPA Certification #100292

CHAIN OF CUSTODY RECORD

Page 7 of Z pgs

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Freezer Tempe	erature;						<u></u>				

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Relinquished By:

Cooler Temperature: 0.1-6°C Yes\_ No.\_\_

Notes and Special Instructions:

Received within 6 hrs. of collection:

Date/Time\_

Date/Time 4/24/15 /24 Received By: Received By:\_

Date/Time\_ Date/Time

Rev. 8/14

Relinquished By: \_

## Electronic Filing: Received, Clerk's Office 3/28/2001 7017-084) R. 108



# 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

٩.	Sit	e Identification			
	IEN	MA Incident # (6- or 8-digit): 923441		IEPA LPC# (10-digit): 14306552	63
	Sit	e Name: Former Clark Store #2093			
	Site	Address (Not a P.O. Box): 3712 N	orth University Street		
	Cit	r: Peoria	County: Peoria	ZIP Code: 61614	
	Lea	king UST Technical File			
3.	Sai	mple Collector			
	Ιce	rtify that:			
	1.	Appropriate sampling equipment/me	ethods were utilized to obtain	representative samples.	MK
					(Initial)
	2.	Chain-of-custody procedures were t	followed in the field.		MK (Initial)
	_	Committee to the state of the s			MK
	3.	Sample integrity was maintained by	proper preservation.		(Initial)
	4.	All samples were properly labeled.			MK
		viii carriptor more preparty racional			(Initial)
Э.	Lal	ooratory Representative			
	l ce	rtify that:			
	1.	Proper chain-of-custody procedures	s were followed as documente	d on the chain-of-custody forms	55~
		,		•	(Initial)
	2.	Sample integrity was maintained by	proper preservation.		550
					(Initial) خکر ک
	3.	All samples were properly labeled.			(Initial)
		O office and a second for a second se		al appring and	55 U
	4.	Quality assurance/quality control pro	ocedures were established ar	id carried out.	(Initial)
	5.	Sample holding times were not exce	eeded .		550
	J.	Cample holding littles were not exce	godou.		(Initial)

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and not the scanning or filming processes.

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

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

### D. Signatures

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

Sample Collector	Laboratory Representative
Name Matt Kaufman	Name STAN ZAWORGYZ
Title Staff Geologist	Title PROJECT MANAGER
Company ERS of Illinois, Inc.	Company First Environmental Laboratories, Inc.
Address 2272 Cornell Avenue	Address 1600 Shore Road, Suite D
City Montgomery	City Naperville
State Illinois	State Illinois
Zip Code 60538	Zip Code 60563
Phone 630-896-4090	Phone 630-778-1200
Signature Moth Myrr	Signature
Date <u>4-23-15</u>	Date
	, ,

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ATTACHMENT F

# Electronic Filing: Received, Clerk's Office 2/28/2017017-084) R. 112

A	NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number イ子 3つ 3 5 5 1 3 3		of 3. Emergency F	1. 1. A. J. A.	1 1 15	Fracking Nu	mber こいとの		
	5. Generator's Name and Maili	ng Address = 100 mg Address = 100 mg Address = 100 mg Address	- 7.	3 Generator's Site	Address (if differen	than mailing addi	ress)			
	Generator's Phone: 6. Transporter 1 Company Nam		<del> </del>			U.S. EPA ID	Number			
	7. Transporter 2 Company Nam	ERS of 11:100 Exclusion Env.	ij indic.	· · · · · ·		U.S. EPA ID	Number	00147		
	8. Designated Facility Name an	d Site Address	10000	<u>:/ Ul                                   </u>		U.S. EPA ID	Number	3:37:		• •
	Facility's Phone:	•	·				<del></del>			
	9. Waste Shipping Name	•		1 N	0. Containers 0. Type	11. Total Quantity	12. Unit Wt./Vol.			
GENERATOR	A War-dat	erons Lizald Wed Reporter by DO	V T	para prima ga	DM	45	<del>-</del>			
- GENE	2.									
	1.5   [] 3.   3.7		<u> </u>						, d	
	5 4 5 4 5 4	<del> </del>	· · · · ·							
	13. Special Handling Instruction	s and Additional Information				<u> </u>			., .	
	14. GENERATOR'S/OFFEROR	S CERTIFICATION: I hereby declare that the conte	nts of this consignment	t are fully and accurat	alv described above	by the proper shi	nging name	and are classifier		d d
	marked and labeled/placarde Generator's/Offeror's Printed/Ty	ed, and are in all respects in proper condition for tran	sport according to app	ficable international a	nd national governm	ental regulations.	oping name,	Month	Day	v, Year
	15. International Shipments			<u> </u>	e : 21			4.5		17
INT'L	Transporter Signature (for expor		Export from		ort of entry/exit: te leaving U.S.:		,	<u>.</u>		
TRANSPORTER	16. Transporter Acknowledgmer Transporter 1 Printed/Typed Nat			Signature				Month	Day	Year
ANSP	Transporter 2 Printed/Typed Na	ne A		Signature	<u>Carragie (1.24</u>			Month	23 Day	Year
TI	17. Discrepancy	· · · · · · · · · · · · · · · · · · ·		خششتیر	<del> · · · -</del>		<del>-</del>		- <b>-</b>	
	17a. Discrepancy Indication Spa	ce Quantity	Туре	Residu	<del>e</del>	Partial Re	ection		- ull Reject	
		C Guarany	7,6						a	ion
ובו	175. Alternate Facility (or Gener				rence Number:	U.S. EPA ID				ion
FACILI	Facility's Phone:	ator)				U.S. EPA ID				
NATED FACILI		ator)				U.S. EPA ID		Month	Day	Year
DESIGNATED FACILITY	Facility's Phone:	ator)				U.S. EPA ID		Month		

Electronic Filing: Received, Clerk's Office 2/28/2017/017-084) R. 113

ATTACHMENT G

# Electronic Filing: Received, Clerk's Office 2/28/2017 2017-084) R. 114

# General Information for the Budget and Billing Forms

LPC #: 1430	0655263	County:	Peoria	
City: <u>Peoria</u>	<u> </u>	Site Name:	Former Clark Store #	2093
Site Address	3712 North University Street			
IEMA Incide	nt No.: 923441			
IEMA Notific	ation Date: 12/03/1992			
Date this for	m was prepared: Sep 17, 2015	·		
This form is	s being submitted as a (check one	, if applicable	):	
⊠ Bu	dget Proposal			
∏ Bu	udget Amendment (Budget amendme	ents must inclu	ide only the costs ove	r the previous budget.)
_	lling Package			
<b></b> -				
	lease provide the name(s) and date(	s) of report(s)	documenting the cost	s requested:
N	ame(s):	<del>-</del>		
. Da	ate(s):	•		
This packaç	ge is being submitted for the site a	activities indi	cated below:	RECEIVE
35 III. Adm.	Code 734:			OCT 0 5 2015
□ Ea	arly Action			<b>IEPA/BOL</b>
☐ Fr	ee Product Removal after Early Acti	on		ILI WOOL
⊠ Si	te Investigation S	Stage 1: 🔲	Stage 2: 🔀	Stage 3:
☐ Cd	prrective Action A	ctual Costs	Actual	
35 III. Adm.	Code 732:			
☐ Ea	arly Action			
☐ Fr	ee Product Removal after Early Acti	on		
☐ Sit	te Classification			
☐ Lo	w Priority Corrective Action			
☐ Hi	gh Priority Corrective Action			
35 III. Adm.	Code 731:			
☐ Si	ite Investigation			
ПС	orrective 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.

Pay to the order of: The Prem	cor Refining Gr	oup Inc.	·				
Send in care of: Mr. Timothy J	l. Mauntel, P.E.	, R.G.			**************************************		
Address: 201 East Hawthorne	Street		·				
City: Hartford	City: Hartford State: IL Zip: 62048						
The payee is the: Owner	er 🔲 Ope	erator 🛛	(Check or	ne or both.)			
Innated	Mari	mal	<del></del>	If you have	a change of address,		
Signature of the owner or operat	or of the UST(s)	(required)	<u> </u>		print off a W-9 Form.		
Number of petroleum USTs in III parent or joint stock company of or joint stock company of the ow	ithe owner or o	perator; and	erated by th any compai	e owner or operate ny owned by any p	or; any subsidiary, arent, subsidiary		
Fewer than 101:	☐ 101 or	more: 🖾					
Number of USTs at the site: 5 have been removed.)  Number of incidents reported to			s includes l	JSTs presently at	the site and USTs that		
Incident Numbers assigned to the			USTs: 92	3441	· ·		
Please list all tanks that have ev	rer been located	d at the site a	nd tanks th	at are presently loo	cated at the site.		
Product Stored in UST	Size (gallons)	Did US a rele		Incident No.	Type of Release Tank Leak / Overfill / Piping Leak		
unleaded gasoline	12,000	Yes ⊠	No 🔲 🕡	923441	Overfill		
unleaded gasoline	12,000	Yes 🛚	No 🗌	923441	Overfill		
unleaded gasoline	12,000	Yes 🛛	No 🗌	923441	Overfill		
diesel fuel	12,000	Yes 🛚	No 🗌	923441	Overfill		
kerosene	6,000	Yes 🛛	No 🗌	923441	Overfill		
		Yes 🗌	No 🗌				
		Yes 🗌	No 🗌				
		Yes 🗌	No 🗌				
		Yes 🗌	No 🗌				

Add More Rows

Undo Last Add

# Electronic Filing: Received, Clerk's Office 3/28/2017 2017-084) R. 116

# **Budget Summary**

Choose the applicable regulation: ( 734 ( 732

734	Free Product	Stage 1 Site Investigation	Stage 2 Site Investigation	Stage 3 Site Investigation	Corrective Action	
Drilling and Monitoring Well Costs Form	\$	\$	\$ 5,783.38	\$	s	
Analytical Costs Form	\$	\$	<b>\$</b> 5,426.10	\$	\$	
Remediation and Disposal Costs Form	\$	\$	<b>\$</b> 1,504.60	\$	\$	
UST Removal and Abandonment Costs Form	\$	\$	\$	\$	\$	
Paving, Demolition, and Well Abandonment Costs Form	\$	\$	\$	\$	\$	
Consulting Personnel Costs Form	\$	\$	<b>\$</b> 18,978.20	\$	\$	
Consultant's Materials Costs Form	\$	\$	<b>\$</b> 1,122.98	\$	\$	
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	\$	\$	\$ 32,815.26	\$	\$	

# **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
5	PUSH	8+8+8 +8+12 8.80	44.00	Soil Borings Stage 2   SB-27.46.58-3  3
7 5	HSA	16 22.40	112.00	Soil Borings Stage 2 / Monitoring Wells MW-9 MW-15
		-		
	<u> </u>			

	Total Feet	Rate per Foot (\$)	Total Cost
Total Feet via HSA:	112.00	27.39	\$3,067.68
Total Feet via PUSH:	44.00	21.06	\$926.64
Total Feet for Injection via PUSH:			
		Total Drilling Costs:	\$3,994.32

## 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
7	HSA	2.00	13.00	91.00

Well Installation	Total Feet	Rate per Foot (\$)	Total Cost
Total Feet via HSA:	91.00	19.66	\$1,789.06
Total Feet via PUSH:			
Total Feet of 4" or 6" Recovery:			
Total Feet of 8" or Greater Recovery:			
•		Total Well Costs:	\$1,789.06

Total Drilling and Monitoring Well Costs:	\$5,783.38

# **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		Х		=	
COD (Chemical Oxygen Demand)		Х		=	
Corrosivity		X		=	
Flash Point or Ignitability Analysis EPA 1010		Х		=	
Fraction Organic Carbon Content (foc) ASTM-D 2974-00		X		=	···
Fat, Oil, & Grease (FOG)		Х		=	
LUST Pollutants Soil - analysis must include volatile, base/ neutral, polynuclear aromatics and metals list in Section 732. Appendix B and 734.Appendix B		X		=	
Dissolved Oxygen (DO)		Х		=	
Paint Filter (Free Liquids)		X		=	
PCB / Pesticides (combination)		X		=	
PCBs		Х		=	
Pesticides		Х		=	
рН		Х	! .	=	
Phenol		Х	ľ	=	
Polynuclear Aromatics PNA, or PAH SOIL EPA 8270	23	Х	95.00	=	\$2,185,00
Polynuclear Aromatics PNA, or PAH WATER EPA 8270	13	Х	95.00	=	\$1,235.00
Reactivity		_X		=	
SVOC - Soil (Semi-Volatile Organic Compounds)		X		=	
SVOC - Water (Semi-Volatile Organic Compounds)		X		=	
TKN (Total Kjeldahl) "nitrogen"		Х		=	
TPH (Total Petroleum Hydrocarbons)		Х		=	
VOC (Volatile Organic Compounds) - Soil (Non-Aqueous)		Х		=	
VOC (Volatile Organic Compounds) - Water	·	Х		=	<del></del>
BETX Soil EPA 8260	23	Х	45.00	=	\$1,035.00
BETX Groundwater EPA 8260	13	X	45.00	=	\$585.00
		X		=	
		X		=	
		X		_=	
Geo-Technical Analysis			,	т	··. · <u>·</u> ·
Soil Bulk Density (pb) ASTM D2937-94		X		=	
Ex-situ Hydraulic Conductivity / Permeability		_X		=	
Moisture Content (w) ASTM D2216-92 / D4643-93		Х	<u> </u>	=	
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 (ps) ASTM D854-92		X	<u> </u>	=	
Organic Carbon (ASTM-D 2974-87)		X	<u> </u>	=	
· · · · · · · · · · · · · · · · · · ·		X	<u> </u>	=	
		Х		=	

# **Analytical Costs Form**

Metals Analysis					
Soil preparation fee for Metals TCLP Soil (one fee per soil sample)		Ιx		Τ=	T
Soil preparation fee for Metals Total Soil (one fee per soil sample)		X		<u> </u>	
Water preparation fee for Metals Water (one fee per water sample)		X		╁┋	1
vvater preparation lee for inetals vvater (one lee per water sample)		<del>  ^</del>		<del>  -</del>	<u> </u>
Arsenic TCLP Soil		X	·	=	
Arsenic Total Soil		Х		=	
Arsenic Water		Х		=	
Barium TCLP Soil		Х		=	
Barium Total Soil		Х		=	
Barium Water		X		=	
Cadmium TCLP Soil		Х		=	
Cadmium Total Soil		Х		=	†
Cadmium Water		Х		=	
Chromium TCLP Soil	· =:	Х		=	
Chromium Total Soil		Х		=	
Chromium Water	-	X		=	
Cyanide TCLP Soil		X		=	-
Cyanide Total Soil		X		=	
Cyanide Water	<del></del>	X	<u> </u>	=	
Iron TCLP Soil		X	<u> </u>	=	-
Iron Total Soil		X		=	
Iron Water	<del></del>	X		=	_
Lead TCLP Soil		X	-	=	
Lead Total Soil		Х	<del> </del>	=	
Lead Water		Χ.		=	
Mercury TCLP Soil	<u>-</u>	X		=	
Mercury Total Soil	<del></del>	X		_	
Mercury Water		X	•	=	
Selenium TCLP Soil		X		=	_
Selenium Total Soil		Х	·		
Selenium Water		X		=	
Silver TCLP Soil		X			
Silver Total Soil		X		=	
Silver Water	<del></del>	X		=	
Metals TCLP Soil (a combination of all metals) RCRA		X	V	=	
Metals Total Soil (a combination of all metals) RCRA	<del></del>	X		<u>-</u>	
Metals Water (a combination of all metals) RCRA		X	-	=	
	·=·	X		-	
		X		-	
	<del></del>	X		=	
	_	X		=	
Other		1			<u> </u>
EnCore® Sampler, purge-and-trap sampler, or equivalent sampling device	23	Х	11,70	=	\$269.10
Sample Shipping per sampling event <sup>1</sup>	2	X	58.50	=	\$117.00

<sup>&</sup>lt;sup>1</sup>A sampling event, at a minimum, is all samples (soil and groundwater) collected in a calendar day.

Total Analytical Costs: \$ 5,426.10

# Remediation and Disposal Costs Form

## A. Conventional Technology

Excavation, Transportation, and Disposal of contaminated soil and/or the 4-foot backfill material removal during early action activities:

	<u> </u>
Cost per Cubic Yard (\$)	Total Cost
rn:	
Cost per Cubic Yard (\$)	Total Cos
	rn:

## B. Alternative Technology

Alternative Technology Selected:		
Number of Cubic Yards of Soil to	Be Remediated	
Total Non-Consulting Personnel	Costs Summary Sheet (\$)	
Total Remediation Materials Cos	its Summary Sheet (\$)	
Total Cost of the System		

## Remediation and Disposal Costs Form

## C. Groundwater Remediation and/or Free Product Removal System

Total Non-Consulting Personnel Costs Summary Sheet (\$)	
Total Remediation Materials Costs Summary Sheet (\$)	
Total Cost of the System	

## D. Groundwater and/or Free Product Removal and Disposal

☐ Subpart H minimum payment amount applies.

Number of Gallons	Cost per Gailon (\$)	Total Cost (\$)

### E. Drum Disposal

Subpart H minimum payment amount applies.

Number of Drums of Solid Waste	Cost per Drum (\$)	Total Cost (\$)
5	297.77	1,488.85
Number of Drums of Liquid Waste	Cost per Drum (\$)	Total Cost (\$)
1	15.75	15.75
Total Drum Disposal Costs		1,504.60

	<del>,</del>
Total Remediation and Disposal Costs:	]
Total Nemediation and Disposal Custs.	l \$1,504.60 l

# **Consulting Personnel Costs Form**

Employee Nam	е	Personnel Title	Hours	Rate* (\$)	Total Cost
Remediation Category		Task			
	······································	T	<del></del>	1	
Scott Beasley		Professional Engineer (Sr.)	10.00	141.76	\$1,417.60
Stage 2-Plan	Stage 2 Plan Re	view, Stage 2 Budget Review, Rein	nbursement Cla	ims	
Karen Dixon		Senior Project Manager	67.50	109.05	\$7,360.88
Stage 2-Plan	PM Reporting, S	itage 2 Plan, Stage 2 Budget, Site li		<u> </u>	
Karen Dixon		Geologist III	9.50	95.96	\$911.62
Stage 2-Field	Drilling, GW San	npling	3.30	93.90	9511.02
		1		· · · · · · · · · · · · · · · · · · ·	
Karen Dixon		Senior Acct, Technician	15.00	59.98	\$899.70
Stage 2- <del>Budget</del> Pa <b>y</b>	Reimbursement	Claim		·	
Karen Dixon		Senior Draftperson/CAD	8.75	65.43	\$572.51
Stage 2-Plan	Drafting		·		
David Mannia		Senior Scientist	26.75	92.69	\$2,479.46
Stage 2-Plan	IEPA Correspond	dence, Stage 2 Plan		!	
	-	Control Dark (227			
David Mannia		Senior Draftperson/CAD	1.50	65.43	\$98.14
Stage 2-Plan	Drafting				
Matt Kaufman		Geologist I	48.25	76.33	\$3,682.92
Stage 2-Field Drilling, Survey of		f MWs, GW Sampling, Boring Logs	, Data Entry	<b></b>	
Matt Kaufman		Draftperson/CAD I	21.00	43.62	\$916.02
Stage 2-Results	Drafting		21.00	45.02	4910.02

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Employee Name		Personnel Title	Hours	Rate* (\$)	Total Cost
Remediation Category	Task				
<del></del>		<del></del>		·-·-	<del></del>
Logan Williams	-	Account Technician I	6.75	38.17	\$257.65
Stage 1-Pay	Reimbursement	Claim			
		T		· · · · · · · · · · · · · · · · · · ·	<del></del>
Matt Kaufman		Account Technician I	10.00	38.17	\$381.70
Stage 2-Pay	Reimbursement	Claim	<u>-</u>		
	•				
				· ,	
	·····		<u></u>		
t:		<del></del>			
-					
	1		·		
		7.7.7			
	<u> </u>				

<sup>\*</sup>Refer to the applicable Maximum Payment Amounts document.

Total of Consulting Personnel Costs	\$18,978.20

# **Consultant's Materials Costs Form**

Materials, Equipmen	t, or Field Purchase	Time or Amount Used	Rate (\$)	Unit	Total Cost
Remediation Category		Description/Justification			
Survey Equipment	-	1.00	65.00	day	\$65.00
Stage 2-Field	Survey TOC of Monitor	ing Wells	-		
Interface Probe		1.00	75.00	day	\$75.00
Stage 2-Field	Groundwater Sampling				
Vehicle		1.00	200.00	day	\$200.00
Stage 2-Field	Drilling				
Stake Bed Truck		1.00	275.00	day	\$275.00
Stage 2-Field	Groundwater Sampling				
Nitrile Gloves		2.50	25.00	day	\$62.50
Stage 2-Field	Groundwater Sampling				
Disposable Bailer		13.00	13.00	each	\$169.00
Stage 2-Field	Groundwater Sampling				
Rope		1.00	5.00	each	\$5.00
Stage 2-Field	Groundwater Sampling				
Per Diem		1.00	45.00	day	\$45.00
Stage 2-Field	Per Diem				
Hotel		1.00	116.48	day	\$116.48
Stage 2-Field	Hotel			<u>-</u>	

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Materials, Equipment,	or Field Purchase	Time or Amount Used	Rate (\$)	Unit	Total Cost
Remediation Category		Description/	Justification		
PID		1.00	110.00	day	\$110.00
	<del></del>				
			l		
		<u> </u>		1	
	· · · · · · · · · · · · · · · · · · ·				
· · · · · · · · · · · · · · · · · · ·					
		<del></del>	<del></del>		
:	· · · · · · · · · · · · · · · · · · ·				

\$1,122.98	Total of Consultant Materials Costs	\$1,122.98
------------	-------------------------------------	------------

## Electronic Filing: Received, Clerk's Office of 2017-084) R. 126

#### Benanti, Trent

From:

Benanti, Trent

Sent: To: Thursday, January 21, 2016 2:51 PM Karen Dixon (kdixon@ersinc.net) Leaking UST Incident #923441

Subject:

Re: LPC #1430655263 - Peoria County

Peoria/Illico, Inc. 3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

Ms. Dixon:

I am currently reviewing the actual costs budget for the Stage 2 site investigation and noticed that it does not contain the Owner/Operator and Licensed Professional Engineer/Geologist Budget Certification Form. Please email the Owner/Operator and Licensed Professional Engineer/Geologist Budget Certification Form to me by 01/28/2016. Thanks.

#### Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

E-mail: trent.benanti@illinois.gov

IEPA-DIVISION OF RECORDS MANAGEMENT

MAR 0 1 2016

REVIEWER: EMI

## Electronic Filing: Received, Clerk's Office 3/28/2017-084) R. 127

#### Benanti, Trent

From:

Karen Dixon <kdixon@ersinc.net>

Sent:

Wednesday, January 27, 2016 9:26 AM

To:

Benanti, Trent

Subject:

RE: Leaking UST Incident #923441

Attachments:

2093 cert.pdf

#### Good Morning,

Attached is the requested Owner/Operator and Licensed Professional Engineer/Geologist Budget Certification. Please let me know if you need anything else.

Thank you,

Karen

From: Benanti, Trent [mailto:Trent.Benanti@Illinois.gov]

Sent: Thursday, January 21, 2016 1:51 PM

To: Karen Dixon

Subject: Leaking UST Incident #923441

Re: LPC #1430655263 – Peoria County

Peoria/Illico, Inc.

3712 N. University St. -

Leaking UST Incident #923441 Leaking UST Technical File

#### Ms. Dixon:

I am currently reviewing the actual costs budget for the Stage 2 site investigation and noticed that it does not contain the Owner/Operator and Licensed Professional Engineer/Geologist Budget Certification Form. Please email the Owner/Operator and Licensed Professional Engineer/Geologist Budget Certification Form to me by 01/28/2016. Thanks.

#### Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA - Leaking UST Section

Phone: (217) 524-4649

E-mail: trent.benanti@illinois.gov

# 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 <a href="mailto:g23441">g23441</a> . I further certify that the costs set forth in this budget are for necessary activities and are reasonable and accurate to the best of my knowledge and belief. I also certify that the costs included in this budget are not for corrective action in excess of the minimum requirements of 415 ILCS 5/57, no costs are included in this budget that are not described in the corrective action plan, and no costs exceed Subpart H: Maximum Payment Amounts, Appendix D Sample Handling and Analysis amounts, and Appendix E Personnel Titles and Rates of 35 III. Adm. Code 732 or 734. I further certify that costs ineligible for payment from the Fund pursuant to 35 III. 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: The Premcor Refining Group Inc.
Authorized Representative: Timothy Mauntel, P.E., R.G.  Title: Manager Environmental Liabilities
Signature:   matter / 26//6
Subscribed and sworn to before me the 20 day of January . 2010
DEANNA R. HALL My Commission Expires April 10, 2018 Franklin County
In addition, I certify under penalty of law that all activities that are the subject of the budget, of 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 prepared under my supervision; that, to the best of my knowledge and belief, the work described to the plan, budget, or report has been completed in accordance with the Environmental Protection Act [415 ILCS 5735 III. Adm. Code 732 or 734, and generally accepted standards and practices of my profession; and that the information presented accurate and complete. I am aware there are significant penalties for submitting false statements of 20 and 57.17 of the Environmental Protection Act [415 ILCS 5/44 and 57.17].  L.P.E./L.P.G.: Scott Beasley, P/E.  L.P.E./L.P.G. Seal:
L.P.E./L.P.G. Scott Beasley, P/E.  L.P.E./L.P.G. Seal:
L.P.E./L.P.G. Signature: Date: 1/26/14
Subscribed and sworn to before me the 20 May of Seal:  (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 to 18 the delay of the control of t
autilium.

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The Premcor Refining Group, Inc. Incident # 923441



**STAGE 3 SITE INVESTIGATION** PLAN AND BUDGET

RECEIVED

OCT 06 2015

ILLICO INDEPENDENT OIL CO. **3712 NORTH UNIVERSITY STREET** PEORIA, ILLINOIS 61614 **PEORIA COUNTY LUST INCIDENT # 923441** LPC # 1430655263

IEPA/BOL

Prepared for:

#### ILLICO INDPENDENT OIL CO.

**David Golwitzer** 2201 Woodlawn Rd. Suite 600 Lincoln, Illinois 62656

Prepared by:

MARLIN ENVIRONMENTAL, INC. Springfield, IL 62711

RELEASA SIE

FEB 09 2016

October 6, 2015

REVIEWER: EMI

Jeff R. Wienhoff.

Senior Professional Engineer

**Project Manager** 

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1. IEPA Stage 3 Proposed Site Investigation Budget Documents and OSFM Eligibility Form

IEPA-DIVISION OF RECORDS MANAGEMENT

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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 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 5/57.17). This form has been approved by the Forms Management Center.

#### Illinois Environmental Protection Agency Leaking Underground Storage Tank Program **SITE INVESTIGATION PLAN**

A.	Sit	te Id	entificati	o <b>n</b>								
	ΙΕ	MA	Incident #	! (6 digit):	9234	41	I	EPA LPC	# (10 digit): _	1430655263	, , , , , , , , , , , , , , , , , , ,	_
	Site Name: Illico Independent Oil Co.											
	Sit	e Ac	dress (No	ot a P.O. Bo	ox):	3712 Ur	niversity S	Street				_
									Zip Code:		' i	_
				chnical Fil		-			•		1	-
В.	Sit	te In	formatio	n							:	
	1.			er or opera ound Storag			sement fro	om		Yes 🔯	No 🗀	
	2.	If y	es, is the	budget atta	ched?					Yes 🛚	No 🗌	
C.	Sit	e In	vestigatio	n Results							,	
	Pro	ovide	e the follo	wing:							!	
	1.	a.	ge of inve Stage 2 Stage 3	estigation	į					R	EC	EIVEI
	2.	Su	mmary of	Stage 1	] or 2 🔀	or 3	site inve	estigation a	activities;	-		0 6 2015
		dis	plays the		ect parce				d by Illico, Inc. e surrounding la as station prope			
	A release was reported to the Illinois Emergency Management Agency (IEMA) on December 2, 1992 and received Leaking Underground Storage Tank (LUST) incident number 923441 concerning this overfill incident. On July 24, 2015, Illico Incorporated and Premcor reached a settlement on multiple properties the Premcor had previously taken the responsibility of conducting the environmental investigative work. Illico Incorporated has taken over the control and responsibility of this site's environmental and corrective actions.						1					
		Acc	OT constr	the 45 Duction acti	ivities at	the inte	rsection	of War Me	cident #923441 emorial Drive a coline, kerosene	and North U	niversity	,
		Mu	ltiple stag		stigation v	_		•	Engineering Sci ase review the			

reports from Parsons and ERS.

#### Stage 2 Site Investigation

Prior to Marlin Environmental, Inc. involvement with the Illico property, ERS performed a Stage Received on 2 site investigation. The results of the investigation are available in the Stage 2 Site Investigation Results Report that was submitted to the IEPA on October 2, 2015.

10/05.

In August of 2015 Marlin Environmental, Inc. was retained by Illico to address the 923441 Based on the results of the ERS Stage 2 Site Investigation, soil and groundwater contamination lacked delineation off-site. Based upon the results of the Stage 2 Site Investigation, a Stage 3 Site Investigation is necessary to define and properly delineate the extent of soil and groundwater contamination and evaluate potential preferential contaminant migration pathways.

- 3. Characteristics of the site and the surrounding area:
  - a. Current and projected post-remediation uses;

The investigation site is a current station located at 3712 University Street in Peoria, Peoria County, Illinois. Figure 1 illustrates the surrounding land usage. The surrounding properties are primarily commercial and residential to the north, residential to the east and commercial to the south and west.

- b. Physical setting:
  - i. Environmental conditions;

Please refer to the October 2015 Stage 2 Site Investigation Results Report submitted by

ii. Geologic, hydrogeologic, and hydrologic conditions; and

The site surface is a mix of concrete and grass areas. According to previous boring logs the site subsurface consists generally of silty clay. Saturated soil conditions were <u>8.5'</u> observed at approximately 4' to 8' feet bgs in the soil borings while drilling.

iii. Geographic and topographic conditions;

The property is located at 3712 North University Street in Peoria, Peoria County, Illinois. The site is currently an active filling station. Geographically the site is located in the NE 1/4 of Section 29, Township 9 North, Range 8 East in Peoria County.

- 4. Results of Stage 1 or 2 site investigation:
  - a. Map(s) showing locations of borings and groundwater monitoring wells completed to date and groundwater flow direction;

Please refer to Figures 2.

b. Map(s) showing locations of samples collected;

Please refer to Figure 2.

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c. Map(s) showing extents of soil and groundwater contamination that exceeds the most stringent Tier 1 remediation objectives;

Figure 2 displays the sampling locations that are above the Tier 1 Remediation Objectives. A map displaying the extent of the soil and groundwater contamination plume limits above the Tier 1 Remediation Objectives will be prepared once the plume limits have been defined.

d. Cross-section(s) showing the geology and the horizontal and vertical extents of soil and groundwater contamination that exceeds the most stringent Tier 1 remediation objectives;

Not applicable, the lateral and vertical extents of contaminants have not yet been defined!

e. Analytical results, chain of custody forms, and laboratory certifications;

Please refer to the previously submitted reports.

f. Table(s) comparing analytical results to the most stringent Tier 1 remediation objectives (include sample depth, date collected, and detection limits);

Please refer to the previously submitted reports. Table 1, Table 2, Table 3, and Table 4

- g. Potable water supply well survey (unless provided in previous plan):
  - i. Map(s) to scale showing:
    - a) Locations of community water supply wells and other potable wells and the setback zone for each well;
    - b) Location and extent of regulated recharge areas and wellhead protection areas;
    - c) Extent of groundwater contamination exceeding the most stringent Tier 1 remediation objectives; and
    - d) Modeled extent of groundwater contamination exceeding the most stringent Tier 1 remediation objectives (if performed as part of site investigation);
  - ii. Table(s) listing the setback zones for each community water supply well and other potable water supply wells;
  - iii. 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
  - iv. 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;

Please refer to the potable well search provided in the February 2012 Stage 2 Site Investigation Plan and will be updated in the SICR.

h. Soil boring logs and monitoring well construction diagrams;

Please refer to the previously submitted reports.

- i. Proposal for determining the following parameters:
  - i. Hydraulic conductivity (K);

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- ii. Soil bulk density (ρ<sub>b</sub>);
- iii. Soil particle density (ρ<sub>s</sub>);
- iv. Moisture content (w); and
- v. Organic carbon content  $(f_{\infty})$ ; and

On August 8, 2012, soil boring SB-26 was advanced for the purpose of collecting site specific geotechnical information. The soil sample was analyzed for hydraulic conductivity, soil bulk density, soil particle density, soil porosity, soil classification and moisture content. An FOC sample was never collected. The results were submitted to the IEPA in a previous report. The laboratory analysis yielded the following chemical and physical parameter results:

Chemical & Physical Soil Parameters									
Sample ID	Fraction of Organic Carbon $(f_{\infty})$	Moisture Content (w)	Soil Dry Bulk Density (\rho_b)	Soil Particle Density (\rho_s)					
SB-26 (2'-6')	TBD	19 %	1.684 g/cm <sup>3</sup>	2.702 g/cm <sup>3</sup>					

105.18 pcf =

An ex-situ hydraulic conductivity test was performed on SB-26 (2'-6'). The results of the test indicated that the hydraulic conductivity of the subsurface soil materials beneath the site is 5.70 x 10<sup>-5</sup> centimeters per second (cm/sec). The in-situ hydraulic conductivity will be determined through a bail-down slug test during the proposed Stage 3 Site Investigation Activities.

- j. Budget forms of actual costs (documenting actual work performed during the previous stage) N/A
- 5. Stage 3 sampling plan:
  - a. Description of and justification for additional activities proposed as part of the plan;

The extent of soil and groundwater contamination was not defined to the most stringent IEPA TACO Tier 1 Remediation Objectives at the conclusion of Stage 2 Site Investigation activities. It appears that soil and groundwater contamination extends off-site thus necessitating the performance of a Stage 3 Site Investigation. Pursuant to 35 IAC 734.325(a), the goal of this proposed Stage 3 Site Investigation is to define the lateral extents of soil and groundwater contamination by soil sampling three (3) soil borings and converting the borings into groundwater monitoring wells to a proposed depth of fifteen (15) feet bgs to define the extent of soil and groundwater contamination off-site. Soil sampling will be performed an all three wells. One additional soil boring will be advanced at the SB-26 location at a depth of 2'-6' for the purpose of collecting a foc sample.

Soil samples will be collected at appropriate depths from the three (3) monitoring well soil borings to define the extent of soil contamination based upon the results of the soil sampling and other investigation activities conducted to date pursuant to 35 IAC 734.325(a)(1). Soil samples will be collected at a minimum of five foot intervals, resulting in the collection of two (2) samples between the surface and the apparent groundwater interface while drilling. It is anticipated that six (6) soil samples will be collected and analyzed for BTEX and PNA constituents to define the extents of soil contamination. While on-site a slug test will be performed on a select on-site monitoring well.

Following gauging of the entire monitoring well network and purging of the newly installed monitoring wells, groundwater samples will be collected from the newly installed monitoring wells pursuant to 35 IAC 734.325(a)(2). The groundwater samples will be analyzed for BTEX and PNA constituents. The field and trip blanks will be analyzed for BTEX only.

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The Stage 3 groundwater subsurface investigation will be conducted to help characterize the extent of the indicator contaminants that exceed the most stringent IEPA TACO Tier 1 Remediation Objectives (ROs) of 35 IAC 742 including, but not limited to, the following:

- A) The contaminated media;
- B) The three-dimensional configuration of the indicator contaminants, with concentrations delineated; and
- C) The nature, direction, and rate of movement of the indicator contaminants;

#### **Drilling Methods**

A dual capability (direct-push for soil borings and hollow stem augers for monitoring well installation) combination rig will be used for the soil boring and subsequent monitoring well installation tasks.

#### Soil Boring/Monitoring Well Placement

The Stage 3 subsurface investigation will be performed in an effort to determine the presence and extent of soil and groundwater contamination exceeding the most stringent IEPA TACO Tier 1 ROs. The locations of the proposed Stage 3 monitoring well soil borings were selected for the following reasons:

- To help assess soil and groundwater conditions at locations likely to detect petroleum hydrocarbon impact in the on-site property.
- To help determine the extent of contamination exceeding the IEPA TACO Tier 1 ROs.

The proposed soil boring/monitoring well locations and depths are based upon the results of the previous investigations, knowledge of the apparent groundwater, previous soil boring logs indicating signs of contamination and the current property boundaries. The proposed monitoring well soil boring locations are presented on **Figure 2**.

#### Soil Sampling

Soil samples will be collected at continuous depth intervals during the advancement of each boring. After each section of soil sample recovery, the macro-core sampler will be removed from the borehole and the acetate sample liner extracted from the sampling tool. The liner will then be cut open to reveal the undisturbed soil sample for inspection and sampling.

Non-disposable sampling tools will be thoroughly cleansed with a non-phosphate detergent wash and distilled water rinse between each sampling event to help prevent possible cross-contamination. A new acetate spoon liner will be used for each sample collection interval. Disposable latex sampling gloves will be worn during the sampling procedures to help safeguard against potential cross-contamination.

Representative soil samples from each interval will be placed into Ziplock baggies and sealed. The soil within the bags will then be broken up to help increase the surface area for volatilization. The bag samples will be allowed to warm to ambient outdoor temperature for approximately one-half hour. The probe tip of a field portable photoionization detector (PID) will be inserted through the seal of the bag to measure the concentration of volatile organic vapors within the headspace of the bag (headspace screening method). The organic hydrocarbon vapors will be measured and recorded in PID meter units or equivalent parts-permillion (ppm) concentrations. The detection limit of the PID is one-ppm meter unit.

Electronic Filing: Received, Clerk's Office of 2017-084) R., 136 Additional portions of soil from selected depth intervals will be collected from the acetate sample liners and placed into laboratory provided jars. The samples will be labeled, properly preserved, stored in a cooler, and kept at a temperature of approximately four degrees centigrade to await possible analytical testing procedures.

#### Monitoring Well Installation

Marlin Environmental, Inc. will mobilize to the site with a professional crew and an auger rig for well installation. The monitoring wells will be constructed with an 8 ½ inch hollow-stem auger using two-inch diameter Polyvinyl Chloride (PVC) flush-threaded screen (0.010-inch slot) and solid PVC casing. The bottom of the screened interval will be capped with a threaded PVC bottom cap, and the top of the solid casing will be closed with a two-inch diameter lockable expansion plug-type cap.

Clean, inert, and appropriately sized filter sand will be placed in the borehole annular space to approximately one to two feet above the top of the screened interval. A bentonite chip seal will be placed above the sand layer in the annular space of the borehole to a point just below the surface. A flush mounted well box with a bolt down cover will be installed into concrete surrounding the top of the well.

The IEPA Monitoring Well Construction Diagram forms will be completed for the wells and will be included in the SICR on forms prescribed and provided by the Agency and, if specified by the Agency in writing, in an electronic format.

The monitoring wells will be properly closed and abandoned pursuant to the regulations promulgated by the Illinois Department of Public Health in IAC 920.120 once their existence is no longer needed by the site owner.

#### Well Materials

The wells shall be constructed in a manner that will enable the collection of a representative groundwater sample. The wells shall be cased in a manner that maintains the integrity of the borehole. Casing material shall be inert so as not to affect the water sample. Casing requiring solvent-cement type couplings will not be used. Two-inch PVC casing and well screen materials will be used since they are inert to the petroleum products present at the site, and they will maintain the integrity of the borehole. The wells will be constructed of PVC material for the following reasons:

- PVC has been shown to be an inert material in the presence of aromatic hydrocarbon compounds.
- PVC wells are relatively durable, and typically extend for the life of the project.
- PVC is cost-effective and readily available.

Flush threaded couplings will be used so that no solvent-cements will be needed. The monitoring wells will be screened to allow sampling only at the desired interval. The annular space between the borehole wall and the PVC well screen sections will be packed with clean, well rounded and uniformed sized silica sand to a level one to two feet above the top of the screened interval. Well screens of factory manufactured 0.010-inch slots will be used to help avoid clogging by the material in the zone being monitored. The PVC screens have been shown to be an inert material with respect to the constituents of the groundwater to be sampled.

The annular space in the borehole, above the well screen sections and above the sand pack, will be sealed with bentonite chips to near ground surface. This bentonite material is relatively impermeable, expandable, and does not react with or in any way affect the samples from the well. This seal will help prevent possible contamination of groundwater samples and the groundwater regime from interconnection with the surface.

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The surface expression of the wells will be constructed of concrete, which will be formed and mounded above the surface and sloped away from the casing to divert any surface water away from the well. The wells will be equipped with an expandable casing plug. The location of the wells shall be clearly marked and a flush-mounted steel protective cover will be emplaced in the concrete to protect against tampering and damage from vehicular traffic or other activities associated with expected site use.

#### Screen Depth

So as to provide the greatest likelihood of detecting migration of groundwater contamination from this LUST, Marlin Environmental, Inc. proposes to install approximately 15-foot monitoring wells. The wells shall be screened to allow sampling only at the desired interval intercepting the groundwater zone, while drilling. Ten (10) feet of screened interval will allow for fluctuations in the perched groundwater level and allow for the collection of representative groundwater samples from the saturated unit most conducive to the potential migration of contaminants from the LUST source.

#### Well Development

The wells shall be developed to allow free entry of groundwater, minimize turbidity of the sample, and minimize clogging. Development procedures will consist of removing several well volumes using a disposable HDPE purge bailer and nylon cord.

By purging the water quickly, the bailer will create a surge effect on the sand pack of the wells that will allow for the free interconnection of water between the sand pack and the saturated formation. Purge water will be disposed of properly.

# Well Configuration & Determination of Groundwater Elevation, Flow Direction and Gradient

The proposed well configuration illustrated on Figure 2 will provide the greatest likelihood of detecting the migration of groundwater contamination and assess the rate and degree of the off-site groundwater impaction. The screened interval will measure water quality within the geologic units that are most conducive to contaminant migration away from the LUST source.

An arbitrary benchmark will be established on a stable site feature. The top of well casing, protective cover and general ground elevations will be measured for each well in relation to the arbitrary benchmark of 100.00 feet. Prior to groundwater sampling, static water elevations will be measured using a depth to water meter. Groundwater elevation in each monitoring well will be determined and recorded to establish the gradient of the groundwater. The data collected will be analyzed to determine the direction of groundwater flow. The elevation measurements will be recorded on the monitoring well construction logs as well as being presented in a data table within the *Site Investigation Completion Report (SICR)*.

#### Cross-Contamination

Materials will be prepared and kept clean prior to use in the construction of the monitoring well. Clean gloves will be worn during work activities. The hollow stem augers behave like temporary casing to help prevent cross-contamination during well installation. The hollow stem auger technique maintains the integrity of the borehole and allows the well to be constructed inside of the auger, away from the native soils. As the well is constructed, the augers are slowly extracted from the borehole, which allows the well to be set without the risk of cross-contamination from different soil sequences in the boring.

Non-disposable tools and equipment will be thoroughly steam cleaned or cleansed between each event using a non-phosphate detergent wash and clean water rinse to help prevent cross-

Electronic Filing: Received, Clerk's Office 3/28/2017 2017-084) R. 138 contamination.

Soil cuttings will be placed into labeled 55-gallon drums for temporary storage on-site to await disposal coordination. This procedure will help prevent cross-contamination between the boreholes and help ensure that contaminated soils are segregated for proper disposal and not left on the on or off-site properties.

#### Sampling Procedures

The following activities shall be conducted in accordance with "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication No. SW-846 or other procedures as approved by the Agency:

- Field sampling activities, including but not limited to activities relative to sample collection, documentation, preparation, labeling, storage and shipment, security, quality assurance and quality control, acceptance criteria, corrective action, and decontamination procedures;
- Field measurement activities, including but not limited to activities relative to equipment and instrument operation, calibration and maintenance, corrective action, and data handling; and
- Quantitative analysis of samples to determine concentrations of indicator contaminants, including but not limited to activities relative to facilities, equipment and instrumentation, operating procedures, sample management, test methods, equipment calibration and maintenance, quality assurance and quality control, corrective action, data reduction and validation, reporting, and records management. Analyses of samples that require more exacting detection limits than, or that cannot be analyzed by standard methods identified in, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication No. SW-846, shall be conducted in accordance with analytical protocols developed in consultation with and approved by the Agency.
- The analytical methodology used for the analysis of indicator contaminants shall have a practical quantitation limit at or below the objectives or detection levels set forth in 35 IAC 742 or as determined by the Agency.
- Quantitative analyses of samples shall be conducted by a laboratory accredited for the analyzed parameters in accordance with the requirements of 35 IAC 186.
- An authorized agent of the accredited laboratory conducting the quantitative analyses shall certify that the analyses were conducted by a laboratory accredited for the analyzed parameters in accordance with 35 IAC 186. The certification shall be submitted with the results of the analyses in the applicable report.
- The owner will develop remediation objectives for applicable indicator contaminants in accordance with 35 IAC 742. If an indicator contaminant does not have a remediation objective set forth in 35 IAC 742, the Agency shall determine the remediation objective on a site-by-site basis.

Soil and groundwater samples will be collected and analyzed from the site investigation soil borings and monitoring wells in accordance with the procedures set forth in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication No. SW-846, as appropriate for the applicable indicator contaminants and methods.

Several well volumes of water will be purged from the well using a dedicated disposable bailer and nylon cord. The representative groundwater sample will then be collected and

Electronic Filing: Received, Clerk's Office 2/28/2001 2017-084) R. 139 placed directly into properly labeled laboratory approved jars. The sample jars will be placed in a cooler, on ice, for delivery to the laboratory following signed chain-of-custody protocol. Groundwater samples shall be analyzed for BTEX and PNA site indicator contaminants.

#### Indicator Contaminants

Pursuant to 35 IAC Part 734.405, the indicator contaminants for unleaded gasoline, kerosene and diesel associated with the LUST release shall be BTEX and PNA constituents. An independent, Illinois accredited environmental laboratory will analyze the samples. The laboratory analytical testing methodology will have practical quantitation limits (PQL) at or below the objectives or detection levels set forth in 35 IAC Part 742. The analytical sample results will be compared against the indicator contaminant groundwater quality standards specified in 35 IAC Part 742 to determine if there has been an exceedance.

In addition to analytical results, sampling and analytical reports will contain the following information:

- 1) Sample collection information including but not limited to the name of the sample collector, time and date of sample collection, method of collection, and monitoring location;
- 2) Sample preservation and shipment information including but not limited to field quality control:
- 3) Analytical procedures including but not limited to the method detection limits and the POLs.
- 4) Chain of custody and control; and
- 5) Field and lab blanks

#### Groundwater Sampling Cross-contamination

The monitoring wells will be purged and sampled using a disposable HDPE bailer and nylon cord. Field and laboratory blanks will be prepared for the groundwater sampling activities to help insure that cross-contamination has not occurred. The laboratory will prepare a blank sample, which will be present in the cooler during sampling and transportation activities. While in the field collecting groundwater samples, one set of jars labeled as the field blank will be prepared. The jars will be filled in the field with distilled water to simulate the groundwater sampling procedures, handling and exposure. The field and laboratory trip blank samples will be analyzed for BTEX indicator contaminants.

#### Physical Parameter Sampling

The required Tier analysis physical parameters pursuant to 35 IAC 734.410 were collected during the previous investigation activities. A foc sample will be collected during this Stage 3 Site Investigation.

b. A map depicting locations of proposed borings and groundwater monitoring wells; and

Please refer to Figure 2.

c. Depth of borings/wells and construction details of proposed borings and wells; and

Marlin Environmental, Inc. proposes to advance and install a total of three (3) soil borings/monitoring wells to a depth of approximately fifteen (15) feet bgs and one (1) soil boring to six (6) feet bgs. Please see above text for construction details of the proposed monitoring wells.

6. Site maps meeting the requirements of 35 Ill. Adm. Code 734.440. Please refer to **Figures 1** and **2**.

#### 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 Ope	ersto	or
------------------	-------	----

Name: Illico Independent Oil Co.

Contact: David Golwitzer

Address: 2201 Woodlawn Rd. Suite 600

City: Lincoln

State: <u>Illinois</u>
ZIP Code: 62656

Phone: (217) 732-4193

Signature: A / / Cell Aut

Date: 15-2-15

#### Consultant

Company: Marlin Environmental, Inc.

Contact: Joe Buhlig

Address: 3900 Wood Duck Dr. Suite F.

City: Springfield

State: <u>Illinois</u>
ZIP Code: 62711

Phone: 217<sub>5</sub>726-7569 Ext. 300

Signature: 217-726-7569 Ext. 300

Date: 10/6/15

Email

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, imprisonmental or both as provided in Sections 44 and 57.17 of the Environmental Protection Act [415 ILCS ]

OCT 06 2015

#### Licensed Professional Engineer

Name: Jeff R. Wienhoff

Company: Marlin Environmental, Inc.

Address: 3900 Wood Duck Dr. Suite F.

City: Springfield

State: Illinois

ZIP Code: 62711

Phone: (217) 726-7569 Ext. 250

Ill. Registration No.: 062-058441

License Expiration Date: 11-30-2015

Signature: 11-30-2015

L.P.E. Seal

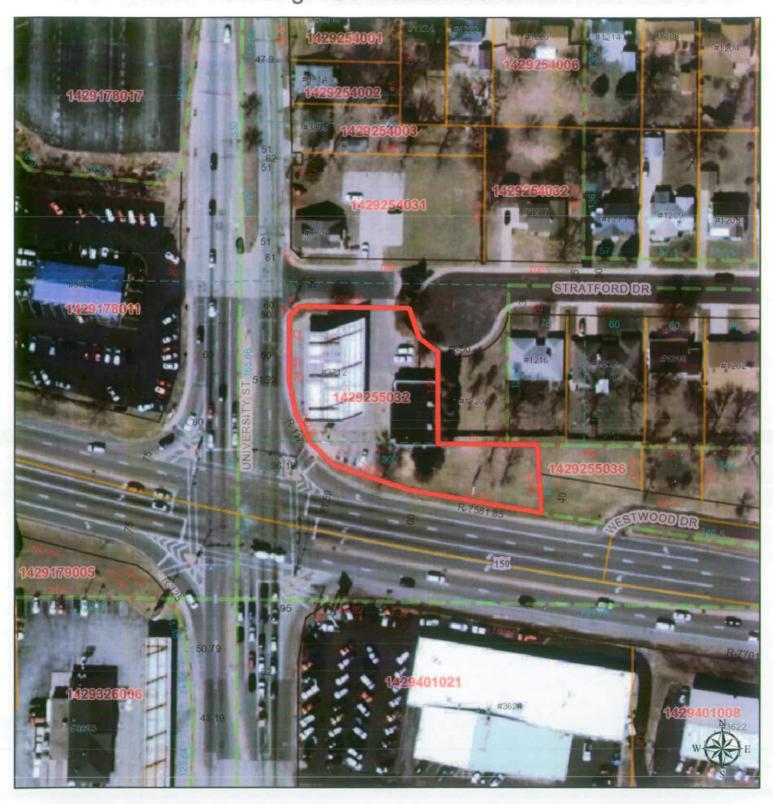
IEPA/BOL



**FIGURES** 



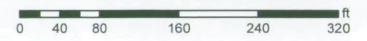
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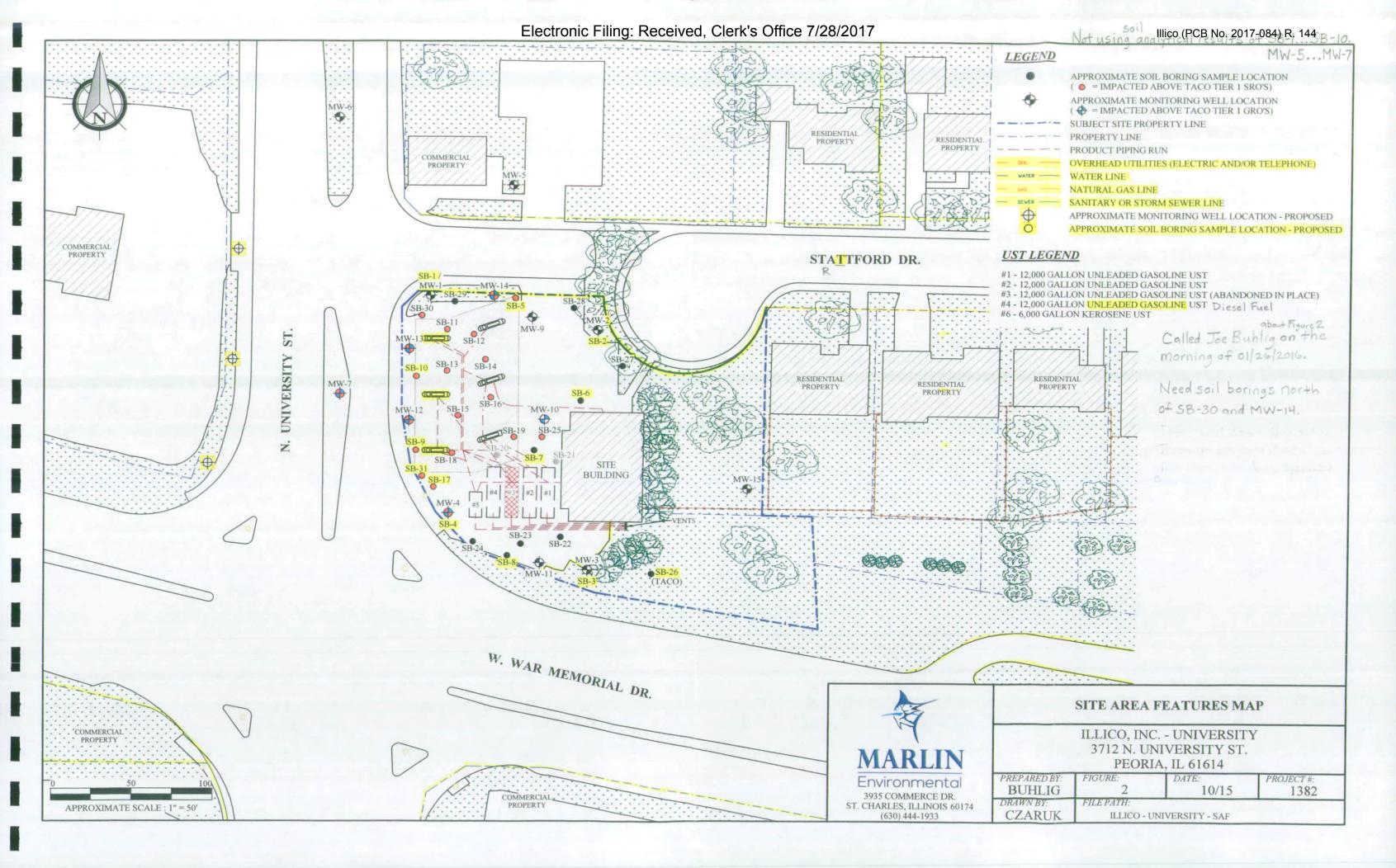


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#### 1 inch = 100 feet







**TABLES** 

Not using the analytical results Electronic Filing: Received, Clerk's Office of 28/2017013840 R. 146 MW-5... Mw

Table 1 Soil Analytical Results - BTEX Therefore, this table was not reviewed.

#### Former Clark Store #2093 3712 North University Street Peoria, Illinois 61614

Sample ID	Sample Depth (feet)	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes
SB-1	2-4	. 11/18/1999	ND<6.0	ND<6.0	ND<6.0	ND<18.0
\$B-1	6-8	11/18/1999	ND<29	ND<57	1,600	4,180
SB-2	4-6	11/18/1999	ND<5.2	ND<5.2	ND<5.2	ND<15.2
SB-3	2-4	11/18/1999	ND<6.3	ND<6.3	ND<6.3	ND<19.3
SB-3	6-8	11/18/1999	ND<5.4	ND<5.4	ND<5.4	ND<16.4
\$B-4	0-2	11/18/1999	ND<5.9	ND<5.9	ND<5.9	ND<17.9
SB-4	4-6	11/18/1999	ND<1,100	11,000	37,000	193,000
SB-5	2-4	11/18/1999	ND<63	270	400	7,700
SB-5	4-6	11/18/1999	ND<65	3,300	3,600	22,800
SB-5 Duplicate	4-6	11/18/1999	1,200	23,000	13,000	74,000
SB-6	0-4	11/22/1999	ND<6.0	ND<6.0	ND<6.0	ND<18.0
SB-6	4-8	11/22/1999	ND<5.9	ND<5.9	ND<5.9	ND<17.9
SB-7	0-4	11/22/1999	ND<6.1	ND<6.1	ND<6.1	ND<18.1
SB-7	4-8	11/22/1999	ND<6.4	ND<6.4	ND<6.4	ND<19.4
SB-8	0-4	11/22/1999	ND<6.4	ND<6.4	ND<6.4	ND<19.4
\$B-8	4-8	11/22/1999	ND<6.4	ND<6.4	ND<6.4	ND<19.4
SB-9	0-4	11/22/1999	130	ND<130	420	2,050
SB-9 Duplicate	0-4	11/22/1999	230	ND<65	390	1,780
SB-9	4-8	11/22/1999	690	58,000	57,000	370,000
SB-10	0-4	11/22/1999	7,900	83,000	42,000	182,000
SB-10	4-8	11/22/1999	1,400	16,000	7,100	35,000
MW-5	2-4	11/16/2000	ND<6.3	ND<6.3	ND<6.3	ND<19.3
MW-5	6-8	11/16/2000	ND<5.8	ND<5.8	ND<5.8	ND<17.8
MW-6	4-6	11/16/2000	ND<6.3	ND<6.3	ND<6.3	ND<19.3
MW-6	8-10	11/16/2000	ND<6.1	ND<6.1	ND<6.1	ND<18.1
MW-7	7-9	11/16/2000	13,000	160,000	92,000	420,000
Exposure Route-S	pecific Values	for Soils				
Ingestio	n - Residential		12,000	16,000,000	7,800,000	16,000,000
	n - Residential		800	650,000	400,000	320,000
Ingestion'- Co	onstruction Wo	rker	2,300,000	410,000,000	20,000,000	41,000,000
Inhalation - Co	onstruction Wo	orker	2,200	42,000	58,000	5,600
Ingestion - Inc	lustrial/Comme	rcial	100,000	410,000,000	200,000,000	410,000,000
	dustrial/Commo		1,600	650,000	400,000	320,000
Tier 1 Remediation Obj	Tier 1 Remediation Objective - Class I Groundwater				13,000	150,000
Tier 1 Remediation Obje	ective - Class II	Groundwater	170	29,000	19,000	150,000

Benzene, Toluene, Ethylbenzene and Total Xylene (BTEX) analysis conducted using United States Environmental Protection Agency (USEPA) Methods.

All results are reported in micrograms per kilogram (ug/kg), dry weight.

Tier 1 Soil Remediation Objectives per Title 35, Part 742 - Tiered Approach to Corrective Action Objectives.

ND = The constituent was not measured above the Method Detection Limit indicated.

NA = Not Applicable

Bold values exceed Tier 1 Remediation Objectives.

#### Electronic Filing: Received, Clerk's Office 3/2-8/2001 2017-084) R. 147

Table 1 Soil Analytical Results - BTEX

#### Former Clark Store #2093 3712 North University Street Peoria, Illinois 61614

Sample ID	Sample Depth (feet)	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes
SB-11	3.5-5	08/07/2012	288	ND<64.2	58.1	332
SB-11	7-8	08/07/2012	3,980	51,600	31,600	159,000
SB-12	3.5-5	08/07/2012	51.5	ND<64.2	ND<32.1	ND<96.2
SB-12	7-8	08/07/2012	629	ND<62.8	3,940	13,700
SB-13	3.5-5	08/07/2012	2,050	2,720	1,900	8,400
SB-13	6-7	08/07/2012	11,700	92,700	29,700	142,000
SB-14	3.5-5	08/07/2012	669	ND<64.8	213	249
SB-14	6-7	08/07/2012	833	ND<62.0	1,330	2,330
SB-15	3.5-5	08/07/2012	4,210	24,100	9,170	49,900
SB-15	5-6	08/07/2012	41,800	305,000	103,000	568,000
SB-16	3.5-5	08/07/2012	1,010	ND<65.9	164	156
SB-16	6-7	08/07/2012	3,700	ND<613		36,100
		The second secon		The state of the s	11,200	
SB-17	3.5-5	08/08/2012	337	ND<126	3,140	7,820
SB-17	6-7	08/08/2012	ND<1,200	3,770	130,000	574,000
SB-18	3.5-5	08/08/2012	1,190	ND<64.6	637	645
SB-18	6-7	08/08/2012	6,790	903	27,000	112,000
SB-19	3.5-5	08/08/2012	40.5	ND<65.0	ND<32.5	ND<97.5
SB-19	6-7	08/08/2012	365	ND<59.5	69.1	ND<89.3
SB-22	3.5-5	08/08/2012	ND<24.8	ND<62.0	ND<31.0	ND<93.0
SB-22	6-7	08/08/2012	ND<24.8	ND<62.0	ND<31.0	ND<93.0
SB-23	3.5-5	08/08/2012	ND<25.5	ND<63.7	ND<31.9	ND<95.6
SB-23	5-6	08/08/2012	ND<24.5	ND<61.2	ND<30.6	ND<91.8
SB-24	3.5-5	08/08/2012	ND<25.6	ND<64.1	ND<32.0	ND<96.1
SB-25	3.5-5	08/08/2012	148	ND<64.1	ND<32.1	321
SB-27	0-4	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
SB-27	4-7	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
SB-28	0-2	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
SB-28	4-6	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
SB-29	2-4	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
SB-29	4-6	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
SB-30	0-2	03/10/2015	101	7.5	126	61.6
SB-30	2-4	03/10/2015	402	ND<500	ND<500	ND<500
SB-31	2-4	03/10/2015	1,600	ND<500	9,690	24,200
SB-31	4-6	03/10/2015	16,800	27,100	243,000	
MW-9	2-4	03/10/2015				1,190,000
	4-6		ND<5.0	ND<5.0	ND<5.0	ND<5.0
MW-9	0-4	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
MW-10		03/10/2015	ND<5.0	5.7	ND<5.0	ND<5.0
MW-11	2-4	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
MW-11	4-6	03/10/2015	ND<5.0	7,1	ND<5.0	5.2
MW-12	2-4	03/10/2015	1,660	3,620	42,300	168,000
MW-12	4-6	03/10/2015	4,230	4,660	35,500	178,000
MW-13	2-4	03/10/2015	23.0	ND<5.0	8.4	16.3
MW-13	4-6	03/10/2015	347	ND<500	2,550	6,610
MW-14	2-4	03/10/2015	ND<5.0	5.9	ND<5.0	5.8
MW-14	4-6	03/10/2015	654	ND<500	9,820	44,600
MW-15	2-4	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
MW-15	4-6	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
Exposure Route	e-Specific Values					
	tion - Residential		12,000	16,000,000	7,800,000	16,000,000
	tion - Residential		800	650,000	400,000	320,000
	Construction Wo				20,000,000	
	Construction We		2,300,000	410,000,000	The second secon	41,000,000
			2,200	42,000	58,000	5,600
	Industrial/Commo		100,000	410,000,000	200,000,000	410,000,000
	Industrial/Comm		1,600	650,000	400,000	320,000
Tier 1 Remediation C			30	12,000	13,000	150,000
Tier 1 Remediation C	objective - Class I	Groundwater	170	29,000	19,000	150,000

Benzene, Toluene, Ethylbenzene and Total Xylene (BTEX) analysis conducted using United States Environmental Protection Agency (USEPA) Methods.

All results are reported in micrograms per kilogram (ug/kg), dry weight.
Tier 1 Soil Remediation Objectives per Title 35, Part 742 - Tiered Approach to Corrective Action Objectives.

ND = The constituent was not measured above the Method Detection Limit indicated.

NA = Not Applicable

Bold values exceed Tier 1 Remediation Objectives.

See 5B-31

## Electronic Filing: Received, Clerk's Office 7/28/2017

Table 2 Soil Analytical Results - PNAs

Former Clark Store #2093 **3712 North University Street** 

_					Peoria, III	inois 61614					
Spreed	e ID Saft	gge Depth Heelt 55	note take	p. of the state of	p. and the state of the state o	general general	September 18 18 18 18 18 18 18 18 18 18 18 18 18	ntodal property	De la Contraction de la Contra	Serve Serve	NATIONAL PROPERTY OF THE PROPE
\$B-1	2-4	11/18/1999	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	<b>′</b>
SB-1	6-8	11/18/1999	ND<57	ND<57	ND<57	ND<57	ND<57	ND<57	ND<57	ND<57	1
SB-2	4-6	11/18/1999	ND<52	ND<52	ND<52	ND<52	ND<52	ND<52	ND<52	ND<52	1
\$B-3	2-4	11/18/1999	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	1
SB-3	6-8	11/18/1999	ND<54	ND<54	ND<54	ND<54	ND<54	ND<54	ND<54	ND<54	1
\$B-4	0-2	11/18/1999	ND<59	ND<59	ND<59	ND<59	ND<59	ND<59	ND<59	ND<59	1
SB-4	4-6	11/18/1999	ND<810	ND<810	ND<810	ND<810	ND<810	ND<810	ND<810	ND<810	1 '
SB-5	2-4	11/18/1999	ND<150	ND<150	ND<150	ND<150	ND<150	ND<150	ND<150	ND<150	1
SB-5	4-6	11/18/1999	ND<62	ND<62	ND<62	ND<62	ND<62	ND<62	ND<62	ND<62	1
SB-5 Duplicate	4-6	11/18/1999	ND<150	ND<150	ND<150	ND<150	ND<150	ND<150	ND<150	ND<150	j
SB-6	0-4	11/22/1999	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	
\$B-6	4-8	11/22/1999	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	
\$B-7 \$B-7	0-4	11/22/1999	ND<62	ND<62	ND<62	ND<62	ND<62	ND<62	ND<62	ND<62	
SB-8	4-8	11/22/1999	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	
SB-8	0-4 4-8	11/22/1999	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	
\$B-9		11/22/1999	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63	
	0-4 0-4	11/22/1999	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63	
SB-9 Duplicate SB-9	4-8	11/22/1999 11/22/1999	ND<65 ND<61	ND<65	ND<65	ND<65	ND<65	ND<65	ND<65	ND<65	
\$B-10	0-4	11/22/1999		ND<61	ND<61	ND<61	ND<61	ND<61	ND<61	ND<61	1
\$B-10	4-8	11/22/1999	ND<270 ND<60	ND<270	ND<270	ND<270	ND<270	ND<270	ND<270	ND<270	
MW-5	2-4	11/16/2000	ND<32	ND<60 ND<32	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	1
MW-5	6-8	11/16/2000	ND<29	ND<29	ND<32	ND<32	ND<32	ND<32	ND<32	ND<32	1
MW-6	4-6	11/16/2000	ND<130	ND<130	ND<29 ND<130	ND<29 ND<130	ND<29	ND<29	ND<29	ND<29	
MW-6	8-10	11/16/2000	ND<31	ND<31	ND<31	ND<31	ND<130	ND<130	ND<130	ND<130	1
MW-7	7-9	11/16/2000	ND<860	ND<860	ND<860	ND<860	ND<31 ND<860	ND<31 ND<860	ND<31	ND<31	1
Exposure Route			145 4000	140,000	1412-000	ND<000	ND-000	ND<860	ND<860	ND<860	4
	on - Residentia		4,700,000	2,300,000	22.000.000	000		000			1
	on - Residentia		NE	2,300,000 NE	23,000,000 NE	900 NE	90 NE	900 NE	2,300,000	9,000	1
	Construction W		120,000,000	61,000,000	610,000,000	170,000	17,000	170,000	NE	NE NE	1
	Construction V		NE	NE	NE	170,000 NE	17,000 NE	170,000 NE	61,000,000	1,700,000	4
	I Groundwater		570,000	85,000	12,000,000	2,000	8,000	5,000	NE 27,000,000	NE 40.000	1
	II Groundwater		2,900,000	420,000	59,000,000	8,000	82,000	25,000	130,000,000	49,000 250,000	1
Concentrations of PNA	Chemicals in E	Background Solls	130	70	400	1,800	2,100	2,100	1,700	1,700	1
						-7			1,100	1,700	1

## Electronic Filing: Received, Clerk's Office 7/28/2017

Table 2
Soil Analytical Results - PNAs

Former Clark Store #2093 3712 North University Street

	Peoria, Illinois 61614									
	<b>.</b>	T (took)	, ste	/ /	.trrscene	, to		100 Feete	/, /	/,,
Spari	gie ID 55	andre Dody Itee	ande Date	Chrysterie Ziller	date The State of the State of	, look and the deep	FILIDARIO	and 1.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	And the state of t	Hertefettere 27 rese
SB-1	2-4	11/18/1999	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60
\$B-1	6-8	11/18/1999	ND<57	ND<57	ND<57	ND<57	ND<57	300	ND<57	ND<57
\$B-2	4-6	11/18/1999	ND<52	ND<52	ND<52	ND<52	ND<52	ND<52	ND<52	ND<52
SB-3	2-4	11/18/1999	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64
SB-3	6-8	11/18/1999	ND<54	ND<54	ND<54	ND<54	ND<54	ND<54	ND<54	ND<54
SB-4	0-2	11/18/1999	ND<59	ND<59	ND<59	ND<59	ND<59	ND<59	ND<59	ND<59
SB-4	4-6	11/18/1999	ND<810	ND<810	ND<810	ND<810	ND<810	11,000	ND<810	ND<810
SB-5 SB-5	2-4	11/18/1999	ND<150	ND<150	ND<150	ND<150	ND<150	2,100	ND<150	ND<150
	4-6 4-6	11/18/1999	ND<62	ND<62	ND<62	ND<62	ND<62	1,200	ND<62	ND<62
SB-5 Duplicate		11/18/1999	ND<150	ND<150	ND<150	ND<150	ND<150	1,400	ND<150	ND<150
SB-6 SB-6	0-4 4-8	11/22/1999	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60
SB-7	0-4	11/22/1999	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	_ND<60	ND<60
SB-7		11/22/1999	ND<62	ND<62	ND<62	ND<62	ND<62	ND<62	ND<62	ND<62
SB-8	4-8	11/22/1999	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64
	0-4	11/22/1999	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64
SB-8 SB-9	4-8	11/22/1999	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63
	0-4	11/22/1999	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63
SB-9 Duplicate	0-4	11/22/1999	ND<65	ND<65	ND<65	ND<65	ND<65	ND<65	ND<65	ND<65
SB-9	4-8	11/22/1999	ND<61	ND<61	ND<61	ND<61	ND<61	860	ND<61	ND<61
SB-10 SB-10	0-4 4-8	11/22/1999	ND<270	ND<270	ND<270	ND<270	ND<270	3,000	ND<270	ND<270
MW-5		11/22/1999	ND<60	ND<60	ND<60	ND<60	ND<60	1,200	ND<60	ND<60
MW-5	2-4 6-8	11/16/2000	ND<32	ND<32	ND<32	ND<32	ND<32	ND<32	ND<32	ND<32
MW-8	4-6	11/16/2000 11/16/2000	ND<29	ND<29	ND<29	ND<29	ND<29	ND<29	ND<29	ND<29
MW-6	8-10	11/16/2000	ND<130 ND<31	ND<130 ND<31	ND<130	ND<130	ND<130	2,400	ND<130	ND<130
MW-7	7-9	11/16/2000	ND<860	ND<860	52 ND 4000	ND<31	ND<31	ND<31	ND<31	42
Exposure Route			140,000	ND-000	ND<860	ND<860	ND<860	25,000	ND<860	ND<860
	on - Residentia		88,000	90	2 400 000	2 400 000			T	<del></del>
	ion - Residentia		NE	NE NE	3,100,000 NE	3,100,000	900	1,600,000	2,300,000	2,300,000
	Construction W		17,000,000	17,000	82,000,000	NE 82,000,000	NE 470,000	170,000	NE NE	NE
	Construction W		17,000,000 NE	17,000 NE	82,000,000 NE	82,000,000 NE	170,000	4,100,000	61,000,000	61,000,000
	I Groundwater	rvindi	160,000	2,000			NE 44.000	1,800	NE NE	NE NE
	Il Groundwater	<del></del>	800,000	7,600	4,300,000	560,000	14,000	12,000	210,000	4,200,000
Concentrations of PNA			2,700	420	21,000,000	2,800,000	69,000	18,000	1,100,000	21,000,000
CONCENTRATIONS OF FINA	Citatilicata III C	acklinging golls	2,700	420	4,100	180	1,600	200	2,500	3,000

Notes:

Polynuclear aromatic hydrocarbon (PNAs) analysis conducted using United States Environmental Protection Agency (USEPA) Methods. All results are reported in micrograms per kilogram (ug/kg), dry weight.

Tier 1 Soil Remediation Objectives per Title 35, Part 742 - Tiered Approach to Corrective Action Objectives.

ND = The constituent was not measured above the Method Detection Limit indicated.

NE = Not Established.

NA = Not Applicable

Bold values exceed Tier 1 Remediation Objectives.

# Illico (PCB No. 2017-084) R. 150

# Electronic Filing: Received, Clerk's Office 7/28/2017

Former Clark Store #2093 3712 North University Street

						inois 61614					
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		gge treet thee?	/ /	/	/ ,	/ /	STANDARD BOOK OF		Date of the state	St. Infortune Bertel	A STANDAR TOWN
		/ 100 <sup>1</sup> 1	Regio States	posterior post	no de la constante de la const	. /	ACONTO /	orted to proper to the same of	ather.	" Aler" /	atrot.
	and /	"Pate"	Dat	riting.	AND IN	STITLE STREET	NITHER !	Silve /	. or other	ika.	Service /
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/ 5		Ø / 9	, \ \	' / se	· / +		`/#	W	· / 🚜	7 2g	•
	/ 9			/ '		/ *	/ '	/ 4ª	/ **	95	
\$8-11	3.5-5	08/07/2012	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	
SB-11	7-8	08/07/2012	ND<271	ND<271	ND<271	ND<271	ND<271	ND<271	ND<271	ND<271	I
SB-12	3.5-5	08/07/2012	ND<21,4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	I
SB-12	7-8	08/07/2012	ND<69.7	ND<69.7	ND<69.7	ND<69.7	ND<69.7	ND<69.7	ND<69.7	ND<89.7	I
\$B-13	3.5-5	08/07/2012	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	I
\$B-13	6-7	08/07/2012	ND<104	ND<104	ND<104	ND<104	ND<104	ND<104	ND<104	ND<104	I
SB-14	3.5-5	08/07/2012	ND<21.6	ND<21.6	ND<21.6	ND<21.6	ND<21.6	ND<21.6	ND<21.6	ND<21.6	I
SB-14 SB-15	6-7 3.5-5	08/07/2012 08/07/2012	ND<20.7 ND<168	ND<20.7 ND<168	ND<20.7 ND<168	ND<20.7 ND<168	ND<20.7 ND<168	ND<20.7 ND<168	ND<20.7 ND<168	ND<20.7 ND<168	I
SB-15	5-6	08/07/2012	ND<261	ND<261	ND<261	ND<261	ND<261	ND<261	ND<261	ND<261	I
SB-16	3.5-5	08/07/2012	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	I
\$B-16	6-7	08/07/2012	ND<68.0	ND<68.0	ND<68.0	ND<68.0	ND<68.0	ND<68.0	ND<68.0	ND<68.0	I
\$8-17	3.5-5	08/08/2012	ND<21.0	ND<21.0	ND<21.0	ND<21.0	ND<21.0	ND<21.0	ND<21.0	ND<21.0	I
\$B-17	6-7	08/08/2012	ND<3,190	ND<3,190	ND<3,190	ND<3,190	ND<3,190	ND<3,190	ND<3,190	ND<3,190	I
SB-18 SB-18	3.5-5 6-7	08/08/2012 08/08/2012	ND<21.5 ND<207	ND<21.5 ND<207	ND<21.5 ND<207	ND<21.5 ND<207	ND<21.5 ND<207	ND<21.5 ND<207	ND<21.5 ND<207	ND<21.5 ND<207	I
SB-19	3.5-5	08/08/2012	ND<21.7	ND<21.7	ND<21.7	ND<21.7	ND<21.7	ND<21.7	ND<21.7	ND<21.7	I
SB-19	6-7	08/08/2012	43.7	ND<19.8	34.8	ND<19.8	ND<19.8	ND<19.8	ND<19.8	ND<19.8	I
SB-22	3.5-5	08/08/2012	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	I
\$B-22	6-7	08/08/2012	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	I
SB-23	3.5-5	08/08/2012	ND<21.2	ND<21.2	ND<21.2	ND<21.2	ND<21.2	ND<21.2	ND<21.2	ND<21.2	I
SB-23 SB-24	5-6 3.5-5	08/08/2012 08/08/2012	ND<20.4 ND<21.4	ND<20.4 ND<21.4	ND<20.4 ND<21.4	ND<20.4 ND<21.4	ND<20.4 ND<21.4	ND<20.4 ND<21.4	ND<20.4 ND<21.4	ND<20.4 ND<21.4	I
SB-25	3.5-5	08/08/2012	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	I
\$B-27	0-4	03/10/2015	ND<50	ND<50	ND<50	90.7	69	76	ND<50	65	I
SB-27	4-7	03/10/2015	ND<50	ND<50	ND<50	15.0	ND<15	17	ND<50	14	I
SB-28	0-2	03/10/2015	ND<50	ND<50	ND<50	328	297	312	176	271	I
SB-28	4-6	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	I
SB-29 SB-29	2-4 4-6	03/10/2015	ND<50 ND<50	ND<50 ND<50	ND<50 ND<50	14.7 ND<8.7	17 ND<15	19 ND<11	ND<50 ND<50	15 ND<11	I
SB-30	0-2	03/10/2015	ND<50	ND<50	ND<50	43.5	59	71	ND<50	46	I
SB-30	2-4	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	I
SB-31	2-4	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	I
SB-31	4-6	03/10/2015	393	ND<50	60	21.1	ND<15	ND<11	ND<50	ND<11	I
MW-9	2-4	03/10/2015	ND<50	ND<50	ND<50	39.4	41	39	ND<50	46	I
MW-9 MW-10	4-6 0-4	03/10/2015	ND<50 ND<50	ND<50 ND<50	ND<50 ND<50	ND<8.7	ND<15	ND<11 ND<11	ND<50 ND<50	ND<11 ND<11	I
MW-11	2-4	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	I
MW-11	4-6	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	I
MW-12	2-4	03/10/2015	ND<50	ND<50	ND<50	22.2	15	16	ND<50	14	I
MW-12	4-6	03/10/2015	ND<50	ND<50	ND<50	10.5	ND<15	ND<11	ND<50_	ND<11	I
MW-13	2-4	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	I
MW-13 MW-14	4-6 2-4	03/10/2015	ND<50 ND<50	ND<50 ND<50	ND<50 ND<50	ND<8.7 32.7	ND<15 35	ND<11 38	ND<50 ND<50	ND<11 40	I
MW-14	4-6	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	I
MW-15	2-4	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	I
MW-15	4-6	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	İ
	-Specific Value										I
	tion - Residentia		4,700,000	2,300,000	23,000,000	900	90	900	2,300,000	9,000	I
	tion - Residentia		NE 120,000,000	NE 61,000,000	NE 610,000,000	NE 170,000	NE 17,000	NE 170,000	NE 61,000,000	NE 1,700,000	I
	Construction W Construction V		120,000,000 NE	NE	NE	170,000 NE	17,000 NE	170,000 NE	81,000,000 NE	1,700,000 NE	İ
	Industrial/Comm		120,000,000	61,000,000	610,000,000	8,000	800	8,000	61,000,000	78,000	I
Inhalation -	Industrial/Comm	nerc <u>ial</u>	NE	NE	NE	NE	NE	NE	NE	NE	<b>!</b>
	s I Groundwater		570,000	85,000	12,000,000	2,000	8,000	5,000	27,000,000	49,000	1
	s II Groundwater	ALLES TRUE	2,900,000	420,000	59,000,000	8,000	82,000	25,000	130,000,000	250,000	1
Concentrations of PNA	Chemicals in B	sackground Solls	130	70	400	1,800	2,100	2,100	1,700	1,700	

See SB-31

Former Clark Store #2093 3712 North University Street

					Peoria, III	inois 61614					
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	ample D	"Her /	Sandle Date	. /	thrac	Audotaffende		Alban /	Magriffedure	Angel Street Str	/ /
	TOIR /	Cabi	del	Chrysene	Han	anth.	Fluorene	29	Hall	anth	Parene
/ 6	are /	-die	amil	Ch.	tole /	Mo	Em /	di.	Habi	SHerri	8
	/ 5	arrive /		Oibe			Ind			/	
	/	/		/		/	/				
SB-11	3.5-5	08/07/2012	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	89.8	ND<21.4	ND<21.4	1
SB-11	7-8	08/07/2012	ND<271	ND<271	ND<271	ND<271	ND<271	4,630	ND<271	ND<271	-
SB-12	3.5-5	08/07/2012	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	41.6	ND<21.4	ND<21.4	
SB-12	7-8	08/07/2012	ND<69.7	ND<69.7	ND<69.7	ND<69.7	ND<69.7	836	ND<69.7	ND<69.7	
SB-13	3.5-5	08/07/2012	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	396	ND<22.0	ND<22.0	7
SB-13	6-7	08/07/2012	ND<104	ND<104	ND<104	ND<104	ND<104	1,660	ND<104	ND<104	
SB-14	3.5-5	08/07/2012	ND<21.6								
SB-14	6-7	08/07/2012	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	130	ND<20.7	ND<20.7	
SB-15	3.5-5	08/07/2012	ND<168	ND<168	ND<168	ND<168	ND<168	2,150	ND<168	ND<168	
SB-15	5-6	08/07/2012	ND<261	ND<261	ND<261	ND<261	ND<261	5,340	ND<261	ND<261	4
SB-16	3.5-5	08/07/2012	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0 791	ND<22.0	ND<22.0 ND<68.0	-
SB-16 SB-17	6-7 3.5-5	08/07/2012	ND<68.0 ND<21.0	ND<68.0 ND<21.0	ND<68.0 ND<21.0	ND<68.0 ND<21.0	ND<68.0 ND<21.0	313	39.2	ND<68.0	
SB-17	6-7	08/08/2012	ND<3,190	ND<3,190	ND<3,190	ND<3,190	ND<3,190	45,300	ND<3,190	ND<3.190	
SB-18	3.5-5	08/08/2012	ND<21.5	ND<21.5	ND<21.5	ND<21.5	ND<21.5	88.9	ND<21.5	ND<21.5	
SB-18	6-7	08/08/2012	ND<207	ND<207	ND<207	ND<207	ND<207	4,160	ND<207	ND<207	
SB-19	3.5-5	08/08/2012	ND<21.7	-							
SB-19	6-7	08/08/2012	ND<19.8	ND<19.8	ND<19.8	92.1	ND<19.8	177	231	ND<19.8	
SB-22	3.5-5	08/08/2012	ND<20.7								
SB-22	6-7	08/08/2012	ND<20.7								
SB-23	3.5-5	08/08/2012	ND<21.2								
SB-23	5-6	08/08/2012	ND<20.4								
SB-24	3.5-5 3.5-5	08/08/2012 08/08/2012	ND<21.4 ND<21.4	ND<21.4 ND<21.4	ND<21.4 ND<21.4	ND<21.4 ND<21.4	ND<21.4 ND<21.4	ND<21.4 ND<21.4	ND<21.4 ND<21.4	ND<21.4 ND<21.4	
SB-25 SB-27	0-4	03/10/2015	77	ND<21.4	189	ND<50	51	ND<25	135	151	-
SB-27	4-7	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND50	
SB-28	0-2	03/10/2015	253	51	483	ND<50	188	ND<25	180	429	
SB-28	4-6	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
SB-29	2-4	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
SB-29	4-6	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
SB-30	0-2	03/10/2015	66	ND<20	87	ND<50	50	423	ND<50	86	
SB-30	2-4	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
SB-31	2-4	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	574	93 935	ND<50	-
SB-31	4-6 2-4	03/10/2015	ND<50	ND<20	65 82	432 ND<50	ND<29	20,700 ND<25	935 ND<50	149 75	
MW-9 MW-9	4-6	03/10/2015	ND<50 ND<50	ND<20 ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
MW-10	0-4	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
MW-11	2-4	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	1
MW-11	4-6	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
MW-12	2-4	03/10/2015	ND<50	ND<20	70	ND<50	ND<29	4,200	88	63	
MW-12	4-6	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	1,990	51	ND<50	
MW-13	2-4	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	4
MW-13	4-6	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	272	ND<50	ND<50	-
MW-14	2-4	03/10/2015	ND<50	ND<20	ND<50	ND<50	33 ND-20	ND<25	ND<50	ND<50	
MW-14 MW-15	4-6 2-4	03/10/2015	ND<50	ND<20 ND<20	ND<50	ND<50 ND<50	ND<29 ND<29	288 ND<25	ND<50 ND<50	ND<50 ND<50	-
MW-15	4-6	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
	te-Specific Value		140.400	146760	140.400	1467-00	140-23	1367.7660	110.500	140300	
	stion - Residentia		88,000	90	3,100,000	3,100,000	900	1,600,000	2,300,000	2,300,000	
	ation - Residenti		NE	NE	NE	NE	NE	170,000	NE	NE	
	- Construction V		17,000,000	17,000	82,000,000	82,000,000	170,000	4,100,000	61,000,000	61,000,000	
	- Construction V		NE	NE	NE	NE	NE	1,800	NE	NE	
	- Industrial/Comr		780,000	800	82,000,000	82,000,000	800	41,000,000	61,000,000	61,000,000	
	- Industrial/Com		NE	NE	NE	NE	NE	270,000	NE	NE	710 0
	ss I Groundwater		160,000	2,000	4,300,000	560,000	14,000	12,000	200,000	4,200,000	210,000
	ss II Groundwater	ankarau d 6 - U	800,000	7,600	21,000,000	2,800,000	69,000	18,000	1,000,000	21,000,000	1,100,000
	A Chemicals in E	Background Solls	2,700	420	4,100	180	1,600	200	2,500	3,000	

See SB-31

Polynuclear aromatic hydrocarbon (PNAs) analysis conducted using United States Environmental Protection Agency (USEPA) Methods

All results are reported in micrograms per kilogram (ug/kg), dry weight.

Tier 1 Soil Ramediation Objectives per Title 35, Part 742 - Tiered Approach to Corrective Action Objectives.

ND = The constituent was not measured above the Method Detection Limit indicated. NE = Not Established

NA = Not Applicable

Bold values exceed Tier 1 Remediation Objectives.

## Electronic Filing: Received, Clerk's Office 3/28/2001 2017-084) R. 152

#### Table 3 Groundwater Analytical and Elevation Summary - BTEX

Former Clark Store #2093 3712 North University Street Peoria, Illinois 61614

Well ID	Sample Date	Reference Elevation (feet)	Depth to Water (feet)	Free product Thickness (feet)	Equivalent Water Elevation (feet)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Comments
MW-1	11/22/1999	96.00	9.33		86.67	1,700	140	1,200	3,240	
/W-1 (Duplicate)	11/22/1999					1,700	150	1,200	3,350	
3. 1	11/16/2000	96.00	8.04		87.96	2,100	180	1,100	2,650	
	04/24/2001	96.00	6.54		89.46	1,700	270	1,500	2,930	
MW-1	10/03/2001	96.00	8.44		87.56	1,900	110	1,100	2,420	
	07/11/2011	96.35	7.20	- 4	89.15	664	55.3	<t1738< td=""><td>472</td><td>odor/no sheen</td></t1738<>	472	odor/no sheen
	04/23/2015	30.00	6.60		-	ble to Locate		1 2730	71.2	dourno ancen
	11/22/1999	98.29	8.55		89.74	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	11/16/2000	98.29	8.59		89.70	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	04/24/2001	98.29	6.56		91.73	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
MW-2	10/03/2001	98.29	7.42		90.87	ND<1.0	ND<1.0	ND<1.0		
	07/11/2011	98.58	6.41		0.000	ND<1.0	THE RESERVOIR	ND<1.0	ND<2.0	no adarino charino
	04/23/2015	98.58	6.58		92.17	ND<5.0	ND<1.0 ND<5.0	ND<1.0	ND<3.0 ND<5.0	no odor/no shee
	The second second	99.82	9.59		200.000		71VF******			no odor/no shee
	11/22/1999			1	90.23	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	11/16/2000	99.82	7.03	,	92.79	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
MW-3	04/24/2001	99.82	8.09	-	91.73	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	10/03/2001	99.82	8.78	1	91.04	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	07/11/2011	100.20	7.37	-	92.83	ND<1.0	ND<1.0	ND<1.0	ND<3.0	no odor/no shee
	04/23/2015	100.20	8.03		92.17	ND<5.0	ND<5.0	ND<5.0	ND<5.0	no odor/no shee
MW-4	11/22/1999	97.73	8.37	-	89.36	4,500	580	2,500	4,410	
nat 4 (Dun Proses)	11/16/2000	97,73	7.26	-	90.47	4,000	1,000	2,600	6,400	
IW-4 (Duplicate)	11/16/2000			-		4,100	980	2,700	6,100	
	04/24/2001	97.73	6.84	-	90.89	4,500	2,000	2,100	5,500	
MW-4	10/03/2001	97.73	7.56		90.17	4,900	1,000	2,400	5,800	
	07/11/2011	98.19	6.46	-	91.73	1,060	101	1,360	1,780	odor/sheen
	04/23/2015	98.19	7.33		90.86	896	66.9	2,240	1,020	odor/sheen
	11/16/2000	95.53	10.55	-	84.98	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
MW-5	04/24/2001	95.53	4.82	-	90.71	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
MAA-2	10/03/2001	95.53	7.53	-	88.00	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	07/11/2011	NA	NS	-	NS	NS	NS	NS	NS	Torontogo group group
	04/23/2015	96.00	5.52	-	90.48	ND<5.0	ND<5.0	ND<5.0	ND<5.0	no odor/no shee
	11/16/2000	95.74	10.65	-	85.09	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
MW-6	04/24/2001	95.74	8.35		87.39	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
MIVV-D	10/03/2001	95.74	10.74	-	85.00	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	07/11/2011	96.27	8.71		87.56	ND<1.0	ND<1.0	ND<1.0	ND<3.0	no odor/no shee
	04/23/2015	96.27	9.48		86.79	ND<5.0	ND<5.0	ND<5.0	ND<5.0	no odor/no shee
	11/16/2000	97.27	11.73		85.54	39,000	140,000	37,000	170,000	
MIN T	04/24/2001	97.27	9.79	-	87.48	26,000	43,000	5,000	23,400	
MW-7	10/03/2001	97.27	NA	-	NA	19,000	34,000	5,200	26,400	
	07/11/2011	97.62	9.75	0.60	88.32	NS	NS	NS	NS	free product
1811.0	04/23/2015	97.62	10.90	-	86.72	14,500	24,300	3,680	16,700	odor/sheen
MW-9	04/23/2015	97.88	6.10	-	91.78	ND<5.0	ND<5.0	ND<5.0	ND<5.0	no odor/no shee
MW-10	04/23/2015	98.94	7.03	-	91.91	126	ND<5.0	ND<5.0	ND<5.0	odor/sheen
MW-11	04/23/2015	99.72	7.76	-	91.96	ND<5.0	ND<5.0	ND<5.0	ND<5.0	odor/no sheer
MW-12	04/23/2015	97.05	6.35		90.70	307	189	220	977	odor/no sheen
MW-13	04/23/2015	96.73	6.11	-	90.62	10,200	9,900	2,530	10,200	odor/no sheer
MW-14	04/23/2015	97.52	5.97		91.55	386	27.4	315	1,250	odor/no sheer
MW-15	04/23/2015	100.39	6.67	-	93.72	ND<5.0	ND<5.0	ND<5.0	ND<5.0	no odor/no shee
		ediation Object								
Tie	r 1 Remediation	on Objectives -	Class I Groun	ndwater (ug/l)		5	1,000	700	10,000	
	A Phone Marks	- Ohlaskins	Olean II Oses	ndwater (ug/l)		25	2,500	1,000	10,000	

All results are reported in micrograms per liter (ug/L).

Analyses conducted using United States Environmental Protection Agency (USEPA) Methods.

Reference elevation based on temporary benchmark with an assigned elevation of 100.00 feet.

Equivalent Water elevation = Reference Elevation - Depth to Water + (0.75 X Product Thickness).

ND = Analyte not detected at or above the reporting limit.
NA = Not Available.
Comments based on field observations.

Tier 1 Groundwater Remediation Objectives per Title 35, Part 742 - Tiered Approach to Corrective Action Objectives.

Bold values exceed Tier 1 Remediation Objectives.
Samples prior to 2011 collected by Parsons Engineering Science, Inc.

# Electronic Filing: Received, Clerk's Office 7/28/2017

Table 4 Groundwater Analytical Results - PNAs

> Former Clark Store #2093 3712 North University Street Peoria, Illinois 61614

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WellID	Sami	e Date	Act Los	naghthylere b	Sert Sert	de la factuarité de la Constitution de la Constitut	Total present Bento	Dafter of British Barrie	Jah. Ingerhere
MW-1	11/22/1999	ND<2.0	1.8	ND<0.085	ND<0.061	ND<0.061	ND<0.061	ND<0.085	ND<0.037
W-1 (Duplicate)	11/22/1999	ND<32	ND<28	ND<1.4	ND<1.0	ND<1.0	ND<1.0	ND<1.4	ND<0.60
	11/16/2000	ND<1.2	ND<1.3	ND<0.067	ND<0.053	ND<0.050	ND<0.047	ND<0.040	ND<0.023
	04/24/2001	0.12	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
MW-1	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
1	07/11/2011	ND<2.4	ND<2.4	ND<2.4	ND<2.4	ND<2.4	ND<2.4	ND<2.4	ND<2.4
	04/23/2015	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/1999	ND<2.2	ND<1,9	ND<0.097	ND<0.069	ND<0.069	ND<0.069	ND<0.097	ND<0.042
-	11/16/2000	ND<1.2	ND<1.3	ND<0.067	ND<0.053	ND<0.050	ND<0.047	ND<0.040	ND<0.023
MW-2	04/24/2001	NS	NS	NS	NS	NS	NS	NS	NS
	10/03/2001	ND<0.047	NS ND<0.047	NS ND<0.047	NS ND<0.047	NS NS	NS NS	NS NS	NS NS
+	04/23/2015	ND<10	ND<10	ND<5	ND<0.047	ND<0.047 ND<0.2	ND<0.047	ND<0.047	ND<0.047
	11/22/1999	ND<1.6	ND<1.4	ND<0.070	ND<0.13	ND<0.2	ND<0.18 ND<0.050	ND<0.4	ND<0.17
-	11/16/2000	ND<1.2	ND<1.3	ND<0.067	ND<0.053	ND<0.050	ND<0.047	ND<0.040	ND<0.030
	04/24/2001	NS	NS NS	NS	NS NS	NS	NS NS	NS	NS NS
MW-3	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
1	07/11/2011	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047
	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
*****	11/22/1999	ND<32	ND<28	ND<1.4	ND<1.0	ND<1.0	ND<1.0	ND<1.4	ND<0.60
MW-4	11/16/2000	ND<24	ND<26	ND<1.3	ND<1.1	ND<1.0	ND<0.94	ND<0.80	ND<0.46
W-4 (Duplicate)	11/16/2000	ND<24	ND<26	ND<1.3	ND<1.1	ND<1.0	ND<0.94	ND<0.80	ND<0.46
- Teophioato	04/24/2001	0.41	0.075	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
MW-4	07/11/2011	ND<47.2	ND<47.2	ND<47.2	ND<47.2	ND<47.2	ND<47.2	ND<47.2	ND<47.2
	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
	11/16/2000	ND<1.2	ND<1.3	ND<0.067	ND<0.053	ND<0.050	ND<0.047	ND<0.040	ND<0.023
	04/24/2001	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
	07/11/2011	NS	NS	NS	NS	NS	NS	NS	NS
	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
	11/16/2000	ND<1.2	ND<1.3	ND<0.067	0.10	0.17	0.15	0.096	0.052
	04/24/2001	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
	07/11/2011	ND<0.047	0.063	0.063	0.31	0.33	0.35	0.20	0.30
	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
	11/16/2000	ND<96,000	ND<100,000	ND<5,400	ND<4,200	ND<4,000	ND<3,800	ND<3,200	ND<1,800
	04/24/2001	7.9	3.6	2.4	1.2	ND<1.0	ND<1.0	ND<1.0	ND<1.0
MW-7	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
	07/11/2011	NS	NS	NS	NS	NS	NS	NS	NS
	04/23/2015	ND<10	ND<10	ND<5	0.18	ND<0.2	ND<0.18	ND<0.4	ND<0.17
MW-9	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
MW-10	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
MW-11	04/23/2015	33	ND<10	7	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
MW-12	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
MW-13	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
MW-14	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
MW-15	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
	ives for Groundwater								
Class I Grou	ndwater	420	210	2,100	0.13	0.20	0.18	210	0.17
Class II Grou	a divintar	2,100	1,050	10,500	0.65	2.0	0.90	1,050	0.85

Table 4
Groundwater Analytical Results - PNAs

Former Clark Store #2093 3712 North University Street Peoria, Illinois 61614

	/								
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/		date Date	Chrysene	thrac	,ucorandarde	/ . /	NOW	Appropriate Party	harandy are
WellD		100	rear.	Sant I	THEFT	Fluorene	3.00	-traile	CHILD !
140	- arr	8.	Chir	93.	Mors	FINE	143	aph	Bra
	/ 5		_ wer	/ 4		, an	. / "	/ 9	
		/	Dib	/	/	Ind	/	/	/
MW-1	11/22/1999	ND<0.061	ND<0.085	ND<0.061	ND<2.3	ND<0.098	61	ND<1.8	ND<0.073
MW-1 (Duplicate)	11/22/1999	ND<1.0	ND<1.4	ND<1.0	ND<3.8	ND<1.6	48	ND<3.0	ND<1.2
iiii-i (bupilcate)	11/16/2000	ND<0.060	ND<0.053	ND<0.053	ND<0.17	ND<0.047	46	ND<1.8	ND<0.053
	04/24/2001	ND<0.050	ND<0.050	ND<0.050	0.17	ND<0.050	120	0.12	ND<0.050
MW-1	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
	07/11/2011	ND<2.4	ND<2.4	ND<2.4	ND<2.4	ND<2.4	16.5	ND<2.4	ND<2.4
	04/23/2015	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/1999	ND<0.069	ND<0.097	ND<0.069	ND<0.26	ND<0.11	ND<1.9	ND<0.21	ND<0.083
	11/16/2000	ND<0.060	ND<0.053	ND<0.053	ND<0.17	ND<0.047	ND<1.1	ND<0.14	ND<0.053
MW-2	04/24/2001	NS	NS	NS	NS	NS	NS	NS	NS
m11-2	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
	07/11/2011	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	0.12	ND<0.047	ND<0.047
	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
	11/22/1999	ND<0.050	ND<0.070	ND<0.50	ND<0.19	ND<0.080	ND<1.4	ND<0.15	ND<0.060
	11/16/2000	ND<0.060	ND<0.053	ND<0.053	ND<0.17	ND<0.047	ND<1.1	ND<0.14	ND<0.053
MW-3	04/24/2001	NS	NS	NS	NS	NS	NS	NS	NS
7112772	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
	07/11/2011	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047
	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
MW-4	11/22/1999	ND<1.0	ND<1.4	ND<1.0	ND<3.8	ND<1.6	150	ND<3.0	ND<1.2
DAL 4 (Donllanta)	11/16/2000	ND<1.2 ND<1.2	ND<1.1	ND<1.1 ND<1.1	ND<3.4 ND<3.4	ND<0.94	160	ND<2.8	ND<1.1
WW-4 (Duplicate)		ND<0.050	ND<1.1 ND<0.050	ND<0.050		ND<0.94	200	3.5	ND<1.1
	04/24/2001 10/03/2001	NS NS	NS NS	NS	0.41 NS	ND<0.050 NS	210 NS	0.27 NS	ND<0.050
MW-4	07/11/2011	ND<47.2	ND<47.2	ND<47.2	ND<47.2	ND<47.2	296	ND<47.2	ND<47.2
	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	229	ND<5	ND<2
	11/16/2000	ND<0.060	ND<0.053	ND<0.053	ND<0.17	ND<0.047	ND<1.1	ND<0.14	ND<0.053
	04/24/2001	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
	07/11/2011	NS	NS	NS	NS	NS	NS	NS	NS
	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
	11/16/2000	0.08	0.068	0.24	ND<0.17	0.24	ND<1.1	0.21	0.21
	04/24/2001	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
	07/11/2011	0.33	0.078	0.49	ND<0.047	0.19	0.075	0.12	0.44
	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
	11/16/2000	ND<4,800	ND<4,200	ND<4,200	ND<14,000	ND<3,800	180,000	31,000	ND<4,200
	04/24/2001	ND<1.0	ND<1.0	2.6	9.5	ND<1.0	2,000	ND<250	2.6
MW-7	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
	07/11/2011	NS	NS NS	NS	NS	NS	NS	NS	NS
	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	472	ND<5	ND<2
MW-9	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
MW-10	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
MW-11	04/23/2015	ND<1.5	ND<0.3	ND<2	43	ND<0.3	41	85	ND<2
MW-12	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	13	ND<5	ND<2
MW-13	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	177	ND<5	ND<2
MW-14	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
MW-15	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
1 Remediation Object									
Class I Groun		1.5	0.30	280	280	0.43	140	210	210
Class II Grou	and the same of th	7.5	1.5	1,400	1,400	2.15	220	1,050	1,050

Note:

All results are reported in micrograms per liter (ug/L).

Polynuclear Aromatic Hydrocarbons (PNA's) analyses conducted using United States Environmental Protection Agency (USEPA) Methods.

ND = Analyte not detected at or above the reporting limit.

NE = Not Established.

NS = Not Sampled.

Tier 1 Groundwater Remediation Objectives per Title 35, Part 742 - Tiered Approach to Corrective Action Objectives.

Bold values exceed Tier 1 Remediation Objectives.

Electronic Filing: Received, Clerk's Officeio / 28/2017-084) R. 155

# ATTACHMENT 1



# Electronic Filing: Received, Clerk's Office 2/28/2017/017-084) R. 156 Illinois Environmental Protection Agency

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

LPC #:	1430655263	<b>,</b>	County:	Peori	ia
•	Peoria			Illico Independ	ent Oil Co.
	12 University Stree				
IEMA Incident N	o. 923441				
IEMA Notification	on Date: <u>12/02/1</u>	992			
Date this form wa	os prepared:	10/02/2015			
This form is be	ing submitted as	a (check one, if	f applicable):		
☑ Budget I	Proposal				
☐ Budget A	Amendment (Budget	amendments mu	st include only the	costs over the previo	ous budget.)
☐ Billing P	ackage				
Please pr	ovide the name(s) a	nd date(s) of repo	ort(s) documenting	the costs requested:	
Name(s)	:				
Date(s):			<del></del>	<del></del>	RECEIVE
This form is be	ing submitted for	the site activit	ies indicted belo	ow:	
35 Ill. Adm. Co	de 734:				OCT <b>0 6 2015</b>
☐ Early Ac	tion				IEPA/BOL
☐ Free Pro	duct Removal after l	Early Action			
☑ Site Inve	stigation	Stage 1:	Stage 2:	☐ Stage 3:	
☐ Correctiv	ve Action	Actual Costs		Propose	ed
35 Ill. Adm. Co	de 732:				
☐ Early Ac	tion				
☐ Free Pro	duct Removal after l	Early Action		•	
☐ Site Clas	sification				
Low Price	ority Corrective Acti	on			
High Pri	ority Corrective Act	ion			
35 Ill. Adm. Co	de 731:				
☐ Site Inve	stigation				
☐ Correctiv	e Action				

IL 532-2825

LPC 630 Rev. 1/2007

#### 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. Pay to the order of: Illico Independent Oil Co. Send in care of: Marlin Environmental, Inc. Address: 3935 Commerce Drive City: Saint Charles State: IL Zip: 60174 The payee is the: Operator 🛛 Owner 🖂 (Check one or both.) W-9 must be submitted. Click here to print off a W-9 Form. Signature of the owner or operator of the UST(s) (required) 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: 5 (Number of USTs includes USTs presently at the site and USTs that have been removed.) Number of incidents reported to IEMA for this site: 1 Incident Numbers assigned to the site due to releases from USTs: 923441 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 Did UST have Incident No. Type of Release (gallons) a release? Tank Leak / Overfill / Piping Leak Yes 🔀 No 🗌 Gasoline 12,000 Overfill 923441 Yes 🔯 No  $\square$ Overfill Gasoline 12,000 923441 Yes 🔯 No 🔲 Gasoline . Overfill 12,000 923441 Yes 🔯 No 🗌 Diesel Overfill 12,000 923441 Yes 🔀 No 🗌 Kerosene Overfill 6.000 923441 No 🔯 Yes □ No 🔯 Yes 🗍 Yes 🗌 No 🖂 Yes 🗍 No 🔯 Add More Rows Undo Last Add

## Electronic Filing: Received, Clerk's Office 2/28/2017-084) R. 158

# **Budget Summary**

Choose the applicable regulations:

**●** 734

**Ø**32

734	Free Product	Stage 1 Site Investigation	Stage 2 Site Investigation	Stage 3 Site Investigation	Corrective Action
Drilling and Monitoring Wells Costs Form				\$2,778.96	
Analytical Costs Form				\$3,074.41	
Remediation and Disposal Costs Form				\$929.37	
UST Removal and Abandonment Costs Form				\$0.00	
Paving, Demolition, and Well Abandonment Costs Form				\$0.00	
Consulting Personnel Costs Form				\$25,407.62	
Consultant's Materials Costs Form				\$1,583.52	
Handling Charges Form			time a billing package be determined in accor		
Total	\$0.00	\$0.00	\$0.00	\$33,773.88	\$0.00

## Electronic Filing: Received, Clerk's Office 3/28/2017 2017-084) R. 159

## **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
3	HSA	15	45	Migration Pathway/Monitoring Well
1	PUSH	6	6	FOC
			0	
			0	
			0	
			0	
			0	
		-	0	

Subpart H minimum payment amount applies.

	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:	45	\$28.50	\$1,282.50
Total Feet via PUSH:	6	\$22.30	\$133.80
Total Feet for Injection via PUSH:	0	\$18.59	\$0.00
		Total Drilling Costs:	\$1,858.71

adjusted to reflect Subpart H minimum payment amount

#### 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 (\$)
3	HSA	2"	15	45
-				0
			, , , , ,	0
				0
				0

Well Installation	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:	45	\$20.45	\$920.25
Total Feet via PUSH:	0	\$15.49	\$0.00
Total Feet of 4" or 6" Recovery:	0	\$30.98	\$0.00
Total Feet of 8" or Greater Recovery:	0	\$50.80	\$0.00
		Total Well Costs:	\$920.25

Total Drilling and Monitoring Well Costs: \$2,778.96
--

# **Analytical Costs Form**

Laboratory Analysis	Number of Samples		Cost (\$) per Analysis		Total per Parameter
Chemical Analysis			<u> </u>		
BETX Soil with MTBE EPA 8260	6	х	\$105.33	=	\$631.98
BETX Water with MTBE EPA 8260	3	x	\$100.37	=	\$301.11
COD (Chemical Oxygen Demand)		x	\$37.17	=	\$0.00
Corrosivity		х	\$18.59	=	\$0.00
Flash Point or Ignitability Analysis EPA 1010		х	\$40.88	=	\$0.00
Fraction Organic Carbon Content (foc) ASTM-D 2974-00	1	x	\$47.08	=	\$47.08
Fat, Oil, & Grease (FOG)		х	\$74.34	=	\$0.00
LUST Pollutants Soil - analysis must include volatile, base/ neutral, polynuclear aromatics and metals list in Section 732. Appendix B and 734.Appendix B		х	\$858.73	=	\$0.00
Dissolved Oxygen (DO)		х	\$29.74	=	\$0.00
Paint Filter (Free Liquids)		х	\$17.35	=	\$0.00
PCB / Pesticides (combination)		х	\$275.09	=	\$0.00
PCBs		х	\$137.54	=	\$0.00
Pesticides		х	\$173.48	=	\$0.00
рН		х	\$17.35	=	\$0.00
Phenol		х	\$42.13	=	\$0.00
Polynuclear Aromatics PNA, or PAH SOIL EPA 8270	6	х	\$188.36	=	\$1,130.16
Polynuclear Aromatics PNA, or PAH WATER EPA 8270	3	х	\$188.36	=	\$565.08
Reactivity		х	\$84.26	=	\$0.00
SVOC - Soil (Semi-Volatile Organic Compounds)		х	\$387.85	=	\$0.00
SVOC - Water (Semi-Volatile Organic Compounds)		х	\$387.85	=	\$0.00
TKN (Total Kjeldahl) "nitrogen"		х	\$54.52	=	\$0.00
TPH (Total Petroleum Hydrocarbons)		х	\$151.18	=	\$0.00
VOC (Volatile Organic Compounds) - Soil (Non-Aqueous)		х	\$216.85	=	\$0.00
VOC (Volatile Organic Compounds) - Water		х	\$209.42	=	\$0.00
Field Blank BTEX	1	х	\$100.37	=	\$100.37
Trip Blank BTEX	1	х	\$100.37	=	\$100.37
		х		=	\$0.00
		х		=	\$0.00
		х		=	\$0.00
Geo-Technical Analysis					<del></del>
Soil Bulk Density (p <sub>b</sub> ) ASTM D2937-94		х	\$27.26	=	\$0.00
Ex-situ Hydraulic Conductivity / Permeability		х	\$315.98	=	\$0.00
Moisture Content (w) ASTM D2216-92 / D4643-93		х	\$14.87	=	\$0.00
Porosity		х	\$37.17	=	\$0.00
Rock Hydraulic Conductivity Ex-situ		х	\$433.70	=	\$0.00
Sieve / Particle Size Analysis ASTM D422-63 / D1140-54		х	\$179.68	=	\$0.00
Soil Classification ASTM D2488-90 / D2487-90		х	\$84.26	=	\$0.00
Soil Particle Density (ps) ASTM D854-92		х	\$90.00	=	\$0.00
		х		=	\$0.00
• · · · · · · · · · · · · · · · · · · ·		х		=	\$0.00
		x		_=_	\$0.00

## **Analytical Costs Form**

Metals Analysis					
Soil preparation fee for Metals TCLP Soil (one fee per soil sample)		T x T	\$97.89	T = T	\$0.00
Soil preparation fee for Metals Total Soil (one fee per soil sample)		x	\$19.82	<del> </del>	\$0.00
Water preparation fee for Metals Water (one fee per water sample)		1 x	\$13.62	+ = +	\$0.00
propagation to the model of the completion of th	<u> </u>	"	<b>4.0.02</b>	+ +	Ψ0.00
Arsenic TCLP Soil		х	\$19.82	=	\$0.00
Arsenic Total Soil		х	\$19.82	=	\$0.00
Arsenic Water		х	\$22.30	= [	\$0.00
Barium TCLP Soil		х	\$12.39	=	\$0.00
Barium Total Soil		х	\$12.39		\$0.00
Barium Water		х	\$14.87	=	\$0.00
Cadmium TCLP Soil		х	\$19.82		\$0.00
Cadmium Total Soil		х	\$19.82	=	\$0.00
Cadmium Water		х	\$22.30	=	\$0.00
Chromium TCLP Soil		х	\$12.39	=	\$0.00
Chromium Total Soil		х	\$12.39	=	\$0.00
Chromium Water		х	\$14.87	=	\$0.00
Cyanide TCLP Soil		x	\$34.70	= [	\$0.00
Cyanide Total Soil		х	\$42.13	_ = [	\$0.00
Cyanide Water		х	\$42.13	= [	\$0.00
Iron TCLP Soil		х	\$12.39	=	\$0.00
Iron Total Soil		х	\$12.39	=	\$0.00
Iron Water		х	\$14.87	=	\$0.00
Lead TCLP Soil		х	\$19.82	=	\$0.00
Lead Total Soil		х	\$19.82	= 1	\$0.00
Lead Water		х	\$22.30	=	\$0.00
Mercury TCLP Soil		х	\$23.54	=	\$0.00
Mercury Total Soil		х	\$12.39	=	\$0.00
Mercury Water		х	\$32.22	= 1	\$0.00
Selenium TCLP Soil		х	\$19.82	_=	\$0.00
Selenium Total Soil		х	\$19.82	=	\$0.00
Selenium Water		x	\$18.59	=	\$0.00
Silver TCLP Soil		х	\$12.39	=	\$0.00
Silver Total Soil		х	\$12.39	=	\$0.00
Silver Water		х	\$14.87	=	\$0.00
Metals TCLP Soil (a combination of all metals) RCRA		х	\$127.63	=	\$0.00
Metals Total Soil (a combination of all metals) RCRA		х	\$116.47	=	\$0.00
Metals Water (a combination of all metals) RCRA		х	\$147.45	=	\$0.00
		х		=	\$0.00
		х	<u>.</u>	=	\$0.00
		х		=	\$0.00
		х		=	\$0.00
Other		<del></del>		<u> </u>	<del></del>
EnCore® Sampler, purge-and-trap sampler, or equivalent sampling device	6	х	\$12.39	=	\$74.34
Sample Shipping per sampling event <sup>1</sup>	2	x	\$61.96	=	\$123.92

<sup>&</sup>lt;sup>1</sup>A sampling event, at a minimum, is all samples (soil and groundwater) collected in a calendar day

Total Analytical Costs:	\$3,074.41
Total linary tical costs.	45,074.41

## Remediation & Disposal Costs Form

#### A. Conventional Technology

Excavation, Transportation, and Disposal of contaminated soil and/or the 4-foot backfill material removal during early action activities:

Number of Cubic Yards	Cost per Cubic Yard (\$)	Total Cost
	\$70.63	\$0.00

#### **Backfilling the Excavation:**

Number of Cubic Yards	Cost per Cubic Yard (\$)	Total Cost
	\$24.78	\$0.00

#### Overburden Removal and Return:

Number of Cubic Yards	Cost per Cubic Yard (\$)	Total Cost
	\$8.06	\$0.00

#### **B.** Alternative Technology

Alternative Technology Selected:	
Number of Cubic Yards of Soil to Be Remediated	
Total Non-Consulting Personnel Costs Summary Sheet (\$)	
Total Remediation Materials Costs Summary Sheet (\$)	
Total Cost of the System	\$0.00

## Remediation & Disposal Costs Form

#### C. Groundwater Remediation and/or Free Product Removal System

Total Non-Consulting Personnel Costs Summary Sheet (\$)		
Total Remediation Materials Costs Summary Sheet (\$)		
Total Cost of the System	\$0.00	•

#### D. Groundwater and/or Free Product Removal and Disposal

☐ Subpart H minimum payment amount applies.

Number of Gallons	Cost per Gallon (\$)	Total Cost
	\$0.84	\$0.00

#### E. Drum Disposal

☐ Subpart H minimum payment amount applies.

Number of Drums of Solid Waste	Cost per Drum (\$)	Total Cost
3	\$309.79	\$929.37
	\$309.79	\$0.00
	\$309.79	\$0.00
Number of Drums of Liquid Waste	Cost per Drum (\$)	Total Cost
	\$185.88	\$0.00
	\$185.88	\$0.00
	\$185.88	\$0.00
Total Drum Disposal Costs		\$929.37

Total Remediation and Disposal Costs:	\$929.37

# Consulting Personnia Filing: Received, Clerk's Office 3/28/2017/084) R. 164

Employee N	ame	Personnel Title	Hours	Rate (\$)	Total Cos	
Remediation Category		Task				
		Engineer III	6	\$123.91	\$743.46	
Stage 3-Plan	Determine where to	o drill and sample, setup and cons	ulting, review s	stage 2 results		
		Senior Project Manager	8	\$123.91	\$991.28	
Stage 3-Plan	Stage 3 plan design	, writing attachements				
		Project Manager	25	\$111.52	\$2,788.0	
Stage 3-Plan	Stage 3 plan prepar	ation				
		Project Manager	7	\$111.52	\$780.64	
Stage 3-Budget	Stage 3 budget prep	paration			<b>.</b>	
		Senior Project Manager	5	\$123.91	\$619.55	
Stage 3-Plan	Stage 3 plan and bu	adget review and comment			-	
		Senior Prof. Engineer	3	\$161.09	\$483.27	
Stage 3-Plan	Stage 3 plan final re	eview and certification				
		Senior Prof. Geologist	3	\$136.31	\$408.93	
Stage 3-Budget	Stage 3 budget fina	l review and certification				
		Senior Draftsperson/CAD	3	\$74.34	\$223.02	
Stage 3-Plan	Stage 3 plan draftin	g, maps and printing				
		Senior Admin. Assistant	7	\$55.76	\$390.32	
Stage 3-Plan	Stage 3 plan and bu	idget attachments, copying, bindi	ng and submitta	1		
		Project Manager	7	\$111.52	\$780.64	
Stage 3-Field	coordinate off-site	access				

# Consulting Personnia Filingts Profived, Clerk's Offices 3/28/2017/2017-084) R. 165

Employee N	ame	Personnel Title	Hours	Rate (\$)	Total Co	
Remediation Category		Task				
		Senior Project Manager	15	\$123.91	\$1,858.6	
Stage 3-Field	Stage 3 office time	, project management, subcontrac	ctor managemer	nt, JULIE coordin	nation	
	<u></u>	Senior Project Manager	5	\$123.91	\$619.55	
Stage 3-Field	Field prep, travel to	and from the site: drilling				
·		Senior Project Manager	6	\$123.91	\$743.46	
Stage 3-Field	Field time: drilling,	, soil screening, logging				
		Project Manager	5	\$111.52	\$557.60	
Stage 3-Field	Field prep, travel to	and from site: drilling				
<del>.</del>		Project Manager	6	\$111.52	\$669.12	
Stage 3-Field	Field time: drilling,	soil sampling, surveying, well de	evelopment			
		Senior Project Manager	5	\$123.91	\$619.55	
Stage 3-Field	Field prep, travel to	and from site: Gauging the entir	e network, slug	test and ground	water sampli	
		Senior Project Manager	4	• \$123.91	\$495.64	
Stage 3-Field	Field time: gauging	the entire network and groundwa	ater sampling			
		Project Manager	5	\$111.52	\$557.60	
Stage 3-Field	Field prep, travel to	and from site: Gauging entire ne	etwork and grou	ındwater samplin	g	
		Project Manager	4	\$111.52	\$446.08	
Stage 3-Field	Field time: Gauging	g the entire network, surveying ar	nd groundwater	sampling		
· · · · · · · · · · · · · · · · · · ·		Project Manager	16	\$111.52	\$1,784.3	
Stage 3-Field	Stage 3 results eval	uation and data management				

# Consulting Personnia Filipsis Received, Clerk's Office 3/28/2017/017-084) R. 166

Employee N	ame	Personnel Title	Hours	Rate (\$)	Total Cos	
Remediation Category		Task				
		Senior Draftsperson/CAD	8	\$74.34	\$594.72	
Stage 3-Field	Stage 3 results draf	ting: Assessment maps, GW coun	ntour & flow ma	apping, cross sec	tion(s)	
		Senior Prof. Engineer	1	\$161.09	\$161.09	
Stage 3-Field	Stage 3 results: GW	V results review & extent determine	nation concurre	nce		
		Senior Acct. Technician	5	\$68.14	\$340.70	
Stage 3-Pay	Stage 3 actual costs	s budget: Project management, wa	uvers	•		
		Senior Acct. Technician	16	\$68.14	\$1,090.24	
Stage 3-Pay	Stage 3 actual costs	s budget: Preparation and Attachn	nents		·	
		Senior Prof. Geologist	5	\$136.31	\$681.55	
Stage 3-Pay	Stage 3 actual costs	s budget: Review and certification	l			
		Project Manager	10	\$111.52	\$1,115.20	
SICR	SICR: Report prepa	aration, data, calculations, extent,	attachments			
		Project Manager	25	\$111.52	\$2,788.00	
SICR	SICR: Report prepa	aration, writing		<u> </u>		
		Senior Draftsperson/CAD	3	\$74.34	\$223.02	
SICR	SICR: Drafting & n	nap printing				
		Senior Prof. Engineer	4	\$161.09	\$644.36	
SICR	SICR: Review & Co	ertification				
		Senior Admin. Assistant	7	\$55.76	\$390.32	
SICR	SICR & Stage 3 act	tual costs budget: Copies, binding	& Submittal			

# Consulting Personnia Filipsts Programd, Clerk's Office 3/28/2017/2017-084) R. 167

Employee N	lame	Personnel Title	Hours	Rate (\$)	Total Cost		
Remediation Category		Task					
	**	Senior Acct. Technician	2	\$68.14	\$136.28		
Stage 3-Pay	Stage 3 reimburser	Stage 3 reimbursement claim, project management, waivers / affidavits					
		Senior Acct. Technician	6	\$68.14	\$408.84		
Stage 3-Pay	Stage 3 reimburser	ment claim: Bill, attachments, files	s & submittal				
		Senior Prof. Geologist	2	\$136.31	\$272.62		
Stage 3-Pay	Stage 3 reimburser	nent claim: final review & certific	cation	<u> </u>	1		

Total of Consulting Personnel Costs:	\$25,407.62

# Consultant's Vfaterials Costs Fiorm Clerk's Office 3/28/2017 2017-084) R. 168

Employ	ee Name	Time or Amount Used	Rate (\$)	Unit	Total Cost	
Remediation Category		Description/Justification				
Field	Vehicle	2	\$190.00	Day	\$380.00	
Stage 3-Field	Drilling and GW sampl	ing	·		·	
Consultant Field S	ampling Equipment	3	\$32.00	Day	\$96.00	
Stage 3-Field	Drilling, Groundwater	sampling & monitoring				
Photoioniza	tion Detector	1	\$192.00	Day	\$192.00	
Stage 3-Field	Soil screening during d	rilling				
Water Lev	el Indicator	2	\$87.00	Day	\$174.00	
Stage 3-Field	DTW drilling, MWs					
Measurii	ng Wheel	1	\$42.00	Day	\$42.00	
Stage 3-Field	Mapping & Site Survey	Measurements				
Survey E	quipment	1	\$191.00	Day	\$191.00	
Stage 3-Field	Survey Monitoring Wel	ll Network				
Consultant I	Latex Gloves	2	\$34.00	Box	\$68.00	
Stage 3-Field	Sampling Activities dri	lling and GW sampling				
Bai	lers	7	\$41.00	Each	\$287.00	
Stage 3-Field	Well Development, san	npling (3 develop, 3 sampl	le), 1 Slug test		·	
Nylor	Rope	126	\$0.52	Foot	\$65.52	
Stage 3-Field	Well Development, san	npling				
Metal I	Detector	2	\$40.00	Day	\$80.00	
Stage 3-Field	Locate utilities and bur	ied infrastructure during d	rilling and locate	existing wells	during	

# Consultant's Viaterials Gosts Fixed Clerk's Office 3/28/2017/017-084) R. 169

Employ	ee Name	Time or Amount Used	Rate (\$)	Unit	Total Cost	
Remediation Category		Description/Justification				
Digital	Camera	1	\$8.00	Day	\$8.00	
Stage 3-Field	Mapping and Drilling Do	cumentation		·		
					\$0.00	
		,	•			
					\$0.00	
				<del>.</del>	\$0.00	
					\$0.00	
					\$0.00	
	1				\$0.00	
					<u>.                                    </u>	
					\$0.00	
				·	\$0.00	
					•	
					\$0.00	
			,			
	Total o	f Consultant Mate	rials Costs:	\$1,5	583.52	

## 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 correactivities for Leaking UST incident 923441. I further certify that the costs statis budget are for necessary activities and are reasonable and accurate to the best of my knowledge and also certify that the costs included in this budget are not for corrective action in excess of the minimum re of 415 ILCS 5/57, no costs are included in this budget that are not described in the corrective action plan, costs exceed Subpart H: Maximum Payment Amounts, Appendix D Sample Handling and Analysis amount Appendix E Personnel Titles and Rates of 35 III. Adm. Code 732 or 734. I further certify that costs included in the budget payment from the Fund pursuant to 35 III. Adm. Code 732.606 or 734.630 are not included in the budget paymentment. Such ineligible costs include but are not limited to:	set forth in t belief. I quirements and no nts, and
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.	RECEIVE
Owner/Operator: Illico Independent Oil Co.	
Authorized Representative: David Golwitzer Title: Owner	OCT 0 6 2015
Signature: Date: 10-2-15	IEPA/BC
Subscribed and sworn to before me the 2 day of Cathuran	***
OFFICIAL SEAL JEFF WIENHOF Notary Public - State of My Commission Expires 4/	llinois
In addition, I certify under penalty of law that all activities that are the subject of this plan, budget, or report conducted under my supervision or were conducted under the supervision of another Licensed Professional Ceologist and reviewed by me; that this plan, budget, or report and all attachmen prepared under my supervision; that, to the best of my knowledge and belief, the work described in the plat or report has been completed in accordance with the Environmental Protection Act [415 ILCS 5], 35 III. Additional and generally accepted standards and practices of my profession; and that the information prediction accordance and complete. I am aware there are significant penalties for submitting false statements or represent to the Illinois EPA, including but not limited to fines, imprisonment, or both as provided in Sections 44 and 5 Environmental Protection Act [415 ILCS 5/44 and 57.17].	al Engineer ts were n, budget, n. Code sented is
L.P.E./L.P.G. Signature:  L.P.E./L.P.G. Seal:  Date: 10/6/15.	:
Subscribed and sworn to before me the	· · ·
Seal:  D. EGGLESTON OFFICIAL SEAL Notary Public - State of Illinoi My Commission Expires December 08, 2017 The Illinois EPA is authorized to require this information under 415 ILCS 5/1. Disclosure of this information	

required. Failure to do so may result in the delay or denial of any budget or payment requested hereunder.



# Office of the Illinois State Fire Marshal

General Office 217-785-0969

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Divisions '

ARSON INVESTIGATION 217-782-6855

BOILER and PRESSURE VESSEL SAFETY 217-782-2696

> FIRE PREVENTION 217-785-4714

MANAGEMENT SERVICES 217-782-9889

> INFIRS 217-785-1016 . PERSONNEL 217-785-1009

PERSONNEL STANDARDS and EDUCATION 217-782-4542

> PETROLEUM and CHEMICAL SAFETY 217-785-5878

PUBLIC INFORMATION 217-785-1021 CERTIFIED MAIL - RECEIPT REQUESTED # P 239 741 688

November 15, 1993

David Golwitzer Illico Independent Oil Company 617 Keokuk Lincoln, IL 62656

In re:

Facility No. 3-007188
IEMA Incident No. 92-3441
Illico Independent Oil Company
3712 N. University St.
Peoria, PEORIA CO., IL.

Dear Mr. Golwitzen:

The Reimbursement Eligibility and Deductibility Application, received on 9-20-93 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 corrective action 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 - 12,000 gallon gasoline
Tank #2 - 12,000 gallon gasoline
Tank #3 - 12,000 gallon gasoline
Tank #4 - 12,000 gallon diesel
Tank #5 - 6,000 gallon kerosene

This decision constitutes the preliminary determination regarding your deductible. We reserve the right to change the deductible determination should additional information that would change the determination become available.

The Illinois Environmental Protection Agency will send you 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:

- Neither the owner nor the operator is the United States Government;
- The tank does not contain fuel which is exempt from the Motor Fuel Tax Law;
- The costs were incurred as a result of a confirmed release of any of the following substances:

"Fuel", as defined in Section 1.10 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. 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 Pat Flannigan at (217)785-1020 or (217)785-5878 between 3:00-4:00 p.m.

I Me Caslin

Sincerely,

James I. McCaslin --

Director

Division of Petroleum and Chemical Safety

JIM:PF:bc

cc: IEPA

Facility File

#5387

December 14, 2015

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY Bureau of Land - #24 Leaking Underground Storage Tank Section 1021 North Grand Avenue East Springfield, Illinois 62794-9276

Re: LPC# 1430655263 - Peoria County Peoria / Illico Independent Oil Co. 3712 North University St. Leaking UST Incident No. 923441

Dear Mr. Benanti:

Please find enclosed the Corrective Action Plan and Budget for the above-referenced site. Marlin Environmental, Inc., on behalf of Illico Independent Oil Co., requests that a Project Labor Agreement not be required for the activities proposed in the plan. The requirement of a PLA on this project will only delay the implementation of the corrective action steps that need to be taken. By not requiring a Project Labor Agreement, the proposed corrective action activities will be able to be completed in a more expeditious and timely manner.

The request is based upon the following reasons:

- Use of a PLA will disproportionately increase the cost of the corrective action work due to higher wage rates costs for union labor. Union work rules will require an increase in manpower to perform identical functions, resulting in a lack of efficiency and ultimately higher costs.
- Corrective action requires highly trained and certified employees. The quality is ensured without a PLA given that the
  intrusive activities will be completed by capable, skilled workers with more than 20 years combined experience in
  performing UST removals and excavation activities at LUST sites who have maintained an excellent safety record in
  that time. Additionally, safety is ensured as each of the workers are required to be 40-hour HAZWOPER trained with
  current 8-hour Refreshers. Requiring a PLA on this project will not increase project safety since the workers utilized
  will meet these Occupational Safety and Health Administration (OSHA) requirements.
- Use of a PLA will delay completion of corrective action due to difficulty finding a contractor with properly licensed, trained and experienced union workers. A majority of union workers do not have the required training or certifications. The work could be scheduled immediately if the PLA requirement was rescinded, thereby increasing efficiency to the state and ultimately leading to faster obtainment of the NFR designation.

For these reasons, we do not feel that a PLA advances the state's interest on this project and that it can be completed in a safer, less expensive and timelier manner if allowed to proceed without requiring a PLA.

Should you have any questions or require additional information, please do not hesitate to contact Jeff Wienhoff at (217) 726-7569 x25, jeffw@marlinenv.com or Shawn Wolfe at (630) 444-1933 x14 or shawnw@marlinenv.com.

Sincerely,

MARLIN ENVIRONMENTAL, INC.

Jeff Wiehloff
Senior Professional Engineer
Cc: Marlin project file

Shawn D. Wolfe Senior Project Manager RECEIVED

DEC 1 4 2015

**IEPA/BOL** 



# CORRECTIVE ACTION PLAN REMEDIATION AND TACO CLOSURE

ILLICO INDEPENDENT OIL CO. 3712 NORTH UNIVERSITY STREET PEORIA, PEORIA COUNTY, ILLINOIS 61614 LUST INCIDENT #923441 LPC #1430655263

Prepared for:

Illico Independent Oil Co.

Mr. David Golwitzer 2201 Woodlawn Road Suite 600 Lincoln, Illinois 62656 RECEIVED

DEC 1 4 2015

**IEPA/BOL** 

Prepared by:

MARLIN ENVIRONMENTAL, INC.

3900 Wood Duck Drive Suite F. Springfield, Illinois 62711

December 14, 2015

Jeff K. Whenhoff, P.E.

Senior Professional Engineer

Joe Buhlig

Project Manager

#### Electronic Filing: Received, Clerk's Office 7/28/201.72017-084) R. 176

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5		2
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#### **FIGURES**

- 1. Site Location Map SURROUNDING LAND USAGE MAP
- 2. Site Area Features Map SOIL REMEDIATION CORRECTIVE ACTION PLAN MAP

#### TABLES

I. Comparison to Applicable Tier 2 Soil Remediation Objectives

#### **ATTACHMENTS**

- 1. TACO Tier 2 Calculations & IEPA Input Parameter Spreadsheets
- 2. CAP Budget Forms and OSFM Eligibility Letter

#### Electronic Filing: Received, Clerk's Office 7/28/201. 2017-084) R. 177

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 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 5/57.17). This form has been approved by the Forms Management Center.

# Illinois Environmental Protection Agency Leaking Underground Storage Tank Program Corrective Action Plan

Α.	Si	te I	dentification						
	IEN	MA	Incident # (6- or 8-digit): 923	441	5	IEPA LPC	# (10-digit): 143	0655263	ň.
	Sit	e Na	ame: Illico Independent Oi	l Co.					
	Sit	e Ac	ldress (Not a P.O. Box):	3712 Ur	niversity	Street	W 188		
			Peoria g UST Technical File	County	:]	Peoria	ZIP Code:	61614	
В.	Sit	e In	nformation						
	1.		Il the owner or operator seek derground Storage Tank Fund		sement fi	om the		Yes ⊠	No 🗌
	2.	Ify	ves, is the budget attached?					Yes 🛛	No 🗌
	3.	Is t	his an amended plan?					Yes 🗌	No 🛭
	4.	Ide	entify the material(s) released:	_ Gaso	line, Die	sel, Kerose	ne_		
	5.	Thi	is Corrective Action Plan is b	eing sub	mitted p	ursuant to:	RECEIVI	ED	
		a.	35 Ill. Adm. Code Section 7	31.166:			DEC 1 4 2015		
			The material released was: - petroleum	,	г.		EPA/BC	)L	
			<ul> <li>hazardous substa</li> <li>Protectio</li> </ul>	ance (see on Act Sec					
		b.	35 Ill. Adm. Code Section 73	32.404					
		c.	35 Ill. Adm. Code Section 73	34.335	(Pursuan	t to PA 96-	0908)		$\boxtimes$

#### C. Proposed Methods of Remediation

1. Soil On-site: Removal of the four (4) 12,000-gallon capacity and one (1) 6,000-gallon capacity underground storage tanks (USTs) and related integral product piping to eliminate the source of the contaminated soils and provide the ability to access the worst soils. Conventional technology remediation of the contaminant plume in excess of the calculated site-specific Tier 2 Soil Remediation Objectives (SROs), taking into account an on-site potable well restriction and the industrial/commercial use of the property, will be excavated

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for transport and proper disposal. Those soils defined as impacted in excess of the Tier 1 SROs, but below the calculated Tier 2 SROs, will be left to remain in-place on-site.

Off-site: The soil contamination that has migrated beneath the adjacent Right-of-Way of North University Street and W. War Memorial Dr. will be addressed with a Highway Authority Agreement through the City of Peoria and the Illinois Department of Transportation (IDOT). The commercial property to the West of N. University Street will be addressed with access denial.

#### 2. Groundwater

Shortly after soil excavation activities have been completed, monitoring well MW-4 will be reinstalled. Approximately two weeks following the completion of backfilling activities each existing well will be resampled to update modeling data. The groundwater contamination that exists at the site will be addressed through institutional controls. Water surrounding the USTs and throughout the excavation have the potential to exhibit free product conditions due to satureated soil contamination levels. These free product conditions will be removed from the base of the excavation during the excavation activities. A Highway Authority Agreement will be sought for the groundwater contamination beneath the Right-of-Way of North University St. and West War Memorial Dr. Contamination that has the potential to affect the commercial property to the west will be addressed through access denial.

**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 extent of soil and/or groundwater contamination;

Please refer to the IEPA approved *Site Investigation Completion Report (SICR)* dated December 14, 2015. The site location and site features are presented as **Figure 1** and **2**, respectively.

2. Analytical results, chain-of-custody forms, and laboratory certifications;

Please refer to the previously submitted reports approved by the IEPA.

3. Tables comparing analytical results to applicable remediation objectives;

Please refer to the previously submitted reports approved by the IEPA along with Table I.

4. Boring logs;

Please refer to the previously submitted reports approved by the IEPA.

5. Monitoring well logs; and

Please refer to the previously submitted reports approved by the IEPA.

- 6. Site maps meeting the requirements of 35 Ill. Adm. Code 732.110(a) or 734.440 and showing:
  - a. Soil sample locations; Please refer to Figure 2.
  - b. Monitoring well locations; Please refer to Figure 2.
  - c. The plume of soil contamination based on analytical results; Please refer to Figure 2.

#### 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;

This Corrective Action Plan (CAP) has been designed to remove on-site soil in excess of the calculated Tier 2 SROs while taking into account an on-site potable well restriction and the industrial/commercial use of the property. Site-specific physical data collected during Site Investigation activities was utilized to calculate appropriate Tier 2 SROs. **Table I** compares the results above Tier 1 SROs to appropriate Tier 2 SROs to demonstrate compliance with TACO. The remediation areas of the site including areas surrounding the USTs and their associated piping will be removed to a depth of 8 and 13 feet below grade. The proposed areas of excavation are delineated in **Figure 2**.

In order to access the soils contaminated above the Tier 2 SROs and remove the source of the contamination, the UST systems at the site along with the contaminated backfill material needs to be removed. There are currently four (4) 10,000-gallon and one (1) 6,000-gallon USTs at the Illico facility. These USTs, along with the dispensers and integral product piping, are illustrated on **Figure 2**. Appropriate Office of the Illinois State Fire Marshal (OSFM) UST Removal Permits will be obtained prior to the removal of the tanks. The USTs, pump islands and associated integral piping will be decommissioned and removed as part of the necessary Corrective Actions for the facility. The USTs will be pumped of any remaining residual free product associated with the USTs by a Licensed Special Waste vacuum truck and disposed off-site at a wastewater treatment facility, if/as applicable. The UST removals will be supervised by a Licensed UST Decommissioner and the OSFM representative and will follow the procedures set forth in 41 Illinois Administrative Code (IAC) Part 170.670 – Removal or Abandonment-in-Place of Underground Storage Tanks.

The proposed on-site excavation at approximate depths of eight (8) feet can be maintained across the entire proposed excavation without significant contact with the fully present saturated zone. If the fully present saturated zone is contacted, then excavation of impacted soils will be halted at that depth interval. Due to the size of the USTs (12,000 & 6,000) the tank pit area will be excavated to thirteen (13) feet in order to remove the tanks and the contaminated backfill surrounding them.

Soil confirmation samples will be collected at 20-foot intervals, per IEPA protocols. The soil confirmation sample results will be compared to the calculated Tier 2 SROs. Confirmation samples will also be modeled using the S28 equation as promulgated in 35 IAC 742, to determine the potential leaching capacity of the soil and whether or not the soil samples pose a potential future leaching threat to the shallow groundwater regime. The soil confirmation samples will be analyzed for BTEX/PNA constituents.

Residual highly contaminated groundwater and groundwater exhibiting a sheen encountered within the excavation cavity will be recovered utilizing a vacuum tanker truck and

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transported for proper disposal at a licensed TSD facility. The recovery of highly contaminated groundwater exhibiting a sheen associated with the release is required.

Once the soil remediation actions have concluded, the excavation cavity will be backfilled to grade with suitable clean materials. The on-site areas will be restored to pre-excavation conditions with the concrete pavement also being replaced in the areas where it currently exists. After the site has been returned to pre-excavation conditions, Marlin is proposing to re-install MW-4.

Marlin Environmental, Inc. will then mobilize to the facility to collect one (1) final round of groundwater confirmation samples and measure the effect the soil remediation has on the groundwater regime. The remaining soil and groundwater contaminant levels will be modeled using Equations S28 (soil leaching) and R26 in order to determine the potential long-term extents of groundwater contamination. It is anticipated that the significant amount of source removal will result in a reduction of groundwater contaminant levels.

A Highway Authority Agreement will be sought and executed for the Right-of-Way of West War Memorial Drive with IDOT and North University Street with the City of Peoria. This agreement will address the contamination that has already migrated and has the potential to migrate into the Right-of-Way. An access denial affidavit will be submitted with the CACR for the commercial property to the west.

Following the receipt of an executed Highway Authority, a Corrective Action Completion Report (CACR) will be submitted to the IEPA with, requesting issuance of a No Further Remediation letter for the incident. Upon issuance of the NFR designation from the IEPA, the owner shall record the NFR document to the title of the site with the County Recorder of Peoria County. The groundwater monitoring wells shall be properly abandoned, in accordance with 77 IAC 920.120, following the receipt of the NFR designation from the IEPA.

The budget for the work associated with this CAP proposal is included as Attachment 2.

- a. The major components (e.g., treatment, containment, removal) of the corrective action plan;
  - The major components of this CAP include the on-site removal of soils in excess of appropriate Tier 2 SROs to depths of approximately thirteen (13) and eight (8) feet below grade to ensure full removal of the source area soil. An approximate 1,640 cubic yards of contaminated soil will be properly disposed (after properly removing the volume of the USTs).
  - Those soils defined as impacted in excess of the Tier 1 SROs, but below the calculated Tier 2 SROs will be left to remain in-place on-site. Once the soil remediation is complete and the areas are restored, Marlin Environmental, Inc. will mobilize to the site to re-install MW-4. Approximately two weeks following the completion of backfill activities Marlin will return to the site and collect a final round of groundwater samples. The soil and groundwater analytical data will be used to assess the success of this remediation plan and establish proper closure reports and controls.
  - A Highway Authority Agreement will be sought and executed for the Right-of-Way of West War Memorial Drive with the IDOT and North University Street with the City of Peoria. This agreement will address the contamination that has already migrated and has the potential to migrate into the Right-of-Way.

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- An access denial affidavit will address the remaining soil and groundwater contamination that exists at the commercial property to the west.
- Once the remediation CAP activities are concluded, and the data interpreted and evaluated, a CACR shall be submitted to the Agency.

#### b. The scope of the problems to be addressed by the proposed corrective action; and

The proposed *CAP* will address the soil contamination above applicable Tier 2 SROs as well as the highly contaminated groundwater conditions at the site and address other contamination that remains through the reliance upon and on-site potable well restriction, an industrial/commercial land use restriction, construction worker caution, a Highway Authority Agreement and access denial affidavit.

#### c. A schedule for implementation and completion of the plan;

Upon IEPA approval of this *CAP*, the on-site excavation and UST system removal will be scheduled and performed. Once the conventional technology remediation is completed, the excavation will be backfilled, and surface restored. Approximately 14 days following backfilling activities, the groundwater monitoring well network will then be sampled for dissolved BTEX/PNA constituents. The process of obtaining the required Highway Authority Agreement with IDOT and the City of Peoria will then be initiated.

Following receipt of the executed Highway Authority Agreement, the *CACR* will be prepared and submitted. Following issuance of the No Further Remediation letter, the monitoring wells at the site will be abandoned.

#### 2. Identification of the remediation objectives proposed for this site;

The indicator contaminants for the diesel fuel release associated with this facility are BTEX and PNA constituents. Soil cleanup objectives will be based upon the calculated Tier 2 SROs on-site and the Tier 1 SROs off-site. Groundwater remediation objectives are based upon the IEPA TACO Tier 1 GROs for Class I Groundwater.

#### 3. A description of the remedial technologies selected:

Conventional technology has been selected for this site. Removal of the soils in excess of appropriate Tier 2 SROs will address the soil contaminants, along with the appropriate institutional controls to address remaining groundwater contamination and migration of contaminants beneath the Right-of-Way.

- 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;

Conventional technology is a feasible, reliable, effective technology for this site and these site conditions. The removal of the highly impacted soils will have an immediate effect on both the soil and shallow groundwater regimes.

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;

Soil confirmation samples will be collected from the floor and sidewalls at 20-foot intervals during the soil remediation activities and analyzed for BTEX/PNA LUST site indicators. One (1) final event of groundwater monitoring and sampling will be conducted with each monitoring well being tested for dissolved BTEX/PNA LUST site indicators to determine the long-term migration potential of the remaining contaminants.

#### Soil Sampling

Soil confirmation samples will be collected from the floor and sidewalls at twenty-foot intervals during the soil remediation activities and analyzed for BTEX and PNA constituents. Non disposable sampling tools will be thoroughly cleansed with a non-phosphate detergent wash and distilled water rinse between each sampling event to help prevent possible cross-contamination between the samples. Disposable latex sampling gloves will be worn during the sampling procedures to help safeguard against potential cross-contamination.

Representative soil samples from each location will be placed into zipper lock baggies and sealed. The soil within the bags will then be broken up to help increase the surface area for volatilization. The probe tip of a field portable PID probe tip will be inserted through the seal of the bag to measure the concentration of volatile organic vapors within the headspace of the bag (headspace screening method). The organic hydrocarbon vapors will be measured and recorded in PID meter units or equivalent ppm concentrations. The detection limit of the PID is one-ppm meter unit.

Additional portions of soil from selected locations will be placed into laboratory provided jars and vials. The samples will be labeled, properly preserved, stored in a cooler, and kept at a temperature of approximately four degrees centigrade to await possible analytical testing procedures.

#### Sampling Procedures

The following activities shall be conducted in accordance with "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication No. SW-846 or other procedures as approved by the Agency:

- Field sampling activities, including but not limited to activities relative to sample collection, documentation, preparation, labeling, storage and shipment, security, quality assurance and quality control, acceptance criteria, corrective action, and decontamination procedures;
- Field measurement activities, including but not limited to activities relative to equipment and instrument operation, calibration and maintenance, corrective action, and data handling; and
- Quantitative analysis of samples to determine concentrations of indicator contaminants, including but not limited to activities relative to facilities, equipment and instrumentation, operating procedures, sample management, test methods, equipment calibration and maintenance, quality assurance and quality control, corrective action, data reduction and validation, reporting, and records management. Analyses of samples that require more exacting detection limits than, or that cannot be analyzed by standard methods identified in, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication No. SW-846, shall be conducted in accordance with analytical protocols developed in consultation with and approved by the Agency.

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- The analytical methodology used for the analysis of indicator contaminants shall have a
  practical quantitation limit at or below the objectives or detection levels set forth in 35 IAC
  742 or as determined by the Agency.
- Quantitative analyses of samples shall be conducted by a laboratory accredited for the analyzed parameters in accordance with the requirements of 35 IAC 186.
- An authorized agent of the accredited laboratory conducting the quantitative analyses shall certify that the analyses were conducted by a laboratory accredited for the analyzed parameters in accordance with 35 IAC 186. The certification shall be submitted with the results of the analyses in the applicable report.

Groundwater samples will be collected and analyzed from the site monitoring wells in accordance with the procedures set forth in "Test Methods for Evaluating Solid Wastes, Physical/ Chemical Methods," EPA publication No. SW-846, as appropriate for the applicable indicator contaminates and methods.

Several well volumes of water will be purged from the well using a dedicated disposable bailer and nylon cord. The representative groundwater sample will then be collected and placed directly into properly labeled laboratory approved jars. The sample jars will be placed in a cooler, on ice, for delivery to the laboratory following signed chain-of-custody protocol.

#### **Indicator Contaminants**

Based on previous site investigation for the LUST incidents, the indicator contaminants for the LUST site are BTEX and PNA constituents. An independent, Illinois accredited environmental laboratory will analyze the samples. The laboratory analytical testing methodology will have practical quantitation limits (PQL) at or below the objectives or detection levels set forth in 35 IAC 742. The analytical sample results will be compared against the indicator contaminant groundwater quality standards specified in 35 IAC 742 to determine if there has been an exceedance.

In addition to analytical results, sampling and analytical reports will contain the following information:

- Sample collection information including but not limited to the name of the sample collector, time and date of sample collection, method of collection, and monitoring location;
- Sample preservation and shipment information including but not limited to field quality control;
- Analytical procedures including but not limited to the method detection limits and the PQLs.
- 4) Chain of custody and control; and
- 5) Field and lab blanks

#### Groundwater Sampling Cross-contamination

The monitoring wells will be purged and sampled using disposable HDPE bailer and nylon cord dedicated to each well. Field and laboratory blanks will be prepared for the groundwater sampling activities to help insure that cross-contamination has not occurred. The laboratory will prepare a blank sample, which will be present in the cooler during the sampling and transportation activities. While in the field collecting groundwater samples, one set of jars

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labeled as the field blank will be prepared. The jars will be filled in the field with distilled water to simulate the groundwater sampling procedures, handling and exposure. The field and laboratory trip blank samples will be analyzed for BTEX indicator contaminants along with the monitoring well groundwater samples.

#### 5. A description of the current and projected future uses of the site;

The current use of the site is as an active gasoline service station. Neighboring properties consist solely of commercial and residential properties. The site and surrounding area are likely to retain similar usage post-remediation, as of the time of this report.

## 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
- Maps showing area covered by barriers and institutional controls;

The institutional controls that will be required following implementation of the plan are an onsite potable well restriction, an on-site industrial/commercial land use restriction, an access denial affidavit and Highway Authority Agreements with IDOT and the City of Peoria.

#### 7. The water supply well survey:

- a. Map(s) showing the 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 other 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);

Please refer to the previously submitted reports.

#### 8. Appendices;

a. References and data sources report that are organized; and

Not applicable for this CAP.

b. Field logs, well logs, and reports of laboratory analyses;

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Please refer to previously submitted reports.

#### 9. Site map(s) meeting the requirements of 35 Ill. Adm. Code 732.110(a) or 734.440;

Please refer to Figure 2.

### 10. Engineering design specifications, diagrams, schematics, calculations, manufacturer's specifications, etc.;

Conventional technology remediation of the contaminant plume defined as impacted in excess of the calculated site-specific Tier 2 SROs for human exposure pathways will be excavated for transport and proper disposal. Those soils defined as impacted in excess of the Tier 1 SROs, but below the calculated Tier 2 SROs, will be left to remain in-place on-site.

#### 11. A description of bench/pilot studies;

Not applicable for this LUST facility.

## 12. Cost comparison between proposed method of remediation and other methods of remediation;

Not applicable for this LUST facility.

#### 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;

The site-specific data collected during the Site Investigation activities was utilized to determine Tier 2 SROs for the Soil Component of the Groundwater Ingestion Exposure Pathway (using Equations S18 and S28) and Soil Inhalation Exposure Pathway for Residential properties (using Equations S4, S6 and S8 as appropriate) and Construction Worker populations (using Equations S5 and S9 as appropriate). The data calculations sheets, supporting laboratory sheets along with SSL IEPA forms are included in **Attachment 1.** Contaminant fate transport modeling will be performed and included in the *CACR*.

#### 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 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

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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.

Not applicable for this LUST facility.

#### 15. Property Owner Summary Form

This will be provided within the CACR for this facility.

#### 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;
  - 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 <2.0 or >12.5; and
  - e. Contaminated soils which contain arsenic, barium, cadmium, chromium, lead, mercury, or selenium (or their associated salts) do not exhibit any of the toxicity characteristics of hazardous waste per 35 Ill. Adm. Code 721.124.

Not applicable for this LUST facility.

2. A discussion of how any exposure pathways are to be excluded.

Not applicable for this LUST facility.

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#### 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: Illico Independent Oil Co. Contact: David Golwitzer Address: 2201 Woodlawn Rd. Suite 600 City: Lincoln State: Illinois ZIP Code: 62656 Phone: (217) 732-4193 Signature: Market Safet

#### Consultant

Company:	Marlin Environmental, Inc.
Contact:	Joe Buhlig
Address:	3900 Wood Duck Dr. Suite F
City:	Springfield
State:	Illinois
ZIP Code:	62711
Phone	
Signature:	for Joe Bullis
	-100

12/14/15

I certify under penalty of law that all activities that are the subject of this plan were conducted under my supervision or were conducted under the supervision of another Licensed Professional Engineer or Licensed Professional Geologist and reviewed by me; that this plan and all attachments were prepared under my supervision; that, to the best of my knowledge and belief, the work described in this plan has been completed in accordance with the Environmental Protection Act [415 ILCS 5], 35 III. Adm. Code 731, 732, or 734, and generally accepted standards and practices of my profession; and that the information presented is accurate and complete. I am aware there are significant penalties of sulmitting 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].

Date:

#### Licensed Professional Engineer

Name:	Jeff R. Wienhoff
Company: _	Marlin Environmental, Inc.
Address:	3900 Wood Duck Dr. Suite F
City:	Springfield
State:	Illinois
ZIP Code:	62711
Phone:	(217) 726-7569 x250
Ill. Registrati	on No.: <u>062-058441</u>
License Expi	ration Date: 11-30-2017
Signature:	(1)///
Date:	/// Malx

#### L.P.E. Seal

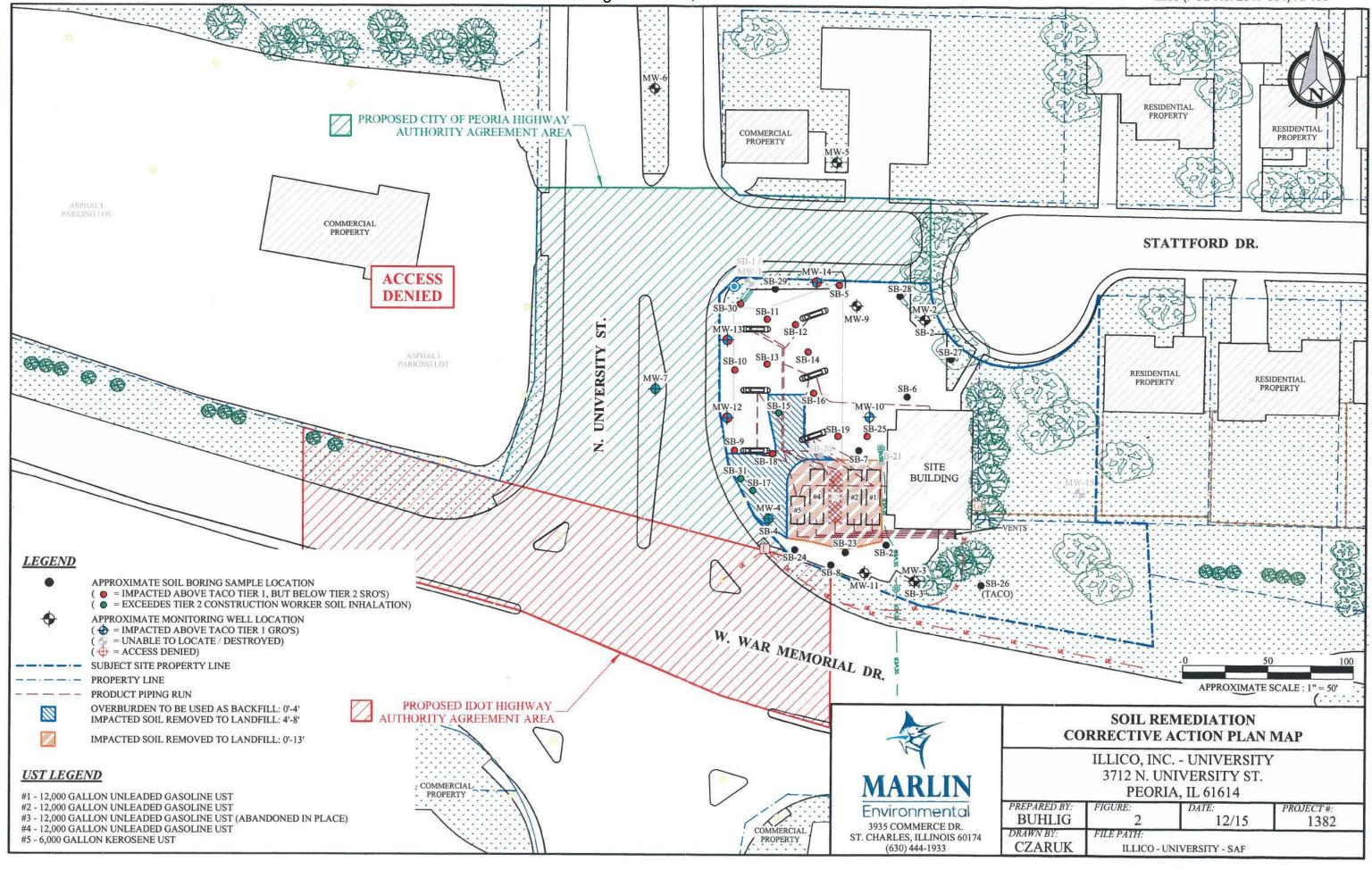
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**FIGURES** 

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	TABLES
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#### TABLE I

Comparison of Tier 1 SRO Exceedences On-Site to Applicable Tier 2 SROs

Sample ID	Depth	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	
Component of	CO Tier 2 f Groundw Class I Gro	ater Ingestion	310 110	61,400 60,600	<b>43,000</b> 83,100	614,000	12,000 ^ 25,600	
	ACO Tier	-	No.M-L: 16,400 7,000 5,460	N/E	N/E	14, 400,000 798,000 806,000 #	N/E	
TACO Tier 2 Industrial / Commercial Inhalation SROs		No M-L: 31,400 11,800 9,180	<u>N/E</u>	<u>N/E</u>	798,000 806,000	<u>N/E</u>		
TACO Tier 2 Construction Worker Inhalation SROs		No M-L: 44, 200 246,000 191,000	NoM-L: 4,490,000 580,000 1,607,000#	NoM-L: 11,300,000 350,000 1,009,000#	No M-L: 595,000 798,000 806,000#	NoM-L: 10, 900 9,400 7,350		
	ACO Tier : Saturation I		N/E	1,569,000	997,000	798,000 806,000	N/E	
SB-4	4'-6'	11/18/1999	<1,100	11,000	37,000	193,000	11,000	
SB-5	2'-4'	11/18/1999	<63	*	*	7,700	2,100	1
3D*3	4'-6'	11/18/1999	1,200	23,000	*	74,000	*	1
SB-9	0'-4'	11/22/2016	230	*		8,100	*	1   _
3D-9	4'-8'	11/22/2015	690	58,000	57,000	370,000	*	Remove
SB-10	0'-4'	11/22/1000	7,900	83,000	42,000	182,000	3,000	1
SB-10	4'-8'	11/22/1999	1,400	16,000	*	35,000	*	1
MW-6	4'-6'	11/16/2000	*	*	*	*	2,400	1
MW-7	7'-9'	11/16/2000	13,000	160,000	92,000	420,000	25,000	1
CD 11	3.5'-5'	00/07/2012	288	*	*	*	*	
SB-11	7'-8'	08/07/2012	3,980	51,600	31,600	159,000	4,630	1
SB-12	3.5'-5'	08/07/2012	51.5	*	*	*	*	1
SB-12	7'-8'	08/07/2012	629.0	*	*	13,700	*	1
SB-13	3.5'-5'	08/07/2012	2,050	*	*	8,400	*	1
SD-13	6'-7'	08/07/2012	11,700	92,700	29,700	142,000	*	1
SB-14	3.5'-5'	08/07/2012	669	*	*		*	1
3D-14	6'-7'	08/07/2012	833	*	*	*	*	1
SB-15	3.5'-5'	08/07/2012	4,210	24,100	*	49,900	2,150	1
3B-13	5'-6'	08/07/2012	41,800	305,000	103,000	568,000	5,340	1
SB-16	3.5'-5'	08/07/2012	1,010	*	*	*	*	1
3D-10	6'-7'	08/07/2012	3,700	*	*	36,100	*	1
SB-17	3.5'-5'	08/08/2012	337	*	*	7,820	*	Replaced by
35-17	6'-7'	06/06/2012	<1.200 *	*	130,000	574,000	45,300	SB-31
SB-18	3,53'-5'	08/08/2012	1,190	*	*	*	*	000
3D-10	6'-7'	00/00/2012	6,790	*	27,000	112,000	4,160	1
SB-19	3.5'-5'	08/08/2012	40.5	*	*	*	*	1
3D-13	6'-7'	00/00/2012	365	*	*	*	*	]
SB-25	3.5'-5'	08/08/2012	148	*	*	*	*	1
SB-30	0'-2'	03/10/2015	101	*	*	*	*	1
30-30	2'-4'	03/10/2013	402	*	*	*	*	1
SB-31	2'-4'	03/10/2015	1,600	*	*	24,200	*	1
3D-31	4'-6'	03/10/2013	16,800	27,100	243,000	1,190,000	20,700	1
MW-12	2'-4'	3/10/2015	1,660	*	42,300	168,000	4,200	1
IVI VV -1 Z	4'-6'	3/10/2015	4,230	*	35,500	178,000	1,990	1
MW-13	4'-6'	03/10/2015	347	*	*	6,610	*	1
MW-14	4'-6'	03/10/2015	654	*	*	44,600	*	1

#### Notes

Only samples above Tier 1 objectives collected on-site listed in the table.

Analytical testing results for BTEX and PNAs are expressed in parts-per-billion (ppb) concentrations.

2	-	-	-
1	3		-3

Indicates Exceeds TACO Tier 2 Soil Comp. of Groundwater Ingestion SRO for Class I GW.

Red Indicates Exceeds TACO Tier 2 Residential Soil Inhalation SRO.

Underlined Indicates Exceeds TACO Tier 2 Industrial / Commercial Soil Inhalation SRO.

Shaded Indicates Exceeds TACO Tier 2 Construction Worker Soil Inhalation SRO.

Sample below Tier 1 SROs for specified contaminant

Calculated Tier 2 Objective was more restrictive than Tier 1, therefore Tier 1 objective was utilized

Calculated Tier 2 Objective exceeded soil saturation limit (SSL), therefore appropriate SSL was utilized

N/E Specified Exposure Route SRO not exceeded at Tier 1 for on-site samples.

Page 1 of 1

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	ATTACHMENT 1

The Agency is authorized to record to the information most section in the Agency is authorized to record to the information may result in a civil penalty of that to exceed \$50,000 of the violation and an authorized civil penalty of the to exceed \$50,000 of the violation continues (415 ILCS 5/42). Any person who knowingly makes a false material statement or representation in any label, manifest, record, report, permit, or license, or other document filled, 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 5/57.17). This form has been approved by the Forms Management Center.

# Illinois Environmental Protection Agency Leaking Underground Storage Tank Program SSL Input Parameters for Use with Tier 2 Calculations

A A14 11 4161 41		
	A.	Site Identification

IEMA Incident # (6- or 8-d	igit): 923441	IEPA LPC # (10-digit): 1430655263
Site Name: Illico Indepen	dent Oil Co.	
Site Address (not a P.O. E	Box): 3712 University Street	
City: Peoria	County: Peoria	Zip Code: 61614
Leaking UST Technical File	e	
Tier 2 Calculation Infor	× .	
	, S17, S28): <u>S29: Soil Saturation</u>	
Contact Information for Ind	vidual Who Performed Calculation	ons: Joe Buhlig Project Manager,
Marlin Environmental, Inc.	(217) 726-7569 x300	
Land Use: not applicable	Soil T	ype: Clay Silty Clay
Groundwater:	I Class II	5 25
Mass Limit: X Yes N	lo If Yes, then Specify Acreage	:

Does not

B.

- 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	V 11-12		Unit	Symbol		Unit
AT (ingestion)	=		yr	da	=	m
AT (inhalation)	=	- 411	yr	ds	=	m
AT <sub>c</sub>	=	70	yr	D <sub>A</sub>	=	cm <sup>2</sup> /s
BW	=		kg	Di		cm²/s
C <sub>sat</sub>	=		mg/kg	D <sub>w</sub>	=	cm <sup>2</sup> /s
$C_{w}$	=		mg/L	DF		unitless
d	=		m	ED (ingestion of carcinogens)	=	уг

Incident#: Electronic FilingthReceived, Clerk's Office 7/2/201201760840 PRc496

Symbol			Unit	Symbol			Unit
ED (inhalation of carcinogens)	=		yr	K <sub>oc</sub>	=	see page 3	cm³/g or L/kg
ED (ingestion of noncarcinogens)	=		yr	Ks		8	m/yr
ED (inhalation of noncarcinogens)	=		yr	L	=		m
ED (ingestion of groundwater)			yr	PEF	=		m³/kg
ED <sub>M-L</sub>	=	70	yr	PEF'			m³/kg
EF	=		d/yr	Q/C (VF equations)			(g/m²-s)/ (kg/m³)
F(x)	=	0.194	unitless	Q/C (PEF equations)	=		(g/m²-s)/ (kg/m³)
f <sub>oc</sub>		0.0179	g/g	RfC	=		mg/m³
$GW_{obj}$			mg/L	RfD。	=		mg/(kg-d)
H		see page 3	unitless	S	==	see page 3	mg/L
1	=		m/m	SF <sub>o</sub>	=		(mg/kg-d) <sup>-1</sup>
1	=	0.3	m/yr	Т	=		s
I <sub>M-L</sub>	==	0.18	m/yr	T <sub>M-L</sub>	=	30	yr
IF <sub>soil-adj</sub>	=	114	(mg-yr)/(kg-d)	THQ	=	1	unitless
IR <sub>soil</sub>	=		mg/d	TR			unitless
$IR_w$	=		L/d	U <sub>m</sub>		4.69	m/s
К	#	A22.5	m/yr	URF	=		(µg/m³)-1
K <sub>d</sub> (non-ionizing organics)	=	see page 3	cm³/g or L/kg	Ut	=	11.32	kg/m³
K <sub>d</sub> (ionizing organics)	=		cm³/g or L/kg	V	Ξ		unitless
K₀ (inorganics)	=		cm³/g or L/kg	VF	=		m³/kg

### Incident #: Etectronic Filingth Received, Clerk's Office 17/27/2017/2017/2017/2019

Symbol			Unit
VF'	=		m³/kg
VF <sub>M-L</sub>	=		m³/kg
VF' <sub>M-L</sub>	=		m³/kg
η	=	0.38	L <sub>pore</sub> /L <sub>soil</sub>
$\theta_{a}$	Ħ	0.19 0.05	$L_{\text{air}}/L_{\text{soil}}$

Symbol			Unit
$\theta_{w}$	=	0.17 0.33	L <sub>water</sub> /L <sub>soil</sub>
ρ <sub>b</sub>		1.684	kg/L or g/cm <sup>3</sup>
$ ho_{s}$	=	2.702	g/cm <sup>3</sup>
$\rho_{\rm w}$	=	1	g/cm <sup>3</sup>
1/(2b+3)	=	0.042	unitless

	Result	Unit(s)
=		mg/kg
=		mg/kg
=		mg/kg
=		mg/kg
=		mg/kg
=	2	mg/L
=		mg/kg
=		mg/kg
=		mg/kg
#	See Box Below	mg/L

### Henry's Law Constant (H'): (dimensionless)

Toluene = 0.271 Ethylbenzene = 0.324 Total Xylenes = 0.271

#### Solubility in Water (S): (mg/L)

Toluene = 530 Ethylbenzene = 170 Total Xylenes = 110

# Organic Carbon Partition Coefficient (K<sub>oc</sub>): (cm<sup>3</sup>/g)

Toluene = 158 Ethylbenzene = 320 Total Xylenes = 398

#### Soil-Water Partition Coefficient (K<sub>d</sub>): Equation S19 (cm<sup>3</sup>/g)

Toluene = 2.83 Ethylbenzene = 5.73 Total Xylenes = 7.12

### Solution to Equation S29: (mg/kg)

Toluene = 1,569 1,607 Ethylbenzene = 997 1,009 Total Xylenes = 798 806

# Electronic Filing: Received, Clerk's Office 17/28/2017-084) R. 197 DERIVATION OF THE SOIL SATURATION LIMIT, Csat SSL Equations S19 and S29

#### Illico Independent Oil Co.

$$C_{sat} = \frac{S}{\rho_b} \bullet \left[ \left( K_d \bullet \rho_b \right) + \theta_w + \left( H' \bullet \theta_a \right) \right]$$

SYMBOL	PARAMETER	UNITS	PARAMETE	R VALUES
S	Solubility in Water	mg/l	Toluene	530
			Gravel	2.0
			Sand	1.8
$\rho_{b}$	Bulk Soil Density	g/cm <sup>3</sup>	Silt	1.6
			Clay	1.7
			or Site-Specific	1,684
K <sub>d</sub>	Soil-Water Partition Coefficient	cm <sup>3</sup> /g	$K_d = K_c$	oc ● foc
Koc	Organic Carbon Partition Coefficient	cm <sup>3</sup> /g	Toluene	158
$f_{oc}$	Fractional Organic Carbon	g/g	Site specific	
			Gravel	0.20
	Water Filled Soil	Dimensionless	Sand	0.18
$\theta_{\mathbf{w}}$	Porosity		Silt	0.16
	Totosity		Clay	0.17
		W	or Site-Specific	Equation S20 O. 33
H'	Henry's Law Constant	Dimensionless	Toluene	0.271
			Gravel	0.05
	Air Filled Soil		Sand	0.14
$\theta_{a}$	Porosity	Dimensionless	Silt	0.24
	rotosity		Clay	0.19
			or Site-Specific	Equation S21 0.05

#### INPUT PARAMETER VALUES/INTERMEDIATE VALUES

S=	530 mg/l	$K_d =$	2.83E+00 cm <sup>3</sup> /g
$\rho_b =$	1.68 g/cm <sup>3</sup>	$\theta_{\rm w} =$	0.17 dimensionless 0.33
K <sub>oc</sub> =	158 L/kg	H'=	0.271 dimensionless
f <sub>oc</sub> =	17,900 mg/kg	$\theta_a =$	0.19 dimensionless 0.05
f <sub>oc</sub> =	0.0179 g/g		

C<sub>sat</sub>= 1,568.65 mg/kg

Calculated Tier 2 C<sub>sat</sub> =

1,569 mg/kg 1,607

#### Tier 1 Non-Exceedence Check (value of C<sub>sat</sub> will change if Tier 2 C<sub>sat</sub> is less than Tier 1 C<sub>sat</sub>):

C <sub>sat</sub> (Soil Comp of GW Ingestion) =	1,569 mg/kg	1,607
C <sub>sat</sub> (Soil Outdoor Inhalation) =	1,569 mg/kg	1,607

# Electronic Filing: Received, Clerk's Office 17/28/2017-084) R. 198 DERIVATION OF THE SOIL SATURATION LIMIT, Csat SSL Equations S19 and S29

#### Illico Independent Oil Co.

$$C_{sat} = \frac{S}{\rho_b} \bullet \left[ \left( K_d \bullet \rho_b \right) + \theta_w + \left( H' \bullet \theta_a \right) \right]$$

SYMBOL	PARAMETER	UNITS	PARAMETE	ER VALUES
S	Solubility in Water	mg/l	Ethylbenzene	170
			Gravel	2.0
			Sand	1.8
$\rho_b$	<b>Bulk Soil Density</b>	g/cm <sup>3</sup>	Silt	1.6
			Clay	1.7
			or Site-Specific	1.684
K <sub>d</sub>	Soil-Water Partition Coefficient	cm <sup>3</sup> /g	$K_d = K_s$	
K <sub>oc</sub>	Organic Carbon Partition Coefficient	cm <sup>3</sup> /g	Ethylbenzene	320
f <sub>oc</sub>	Fractional Organic Carbon	g/g	Site specific	
			Gravel	0.20
	Water Filled Soil	Dimensionless	Sand	0.18
$\theta_{\mathrm{w}}$			Silt	0.16
	Porosity		Clay	0.17
			or Site-Specific	Equation S20 O.33
H'	Henry's Law Constant	Dimensionless	Ethylbenzene	0.324
			Gravel	0.05
	Air Filled Soil		Sand	0.14
$\theta_{\mathbf{a}}$		Dimensionless	Silt	0.24
	Porosity		Clay	0.19
			or Site-Specific	Equation S21 0.05

#### INPUT PARAMETER VALUES/INTERMEDIATE VALUES

S=	170 mg/l	$K_d =$	5.73E+00 cm <sup>3</sup> /g
$\rho_b =$	1.68 g/cm <sup>3</sup>	$\theta_{w} =$	0.17 dimensionless 0.33
K <sub>oc</sub> =	320 L/kg	H'=	0.324 dimensionless
f <sub>oc</sub> =	17,900 mg/kg	$\theta_a =$	0.19 dimensionless 0.05
f <sub>oc</sub> =	0.0179 g/g		State of the second sec

C<sub>sat</sub> = 997.14 mg/kg

Calculated Tier 2 C<sub>sat</sub> = 997 mg/kg 1,009

Tier 1 Non-Exceedence Check (value of C<sub>sat</sub> will change if Tier 2 C<sub>sat</sub> is less than Tier 1 C<sub>sat</sub>):

C <sub>sat</sub> (Soil Comp of GW Ingestion) =	997 mg/kg	1,009
C <sub>sat</sub> (Soil Outdoor Inhalation) =	997 mg/kg	1,009

# Electronic Filing: Received, Clerk's Office 17/28/2017-084) R. 199 DERIVATION OF THE SOIL SATURATION LIMIT, Csat SSL Equations S19 and S29

#### Illico Independent Oil Co.

$$C_{sat} = \frac{S}{\rho_b} \bullet \left[ \left( K_d \bullet \rho_b \right) + \theta_w + \left( H' \bullet \theta_a \right) \right]$$

SYMBOL	PARAMETER	UNITS	PARAMETE	ER VALUES
S	Solubility in Water	mg/l	Total Xylenes	110
			Gravel	2.0
			Sand	1.8
$\rho_b$	<b>Bulk Soil Density</b>	g/cm <sup>3</sup>	Silt	1.6
			Clay	1.7
			or Site-Specific	
K <sub>d</sub>	Soil-Water Partition Coefficient	cm <sup>3</sup> /g	$K_d = K_d$	oc ● foc
K <sub>oc</sub>	Organic Carbon Partition Coefficient	cm <sup>3</sup> /g	Total Xylenes	398
$f_{oc}$	Fractional Organic Carbon	g/g	Site specific	
			Gravel	0.20
	Water Filled Soil Porosity	Dimensionless	Sand	0.18
$\theta_{\mathbf{w}}$			Silt	0.16
	Torosity		Clay	0.17
			or Site-Specific	Equation S20 O.33
H'	Henry's Law Constant	Dimensionless	Total Xylenes	0.271
			Gravel	0.05
	Air Filled Soil		Sand	0.14
$\theta_a$	Porosity	Dimensionless	Silt	0.24
	rorosity		Clay	0.19
		115	or Site-Specific	Equation S21 0.05

#### INPUT PARAMETER VALUES/INTERMEDIATE VALUES

S=	110 mg/l	$K_d =$	7.12E+00 cm <sup>3</sup> /g
$\rho_b =$	1.68 g/cm <sup>3</sup>	$\theta_{\rm w} =$	0.17 dimensionless 0.33
K <sub>oc</sub> =	398 L/kg	H'=	0.271 dimensionless
f <sub>oc</sub> =	17,900 mg/kg	$\theta_a =$	0.19 dimensionless 0.05
f=	0.0179 g/g		

C<sub>sat</sub> – 798.13 mg/kg

Calculated Tier 2 C sat =

798 mg/kg 806

### Tier 1 Non-Exceedence Check (value of C<sub>sat</sub> will change if Tier 2 C<sub>sat</sub> is less than Tier 1 C<sub>sat</sub>):

C <sub>sat</sub> (Soil Comp of GW Ingestion) =	798 mg/kg	806
C <sub>sat</sub> (Soil Outdoor Inhalation) =	798 mg/kg	806

The Agency is authorized to require information with information with information may result in a civil penalty of not to exceed \$50,000,000 for the violation and an additional civil penalty of not to exceed \$50,000,000 for the violation and an additional civil penalty of not to exceed \$10,000,000 for the violation and an additional civil penalty of not to exceed \$10,000,000 for the violation continues (415 ILCS 5/42). Any person who knowingly makes a false material statement or representation in any label, manifest, record, report, permit, or license, or other document filled, 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 5/57.17). This form has been approved by the Forms Management Center.

# Illinois Environmental Protection Agency Leaking Underground Storage Tank Program SSL Input Parameters for Use with Tier 2 Calculations

A.	Site	Identification

Land Use: not applicable

Groundwater:

B.

Site Address (not a P.O. Box):	3712 University Street	
City: Peoria	County: Peoria	Zip Code: 61614
eaking UST Technical File		
ier 2 Calculation Informati	on	
Fier 2 Calculation Informati		il Component of GW Ingestion SROs

Soil Type: Clay Silty Clay

- Mass Limit Acreage other than defaults must always be rounded up.

Class II

Mass Limit: ▼ Yes ► No If Yes, then Specify Acreage: ▼ 0.5 ► 1

- 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.

X Class I

Symbol			Unit	Symbol			Unit
AT (ingestion)	=		уг	da	=		m
AT (inhalation)	=		yr	ds	=	2.4384	m
AT <sub>c</sub>	=	70	yr	D <sub>A</sub>	=		cm²/s
BW	=		kg	D <sub>i</sub>	=		cm²/s
C <sub>sat</sub>	=		mg/kg	D <sub>w</sub>	=	3	cm <sup>2</sup> /s
C <sub>w</sub>	=	see page 3	mg/L	DF	=	20	unitless
d	=		m	ED (ingestion of carcinogens)	of =	2000	yr

				E7011aprilitationo		u 000.	rocrippiioabio
Symbol			Unit	Symbol			Unit
ED (inhalation of carcinogens)	=		yr	K <sub>oc</sub>	=		cm <sup>3</sup> /g or L/kg
ED (ingestion of noncarcinogens)	=		yr	Ks	=		m/yr
ED (inhalation of noncarcinogens)	=		уг	L	=		m
ED (ingestion of groundwater)	=		yr	PEF	=		m³/kg
ED <sub>M-L</sub>	=	70	yr	PEF'	=		m³/kg
EF	=		d/yr	Q/C (VF equations)	=		(g/m <sup>2</sup> -s)/ (kg/m <sup>3</sup> )
F(x)	=	0.194	unitless	Q/C (PEF equations)	=		(g/m <sup>2</sup> -s)/ (kg/m <sup>3</sup> )
f <sub>oc</sub>	=		g/g	RfC	=		mg/m³
GW <sub>obj</sub>	=	see page 3	mg/L	RfD。	=		mg/(kg-d)
H'	=		unitless	S	=		mg/L
i	=		m/m	SF <sub>o</sub>	=		(mg/kg-d) <sup>-1</sup>
1	=	0.3	m/yr	Т	=		s
I <sub>M-L</sub>	=	0.18	m/yr	T <sub>M-L</sub>	=	30	yr
IF <sub>soil-adj</sub>	=	114	(mg-yr)/(kg-d)	THQ	=	1	unitless
IR <sub>soil</sub>	=		mg/d	TR	=		unitless
IR <sub>w</sub>	=		L/d	U <sub>m</sub>	=	4.69	m/s
к	=		m/yr	URF	=		(µg/m³)-1
K <sub>d</sub> (non-ionizing organics)	=		cm³/g or L/kg	Ut	=	11.32	kg/m³
K <sub>d</sub> (ionizing organics)	=		cm³/g or L/kg	V	=		unitless
K <sub>d</sub> (inorganics)	=		cm <sup>3</sup> /g or L/kg	VF	=		m³/kg

#### Electronic Filing; Received Clerk's Office 7/28/2017017-08/4) Recalls Incident #:

Symbol		Unit
VF'	=	m³/kg
VF <sub>M-L</sub>	=	m³/kg

Symbol		Unit
VF'	=	m³/kg
VF <sub>M-L</sub>	=	m³/kg
VF' <sub>M-L</sub>	=	m³/kg
η	=	$L_{pore}/L_{soil}$
$\theta_{a}$	=	$L_{air}/L_{soil}$

Equation	Result	Unit(s)
S1	=	mg/kg
S2	=	mg/kg
S3	=	mg/kg
S4	=	mg/kg
S5	=	mg/kg
S6	=	mg/L
<b>S</b> 7	=	mg/kg
S17	=	mg/kg
S28	= See Box to Right	mg/kg
S29	=	mg/L

Symbol			Unit
$\theta_{w}$	=		L <sub>water</sub> /L <sub>soil</sub>
$\rho_{b}$	=	1.684	kg/L or g/cm <sup>3</sup>
ρ <sub>s</sub>	=		g/cm <sup>3</sup>
$\rho_{\text{w}}$	=	1	g/cm <sup>3</sup>
1/(2b+3)	=		unitless

#### Groundwater Cleanup Objectives (GWobi): (mg/L)

Benzene: 0.005 Toluene: 1.0 Ethylbenzene: 0.7 Total Xylenes: 10.0 Naphthalene: 0.14

#### Target Soil Leachate Concentrations (C<sub>W</sub>): (mg/L)

Benzene: 0.1 Toluene: 20.0 Ethylbenzene: 14.0 Total Xylenes: 200.0 Naphthalene: 2.8

#### Solution to Equation S28: (mg/kg)

Benzene = 0.310 Toluene = 61.4 Ethylbenzene = 43.0 Total Xylenes = 614\* Naphthalene = 12.00

\* = Tier 2 Soil Saturation Limit needs to be calculated

# Electronic Filing: Received, Clerk's Office 7/28/2017/017-084) R. 203 MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE SSL EQUATION S28

#### Illico Independent Oil Co. - Peoria

Remediation Objective =

 $(C_w \times I_{M-L} \times ED_{M-L}) / (\rho_b \times d_s)$ 

(milligrams per kilogram, mg/kg)

Target Soil Leachate Concentration C<sub>w</sub> = (milligrams per kilogram, mg/kg)

DF x GWobj

(mmBrania har min Brania) mB

Dilution Factor DF=

20

(unitless)

#### MODEL PARAMETERS INPUT:

Symbol	Unit	Parameter			Values
I <sub>M-L</sub>	m/yr	Infiltration Rate for Eq S28			0.18
1	m/yr	Infiltration Rate			0.3
GW <sub>obj</sub>	mg/L	Ground Water Remdediation Objective			0.005
5.7.00			Class I	Class II	
		Benzene	0.005	0.025	
d <sub>s</sub>	m			2.4384	
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28			70
ρ <sub>b</sub>	kg/L		Dry Soil Bulk Density		1.68 4

#### MODEL CALCULATED OUTPUTS:

C <sub>w</sub> =	0.1

	REFERENCE FOR INPUT PARAMETERS		
	ρb		
	Gravel	2	
	Sand	1.8	
	Silt	1.6	
1	Clay	1.7	
	OI	site-specific 1.684	

Calculated Soil Remediation Objective:

Soil Remediation Objective = 0.30685 mg/kg

Soil Saturation Limit Exceedence Check (value of SRO will change if soil saturation limit is exceeded for chemical):

Soil Remediation Objective =	0.31 mg/kg
Soil Remediation Objective =	310 µg/kg

### Electronic Filing: Received, Clerk's Office 77/28/1202777-084) R. 204

# MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE SSL EQUATION S28

#### Illico Independent Oil Co. - Peoria

Remediation Objective = (milligrams per kilogram, mg/kg)

 $(C_w \times I_{M\text{-}L} \times ED_{M\text{-}L}) \, / \, (\rho_b \times d_s)$ 

Target Soil Leachate Concentration C<sub>w</sub> = (milligrams per kilogram, mg/kg)

DF x GWobj

Dilution Factor DF= (unitless)

20

MODEL PARAMETERS INPUT:

Symbol	Unit	Parameter		Values
I <sub>M-L</sub>	m/yr	Infiltration Rate for Eq S28		0.18
I	m/yr	Infiltration Rate		0.3
GW <sub>obj</sub>	mg/L	Ground Water Remdiation Objective		1
E-947/		Class I	Class II	
		Toluene 1	2.5	
d <sub>s</sub>	m	Depth of Source		2.4384
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28		70
ρ <sub>b</sub>	kg/L	Dry Soil Bulk Density		1.684

#### MODEL CALCULATED OUTPUTS:

$C_w =$	20
---------	----

	REFERENCE FOR INPUT PARAMETERS		*
		ρb	
	Gravel	2	
1	Sand	1.8	
l	Silt	1.6	
	Clay	1.7	
	or	site-specific \.684	

Calculated Soil Remediation Objective:

Soil Remediation Objective = 61.36963 mg/kg

Soil Saturation Limit Exceedence Check (value of SRO will change if soil saturation limit is exceeded for chemical):

Soil Remediation Objective =	61.4 mg/kg
Soil Remediation Objective =	61,400 µg/kg

# Electronic Filing: Received, Clerk's Office Ad 2017-084) R. 205 MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE SSL EQUATION S28

#### Illico Independent Oil Co. - Peoria

Remediation Objective = (milligrams per kilogram, mg/kg)

 $(C_w \times I_{M-L} \times ED_{M-L}) / (\rho_b \times d_s)$ 

Target Soil Leachate Concentration Cw = (milligrams per kilogram, mg/kg)

DF x GWobj

Dilution Factor DF= (unitless)

20

#### MODEL PARAMETERS INPUT:

Symbol	Unit		Parameter		Values
I <sub>M-L</sub>	m/yr		Infiltration Rate for Eq S28	8	0.18
I	m/yr		Infiltration Rate		0.3
GW <sub>obj</sub>	mg/L	G	round Water Remdiation Obje	ective	0.7
			Class I	Class II	
		Ethylbenzene	0.7	1	
d <sub>s</sub>	m		Depth of Source		2.4384
ED <sub>M-L</sub>	year		Exposure Duration for Eq S2	28	70
$\rho_b$	Kg/L		Dry Soil Bulk Density		1.684

#### MODEL CALCULATED OUTPUTS:

C =	1.4
Cw -	14

REFERENCE FOR INPUT PARAMETERS		
ρb		
Gravel	2	
Sand	1.8	
Silt	1.6	
Clay	1.7	//
or s	site-specific   .684	

Calculated Soil Remediation Objective:

Soil Remediation Objective = 42.95874 mg/kg

Soil Saturation Limit Exceedence Check (value of SRO will change if soil saturation limit is exceeded for chemical):

Soil Remediation Objective =	43.0 mg/kg
Soil Remediation Objective =	43,000 μg/kg

The Agency is authorized to resident in the Second of the Control

# Illinois Environmental Protection Agency Leaking Underground Storage Tank Program SSL Input Parameters for Use with Tier 2 Calculations

-	CONTRACTOR OF			
Α.	Site	1 -4	4:4:	41
A	SITE	ınen	TITICS	TION
2 60	0160	100010	CHILOCA	

Zip Code	e: 61604	
-	Zip Code	Zip Code: 61604

#### B. Tier 2 Calculation Information

Equation(s) Used (ex: S12, S17, S28): S6, S7 and S26/S27: Inhalation of Carcinogens SROs

Contact Information for Individual Who Performed Calculations: Joe Buhlig Project Manager,

Marlin Environmental, Inc. (217) 726-7569 x300

Land Use: Res., Ind./Com. & Const. Worker Soil Type: Clay Silty Clay

Groundwater: X Class I Class II

Mass Limit: X Yes No If Yes, then Specify Acreage: X 0.5 T 1 T 2 T 5 T 10 T 30 Lgs 2

- 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 (ingestion)	=		yr	d <sub>a</sub>	=		m
AT (inhalation)	=		yr	ds	=	2.4384	m
AT <sub>c</sub>	=	70	yr	D <sub>A</sub>	=		cm <sup>2</sup> /s
BW			kg	D <sub>i</sub>	=		cm <sup>2</sup> /s
C <sub>sat</sub>	=		mg/kg	D <sub>w</sub>	=		cm <sup>2</sup> /s
C <sub>w</sub>	=		mg/L	DF	=		unitless
d	=		m	ED (ingestion of carcinogens)	=		yr

Symbol			Unit	Symbol			Unit
ED (inhalation of carcinogens)	=	see page 3	yr	K <sub>oc</sub>	=		cm <sup>3</sup> /g or L/kg
ED (ingestion of noncarcinogens)	=		yr	Ks	=		m/yr
ED (inhalation of noncarcinogens)	=		yr	L	=		m
ED (ingestion of groundwater)			yr	PEF	=		m³/kg
ED <sub>M-L</sub>	-	70	yr	PEF'	=		m³/kg
EF	=	see page 3	d/yr	Q/C (VF equations)	=	97.78 76.08	(g/m²-s)/ (kg/m³)
F(x)	=	0.194	unitless	Q/C (PEF equations)	(=)		(g/m²-s)/ (kg/m³)
f <sub>oc</sub>	=		g/g	RfC	=		mg/m³
$GW_{obj}$	=		mg/L	RfD <sub>o</sub>	=		mg/(kg-d)
H'			unitless	S	=		mg/L
i	=	-11	m/m	SF <sub>o</sub>	7700		(mg/kg-d) <sup>-1</sup>
Ţ	=	0.3	m/yr	Т	=		s
I <sub>M-L</sub>	=	0.18	m/yr	T <sub>M-L</sub>	=	30	yr
IF <sub>soil-adj</sub>	=	114	(mg-yr)/(kg-d)	THQ	=	1	unitless
IR <sub>soil</sub>	=		mg/d	TR	=	0.000001	unitless
$IR_w$	=		L/d	U <sub>m</sub>	=	4.69	m/s
K	=	200 5 5 5 5	m/yr	URF	#	see page 3	(µg/m³)-1
K <sub>d</sub> (non-ionizing organics)	=		cm³/g or L/kg	Ut	=	11.32	kg/m³
K <sub>d</sub> (ionizing organics)	=		cm <sup>3</sup> /g or L/kg	V			unitless
K₀ (inorganics)	=		cm <sup>3</sup> /g or L/kg	VF	=		m³/kg

Symbol			Unit
VF'	2=1		m³/kg
VF <sub>M-L</sub>	=	9,569.33 17, 508.76	m³/kg
VF' <sub>M-L</sub>	=	956.93 1,750.88	m³/kg
ŋ	( <b>=</b> )		L <sub>pore</sub> /L <sub>soil</sub>
$\theta_{a}$			Lair/Lsoil

Symbol			Unit	
$\theta_{\rm w}$	=		L <sub>water</sub> /L <sub>soil</sub>	
ρ <sub>b</sub>	=	1.684	kg/L or g/cm <sup>3</sup>	
ρ <sub>s</sub>	=	40	g/cm <sup>3</sup>	
$\rho_{\text{w}}$	=	1	g/cm <sup>3</sup>	
1/(2b+3)			unitless	

Equation Result	Unit(s)
	Omi(o)
S1 =	mg/kg
S2 =	mg/kg
S3 =	mg/kg
S4 =	mg/kg
S5 =	mg/kg
S6 = See Boxes I	Below mg/L
S7 = See Box B	elow mg/kg
S17 =	mg/kg
S28 =	mg/kg
S29 =	mg/L

### Exposure Frequency (EF): (days/year)

Residential = 350
Industrial/Commercial = 250
Construction Worker = 30

### Exposure Duration (ED): (years)

Residential = 30 Industrial/Commercial = 25 Construction Worker = 1

### Inhalation Unit Risk Factor (URF): [(ug/m<sup>3</sup>)-<sup>1</sup>]

Benzene = 0.0000078

Solution to Equation S6:	Solution to Equation S6:	Solution to Equation S7:
(mg/kg)	(mg/kg)	(mg/kg)
Residential	Industrial/Commercial	Construction Worker
<b>Benzene = 7.0</b>	Benzene = 11.8	Benzene = 246
5. <b>4</b> ե	9.18	) ११

#### EQUATIENE CHOONIC FILING: IRECTIONED, CHECK'S TO THICKNEY AND A TENTRO OF THE PROPERTY OF THE (CARCINOGENS)

#### Illico Independent Oil Co. Peoria, Illinois

Residential, Industrial/Commercial Remediation Objectives for Carcinogenic Contaminants (mg/kg)

$$\frac{TR \bullet AT_c \bullet 365}{URF \bullet 1000} \frac{d}{mg} \bullet EF \bullet ED \bullet \frac{1}{VF}$$

Construction Worker Remediation Objectives for Carcinogenic Contaminants (mg/kg)

$$\frac{TR \cdot AT_c \cdot 365 \frac{d}{yr}}{URF \cdot 1000 \frac{\mu g}{mg} \cdot EF \cdot ED \cdot \frac{1}{VF'}}$$

S26 - Mass-Limit Volatilization Factor for the Inhalation Exposure Route - Residential, Industrial/Commercial (m³/kg) 
$$VF_{M-L} = \frac{Q}{C} \bullet \frac{\left[T_{M-L} \bullet \left(3.15 \bullet 10^7 \frac{s}{yr}\right)\right]}{\rho_b \bullet d_s \bullet 10^6 \frac{cm^3}{m^3}}$$

S27 - Mass-Limit Volatilization Factor for the Inhalation Exposure Route - Construction Worker (m3/kg)

$$VF'_{M-L} = \frac{VF_{M-L}}{10}$$

SYMBOL	PARAMETER	UNITS	PARAMETER VALUES
AT <sub>c</sub>	AVERAGING TIME FOR CARCINOGENS	year	70
ED	EXPOSURE DURATION FOR INHALATION OF CARCINOGEN	year	RESIDENTIAL 30 INDUS/COMM. 25 CONST WRKR 1
EF	EXPOSURE FREQUENCY	d/ут	RESIDENTIAL 350 INDUS/COMM. 250 CONST WRKR 30
TR	TARGET CANCER RISK	unitless	RESIDENTIAL 10 <sup>-6</sup> INDUS/COMM. 10 <sup>-6</sup> CONST WRKR 10 <sup>-6</sup>
URF	INHALATION UNIT RISK FACTOR	("g/m3)-1	7.8x10 <sup>6</sup> benzene
VF <sub>M-L</sub>	VOLATILIZATION FACTOR	m³/kg	REFER TO EQ. S26& S27 WITHIN TACO

SYMBOL PARAMETER		UNITS	PARAMETER VALUES	
d,	DEPTH OF SOURCE	m	SITE SPECIFIC 2.4384	
Рь	DRY BULK DENSITY	g/cm³	1.5, OR GRAVEL=2.0 SAND=1.8 SILT=1.6 CLAY=1.7, OR SITE SPECIFIC 1, 684	
Q/C	INVERSE OF THE MEAN CONCENTRATION AT THE CENTER OF A SQUARE SOURCE	(g/m <sup>2</sup> -s)/(kg/m <sup>3</sup> )	RESIDENTIAL 68.81 INDUS/COMM. 85.81 CONST WRKR 85.81 OR 742.Appendix C, Table H: Q/C by Source Area 7 L. 0	
$T_{ML}$	EXPOSURE INTERVAL	yr	30	

#### INPUT PARAMETERS FOR VF<sub>M-L</sub> RES/INDUS/COM PROP

Source Area	0.5 Acre 2
ds=	2.4384 m
Pb≕	1.684 kg/L
Q/C=	97.78 (g/m <sup>2</sup> -s)/(kg/m <sup>3</sup> ) (Residential) 76.08
Q/C=	97.78 (g/m <sup>2</sup> -s)/(kg/m <sup>3</sup> ) (Industrial/Commercial) 76.08
T <sub>M-L</sub> =	30 yr
VF <sub>M-L</sub> =	22502.71 m³/kg (Residential)
VF <sub>M-L</sub> =	22502.71 m <sup>3</sup> /kg (Industrial/Commercial) 17, 508.7554

#### INPUT PARAMTERS FOR VF'M-L CONSTRUCTION WORKER

Source Area	0.5 Acre 2
ds=	2,4384 m
Pb=	1.684 kg/L
Q/C=	97.78 (g/m <sup>2</sup> -s)/(kg/m <sup>3</sup> ) 76.08
T <sub>M-L</sub> =	30 ут
$VF_{M-L} =$	2250.27 m³/kg 1750.88

#### INPUT PARAMETER VALUES RES/INDUS/COM PROP

ATc=	70	year	
ED=	30	year (Residential)	
ED=	25	year (Industrial/Commercial)	
EF=	350	d/yr (Residential)	
EF=	250	d/yr (Industrial/Commercial)	
TR=	1.00E-06	unitless	
URF=	7.80E-06	( <sup>pg</sup> / <sub>m</sub> ))-1	
$VF_{ML} =$	22502.71	m <sup>3</sup> /kg (Residential)	
VF <sub>M-L</sub> =	22502,71	m3/ke (Industrial/Commercial)	17, 508.7554

INPUT PARAMETER	VALUES FOR	CONSTRUCTION	WORKERS
THE WAY WILLIAM PRIVATE WAY	T CANCEND I COM	COMBINECTION	ALCOHOLDING.

AT <sub>c</sub> =	70	year
ED=	1	year
EF=	30	d/yr
TR=	1.00E-06	unitless
URF=	7.80E-06	("g/m")-1
VF <sub>M-L</sub> =	2250.27	m³/kg

Residential Inhalation Remediation

Objective (S6) = 7.02 mg/kg 5,46

Construction Worker Inhalation	- 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10
Remediation Objective (S7) =	245.70 mg/kg  9

Industrial/Commercial Inhalation Remediation Objective (S6) =

11.79 mg/kg 9.18

#### Soil Saturation Limit Exceedence Check (value of SRO will change if soil saturation limit is exceeded for chemical):

Soil Remediation Objective (Residential Inhalation) = 5.41 7.0 mg/k	, , ,
Soil Remediation Objective (Industrial/Commercial Inhalation) = 9.18 11.8 mg/k	11,800 μg/kg 9,180
Soil Remediation Objective (Construction Worker Inhalation) =  q  246 mg/kg	

#### Tier 1 Soil Remediation Objective Check (value of SRO will default to Tier 1 if calculated Tier 2 SRO is more stringent for chemical):

	Soil Remediation Objective (Residential Inhalation) =	5.46	7.0 mg/kg	7,000 µg/kg	5,460
Se	oil Remediation Objective (Industrial/Commercial Inhalation) =	9.18	11.8 mg/kg	11,800 µg/kg	9,180
	Soil Remediation Objective (Construction Worker Inhalation) =	191	246 mg/kg	246,000 μg/kg	191.000
		-	D 1 41111		1

Parts-Per-Million Parts-Per-Billion

The Agency is authorized to respect the many first of the control

# Illinois Environmental Protection Agency Leaking Underground Storage Tank Program SSL Input Parameters for Use with Tier 2 Calculations

A.	Site	Identification
A.	Site	Identificatio

Site Address (not a P.O. Box):	3712 University Street
City: Peoria	County: Peoria Zip Code: 61614
eaking UST Technical File	
Tier 2 Calculation Informat	on
Equation(s) Used (ex: S12, S17	, S28): S4, S5, S26 & S27: Inhalation of Non-Carcinogens SROs al Who Performed Calculations:  Joe Buhlig Project Manager,
Equation(s) Used (ex: S12, S17 Contact Information for Individua	, S28): S4, S5, S26 & S27: Inhalation of Non-Carcinogens SROs al Who Performed Calculations:  Joe Buhlig Project Manager,
Equation(s) Used (ex: S12, S17	, S28): S4, S5, S26 & S27: Inhalation of Non-Carcinogens SROs al Who Performed Calculations:  Joe Buhlig Project Manager, 7) 726-7569 x300

Use 2

- 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 (ingestion)	=		уг	d <sub>a</sub>			m
AT (inhalation)	=	see page 3	yr	ds		2.4384	m
AT <sub>c</sub>	=	70	yr	D <sub>A</sub>		29 21 322	cm <sup>2</sup> /s
BW	=		kg	Di	=		cm²/s
C <sub>sat</sub>	=	221	mg/kg	D <sub>w</sub>	=		cm <sup>2</sup> /s
C <sub>w</sub>	=		mg/L	DF	=		unitless
d	=		m	ED (ingestion of carcinogens)	=		yr

3636	Ir	10	i	de	er	nt

Symbol			Unit
ED (inhalation of carcinogens)		•	yr
ED (ingestion of noncarcinogens)	=		yr
ED (inhalation of noncarcinogens)	=	see page 3	yr
ED (ingestion of groundwater)	93 <b>—</b> 8		yr
ED <sub>M-L</sub>	i=:	70	yr
EF	=	see page 3	d/yr
F(x)	=	0.194	unitless
f <sub>oc</sub>	=		g/g
$GW_{obj}$	=		mg/L
H'	=		unitless
i	=		m/m
I	=	0.3	m/yr
I <sub>M-L</sub>	=	0.18	m/yr
IF <sub>soil-adj</sub>	=	114	(mg-yr)/(kg-d)
IR <sub>soil</sub>	=		mg/d
IR <sub>w</sub>	=		L/d
к	=		m/yr
K <sub>d</sub> (non-ionizing organics)	=		cm <sup>3</sup> /g or L/kg
K <sub>d</sub> (ionizing organics)	=		cm <sup>3</sup> /g or L/kg
K <sub>d</sub> (inorganics)	=		cm³/g or L/kg

Symbol			Unit
K <sub>oc</sub>	=		cm³/g or L/kg
K <sub>s</sub>	=		m/yr
L	8=8		m
PEF	=		m³/kg
PEF'	=		m³/kg
Q/C (VF equations)	=	97.78 76.08	(g/m <sup>2</sup> -s)/ (kg/m <sup>3</sup> )
Q/C (PEF equations)	=	( ) ( )	(g/m²-s)/ (kg/m³)
RfC	=	see page 3	mg/m³
RfD <sub>o</sub>	=	47-5-2	mg/(kg-d)
S	=		mg/L
SF <sub>o</sub>	=		(mg/kg-d) <sup>-1</sup>
Т	=		S
T <sub>M-L</sub>	=	30	уг
THQ	=	1	unitless
TR	=		unitless
U <sub>m</sub>		4.69	m/s
URF		200	(µg/m³)-1
Ut	#	11.32	kg/m³
V	=		unitless
VF	-	· · · · · ·	m³/kg

Symbol			Unit
VF'	=		m³/kg
VF <sub>M-L</sub>	=	9,569.33 17,508.76	m³/kg
VF' <sub>M-L</sub>	=	956.93 1,750.88	m³/kg
η	=		$L_{pore}/L_{soil}$
$\theta_{a}$			L <sub>air</sub> /L <sub>soil</sub>

Symbol	Symbol		Unit
$\theta_{w}$	=		L <sub>water</sub> /L <sub>soil</sub>
$\rho_{b}$	=	1.684	kg/L or g/cm <sup>3</sup>
$ ho_s$	=		g/cm <sup>3</sup>
ρ <sub>w</sub>	=	1	g/cm <sup>3</sup>
1/(2b+3)			unitless

Equation	Result	Unit(s)
S1		mg/kg
S2	=	mg/kg
S3		mg/kg
S4	= See Boxes Below	mg/kg
S5	= See Box Below	mg/kg
S6	=	mg/L
<b>S</b> 7	=	mg/kg
S17	<b>5</b>	mg/kg
S28		mg/kg
S29	=	mg/L

# Averaging Time (AT): (years)

Residential = 30 Industrial/Commercial = 25 Construction Worker = 0.115

# Exposure Frequency (EF): (days/year)

Residential = 350
Industrial/Commercial = 250
Construction Worker = 30

# Exposure Duration (ED): (years)

Residential = 30 Industrial/Commercial = 25 Construction Worker = 1

# Inhalation Reference Concentration (RfC): (mg/m³)

Toluene - chronic = 5.0
Toluene - subchronic = 5.0
Ethylbenzene - chronic = 1.0
Ethylbenzene - subchronic = 1.0
Total Xylenes - chronic = 0.1
Total Xylenes - subchronic = 0.4
Naphthalene - chronic = 0.003
Naphthalene - subchronic = 0.003

Solution to Equation S4:	Solution to Equation S4:	Solution to Equation S5:
(mg/kg)	(mg/kg)	(mg/kg)
<u>Residential</u>	Industrial/Commercial	Construction Worker
Total Xylenes = 798* 806*  * = Soil Saturation Limit  ** = Tier 1 SRO	Total Xylenes = 798* 806*  * = Soil Saturation Limit  ** = Tier 1 SRO	Toluene = 1,607 * Ethylbenzene = 350* 1,009* Total Xylenes = 798* 806* Naphthalene = 9.4 7.35  * = Soil Saturation Limit

## EQUATEPEETFOAND FILTING: PRECEIVED, CLEPK'S TO FFICANT (28/2017/2014) R. 213 (NONCARCINOGENS)

#### Illico Independent Oil Co. Peoria, Illinois

Residential, Industrial/Commercial Remediation Objectives for Noncarcinogenic Contaminants (mg/kg)

$$\frac{THQ \bullet AT \bullet 365 \frac{d}{yr}}{EF \bullet ED \bullet \left(\frac{1}{RfC} \bullet \frac{1}{VF}\right)}$$

Construction Worker Remediation Objectives for Noncarcinogenic Contaminants (mg/kg)

$$\frac{THQ \bullet AT \bullet 365}{EF \bullet ED \bullet \left(\frac{1}{RfC} \bullet \frac{1}{VF'}\right)}$$

S26 - Mass-Limit Volatilization Factor for the Inhalation Exposure Route - Residential, Industrial/Commercial (m³/kg) 
$$VF_{M-L} = \frac{Q}{C} \bullet \left[ \frac{T_{M-L} \bullet \left( 3.15 \bullet 10^{7} \frac{s}{yr} \right) \right]}{\rho_{b} \bullet d_{x} \bullet 10^{6} \frac{cm^{3}}{m^{3}}}$$

S27 - Mass-Limit Volatilization Factor for the Inhalation Exposure Route - Construction Worker (m³/kg)

$$VF'_{M-L} = \frac{VF_{M-L}}{10}$$

SYMBOL	PARAMETER	UNITS	PARAMETER VALUES
AT	AVERAGING TIME FOR NONCARCINOGENS	year	RESIDENTIAL 30 INDUS/COMM. 25 CONST WRKR 0.115
ED	EXPOSURE DURATION FOR INHALATION OF NONCARCINOGEN	ycar	RESIDENTIAL 30 INDUS/COMM, 25 CONST WRKR 1
EF	EXPÓSURE FREQUENCY	d/ут	RESIDENTIAL 350 INDUS/COMM. 250 CONST WRKR 30
RfC	INHALATION REFERENCE CONCENTRATION	mg/m¹	RESIDENTIAL 5.0 INDUS/COMM. 5.0 CONST WRKR 5.0
THQ	TARGET HAZARD QUOTIENT	unitless	1
VF <sub>M-L</sub>	VOLATILIZATION FACTOR	m³/kg	REFER TO EQ. S26& S27 WITHIN TACO

SYMBOL	PARAMETER	UNITS	PARAMETER VALUES
d <sub>s</sub>	DEPTH OF SOURCE	m	SITE SPECIFIC
Pb	DRY BULK DENSITY	kg/L	1.5, OR GRAVEL=2.0 SAND=1.8 SILT=1.6 CLAY=1.7, OR SITE SPECIFIC
Q/C	INVERSE OF THE MEAN CONCENTRATION AT THE CENTER OF A SQUARE SOURCE	(g/m <sup>2</sup> -s)/(kg/m <sup>3</sup> )	RESIDENTIAL 68.81 INDUS/COMM. 85.81 CONST WRKR 85.81 OR 742.Appendix C, Table H: Q/C by Source Area
$T_{ML}$	EXPOSURE INTERVAL	yr	30

### INPUT PARAMETERS FOR VF<sub>M-L</sub> RES/INDUS/COM PROP

Source Area	0.5 Acre 2
ds=	2.4384 m
Pb=	1.684 kg/L
Q/C=	97.78 (g/m <sup>2</sup> -s)/(kg/m <sup>3</sup> ) (Residential)
Q/C=	97.78 (g/m²-s)/(kg/m³) (Industrial/Commercial)
T <sub>M·L</sub> =	30.00 yr
$VF_{M:L}=$	22502.71 m <sup>3</sup> /kg (Residential)
$VF_{M-L}=$	22502.71 m³/kg (Industrial/Commercial) 17, 508.76

#### INPUT PARAMTERS VF'M-L CONSTRUCTION WORKER

Source Area	0.5 Acre
ds=	2.4384 m
Pb=	1.684 kg/L
Q/C=	97.78 (g/m²-s)/(kg/m³) 76.08
T <sub>M-L</sub> =	30.00 ут
$VF'_{M\cdot L} =$	2250.27 m <sup>3</sup> /kg
	1750.88

#### INPUT PARAMETER VALUES RES/INDUS/COM PROP

AT-	30 year (Residential)	
AT-	25 year (Industrial/Commerc	ial)
ED=	30 year (Residential)	
EDm	25 year (Industrial/Commercial	ial)
EF-	350 d/yr (Residential)	
EF=	250 d/yr (Industrial/Commerci	al)
RfC=	5.0 mg/m <sup>3</sup>	
THQ	1 unitless	
VF <sub>M·L</sub> =	22502.71 m <sup>3</sup> /kg (Residential)	5023 S260005240
$VF_{M\cdot L} =$	22502.71 m3/kg (Industrial Commer	cial) 17, 508.76

#### INPUT PARAMETER VALUES FOR CONSTRUCTION WORKERS

AT-	0.116
	0.115 year
ED=	1 year
EF=	30 d/yr
RfC=	5.0 mg/m <sup>3</sup>
THQ	1 unitless
VF <sub>M-L</sub> =	2250.27 m³/kg 1750.88

Residential Inhalation Remediation

Objective (S4) = 117,335.6 mg/kg 91, 360

Construction Worker Inhalation Remediation Objective (S5) =

15,742.5 mg/kg \2, 200

Industrial/Commercial Inhalation Remediation Objective (S4) =

164,269.8 mg/kg 128,000

Soil Saturation Limit Exceedence Check (value of SRO will change if soil saturation limit is exceeded for chemical):

Soil Remediation Objective (Residential Inhalation) = 1,1407 580 mg/kg	580,000 μg/kg	1,607,000
Soil Remediation Objective (Industrial/Commercial Inhalation) = 1,607 580 mg/kg	580,000 μg/kg	CONTRACTOR STATE OF THE CONTRACTOR OF THE CONTRA
Soil Remediation Objective (Construction Worker Inhalation) =   \langle 07 580 mg/kg	580,000 μg/kg	

Tier 1 Soil Remediation Objective Check (value of SRO will default to Tier 1 if calculated Tier 2 SRO is more stringent for chemical):

Soil Remediation Objective (Residential Inhalation) =	1,607	650 mg/kg	650,000 μg/kg	1.607.00
Soil Remediation Objective (Industrial/Commercial Inhalation) =	1,607	650 mg/kg	650,000 μg/kg	
Soil Remediation Objective (Construction Worker Inhalation) =	.607	580 mg/kg	580,000 μg/kg	

Parts-Per-Million Parts-Per-Billion

## EQUATEMENT OF THING: IRECTIVED, CHEPK'S TO FIT ON THE WAY POSA) R. 214 (NONCARCINOGENS)

#### Illico Independent Oil Co. Peoria, Illinois

Residential, Industrial/Commercial Remediation Objectives for Noncarcinogenic Contaminants (mg/kg)

$$\frac{THQ \quad \bullet \quad AT \quad \bullet \quad 365 \quad \frac{d}{yr}}{EF \quad \bullet \quad ED \quad \bullet \left(\frac{1}{RfC} \quad \bullet \quad \frac{1}{VF}\right)}$$

Construction Worker Remediation Objectives for Noncarcinogenic Contaminants (mg/kg)

$$\frac{THQ \bullet AT \bullet 365}{EF \bullet ED \bullet \left(\frac{1}{RfC} \bullet \frac{1}{VF'}\right)}$$

S26 - Mass-Limit Volatilization Factor for the Inbalation Exposure Route - Residential, Industrial/Commercial (m³/kg) 
$$VF_{M-L} = \frac{Q}{C} \bullet \begin{bmatrix} T_{M-L} \bullet \left(3.15 \bullet 10^7 \frac{s}{yr}\right) \\ \rho_b \bullet d_s \bullet 10^6 \frac{cm^3}{m^2} \end{bmatrix}$$

S27 - Mass-Limit Volatilization Factor for the Inhalation Exposure Route - Construction Worker (m³/kg)

$$VF'_{M-L} = \frac{VF_{M-L}}{10}$$

SYMBOL	PARAMETER	UNITS	PARAMÈTER VALUES
AT	AVERAGING TIME FOR NONCARCINOGENS	YEAR	RESIDENTIAL 30 INDUS/COMM. 25 CONST WRKR 0.115
ED	EXPOSURE DURATION FOR INHALATION OF CARCINOGEN	YEAR	RESIDENTIAL 30 INDUS/COMM. 25 CONST WRKR 1
EF	EXPOSURE FREQUENCY	D/YR	RESIDENTIAL 350 INDUS/COMM. 250 CONST WRKR 30
RfC	INHALATION REFERENCE CONCENTRATION	MG/M³	RESIDENTIAL I INDUS/COMM. I CONST WRKR I Q
THQ	TARGET HAZARD QUOTIENT	UNITLESS	1
VF <sub>M-L</sub>	VOLATILIZATION FACTOR	M³/KG	REFER TO EQ. S26& S27 WITHIN TACO

SYMBOL	PARAMETER	UNITS	PARAMETER VALUES
d,	DEPTH OF SOURCE	m	SITE SPECIFIC
Pu	DRY BULK DENSITY	kg/L	1.5, OR GRAVEL=2.0 SAND=1.8 SLT=1.6 CLAY=1.7, OR SITE SPECIFIC
Q/C	INVERSE OF THE MEAN CONCENTRATION AT THE CENTER OF A SQUARE SOURCE	(g/m <sup>2</sup> -s)/(kg/m <sup>3</sup> )	RESIDENTIAL 68.81 INDUS/COMM. 85.81 CONST WRKR 85.81 OR 742.Appendix C, Table H. Q/C by Source Area
$T_{M \cdot L}$	EXPOSURE INTERVAL	ут	30

#### INPUT PARAMETERS FOR VF<sub>M-L</sub> RES/INDUS/COM PROP

Source Area	0.5 Acre 2
ds=	2.4384 m
Pb=	1.684 kg/L
Q/C=	97.78 (g/m <sup>2</sup> -s)/(kg/m <sup>3</sup> ) (Residential)
Q/C=	97.78 (g/m²-s)/(kg/m³) (Industrial/Commercial)
T <sub>M-L</sub> =	30.00 ут
VF <sub>M-L</sub> =	22502.71 m <sup>3</sup> /kg (Residential)
VF <sub>M-L</sub> =	22502.71 m³/kg (Industrial/Commercial) 17,508.76

#### INPUT PARAMTERS FOR CONSTRUCTION WORKER

Source Area	0.5 Acre 2_
ds=	2.4384 m
Pb=	1.684 kg/L
Q/C=	97.78 (g/m²-s/(kg/m²) 76.08
T <sub>M·L</sub> =	30.00 уг
02060	20 W
VF' <sub>M-L</sub> =	2250.27 m³/kg 1750.88

#### INPUT PARAMETER VALUES RES/INDUS/COM PROP

AT-	30	year (Residential)	
AT-	25	year (Industrial/Commercial)	
ED=	30	0 year (Residential)	
ED=	25	year (Industrial/Commercial)	
EF=	350	d/yr (Residential)	
EF=	250	d/yr (Industrial/Commercial)	
RfC=	1.0	mg/m³	
THQ	1	unitless	
VF <sub>M-L</sub> =	22502.71	m3/kg (Residential)	
VF <sub>M-L</sub> =		m3/kg (Industrial/Commercial)	17,508.76

INPUT PARAMETER VALUES FOR CONSTRUCTION WORKS	ERS
---	-----

AT- 0.11	5 year
ED=	1 year
EF= 3	0 d/yr
RfC= 1.	0 mg/m <sup>3</sup> Q
	1 unitless
VF <sub>M-L</sub> = 2250.27	1 m³/kg 1750.88

Residential Inhalation Remediation

Construction Worker Inhalation Remediation Objective (S5) =

22,000 3,148.5 mg/kg

Objective (S4) = 23,467.1 mg/kg 18,300

Industrial/Commercial Inhalation Remediation Objective (S4) = 32,854.0 mg/kg 25,600

#### Soil Saturation Limit Exceedence Check (value of SRO will change if soil saturation limit is exceeded for chemical):

Soil Remediation Objective (Residential Inhalation) = 1,009	350 mg/kg	350,000 µg/kg	1,009,000
Soil Remediation Objective (Industrial/Commercial Inhalation) = 1,009	350 mg/kg	350,000 μg/kg	1.009.000
Soil Remediation Objective (Construction Worker Inhalation) = 1,009	350 mg/kg	350,000 μg/kg	

## Tier 1 Soil Remediation Objective Check (value of SRO will default to Tier 1 if calculated Tier 2 SRO is more stringent for chemical):

Soil Remediation Objective (Residential Inhalation) = 1,009	400 mg/kg	400,000 μg/kg 1,009,00
Soil Remediation Objective (Industrial/Commercial Inhalation) = 1.009	400 mg/kg	400,000 µg/kg 1,009,000
Soil Remediation Objective (Construction Worker Inhalation) = 1,009	350 mg/kg	350,000 µg/kg 1, 00 9, 00

Parts-Per-Million Parts-Per-Billion

# EQUATEPEETFONDE FILMER: IRECCIVED, CIEPK'S TO FICONTIAN 2017 2014 PO 84) R. 215 (NONCARCINOGENS)

#### Illico Independent Oil Co. Peoria, Illinois

Residential, Industrial/Commercial Remediation Objectives for Noncarcinogenic Contaminants (mg/kg) 
$$\frac{THQ \quad \bullet \quad AT \quad \bullet \quad 365 \quad \frac{d}{yr} }{EF \quad \bullet \quad ED \quad \bullet \left( \begin{array}{c} 1 \\ RfC \end{array} \quad \bullet \quad \frac{1}{VF} \right) }$$

Construction Worker Remediation Objectives for Noncarcinogenic Contaminants (mg/kg)  $\frac{THQ \bullet AT \bullet 365}{EF} \bullet ED \bullet \left(\frac{1}{RfC} \bullet \frac{1}{VF'}\right)$ 

$$EF \bullet ED \bullet \left(\frac{1}{RfC} \bullet \frac{1}{VF'}\right)$$

S26 - Mass-Limit Volatilization Factor for the Inhalation Exposure Route - Residential, Industrial/Commercial (m³/kg) 
$$VF_{M-L} = \frac{Q}{C} \bullet \frac{\left[T_{M-L} \bullet \left(3.15 \bullet 10^7 \frac{S}{yr}\right)\right]}{\rho_b \bullet d_x \bullet 10^8 \frac{Cm^2}{m^3}}$$

S27 - Mass-Limit Volatilization Factor for the Inhalation Exposure Route - Construction Worker (m3/kg)

$$VF'_{M-L} = \frac{VF_{M-L}}{10}$$

SYMBOL	PARAMETER	UNITS	PARAMETER VALUE
AT	AVERAGING TIME FOR NONCARCINOGENS	YEAR	RESIDENTIAL 30 INDUS/COMM, 25 CONST WRKR 0.115
ED	EXPOSURE DURATION FOR INHALATION OF NONCARCINOGENS	YEAR	RESIDENTIAL 30 INDUS/COMM. 25 CONST WRKR 1
EF	EXPOSURE FREQUENCY	D/YR	RESIDENTIAL 350 INDUS/COMM. 250 CONST WRKR 30
RfC	INHALATION REFERENCE CONCENTRATION	MG/M³	RESIDENTIAL 0.1 INDUS/COMM. 0.1 CONST WRKR 0.4
THQ	TARGET HAZARD QUOTIENT	UNITLESS	1
VF <sub>M-L</sub>	VOLATILIZATION FACTOR	м³/кg	REFER TO EQ. S26& S27 WITHIN TACO

SYMBOL	PARAMETER	UNITS	PARAMETER VALUES
d,	DEPTH OF SOURCE	m	SITE SPECIFIC
Рь	DRY BULK DENSITY	kg/L	1.5, OR GRAVEL=2.0 SAND=1.8 SLT=1.6 CLAY=1.7, OR SITE SPECIFIC
Q/C	INVERSE OF THE MEAN CONCENTRATION AT THE CENTER OF A SQUARE SOURCE	(g/m²-s)/(kg/m³)	RESIDENTIAL 68.81 INDUS/COMM. 85.81 CONST WRKR 85.81 OR 742.Appendix C, Table H Q/C by Source Area
$T_{ML}$	EXPOSURE INTERVAL	ут	30

### INPUT PARAMETERS FOR $\mathbf{VF}_{\mathbf{M}\cdot\mathbf{L}}$ RES/INDUS/COM PROP

Source Area	0.5 Acre
ds=	2.4384 m
Pb=	1.684 kg/L
Q/C=	97.78 (g/m <sup>2</sup> -s)/(kg/m <sup>3</sup> ) (Residential)
Q/C=	97.78 (g/m²-s)/(kg/m³) (Industrial/Commercial) 76.08
T <sub>M·L</sub> =	30.00 уг
VF <sub>M-L</sub> =	22502.71 m <sup>3</sup> /kg (Residential)
VF <sub>M-L</sub> =	22502.71 m³/kg (Industrial/Commercial) 17, 508.76

#### INPUT PARAMTERS FOR CONSTRUCTION WORKER

Source Area	0.5 Acre
ds=	2.4384 m
Pb=	1.684 kg/L
Q/C=	97.78 (g/m²-s)/(kg/m³) 76.08
T <sub>M-L</sub> =	30.00 уг
VF' <sub>M1</sub> =	2250 27 m3/kg 1750 88

## INPUT PARAMETER VALUES RES/INDUS/COM PROP

AT-	30	year (Residential)	
AT=	25	year (Industrial/Commercial)	
ED=	30	year (Residential)	
ED=	25	year (Industrial/Commercial)	
EF=	350	d/yr (Residential)	
EF=	250	d/yr (Industrial/Commercial)	
RfC-	0.1	mg/m³	
THQ	1	unitless	
VF <sub>M-L</sub> =	22502.71	m3/kg (Residential)	644 4525566 366
VF <sub>M-L</sub> =		m3/kg (Industrial/Commercial)	17,508.76

### INPUT PARAMETER VALUES FOR CONSTRUCTION WORKERS

AT-	0.115	year
ED=	1	year
EF=	30	d/yr
RfC=	0.4	mg/m³
THQ	1	unitless
VF <sub>M-L</sub> <sup>m</sup>	2250.27	m³/kg 1750.88

Residential Inhalation Remediation Objective (S4) = 2,346.7 mg/kg 1,830

Construction Worker Inhalation	i
Remediation Objective (S5) =	

1 259	.4 mg/kg	980

Industrial/Commercial Inhalation Remediation Objective (S4) = 3,285.4 mg/kg 2,560

### Soil Saturation Limit Exceedence Check (value of SRO will change if soil saturation limit is exceeded for chemical):

Soil Remediation Objective (Residential Inhalation) = 806 798 mg/kg 798,00	0 µg/kg 806,000
	0 µg/kg 806,000
	0 µg/kg 806,000

## Tier 1 Soil Remediation Objective Check (value of SRO will default to Tier 1 if calculated Tier 2 SRO is more stringent for chemical):

Soil Remediation Objective (Residential Inhalation) =	806	798 mg/kg	798,000 μg/kg	806,000
Soil Remediation Objective (Industrial/Commercial Inhalation) =	806	798 mg/kg	798,000 μg/kg	806,000
Soil Remediation Objective (Construction Worker Inhalation) =	806	798 mg/kg	798,000 μg/kg	806,000

Parts-Per-Million Parts-Per-Billion

# EQUATIENECTONIC FITTING: L'RECTONIC OFFICALIANTE DE L'ANDIEN DE L'

### Illico Independent Oil Co. Peoria, Illinois

Residential, Industrial/Commercial Remediation Objectives for Noncarcinogenic Contaminants (mg/kg) 
$$\frac{THQ \quad \bullet \quad AT \quad \bullet \quad 365 \quad \frac{d}{yr} }{EF \quad \bullet \quad ED \quad \bullet \left( \begin{array}{c} 1 \\ RfC \end{array} \quad \bullet \quad \frac{1}{VF} \right) }$$

Construction Worker Remediation Objectives for Noncarcinogenic Contaminants (mg/kg) 
$$\frac{THQ \quad \bullet \quad AT \quad \bullet \quad 365 \quad \frac{d}{yr}}{EF \quad \bullet \quad ED \quad \bullet \left(\frac{1}{RfC} \quad \bullet \quad \frac{1}{VF'}\right)}$$

S26 - Mass-Limit Volatilization Factor for the Inhalation Exposure Route - Residential, Industrial/Commercial (m³/kg) 
$$VF_{M-L} = \underbrace{\mathcal{Q}}_{C} \bullet \underbrace{ \begin{bmatrix} T_{M-L} \bullet \bigg( 3.15 \bullet 10^{7} \frac{s}{yr} \bigg) \\ \rho_{b} \bullet d_{s} \bullet 10^{6} \frac{cm^{3}}{m^{3}} \end{bmatrix}}_{\rho_{b} \bullet d_{s} \bullet 10^{6} \frac{cm^{3}}{m^{3}}}$$

S27 - Mass-Limit Volatilization Factor for the Inhalation Exposure Route - Construction Worker (m3/kg)

$$VF'_{M-L} = \frac{VF_{M-L}}{10}$$

SYMBOL	PARAMETER	UNITS	PARAMETER VALUES
AT	AVERAGING TIME FOR NONCARCINOGENS	YEAR	RESIDENTIAL 30 INDUS/COMM. 25 CONST WRKR 0.115
ED	EXPOSURE DURATION FOR INHALATION OF NONCARCINOGENS	YEAR	RESIDENTIAL 30 INDUS/COMM. 25 CONST WRKR 1
EF	EXPOSURE FREQUENCY	D/YR	RESIDENTIAL 350 INDUS/COMM. 250 CONST WRKR 30
RfC	INHALATION REFERENCE CONCENTRATION	MG/M³	RESIDENTIAL 0.003 INDUS/COMM. 0.003 CONST WRKR 0.003
THQ	TARGET HAZARD QUOTIENT	UNITLESS	1
VF <sub>M-L</sub>	VOLATILIZATION FACTOR	M³/KG	REFER TO EQ. S27& S28 WITHIN TACO

SYMBOL	PARAMETER	UNITS	PARAMETER VALUES
d <sub>s</sub>	DEPTH OF SOURCE	m	SITE SPECIFIC
Рь	DRY BULK DENSITY	kg/L	1.5, OR GRAVEL=2.0 SAND=1.8 SILT=1.6 CLAY=1.7, OR SITE SPECIFIC
Q/C	INVERSE OF THE MEAN CONCENTRATION AT THE CENTER OF A SQUARE SOURCE	(g/m <sup>2</sup> -s)/(kg/m <sup>3</sup> )	RESIDENTIAL 68.81 INDUS/COMM. 85.81 CONST WRKR 85.81 OR 742.Appendix C, Table H Q/C by Source Area
$T_{M-L}$	EXPOSURE INTERVAL	ут	30

### INPUT PARAMETERS FOR $VF_{M-L}$ RES/INDUS/COM PROP

Source Area	0.5 Acre 2
ds=	2.4384 m
Pb=	1.684 kg/L
Q/C=	97.78 (g/m <sup>2</sup> -s)/(kg/m <sup>3</sup> ) (Residential)
Q/C=	97.78 (g/m <sup>2</sup> -s)/(kg/m <sup>3</sup> ) (Industrial/Commercial) 76.08
T <sub>M-L</sub> =	30.00 уг
VF <sub>M-L</sub> =	22502.71 m <sup>3</sup> /kg (Residential)
VF <sub>M-L</sub> =	22502.71 m³/kg (Industrial/Commercial) 17,508.76

#### INPUT PARAMTERS FOR CONSTRUCTION WORKER

Source Area	0.5 Acre 2
ds=	2.4384 m
Pb=	1.684 kg/L
Q/C=	97.78 (g/m²-s)/(kg/m³) 76.08
T <sub>M-L</sub> =	30.00 yr
VF <sub>M-L</sub> =	2250.27 m³/kg 1750.88

#### INPUT PARAMETER VALUES RES/INDUS/COM PROP

AT= 30	year (Residential)	
AT= 25	year (Industrial/Commercial)	
ED= 30	year (Residential)	
ED= 25	year (Industrial/Commercial)	
EF= 350	d/yr (Residential)	
EF= 250	d/yr (Industrial/Commercial)	
RfC= 0.003	mg/m <sup>3</sup>	
THQ 1	unitless	
VF <sub>M-L</sub> = 22502.71	m3/kg (Residential)	
	m³/kg (Industrial/Commercial)	17,508.76

#### INPUT PARAMETER VALUES FOR CONSTRUCTION WORKERS

AT-	0.114	year		
ED=		year		
EF=		d/yr		
RfC=	0.003	mg/m <sup>3</sup>		
THQ	- 1	unitless		
$/F_{ML}=$	2250.27	m³/kg	1750.88	

7,350

Residential Inhalation Remediation Objective (S4) =

70.4 mg/kg

Construction	Worker In	halation	
Remediation	Objective (	(S5) =	

9.4 mg/kg 7.35

Industrial/Commercial Inhalation Remediation Objective (S4) =

86.5 mg/kg 76.7

Tier 1 Soil Remediation Objective Check (value of SRO will default to Tier 1 if calculated Tier 2 SRO is more stringent for chemical):

Soil Remediation Objective (Residential Inhalation) =		170 mg/kg	170,000 µg/kg
Soil Remediation Objective (Industrial/Commercial Inhalation) =	7.7	270 mg/kg	270,000 μg/kg
Soil Remediation Objective (Construction Worker Inhalation) =	7.35	9.4 mg/kg	9,400 μg/kg

Parts-Per-Million Parts-Per-Billion

	Electronic Filing: Received, Clerk's Office 7/28/201.72017-084) R. 217
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# Electronic Filing: Received, Clerk's Office 2012/2012/2017-084) R. 218 Illinois Environmental Protection Agency

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

	1430655263		County:	Peor	ia
City:	Peoria	:	Site Name:	Illico Independ	lent Oil Co.
Site Address: 3	712 North University S	treet			
IEMA Incident N	lo. 923441				
IEMA Notification	on Date: 12/02/199	)2			
Date this form wa	as prepared:	12/10/2015	_		
This form is be	ing submitted as a (	check one, if a	pplicable):		
☑ Budget I	Proposal				
☐ Budget A	Amendment (Budget an	nendments must	include only the	costs over the previo	ous budget.)
☐ Billing F	ackage				Press.
Please p	rovide the name(s) and	date(s) of report	(s) documenting	the costs requested:	RECEIVI
Name(s)	:	. K			DEC 1
Date(s):					14 2015
This form is be	ing submitted for th	ne site activitie	s indicted belov	w:	IEPAVBO
35 Ill. Adm. Co	de 734:				
☐ Early Ac	tion				
☐ Free Pro	duct Removal after Ear	ly Action			
☐ Site Inve	stigation	Stage 1:	Stage 2:	Stage 3:	
☑ Correctiv	e Action A	Actual Costs			
35 Ill. Adm. Co	de 732:				
☐ Early Ac	tion				
☐ Free Proc	luct Removal after Earl	ly Action			
☐ Site Clas	sification				
☐ Low Prio	rity Corrective Action				
☐ High Pric	ority Corrective Action				
35 Ill. Adm. Co	de 731:		14		
☐ Site Inves	stigation				
☐ Correctiv	2003/4				

IL 532-2825

LPC 630 Rev. 1/2007

# General Information for the Budget and Billing Forms Clerk's Office 7/28/2017-084) R. 219

The following address will be used as the mailing address for checks and any final determination letters regarding payment from the Fund.

Pay to the order of:		П	lico Independent C	oil Co.			
	Marlin Environmental, Inc.						
Address:	2242	Commerce Drive					
City: Sai	nt Charles	State:	Illinois	Zip	:60174		
Payee is the: O	wner $\square$	Operator	(Check one or	both.)			
MP	ces, det			W-9 must	be submitted.		
Signature of the owner	r or operator o	f the UST(s) (requ	uired)	Click here	to print off a W-9 Form.		
	of the owner or				ator; any subsidiary, parent subsidiary or joint stock		
Fewer than	n 101: 🗹	101 or mo	re: 🔲				
Number of USTs at the have been removed.)	site:	_ (Number of U	STs includes UST	's presently a	at the site and USTs that		
Number of incidents rep	orted to IEMA	for this site:		1			
Incident Numbers assign	ned to the site di	ue to releases from	USTs:	923441			
Please list all tanks that	have ever been	located at the site a	and tanks that are p	oresently loca	ated at the site.		
Product Stored in UST	Size (gallons)	Did UST hav a release?	re Inciden	it No.	Type of Release Tank Leak / Overfill / Piping Leak		

Product Stored in UST	Size (gallons)	Did UST have a release?	Incident No.	Type of Release Tank Leak / Overfill / Piping Leak
Unleaded Gasoline	12,000	Yes ☑ No □	923441	Overfill
Unleaded Gasoline	12,000	Yes ☑ No □	923441	Overfill
Unleaded Gasoline	12,000	Yes ☑ No □	923441	Overfill
Diesel Fuel	12,000	Yes ☑ No □	923441	Overfill
Kerosene	6,000	Yes ☑ No □	923441	Overfill
		Yes □ No □		52111 0 W 3.55
A.S		Yes □ No □		
		Yes □ No □		
		Yes □ No □		
		Yes □ No □		
		Yes □ No □		
		Yes □ No □		

# **Billing Summary**

	\$ Amount Approved in the Budget	\$ Amount Requested for Payment from the Fund
Drilling and Monitoring Wells Costs Form		\$2,165.46
2. Analytical Costs Form		\$14,539.38
3. Remediation and Disposal Costs Form		\$185,626.35
4. UST Removal and Abandonment Costs Form	VA1	\$19,516.50
5. Paving, Demolition, and Well Abandonment Costs Form	7	\$27,281.14
6. Consulting Personnel Costs Form		\$43,476.63
7. Consultant's Materials Costs Form		\$4,901.00
Total Amount Approved in the Budget*	\$0.00	NOT APPLICABLE
Subtotal of lines 1-7:	NOT APPLICABLE	\$297,506.46
8. Handling Charges Form	NOT APPLICABLE	\$0.00
TOTAL AMOUNT REQUESTED FOR PAYMENT	NOT APPLICABLE	\$297,506.46

Date(s) this Budget(s) was approved:	100	-136-	17	
	200			
		100		

# **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	HSA	15	15	MW-4 Replacement
			0	
. A. C			0	
			0	
			0	
			0	
			0	
			0	

Subpart H minimum payment amount applies.

	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:	15	\$28.50	\$427.50
Total Feet via PUSH:	0	\$22.30	\$0.00
Total Feet for Injection via PUSH:	0	\$18.59	\$0.00
		Total Drilling Costs:	\$1,858.71

adjusted to reflect Subpart H minimum payment amount

## 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 (\$)
1	HSA	2	15	15
				0
				0
				0
				0

Well Installation	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:	15	\$20.45	\$306.75
Total Feet via PUSH:	0	\$15.49	\$0.00
Total Feet of 4" or 6" Recovery:	0	\$30.98	\$0.00
Total Feet of 8" or Greater Recovery:	0	\$50.80	\$0.00
		Total Well Costs:	\$306.75

Total Drilling and Monitoring Well Costs:	\$2,165.46
Town Drawing with Monitoring With Costs.	\$2,105.40

# **Analytical Costs Form**

Laboratory Analysis	Number of Samples		Cost (\$) per Analysis		Total per Parameter
Chemical Analysis					
BETX Soil with MTBE EPA 8260	35	х	\$105.33	=	\$3,686.55
BETX Water with MTBE EPA 8260	12	х	\$100.37	-	\$1,204.44
COD (Chemical Oxygen Demand)		х	\$37.17	=	\$0.00
Corrosivity		х	\$18.59	-	\$0.00
Flash Point or Ignitability Analysis EPA 1010	1	x	\$40.88	=	\$40.88
Fraction Organic Carbon Content (foc) ASTM-D 2974-00	Maria de la companya	х	\$47.08	-	\$0.00
Fat, Oil, & Grease (FOG)		х	\$74.34	-	\$0.00
LUST Pollutants Soil - analysis must include volatile, base/ neutral, polynuclear aromatics and metals list in Section 732. Appendix B and 734.Appendix B		x	\$858.73		\$0.00
Dissolved Oxygen (DO)		x	\$29.74	=	\$0.00
Paint Filter (Free Liquids)	1	х	\$17.35	=	\$17.35
PCB / Pesticides (combination)	500	x	\$275.09	-	\$0.00
PCBs		х	\$137.54	=	\$0.00
Pesticides		х	\$173.48	=	\$0.00
pH		х	\$17.35	-	\$0.00
Phenol		х	\$42.13	=	\$0.00
Polynuclear Aromatics PNA, or PAH SOIL EPA 8270	35	х	\$188.36	=	\$6,592.60
Polynuclear Aromatics PNA, or PAH WATER EPA 8270	12	х	\$188.36	=	\$2,260.32
Reactivity		х	\$84.26	=	\$0.00
SVOC - Soil (Semi-Volatile Organic Compounds)		х	\$387.85	=	\$0.00
SVOC - Water (Semi-Volatile Organic Compounds)		х	\$387.85	=	\$0.00
TKN (Total Kjeldahl) "nitrogen"		х	\$54.52	=	\$0.00
TPH (Total Petroleum Hydrocarbons)		х	\$151.18	=	\$0.00
VOC (Volatile Organic Compounds) - Soil (Non-Aqueous)		х	\$216.85	=	\$0.00
VOC (Volatile Organic Compounds) - Water		х	\$209.42	=	\$0.00
BETX Water with MTBE EPA 8260 (field and trip blank)		х	\$100.37	=	\$0.00
Soil Vapor Gas Sample		х		=	\$0.00
		х		=	\$0.00
		х		=	\$0.00
		х		=	\$0.00
Geo-Technical Analysis					
Soil Bulk Density (p <sub>b</sub> ) ASTM D2937-94		х	\$27.26	=	\$0.00
Ex-situ Hydraulic Conductivity / Permeability		х	\$315.98	=	\$0.00
Moisture Content (w) ASTM D2216-92 / D4643-93		х	\$14.87	=	\$0.00
Porosity		х	\$37.17	=	\$0.00
Rock Hydraulic Conductivity Ex-situ		х	\$433.70	=	\$0.00
Sieve / Particle Size Analysis ASTM D422-63 / D1140-54		х	\$179.68	=	\$0.00
Soil Classification ASTM D2488-90 / D2487-90		х	\$84.26	=	\$0.00
Soil Particle Density (ps) ASTM D854-92		х	\$90.00	=	\$0.00
		х		=0	\$0.00
		х		=	\$0.00
		х		=9	\$0.00

# **Analytical Costs Form**

Metals Analysis				-71	
Soil preparation fee for Metals TCLP Soil (one fee per soil sample)	1	x	\$97.89	=	\$97.89
Soil preparation fee for Metals Total Soil (one fee per soil sample)		х	\$19.82	=	\$0.00
Water preparation fee for Metals Water (one fee per water sample)	rtplayer.	х	\$13.62	= 1	\$0.00
Arsenic TCLP Soil		х	\$19.82	=	\$0.00
Arsenic Total Soil		х	\$19.82	3:=3:	\$0.00
Arsenic Water	177	х	\$22.30	=	\$0.00
Barium TCLP Soil		х	\$12.39	=	\$0.00
Barium Total Soil		x	\$12.39	E .	\$0.00
Barium Water		х	\$14.87	=	\$0.00
Cadmium TCLP Soil	7500	х	\$19.82	- =	\$0.00
Cadmium Total Soil		х	\$19.82	=	\$0.00
Cadmium Water		х	\$22.30	=	\$0.00
Chromium TCLP Soil		x	\$12.39	=	\$0.00
Chromium Total Soil		х	\$12.39	i	\$0.00
Chromium Water		x	\$14.87	=	\$0.00
Cyanide TCLP Soil		x	\$34.70	-	\$0.00
Cyanide Total Soil		х	\$42.13		\$0.00
Cyanide Water	Jane 1	x	\$42.13	=	\$0.00
Iron TCLP Soil		x	\$12.39	=	\$0.00
Iron Total Soil		x	\$12.39	=	\$0.00
Iron Water		x	\$14.87	=	\$0.00
Lead TCLP Soil	1	х	\$19.82		\$19.82
Lead Total Soil		x	\$19.82	=	\$0.00
Lead Water	YABIBYY	x	\$22.30	=	\$0.00
Mercury TCLP Soil	10 -	x	\$23.54	=	\$0.00
Mercury Total Soil		x	\$12.39		\$0.00
Mercury Water		х	\$32.22	=	\$0.00
Selenium TCLP Soil		x	\$19.82		\$0.00
Selenium Total Soil		x	\$19.82	=	\$0.00
Selenium Water		x	\$18.59		\$0.00
Silver TCLP Soil		x	\$12.39	=	\$0.00
Silver Total Soil		x	\$12.39		\$0.00
Silver Water		x	\$14.87	=	\$0.00
Metals TCLP Soil (a combination of all metals) RCRA	DECK	x	\$127.63		\$0.00
Metals Total Soil (a combination of all metals) RCRA		x	\$116.47	=	\$0.00
Metals Water (a combination of all metals) RCRA		x	\$147.45	-	\$0.00
(Comment of an includy North		x	Ψ1-713	+=+	\$0.00
			n		
		X		+=+	\$0.00
		X			\$0.00
Other		Х			\$0.00
EnCore® Sampler, purge-and-trap sampler, or equivalent sampling device	35	x	\$12.39	=	\$433.65
Sample Shipping per sampling event <sup>1</sup>	3	х	\$61.96	=	\$185.88

<sup>&</sup>lt;sup>1</sup>A sampling event, at a minimum, is all samples (soil and groundwater) collected in a calendar day

Total Analytical Costs:	\$14,539.38
-------------------------	-------------

# Remediation & Disposal Costs Form

## A. Conventional Technology

Excavation, Transportation, and Disposal of contaminated soil and/or the 4-foot backfill material removal during early action activities:

Number of Cubic Yards	Cost per Cubic Yard (\$)	Total Cost
1640	\$70.63	\$115,833.20

## **Backfilling the Excavation:**

Number of Cubic Yards	Cost per Cubic Yard (\$)	Total Cost
1961	\$24.78	\$48,593.58

### Overburden Removal and Return:

Number of Cubic Yards	Cost per Cubic Yard (\$)	Total Cost
0	\$8.06	\$0.00

# **B.** Alternative Technology

Alternative Technology Selected:	T
Number of Cubic Yards of Soil to Be Remediated	
Total Non-Consulting Personnel Costs Summary Sheet (\$)	
Total Remediation Materials Costs Summary Sheet (\$)	

# Remediation & Disposal Costs Form

## C. Groundwater Remediation and/or Free Product Removal System

Total Non-Consulting Personnel Costs Summary Sheet (\$)	
Total Remediation Materials Costs Summary Sheet (\$)	
Total Cost of the System	\$0.00

## D. Groundwater and/or Free Product Removal and Disposal

 $\square$  Subpart H minimum payment amount applies.

Number of Gallons	Cost per Gallon (\$)	Total Cost
24,500	\$0.84	\$20,580.00

## E. Drum Disposal

☑ Subpart H minimum payment amount applies.

Number of Drums of Solid Waste	Cost per Drum (\$)	Total Cost
1	\$309.79	\$309.79
	\$309.79	\$0.00
	\$309.79	\$0.00
Number of Drums of Liquid Waste	Cost per Drum (\$)	Total Cost
	\$185.88	\$0.00
	\$185.88	\$0.00
	\$185.88	\$0.00
Total Drum Dispo	osal Costs	\$619.57

adjusted to reflect Subpart H minimum payment amount

TAID PARTIES IN TO	0105 (0) 05
Total Remediation and Disposal Costs:	\$185,626.35

# Electronic Filing: Received, Clerk's Office id/28/201.72017-084) R. 226 UST Removal and Abandonment Costs Form

Product Stored in UST	Size (gallons)	Abandoned or Removed	Cost (\$)	Did US have a release	a
 Unleaded Gasoline	12,000	Removed	\$3,903.30	Yes 🗹	No 🗆
Unleaded Gasoline	12,000	Removed	\$3,903.30	Yes 🗹	No 🗆
Unleaded Gasoline	12,000	Removed	\$3,903.30	Yes 🗹	No 🗆
Diesel Fuel	12,000	Removed	\$3,903.30	Yes 🗹	No 🗆
Kerosene	6,000	Removed	\$3,903.30	Yes 🗹	No 🗆
			\$0.00	Yes 🗆	No 🗆
			\$0.00	Yes 🗆	No 🗆
			\$0.00	Yes 🗆	No 🗆
			\$0.00	Yes 🗆	No 🗆
			\$0.00	Yes 🗆	No 🗆
			\$0.00	Yes 🗆	No 🗆
			\$0.00	Yes 🗆	No 🗆
			\$0.00	Yes 🗆	No 🗆
			\$0.00	Yes 🗆	No 🗆
			\$0.00	Yes 🗆	No 🗆
			\$0.00	Yes 🗆	No 🗆
			\$0.00	Yes 🗆	No 🗆
			\$0.00	Yes 🗆	No 🗆
			\$0.00	Yes 🗆	No 🗆
			\$0.00	Yes 🗆	No 🗆

Total UST Removal and Abandonment Costs:	\$19,516.50
--	-------------

# 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
4,626	Concrete	6	\$5.41	Replacement	\$25,026.66
			\$0.00		\$0.00
			\$0.00		\$0.00
			\$0.00		\$0.00
	7		\$0.00		\$0.00
			\$0.00		\$0.00
	33-32		\$0.00	***************************************	\$0.00
			\$0.00		\$0.00
			\$0.00		\$0.00
			\$0.00	57.117:00 2 19:50	\$0.00

Total Concrete and Asphalt	625 026 66
Placement/Replacement Costs:	\$25,026.66

# B. Building Destruction or Dismantling and Canopy Removal

Item to Be Destroyed, Dismantled, or Removed	Unit Cost (\$)	Total Cost
		TEED IN A SHEET

Total Building Destruction or Dismantling and	\$0.00	
Canopy Removal Costs:	\$0.00	

# 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
MW-2	HSA	15.00	\$12.39	\$185.85
MW-3	HSA	16.00	\$12.39	\$198.24
MW-4R	HSA	14.00	\$12.39	\$173.46
MW-5	HSA	15.00	\$12.39	\$185.85
MW-6	HSA	18.00	\$12.39	\$223.02
MW-7	HSA	14.00	\$12.39	\$173.46
MW-9	HSA	12.84	\$12.39	\$159.09
MW-10	HSA	12.63	\$12.39	\$156.49
MW-11	HSA	12.89	\$12.39	\$159.71
MW-12	HSA	12.70	\$12.39	\$157.35
MW-13	HSA	13.09	\$12.39	\$162.19
MW-14	HSA	12.92	\$12.39	\$160.08
MW-15	HSA	12.89	\$12.39	\$159.71
			\$0.00	\$0.00
- 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10			\$0.00	\$0.00
			\$0.00	\$0.00
			\$0.00	\$0.00
			\$0.00	\$0.00
			\$0.00	\$0.00
			\$0.00	\$0.00
			\$0.00	\$0.00
			\$0.00	\$0.00
			\$0.00	\$0.00
			\$0.00	\$0.00

Total Monitoring Well Abandonment Costs:	\$2,254.48
The state of the s	

# Consulting Personnel Costs Form

Employee N	lame	Personnel Title	Hours	Rate (\$)	Total Co
Remediation Category		Task			
		Engineer III	12.5	\$123.91	\$1,548.88
CCAP	CA Plan- Desig	gn, Development & Management			
		Project Manager	15	\$111.52	\$1,672.8
CCAP	CA Plan - Prep	aration / Attachments			
		Project Manager	9.25	\$111.52	\$1,031.5
TACO 2 or 3	Tier 2 SRO Ca	lculation IEPA Input Parameter Sheet	s		
		Senior Draftsperson/CAD	5	\$74.34	\$371.70
CCAP	CA Plan - Map	s and Map Printing	1100		
		Project Manager	9	\$111.52	\$1,003.6
CCAP-Budget	CA Budget - Br	udget Development, Writing			
		Senior Project Manager	8.5	\$123.91	\$1,053.24
CCAP	CA Plan - Prep	paration, Management, Review & Con	nments		
		Senior Prof. Engineer	3	\$161.09	\$483.27
CCAP	CA Plan - Final	Review & Certification		0.00	333
		Senior Prof. Engineer	3	\$161.09	\$483.27
CCAP-Budget	CA Budget - Fi	nal Review & Certification			
		Senior Admin. Assistant	4	\$55.76	\$223.04
CCAP	CA Plan & Bud	get Production: copying, binding, filin	ng and submitta	al to IEPA and cl	lient
		Senior Project Manager	5	\$123.91	\$619.55
CCA-Field	Project Coordin	ation - office time, project manageme	nt, coordinatio	n	Willias

# Consulting Personnel Costs Form, Clerk's Office 7/28/2017-084) R. 230

Employee N	ame	Personnel Title	Hours	Rate (\$)	Total Co
Remediation Category		Task	•		
		Senior Project Manager	70	\$123.91	\$8,673.7
CCA-Field	CA field prep a	nd travel, UST removal oversight, re-	mediation,soil s	sampling, truck of	coordination
		Project Manager	70	\$111.52	\$7,806.4
CCA-Field	CA field prep a	nd travel, soil remediation, PID scree	ening, field coo	dination, site res	toration
		Project Manager	5	\$111.52	\$557.60
CCA-Field	Travel, Prep, Re	einstall MW-4 oversight, boring log			
		Project Manager	9	\$111.52	\$1,003.6
CCA-Field	Data interpretat	ion and results, tables			
		Senior Acct. Technician	26	\$68.14	\$1,771.6
CA-Pay	Billing Package	(CAP Remediation) - Preparation &	Assembly		
		Senior Prof. Geologist	5	\$136.31	\$681.55
CA-Pay	Billing Package	(CAP Remediation) - Review & Cer	tification		
		Senior Project Manager	7	\$123.91	\$867.37
CCA-Field	Travel, Prep and	d groundwater monitoring and sampli	ng entre netwo	rk	
		Project Manager	7	\$111.52	\$780.64
CCA-Field	Travel, Prep and	I groundwater monitoring and sampli	ng entire netwo	rk	4.300
		Senior Project Manager	2	\$123.91	\$247.82
CA-Pay	Billing Package	(GW Evaluation) - Management			
		Senior Acct. Technician	15	\$68.14	\$1,022.10
CA-Pay	Billing Package	(GW Evaluation) - Preparation & As	ssembly		

# Consulting Personnel Costs Form

Employee N	Vame	Personnel Title	Hours	Rate (\$)	Total Co	
Remediation Category		Task	C			
		Senior Prof. Geologist	3	\$136.31	\$408.93	
CA-Pay	Billing Package	(GW Evaluation) - Review & Certif	ication			
		Engineer III	9	\$123.91	\$1,115.1	
TACO 2 or 3	Data Analysis -	Extents Determination / Modeling				
		Project Manager	24	\$111.52	\$2,676.4	
HAA	City and IDOT	forms, negotiation, execution			•	
		Senior Project Manager	5	\$123.91	\$619.55	
CACR	CACR - Design,	Data Review	•			
		Project Manager	30	\$111.52	\$3,345.6	
CACR	CACR Preparati	on - tables, writing				
		Senior Prof. Engineer	6	\$161.09	\$966.54	
CACR	CACR Review a	nd Certification				
		Senior Draftsperson/CAD	8	\$74.34	\$594.72	
CACR	CACR & HAA	Maps and Printing	·			
		Senior Admin. Assistant	5	\$55.76	\$278.80	
CACR	CACR Printing,	Copying & Binding, Project Filing				
		Senior Acct. Technician	15	\$68.14	\$1,022.10	
CA-Pay	CACR and NFR	Billing Package - Production				
		Senior Prof. Geologist	4	\$136.31	\$545.24	
CA-Pay	CACR and NFR Billing Package - Review and Certification					
		Total of Consulting Person		\$43,4		

# Consultant's Materials Costs Form

Materials, Equipme	nt or Field Purchase	Time or Amount Used	Rate (\$)	Unit	Total Co
Remediation Category		Description/	Justification	Day  g (1)  Day  Equipment  Day	
Field '	Vehicle	9	\$190.00	Day	\$1,710.00
CCA-Field	UST Removal & Soil Ren	mediation (7) Drilling (	1) GW Sampling	(1)	
Consultant Field &	Decon Equipment	7	\$32.00	Day	\$224.00
CCA-Field	Supplies, Baggies, Sampl	ing, Consultant Non Dis	sposable Field Eq	uipment	
Photoionizat	ion Detector	8	\$192.00	Day	\$1,536.0
CCA-Field	Soil Screening Soil Reme	diaiton (7), Drilling (1)	* ************************************		
Digital	Camera	8	\$8.00	Day	\$64.00
CCA-Field	UST Removal and Soil Re	emediaiton Documentat	tion (7), re-install	ing MW-4 (1)	
Measurir	ng Wheel	7	\$42.00	Day	\$294.00
CCA-Field	Soil Remediation				
Consultant I	atex Gloves	2	\$34.00	Box	\$68.00
CCA-Field	Soil Remediation / GW Sa	ampling			
Water Leve	el Indicator	1	\$87.00	Day	\$87.00
CCA-Field	GW Sampling				
Certifie	d Mail	1	\$5.00	Each	\$5.00
CCA-Field	Certified Mail charges for	Mailing City HAA			
NFR Recor	ding Costs	1	\$100.00	Each	\$100.00
CACR	NFR Recording Costs, increimbursement)	ludes certified copy (es	timated, only actu	al costs will b	pe requested for
ELUC Reco	rding Costs	2	\$100.00	Each	\$200.00
ELUC	ELUC Recording Costs, in for reimbursement)	ncludes certified copy (e	estimated, only ac	tual costs will	be requested

# Consultant's Viaterials Costs Form

Materials, Equipme	nt or Field Purchase	Time or Amount Used	Rate (\$)	Unit	Total Cos
Remediation Category		Description/J			
Metal Detector		2	\$40.00	Day	\$80.00
CCA-Field	Locating Wells and Utilit	ies			
Disposab	le Bailers	13	\$41.00	Each	\$533.00
CCA-Field	Developing MW-4R (1)	Water Well Sampling (1	2)		
					\$0.00
		152102 00 10 10 10 10 10			
					\$0.00
					\$0.00
			W1		
				<i>V</i> :	\$0.00
					\$0.00
	2 2 2 2	Consultant Mate			01.00

# Owner/Operator and Licensed Professional Engineer/Geologist Budget

# **Certification Form**

I hereby certify that I intend to seek pactivities for Leaking UST incident this budget are for necessary activities also certify that the costs included in of 415 ILCS 5/57, no costs are included costs exceed Subpart H: Maximum Pappendix E Personnel Titles and Rat payment from the Fund pursuant to 3 amendment. Such ineligible costs income	923441 es and are reasonable and accurate to this budget are not for corrective act ded in this budget that are not describ ayment Amounts, Appendix D Sampes of 35 Ill. Adm. Code 732 or 734. 5 Ill. Adm. Code 732.606 or 734.630	. I further ce the best of m tion in excess bed in the corr ble Handling a I further certi	ertify that the costs set forth in my knowledge and belief. I of the minimum requirements rective action plan, and no and Analysis amounts, and fy that costs ineligible for
Costs associated with utility Costs incurred prior to IEMA Costs associated with planned	storation (e.g., pump islands, canopic replacement (e.g., sewers, electrical, A notification.	es). , telephone, e	tc.).  RECEIVEL
Legal fees or costs.  Costs incurred prior to July 2	28 1989		
	ation of new USTs or the repair of ex	xisting USTs.	West 1
			IEPA/BOI
Owner/Operator:	Illico Independent	Oil Co.	
Authorized Representative:	David Golwitzer	Titl	le:Owner
Signature: Pres. de	*	Dat	te: 12-7-15
Subscribed and sworn to before me th	ne day of	1	, 7015
mil	21	Seal:	OFFICIAL SEAL JEFF WIENHOFF
(Notary Pr	polic)	Sour.	Notary Public - State of Illinois My Commission Expires 4/29/2018
In addition, I certify under penalty of conducted under my supervision or w or Licensed Professional Geologist ar prepared under my supervision; that, or report has been completed in accor 732 or 734, and generally accepted state accurate and complete. I am aware the to the Illinois EPA, including but not the Environmental Protection Act [41]	ere conducted under the supervision and reviewed by me; that this plan, but to the best of my knowledge and belified ance with the Environmental Protect and ards and practices of my profession are are significant penalties for submit limited to fines, imprisonment, or both 15 ILCS 5/44 and 57.17].	of another Lidget, or reportef, the work of ction Act [415] on; and that the citing false states as provided the control of th	icensed Professional Engineer t and all attachments were described in the plan, budget, 5 ILCS 5], 35 Ill. Adm. Code the information presented is attenuated representations and Sections 44 and 57.17 of  062-058441 LICENSED PROFESSIONAL
L.P.E./L.P.G. Jeff R.	Wienhoff L.P.E.	/L.P.G. Seal:	ENGINEER OF
L.P.E./L.P.G. Signature:	MM	Date.	10 10 10 10 10 10 10 10 10 10 10 10 10 1
Subscribed and sworn to before me th	e day of Dece	mber	, 2015
(Notary Pur		Seal:	D. EGGLESTON OFFICIAL SEAL Notary Public - State of Illinois My Commission Expires December 08, 2017

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.



# Office of the Illinois State Fire Marshal

General Office 217-785-0969

Divisions

ARSON INVESTIGATION 217-782-5855

BOILER and PRESSURE VESSEL SAFETY 217-782-2696

FIRE PREVENTION 217-785-4714

MANAGEMENT SERVICES 217-782-9889

INFIRS 217-785-1016

PERSONNEL 217-785-1009

PERSONNEL STANDARDS and EDUCATION 217-782-4542

PETROLEUM and CHEMICAL SAFETY 217-785-5878

PUBLIC INFORMATION 217-785-1021 CERTIFIED MAIL - RECEIPT REQUESTED # P 239 741 688

November 15, 1993

David Golwitzer Illico Independent Oil Company 617 Keokuk Lincoln, IL 62656

In re:

Facility No. 3-007188
IEMA Incident No. 92-3441
Illico Independent Oil Company
3712 N. University St.
Peoria, PEORIA CO., IL

Dear Mr. Golwitzer:

The Reimbursement Eligibility and Deductibility Application, received on 9-20-93 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 corrective action 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 - 12,000 gallon gasoline Tank #2 - 12,000 gallon gasoline Tank #3 - 12,000 gallon gasoline Tank #4 - 12,000 gallon diesel Tank #5 - 6,000 gallon kerosene

This decision constitutes the preliminary determination regarding your deductible. We reserve the right to change the deductible determination should additional information that would change the determination become available.

The Illinois Environmental Protection Agency will send you 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:

- Neither the owner nor the operator is the United States Government;
- 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 1.10 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.
- The costs have not already been paid to the owner or operator under a private insurance policy, other written agreement, or court order.
- The costs were associated with "corrective action".

This constitutes the final decision as it relates to your eligibility and deductibility. 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 Pat Flannigan at (217)785-1020 or (217)785-5878 between 3:00-4:00 p.m.

I Mc Caslin

Sincerely,

James I. McCaslin ---

Director

Division of Petroleum and Chemical Safety

JIM: PF: bc

cc: IEPA

Facility File

#5387



## SITE INVESTIGATION COMPLETION REPORT

ILLICO INDEPENDENT OIL CO.
3712 NORTH UNIVERSITY STREET
PEORIA, PEORIA COUNTY,
ILLINOIS 61614
LUST INCIDENT # 923441
IEPA LPC #1430655263

Prepared for:

Mr. David Golwitzer
ILLICO INDEPENDENT OIL CO.

2201 Woodlawn Rd. Suite 600 Lincoln, Illinois 62656

Prepared by:

MARLIN ENVIRONMENTAL, INC.

3900 Wood Duck Drive Suite F. Springfield, Illinois 62711

December 14, 2015

RECEIVED

DEC 1 4 2015

**IEPA/BOL** 

Jeff R. Wienhoff, P.E.

Senior Professional Engineer

Mike Bettenhausen Senior Project Manager Joe Buhlig

Project Manager

	PAGE NUMBER:
A. Site Identification	1
B. Site Information	
C. Site Investigation Results	1
1. Site history with respect to the release.	1
2. Site description	2
a. Area surrounding the site	2
b.Local geology, hydrogeology, and hydrology	2
c. Local geography and topography	3
d. Existing and potential migration pathways and exposure routes	3
e. Current and projected post-remediation land use	3
3. Site investigation results	3
TACO Tier 1 Evaluation: Early Action and Site Investigation Soil	<u>4</u> 3
TACO Tier 1 Evaluation: Site Investigation Groundwater	4
a. Map(s) showing locations of all borings and groundwater monitoring wells	
completed as part of the site investigation and the groundwater flow direction	
b.Map(s) showing the horizontal extent of soil and groundwater contamination	
c. Map cross-section(s)	4
d. Soil boring logs and monitoring well construction diagrams	4
e. Analytical results, chain of custody forms, and laboratory certifications	
f. Table(s) comparing analytical results to the most stringent Tier 1 ROs	5
g.Potable water supply well survey	5
CLASS III SPECIAL RESOURCE GROUNDWATER	
SURFACE WATER BODY SURVEY	
4. Conclusion that includes an assessment of the sufficiency of the data	5
5. Site map(s) meeting the requirements of 35 Ill. Adm. Code 734.440	5
6.Budget forms of actual costs	6
COMMENT	7
D. Signatures	

### FIGURES SECTION

- 1. Surrounding Land Usage Map
- 2. Site Area Features Map
- 3. Geologic Cross Section Map
- 4. Groundwater Contour Map
- 5. R-26 Modeled Extents

## **TABLES SECTION**

- 1. Analytical Results BTEX
- 2. Soil Analytical Results PNAs
- 3. Groundwater Analytical and Elevation Summary BTEX
- 4. Groundwater Analytical Results PNAs
- 5. Summary of Groundwater Monitoring Well Elevation Data

## **ATTACHMENTS SECTION**

- Laboratory Analytical Report
- Soil Boring Log
- 3. S-28 and R-26 Calculations
- 4. Hydraulic Conductivity and Gradient Data
- 5. Stage 3 and SICR Actual Costs Budget Forms
- 6. Off-site Access Affidavit





# 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 5/5.17). This form has been approved by the Forms

# LEAKING UNDERGROUND STORAGE TANK PROGRAM SITE INVESTIGATION COMPLETION REPORT

### A. Site Identification

**Historical Investigation** 

and ERS.

IEMA Inc	eident # (6- or 8-digit):	923441	1	EPA LPC# (10-digit):	1430655263
Site Name	e: Illico Independent Oil	Co.		S	
Site Addr	ess (Not a P.O. Box): 371	2 University Stree	t		
City:	Peoria	County:	Peoria	ZIP Code:	61614
B. Site I	nformation				
	l the owner/operator seek r derground Storage Tank Fu		m the	Yes 🏻	No 🗆
	a Site Investigation Plan be(s) of approval letter(s): _			Yes 🛛	No 🗆
C. Site I	9.	12/23/2013 (Stage	7		RECEIVEL
1. Site b	istory with respect to the	release;			DEC 1 4 2015
Street	in Peoria, Illinois. Figure . The site is currently a ga	1 displays the sur	rounding land	usage. Figure 2 displa	rys the entire subject
receiv incide Premo	ease was reported to the Illed Leaking Underground ont. On July 24, 2015, Illic or had previously taken the endent Oil Co. has taken or s.	Storage Tank (Loo Incorporated and e responsibility of	UST) incident I Premcor reac conducting th	number 923441 cond hed a settlement on mu e environmental invest	cerning this overfill altiple properties the cigative work. Illico
Accor	Action  ding to the 45 Day Reportation activities at the intellated to an overfill of gaso	rsection of War M	Iemorial Drive	ent #923441 was rep and North University	orted during IDOT Street. The release

Multiple stages of investigation were performed by Parsons Engineering Science, Inc. and ERS of Illinois, Inc. For information on these investigations please review the previously submitted reports from Parsons

### Stage 2 Site Investigation

Prior to Marlin Environmental, Inc. involvement with the Illico property, ERS performed a Stage 2 site investigation. The results of the investigation are available in the Stage 2 Site Investigation Results Report that was submitted to the IEPA on October 2, 2015. Received on 10/05.

In August of 2015 Marlin Environmental, Inc. was retained by Illico to address the 923441 incident. Based on the results of the ERS Stage 2 Site Investigation, soil and groundwater contamination lacked delineation off-site. Based upon the results of the Stage 2 Site Investigation, a Stage 3 Site Investigation was proposed to define and properly delineate the extent of soil and groundwater contamination and evaluate potential preferential contaminant migration pathways.

### Stage 3 Site Investigation

In order to define the extent of the contamination off-site to the west of N. University Street a *Stage 3 SIP*, dated October 5, 2015, that proposed advancing three (3) soil borings to a depth of fifteen (15) feet bgs was submitted to the IEPA. Each of the three (3) soil borings was to be completed as a monitoring well. The borings and wells were proposed to define the soil and groundwater contamination the west property line of the subject site as well as the contamination found in MW-7. The proposed borings/wells were to be advanced off-site to the west of the Illico property. In addition to the soil borings and monitoring wells, Marlin proposed to collect a foc sample and perform a slug test.

Marlin was unable to advance the proposed soil borings / monitoring wells in the right-of-way due to a conflict with utilities. Marlin sent a certified off-site access letter to the commercial property to the west. However, an agreement for access was unable to be attained for the off-site property. An affidavit documenting that the proper protocols were followed is included in **Attachment 6** as required by 35 IAC 734.

On November 24, 2015 Marlin returned to the Illico property to collect a foc sample at the SB-26 location. A hand auger was utilized to auger down to six (6) feet. While on-site Marlin personal performed a slug test on MW-2. Marlin also gauged all existing wells to determine depth to water for the purpose of determining groundwater flow direction.

In order to define soil and groundwater contamination RBCA Equation R26 and SSL Equation S28 were utilized to determine the extent of <u>current</u> groundwater <u>and soil</u> contamination. The maximum predicted extent of <u>soil and</u> groundwater impaction as determined from RBCA Equation R26 is displayed in Figure 5. Results indicate that contamination will not migrate further west than the property that denied access.

#### Site description;

a. Area surrounding the site;

The investigation site is a current station located at 3712 University Street in Peoria, Peoria County, Illinois. **Figure 1** illustrates the surrounding land usage. The surrounding properties are primarily commercial and residential to the north, residential to the east and commercial to the south and west.

b. Local geology, hydrogeology, and hydrology;

According to the Illinois State Geological Survey (ISGS) Circular 532 (Berg, Kempton and Cartwright, 1984), entitled "Potential for Contamination of Shallow Aquifers in Illinois" (Plate 1), the subsurface native soil conditions are typical "A2" or "E". Areas classified as "A2" are described as; "thick, permeable sand and gravel within 20 feet of the land surface." Areas classified as "E" are described as; "uniform, relatively impermeable silty or clayey till at least 50 feet thick with no evidence of interbedded sand and gravel."

The site surface is generally paved. The site subsurface consists generally of silty clay to 9 feet and sand between 9 and 13 feet bgs, the apparent groundwater depth while drilling ranged from approximately 4-8 feet bgs in each of the soil borings.

8.5

A rising-head slug test was performed on monitoring well MW-2. The results of the slug test indicated that the hydraulic conductivity of the subsurface soil materials beneath the site is 0.0003667 centimeters per second (cm/sec). The hydraulic gradient of the site was calculated, using the groundwater elevations of the well network during Stage 3 Site Investigation, to be 0.01426 ft/ft,

## c. Local geography and topography;

The property is located at 3712 North University Street in Peoria, Peoria County, Illinois. The site is currently an active filling station. Geographically the site is located in the NE 1/4 of Section 29, Township 9 North, Range 8 East in Peoria County.

## d. Existing and potential migration pathways and exposure routes; and

Existing and potential migration pathways and exposure routes are noted in Figure 2 and include the migration of contaminants through the permeable site soils potentially contacting underground utility conduits, storm or sanitary sewers, vaults, basements or other confined spaces.

## e. Current and projected post-remediation land use;

The site is an active gas station, and is expected to remain the same as of the time of this report.

## 3. Site investigation results:

## TACO Tier 1 Evaluation: Early Action and Site Investigation Soil

The soil Site Investigation analytical results were compared against the IEPA TACO Tier 1 SROs for each exposure route in an effort to determine the extent and degree of soil contamination associated with the LUST incident at the facility. The laboratory analytical results for the soil samples collected at the site are summarized in **Table 1 and Table 2**.

The laboratory analytical results indicated that after the drilling and sampling of the migration pathway soil borings and through the use of RBCA Equation R26 due to access denial, the lateral and vertical extents of the soil impaction have been defined at this LUST facility. The approximate lateral extent of Tier 1 soil contamination is illustrated in Figure 5. The depth of source (d<sub>s</sub>) proposed for the purpose of on-site Tier 2 assessment was set to 8 feet (2.4384 meters) as the conservative approximate maximum vertical thickness of impacted soil as contamination was analytically determined to range from the near surface to 8 feet bgs, the maximum depth to the apparent groundwater-bearing zone observed in the boring logs.

9'58-101,102

Physical parameter soil testing [fraction of organic carbon ( $f_{oc}$ ), soil bulk density ( $\rho_b$ ) and moisture content ( $\omega$ )] was performed during Site Investigation. Laboratory analysis of the TACO physical and chemical parameters sample yielded the following soil parameter results:

Chemical & Physical Soil Parameters							
Sample ID	Fraction of Organic Carbon (f <sub>oc</sub> )	Moisture Content (ω)	Soil Dry Bulk Density (ρ <sub>b</sub> )	Soil Particle Density (ρ <sub>s</sub> )			
SB-26 (2'-6')	0.0179 g/g	19 %	1.684 g/cm <sup>3</sup>	2.702 g/cm <sup>3</sup>			

Marlin Environmental, Inc. will utilize this data to calculate the site-specific Tier 2 SROs for each indicator contaminant constituent determined to exhibit a concentration above the IEPA TACO Tier 1 SROs as part of the *CAP*. The laboratory analytical report for the FOC sample collected during Stage 3 is included in **Attachment 1**.

TACO Tier 1 Evaluation: Site Investigation Groundwater

The groundwater analytical results from the site's groundwater monitoring wells were compared against the IEPA TACO Tier 1 GROs for Class I Groundwater in an attempt to define the degree and extent of groundwater contamination associated with the LUST. The laboratory analytical results for the groundwater samples collected at the site are summarized in **Table 3 and Table 4**.

Because the adjacent property has denied access for additional soil borings and wells to the west, RBCA Equation R26 was utilized to determine the extent of current soil and groundwater contamination. Input variables were determined using site-specific testing values including hydraulic conductivity (K) and gradient (i) and conservative values for the source width parameters (S<sub>w</sub> and S<sub>d</sub>). The remaining input variables were obtained using default parameters obtained from 35 IAC 742 Appendix B, Table E: Tier 1 Groundwater Remediation Objectives for the Groundwater Component of the Groundwater Ingestion Route, Appendix C, Table D: RBCA Parameters and Appendix C, Table E: Default Physical and Chemical Parameters. The predicted extent of potential of future groundwater impact from current levels of impaction does not extend west beyond the commercial property that has denied access. S28 and R-26 calculations are included in **Attachment 3**.

The laboratory analytical results indicated that after sampling the Site Investigation monitoring wells and using R-26 modeling, groundwater contamination associated with LUST incident number 923441 have been delineated laterally and vertically. The groundwater contaminant plume is defined to the north by MW-5 to the east by MW-15, to the south by MW-3 and MW-11 and to the west by MW-7 (modeled). The approximate lateral extent of Tier 1 groundwater contamination is illustrated in **Figure 5**.

 Map(s) showing locations of all borings and groundwater monitoring wells completed as part of the site investigation and the groundwater flow direction;

Please refer to Figures 2 and 4.

- b. Map(s) showing the horizontal extent of soil and groundwater contamination exceeding the most stringent Tier 1 remediation objectives (ROs);
- Please refer to Figure 4 (lateral extents of soil and groundwater contamination). The depth of source (d<sub>s</sub>) proposed for the purpose of on-site Tier 2 assessment was set to 8 feet (2.4384 meters) as the conservative approximate maximum vertical thickness of impacted soil as contamination was analytically determined to range from the near surface to 8 feet bgs, the maximum depth to the apparent groundwater-bearing zone observed while drilling.

9' 5B-101, 102

- Map cross-section(s) showing the horizontal and vertical extents of soil and groundwater contamination exceeding the most stringent Tier 1 ROs;
  - Figure 3 illustrates the geologic cross section of the site and the horizontal and vertical extents of soil and groundwater contamination.
- d. Soil boring logs and monitoring well construction diagrams for all borings drilled and groundwater monitoring wells installed as part of site investigation;

Please refer to previous reports submitted to the IEPA as well as Attachment 2.

e. Analytical results, chain of custody forms, and laboratory certifications;

Please refer to previous reports submitted to the IEPA as well as Attachment 1.

- Table(s) comparing analytical results to the most stringent Tier 1 ROs (include sample depth, date collected, and detection limits); and
  - Table 1. Analytical Results - BTEX
  - Table 2. Soil Analytical Results PNAs
  - Table 3. Groundwater Analytical and Elevation Summary - BTEX
  - Table 4. Groundwater Analytical Results - PNAs
  - Table 5. Summary of Groundwater Monitoring Well Elevation Data
- g. Potable water supply well survey;

8.5

The potable well search was provided in the February 2012 Site Investigation Plan.

## 4. Conclusion that includes an assessment of the sufficiency of the data;

In summary, the Site Investigation performed at this facility included the advancement of soil borings and groundwater monitoring wells. The purpose of this investigation, which was performed in accordance with the IEPA Site Investigation guidelines, was to determine the nature, degree and extent of soil and groundwater contamination present beneath this LUST facility and surroundings.

- The laboratory analytical results indicated that after the drilling and sampling of migration pathway soil borings along with the use of RBCA Equation R26 modeling due to access denial, the lateral and vertical extents of the soil impaction have been defined at this LUST facility.
- The vertical extent of soil contamination, as based upon laboratory analytical results and site-specific geology, is 8 feet The depth of source (ds) proposed for the purpose of on-site Tier 2 assessment is 8 feet as contamination was analytically determined to range from the near surface to 8 feet bgs, the maximum 9' SB-101, 102 depth to the apparent groundwater-bearing zone observed while drilling.
  - The laboratory analytical results indicated that after sampling the Site Investigation monitoring wells, along with the use of RBCA Equation R26 modeling due to access denial, groundwater contamination associated with LUST incident number 923441 have been delineated laterally and vertically

The laboratory analytical results of the Site Investigation combined with the RBCA R-26 modeling have defined the lateral and vertical extents of soil and groundwater impaction associated with this LUST site.

The Illico Independent Oil Co., facility hereby petitions the Agency to agree with the extent findings of this Site Investigation and approve this Site Investigation Completion Report (SICR). A CAP will be forwarded to the Agency for pre-approval to address the soil contamination exceeding the IEPA TACO Tier 2 ROs and the groundwater contamination upon receipt of the approval of this SICR by the Agency.

Soil and groundwater analytical data was obtained from suspected exposure routes, migration pathways, and nearby potential sensitive environmental receptors in keeping with the Agency Site Investigation guidelines and approved plans. The data was obtained in an effort to help investigate the physical features of the site that may affect contaminant migration away from the LUST source and produce and increased threat to human health, safety and the environment.

Based upon the soil and groundwater analytical data obtained during the Site Investigation and the RBCA Equation R26 modeling performed at the site, it appears that the data collected in accordance with the Site Investigation guidelines is sufficient to determine the extents of the applicable indicator contaminants exceeding the corresponding Tier 1 remediation objectives of 35 IAC 742.

## 5. Site map(s) meeting the requirements of 35 Ill. Adm. Code 734.440; and

Figures 1 and 2 meet the requirements of 35 IAC 734.440.

6. Budget forms of actual costs (documenting actual work performed during the previous stage)

The IEPA budget forms reporting the actual costs for the Stage 3 Site Investigation and SICR are presented in **Attachment 5** for IEPA review and approval.

### COMMENT

Marlin Environmental, Inc. has performed this investigation in a professional manner using the degree of skill and care conducted for similar projects, under comparable conditions as those used by other reputable and competent environmental consultants, at the time these services were provided.

The scope and depth of this project was directed by IEPA plan approval and agreed to by the client in our signed contract. The findings are based on documentary review, analytical results, IEPA sanctioned modeling and regulations, conversations, and site observations as noted in this report. Marlin Environmental, Inc. employed experienced and trained professionals in attempting to successfully evaluate the subsurface conditions at this site, in accordance with applicable IEPA regulation and or guidelines. It is possible that some materials containing petroleum hydrocarbon constituents were not visible or accessible to the professionals, and may not have been identified or addressed during this investigation.

This report is not intended to represent an exhaustive research of all potential hazards, which may exist at the site and is not representative of future conditions, previous activities or events that may have taken place prior to or after our demobilization from the site. The owner has relied upon applicable IEPA sanctioned 35 IAC regulations. Activities that transpire prior to or after our demobilization from the site are not considered relevant to this study.

The conclusions or opinions provided by Marlin Environmental, Inc. are based solely on the scope of work conducted, analytical results obtained and limited explorations described within this report. No warranty, expressed or implied, is made concerning the professional opinions or analytical results included in this report.

#### D. Signatures

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.

Name: Illico Independent Oil Co. Company: Marlin Environmental, Inc.

Contact: David Golwitzer Contact: Joe Buhlig

Address: 2201 Woodlawn Rd. Suite 600 Address: 3900 Wood Duck Drive

City: Lincoln City: Springfield

State: Illinois

ZIP Code: 62656 ZIP Code: 62711

Phone: 217-732-4193 Phone: 217-726-7569 ext 300

Signature: Lincoln Email: joeb@marlinenv.com

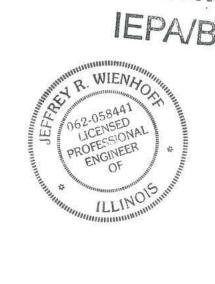
Date: Signature: Signat

I certify under penalty of law that activities that are the subject of this report were conducted under my supervision or were conducted under the supervision of another Licensed Professional Engineer of Licensed Professional Geologist and reviewed by me; that this report and attachments were prepared under my supervision; that, to the best of my knowledge and belief, the work described in this report has been completed in accordance with the Environmental Protection Act [415 ILCS 5], 35 Ill. Adm. Code 732, 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 Protections Act [415 ILCS 5/44 and 57.17].

#### Licensed Professional Engineer

L.P.E. Seal

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	FIGURES



# Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 250 Leaking UST Incident #923441





1 inch = 100 feet
0 40 80 160 240

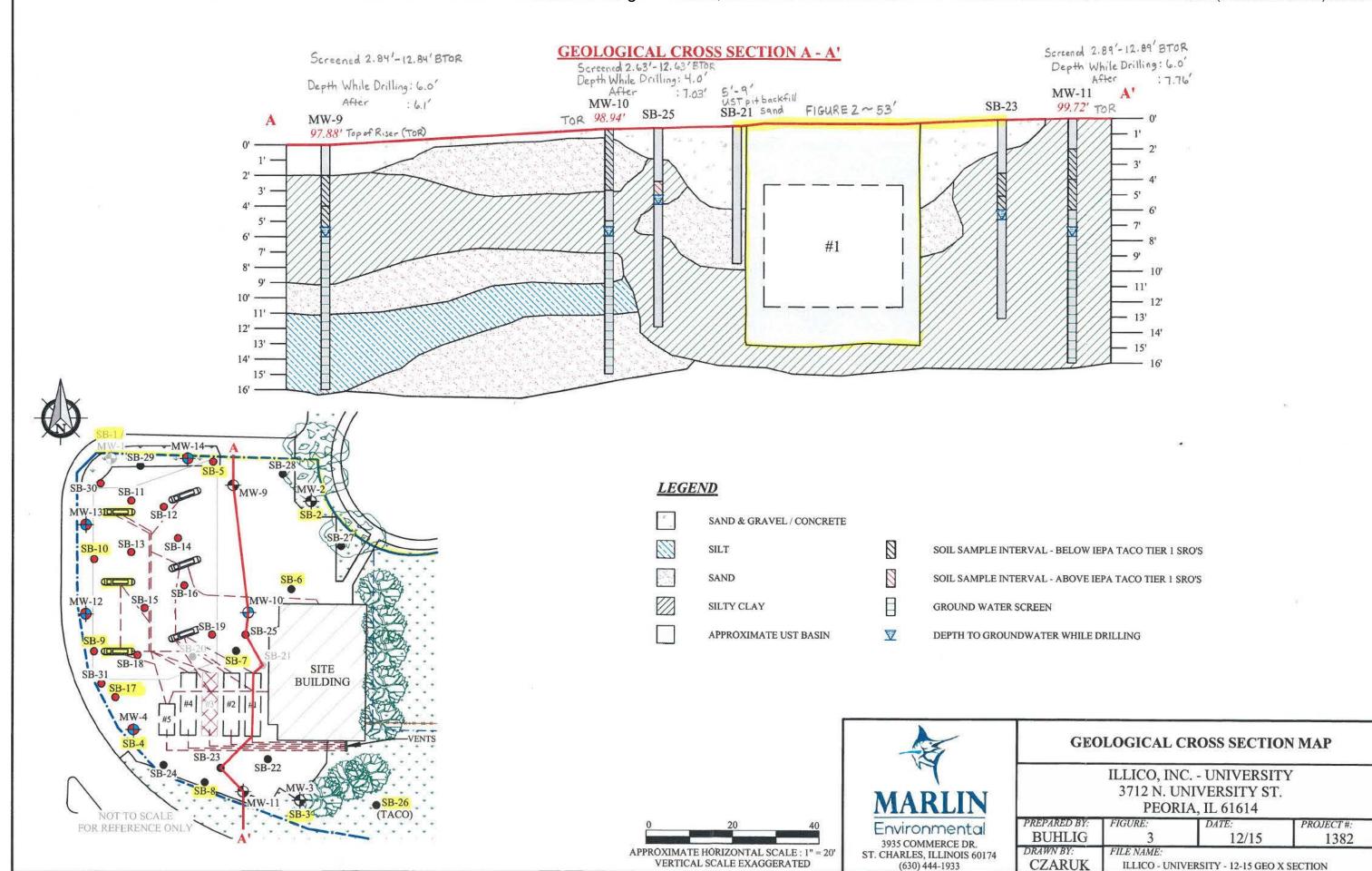
Disclaimer: Data is provided 'as is' without warranty or any epresentation of accuracy, timeliness or completeness. The burden or determining fitness for, or the appropriateness for use, rests solely on the requester. The requester acknowledges and accepts he limitations of the Data, including the fact that the Data is in a constant state of maintenance. This website is NOT intended to be used for legal litigation or boundary disputes and is informational

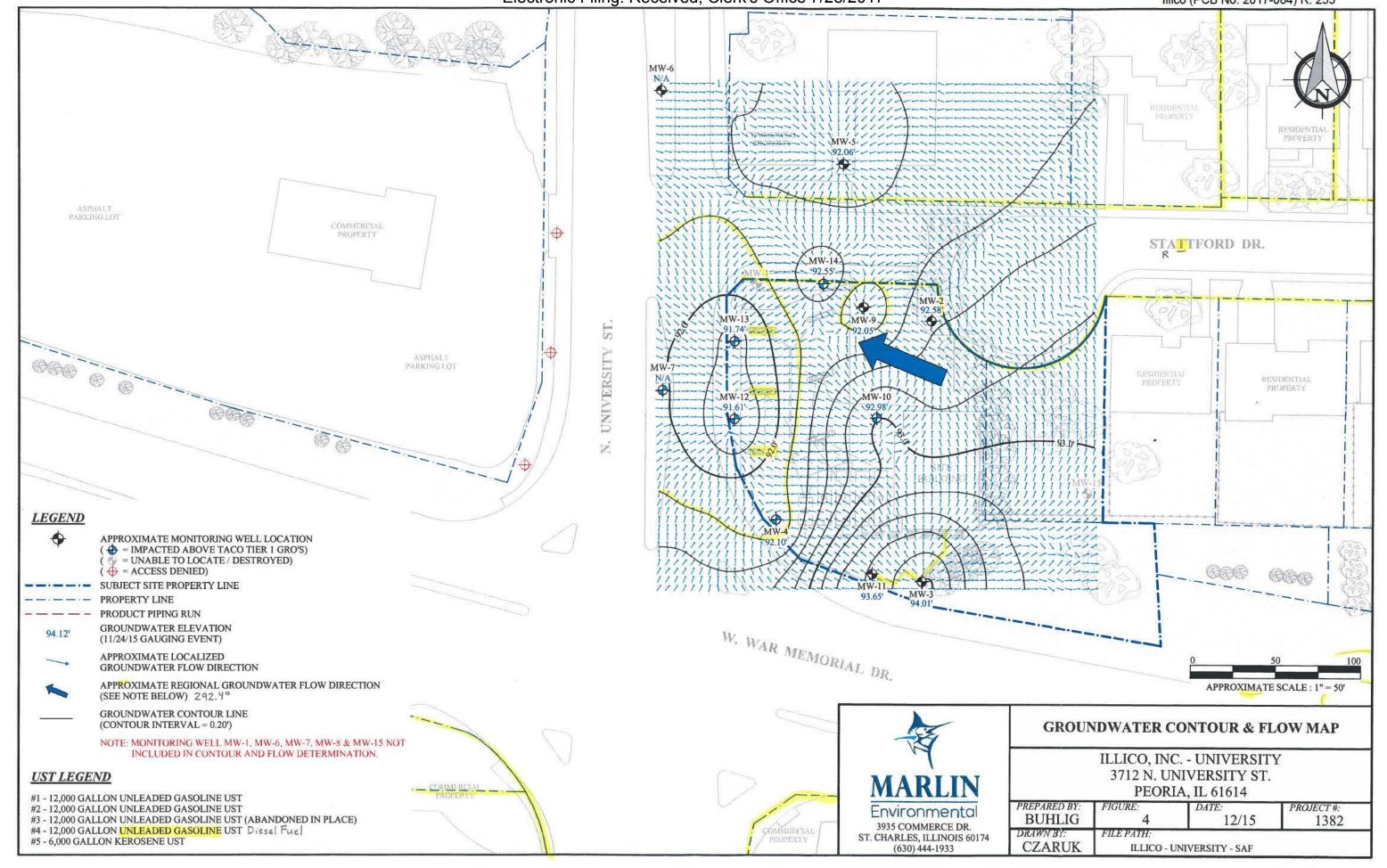


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Table 1
Soil Analytical Results - BTEX

Therefore, this table was not reviewed.

#### Former Clark Store #2093 3712 North University Street Peoria, Illinois 61614

Sample ID	Sample Depth (feet)	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes
SB-1	2-4	11/18/1999	ND<6.0	ND<6.0	ND<6.0	ND<18.0
SB-1	6-8	11/18/1999	ND<29	ND<57	1,600	4,180
SB-2	4-6	11/18/1999	ND<5.2	ND<5.2	ND<5.2	ND<15.2
SB-3	2-4	11/18/1999	ND<6.3	ND<6.3	ND<6.3	ND<19.3
SB-3	6-8	11/18/1999	ND<5.4	ND<5.4	ND<5.4	ND<16.4
SB-4	0-2	11/18/1999	ND<5.9	ND<5.9	ND<5.9	ND<17.9
SB-4	4-6	11/18/1999	ND<1,100	11,000	37,000	193,000
SB-5	2-4	11/18/1999	ND<63	270	400	7,700
SB-5	4-6	11/18/1999	ND<65	3,300	3,600	22,800
SB-5 Duplicate	4-6	11/18/1999	1,200	23,000	13,000	74,000
SB-6	0-4	11/22/1999	ND<6.0	ND<6.0	ND<6.0	ND<18.0
SB-6	4-8	11/22/1999	ND<5.9	ND<5.9	ND<5.9	ND<17.9
SB-7	0-4	11/22/1999	ND<6.1	ND<6.1	ND<6.1	ND<18.1
SB-7	4-8	11/22/1999	ND<6.4	ND<6.4	ND<6.4	ND<19.4
SB-8	0-4	11/22/1999	ND<6.4	ND<6.4	ND<6.4	ND<19.4
SB-8	4-8	11/22/1999	ND<6.4	ND<6.4	ND<6.4	ND<19.4
SB-9	0-4	11/22/1999	130	ND<130	420	2,050
SB-9 Duplicate	0-4	11/22/1999	230	ND<65	390	1,780
SB-9	4-8	11/22/1999	690	58,000	57,000	370,000
SB-10	0-4	11/22/1999	7,900	83,000	42,000	182,000
SB-10	4-8	11/22/1999	1,400	16,000	7,100	35,000
MW-5	2-4	11/16/2000	ND<6.3	ND<6.3	ND<6.3	ND<19.3
MW-5	6-8	11/16/2000	ND<5.8	ND<5.8	ND<5.8	ND<17.8
MW-6	4-6	11/16/2000	ND<6.3	ND<6.3	ND<6.3	ND<19.3
MW-6	8-10	11/16/2000	ND<6.1	ND<6.1	ND<6.1	ND<18.1
MW-7	7-9	11/16/2000	13,000	160,000	92,000	420,000
Exposure Route-S	Specific Values	for Soils				
	n - Residential	T	12,000	16,000,000	7,800,000	16,000,000
	n - Residential		800	650,000	400,000	320,000
Ingestion - Co	onstruction Wo	rker	2,300,000	410,000,000	20,000,000	41,000,000
	onstruction Wo		2,200	42,000	58,000	5,600
	dustrial/Comme	7.11.0	100,000	410,000,000	200,000,000	410,000,000
	dustrial/Comme		1,600	650,000	400,000	320,000
Tier 1 Remediation Obj			30	12,000	13,000	150,000
Tier 1 Remediation Obj	ective - Class II	Groundwater	170	29,000	19,000	150,000

Benzene, Toluene, Ethylbenzene and Total Xylene (BTEX) analysis conducted using United States Environmental Protection Agency (USEPA) Methods.

All results are reported in micrograms per kilogram (ug/kg), dry weight.

Tier 1 Soil Remediation Objectives per Title 35, Part 742 - Tiered Approach to Corrective Action Objectives.

ND = The constituent was not measured above the Method Detection Limit indicated.

NA = Not Applicable

Bold values exceed Tier 1 Remediation Objectives.

Table 1 Soil Analytical Results - BTEX

#### Former Clark Store #2093 3712 North University Street Peoria, Illinois 61614

Sample ID	Sample Depth (feet)	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes
SB-11	3.5-5	08/07/2012	288	ND<64.2	58.1	332
SB-11	7-8	08/07/2012	3,980	51,600	31,600	159,000
SB-12	3.5-5	08/07/2012	51.5	ND<64.2	ND<32.1	ND<96.2
SB-12	7-8	08/07/2012	629	ND<62.8	3,940	13,700
SB-13	3.5-5	08/07/2012	2,050	2,720	1,900	8,400
SB-13	6-7	08/07/2012	11,700	92,700	29,700	142,000
SB-14	3.5-5	08/07/2012	669	ND<64.8	213	249
SB-14	6-7	08/07/2012	833	ND<62.0	1,330	2,330
SB-15	3.5-5	08/07/2012	4,210	24,100	9,170	49,900
SB-15	5-6	08/07/2012	41,800	305,000	103,000	568,000
SB-16	3.5-5	08/07/2012	1,010	ND<65.9	164	156
SB-16	6-7	08/07/2012	3,700	ND<613	11,200	36,100
SB-17	3.5-5	08/08/2012	337	ND<126	3,140	7,820
SB-17	6-7	08/08/2012	ND<1,200	3,770	130,000	574,000
SB-18	3.5-5	08/08/2012	1,190	ND<64.6	637	645
SB-18	6-7	08/08/2012	6,790	903	27,000	112,000
SB-19	3.5-5	08/08/2012	40.5	ND<65.0	ND<32.5	ND<97.5
SB-19	6-7	08/08/2012	365	ND<59.5	69.1	ND<89.3
\$B-22	3.5-5	08/08/2012	ND<24.8	ND<62.0	ND<31.0	ND<93.0
SB-22	6-7	08/08/2012	ND<24.8	ND<62.0	ND<31.0	ND<93.0
SB-23	3.5-5	08/08/2012	ND<25.5	The second secon		
SB-23	5-6	08/08/2012	ND<24.5	ND<63.7	ND<31.9	ND<95.6
SB-24	3.5-5	08/08/2012	ND<25.6	ND<61.2	ND<30.6	ND<91.8
SB-25	3.5-5	08/08/2012		ND<64.1	ND<32.0	ND<96.1
SB-27	0-4	03/10/2015	148 ND<5.0	ND<64.1	ND<32.1	321
SB-27	4-7			ND<5.0	ND<5.0	ND<5.0
\$B-28		03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
SB-28	0-2	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
SB-29	4-6	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
SB-29	2-4	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
SB-30	4-6	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
D. C. B. C. C. C. C. C. C. C. C. C. C. C. C. C.	0-2	03/10/2015	101	7.5	126	61.6
SB-30	2-4	03/10/2015	402	ND<500	ND<500	ND<500
SB-31	2-4	03/10/2015	1,600	ND<500	9,690	24,200
SB-31	4-6	03/10/2015	16,800	27,100	243,000	1,190,000
MW-9	2-4	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
MW-9	4-6	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
MW-10	0-4	03/10/2015	ND<5.0	5.7	ND<5.0	ND<5.0
MW-11	2-4	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
MW-11	4-6	03/10/2015	ND<5.0	7.1	ND<5.0	5.2
MW-12	2-4	03/10/2015	1,660	3,620	42,300	168,000
MW-12	4-6	03/10/2015	4,230	4,660	35,500	178,000
MW-13	2-4	03/10/2015	23.0	ND<5.0	8.4	16.3
MW-13	4-6	03/10/2015	347	ND<500	2,550	6,610
MW-14	2-4	03/10/2015	ND<5.0	5.9	ND<5.0	5.8
MW-14	4-6	03/10/2015	654	ND<500	9,820	44,600
MW-15	2-4	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
MW-15	4-6	03/10/2015	ND<5.0	ND<5.0	ND<5.0	ND<5.0
Exposure Route-	Specific Values f	or Saile				
	n - Residential	07 00113	12,000	16,000,000	7,800,000	16,000,000
	on - Residential		800			The state of the s
	onstruction Wor	kar	2,300,000	650,000 410,000,000	400,000	320,000
	Construction Wor		2,300,000		20,000,000	41,000,000
	dustrial/Commer			42,000	58,000	5,600
	dustrial/Commer		100,000	410,000,000	200,000,000	410,000,000
Tier 1 Remediation Ob			1,600	650,000	400,000	320,000
Tier 1 Remediation Ob			30 170	12,000 29,000	13,000 19,000	150,000 150,000

al Xylene (BTEX) analysis conducted using United States Environmental

Protection Agency (USEPA) Methods.

All results are reported in micrograms per kilogram (ug/kg), dry weight.

Tier 1 Soil Remediation Objectives per Title 35, Part 742 - Tiered Approach to Corrective Action Objectives.

ND = The constituent was not measured above the Method Detection Limit indicated.

NA = Not Applicable

See 5B-31

Bold values exceed Tier 1 Remediation Objectives.

#### Electronic Filing: Received, Clerk's Office 7/28/2017

Table 2 Soil Analytical Results - PNAs

Former Clark Store #2093 3712 North University Street

					Peoria, Illin	nois 61614					
Sandi	.0	de Doom Reen San	ggle Date keen	Acer Acer	Bartheylerie kult	nt de la constante de la const	A Berthreene Ber	da apprene	of thought there Berger	hillperhere Bento	untuo tentre de
			/	/	/ ,		//		//		
SB-1	2-4	11/18/1999	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	
SB-1	6-8	11/18/1999	ND<57	ND<57	ND<57	ND<57	ND<57	ND<57	ND<57	ND<57	1
SB-2	4-6	11/18/1999	ND<52	ND<52	ND<52	ND<52	ND<52	ND<52	ND<52	ND<52	1
SB-3	2-4	11/18/1999	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	1
SB-3	6-8	11/18/1999	ND<54	ND<54	ND<54	ND<54	ND<54	ND<54	ND<54	ND<54	1
SB-4	0-2	11/18/1999	ND<59	ND<59	ND<59	ND<59	ND<59	ND<59	ND<59	ND<59	
SB-4	4-6	11/18/1999	ND<810	ND<810	ND<810	ND<810	ND<810	ND<810	ND<810	ND<810	-
SB-5	2-4	11/18/1999	ND<150	ND<150	ND<150	ND<150	ND<150	ND<150	ND<150	ND<150	_
SB-5	4-6	11/18/1999	ND<62	ND<62	ND<62	ND<62	ND<62	ND<62	ND<62	ND<62	4
SB-5 Duplicate	4-6	11/18/1999	ND<150	ND<150	ND<150	ND<150	ND<150	ND<150	ND<150	ND<150	-
SB-6	0-4	11/22/1999	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	4
SB-6	4-8	11/22/1999	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	4
SB-7	0-4	11/22/1999	ND<62	ND<62	ND<62	ND<62	ND<62	ND<62	ND<62	ND<62	-
SB-7	4-8	11/22/1999	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	4
SB-8	0-4	11/22/1999	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	ND<64	-
SB-8	4-8	11/22/1999	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63	4
SB-9	0-4	11/22/1999	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63	ND<63	4
SB-9 Duplicate	0-4	11/22/1999	ND<65	ND<65	ND<65	ND<65	ND<65	ND<65	ND<65	ND<65	1
SB-9	4-8	11/22/1999	ND<61	ND<61	ND<61	ND<61	ND<61	ND<61	ND<61	ND<61	_
SB-10	0-4	11/22/1999	ND<270	ND<270	ND<270	ND<270	ND<270	ND<270	ND<270	ND<270	4
SB-10	4-8	11/22/1999	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	1
MW-5	2-4	11/16/2000	ND<32	ND<32	ND<32	ND<32	ND<32	ND<32	ND<32	ND<32	
MW-5	6-8	11/16/2000	ND<29	ND<29	ND<29	ND<29	ND<29	ND<29	ND<29	ND<29	1
MW-6	4-6	11/16/2000	ND<130	ND<130	ND<130	ND<130	ND<130	ND<130	ND<130	ND<130	1
MW-6	8-10	11/16/2000	ND<31	ND<31	ND<31	ND<31	ND<31	ND<31	ND<31	ND<31	1
MW-7	7-9	11/16/2000	ND<860	ND<860	ND<860	ND<860	ND<860	ND<860	ND<860	ND<860	_
Exposure Route											
	on - Residenti		4,700,000	2,300,000	23,000,000	900	90	900	2,300,000	9,000	1
	ion - Residenti		NE	NE	NE	NE	NE	NE	NE	NE	
	Construction V		120,000,000	61,000,000	610,000,000	170,000	17,000	170,000	61,000,000	1,700,000	1
	Construction		NE	NE	NE	NE	NE	NE	NE	NE	4
	I Groundwate		570,000	85,000	12,000,000	2,000	8,000	5,000	27,000,000	49,000	1
	Il Groundwate		2,900,000	420,000	59,000,000	8,000	82,000	25,000	130,000,000	250,000	1
Concentrations of PNA	Chemicals in	Background Soils	130	70	400	1,800	2,100	2,100	1,700	1,700	_

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Table 2 Soll Analytical Results - PNAs

Former Clark Store #2093 3712 North University Street

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SB-1	2-4	11/18/1999	ND<60	ND<60	ND<80	ND<80	ND<60	ND<60	ND<80	ND<60
SB-1	6-8	11/18/1999	ND<57	ND<57	ND<57	ND<57	ND<57	300	ND<57	ND<57
\$B-2	4-6	11/18/1999	ND<52	ND<52	ND<52	ND<52	ND<52	ND<52	ND<52	ND<52
3B-3	2-4	11/18/1999	ND<64	ND<64	ND<84	ND<64	ND<64	ND<84	ND<64	ND<64
SB-3	8-8	11/18/1999	ND<54	ND<54	ND<54	ND<54	ND<54	ND<54	ND<54	ND<54
SB-4	0-2	11/18/1999	ND<59	ND<59	ND<59	ND<59	ND<59	ND<59	ND<59	ND<59
3B-4	4-6	11/18/1999	ND<810	ND<810	ND<810	ND<810	ND<810	11,000	ND<810	ND<810
\$B-5	2-4	11/18/1999	ND<150	ND<150	ND<150	ND<150	ND<150	2,100	ND<150	ND<150
SB-5	4-6	11/18/1999	ND<62	ND<62	ND<82	ND<62	ND<82	1,200	ND<62	ND<62
SB-5 Duplicate	4-6	11/18/1999	ND<150	ND<150	ND<150	ND<150	ND<150	1,400	ND<150	ND<150
SB-6	0-4	11/22/1999	ND<60	ND<80	ND<60	ND<60	ND<60	ND<80	ND<60	ND<60
\$B-6	4-8	11/22/1999	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60	ND<60
SB-7	0-4	11/22/1999	ND<82	ND<62	ND<62	ND<82	ND<82	ND<62	ND<62	ND<82
SB-7	4-8	11/22/1999	ND<64	ND<84	ND<84	ND<64	ND<64	ND<64	ND<64	ND<64
SB-8	0-4	11/22/1999	ND<84	ND<64	ND<64	ND<84	ND<64	ND<64	ND<64	ND<64
58-8	4-8	11/22/1999	ND<83	ND<83	ND<63	ND<83	ND<83	ND<63	ND<63	ND<63
SB-9	0-4	11/22/1999	ND<63	ND<63	ND<63	ND<63	ND<83	ND<63	ND<63	ND<83
SB-9 Duplicate	0-4	11/22/1999	ND<65	ND<85	ND<65	ND<65	ND<85	ND<65	ND<65	ND<65
SB-9	4-8	11/22/1999	ND<81	ND<61	ND<81	ND<81	ND<61	860	ND<61	ND<81
SB-10	0-4	11/22/1999	ND<270	ND<270	ND<270	ND<270	ND<270	3,000	ND<270	ND<270
SB-10	4-8	11/22/1999	ND<80	ND<60	ND<80	ND<60	ND<60	1,200	ND<60	ND<80
MW-5	2-4	11/16/2000	ND<32	ND<32	ND<32	ND<32	ND<32	ND<32	ND<32	ND<32
MW-5	6-8	11/16/2000	ND<29	ND<29	ND<29	ND<29	ND<29	ND<29	ND<29	ND<29
MW-6	4-6	11/16/2000	ND<130	ND<130	ND<130	ND<130	ND<130	2,400	ND<130	ND<130
MW-8	8-10	11/16/2000	ND<31	ND<31	52	ND<31	ND<31	ND<31	ND<31	42
MW-7	7-9	11/16/2000	ND<860	ND<860	ND<860	ND<860	ND<860	25,000	ND<860	ND<860
Exposure Route	Specific Value	s for Soils								
	on - Residenti		88,000	90	3,100,000	3,100,000	900	1,800,000	2,300,000	2,300,000
	ion - Residenti		NE	NE	NE	NE	NE	170,000	NE	NE
	Construction V		17,000,000	17,000	82,000,000	82,000,000	170,000	4,100,000	61,000,000	61,000,000
	Construction \		NE	NE	NE	NE	NE	1,800	NE	NE
	I Groundwate		160,000	2,000	4,300,000	560,000	14,000	12,000	210,000	4,200,000
Class	Il Groundwate	r	800,000	7,600	21,000,000	2,800,000	69,000	18,000	1,100,000	21,000,000
centrations of PNA	Chemicals In	Background Solls		420	4,100	180	1,600	200	2,500	3,000

Notes

Polynuclear aromatic hydrocarbon (PNAs) analysis conducted using United States Environmental Protection Agency (USEPA) Methods.

All results are reported in micrograms per kilogram (ug/kg), dry weight.

Tier 1 Soil Remediation Objectives per Title 35, Part 742 - Tiered Approach to Corrective Action Objectives.

ND = The constituent was not measured above the Method Detection Limit indicated.

NE = Not Established.

NA = Not Applicable

Bold values exceed Tier 1 Remediation Objectives.

# Illico (PCB No. 2017-084) R. 260

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Former Clark Store #2093 3712 North University Street

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_	SB-11	3.5-5	08/07/2012	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	
-	SB-11	7-8	08/07/2012	ND<271	ND<271	ND<271	ND<271	ND<271	ND<271	ND<271	ND<271	
	SB-12	3.5-5	08/07/2012	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	
	SB-12 SB-13	7-8 3.5-5	08/07/2012	ND<69.7	ND<69.7	ND<69.7	ND<69.7	ND<69.7	ND<69.7	ND<69.7	ND<69.7	
	SB-13	6-7	08/07/2012 08/07/2012	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	
	SB-14	3.5-5	08/07/2012	ND<104 ND<21.6	ND<104 ND<21.6	ND<104	ND<104	ND<104	ND<104	ND<104	ND<104	
	SB-14	6-7	08/07/2012	ND<20.7	ND<21.6	ND<21.6 ND<20.7	ND<21.6	ND<21.6	ND<21.6	ND<21.6	ND<21.6	
	SB-15	3.5-5	08/07/2012	ND<168	ND<168	ND<168	ND<20.7 ND<168	ND<20.7 ND<168	ND<20.7	ND<20.7	ND<20.7	
1	SB-15	5-6	08/07/2012	ND<261	ND<261	ND<261	ND<261	ND<261	ND<168 ND<261	ND<168 ND<261	ND<168	
	SB-16	3.5-5	08/07/2012	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<261 ND<22.0	
_	SB-16	6-7	08/07/2012	ND<68.0	ND<68.0	ND<68.0	ND<68.0	ND<68.0	ND<68.0	ND<68.0	ND<68.0	
	SB-17	3.5-5	08/08/2012	ND<21.0	ND<21.0	ND<21.0	ND<21.0	ND<21.0	ND<21.0	ND<21.0	ND<21.0	
_	SB-17	6-7	08/08/2012	ND<3,190	ND<3,190	ND<3,190	ND<3,190	ND<3,190	ND<3,190	ND<3,190	ND<3,190	
-	SB-18	3.5-5	08/08/2012	ND<21.5	ND<21.5	ND<21.5	ND<21.5	ND<21.5	ND<21.5	ND<21.5	ND<21.5	
-	SB-18	6-7	08/08/2012	ND<207	ND<207	ND<207	ND<207	ND<207	ND<207	ND<207	ND<207	
	SB-19 SB-19	3.5-5 6-7	08/08/2012	ND<21.7	ND<21.7	ND<21.7	ND<21.7	ND<21.7	ND<21.7	ND<21.7	ND<21.7	
	SB-22	3.5-5	08/08/2012 08/08/2012	43.7 ND<20.7	ND<19.8	34.8	ND<19.8	ND<19.8	ND<19.8	ND<19.8	ND<19.8	
	SB-22	6-7	08/08/2012	ND<20.7	ND<20.7 ND<20.7	ND<20.7 ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	
	SB-23	3.5-5	08/08/2012	ND<21.2	ND<21.2	ND<21.2	ND<20.7 ND<21.2	ND<20.7	ND<20.7	ND<20.7	ND<20.7	
	SB-23	5-6	08/08/2012	ND<20.4	ND<20.4	ND<20.4	ND<20.4	ND<21.2 ND<20.4	ND<21.2 ND<20.4	ND<21.2	ND<21.2	
	SB-24	3.5-5	08/08/2012	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<20.4 ND<21.4	ND<20.4 ND<21.4	
	SB-25	3.5-5	08/08/2012	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	
	SB-27	0-4	03/10/2015	ND<50	ND<50	ND<50	90.7	69	76	ND<50	65	
	SB-27	4-7	03/10/2015	ND<50	ND<50	ND<50	15.0	ND<15	17	ND<50	14	
	SB-28	0-2	03/10/2015	ND<50	ND<50	ND<50	328	297	312	176	271	
	SB-28	4-6	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	
-	SB-29 SB-29	2-4	03/10/2015	ND<50	ND<50	ND<50	14.7	17	19	ND<50	15	
	SB-30	4-6 0-2	03/10/2015	ND<50 ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	
	SB-30	2-4	03/10/2015	ND<50	ND<50 ND<50	ND<50	43.5	59	71	ND<50	46	
	SB-31	2-4	03/10/2015	ND<50	ND<50	ND<50 ND<50	ND<8.7 ND<8.7	ND<15	ND<11	ND<50	ND<11	
	SB-31	4-6	03/10/2015	393	ND<50	60	21.1	ND<15 ND<15	ND<11 ND<11	ND<50 ND<50	ND<11	
	MW-9	2-4	03/10/2015	ND<50	ND<50	ND<50	39.4	41	39	ND<50	ND<11 46	
	MW-9	4-6	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	
	MW-10	0-4	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	
	MW-11	2-4	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	
-	MW-11	4-6	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	
	MW-12	2-4	03/10/2015	ND<50	ND<50	ND<50	22.2	15	16	ND<50	14	
	MW-12 MW-13	4-6	03/10/2015	ND<50	ND<50	ND<50	10.5	ND<15	ND<11	ND<50	ND<11	
	MW-13	2-4 4-6	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	
	MW-14	2-4	03/10/2015	ND<50 ND<50	ND<50 ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	
	MW-14	4-6	03/10/2015	ND<50	ND<50	ND<50 ND<50	32.7 ND<8.7	35	38	ND<50	40	
	MW-15	2-4	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15 ND<15	ND<11 ND<11	ND<50 ND<50	ND<11 ND<11	
	MW-15	4-6	03/10/2015	ND<50	ND<50	ND<50	ND<8.7	ND<15	ND<11	ND<50	ND<11	
-	Exposure Ro	ute-Specific Value				-		1.0-10	1396-7314	110500	110-511	
		estion - Residentia		4,700,000	2,300,000	23,000,000	900	90	900	2,300,000	9,000	
		alation - Residentia		NE	NE	NE	NE	NE	NE	NE	NE NE	
		n - Construction W		120,000,000	61,000,000	610,000,000	170,000	17,000	170,000	61,000,000	1,700,000	
-		n - Construction V		NE	NE	NE	NE	NE	NE	NE	NE	
		i - Industrial/Comn i - Industrial/Comr		120,000,000	61,000,000	610,000,000	8,000	800	8,000	61,000,000	78,000	
		ass i Groundwater	nercial	NE 570,000	NE 85,000	NE 12 000 000	NE 2 000	NE	NE	NE	NE	
		ass II Groundwater		2,900,000	420,000	12,000,000 59,000,000	2,000	8,000	5,000	27,000,000	49,000	
Con		NA Chemicals in B	Background Soils	130	70	400	8,000 1,800	82,000 2,100	25,000	130,000,000	250,000	
Section (section)				100	7.0	400	1,000	2,100	2,100	1,700	1,700	

See SB-31

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Former Clark Store #2093 3712 North University Street

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-	SB-11	3.5-5	08/07/2012	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	89.8	ND<21.4	ND<21.4	
	SB-11 SB-12	7-8 3.5-5	08/07/2012 08/07/2012	ND<271 ND<21.4	ND<271 ND<21.4	ND<271 ND<21.4	ND<271 ND<21.4	ND<271 ND<21.4	4,630 41.6	ND<271 ND<21.4	ND<271 ND<21.4	
	SB-12	7-8	08/07/2012	ND<69.7	ND<69.7	ND<69.7	ND<69.7	ND<69.7	836	ND<69.7	ND<69.7	
	SB-13	3.5-5	08/07/2012	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	396	ND<22.0	ND<22.0	
	SB-13	6-7	08/07/2012	ND<104	ND<104	ND<104	ND<104	ND<104	1,660	ND<104	ND<104	
	SB-14	3.5-5	08/07/2012	ND<21.6	ND<21.6	ND<21.6	ND<21.6	ND<21.6	ND<21.6	ND<21.6	ND<21.6	
-	SB-14	6-7	08/07/2012	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	130	ND<20.7	ND<20.7	
-	SB-15 SB-15	3.5-5 5-6	08/07/2012 08/07/2012	ND<168 ND<261	ND<168 ND<261	ND<168 ND<261	ND<168 ND<261	ND<168 ND<261	2,150 5,340	ND<168 ND<261	ND<168 ND<261	
	SB-16	3.5-5	08/07/2012	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	ND<22.0	
	SB-16	6-7	08/07/2012	ND<68.0	ND<68.0	ND<68.0	ND<68.0	ND<68.0	791	141	ND<68.0	
	SB-17	3.5-5	08/08/2012	ND<21.0	ND<21.0	ND<21.0	ND<21.0	ND<21.0	313	39.2	ND<21.0	
_	SB-17	6-7	08/08/2012	ND<3,190	ND<3,190	ND<3,190	ND<3,190	ND<3,190	45,300	ND<3,190	ND<3,190	
	SB-18	3.5-5	08/08/2012	ND<21.5	ND<21.5	ND<21.5	ND<21.5	ND<21.5	88.9	ND<21.5	ND<21.5	
-	SB-18	6-7	08/08/2012	ND<207	ND<207	ND<207	ND<207	ND<207	4,160	ND<207	ND<207	
-	SB-19 SB-19	3.5-5 6-7	08/08/2012 08/08/2012	ND<21.7 ND<19.8	ND<21.7 ND<19.8	ND<21.7 ND<19.8	ND<21.7 92.1	ND<21.7 ND<19.8	ND<21.7	ND<21.7 231	ND<21.7 ND<19.8	
	SB-22	3.5-5	08/08/2012	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<19.6	ND<20.7	ND<20.7	ND<20.7	
	SB-22	6-7	08/08/2012	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	ND<20.7	
	SB-23	3.5-5	08/08/2012	ND<21.2	ND<21.2	ND<21.2	ND<21.2	ND<21.2	ND<21.2	ND<21.2	ND<21.2	
	SB-23	5-6	08/08/2012	ND<20.4	ND<20.4	ND<20.4	ND<20.4	ND<20.4	ND<20.4	ND<20.4	ND<20.4	
	SB-24	3.5-5	08/08/2012	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	
-	SB-25 SB-27	3.5-5	08/08/2012	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21.4	ND<21,4 ND<25	ND<21.4	ND<21.4	
	SB-27	4-7	03/10/2015	77 ND<50	ND<20 ND<20	189 ND<50	ND<50 ND<50	ND<29	ND<25	135 ND<50	151 ND50	
	SB-28	0-2	03/10/2015	253	51	483	ND<50	188	ND<25	180	429	
	SB-28	4-6	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
	58-29	2-4	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
-	SB-29	4-6	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
-	SB-30	0-2	03/10/2015	66	ND<20	87	ND<50	50	423	ND<50	86 ND-550	
	SB-30 SB-31	2-4	03/10/2015	ND<50 ND<50	ND<20 ND<20	ND<50 ND<50	ND<50 ND<50	ND<29 ND<29	ND<25 574	ND<50 93	ND<50 ND<50	
	SB-31	4-6	03/10/2015	ND<50	ND<20	65	432	ND<29	20,700	935	149	
	MW-9	2-4	03/10/2015	ND<50	ND<20	82	ND<50	33	ND<25	ND<50	75	
	MW-9	4-6	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
	MW-10	0-4	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
-	MW-11 MW-11	2-4	03/10/2015	ND<50 ND<50	ND<20 ND<20	ND<50 ND<50	ND<50 ND<50	ND<29 ND<29	ND<25 ND<25	ND<50 ND<50	ND<50 ND<50	
	MW-12	2-4	03/10/2015	ND<50	ND<20	70	ND<50	ND<29	4,200	88	63	
	MW-12	4-6	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	1,990	51	ND<50	
3	MW-13	2-4	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
	MW-13	4-6	03/10/2015	ND<50	ND<20	ND<50	ND<50	ND<29	272	ND<50	ND<50	
	MW-14	2-4	03/10/2015	ND<50	ND<20	ND<50	ND<50	33	ND<25	ND<50	ND<50	
-	MW-14 MW-15	4-6 2-4	03/10/2015	ND<50	ND<20 ND<20	ND<50 ND<50	ND<50 ND<50	ND<29 ND<29	288 ND<25	ND<50 ND<50	ND<50 ND<50	1
-	MW-15	4-6	03/10/2015	ND<50 ND<50	ND<20	ND<50	ND<50	ND<29	ND<25	ND<50	ND<50	
		oute-Specific Value		140.500	140-40	110-00	110.500	110-20	110 40	110 -00	110.00	
		gestion - Residentia		88,000	90	3,100,000	3,100,000	900	1,600,000	2,300,000	2,300,000	
		nalation - Residenti		NE	NE	NE	NE	NE	170,000	NE	NE	
		on - Construction V		17,000,000	17,000	82,000,000	82,000,000	170,000	4,100,000	61,000,000	61,000,000	
-		on - Construction V		NE 790.000	NE enn	NE 82,000,000	NE 82,000,000	NE 800	1,800 41,000,000	NE	NE 61,000,000	1
		on - Industrial/Common - Industrial/Com		780,000 NE	800 NE	82,000,000 NE	82,000,000 NE	NE NE	270,000	61,000,000 NE	NE	
		lass I Groundwater		160,000	2,000	4,300,000	560,000	14,000	12,000	200,000	4,200,000	210,000
	C	Class II Groundwater		800,000	7,600	21,000,000	2,800,000	69,000	18,000	1,000,000	21,000,000	1,100,000
Conc	entrations of I	PNA Chemicals in E	Background Soils	2,700	420	4,100	180	1,600	200	2,500	3,000	1

Notes

See SB-31

Polynuclear aromatic hydrocarbon (PNAs) analysis conducted using United States Environmental Protection Agency (USEPA) Methods.

All results are reported in micrograms per kilogram (ug/kg), dry weight.

Tier 1 Soil Remediation Objectives per Title 35, Part 742 - Tiered Approach to Corrective Action Objectives.

ND = The constituent was not measured above the Method Detection Limit indicated.

NE = Not Established.

NA = Not Applicable

Bold values exceed Tier 1 Remediation Objectives.

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#### Table 3 Groundwater Analytical and Elevation Summary - BTEX

Former Clark Store #2093 3712 North University Street Peoria, Illinois 61614

Well ID	Sample Date	Reference Elevation (feet)	Depth to Water (feet)	Free product Thickness (feet)	Equivalent Water Elevation (feet)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Comments
MW-1	11/22/1999	96.00	9.33		86.67	1,700	140	1,200	3,240	
MW-1 (Duplicate)	11/22/1999		2-1	-		1,700	150	1,200	3,350	7
	11/16/2000	96.00	8.04	-	87.96	2,100	180	1,100	2,650	
	04/24/2001	96.00	6.54		89.46	1,700	270	1,500	2,930	
MVV-1	10/03/2001	96.00	8.44		87.56	1,900	110	1,100	2,420	
	07/11/2011	96.35	7.20		89.15	664	55.3	<t1738< td=""><td>472</td><td>odor/no shee</td></t1738<>	472	odor/no shee
	04/23/2015				Una	ble to Locate	Well			
	11/22/1999	98.29	8.55	-	89.74	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	11/16/2000	98.29	8.59	-	89.70	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
MINO	04/24/2001	98.29	6.56		91.73	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
MW-2	10/03/2001	98.29	7.42	-	90.87	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	07/11/2011	98.58	6.41	-	92.17	ND<1.0	ND<1.0	ND<1.0	ND<3.0	no odor/no she
	04/23/2015	98.58	6.58	6	92.00	ND<5.0	ND<5.0	ND<5.0	ND<5.0	no odor/no she
	11/22/1999	99.82	9.59	-	90.23	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	11/16/2000	99.82	7.03		92.79	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	04/24/2001	99.82	8.09		91.73	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
MW-3	10/03/2001	99.82	8.78	-	91.04	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
j	07/11/2011	100.20	7.37		92.83	ND<1.0	ND<1.0	ND<1.0	ND<3.0	no odor/no she
	04/23/2015	100.20	8.03	-	92.17	ND<5.0	ND<5.0	ND<5.0	ND<5.0	no odor/no she
	11/22/1999	97.73	8.37		89.36	4,500	580	2,500	4,410	
MW-4	11/16/2000	97.73	7.26		90.47	4,000	1,000	2,600	6,400	
MW-4 (Duplicate)	11/16/2000		7.20	-		4,100	980	2,700	6,100	
	04/24/2001	97.73	6.84		90.89	4,500	2,000	2,100	5,500	
5000000	10/03/2001	97.73	7.56	-	90.17	4,900	1,000	2,400	5,800	
MW-4	07/11/2011	98.19	6.46		91.73	1,060	101	1,360	1,780	odor/sheen
	04/23/2015	98.19	7.33		90.86	896	66.9	2,240	1,020	odor/sheen
	11/16/2000	95.53	10.55		84.98	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
	04/24/2001	95.53	4.82	12	90.71	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
MW-5	10/03/2001	95.53	7.53	74.	88.00	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
5050000A	07/11/2011	NA NA	NS		NS	NS	NS	NS	NS	/ - W-1W
	04/23/2015	96.00	5.52		90.48	ND<5.0	ND<5.0	ND<5.0	ND<5.0	no odor/no she
	11/16/2000	95.74	10.65		85.09	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
1	04/24/2001	95.74	8.35		87.39	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
MW-6	10/03/2001	95.74	10.74	-	85.00	ND<1.0	ND<1.0	ND<1.0	ND<2.0	
A. 100 (100 (100 (100 (100 (100 (100 (100	07/11/2011	96.27	8.71		87.56	ND<1:0	ND<1.0	ND<1.0	ND<3.0	no odor/no she
1	04/23/2015	96.27	9.48		86.79	ND<5.0	ND<5.0	ND<5.0	ND<5.0	no odor/no she
		97.27	11.73	-	85.54	39,000	140,000	37,000	170,000	TIO OGOTTIO STICE
ł	04/24/2001			-		C-SMICOLOGICAL PROPERTY.	43,000	5,000	23,400	
MW-7		97.27	9.79	- 1	87.48	26,000		1500024033		
January .	10/03/2001	97.27	NA 0.75		NA OO OO	19,000	34,000	5,200	26,400	
}	07/11/2011	97.62	9.75	0.60	88.32	NS 44.500	NS 24 200	NS 3 cao	NS 16.700	free product
ANN/ O	04/23/2015	97.62	10.90		86.72	14,500	24,300	3,680	16,700	odor/sheen
MW-9 MW-10	04/23/2015	97.88	6.10		91.78	ND<5.0	ND<5.0	ND<5.0	ND<5.0	no odor/no shee
We returned to			7.03		91.91	126 ND<5.0		ND<5.0	ND<5.0	odor/sheen
MW-11	04/23/2015	99.72	7.76	-	91.96	ND<5.0	ND<5.0	ND<5.0	ND<5.0	odor/no sheer
MW-12	04/23/2015	97.05	6.35	-	90.70	307	189	220	977	odor/no sheen
MW-13	04/23/2015	96.73	6.11	-	90.62	10,200	9,900	2,530	10,200	odor/no sheer
MW-14	04/23/2015	97.52	5.97	-	91.55	386	27.4	315	1,250	odor/no sheer
MW-15	04/23/2015	100.39	6.67		93.72	ND<5.0	ND<5.0	ND<5.0	ND<5.0	no odor/no she
		diation Objecti	The same of the same			1	,	CASC 1-00		-
Tier	1 Remediation	n Objectives - (	Class I Groun	dwater (ug/l)		5	1,000	700	10,000	
2.010	d Damediation	Objectives - C	lace II Group	durator (umili)	98.31	25	2,500	1,000	10,000	

All results are reported in micrograms per liter (ug/L).

Analyses conducted using United States Environmental Protection Agency (USEPA) Methods. Reference elevation based on temporary benchmark with an assigned elevation of 100.00 feet. Equivalent Water elevation = Reference Elevation - Depth to Water + (0.75 X Product Thickness). ND = Analyte not detected at or above the reporting limit.

NA = Not Available.

Comments based on field observations.

Tier 1 Groundwater Remediation Objectives per Title 35, Part 742 - Tiered Approach to Corrective Action Objectives.

Bold values exceed Tier 1 Remediation Objectives.

Samples prior to 2011 collected by Parsons Engineering Science, Inc.

## Electronic Filing: Received, Clerk's Office 7/28/2017

Table 4
Groundwater Analytical Results - PNAs

Former Clark Store #2093 3712 North University Street Peoria, Illinois 61614

			/ , ,	/	/	/ ere	/	, tere	, ere
Wellin	Sandi	Date	Brookhingue Aces	a strategy dere	nterescente and	data thrateria de de	golspyrens Bento	Daffuroranteene Benti	Jah. Hardens
	/ *	/ *	/ KC	/ `	Bert	/ Ber	Bento	Bent	Bent
MW-1	11/22/1999	ND<2.0	1.8	ND<0.085	ND<0.061	ND<0.061	ND<0.061	ND<0.085	ND<0.037
N-1 (Duplicate)	11/22/1999	ND<32	ND<28	ND<1.4	ND<1.0	ND<1.0	ND<1.0	ND<1.4	ND<0.60
	11/16/2000	ND<1.2	ND<1.3	ND<0.067	ND<0.053	ND<0.050	ND<0.047	ND<0.040	ND<0.023
222500	04/24/2001	0.12	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
MW-1	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
-	07/11/2011	ND<2.4	ND<2.4	ND<2.4	ND<2.4	ND<2.4	ND<2.4	ND<2.4	ND<2.4
	04/23/2015	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/1999	ND<2.2	ND<1.9	ND<0.097	ND<0.069	ND<0.069	ND<0.069	ND<0.097	ND<0.042
1	11/16/2000	ND<1.2	ND<1.3	ND<0.067	ND<0.053	ND<0.050	ND<0.047	ND<0.040	ND<0.023
MW-2	04/24/2001	NS	NS	NS	NS	NS	NS	NS	NS
	10/03/2001	NS NS	NS NS	NS	NS	NS	NS	NS	NS
1	07/11/2011	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047
	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
-	11/22/1999 11/16/2000	ND<1.6	ND<1.4	ND<0.070	ND<0.050	ND<0.050	ND<0.050	ND<0.070	ND<0.030
0.000.000	04/24/2001	ND<1.2	ND<1.3	ND<0.067	ND<0.053	ND<0.050	ND<0.047	ND<0.040	ND<0.023
MW-3	10/03/2001	NS NS	NS	NS	NS	NS	NS	NS	NS
1			NS NS	NS	NS	NS	NS	NS	NS
1	07/11/2011 04/23/2015	ND<0.047 ND<10	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047
			ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
MW-4	11/22/1999	ND<32	ND<28	ND<1.4	ND<1.0	ND<1.0	ND<1.0	ND<1.4	ND<0.60
V-4 (Duplicate)	11/16/2000	ND<24	ND<26	ND<1.3	ND<1.1	ND<1.0	ND<0.94	ND<0.80	ND<0.46
7-4 (Dupircate)	04/24/2001	ND<24	ND<26	ND<1.3	ND<1.1	ND<1.0	ND<0.94	ND<0.80	ND<0.46
	10/03/2001	0.41	0.075	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
MW-4	07/11/2011	NS ND<47.2	NS	NS	NS	NS	NS	NS	NS
104.04.000			ND<47.2	ND<47.2	ND<47.2	ND<47.2	ND<47.2	ND<47.2	ND<47.2
MW-4	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
1	11/16/2000	ND<1.2	ND<1.3	ND<0.067	ND<0.053	ND<0.050	ND<0.047	ND<0.040	ND<0.023
MW 5	04/24/2001	NS	NS	NS	NS	NS	NS	NS	NS
mvv-5	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
1	07/11/2011	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
}	11/16/2000	ND<1.2	ND<1.3	ND<0.067	0.10	0.17	0.15	0.096	0.052
MW-6	04/24/2001	NS	NS	NS	NS	NS	NS	NS	NS
MAA-P	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
1	07/11/2011	ND<0.047	0.063	0.063	0.31	0.33	0.35	0.20	0.30
	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
	11/16/2000	ND<96,000	ND<100,000	ND<5,400	ND<4,200	ND<4,000	ND<3,800	ND<3,200	ND<1,800
MW-7	04/24/2001	7.9	3.6	2.4	1.2	ND<1.0	ND<1.0	ND<1.0	ND<1.0
MAA-1	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
1	07/11/2011	NS	NS	NS	NS	NS	NS	NS	NS
MIAL O	04/23/2015	ND<10	ND<10	ND<5	0.18	ND<0.2	ND<0.18	ND<0.4	ND<0.17
MW-9	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
MW-10	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
MW-11	04/23/2015	33	ND<10	7	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
MW-12	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
MW-13	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
MW-14	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
MW-15	04/23/2015	ND<10	ND<10	ND<5	ND<0.13	ND<0.2	ND<0.18	ND<0.4	ND<0.17
	tives for Groundwater			C-1					110 0111
Class I Grou		420	210	2,100	0.13	0.20	0.18	210	0.17
Class II Gro		2,100	1,050	10,500	0.65	2.0	0.90	1,050	0.85
				,	0.00	2.0	0.00	1,000	0.00

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#### Table 4 Groundwater Analytical Results - PNAs

Former Clark Store #2093 3712 North University Street Peoria, Illinois 61614

	/		/	da Transporte de la Constitución	/	/	A. A. Joseph Press	/	/
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West ID	/	e Do	Chrysene	Water.	Trithe /	Fluorene	300	strate.	THIE /
No.	/ am		che /	93	JOTO /	FILE	13 /	april /	ELD.
	1 3		/ went	/ 4	/	/ sen	'/'	. / 4	/
			Dip	/	/	Ino	/	/	
MW-1	11/22/1999	ND<0.061	ND<0.085	ND<0.061	ND<2.3	ND<0.098	61	ND<1.8	ND<0.073
fW-1 (Duplicate)	11/22/1999	ND<1.0	ND<1.4	ND<1.0	ND<3.8	ND<1.6	48	ND<3.0	ND<1.2
ivv-1 (Duplicate)	11/16/2000	ND<0.060	ND<0.053	ND<0.053	ND<0.17	ND<0.047	46	ND<1.8	ND<0.053
-	04/24/2001	ND<0.050	ND<0.050	ND<0.050	0.17	ND<0.050	120	0.12	ND<0.050
MW-1	10/03/2001	NS NS	NS	NS NS	NS	NS NS	NS	NS	NS
mirro-1	07/11/2011	ND<2.4	ND<2.4	ND<2.4	ND<2.4	ND<2.4	16.5	ND<2.4	ND<2.4
	04/23/2015	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/1999	ND<0.069	ND<0.097	ND<0.069	ND<0.26	ND<0.11	ND<1.9	ND<0.21	ND<0.083
-	11/16/2000	ND<0.060	ND<0.053	ND<0.053	ND<0.17	ND<0.047	ND<1.1	ND<0.14	ND<0.053
	04/24/2001	NS	NS	NS	NS	NS	NS	NS	NS
MW-2	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
	07/11/2011	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	0.12	ND<0.047	ND<0.047
	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
	11/22/1999	ND<0.050	ND<0.070	ND<0.50	ND<0.19	ND<0.080	ND<1.4	ND<0.15	ND<0.060
	11/16/2000	ND<0.060	ND<0.053	ND<0.053	ND<0.17	ND<0.047	ND<1.1	ND<0.14	ND<0.053
	04/24/2001	NS	NS	NS	NS	NS	NS	NS	NS
MW-3	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
	07/11/2011	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.047	ND<0.04
	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
	11/22/1999	ND<1.0	ND<1.4	ND<1.0	ND<3.8	ND<1.6	150	ND<3.0	ND<1.2
MVV-4	11/16/2000	ND<1.2	ND<1.1	ND<1.1	ND<3.4	ND<0.94	160	ND<2.8	ND<1.1
MW-4 (Duplicate)	11/16/2000	ND<1.2	ND<1.1	ND<1.1	ND<3.4	ND<0.94	200	3.5	ND<1.1
	04/24/2001	ND<0.050	ND<0.050	ND<0.050	0.41	ND<0.050	210	0.27	ND<0.050
MW-4	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
MVV-4	07/11/2011	ND<47.2	ND<47.2	ND<47.2	ND<47.2	ND<47.2	296	ND<47.2	ND<47.2
	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	229	ND<5	ND<2
	11/16/2000	ND<0.060	ND<0.053	ND<0.053	ND<0.17	ND<0.047	ND<1.1	ND<0.14	ND<0.05
	04/24/2001	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
	07/11/2011	NS	NS	NS	NS	NS	NS	NS	NS
	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
	11/16/2000	0.08	0.068	0.24	ND<0.17	0.24	ND<1.1	0.21	0.21
	04/24/2001	NS	NS	NS	N5	NS	NS	NS	NS
MW-6	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
	07/11/2011	0.33	0.078	0.49	ND<0.047	0.19	0.075	0.12	0.44
	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
	11/16/2000	ND<4,800	ND<4,200	ND<4,200	ND<14,000	ND<3,800	180,000	31,000	ND<4,20
	04/24/2001	ND<1.0	ND<1.0	2.6	9.5	ND<1.0	2,000	ND<250	2.6
MW-7	10/03/2001	NS	NS	NS	NS	NS	NS	NS	NS
1	07/11/2011	NS	NS	NS	NS	NS	NS	NS	NS
	04/23/2015	ND<1,5	ND<0.3	ND<2	ND<2	ND<0.3	472	ND<5	ND<2
MW-9	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
MW-10	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
MW-11	04/23/2015	ND<1.5	ND<0.3	ND<2	43	ND<0.3	41	85	ND<2
MW-12	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	13	ND<5	ND<2
MW-13	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	177	ND<5	ND<2
MW-14	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
MW-15	04/23/2015	ND<1.5	ND<0.3	ND<2	ND<2	ND<0.3	ND<10	ND<5	ND<2
r 1 Remediation Objec									
Class I Grou		1.5	0.30	280	280	0.43	140	210	210
Class II Grou	A STATE OF THE STA	7,5	1.5	1,400	1,400	2.15	220	1,050	1,050

Note

All results are reported in micrograms per liter (ug/L).

Polynuclear Aromatic Hydrocarbons (PNA's) analyses conducted using United States Environmental Protection Agency (USEPA) Methods.

ND = Analyte not detected at or above the reporting limit.

NE = Not Established.

NS = Not Sampled.

Tier 1 Groundwater Remediation Objectives per Title 35, Part 742 - Tiered Approach to Corrective Action Objectives. Bold values exceed Tier 1 Remediation Objectives.

#### Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 265

Table 5
Summary of Groundwater Monitoring Well Elevation Data

Well Identification	Date Gauged	Top of Casing (feet) Riser	Depth to Groundwater (feet BTOC) BTOR	Groundwater Elevation (feet)
MW-1	Damanged	96.35	Sales Sales	
MW-2	11/24/15	98.58	6.00	92.58
MW-3	11/24/15	100.20	6.19	94.01
MW-4	11/24/15	98.19	6.09	92.10
MW-5	11/24/15	96.00	3.94	92.06
MW-6	Unable to Access	96.27		
MW-7	Unable to Access	97.62		
MW-9	11/24/15	97.88	5.83	92.05
MW-10	11/24/15	98.94	5.96	92.98
MW-11	11/24/15	99.72	6.07	93.65
MW-12	11/24/15	97.05	5.44	91.61
MW-13	11/24/15	96.73	4.99	91.74
MW-14	11/24/15	97.52	4.97	92.55
MW-15	Missing			

BTOC = Below top of casing Tiser

**ATTACHMENT 1** 



IL ELAP / NELAC Accreditation # 100292

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

December 03, 2015

Mr. Jeff Wienhoff

MARLIN ENVIRONMENTAL

3935 Commerce Drive

St. Charles, IL 60174

Project ID: Illico Independent Oil Co - 923441

First Environmental File ID: 15-6363 Date Received: November 25, 2015

Dear Mr. Jeff Wienhoff:

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 003596: effective 03/24/2015 through 03/28/2016.

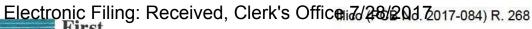
I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Bill Mottashed

Project Manager

1. Malleshi P





IL ELAP / NELAC Accreditation # 100292

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

#### Case Narrative

MARLIN ENVIRONMENTAL

Lab File ID: 15-6363

Project ID: Illico Independent Oil Co - 923441

Date Received: November 25, 2015

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
15-6363-001	SB-26 3'	11/24/2015 10:35

#### Sample Batch Comments:

Sample acceptance criteria were met.

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

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L	LCS recovery outside control limits.
С	Sample received in an improper container for this test.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	N	Analyte is not part of our NELAC accreditation.
B	Estimated result; concentration exceeds calibration range.	P	Chemical preservation pH adjusted in lab.
G	Surrogate recovery outside control limits.	Q	Result was determined by a GC/MS database search.
Н	Analysis or extraction holding time exceeded.	S	Analysis was subcontracted to another laboratory.
J	Estimated result; concentration is less than routine RL but greater than MDL. $ \label{eq:model} % \begin{center} cent$	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.

#### Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 269



IL ELAP / NELAC Accreditation # 100292

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#### **Analytical Report**

Client: MARLIN ENVIRONMENTAL
Project ID: Illico Independent Oil Co - 923441
Semple ID: SR-26-31

Date Collected: 11/24/15
Time Collected: 10:35
Date Received: 11/25/15

Sample ID: SB-26 3' Sample No: 15-6363-001

Date Reported: 12/03/15

Analyte	Result	R.L.	Units	Flags
FOC (0.58 conversion factor) Analysis Date: 12/02/15	Method: D2974-14		Observation and a second	
FOC (0.58 conversion factor)	1.79		%	N
Organic Matter @ 440°C	3.09		%	N

First
<b>Environmental</b>
Laboratories, Inc.

Illico (PCB No. 2017-084) R. 270

Electronic Filing: Received, Clerk's Office 7/28/2017

Company Name: Marlin Environmental, Inc.

AND DESCRIPTION OF THE PARTY OF			-									
Laboratories, Inc.			Street Address: 3935 Commerce Drive									
1600 Shore Road,	10.50		City	: Saint C	Charles	S. 111111			Stat	e: IL	Zip:	60174
Naperville, IL 605	63		Phor	ne: 630-44	4-1933		Fax: 630-444-193	9 e-M	fail: on	file		The state of the s
Phone: (630)778-1: E-Mail: info@first	200 * Fax (630)778-1233		Send	Report To	: Jeff W	ienhoff				Via Fax:	J	Via e-Mail: 🔀
IEPA Accreditatio				Sampled By: Joe Buhlig / Zach Sutton								
								33.31	1118.81			
Project I.D.: <u>Illico Ind</u> P.O. #: 923441	ependent Oil Co							Place a	ın "X" ir	s required on to the box below re what analys	w to in	
Date/Time Taken	Sample Description	Matrix	FOC							Comments		
1/24/2015 /0:35	SB-26 3'	Soil	1			1	<del>                                     </del>	1		363-0	01	Eab LD.
10.33	BD 203	Joh				+			7-1	365-0	<u>UI</u>	
				-		-	1 1					
- Variable												
												Market Market
						+						
				+++	-	+						
						+						
	/	2										
FOR LAB USE ONLY:	Cooler Temperature:0.1.8°C Yes No Received within 6 hrs of collection: Ice Present: Yes No	<u>~~</u> °c	Sar Re	mple Refrige frigerator Te	erated: Yes emperature:	No	Containers 5035 Vials Freezer Tel	Received Pre Frozen: Yes_ mperature:	_ No	res No °C		
Notes and Special Instruc	tions: Needs to meet IL TACO Ol	bjectives.					14 To 15 To					
	1 /										.,	•
Relinquished By:	Le My	Date/Time: ///g	24/1.	1 3:10	Received	Ву:	199		<b>-</b> 1	Date/Time:	110	U-15
Relinquished By:	0	Date/Time:	1		Received	By:				Date/Time:		1200

#### Electronic Filing: Received, Clerk's Office 7/28/201.72017-084) R. 271

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 faise material statement or representation in any label, manifest, record, report, permit, or license, or other document filled, 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 5/57.17). This form has been approved by the Forms Management Center.

#### Illinois Environmental Protection Agency Leaking Underground Storage Tank Program Laboratory Certification for Chemical Analysis

A.	Site	Identification		
	IEMA	A Incident # (6- or 8-digit): 923441	IEPA LPC# (10-digit):	1430655263
		Name: Illico Independent Oil Co.	ILI A LI OII (10-digit).	110000000
		Address (Not a P.O. Box): 3712 Ur	niversity Street	
		Peoria	County: Peoria	ZIP Code: 61614
	5555	ing UST Technical File		
B.	San	nple Collector		
	I cert	tify that:		
	1.	Appropriate sampling equipment to obtain representative samples		(initial)
	2.	Chain-of-custody procedures we	re followed in the field.	(initial)
	3.	Sample integrity was maintained	by proper preservation.	(initial)
	4.	All samples were properly labele	d.	(initial)
C.	Lab	oratory Representative		
	I cert	ify that:		<i>K</i>
	1.	Proper chain-of-custody procedu documented on the chain-of-cus		(ihitial)
	2.	Sample integrity was maintained	by proper preservation.	(initial)
	3.	All samples were properly labele	d.	(initial)
	4.	Quality assurance/quality control established and carried out.	procedures were	Mh (Initial)

Laboratory Certification for Chemical Analysis 1 of 2

IL 532 2283 LPC 509 Rev. March 2006

#### Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 272

5. Sample holding times were not exceeded.

(initial)

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

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

(initial)

#### D. Signatures

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

Sample Collector	Laboratory Representative
Name: Joe Buhlig	Name: Bill Mottashed
Title: Project Manager	Title: Project Manager
Company: Marlin Environmental	Company: First Environmental Laboratories
Address: 3901 Wood Duck Drive, Suite F	Address: 1600 Shore Road, Suite D
City: Springfield	City: Naperville
State: IL	State: IL
ZIP Code: 62711	ZIP Code: 60563
Phone: (217) 726-7569	Phone: (630) 778-1200
Signature:	Signature: 1. Mosecular
Date:	Date: 12/3/15

ATTACHMENT 2

The Agency is authorized to require this information under 415 ILCS 5/4 and 21. Disclosure of this information is required. Failure to do so may result in a civil penalty up To \$25,000.00 for each day failure continues, a fine up to \$50,000.00 and imprisonment up to five years. This form has been approved by the Forms Management Center.

LUST	Inciden	t No:	92344	1	Boring Number: SB-26	Page	1	of	1
Site N	ame:	Illico I	ndepend		Location: South side of subject property; See Map	Date:		Start	11/24/2015
	, Illinois							Finish	11/24/2015
Sample Number	Sample Device	Sample Recovery	Lithology Symbol	Depth (feet)	Detailed Soil and Rock Description  Grass surface	Natural Moisture Content %	A Hand Penetrometer	OVA/ <u>PID/</u> FID/OVM	Remarks
			Fill CL	1 2	topsoil	M		<1	
	ᄓ	100%	CL	3	Black Silty Clay Sample Taken @ 3' for FOC	M M		<1	
-1	OR		CL	5	and themselve wasterest.	M		575	
1	1 02		CL CL	6		M M		<1	
	[AC	1000/	assivets)	7	End of Boring @ 6'				
	TW	100%		8 9					
2	00			10					
	FIVE FOOT MACROCORE			11 12					
	FI			13					
				14 15					
				16					
				17					
				18 19					
				20			i i		
				21					
				22			( )		
				24					
				25 26					
				27					
			s are ap		te; in-situ transition between soil types may b	e gradual			
Ground	water D	ate While D	rilling	Auger I	Depth 6' Rig Hand Auger		201	Illinois	
<b>V</b>	Dopui	NA NA	· · · · · · · · · · · · · · · · · · ·	Rotary I	Depth N/A Geologist: Joe Buhlig				nmental
	Depth	After Di	rilling	Driller/0	Co: Zach Sutton / Marlin			Agenc	
$\nabla$		NA		Note: E	Boring backfilled with cuttings and bentonite.				3

Electronic Filing: Received, Clerk's Office 17/2/2017-084) R. 275
A TOTA CHA GENERA
ATTACHMENT 3

The Agency is authorized to require in property of the total and an additional 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 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 5/57.17). This form has been approved by the Forms Management Center.

# Illinois Environmental Protection Agency Leaking Underground Storage Tank Program SSL Input Parameters for Use with Tier 2 Calculations

A.	Site	<b>Identification</b>

Site Name: Illic Site Address (n			v Street		10 Euro 40 - 9
City:		County:	6603 53	Zip Code:	61614
Leaking UST Te	chnical File	D		7 % 0 <del>-1</del>	
Tier 2 Calculat					
Equation(s) Use	ed (ex: S12, S17	, S28): <u>S28/S</u>	35 _ 1:	to Groundwater - Bo	
Equation(s) Use	ed (ex: S12, S17 tion for Individua	, S28): <u>S28/S</u>	ed Calculations:_		
Equation(s) Use Contact Informat Marlin Environm	ed (ex: S12, S17 tion for Individua	, S28): <u>S28/S</u> al Who Perform ne: (217) 726-7	ed Calculations:_	Joe Buhlig - Proje	

- 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 (ingestion)	=	and the same and	yr	da	=		m
AT (inhalation)	=		yr	ds	=	2.4384	m
AT <sub>c</sub>	=	70	yr	D <sub>A</sub>	=		cm²/s
BW	=		kg	Di	=		cm²/s
C <sub>sat</sub>	=		mg/kg	D <sub>w</sub>	7		cm <sup>2</sup> /s
C <sub>w</sub>	=		mg/L	DF	=	20	unitless
d	=	2	m	ED (ingestion of carcinogens)	=		yr

Incident #: Electronic Filing: Received, Clerk's Office 7/28/2017-084) Received

Symbol			Unit	Symbol			Unit
ED (inhalation of carcinogens)	=		yr	K <sub>oc</sub>			cm <sup>3</sup> /g or L/kg
ED (ingestion of noncarcinogens)	=		yr	Ks	=		m/yr
ED (inhalation of noncarcinogens)	=		yr	L Unknow	= n bu+	39.624	m
ED (ingestion of groundwater)	=		yr	PEF	=	- 100	m³/kg
ED <sub>M-L</sub>	=	70	yr	PEF'			m³/kg
EF	=		d/yr	Q/C (VF equations)	=		(g/m²-s)/ (kg/m³)
F(x)	=	0.194	unitless	Q/C (PEF equations)	=	-	(g/m²-s)/ (kg/m³)
f <sub>oc</sub>	=		g/g	RfC	=		mg/m³
GW <sub>obj</sub>	=		mg/L	RfD <sub>o</sub>	=		mg/(kg-d)
H	=	41 3- 1/4	unitless	S	=		mg/L
Ĩ.	=	0.0131 0.01426	m/m	SF <sub>o</sub>	=		(mg/kg-d) <sup>-1</sup>
T	=	0.3	m/yr	Т			s
I <sub>M-L</sub>	=	0.18	m/yr	T <sub>M-L</sub>	=	30	yr
IF <sub>soil-adj</sub>	=	114	(mg-yr)/(kg-d)	THQ	#	1	unitless
IR <sub>soil</sub>	=		mg/d	TR		<u>- 1</u>	unitless
$IR_w$	=		L/d	U <sub>m</sub>	=	4.69	m/s
K re-calculate	#	0.46 ±0.000366	m/yr	URF	=		(µg/m³) <sup>-1</sup>
√d (non-ionizing organics)			cm³/g or L/kg	Ut	=	11.32	kg/m³
K <sub>d</sub> (ionizing organics)	=		cm <sup>3</sup> /g or L/kg	V	=		unitless
K <sub>d</sub> (inorganics)	=		cm <sup>3</sup> /g or L/kg	VF	=		m³/kg

DF=

### Incident #: Electronic Filing: Received, Clerk's Office 7/28/201.2017-084) R 278

Symbol		Unit
VF'	=	m³/kg
VF <sub>M-L</sub>	=	m³/kg
VF' <sub>M-L</sub>	=	m³/kg
η		$L_{pore}/L_{soil}$
$\theta_{a}$		L <sub>air</sub> /L <sub>soil</sub>

Symbol			Unit
$\theta_{w}$	=		L <sub>water</sub> /L <sub>soil</sub>
ρ <sub>b</sub>	=	1.68 4	kg/L or g/cm <sup>3</sup>
ρ <sub>s</sub>	=		g/cm <sup>3</sup>
$\rho_{\rm w}$	=	1	g/cm <sup>3</sup>
1/(2b+3)	=		unitless

Equation	Result	Unit(s)
S1	=	mg/kg
S2	=	mg/kg
S3	=	mg/kg
S4	=	mg/kg
S5	=	mg/kg
S6	=	mg/L
S7	=	mg/kg
<b>S</b> 17	=	mg/kg
S28		mg/kg
S29		mg/L

#### Source Area Concentration Values: (mg/Kg)

(9/1(9)
SB-18(3.5'-5'): 1.190 SB-18(6'-7'): 6.790
SB-19 (3.5'-5'): 0.0405 SB-19 (6'-7'): 0.365
SB-25 (3.5'-5'): 0.148
MW-14 (4'-6'): 0.654
SB-30(0'-2') Benzene: 0.101
SB-30(2'-4') Benzene: 0.402
SB-31(2'-4') Benzene: 1.600
SB-31(4'-6') Benzene: 16.800
MW-12(2'-4') Benzene: 1.660
MW-12(4'-6') Benzene: 4.230
MW-13(4'-6') Benzene: 0.347
SB-4(4'-6') Benzene: 1.100 SB-9(0'-4') Benzene: 0.230
SB-9(4'-8') Benzene: 0.690
SB-10(0'-4') Benzene: 7.900
SB-10(4'-8') Benzene: 1.400
SB-17(3.5'-5') Benzene: 0.337
SB-17(6'-7') Benzene: 1.200
SB-4(4'-6') Benzene: 1.100 Duplicate
MW-7(7'-9') Benzene: 13.000 Not using
SB-11(3.5'-5): 0.288 SB-11(7'-8'): 3.980
5B-12(3.5'-5'): 0.0515 5B-12(7'-8'): 0.629
SB-13(3.5'-5'): 2.050 SB-13(6'-7'): 11.700
SB-14(3.5'-5'): 0.669 SB-14(6'-7'): 0.833
SB-15(3.5'-5'): 4.210 SB-15(5'-6'): 41.800
SB-16 (3.5'-5'): 1.010 SB-16 (6'-7'): 3.700

## Soil to Groundwater Leachate Potential (GW<sub>obj</sub>): (mg/L)

SB-30 (0'-2') Benzene: 0.002
SB-9(4'-8') Benzene: 0.01
SB-30(2'-4') Benzene: 0.0065
SB-31(2'-4') Benzene: 0.02607
SB-31(4'-6') Benzene: 0.274
SB-31(4'-6') Benzene: 0.02705
MW-12(2'-4') Benzene: 0.02705
MW-12(4'-6') Benzene: 0.06893
MW-12(4'-6') Benzene: 0.006
SB-4(4'-6') Benzene: 0.006
SB-4(4'-6') Benzene: 0.001
SB-9(0'-4') Benzene: 0.004

Not using

#### Electronic Filing: Received, Clerk's Office 7/28/201. 2017-084) R. 279

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: SB-30 Sample Depth (feet): 0'-2'
LUST Incident Number(s):	923441	Analyte: Benzene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 0.101

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	0.101
$I_{M-L}$	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

$C_{\rm w}$	mg//L	Target Soil Leachate Concentration		0.032915304	
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration		0.001645765	
GW <sub>obj</sub>	mg/L	Soil to Groundwater Po			0.002
		Analyte	Class I	Class II	
A SUBJECT OF		Benzene	0.005	0.025	

# Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

#### Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 280

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

Site Details	Sample Details	
Illico Independent Oil Co.	Sample Location: SB-30	
923441	Sample Depth (feet): 2'-4'  Analyte: Benzene	
Soil Component of Groundwater Ingestion	Soil Concentration in mg/kg: 0.402	
	Illico Independent Oil Co. Peoria, Illinois 923441	

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w}\bullet I_{M-L}\bullet ED_{M-L}\right)}{\left(\rho_{b}\bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

1.5.

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	0.402
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

$C_{\rm w}$	mg//L	Target Soil Leachate Concentration		0.131009426	
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration			0.006550471
GW <sub>obj</sub> mg/L		Soil to Groundwater Po			0.00655
		Analyte	Class I	Class II	
		Benzene	0.005	0.025	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

#### Electronic Filing: Received, Clerk's Office 17/28/2017-084) R. 281

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: SB-31 Sample Depth (feet): 2'-4'
LUST Incident Number(s):	923441	Analyte: Benzene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg; 1.600

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol Unit		Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	1.600 0.18
I <sub>M-L</sub>	m/yr	Infiltration Rate	
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

$C_{\rm w}$	mg//L	Target Soil Leachate Concentration	0.521430552
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration	0.026071528
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration  IEPA TACO Tier 1 Groundwater Remediation Objectives	0.02607
		Analyte Class I Class II  Benzene 0.005 0.025	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

Yes

#### Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 282

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: SB-31 Sample Depth (feet): 4'-6'
LUST Incident Number(s):	923441	Analyte: Benzene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 16,800

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol Unit		Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	16.800 0.18
I <sub>M-L</sub>	m/yr	Infiltration Rate	
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

$C_{\rm w}$	mg//L	Target Soil Leachate Concentration			5.475020800
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration			0.273751040
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot  IEPA TACO Tier 1 Grou			0.274
		Analyte Benzene	<u>Class I</u> 0.005	<u>Class II</u> 0.025	

# Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

Yes

## SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: MW-12 Sample Depth (feet): 2'-4'
LUST Incident Number(s):	923441	Analyte: Benzene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg; 1.660

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

Model Parameters Inputs:

Symbol Unit		Parameter	Values	
R.O.	mg/kg	Soil Concentration at Point Source	1.660	
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18	
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70	
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684	
ds	m	Depth of Source	2,4384	
DF	unitless	Dilution Factor	20	

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration			0.540984198
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration			0.027049210
GW <sub>obj</sub>	mg/L	Soil to Groundwater Po			0.02705
		Analyte Benzene	Class I 0.005	<u>Class II</u> 0.025	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Yes

Yes

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?
Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: MW-12 Sample Depth (feet): 4'-6'
LUST Incident Number(s):	923441	Analyte: Benzene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 4.230

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{h} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol Unit		Parameter	Values	
R.O.	mg/kg	Soil Concentration at Point Source	4.230	
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18	
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70	
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684	
ds	m	Depth of Source	2.4384	
DF	unitless	Dilution Factor	20	

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration	1.378532023
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration	on 0.068926601
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Conc	
		Analyte         Class I         Class II           Benzene         0.005         0.025	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

Yes

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: MW-13 Sample Depth (feet): 4'-6'
LUST Incident Number(s):	923441	Analyte: Benzene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 0.347

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{h} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol Unit		Parameter	Values	
R.O.	mg/kg	Soil Concentration at Point Source	0.347	
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18	
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70	
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684	
ds	m	Depth of Source	2.4384	
DF	unitless	Dilution Factor	20	

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration			0.113085251
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration			0.005654263
GW <sub>obj</sub>	mg/L	Soil to Groundwater Po			0.006
		Analyte Benzene	<u>Class I</u> 0.005	<u>Class II</u> 0.025	

### Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co.	Sample Location: SB-4
	Peoria, Illinois	Sample Depth (feet): 4'-6'
LUST Incident Number(s):	923441	Analyte: Benzene
Exposure Pathway:	Soil Component of Groundwater Ingestion	
Groundwater Classification:	Class I	Soil Concentration in mg/kg: 1.100

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol Unit		Parameter	Values	
R.O.	mg/kg	Soil Concentration at Point Source	1.100	
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18	
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70	
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68	
d <sub>s</sub>	m	Depth of Source	2.4384	
DF	unitless	Dilution Factor	20	

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration			0.358483505
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration			0.017924175
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration  IEPA TACO Tier 1 Groundwater Remediation Objectives		0.018	
		Analyte Benzene	Class I 0.005	Class II 0.025	

### Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the analytical results of SB-4. Therefore, not reviewed

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

Site Details		Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: SB-9 Sample Depth (feet): 0'-4'
LUST Incident Number(s):	923441	Analyte: Benzene
Exposure Pathway:	Soil Component of Groundwater Ingestion	
Groundwater Classification:	Class I	Soil Concentration in mg/kg: 0.230

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol Unit		Parameter	Values	
R.O.	mg/kg	Soil Concentration at Point Source	0.230	
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18	
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70	
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68	
d <sub>s</sub>	m	Depth of Source	2.4384	
DF	unitless	Dilution Factor	20	

Model Calculated Outputs:

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration	0.074955642
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration	0.003747782
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration  IEPA TACO Tier 1 Groundwater Remediation Objectives	0.004
		Analyte         Class I         Class II           Benzene         0.005         0.025	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the analytical results of SB-9. Therefore, not reviewed.

## SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

Site Details		Sample Details Sample Location: SB-9	
Site Name & Location: Illico Independent Oil Co.			
	Peoria, Illinois	Sample Depth (feet):	4'-8'
LUST Incident Number(s):	923441	Analyte:	Benzene
Exposure Pathway:	Soil Component of Groundwater Ingestion	#2	
Groundwater Classification:	Class I	Soil Concentration in mg/kg:	0.690

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol Unit		Parameter	
R.O.	mg/kg	Soil Concentration at Point Source	0.690
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

Model Calculated Outputs:

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration			0.224866926
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration			0.011243346
GW <sub>obj</sub>	mg/L	Soil to Groundwater Po			0.011
		Analyte Benzene	<u>Class I</u> 0.005	Class II 0.025	

### Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the analytical results of SB-9. Therefore, not reviewed.

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

Site Details		Sample Details	
Site Name & Location: Illico Independent Oil Co. Peoria, Illinois		Sample Location:	1955/16
LUST Incident Number(s):	923441	Sample Depth (feet): Analyte:	0'-4' Benzene
Exposure Pathway:	Soil Component of Groundwater Ingestion		
Groundwater Classification:	Class I	Soil Concentration in mg/kg:	7.900

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol Unit		Parameter	Values	
R.O.	mg/kg	Soil Concentration at Point Source	7.900	
$I_{M-L}$	m/yr	Infiltration Rate	0.18	
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70	
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68	
ds	m	Depth of Source	2.4384	
DF	unitless	Dilution Factor	20	

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration			2.574563352
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration			0.128728168
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot  IEPA TACO Tier 1 Groundwater Pot  IEPA TACO TIER 1 GROUNDWATER 1 GROUNDWATER 1 GROUNDWATER 1 GROUNDWATER 1 GROUNDWATE			0.129
		Analyte Benzene	Class I 0.005	<u>Class II</u> 0.025	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

Yes

Not using the analytical results of SB-10. Therefore, not reviewed.

## SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

Site Details		Sample Details
Site Name & Location:	Illico Independent Oil Co.	Sample Location: SB-10
	Peoria, Illinois	Sample Depth (feet): 4'-8'
LUST Incident Number(s):	923441	Analyte: Benzene
Exposure Pathway:	Soil Component of Groundwater Ingestion	
Groundwater Classification:	Class I	Soil Concentration in mg/kg: 1.400

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol Unit		Parameter	Values	
R.O.	mg/kg	Soil Concentration at Point Source	1.400	
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18	
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70	
ρ <sub>b</sub>	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68	
d <sub>s</sub>	m	Depth of Source	2.4384	
DF	unitless	Dilution Factor	20	

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration			0.456251733
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration			0.022812587
GW <sub>obj</sub>	mg/L	Soil to Groundwater Po			0.023
THE		Analyte Benzene	Class I 0.005	<u>Class II</u> 0.025	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the analytical results of SB-10. Therefore, not reviewed.

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co.	Sample Location: SB-17
	Peoria, Illinois	Sample Depth (feet): 3.5'-5'
LUST Incident Number(s):	923441	Analyte: Benzene
Exposure Pathway:	Soil Component of Groundwater Ingestion	
Groundwater Classification:	Class I	Soil Concentration in mg/kg: 0.337

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	0.337
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684
ds	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leachate	0.109826310	
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential	0.005491316	
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potentia		0.005
		<u>Analyte</u> <u>C</u>	Class II	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Yes

No

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?
Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample D	etails
Site Name & Location:	Illico Independent Oil Co.	Sample Location:	
	Peoria, Illinois	Sample Depth (feet):	6'-7'
LUST Incident Number(s):	923441	Analyte:	Benzene
Exposure Pathway:	Soil Component of Groundwater Ingestion		
Groundwater Classification:	Class I	Soil Concentration in mg/kg:	1.200

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

Model Parameters Inputs:

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	1.200
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

$C_{w}$	mg//L	Target Soil	0.391072914		
GW <sub>obj</sub>	mg/L	Soil to Groundwater I	0.019553646		
GW <sub>obj</sub>	mg/L	Soil to Groundwater Po			0.020
		Analyte Benzene	Class I 0.005	<u>Class II</u> 0.025	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co.	Sample Location: MW-7
	Peoria, Illinois	Sample Depth (feet): 7'-9'
LUST Incident Number(s):	923441	Analyte: Benzene
Exposure Pathway:	Soil Component of Groundwater Ingestion	
Groundwater Classification:	Class I	Soil Concentration in mg/kg: 13.000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{h} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	13.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68
d <sub>s</sub>	m	Depth of Source	2,4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil I	4.236623238		
GW <sub>obj</sub>	mg/L	Soil to Groundwater I	Concentration	0.211831162	
GW <sub>obj</sub>	mg/L	Soil to Groundwater Po			0.212
		Analyte Benzene	<u>Class I</u> 0.005	<u>Class II</u> 0.025	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

Yes

Not using the soil analytical results of MW-7. Therefore, not reviewed.

The Agency is authorized to require missing in the property of the control of the

#### Illinois Environmental Protection Agency Leaking Underground Storage Tank Program SSL Input Parameters for Use with Tier 2 Calculations

A.	Site	Identification

B.

IEMA Incident # (6-	or 8-digit): 923	3441 IEI	PA LPC # (10-digit):	1430655263
Site Name: Illico Inc	dependent Oil Company		<u>`</u>	
Site Address (not a	P.O. Box): <u>3712 Univer</u>	rsity Street	75.54.00	- Valle
City: Peo	ria County:	Peoria	Zip Code:	61614
Leaking UST Technic	cal File			
Tier 2 Calculation	Information			
Equation(s) Used (ex	x: S12, S17, S28): <u>S28</u>	/S18: Soil Leaching	to Groundwater-Tota	al Xylenes
Contact Information f	for Individual Who Perfor	rmed Calculations:	Joe Buhlig - Proje	ct Manager
Marlin Environmenta	II, Inc. Phone: (217) 726	5-7569	- 20 II. 22 III. 10	2000
Land Use:	not applicable	Soil Type:	Silty 0	Clay
Groundwater: 🔀	Class I Class II			

Mass Limit: ▼ Yes ▼ No If Yes, then Specify Acreage: ▼ 0.5 ▼ 1 ▼ 2 ▼ 5 ▼ 10 ▼ 30 NA

- 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 (ingestion)	=		yr	da	=	3.10-2	m
AT (inhalation)	=		yr	d <sub>s</sub>	=	2.4384	m
AT <sub>c</sub>	=	70	yr	D <sub>A</sub>	=		cm²/s
BW		15	kg	Di	=		cm²/s
C <sub>sat</sub>	=		mg/kg	D <sub>w</sub>	=		cm²/s
Cw	=		mg/L	DF	=	20	unitless
d	=	2	m	ED (ingestion of carcinogens)	of =		yr

ncident#: \_\_\_\_Electronic FilingerBeceived, Clerk's Office 7/228/2017 2017 084% நட்கிய

Symbol			Unit	Symbol			Unit
ED (inhalation of carcinogens)	=		yr	K <sub>oc</sub>	=		cm <sup>3</sup> /g or L/kg
ED (ingestion of noncarcinogens)	=		yr	Ks	=		m/yr
ED (inhalation of noncarcinogens)			yr	L Unkown, bu	=	39.624	m
ED (ingestion of groundwater)	=		yr	PEF	=		m³/kg
ED <sub>M-L</sub>	=	70	yr	PEF'	Ħ		m³/kg
EF	=		d/yr	Q/C (VF equations)	=		(g/m²-s)/ (kg/m³)
F(x)	=	0.194	unitless	Q/C (PEF equations)	=	N====	(g/m²-s)/ (kg/m³)
f <sub>oc</sub>	=		g/g	RfC	=		mg/m³
$GW_{obj}$	=		mg/L	RfD <sub>o</sub>	≅)		mg/(kg-d)
H		100	unitless	s	=		mg/L
1	=	0.0131	m/m	SF <sub>o</sub>	:=:		(mg/kg-d) <sup>-1</sup>
ľ		0.3	m/yr	Т	=		s
I <sub>M-L</sub>	=	0.18	m/yr	T <sub>M-L</sub>	=	30	yr
IF <sub>soil-adj</sub>	1=1	114	(mg-yr)/(kg-d)	THQ	=	1	unitless
IR <sub>soil</sub>	<b>=</b>		mg/d	TR	=		unitless
IR <sub>w</sub>			L/d	U <sub>m</sub>	ä	4.69	m/s
K recalculate	= = 0.	0.46 0003667cmls	m/yr	URF	=		(µg/m³)-1
√ (non-ionizing organics)	=		cm <sup>3</sup> /g or L/kg	Ut	=	11.32	kg/m³
K <sub>d</sub> (ionizing organics)	=		cm <sup>3</sup> /g or L/kg	٧	=		unitless
K <sub>d</sub> (inorganics)	=		cm <sup>3</sup> /g or L/kg	VF	=	101	m³/kg

#### Electronic Filing: Received Clerk's Office 7/28/2017-084) R 296 Incident #:

Symbol		Unit
VF'	=	m³/kg
VF <sub>M-L</sub>		m³/kg
VF' <sub>M-L</sub>	=	m³/kg
η		$L_{pore}/L_{soil}$
θa	=	L <sub>air</sub> /L <sub>soil</sub>

31. 45.		Unit
		L <sub>water</sub> /L <sub>soil</sub>
=	1.684	kg/L or g/cm <sup>3</sup>
		g/cm <sup>3</sup>
=	1	g/cm <sup>3</sup>
=		unitless
	=	= 1.68 <sup>1</sup> = 1

Equation	Result	Unit(s)
S1	=	mg/kg
S2	=	mg/kg
S3	=	mg/kg
S4	=	mg/kg
S5	<b>=</b>	mg/kg
S6	=	mg/L
<b>S</b> 7	1=	mg/kg
S17	=	mg/kg
S28		mg/kg
S29	=	mg/L

#### Source Area Concentration Values: (mg/Kg)

SB-31(2'-4') Total Xylenes: 24.200 SB-31(4'-6') Total Xylenes: 1,190.000 MW-12 (2'-4') Total Xylenes: 168.000 MW-12 (4'-6') Total Xylenes: 178.000 MW-13 (4'-6') Total Xylenes: 6.610 SB-9(4'-8') Total Xylenes: 370.000 Not SB-10 (0'-4') Total Xylenes: 182.000 Using SB-10 (4'-8') Total Xylenes: 35.000 SB-17 (3.5'-5') Total Xylenes: 7.820 SB-17 (6'-7') Total Xylenes: 574.000 SB-4 (4'-6') Total Xylenes: 193.000 No+ MW-7 (7'-9') Total Xylenes: 420.000 using SB-11(7'-8'): 159.000 SB-12(7'-8): 13.700 5B-13 (3.5'-5'): 8,400 SB-13 (6'-7'): 142.000 SB-15 (3.5'-5'): 49:900 SB-15 (5'-6'): 568.000 SB-14(6'-7'): 36.100 SB-18(6 1-71): 112.000 MW-14(4'-6'): 44.600

#### Soil to Groundwater Leachate Potential (GWobj): (mg/L)

SB-31(2'-4') Total Xylenes: 0.4 SB-31(4'-6') Total Xylenes: 19.391 MW-12(2'-4') Total Xylenes: 2.73751 MW-12(4'-6') Total Xylenes: 2.900

MW-13 (4'-6') Total Xylenes: 0.108 SB-9(4'-8') Total Xylenes: 6.029

SB-10 (0'-4') Total Xylenes: 2.966 Using

SB-10 (4'-8') Total Xylenes: 0.570 Not using SB-17 (3.5'-5') Total Xylenes: 0.127 SB-17 (6'-7') Total Xylenes: 9.353 SB-4 (4'-6') Total Xylenes: 3.145 MW-7 (7'-9') Total Xylenes: 6.84378 using

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details	
Site Name & Location: Illico Independent Oil Co.		Sample Location: SB-31	
	Peoria, Illinois	Sample Depth (feet): 2'-4'	
LUST Incident Number(s):	923441	Analyte: Total Xylenes	
Exposure Pathway:	Soil Component of Groundwater Ingestion		
Groundwater Classification:	Class I	Soil Concentration in mg/kg: 24.200	

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	24.200
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68 4
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

Model Calculated Outputs:

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration	7.886637105
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration	0.394331855
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration  IEPA TACO Tier 1 Groundwater Remediation Objectives	0.4
		Analyte Class I Class II  Total Xylenes 10 10	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details	
Site Name & Location: Illico Independent Oil Co.		Sample Location: SB-31	
	Peoria, Illinois	Sample Depth (feet): 4'-6'	
LUST Incident Number(s):	923441	Analyte: Total Xylenes	
Exposure Pathway:	Soil Component of Groundwater Ingestion		
Groundwater Classification:	Class I	Soil Concentration in mg/kg: 1,190.000	

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	1,190.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

$C_{\rm w}$	mg//L	Target Soil Leachate Concentration			387.813973333
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration			19.390698667
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot  IEPA TACO Tier 1 Grou			19.391
		Analyte Total Xylenes	Class I 10	Class II 10	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

Yes

## SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

Site Details		Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: MW-12 Sample Depth (feet): 2'-4'
LUST Incident Number(s):	923441	Analyte: Total Xylenes
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 168,000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{h} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	168.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration	54.750208000
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration	2.737510400
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration  IEPA TACO Tier 1 Groundwater Remediation Objectives	2.73751
		Analyte <u>Class I</u> Total Xylenes 10 10	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: MW-12 Sample Depth (feet): 4'-6'
LUST Incident Number(s):	923441	Analyte: Total Xylenes
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 178.000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{h} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	178.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

$C_{w}$	mg//L	Target Soil Leachate Concentration			58.009148952
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration		2.900457448	
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot			2.900
		Analyte Total Xylenes	Class I 10	Class II 10	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

## SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: MW-13
LUST Incident Number(s):	923441	Sample Depth (feet): 4'-6' Analyte: Total Xylenes
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 6.610

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{h} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	6.610
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

$C_{\rm w}$	mg//L	Target Soil Leachate Concentration			2.154159970
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration			0.107707998
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot  IEPA TACO Tier 1 Grou			0.108
		Analyte Total Xylenes	Class I 10	Class II 10	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

No

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details	**
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: SB-9 Sample Depth (feet): 4'-8'	
LUST Incident Number(s):	923441	Analyte: Total Xylenes	
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 370.000	

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	370.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration			120.580815238
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration			6.029040762
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot  IEPA TACO Tier 1 Grou			6.029
		Analyte Total Xylenes	Class I 10	Class II 10	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the analytical results of SB-9. Therefore, not reviewed.

## SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details	
Site Name & Location:	Illico Independent Oil Co.	Sample Location: SB-10	
	Peoria, Illinois	Sample Depth (feet): 0'-4'	
LUST Incident Number(s):	923441	Analyte: Total Xylenes	
Exposure Pathway:	Soil Component of Groundwater Ingestion		
Groundwater Classification:	Class I	Soil Concentration in mg/kg: 182.000	

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	182.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
ρ <sub>b</sub>	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

$C_{\rm w}$	mg//L	Target Soil Leachate Concentration			59.312725333
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration			2.965636267
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration  IEPA TACO Tier 1 Groundwater Remediation Objectives		2.966	
		Analyte Total Xylenes	Class I 10	Class II 10	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the analytical results of SB-10. Therefore, not reviewed

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co.	Sample Location: SB-10
	Peoria, Illinois	Sample Depth (feet): 4'-8'
LUST Incident Number(s):	923441	Analyte: Total Xylenes
Exposure Pathway:	Soil Component of Groundwater Ingestion	
Groundwater Classification:	Class I	Soil Concentration in mg/kg: 35.000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	35.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68
ds	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration			11.406293333
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration			0.570314667
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot  IEPA TACO Tier 1 Grou			0.570
		Analyte Total Xylenes	Class I 10	Class II 10	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the analytical results of SB-10. Therefore, not reviewed.

### SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

and the second s	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co.	Sample Location: SB-17
	Peoria, Illinois	Sample Depth (feet): 3.5'-5'
LUST Incident Number(s):	923441	Analyte: Total Xylenes
Exposure Pathway:	Soil Component of Groundwater Ingestion	N40.
Groundwater Classification:	Class I	Soil Concentration in mg/kg: 7.820

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	7.820
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684
$d_s$	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

Model Calculated Outputs:

$C_{\rm w}$	mg//L	Target Soil Leachate Concentration			2.548491825
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration			0.127424591
GW <sub>obj</sub>	W <sub>obj</sub> mg/L Soil to Groundwater Potential Leachate Conc IEPA TACO Tier 1 Groundwater Remediation Objection			0.127	
		Analyte Total Xylenes	Class I 10	Class II 10	

#### Soil to Groundwater Potential Leachate Concentration vs. **IEPA TACO Tier 1 Groundwater Remediation Objective**

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater? No Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater? No

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE SSL EQUATIONS \$28 & \$18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: SB-17
LUST Incident Number(s):	923441	Sample Depth (feet): 6'-7' Analyte: Total Xylenes
Exposure Pathway:	Soil Component of Groundwater Ingestion	
Groundwater Classification:	Class I	Soil Concentration in mg/kg: 574,000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	574.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68 4
ds	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

$C_{\rm w}$	mg//L	Target Soil Leachate Concentration			187.063210667
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration			9.353160533
GW <sub>obj</sub> mg/L		Soil to Groundwater Pot  IEPA TACO Tier 1 Grou			9.353
		Analyte Total Xylenes	Class I 10	Class II 10	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

No
Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE SSL EQUATIONS S28 & S18

	Site Details	Sample Do	etails
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location:	
LUST Incident Number(s):	923441	Sample Depth (feet):  Analyte:	Total Xylenes
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg:	193 000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	193.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

$C_{w}$	mg//L	Target Soil Le	eachate Concent	ration	62.897560381
GW <sub>obj</sub>	mg/L	Soil to Groundwater Po	otential Leachate	Concentration	3.144878019
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot  IEPA TACO Tier 1 Grou			3.145
		Analyte Total Xylenes	Class I 10	Class II 10	

### Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the analytical results of SB-4. Therefore, not reviewed

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: MW-7 Sample Depth (feet): 7'-9'
LUST Incident Number(s):	923441	Analyte: Total Xylenes
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 420.000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{h} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	420.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68
$d_s$	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

$C_{\rm w}$	mg//L	Target Soil Leachate Concentration	136.875520000
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concen-	tration 6.843776000
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate C	
		Analyte Class I Class I Total Xylenes 10 10	<u>s II</u>

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the soil analytical results of MW-7. Therefore, not reviewed

The Agency is authorized to 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 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 5/57.17). This form has been approved by the Forms Management Center.

#### Illinois Environmental Protection Agency Leaking Underground Storage Tank Program SSL Input Parameters for Use with Tier 2 Calculations

Α.	Site	Identification

В.

Site Address	(not a P.O. Box):	3712 Universi	ty Street		
City:	Peoria	_ County:	Peoria	Zip Code:	61614
Leaking UST	Technical File				
Tier 2 Calc	ulation Informati	ion			
			18: Soil Leachin	g to Groundwater-Tol	uene/Ethylbenz <b>ą</b>
Equation(s)	Used (ex: S12, S17	7, S28): <u>S28/S</u> al Who Perform	ed Calculations:	g to Groundwater-Tol Joe Buhlig - Proje	

Mass Limit: ▼ Yes ► No If Yes, then Specify Acreage: ▼ 0.5 ► 1 ► 2 ► 5 ► 10 ► 30 NA

- 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 (ingestion)			yr	d <sub>a</sub>	=		m
AT (inhalation)	=		yr	ds	=	2.4384	m
ΑΤ <sub>c</sub>		70	yr	D <sub>A</sub>	=		cm²/s
BW			kg	Di	=		cm²/s
C <sub>sat</sub>	=		mg/kg	D <sub>w</sub>	=	179 1 29	cm²/s
C <sub>w</sub>	=		mg/L	DF	=	20	unitless
d	=	2	m	ED (ingestion o carcinogens)	f _		yr

Incident #: Electronic Filing: Received Clerk's Office 17/28/2017 2017 2017 2017

	Symbol			Unit	Symbol			Unit	
	ED (inhalation of carcinogens)	=		yr	K <sub>oc</sub>	=		cm <sup>3</sup> /g or L/kg	
	ED (ingestion of noncarcinogens)	=		yr	Ks			m/yr	
	ED (inhalation of noncarcinogens)	Ħ		yr	L Unknown, but	=	39.624	m	D
	ED (ingestion of groundwater)	=		yr	PEF	=		m³/kg	
	ED <sub>M-L</sub>	=	70	yr	PEF'	=		m³/kg	
	EF	#		d/yr	Q/C (VF equations)	=		(g/m²-s)/ (kg/m³)	
	F(x)	=	0.194	unitless	Q/C (PEF equations)	=		(g/m²-s)/ (kg/m³)	
	f <sub>oc</sub>	=		g/g	RfC	=		mg/m³	
	GW <sub>obj</sub>	=		mg/L	RfD <sub>o</sub>	8 <b>.</b>		mg/(kg-d)	
	H'	=		unitless	S	·=:		mg/L	
DF=20	Ĭ.	=	0.0131	m/m	SF <sub>o</sub>			(mg/kg-d) <sup>-1</sup>	
	Ĺ	×=×	0.3	m/yr	Т	=		s	
	I <sub>M-L</sub>	=	0.18	m/yr	T <sub>M-L</sub>	=	30	yr	
	IF <sub>soil-adj</sub>		114	(mg-yr)/(kg-d)	THQ	=	1	unitless	
	IR <sub>soil</sub>	=		mg/d	TR	=		unitless	
	IR <sub>w</sub>	=		L/d	U <sub>m</sub>	=	4.69	m/s	
F=20	K recalculate	= ≠ 0.0	0.46	m/yr	URF	=		(µg/m³)-1	
	K <sub>d</sub> (non-ionizing organics)	=		cm <sup>3</sup> /g or L/kg	Ut	=	11.32	kg/m³	
	K <sub>d</sub> (ionizing organics)	=		cm <sup>3</sup> /g or L/kg	V	=		unitless	
	K <sub>d</sub> (inorganics)	=		cm³/g or L/kg	VF	=		m³/kg	

Incident #: Electronic Filing: Received Clerk's Office 7/28/2017-084) R 311

Symbol		Unit
VF'		m³/kg
VF <sub>M-L</sub>		m³/kg
VF' <sub>M-L</sub>		m³/kg
η	<b>#</b>	$L_{pore}/L_{soil}$
θa		$L_{air}/L_{soil}$

Symbol			Unit
$\theta_{w}$	=	200 40-0	L <sub>water</sub> /L <sub>soil</sub>
Ρ <sub>b</sub>	=	1.68	kg/L or g/cm <sup>3</sup>
ρ <sub>s</sub>	=		g/cm <sup>3</sup>
$\rho_{\text{w}}$	=	1	g/cm³
1/(2b+3)	=		unitless

Equation	Result	Unit(s)
S1	=	mg/kg
S2	=	mg/kg
S3	=	mg/kg
S4	=	mg/kg
S5	=	mg/kg
S6	=	mg/L
<b>S</b> 7	=	mg/kg
S17	=	mg/kg
S28	=	mg/kg
S29		mg/L

#### Source Area Concentration Values: (mg/Kg)

55 1711 -1. 07 700	
58-13(6'-7'): 92,700	
58-15 (3.5'-5'): 24.100	
58-15(51-61): 305.000	
SB-31(4'-6') Toluene: 27.100	
SB-9(4'-8') Toluene: 58.000	
SB-10(0'-4') Toluene: 83.000	Not
SB-10(4'-8') Toluene: 16.000	using
MW-7(7'-9') Toluene: 160.000	
SB-4 4'-b' Ethylbenzene: 37 00t	
SB-4 4'-6' Ethylbenzene: 37.000 SB-9 4'-8' Ethylbenzene: 57.000 SB-10 0'-4' Ethylbenzene: 42.00 SB-17 6'-7' Ethylbenzene: 130.00 SB-4 4'-6' Ethylbenzene: 37.000 MW-7 7'-9' Ethylbenzene: 92.00	Using ODUSING ODUSING
SB-9 4'-8' Ethylbenzene: 57.000 SB-10 0'-4' Ethylbenzene: 42.00 SB-17 6'-7' Ethylbenzene: 130.00 SB-4 4'-6' Ethylbenzene: 37.000 MW-7 7'-9' Ethylbenzene: 92.00	Using ODUSING ODUSING
SB-9 4'-8' Ethylbenzene: 57.000 SB-10 0'-4' Ethylbenzene: 42.00 SB-17 6'-7' Ethylbenzene: 130.00 SB-4 4'-6' Ethylbenzene: 37.000 MW-7 7'-9' Ethylbenzene: 92.00 SB-11 (1'-8'): 31.600 SB-13 (6'-7'): 29.700	Using ODUSING ODUSING
SB-9 4'-8' Ethylbenzene: 57.000 SB-10 0'-4' Ethylbenzene: 42.00 SB-17 6'-7' Ethylbenzene: 130.00 SB-4 4'-6' Ethylbenzene: 37.000 MW-7 7'-9' Ethylbenzene: 92.00	Using ODUSING ODUSING

### Soil to Groundwater Leachate Potential (GW<sub>obj</sub>): (mg/L)

SB-31(4'-6') Toluene: 0.442 SB-9(4'-8') Toluene: 0.945 SB-10(0'-4') Toluene: 1.352 SB-10(4'-8') Toluene: 0.261

MW-7(7'-9') Toluene: 2.607

SB-31 4'-6' Ethylbenzene: 4.0 MW-12 2'-4' Ethylbenzene: 0.6893 MW-12 4'-6' Ethylbenzene: 0.578 SB-4 4'-6' Ethylbenzene: 0.603

SB-9 4'-8' Ethylbenzene: 0.929 SB-10 0'-4' Ethylbenzene: 0.684 SB-17 6'-7' Ethylbenzene: 2.112

MW-7 7'-9' Ethylbenzene: 1.499

SB-44'-6' Ethylbenzene: 0.603 Duplicate

+

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: SB-31 Sample Depth (feet): 4'-6'
LUST Incident Number(s):	923441	Analyte: Toluene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 27.100

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{h} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol Unit		nit Parameter		
R.O.	mg/kg	Soil Concentration at Point Source	27.100	
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18	
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70	
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684	
d <sub>s</sub>	m	Depth of Source	2.4384	
DF	unitless	Dilution Factor	20	

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration	8.831729981
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration	0.441586499
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration  IEPA TACO Tier 1 Groundwater Remediation Objectives	0.442
		Analyte Class I Class II Toluene 1 2.5	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: SB-9 Sample Depth (feet): 4'-8'
LUST Incident Number(s):	923441	Analyte: Toluene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 58.000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol Unit		Parameter		
R.O.	mg/kg	Soil Concentration at Point Source	58.00	
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18	
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70	
ρ <sub>b</sub>	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68	
d <sub>s</sub>	m	Depth of Source	2.4384	
DF	unitless	Dilution Factor	20	

**Model Calculated Outputs:** 

$C_{\rm w}$	mg//L	Target Soil l	18.901857524		
GW <sub>obj</sub>	mg/L	Soil to Groundwater I	0.945092876		
GW <sub>obj</sub>	mg/L	Soil to Groundwater Po			0.945
		Analyte Toluene	Class I	Class II 2.5	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the analytical results of SB-9. Therefore, not reviewed.

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE SSL EQUATIONS \$28 & \$18

Site Details		Sample Details	
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: Sample Depth (feet):	District Street
LUST Incident Number(s):	923441	Analyte:	Toluene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg:	83.000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol Unit		Parameter	Values	
R.O.	mg/kg	Soil Concentration at Point Source	83.000	
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18	
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70	
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68	
d <sub>s</sub>	m	Depth of Source	2.4384	
DF	unitless	Dilution Factor	20	

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil	27.049209905		
GW <sub>obj</sub>	mg/L	Soil to Groundwater	1.352460495		
GW <sub>obj</sub>	mg/L	Soil to Groundwater Po			1.352
		Analyte Toluene	Class I 1	Class II 2.5	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the analytical results of SB-10. Therefore, not reviewed.

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: SB-10 Sample Depth (feet): 4'-8'
LUST Incident Number(s):	923441	Analyte: Toluene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class 1	Soil Concentration in mg/kg: 16,000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{h} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol Unit		Parameter	Values	
R.O.	mg/kg	Soil Concentration at Point Source	16.000	
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18	
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70	
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68	
d <sub>s</sub>	m	Depth of Source	2.4384	
DF	unitless	Dilution Factor	20	

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil I	5.214305524		
GW <sub>obj</sub>	mg/L	Soil to Groundwater I	0.260715276		
GW <sub>obj</sub>	mg/L	Soil to Groundwater Po			0.261
		Analyte Toluene	<u>Class I</u> 1	Class II 2.5	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the analytical results of SB-10. Therefore, not reviewed.

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: MW-7 Sample Depth (feet): 7'-9'
LUST Incident Number(s):	923441	Analyte: Toluene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 160.000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol Unit		Parameter	Values	
R.O.	mg/kg	Soil Concentration at Point Source	160.000	
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18	
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70	
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68	
d <sub>s</sub>	m	Depth of Source	2.4384	
DF	unitless	Dilution Factor	20	

**Model Calculated Outputs:** 

$C_{\rm w}$	mg//L	Target Soil Leachate Concentration	52.143055238
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration	on 2.607152762
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Con	
		Analyte Class I Class II Toluene 1 2.5	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

Yes

Not using the analytical results of MW-7. Therefore, not reviewed

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

Site Details		Sample Details	
Site Name & Location: Illico Independent Oil Co. Peoria, Illinois		Sample Location: SB-31 Sample Depth (feet): 4'-6'	
LUST Incident Number(s):	923441		Ethylbenzene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg:	243 000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol Unit		Parameter	Values	
R.O.	mg/kg	Soil Concentration at Point Source	243.000	
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18	
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70	
ρ <sub>b</sub>	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684	
d <sub>s</sub>	m	Depth of Source	2.4384	
DF	unitless	Dilution Factor	20	

**Model Calculated Outputs:** 

$C_{w}$	mg//L	Target Soil Leachate Concentration			79.192265143
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration			3.959613257
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot  IEPA TACO Tier 1 Grou			4.0
		Analyte Ethylbenzene	<u>Class I</u> 0.7	Class II	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

Yes

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

Site Details		Sample Details	
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: MW-1: Sample Depth (feet): 2'-4'	2
LUST Incident Number(s):	923441	Analyte: Ethylb	enzene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 42.300	

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol Unit		Parameter	Values	
R.O.	mg/kg	Soil Concentration at Point Source	42.300	
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18	
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70	
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684	
d <sub>s</sub>	m	Depth of Source	2.4384	
DF	unitless	Dilution Factor	20	

**Model Calculated Outputs:** 

$C_{w}$	mg//L	Target Soil Leachate Concentration			13.785320229
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration			0.689266011
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration  IEPA TACO Tier 1 Groundwater Remediation Objectives		0.6893	
		Analyte Ethylbenzene	<u>Class I</u> 0.7	Class II	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

#### SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co.	Sample Location: MW-12
KISTARATY IPRA VINTUR ADRESS IN THE	Peoria, Illinois	Sample Depth (feet): 4'-6'
LUST Incident Number(s):	923441	Analyte: Ethylbenzene
Exposure Pathway:	Soil Component of Groundwater Ingestion	
Groundwater Classification:	Class I	Soil Concentration in mg/kg: 35.500

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)  $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	35.500
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68 4
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

$C_{w}$	mg//L	Target Soil Le	eachate Concent	ration	11.569240381
GW <sub>obj</sub>	mg/L	Soil to Groundwater Po	tential Leachate	Concentration	0.578462019
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot  IEPA TACO Tier 1 Grou			0.578
		Analyte Ethylbenzene	<u>Class I</u> 0.7	Class II	

#### Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

No

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co.	Sample Location: SB-4
	Peoria, Illinois	Sample Depth (feet): 4'-6'
LUST Incident Number(s):	923441	Analyte: Ethylbenzene
Exposure Pathway:	Soil Component of Groundwater Ingestion	
Groundwater Classification:	Class I	Soil Concentration in mg/kg: 37.000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

Model Parameters Inputs:

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	37.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68
$d_s$	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leach	ate Concentr	ration	12.058081524
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potent	ial Leachate	Concentration	0.602904076
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potent			0.603
		Analyte Ethylbenzene	Class I 0.7	<u>Class II</u> 1	

### Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the analytical results. Therefore, not reviewed.

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: SB-9 Sample Depth (feet): 4'-8'
LUST Incident Number(s):	923441	Analyte: Ethylbenzene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 57.000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	57.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

$C_{w}$	mg//L	Target Soil L	eachate Concent	ration	18.575963429
GW <sub>obj</sub>	mg/L	Soil to Groundwater Po	otential Leachate	Concentration	0.928798171
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot  IEPA TACO Tier 1 Grou			0.929
		Analyte Ethylbenzene	<u>Class I</u> 0.7	<u>Class II</u> 1	

### Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the analytical results for SB-9. Therefore, not reviewed.

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: SB-10 Sample Depth (feet): 0'-4'
LUST Incident Number(s):	923441	Analyte: Ethylbenzene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 42.000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	42.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

Model Calculated Outputs:

C <sub>w</sub>	mg//L	Target Soil Lo	eachate Concentr	ration	13.687552000
GW <sub>obj</sub>	mg/L	Soil to Groundwater Po	otential Leachate	Concentration	0.684377600
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot	ential Leacl	hate Concentration	0.684
		IEPA TACO Tier 1 Grou	ndwater Remed	diation Objectives	
		IEPA TACO Tier 1 Grou Analyte Ethylbenzene	Class I	diation Objectives  Class II	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the analytical results for SB-10. Therefore, not reviewed.

## SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: SB-17 Sample Depth (feet): 6'-7'
LUST Incident Number(s):	923441	Analyte: Ethylbenzene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 130,000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	130.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68 4
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil L	Target Soil Leachate Concentration		
GW <sub>obj</sub>	mg/L	Soil to Groundwater Po	Concentration	2.118311619	
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot  IEPA TACO Tier 1 Grou			2.118
		Analyte Ethylbenzene	Class I 0.7	Class II	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

Yes

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co.	Sample Location: MW-7
	Peoria, Illinois	Sample Depth (feet): 7'-9'
LUST Incident Number(s):	923441	Analyte: Ethylbenzene
Exposure Pathway:	Soil Component of Groundwater Ingestion	20 - 2011
Groundwater Classification:	Class I	Soil Concentration in mg/kg: 92.000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{c}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	92.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil L	Target Soil Leachate Concentration		
GW <sub>obj</sub>	mg/L	Soil to Groundwater Po	Soil to Groundwater Potential Leachate Concentration		
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot  IEPA TACO Tier 1 Grou			1.499
		Analyte Ethylbenzene	Class I 0.7	Class II	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

Yes

Not using the soil analytical results for MW-7. Therefore, not reviewed

The Agency is authorized to respect the property of the proper

#### Illinois Environmental Protection Agency Leaking Underground Storage Tank Program SSL Input Parameters for Use with Tier 2 Calculations

A.	Site	Identification	n
	0100	IMOTHERIOUS	

B.

Site Address	(not a P.O. Box):	3712 Universi	ty Street		
Dity:	Peoria	_ County:	Peoria	Zip Code:	61614
eaking UST	Technical File				
_	ulation Informati	ion			
ier 2 Calcu	Jsed (ex: S12, S17	, S28): <u>S28/S</u>		g to Groundwater -	
ier 2 Calcu Equation(s) L Contact Inform	Jsed (ex: S12, S17	7, S28): <u>S28/S</u>	ed Calculations	g to Groundwater - Joe Buhlig - Pro	
ier 2 Calcu Equation(s) L Contact Inform Marlin Enviro	Jsed (ex: S12, S17	7, S28): <u>S28/S</u> al Who Perform ne: (217) 726-7	ed Calculations 569	***	

- 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 (ingestion)		÷	yr	da			m
AT (inhalation)	=		yr	ds	=	2.4384	m
AT <sub>c</sub>	=	70	yr	D <sub>A</sub>	=		cm²/s
BW	=	1970	kg	Di	=		cm²/s
C <sub>sat</sub>	=		mg/kg	D <sub>w</sub>	=	B4	cm²/s
C <sub>w</sub>	=		mg/L	DF	=	20	unitless
d	=	2	m	ED (ingestion of carcinogens)	=		yr

Incident #: Electronic Filing: Received Clerk's Office 7/28/2017 084) Received Naphihalene

Symbol			Unit	Symbol			Unit
ED (inhalation of carcinogens)	=		yr	K <sub>oc</sub>	=		cm <sup>3</sup> /g or L/kg
ED (ingestion of noncarcinogens)	=		yr	K <sub>s</sub>			m/yr
ED (inhalation of noncarcinogens)	=		yr	L Unknown,	= out > 100	39.624	m
ED (ingestion of groundwater)	=		yr	PEF	=		m³/kg
ED <sub>M-L</sub>	=	70	yr	PEF'		72 000	m³/kg
EF	<b>(=</b> )		d/yr	Q/C (VF equations)	=		(g/m²-s)/ (kg/m³)
F(x)	=	0.194	unitless	Q/C (PEF equations)			(g/m²-s)/ (kg/m³)
f <sub>oc</sub>			g/g	RfC	=		mg/m³
GW <sub>obj</sub>	=		mg/L	RfD <sub>o</sub>			mg/(kg-d)
H'	=		unitless	S	=		mg/L
1	=	0.0131	m/m	SF <sub>o</sub>			(mg/kg-d) <sup>-1</sup>
1	=	0.3	m/yr	Т	=		s
I <sub>M-L</sub>	=	0.18	m/yr	T <sub>M-L</sub>	=	30	yr
IF <sub>soil-adj</sub>	=	114	(mg-yr)/(kg-d)	THQ	=	1	unitless
IR <sub>soil</sub>	=	7/50 15-17	mg/d	TR	=		unitless
IR <sub>w</sub>	=		L/d	U <sub>m</sub>	=	4.69	m/s
K recalculate	= ‡ 0.	<mark>0.46</mark> 0003667	m/yr	URF	=		(µg/m³)-1
K₀ (non-ionizing organics)			cm³/g or L/kg	Ut	=	11.32	kg/m³
K <sub>d</sub> (ionizing organics)	=		cm <sup>3</sup> /g or L/kg	V	=	- <del> </del>	unitless
K <sub>d</sub> (inorganics)	=		cm³/g or L/kg	VF	=		m³/kg

Electronic Filing: Received NCIerk's Office 7/28/2017-084) Read Section 17-084) Read Section 17-084) Read Section 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S Office 17-084 Received NCIERK'S OFFICE 17-084 Recei Incident #:

Symbol		Unit
VF'	=	m³/kg
VF <sub>M-L</sub>	=	m³/kg
VF' <sub>M-L</sub>	8 <b>=</b> 8	m³/kg
η	(=)	L <sub>pore</sub> /L <sub>soil</sub>
$\theta_{a}$	=	L <sub>air</sub> /L <sub>soil</sub>

Symbol			Unit
$\theta_{\mathbf{w}}$	=	2/	L <sub>water</sub> /L <sub>soil</sub>
Ρ <sub>b</sub>	=	1.684	kg/L or g/cm <sup>3</sup>
$\rho_{s}$			g/cm <sup>3</sup>
$\rho_{\text{w}}$	=	1	g/cm³
1/(2b+3)	=		unitless

Equation	Result	Unit(s)
S1	=	mg/kg
S2	=	mg/kg
S3	=	mg/kg
S4	=	mg/kg
S5	=	mg/kg
S6	=	mg/L
<b>S</b> 7	=	mg/kg
S17		mg/kg
S28		mg/kg
S29	=	mg/L

#### Source Area Concentration Values: (mg/Kg)

SB-31 (4'-6') Naphthalene: 20.700 MW-12 (2'-4') Naphthalene: 4.200 MW-12 (4'-6') Naphthalene: 1.990 SB-4 (4'-6') Naphthalene: 11.00 SB-10 (0'-4') Naphthalene: 3.00 SB-10 (4'-8') Naphthalene: 1.200 SB-17 (6'-7') Naphthalene: 45.300 SB-4 (4'-6') Naphthalene: 11.000 Duplicate MW-7 (7'-9') Naphthalene: 25.00 Not using SB-15 (3.5'-5'): 2.150 SB-15 (5'-6'): 5.340 SB-18(6'-7') : 4.160

#### Soil to Groundwater Leachate Potential (GWobj): (mg/L)

SB-31(4'-6') Naphthalene: 0.3

MW-12(2'-4') Naphthalene: 0.0684

MW-12(4'-6') Naphthalene: 0.032 SB-4(4'-6') Naphthalene: 0.179

SB-10 (0'-4') Naphthalene: 0.049 SB-10 (4'-8') Naphthalene: 0.020 | using

SB-17 (6'-7') Naphthalene: 0.738

SB-4 (4'-6') Naphthalene: 0.179 MW-7 (7'-9') Naphthalene: 0.40737 Not using

Duplicate

## SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: SB-31 Sample Depth (feet): 4'-6'
LUST Incident Number(s):	923441	Analyte: Naphthalene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 20.700

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	20.700
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration		6.746007771	
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration		0.337300389	
GW <sub>obj</sub>	mg/L	Soil to Groundwater Poten  IEPA TACO Tier 1 Ground			0.3
		Analyte Naphthalene	<u>Class I</u> 0.14	Class II 0.22	

Soil to Groundwater Potential Leachate Concentration vs.

IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

Yes

## SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: MW-12 Sample Depth (feet): 2'-4'
LUST Incident Number(s):	923441	Analyte: Naphthalene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 4.200

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	4.200
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration	1.368755200
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration	0.068437760
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration  IEPA TACO Tier 1 Groundwater Remediation Objectives	0.0684
		Analyte Class I Class II  Naphthalene 0.14 0.22	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details	
Site Name & Location:	Illico Independent Oil Co.	Sample Location: MW-12	
	Peoria, Illinois	Sample Depth (feet): 4'-6'	
LUST Incident Number(s):	923441	Analyte: Naphthalene	
Exposure Pathway:	Soil Component of Groundwater Ingestion	25 Ep.	
Groundwater Classification:	Class I	Soil Concentration in mg/kg: 1.990	

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{h} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	1.990
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration		0.648529250	
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration		0.032426462	
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot  IEPA TACO Tier 1 Grou			0.032
		Analyte Naphthalene	Class I 0.14	Class II 0.22	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: SB-4 Sample Depth (feet): 4'-6'
LUST Incident Number(s):	923441	Analyte: Naphthalene
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 11.000

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{h} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	11.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68
ds	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration		ration	3.584835048
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration		0.179241752	
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot  IEPA TACO Tier 1 Groundwater Pot  IEPA TACO Tier 1 Groundwater Pot  IEPA TACO Tier 1 Groundwater Pot			0.179
		Analyte Naphthalene	<u>Class I</u> 0.14	Class II 0.22	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the analytical results of SB-4. Therefore, not reviewed.

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details	
Site Name & Location: Illico Independent Oil Co. Peoria, Illinois		Sample Location: SB-10 Sample Depth (feet): 0'-4'	
LUST Incident Number(s):	923441	Analyte: Naphthalene	
Exposure Pathway: Groundwater Classification:	Soil Component of Groundwater Ingestion Class I	Soil Concentration in mg/kg: 3.000	

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	3.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_b$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration	0.977682286
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration	0.048884114
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentr	
		Analyte <u>Class I</u> <u>Class II</u> Naphthalene 0.14 0.22	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the analytical results of SB-10. Therefore not reviewed.

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: SB-10
LUST Incident Number(s):	923441	Sample Depth (feet): 4'-8'  Analyte: Naphthalene
Exposure Pathway:	Soil Component of Groundwater Ingestion	
Groundwater Classification:	Class I	Soil Concentration in mg/kg: 1.200

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	1.200
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

$C_{\rm w}$	mg//L	Target Soil Leachate Concentration	0.391072914
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration	0.019553646
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration  IEPA TACO Tier 1 Groundwater Remediation Objectives	0.020
		Analyte Class I Class II  Naphthalene 0.14 0.22	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

No

Not using the analytical results of SB-10. Therefore, not reviewed.

# SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

	Site Details	Sample Details	
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois	Sample Location: SB-17	
LUST Incident Number(s):	923441	Sample Depth (feet): 6'-7'  Analyte: Naphthalene	
Exposure Pathway:	Soil Component of Groundwater Ingestion	8 75	
Groundwater Classification:	Class I	Soil Concentration in mg/kg: 45,300	

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

$$\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{h} \bullet d_{s}\right)}$$

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$  (milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	45.300
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.684
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil Leachate Concentration		14.763002514	
GW <sub>obj</sub>	mg/L	Soil to Groundwater Potential Leachate Concentration		0.738150126	
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot  IEPA TACO Tier 1 Grou			0.738
		Analyte Naphthalene	<u>Class I</u> 0.14	<u>Class II</u> 0.22	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

Yes

## SOIL TO GROUNDWATER POTENTIAL LEACHATE CONCENTRATION MASS-LIMIT REMEDIATION OBJECTIVE FOR SOIL COMPONENT OF THE GROUNDWATER INGESTION EXPOSURE ROUTE

SSL EQUATIONS S28 & S18

Site Details	Sample Details
Illico Independent Oil Co. Peoria, Illinois	Sample Location: MW-7 Sample Depth (feet): 7'-9'
923441	Analyte: Naphthalene
Soil Component of Groundwater Ingestion	Soil Concentration in mg/kg: 25,000
	Illico Independent Oil Co. Peoria, Illinois 923441

SSL Equation S28

Remediation Objective (RO) = (milligrams per kilogram, mg/kg)

 $\frac{\left(C_{w} \bullet I_{M-L} \bullet ED_{M-L}\right)}{\left(\rho_{b} \bullet d_{s}\right)}$ 

SSL Equation S18

Target Soil Leachate Concentration  $C_w = DF \bullet GW_{obj}$ 

(milligrams per liter, mg/L)

**Model Parameters Inputs:** 

Symbol	Unit	Parameter	Values
R.O.	mg/kg	Soil Concentration at Point Source	25.000
I <sub>M-L</sub>	m/yr	Infiltration Rate	0.18
ED <sub>M-L</sub>	year	Exposure Duration for Eq S28	70
$\rho_{b}$	g/cm <sup>3</sup>	Dry Soil Bulk Density	1.68
d <sub>s</sub>	m	Depth of Source	2.4384
DF	unitless	Dilution Factor	20

**Model Calculated Outputs:** 

C <sub>w</sub>	mg//L	Target Soil L	ration	8.147352381	
GW <sub>obj</sub>	mg/L	Soil to Groundwater P	0.407367619		
GW <sub>obj</sub>	mg/L	Soil to Groundwater Pot			0.40737
		Analyte Naphthalene	<u>Class I</u> 0.14	Class II 0.22	

## Soil to Groundwater Potential Leachate Concentration vs. IEPA TACO Tier 1 Groundwater Remediation Objective

Will leach above IEPA TACO Tier 1 GRO for Class I Groundwater?

Will leach above IEPA TACO Tier 1 GRO for Class II Groundwater?

Yes

Not using the soil analytical results of MW-7. Therefore, not reviewed.

The Agency is authorized to facilities interpreted in a civil penalty of not to exceed \$10,000.00 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 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 5/57.17). This form has been approved by the Forms Management Center.

#### Illinois Environmental Protection Agency **Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations**

Α.	Site	Identification
	0100	MOHILINGALION

	IEMA Incident # (6- or 8-dig	git):923	441I	EPA LPC # (10-dig	git): 1430655263
	Site Name: Illico Independe	ent Oil Co.		ti	
	Site Address (not a P.O. Bo	ox): 3712 Universit	ty Street		
	City: Peoria	County:	Peoria	Zip Code:	61614
	Leaking UST Technical File				
B.	Tier 2 Calculation Inform	nation			
	Equation(s) Used (ex: R12,	R14, R26): R26: E	Benzene		
	Contact Information for Indiv	idual Who Perform	ed Calculations:	Joe Buhlig - Pro	oject Manager
	Marlin Environmental, Inc. I	Phone: (217) 726-7	569		
	Land Use: Not	Applicable	Soil Type	:	Clay
	Groundwater:	☐ Class II			
	Mass Limit:	If Yes, then Spe	cify Acreage:	□0.5 □1 □2	┌5 ┌10 ┌30
	Result from S18/S28 used in	R26?   ∀es	No Specify C	S <sub>source</sub> from S18/S28	see page 3 mg/L
	- Mass Limit Acreage other	than defaults mu	st always be ro	ounded 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
ΑT <sub>c</sub>	=	70	yr	d	=	cm
$AT_{\mathfrak{q}}$	=		yr	D <sup>air</sup>	=	cm <sup>2</sup> /s
BW		70	kg	Dwater	=	cm <sup>2</sup> /s
C <sub>source</sub>	=	see page 3	mg/L	$D_s^{eff}$	=	cm <sup>2</sup> /s
C <sub>(x)</sub>	=		mg/L	ED	=	yr
C <sub>(x)</sub> /C <sub>source</sub>	=		unitless	EF	=	d/yr

Symbol			Unit
erf	=		unitless
foc	=		g/g
GW <sub>comp</sub>	=		mg/L
GW <sub>source</sub>	=		mg/L
H			cm <sup>3</sup> water/cm <sup>3</sup> air
İ	=	0.0273	cm/cm
1	=	30	cm/yr
IR <sub>air</sub>	=	20	m³/d
IR <sub>soil</sub>	<b>*</b> =*		mg/d
IR <sub>w</sub>			L/d
К		31.683	cm/d for R15, R19, R26; cm/yr for R24
K <sub>oc</sub>	=		cm³/g or L/kg
k <sub>s</sub> (non-ionizing organics)	=		cm³ <sub>water</sub> /g <sub>soil</sub>
k <sub>s</sub> (ionizing organics)			cm³ <sub>water</sub> /g <sub>soil</sub>
k <sub>s</sub> (inorganics)	=		cm³ <sub>water</sub> /g <sub>soil</sub>
Ls	=	100	cm
LF <sub>sw</sub>	=		(mg/L <sub>water</sub> ) /(mg/kg <sub>soil</sub> )
М	=	0.5	mg/cm <sup>2</sup>
Pe	=	6.9 •10-14	g/cm²-s
RAF <sub>d</sub>	=	0.5	unitless

Symbol			Unit
RAF <sub>d</sub> (PNAs)	=	0.05	unitless
RAF <sub>d</sub> (inorganics)	=	0	unitless
RAF <sub>0</sub>	=	1.0	unitless
RBSL <sub>air</sub> (carcinogenic)	=		μg/m³
RBSL <sub>air</sub> (noncarcinogenic)	=		µg/m³
RfD <sub>i</sub>	=		mg/kg-d
RfD。	i=i		mg/kg-d
SA		3,160	cm²/d
S <sub>d</sub>	=	200	cm
S <sub>w</sub>		7,315.2 240', but not:	cm
SFi			(mg/kg-d) <sup>-1</sup>
SF <sub>o</sub>	=		(mg/kg-d) <sup>-1</sup>
THQ	=	1	unitless
TR	=		unitless
U	=		cm/d
U <sub>air</sub>	=	225	cm/s
Ugw	=		cm/yr
VFp	=		kg/m³
VF <sub>samb</sub>	=	(m	g/m³ <sub>air</sub> )/mg/kg <sub>soil</sub> ) or kg/m³
VF <sub>ss</sub>	=		kg/m³

### Incident #: Electronic Filing: Received, Clerk's Office 7/28/2017 09 40 Pro 238

Symbol	2 104		Unit
W	=		cm
w	=		g <sub>water</sub> /g <sub>soil</sub>
x	=	see below	cm
$\alpha_{x}$	=		cm
$\alpha_{y}$	=		cm
$\alpha_{z}$	7=8		cm
$\delta_{air}$		200	cm
$\delta_{\rm gw}$	=	200	cm

Symbol			Unit
$\theta_{as}$	:=:		cm³ <sub>air</sub> /cm³ <sub>soil</sub>
$\theta_{ws}$	=		cm³ <sub>water</sub> /cm³ <sub>soil</sub>
$\theta_{T}$	=	0.36	cm <sup>3</sup> /cm <sup>3</sup> <sub>soil</sub>
λ		0.0009	d-1
π	=	3.1416	
$\rho_{b}$	=		g/cm <sup>3</sup>
$\rho_{\rm w}$	=	1	g/cm³
τ	=	9.46 •108	s

Equation	Result	Unit(s)
R1	=	mg/kg
R2	=	mg/kg
R7	=	mg/kg
R8	=	mg/kg
R12		mg/kg
R25	=	mg/L

	Groundwater
Milloria	MW-4: 0.896
MW-1: 0.664	MVV-7: 14.5
MW-10:0,126	MW-12: 0.307
MW-14:0.386	
1100.00	MW-13: 10.2
	Soil Leaching
SB-11 (7'-8')	SB-30 2'-4': 0.00655
	6B-31 2'-4': 0.02607 Unnecessary < 0.2"
SB-13(61-71)	SB-31 4'-6': 0.274
SB-14(6'-7') N	1W-12 2'-4': 0.02705 Unnecessary < 0.068
5B-15(5'-6') N	1W-12 4'-6': 0.06893 Unnecessary < 0.30
SB-16(61-71)	MW-13 4'-6': 0.006 Unnecessary < 10.2
	SB-4 4'-6': 0.018
	CD 0 41 01: 0 014
	SB-10 0'-4': 0.129 Not using
	SB-10 4'-8': 0.023
	SB-17 6'-7': 0.02
	SB-4 4'-6': 0.018 Duplicate
	MW-7 7'-9': 0.212 Not using
	10100-1 1-9. 0.212 Not using

#### Maximum Predicted Extent of Groundwater Impact (X):

(feet from point source) Groundwater MW-4: 227' MW-7: 398' Soil Leaching MW-12: 171' SB-4 4'-6': 53' MW-13: 375' SB-9 4'-8': 35.5' SB-10 0'-4': 129.5' Soil Leaching Not using SB-30 2'-4': 13' SB-10 4'-8': 61.5' SB-31 2'-4': 66' Unnecessary SB-17 6'-7': 56.5' SB-31 4'-6': 166' SB-4 4'-6': 53' Duplicate MW-12 2'-4': 67' MW-7 7'-9': 153' Not using Unnecessary MW-12 4'-6': 103' MW-13 4'-6': 8.5'

## Electronic Filing Received Clerk's Office (7/28/201.72017-084) R. 339 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING RBCA EQUATION R26

	Site Details				Sample Deta	nils
Site Name & Location:	Illico Independen	nt Oil Company		San	ple Location:	MW-4
	Peoria, Illinois			1	Sample Date:	04/23/2015
LUST Incident Number(s):	923441					
Exposure Pathway:	Groundwater Co	mponent of Groundwater In	rection			
Groundwater Classification:	Class I	imponent of Groundwater in	igestion		Analyte:	Ranzana
or danawater Classification.	Cidoo	V-William III			Analyte:	Belizelle
Concentration at the source (C <sub>sou</sub>	nrce)=	0.90 mg/L				
Distance along centerline of the						
plume coming from the source	(X)=	227.00 ft	==	6,918.96 cm		
First order degradation constant (λ)=		0.0009/day		if benzene, lambda=0.0009/da	у	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	=	31.683 cm/day		Porosity
Hydraulic gradient (i)=		0.0143 m/m				Gravel=0.25 Sand=0.32
Total soil porosity $(\theta_T)$ =		0.36 cm <sup>3</sup> /cm <sup>3</sup> s	oil		),	Silt=0.40 Clay=0.36
Source width perpendicular to GW flow direction in horizontal plane $(S_w)$ =		240 ft	-	7,315.20 cm	J	Default=0.43
Source width perpendicular to GW flow direction in vertical plane $(S_d)$ =		6.56 ft	×	200 cm	(assuming comple	ete mixing)
Calculated Parameters		DO NOT ENTER VALUES H	ERE!			
ongitudinal dispersivity	Ax=	691.896 cm				
ransverse dispersivity	Ayac	230.632 cm				
ertical dispersivity	Az=	34.5948 cm				
Specific discharge	U=	1.25499408 cm/day				
Sw/(4*SQRT(Ay*X))	B=	1.447724822				
6d/(2*SQRT(Az*X))	C=	0.204344515				
Error function	erf(B)=	0.95938053 To determ				
error function	erf(C)=	0.227408375 see F46 &	& K46 in the	linear interpolation section.		
actual B value=		1.447724822		Actual C value=	0.204344515	
Automatic calculations : Actual erf(B)		0.95938053		Actual erf(C)=	0.227408375	
Solutions						
	C <sub>(x)</sub>	<b>1</b> a				
	0.005	mg/l				
	C <sub>source</sub>	1				
	0.00	mg/l				
computation of erf(x)						
ource: Abramowitz, M. and I. A. Stegun,		athematical Functions, Dover Publi	ications, Nev	v York, page 299, formula 7.1.2	6	
faximum error in computation = 1.5 x 10 = 1.447724822						
= 1.447/24822 = 0.3275911						
1= 0.254829592						
2= -0.284496736						
3= 1.421413741						
4= -1.453152027						
5= 1.061405429	1.061405429	X.				
0.678305592	0.937258558	2				
f(x) = 0.95938053	0.227408375					

## Electronic Filing Received Clerk's Office (7) 28/201. Z017-084) R. 340 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING RBCA EQUATION R26

	Site Details			Sample Details			
Site Name & Location:	Illico Independen	nt Oil Company		Sample Location: MW-7			
	Peoria, Illinois			Sample Date: 04/23/201	15		
LUST Incident Number(s):	923441		5 0	•			
			The second second				
Exposure Pathway:		mponent of Groundwater Ingesti	on				
Groundwater Classification:	Class I			Analyte: Benzene			
Concentration at the source (C <sub>sou</sub>	irce)=	14.5000 mg/L					
Distance along centerline of the		22.					
plume coming from the source	(X)=	398.00 ft =	12,131.04 cm	i			
First order degradation constant (λ)=		0.0009/day	if benzene, lambda=0.0	0009/day			
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec =	31.683 cm/				
Hydraulic gradient (i)=		0.0143 m/m			Porosity Gravel=0.25		
Total soil porosity (θ <sub>T</sub> )=		0.36 cm <sup>3</sup> /cm <sup>3</sup> soil			Sand=0.32 Silt=0.40		
ource width perpendicular to GW					Clay=0.36 efault=0.43		
flow direction in horizontal plane (S <sub>w</sub> )=		240 ft =	7,315.20 cm		viduit 0.43		
ource width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft =	200 cm				
alculated Parameters		DO NOT ENTER VALUES HERE!	200 cm	(assuming complete mixing)			
	0.04 - 0.000011						
ongitudinal dispersivity	Ax=	1213.104 cm					
ransverse dispersivity	Ay=	404.368 cm					
ertical dispersivity	Az=	60.6552 cm					
pecific discharge	U=	1.25499408 cm/day					
w/(4*SQRT(Ay*X))	B= C=	0.825712398					
d/(2*SQRT(Az*X)) error function	2.0	0.116548253					
rror function	erf(B)= erf(C)=	0.75708567 To determine er	or function values, n the linear interpolation section				
ctual B value=	en(c)-	0.825712398	Actual C value=				
			AND THE CONTRACT OF THE PARTY O	0.116548253			
Automatic calculations : Actual erf(B)		0.75708567	Actual erf(C)=	0.13091759			
Solutions							
	C <sub>(x)</sub>	1					
	0.005	mg/l					
	C <sub>source</sub>						
	0.00	mg/l					
omputation of erf(x)							
ource: Abramowitz, M. and I. A. Stegun,	1972, Handbook of M	athematical Functions, Dover Publication	, New York, page 299, formul	a 7.1.26			
aximum error in computation = 1.5 x 10							
0.825712398							
0.3275911 0.254829592							
= 0.254829592 = -0.284496736							
= 1.421413741							
-1.453152027							
1.061405429							
0.787094154							

## Electronic Filing: Received Clerk's Office (7/28/2017-084) R. 341 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING RBCA EQUATION R26

	Site Detai	ils		Sample Details
Site Name & Location:	Illico Independ	dent Oil Company	Sa	mple Location: MW-12
	Peoria, Illinois		3	Sample Date: 04/23/2015
LUST Incident Number(s):	923441			
	- APRIL 1992	y care p year a		
Exposure Pathway: Groundwater Classification:		Component of Groundwater Ingestion		
Groundwater Classification:	Class I			Analyte: Benzene
Concentration at the source (C <sub>s</sub>	ource)=	0.3070 mg/L		
Distance along centerline of the	2			
plume coming from the source	e (X)=	171.00 ft =	5,212.08 cm	
First order degradation constant (λ)=		0.0009 /day	if benzene, lambda=0.0009/o	lay
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec =	31.683 cm/day	Porosity
Hydraulic gradient (i)=		0.0143 m/m		Gravel- 0.25 Sand= 0.32
Total soil porosity $(\theta_T)$ =		0.36 cm <sup>3</sup> /cm <sup>3</sup> <sub>soil</sub>		Silt=0.40
Source width perpendicular to GW				Clay=0.36 Default=0.43
flow direction in horizontal plane (Sw)	)=	240 ft =	7,315.20 cm	
Source width perpendicular to GW flow direction in vertical plane $(S_d)$ =		6.56 ft =	200 cm	(assuming complete mixing)
Calculated Parameters		DO NOT ENTER VALUES HERE!		
ongitudinal dispersivity	Ax=	521.208 cm		
Fransverse dispersivity	Ay=	173.736 cm		
ertical dispersivity	Az=	26.0604 cm		
Specific discharge	U=	1.25499408 cm/day		
w/(4*SQRT(Ay*X))	$\mathbf{B}^{\mathrm{an}}$	1.921833535		
d/(2*SQRT(Az*X))	C=	0.271264356		
error function	erf(B)=	0.993429791 To determine error f		
rror function	erf(C)=	0.298744023 see F46 & K46 in th	e linear interpolation section.	
ctual B value=		1.921833535	Actual C value=	0.271264356
Automatic calculations : Actual erf(B)		0.993429791	Actual erf(C)=	0.298744023
Solutions				
	C <sub>(x)</sub>	<b>1</b> .		
	0.00502	mg/l		
	C <sub>source</sub>			
	0.00	mg/l		
Computation of erf(x)				
		Mathematical Functions, Dover Publications, N	ew York, page 299, formula 7.1.	26
laximum error in computation = 1.5 x 1 = 1.92183353		356		
0.327591				
0.25482959				
2= -0.28449673				
3= 1.42141374				
4= -1.45315202	-1.4531520	27		
5= 1.06140542				
0.61365672				
(x)= 0.99342979	0.2987440	23		

## Electronic Filing Received Clerk's Office 128/2017-084) R. 342 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING RBCA EQUATION R26

	Site Detail			Sample Details			
Site Name & Location:	0.71	ent Oil Company		San	nple Location:	MW-13	
	Peoria, Illinois				Sample Date:	04/23/2015	
LUST Incident Number(s):	923441			1			
Exposure Pathway:	Croundwat - C	omponent of Groundwater Ing					
Groundwater Classification:	Class I	omponent of Groundwater ing	gestion		St	6	
Froundwater Classification.	Class I				Analyte:	Benzene	
Concentration at the source ( $C_{source}$	rce)=	10,2000 mg/L					
Distance along centerline of the							
plume coming from the source	(X)=	<b>375.00</b> ft	= (	11,430.00 cm			
rirst order degradation constant (λ)=		0.0009 day		if benzene, lambda=0.0009/da	у		
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	= ]	31.683 cm/day			
lydraulic gradient (i)=		0.0143 m/m				Porosity Gravel=0.25	
otal soil porosity ( $\theta_T$ )=		0.36 cm <sup>3</sup> /cm <sup>3</sup> soil	I.			Sand=0.32 Silt=0.40	
ource width perpendicular to GW					1	Clay=0.36 Default=0.43	
flow direction in horizontal plane (S <sub>w</sub> )-		240 ft	-	7,315.20 cm	,	Zviauli 0.75	
ource width perpendicular to GW		23:					
flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	-	200 cm	(assuming comple	te mixing)	
alculated Parameters		DO NOT ENTER VALUES HE	RE!				
ongitudinal dispersivity	Ax=	1143 cm					
ransverse dispersivity	Ay=	381 cm					
ertical dispersivity	Az=	57.15 cm					
pecific discharge	U=	1.25499408 cm/day					
w/(4*SQRT(Ay*X))	B=	0.876356092					
d/(2*SQRT(Az*X))	C=	0.123696546					
rror function	erf(B)=	0.784785683 To determi					
rror function	erf(C)=	0.138867973 see F46 &	K46 in the li	near interpolation section.			
ctual B value=		0.876356092		Actual C value=	0.123696546		
Automatic calculations : Actual erf(B)		0.784785683		Actual erf(C)=	0.138867973		
Solutions							
,	C <sub>(x)</sub>	-					
3	0.00532	mg/l					
ñ	C <sub>source</sub>	- Conserver					
	0.00	mg/l					
omputation of erf(x)							
ource: Abramowitz, M. and I. A. Stegun,	1972, Handbook of N	Mathematical Functions, Dover Public	ations, New	York, page 299, formula 7.1.2	6		
aximum error in computation = 1.5 x 10 <sup>o</sup>	-7						
0.876356092	0.12369654						
0.3275911	0.327591						
= 0.254829592 = -0.284496736	0.25482959						
0.284496736 - 1.421413741	-0.28449673						
= 1.421413741	1.42141374 -1.45315202						
= 1.061405429	1.06140542						
1.001403429	1.00140342	2					
0.776948584	0.96105618						

### Electronic Filing Received F. Clerk's Office J. 28/2017-084) R. 343 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING

	Site Details			922	Sample Deta	ils
Site Name & Location:	Illico Independe Peoria, Illinois	ent Oil Co.			ple Location: Depth (feet):	
LUST Incident Number(s):	923441			intercent and a \$100000		
Exposure Pathway: Groundwater Classification:	Soil Component Class I	of Groundwater Ingestic	on		Analyte:	Benzene
						Donien
Concentration at the source (C <sub>sou</sub>	irce)=	0.0066 mg/L				
Distance along centerline of the		1000				
plume coming from the source	(X)=	13.00 ft	******	396.24 cm		
First order degradation constant (λ)=		0.0009 /day		if benzene, lambda=0.0009/day		
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	100	31.683 cm/day		
Hydraulic gradient (i)=		0.0143 m/m				Porosity Gravel=0.25
Fotal soil porosity $(\theta_1)$ =		0.36 cm <sup>3</sup> /cm <sup>3</sup> soi	a			Sand=0.32 Silt=0.40
Source width perpendicular to GW flow direction in horizontal plane $(S_w)$ =		240 ft	=	7,315.20 cm	2	Clay=0.36 Default=0.43
Source width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	¥ 7	200 cm	(assuming comple	te mixing)
Calculated Parameters		DO NOT ENTER VALUES	HERE!			
ongitudinal dispersivity	Ax=	39.624 cm				
ransverse dispersivity	Ay-	13.208 cm	22)			
ertical dispersivity	Az=	1.9812 cm				
pecific discharge	U=	1.25499408 cm/day				
w/(4*SQRT(Ay*X))	B=	25.27950265				
d/(2*SQRT(Az*X))	C=	3.568169604				
	erf(B)=			function values,		
error function	erf(C)=	0.999999548 see F46 &	K46 in t	he linear interpolation section.		
actual B value		25.27950265		Actual C value=	3.568169604	
Automatic calculations : Actual erf(B)		1		Actual erf(C)=	0.99999548	
Solutions						
	$C_{(x)}$					
	0.005	mg/l				
	C <sub>source</sub>					
(2)	Source	ii ve				
	0.00	lmg/l				
omputation of erf(x)	0.00	mg/l				
omputation of erf(x) ource: Abramowitz, M. and I. A. Stegun, 1	1972, Handbook of Ma		ublication	ns, New York, page 299, formula	7.1.26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, 1  faximum error in computation = 1.5 x 10^	1972, Handbook of Ma -7		ublication	ns, New York, page 299, formula	7.1.26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, I  laximum error in computation = 1.5 x 10^  = 25.27950265	1972, Handbook of Ma -7 3.568169604		ublication	ns, New York, page 299, formula	7.1.26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, I  laximum error in computation = 1.5 x 10^  = 25.27950265  0.3275911	1972, Handbook of Ma -7 3.568169604 0.3275911		ublication	ns, New York, page 299, formula	7.1.26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, I faximum error in computation = 1.5 x 10^  = 25.27950265  - 0.3275911  = 0.254829592	1972, Handbook of Ma -7 3.568169604 0.3275911 0.254829592		ublication	ns, New York, page 299, formula	7.1.26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, I faximum error in computation = 1.5 x 10^  = 25.27950265  - 0.3275911  = 0.254829592  - 0.284496736	1972, Handbook of Ma -7 3.568169604 0.3275911 0.254829592 -0.284496736		ublication	ns, New York, page 299, formula	7.1.26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, 1 laximum error in computation = 1.5 x 10^  = 25.27950265 - 0.3275911 = 0.254829592 - 0.284496736 = 1.421413741	1972, Handbook of Ma -7 3.568169604 0.3275911 0.254829592 -0.284496736 1.421413741		ublication	ns, New York, page 299, formula	7.1.26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, I laximum error in computation = 1.5 x 10^  = 25.27950265  - 0.3275911  = 0.254829592  - 0.284496736  - 1.421413741	1972, Handbook of Ma -7 3.568169604 0.3275911 0.254829592 -0.284496736 1.421413741 -1.453152027		ublication	ns, New York, page 299, formula	7.1.26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, I laximum error in computation = 1.5 x 10^  = 25.27950265 = 0.3275911 = 0.254829592 = -0.284496736 = 1.421413741 = -1.453152027	1972, Handbook of Ma -7 3.568169604 0.3275911 0.254829592 -0.284496736 1.421413741		ublication	ns, New York, page 299, formula	7.1.26	

## Electronic Filing Received EClerk's Office (228/2017-084) R. 344 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING RBCA EQUATION R26

	Site Details				Sample Deta	ils
Site Name & Location:	Illico Independe Peoria, Illinois	ent Oil Co.		The state of the s	nple Location: e Depth (feet):	
LUST Incident Number(s):	923441					
Exposure Pathway:	Sail Campanan	t of Groundwater Inges				
Groundwater Classification:	Class 1	t of Groundwater inges	ion		Amalutas	Dangera
Or other vater Classification.	Class I				Analyte:	Benzene
Concentration at the source (C <sub>sou</sub>	rce)=	0.0261 mg/L				
Distance along centerline of the						
plume coming from the source	(X)=	<b>66.00</b> ft	=	2,011.68 cm		
First order degradation constant $(\lambda)$ =		0.0009 /day		if benzene, lambda=0.0009/da	ıy	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	=	31.683 cm/day	,	
Hydraulic gradient (i)=		0.0143 m/m				Porosity Gravel=0.25
Cotal soil porosity (θ <sub>T</sub> )=		0.36 cm <sup>3</sup> /cm	soil			Sand=0.32 Silt=0.40 Clay=0.36
Source width perpendicular to GW flow direction in horizontal plane $(S_w)$ =		240 ft	=	7,315.20 cm		Default=0.43
Source width perpendicular to GW flow direction in vertical plane $(S_d)$ =		6.56 ft	=	200 cm	(assuming comple	ete mixing)
Calculated Parameters		DO NOT ENTER VALUE	S HERE			
ongitudinal dispersivity	Ax=	201.168 cm				
ransverse dispersivity	Ay=	67.056 cm				
ertical dispersivity	Az=	10.0584 cm				
pecific discharge	U=	1.25499408 cm/day				
w/(4*SQRT(Ay*X))	B=	4.979295977				
d/(2*SQRT(Az*X))	C=	0.702821286				
rror function	erf(B)=			r function values,		
rror function	erf(C)=	0.679747611 see F46	k K46 in	the linear interpolation section.		
ctual B value=		4.979295977		Actual C value=	0.702821286	
Automatic calculations : Actual erf(B)		1		Actual erf(C)=	0.679747611	
Solutions						
]	C <sub>(x)</sub> 0.005 C <sub>source</sub> 0.00	mg/l				
omputation of erf(x)		■ pro ne Tabrico				
ource: Abramowitz, M. and I. A. Stegun,	1972, Handbook of M	athematical Functions, Dover	Publication	ons, New York, page 299, formu	la 7.1.26	
aximum error in computation = 1.5 x 10 <sup>-2</sup>						
4.979295977 0.3275911	0.702821286					
= 0.3275911 = 0.254829592	0.3275911 0.254829592					
-0.284496736	-0.284496736					
1.421413741	1.421413741					
-1.453152027	-1.453152027					
1.061405429	1.061405429					
0.380058621	0.812850848	(2)		_ ^	20	
f(x)=	0.679747611			y. Therefore, not re	A.	

### Electronic Filing CReceived F. Clerk's Office J. 28/2017-084) R. 345 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING

	Site Details				Sample Deta	rils
Site Name & Location:	Illico Independe Peoria, Illinois	ent Oil Co.		90	ample Location: ple Depth (feet):	
LUST Incident Number(s):	923441					
Exposure Pathway:	Soil Componen	t of Groundwater Ingest	ion			
Groundwater Classification:	Class I	tor Groundwater Ingest	ion		Analyte:	Benzene
100 - 100					7 Amary ter	Benzene
Concentration at the source (C <sub>sou</sub>	urce)=	0.2740 mg/L				
Distance along centerline of the						
plume coming from the source	(X)=	166.00 ft	==	5,059.68 cm		
First order degradation constant (λ)=		0.0009 /day		if benzene, lambda=0.0009	/day	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	=	31.683 cm/day		
Hydraulic gradient (i)=		0.0143 m/m				Porosity Gravel=0.25
Total soil porosity (θ <sub>T</sub> )=		0.36 cm <sup>3</sup> /cm <sup>3</sup>	soil			Sand=0.32 Silt=0.40
Source width perpendicular to GW flow direction in horizontal plane $(S_w)$ =		240 ft	=	7,315.20 cm		Clay=0.36 Default=0.43
Source width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	=	200 cm	(assuming comple	ete mixing)
Calculated Parameters		DO NOT ENTER VALUE	S HERE	g.		
ongitudinal dispersivity	Ax=	505.968 cm				
ransverse dispersivity	Ay=	168.656 cm				
/ertical dispersivity	Az=	25.2984 cm				
pecific discharge	U=	1.25499408 cm/day				
w/(4*SQRT(Ay*X))	B=	1.979720087				
d/(2*SQRT(Az*X))	C=	0.279434969				
	erf(B)=	0.994885612 To determ				
error function	erf(C)=	0.307290379 see F46 8	& K46 in	the linear interpolation section	n.	
actual B value=		1.979720087		Actual C value=	0.279434969	
Automatic calculations : Actual erf(B)		0.994885612		Actual erf(C)=	0.307290379	
Solutions						
	$C_{(x)}$					
	0.005	mg/l				
	C <sub>source</sub>	<b>■</b> 3 (103)				
ì	0.00	mg/l				
omputation of erf(x)	0.00	ing i				
ource: Abramowitz, M. and I. A. Stegun,	1972, Handbook of M	athematical Functions. Dover	Publication	ons. New York name 299 for	mula 7.1.26	
laximum error in computation = 1.5 x 10 <sup>^</sup>	-7	, 20101		, , page 277, 101		
1.979720087	0.279434969					
0.3275911	0.3275911					
0.254829592	0.254829592					
2= -0.284496736	-0.284496736					
3= 1.421413741 ↓= -1.453152027	1.421413741					
-1.453152027 i= 1.061405429	-1.453152027 1.061405429					
0.606597838	0.916136491					
f(x) = 0.994885612	0.307290379					

Site Name & Location:					ils
	Illico Independe	nt Oil Co.		ample Location:	
	Peoria, Illinois		Sam	ple Depth (feet):	2'-4'
LUST Incident Number(s):	923441				
Exposure Pathway:		of Groundwater Ingestion			
Groundwater Classification:	Class I			Analyte:	Benzene
Concentration at the source (C <sub>sou</sub>	irce)=	0.0271 mg/L			
Distance along centerline of the					
plume coming from the source	(X)=	<b>67.00</b> ft =	2,042.16 cm		
irst order degradation constant (λ)-		0.0009 /day	if benzene, lambda=0.0009	/day	
equifer hydraulic conductivity (K)=		3.667E-04 cm/sec =	31.683 cm/day		Porosity
lydraulic gradient (i)-		0.0143 m/m			Gravel 0.25
Total soil porosity $(\theta_T)$ =		0.36 cm <sup>3</sup> /cm <sup>3</sup> soil			Sand=0.32 Silt=0.40 Clay=0.36
ource width perpendicular to GW					Default=0.43
flow direction in horizontal plane (S <sub>w</sub> )=		240 ft =	7,315.20 cm		
ource width perpendicular to GW					
flow direction in vertical plane $(S_d)$		6.56 ft =	200 cm	(assuming comple	ete mixing)
Calculated Parameters		DO NOT ENTER VALUES HE	RE!		
ongitudinal dispersivity	Ax	204.216 cm			
ransverse dispersivity	Ay-	68.072 cm			
ertical dispersivity	Az=	10.2108 cm			
pecific discharge	U=	1.25499408 cm/day			
w/(4*SQRT(Ay*X))	B=	4.904978127			
d/(2*SQRT(Az*X))	C	0.692331416			
error function	erf(B)		error function values,		
error function	erf(C)=		in the linear interpolation section	n.	
actual B value=		4.904978127	Actual C value=	0.692331416	i e
		4,904978127			
Automatic calculations : Actual erf(B)		1	Actual erf(C)=	0.672471637	
Solutions					
	C <sub>(x)</sub>	1			
	0.005	mg/l			
	C <sub>source</sub>				
	0.00	mg/l			
computation of erf(x) ource: Abramowitz, M. and I. A. Stegun,	1972, Handbook of M	athematical Functions, Dover Public	cations, New York, page 299, for	mula 7.1.26	
faximum error in computation = 1.5 x 10	Y^-7		00.75		
4.904978127					
0.3275911					
0.34/3911	0.254829592				
1= 0.254829592					
	-0.284496736	M.			
1= 0.254829592					
1= 0.254829592 2= -0.284496736	1.421413741				
1= 0.254829592 20.284496736 3= 1.421413741 41.453152027	1.421413741 -1.453152027				
1= 0.254829592 20.284496736 3= 1.421413741 41.453152027	1.421413741 -1.453152027 1.061405429		essary Therefore, not		

### Electronic Filing Received Clerk's Office 7/28/2017-084) R. 347 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING

ON NEWS OF THE PROPERTY OF THE	Site Details				Sample Det	
Site Name & Location:	Illico Independ	lent Oil Co.			mple Location	
	Peoria, Illinois			Samp	le Depth (feet):	4'-6'
LUST Incident Number(s):	923441					
Exposure Pathway:		nt of Groundwater Ingestio	n	1		
Groundwater Classification:	Class I				Analyte:	Benzene
		3/				
Concentration at the source (C <sub>sou</sub>	irce)=	0.0689 mg/L				
Distance along centerline of the		343-44				
plume coming from the source	(X)=	103.00 ft		3,139.44 cm		
First order degradation constant $(\lambda)$		0.0009 /day		if benzene, lambda=0.0009/d	ay	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec =		31.683 cm/day		
Hydraulic gradient (i)=		0.0143 m/m				Porosity Gravel=0.25
Total soil porosity $(\theta_T)$		0.36 cm <sup>3</sup> /cm <sup>3</sup> soil				Sand=0.32 Silt=0.40
ource width perpendicular to GW						Clay=0.36 Default=0.43
flow direction in horizontal plane (S <sub>w</sub> )=		240 ft =		7,315.20 cm		
ource width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft =		200 cm	(assuming compl	ete mixing)
Calculated Parameters		DO NOT ENTER VALUES E	HERE!			
ongitudinal dispersivity	Ax=	313.944 cm				
ransverse dispersivity	Ay=	104.648 cm				
ertical dispersivity	Az=	15.6972 cm				
pecific discharge	U=	1.25499408 cm/day				
w/(4*SQRT(Ay*X))	<b>B</b> =	3.19061684				
d/(2*SQRT(Az*X))	C=	0.450351503				
	erf(B)=	0.999993579 To determin				
rror function	erf(C)=	0.475805709 see F46 & k	<46 in 1	the linear interpolation section.		
ctual B value=		3.19061684		Actual C value=	0.450351503	i e
Automatic calculations : Actual erf(B)		0.999993579		Actual erf(C)=	0.475805709	
Solutions						
	C <sub>(x)</sub>					
	C <sub>(x)</sub>	mg/l				
	0.0	]mg/l				
		]mg/l ]mg/l				
	0.0 C <sub>source</sub>					
omputation of erf(x) ource: Abramowitz, M. and I. A. Stegun, 1	0.0 C <sub>source</sub> 0.00	]mg/l	blicatio	ons, New York, page 299, form	ula 7.1.26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, 1 aximum error in computation = 1.5 x 10^	C <sub>source</sub> 0.00  1972, Handbook of M	mg/l	blicatio	ons, New York, page 299, form	ula 7.1.26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, 1 aximum error in computation = 1.5 x 10^  3.19061684	0.0 C <sub>source</sub> 0.00 1972, Handbook of M 7 0.450351503	mg/l  fathematical Functions, Dover Pub	blicatio	ons, New York, page 299, forms	ula 7.1.26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, 1 aximum error in computation = 1.5 x 10^  3.19061684 0.3275911	0.0 C <sub>source</sub> 0.00 1972, Handbook of M 7 0.450351503 0.3275911	mg/l fathematical Functions, Dover Put	blicatio	ons, New York, page 299, formi	ula 7.1.26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, 1 aximum error in computation = 1.5 x 10^  3.19061684 - 0.3275911 = 0.254829592	0.00 C <sub>source</sub> 0.00 1972, Handbook of M 7 0.450351503 0.3275911 0.254829592	mg/l fathematical Functions, Dover Put	blicatio	ons, New York, page 299, formi	ula 7.1.26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, 1 aximum error in computation = 1.5 x 10^  3.19061684 0.3275911	0.00 C <sub>source</sub> 0.00 1972, Handbook of M -7 0.450351503 0.3275911 0.254829592 -0.284496736	mg/l fathematical Functions, Dover Put 3	blicatio	ons, New York, page 299, formi	ula 7.1.26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, 1 aximum error in computation = 1.5 x 10^  3.19061684  0.3275911  0.254829592  -0.284496736	0.00 C <sub>source</sub> 0.00 1972, Handbook of M 7 0.450351503 0.3275911 0.254829592	mg/l fathematical Functions, Dover Put 3	blicatio	ons, New York, page 299, form	ula 7.1.26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, 1 aximum error in computation = 1.5 x 10^ 3.19061684 - 0.3275911 = 0.254829592 - 0.284496736 1.421413741	0.00 C <sub>source</sub> 0.00 1972, Handbook of M 0.450351503 0.3275911 0.254829592 -0.284496736 1.421413741	mg/l fathematical Functions, Dover Put 3 1 2 5	blicatio	ons, New York, page 299, formi	ula 7.1.26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, 1 aximum error in computation = 1.5 x 10^ 3.19061684 - 0.3275911 = 0.254829592 - 0.284496736 = 1.421413741 = -1.453152027	0.00 C <sub>source</sub> 0.00 1972, Handbook of M 7 0.450351503 0.3275911 0.254829592 -0.284496736 1.421413741 -1.453152027	mg/l dathematical Functions, Dover Put		ons, New York, page 299, form		

### Electronic Filling Received Clerk's Office 1728/2017 2017-084) R. 348 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING

	Site Details			Sample Details
Site Name & Location:	Illico Independe	ent Oil Co.	100000	mple Location: MW-13
	Peoria, Illinois		Samp	le Depth (feet): 4'-6'
LUST Incident Number(s):	923441			
Exposure Pathway:	Soil Componen	t of Groundwater Ingestion		
Groundwater Classification:	Class I	tor Groundwater Ingestion		Analyte: Benzene
	***	* ***		The state of the s
Concentration at the source (C <sub>sou</sub>	rce)=	0.0060 mg/L		
Distance along centerline of the				
plume coming from the source	(X)=	8.50 ft =	259.08 cm	
First order degradation constant (λ)=		0.0009 /day	if benzene, lambda=0.0009/d	lay
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec =	31.683 cm/day	
Hydraulic gradient (i)		0.0143 m/m		Porosity Gravel 0.25
Γotal soil porosity (θ <sub>T</sub> )=		0.36 cm³/cm³ soil		Sand=0.32 Silt=0.40
Source width perpendicular to GW flow direction in horizontal plane ( $S_w$ )=		240 ft =	7,315.20 cm	Clay=0.36 Default=0.43
Source width perpendicular to GW flow direction in vertical plane $(S_d)$ =		6.56 ft =	200 cm	(assuming complete mixing)
Calculated Parameters		DO NOT ENTER VALUES HEI	RE!	
ongitudinal dispersivity	Ax=	25.908 cm		
Fransverse dispersivity	Ay=	8.636 cm		
/ertical dispersivity	Az=	1.2954 cm		
specific discharge	U=	1.25499408 cm/day		
w/(4*SQRT(Ay*X))	B=	38.66276877		
d/(2*SQRT(Az*X))	C=	5.45720057		
error function	erf(B)=		error function values,	
Error function	erf(C)=	1 see F46 & K46	in the linear interpolation section.	
actual B value		38.66276877	Actual C value=	5.45720057
Automatic calculations : Actual erf(B)		1	Actual erf(C)=	1
Solutions				
	C <sub>(x)</sub>			
	0.0	mg/l		
· ·	C <sub>source</sub>	=0. See0		
Ĭ	0.00	mg/l		
computation of erf(x)				
ource: Abramowitz, M. and I. A. Stegun,	1972, Handbook of M	athematical Functions, Dover Public	ations, New York, page 299, form	ula 7.1.26
faximum error in computation = 1.5 x 10°	<b>\-7</b>		renerosa estato esta era 2003 en 1908 (1908 (1908) en 1909 (1908) en 1909 (1908) en 1909 (1908) en 1909 (1908)	este de artiste modelle
38.66276877	5.45720057			
0.3275911	0.3275911			
	0.254829592			
1= 0.254829592 2= -0.284496736	-() 7X4496746			
2= -0.284496736	-0.284496736 1.421413741			
2= -0.284496736	-0.284496736 1.421413741 -1.453152027			
2= -0.284496736 3= 1.421413741	1.421413741			
2= -0.284496736 3= 1.421413741 4= -1.453152027	1.421413741 -1.453152027		Therefore, not review	(F)

## Electronic Filing: Received Clerk's Office (J. 26/2017-084) R. 349 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING

	Site Details	511			Sample Deta	ils
Site Name & Location:	Illico Independo Peoria, Illinois	ent Oil Co.			ple Location: Depth (feet):	
LUST Incident Number(s):	923441			1300 1607 1 1002		
Exposure Pathway:		t of Groundwater Ingestion				
Groundwater Classification:	Class I	tor Groundwater ingestion			Analyte:	Benzene
Concentration at the source (C <sub>sou</sub>	rce)=	0.0180 mg/L				
Distance along centerline of the						
plume coming from the source	(X)=	<b>53.00</b> ft	= 1,6	15.44 cm		
First order degradation constant $(\lambda)$		0.0009/day	if benzene,	lambda=0.0009/day	,	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec =		31.683 cm/day	ğ.	
Hydraulic gradient (i)=		0.0143 m/m				Porosity Gravel=0.25
Total soil porosity (θ <sub>T</sub> )=		0.36 cm <sup>3</sup> /cm <sup>3</sup> soil				Sand=0.32 Silt=0.40
Source width perpendicular to GW flow direction in horizontal plane $(S_w)$ =		240 ft =	7	,315.20 cm	l	Clay=0.36 Default=0.43
fource width perpendicular to GW flow direction in vertical plane $(S_d)$ =		6.56 ft =		200 cm	(assuming comple	te mixing)
Calculated Parameters		DO NOT ENTER VALUES H	ERE!			
ongitudinal dispersivity	Ax=	161.544 cm				
ransverse dispersivity	Ay-	53.848 cm				
ertical dispersivity	Az=	8.0772 cm				
pecific discharge	U=	1.25499408 cm/day				
w/(4*SQRT(Ay*X))	B=	6.200632726				
d/(2*SQRT(Az*X))	C=	0.875211412				
	erf(B)=		error function val			
rror function	erf(C)=	0.784185842 see F46 & K4	6 in the linear inte	rpolation section.		
ctual B value=		6.200632726	Actual C va	lue=	0.875211412	
Automatic calculations : Actual erf(B)		1	Actual erf(C	E)=	0.784185842	
Solutions						
	$C_{(x)}$	•				
9	0.0	mg/l				
	C <sub>source</sub>					
	0.00	mg/l				
omputation of erf(x)						
ource: Abramowitz, M. and I. A. Stegun,	1972, Handbook of M	athematical Functions, Dover Publ	ications, New Yor	k, page 299, formul	a 7.1.26	
faximum error in computation = 1.5 x 10 <sup>o</sup> 6.200632726	-7 0.875211412					
0.3275911	0.3275911					
= 0.254829592	0.254829592					
-0.284496736	-0.284496736					
1.421413741	1.421413741					
-1.453152027	-1.453152027					
1.061405429	1.061405429					
0.329894503 f(x)=	0.777175011 0.784185842	3	There	not reviewe	.1	

## Electronic Piling Received Clerk's Office 7/28/2017-084) R. 350 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING RBCA EQUATION R26

	Site Details				Sample Deta	
Site Name & Location:	Illico Independo Peoria, Illinois	ent Oil Co.		- 1	Sample Location: nple Depth (feet):	
LUST Incident Number(s):	923441					
Exposure Pathway:	Soil Componen	t of Groundwater Inges	tion			
Groundwater Classification:	Class I	tor Groundwater inges	tion		Analyte:	Renzene
		***			Analyte.	Delizelle
Concentration at the source ( $C_{sou}$	rce)=	0.0110 mg/L				
Distance along centerline of the						
plume coming from the source	(X)=	35.50 ft	=	1,082.04 cm		
First order degradation constant ( $\lambda$ )=		0.0009 /day		if benzene, lambda=0.000	9/day	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	=	31.683 cm/da	у	
Hydraulic gradient (i)=		0.0143 m/m				Porosity Gravel-0.25
						Sand=0.32
Total soil porosity $(\theta_T)$ =		0.36 cm <sup>3</sup> /cm	soil			Silt=0.40
Source width perpendicular to GW						Clay=0.36 Default=0.43
flow direction in horizontal plane (S <sub>w</sub> )-		240 ft	=	7,315.20 cm		Delaun V.43
Source width perpendicular to GW		281				
flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	=	200 cm	(assuming comple	ete mixing)
Calculated Parameters		DO NOT ENTER VALUE	S HERE			
ongitudinal dispersivity	Ax=	108.204 cm				
Transverse dispersivity	Ay=	36.068 cm				
Vertical dispersivity	Az=	5.4102 cm				
specific discharge	U=	1.25499408 cm/day				
Sw/(4*SQRT(Ay*X))	B=	9.257282662				
d/(2*SQRT(Az*X))	C=	1.306653658	16	2 8 =		
Error function Error function	erf(B)=			or function values,		
arror function	erf(C)=	0.935381476 see F46	& K46 in	the linear interpolation section	on.	
actual B value=		9.257282662		Actual C value=	1.306653658	
Automatic calculations : Actual erf(B)		1		Actual erf(C)=	0.935381476	
Solutions						
	$C_{(x)}$					
	0.00499	mg/l				
	C <sub>source</sub>	<del>-</del> 2				
Ĭ	0.00	mg/l				
omputation of erf(x)		<u> </u>				
ource: Abramowitz, M. and I. A. Stegun, 1	972. Handbook of M	athematical Functions Dovor	Publicati	ons New York ness 200 f	mula 7 1 26	
laximum error in computation = 1.5 x 10 <sup>^</sup>	-7	and a discious, Dover	. uoncali	one, 14cw 101k, page 299, 101	inula 7.1.20	
9.257282662	1.306653658					
0.3275911	0.3275911					
0.254829592 -0.284496736	0.254829592					
-0.284496736 - 1.421413741	-0.284496736 1.421413741					
-1.453152027	-1.453152027					
1.061405429	1.061405429					
0.247978762	0.700256521		120	ce, not reviewed.		

### Electronic Filing Received Electron Office (7-128-2017-084) R. 351 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING

	Site Details			Sample Details	
Site Name & Location:	Illico Independ Peoria, Illinois	ent Oil Co.		Sample Location: SB-10 Sample Depth (feet): 0'-4'	
LUST Incident Number(s):	923441				
Exposure Pathway: Groundwater Classification:	Soil Componen Class I	nt of Groundwater Inges	tion		
Groundwater Classification:	Class I		-1:1:	Analyte: Benzene	e
Concentration at the source (C <sub>sou</sub>	arce)=	0.1290 mg/L			
Distance along centerline of the					
plume coming from the source	(X)=	129.50 ft	=	3,947.16 cm	
First order degradation constant (λ)=		0.0009 /day		if benzene, lambda=0.0009/day	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	=	31.683 cm/day	
Hydraulic gradient (i)=		0.0143 m/m			Porosity Gravel-0.25
Total soil porosity (θ <sub>T</sub> )=		0.36 cm <sup>3</sup> /cm	3 soil		Sand=0.32 Silt=0.40 Clay=0.36
Source width perpendicular to GW flow direction in horizontal plane ( $S_w$ )=		240 ft		7,315.20 cm	Default=0.43
Source width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	=	200 cm (assuming complete mixing)	
Calculated Parameters		DO NOT ENTER VALUE	ES HERF	EI	
ongitudinal dispersivity	Ax=	394.716 cm			
Fransverse dispersivity	Ay=	131.572 cm			
Vertical dispersivity	Az=	19.7358 cm			
Specific discharge	U=	1.25499408 cm/day			
Sw/(4*SQRT(Ay*X))	B=	2.537710691			
6d/(2*SQRT(Az*X))	C=	0.358194632			
	erf(B)=	0.999667803 To deter	rmine err	or function values	
	erf(C)=			n the linear interpolation section.	
actual B value=		2.537710691	It is in	Actual C value= 0.358194632	
Automatic calculations : Actual erf(B)		0.999667803		Actual erf(C)= 0.387539031	
Solutions					
20	$C_{(x)}$				
	0.00500	mg/l			
	C <sub>source</sub>				
İ	0.00	mg/l			
omputation of erf(x)		<b>-</b> ,			
omputation of cri(x)			awaranan sa	ions New York page 200 formula 7 1 26	
ource: Abramowitz, M. and I. A. Stegun, I		Mathematical Functions, Dover	Publicati	ions, New York, page 255, formula 7.1.20	
ource: Abramowitz, M. and I. A. Stegun, I faximum error in computation = 1.5 x 10^	`-7		Publicati	ions, new Tork, page 277, formula 7.1.20	
ource: Abramowitz, M. and I. A. Stegun, I faximum error in computation = 1.5 x 10^ = 2.537710691	`-7 0.358194632	2	Publicati	ions, New Tork, page 233, formula 7.1.20	
ource: Abramowitz, M. and I. A. Stegun, I faximum error in computation = 1.5 x 10^ = 2.537710691 = 0.3275911	`-7	2 1	Publicati	ions, New Tork, page 233, formula 7.1.20	
ource: Abramowitz, M. and I. A. Stegun, I faximum error in computation = 1.5 x 10^ = 2.537710691 = 0.3275911	0.358194632 0.3275911	2 1 2	Publicat	ions, New Tork, page 233, formula 7.1.20	
ource: Abramowitz, M. and I. A. Stegun, I faximum error in computation = 1.5 x 10^ = 2.537710691 = 0.3275911 1= 0.254829592 2= -0.284496736	0.358194632 0.3275911 0.254829592	2 1 2 5	Publicat	ions, New Tork, page 233, formula 7.1.20	
ource: Abramowitz, M. and I. A. Stegun, I faximum error in computation = 1.5 x 10^ = 2.537710691 = 0.3275911 1= 0.254829592 2= -0.284496736 3= 1.421413741	0.358194632 0.3275911 0.254829592 -0.284496736	2 1 2 5	Publicat	ions, New Tork, page 233, formula 7.1.20	
ource: Abramowitz, M. and I. A. Stegun, I faximum error in computation = 1.5 x 10^ = 2.537710691 = 0.3275911 1= 0.254829592 2= -0.284496736 3= 1.421413741 4= -1.453152027	0.358194632 0.3275911 0.254829592 -0.284496736 1.421413741	2 1 2 5 1	Publicat	ions, New Tork, page 233, formula 7.1.20	
ource: Abramowitz, M. and I. A. Stegun, I flaximum error in computation = 1.5 x 10^0 = 2.537710691 = 0.3275911 1= 0.254829592 2= -0.284496736 3= 1.421413741 4= -1.453152027	0.358194632 0.3275911 0.254829592 -0.284496736 1.421413741 -1.453152027	2 1 2 2 5 1 7		serefore, not reviewed.	

	Site Details			Sample Details
Site Name & Location:	Illico Independ Peoria, Illinois	ent Oil Co.	The state of the s	ample Location: SB-10 ple Depth (feet): 4'-8'
LUST Incident Number(s):	923441			
Exposure Pathway:	Soil Componen	t of Groundwater Ingestion		
Groundwater Classification:	Class I	tor choundwater ingestion		Analyte Days
Groundwater Classification.	Class I			Analyte: Benzene
Concentration at the source (C <sub>sou</sub>	urce)=	0.0230 mg/L		
Distance along centerline of the				
plume coming from the source	(X)=	61.50 ft =	1,874.52 cm	
First order degradation constant $(\lambda)$ =		0.0009 /day	if benzene, lambda=0.0009/	day
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec =	31.683 cm/day	
Hydraulic gradient (i)=		0.0143 m/m		Porosity Gravel=0.25
Total soil porosity $(\theta_T)$ =		0.36 cm <sup>3</sup> /cm <sup>3</sup> soil		Sand=0.32 Silt=0.40
Source width perpendicular to GW			0-00 No. 163 NO.	Clay=0.36 Default=0.43
flow direction in horizontal plane (S <sub>w</sub> )=		240 ft =	7,315.20 cm	
Source width perpendicular to GW flow direction in vertical plane $(S_d)$ =		6.56 ft =	200 cm	(assuming complete mixing)
Calculated Parameters		DO NOT ENTER VALUES HE	RE!	
ongitudinal dispersivity	Ax=	187.452 cm		
Fransverse dispersivity	Ay-	62.484 cm		
Vertical dispersivity	Az=	9.3726 cm		
Specific discharge	U=	1.25499408 cm/day		
Sw/(4*SQRT(Ay*X))	B=	5.343634707		
Sd/(2*SQRT(Az*X))	C=	0.754247233		
Error function	erf(B)=		error function values,	
Error function	erf(C)=	0.713877548 see F46 & K46	in the linear interpolation section	1.
Actual B value		5.343634707	Actual C value=	0.754247233
Automatic calculations : Actual erf(B)		1	Actual erf(C)=	0.713877548
Solutions				
	$C_{(x)}$			
	0.00494	mg/l		
	C <sub>source</sub>	-		
9	0.00	mg/l		
computation of erf(x)		1 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		
ource: Abramowitz, M. and I. A. Stegun,		athematical Functions, Dover Public	ations, New York, page 299, forn	nula 7.1.26
faximum error in computation = $1.5 \times 10^{\circ}$	<b>\-7</b>			es possibilitarios distribus
= 5.343634707 = 0.3275911	0.754247233			
= 0.3275911 l= 0.254829592	0.3275911 0.254829592			
2= -0.284496736	-0.284496736			
3= 1.421413741	1.421413741			
-1.453152027	-1.453152027			
i= 1.061405429	1.061405429			
0.363566668	0.801870166	11 - T		
f(x)=	0.713877548	Notucina las	efore, not reviewed.	

### Electronic Filing Received Clerk's Office 7/28/2017-084) R. 353 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING

	Site Details			Sample Details			
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois			Sample Location: SB-17 Sample Depth (feet): 6'-7'			
LUST Incident Number(s):	923441						
Exposure Pathway:	Soil Componen	t of Groundwater Ingest	ion				
Groundwater Classification:	Class I		MEJA.	ACRIC LINES	Analyte:	Benzene	
Concentration at the source (C <sub>sou</sub>	rce)=	0.0200 mg/L					
Distance along centerline of the		N		V			
plume coming from the source	(X)=	<b>56.50</b> ft	=	1,722.12 cm			
First order degradation constant (λ)=		0.0009/day		if benzene, lambda=0.0009/day			
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	=	31.683 cm/day	1		
Hydraulic gradient (i)=		0.0143 m/m				Porosity Gravel=0.25	
Γotal soil porosity (θ <sub>T</sub> )=		0.36 cm <sup>3</sup> /cm <sup>3</sup>	soil			Sand=0.32 Silt=0.40	
Source width perpendicular to GW flow direction in horizontal plane $(S_w)$ =		240 ft	-	7,315.20 cm		Clay=0.36 Default=0.43	
		240 11		7,513.20 Cm			
Source width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	=	200 cm	assuming comple	ete mixing)	
Calculated Parameters		DO NOT ENTER VALUES	HERE				
ongitudinal dispersivity	Ax=	172.212 cm					
ransverse dispersivity	Ay-	57.404 cm					
ertical dispersivity	Az=	8.6106 cm					
pecific discharge	U=	1.25499408 cm/day					
w/(4*SQRT(Ay*X))	B=	5.816522735					
d/(2*SQRT(Az*X)) Error function	C=	0.820994776					
	erf(B)= erf(C)=			r function values, the linear interpolation section.			
actual B value	cii(c)	5.816522735	c K40 III	Actual C value=	0.820994776		
		3.610322733		SHIPPER CRASSING IN IN	0.820994776		
Automatic calculations : Actual erf(B)		1		Actual erf(C)=	0.754383174		
Solutions							
	$C_{(x)}$	-					
	0.0050	mg/l					
82	C <sub>source</sub>	±6					
	0.00	mg/l					
omputation of erf(x)							
ource: Abramowitz, M. and I. A. Stegun, I		athematical Functions, Dover	Publicati	ons, New York, page 299, formula	7.1.26		
laximum error in computation = 1.5 x 10 <sup>2</sup> 5.816522735							
5.816522735 0.3275911	0.820994776 0.3275911						
0.254829592	0.254829592						
-0.284496736	-0.284496736						
1.421413741	1.421413741						
-1.453152027	-1.453152027						
1.061405429	1.061405429						
Control of the Contro							
0.34418182 f(x)=	0.788052753 0.754383174						

## Electronic Filing Received Cherk's Office 728/2017-084) R. 354 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING RBCA EQUATION R26

	Site Details			Sample Details			
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois		Sa Samp	MW-7 7'-9'			
LUST Incident Number(s):	923441						
Exposure Pathway:	Soil Componen	t of Groundwater Ingesti	on	23			
Groundwater Classification:	Class I	tor Groundwater Ingesti	Oli	1	Analyte:	Renzene	
			_		, many ter	Delizelle	
Concentration at the source (C <sub>sou</sub>	irce)=	0.2120 mg/L					
Distance along centerline of the		092					
plume coming from the source	(X)=	153.00 ft	===	4,663.44 cm			
First order degradation constant $(\lambda)$ =		0.0009 /day		if benzene, lambda=0.0009/	day		
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	in .	31.683 cm/day			
Hydraulic gradient (i)=		0.0143 m/m				Porosity Gravel=0.25	
Γotal soil porosity (θ <sub>T</sub> )=		0.36 cm <sup>3</sup> /cm <sup>3</sup> sc	il			Sand=0.32 Silt=0.40	
Source width perpendicular to GW flow direction in horizontal plane (S <sub>w</sub> )-		240	22	7.215.20		Clay=0.36 Default=0.43	
now direction in nonzontal plane (S <sub>w</sub> )		240 ft	=	7,315.20 cm			
Source width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )-		6.56 ft	in .	200 cm	(assuming comple	ete mixing)	
Calculated Parameters		DO NOT ENTER VALUES	HERE!				
ongitudinal dispersivity	Ax=	466.344 cm					
Transverse dispersivity	Ay=	155.448 cm					
Vertical dispersivity	Az=	23.3172 cm					
Specific discharge	U=	1.25499408 cm/day					
Sw/(4*SQRT(Ay*X))	B=	2.147931598					
sd/(2*SQRT(Az*X))	C=	0.303177809					
error function	erf(B)=	0.997615428 To determ					
Error function	erf(C)=	0.331900704 see F46 &	K46 in 1	the linear interpolation section	ū.		
Actual B value=		2.147931598		Actual C value=	0.303177809		
Automatic calculations : Actual erf(B)		0.997615428		Actual erf(C)=	0.331900704		
Solutions							
15	C <sub>(x)</sub>						
	0.0050	mg/l					
22	C <sub>source</sub>						
ï	0.00	mg/l					
Computation of erf(x)	0.00	J.i.ig.i					
ource: Abramowitz, M. and I. A. Stegun,	1972, Handbook of M	athematical Functions, Dover P	ublicatio	ons, New York, page 299, form	nula 7.1.26		
faximum error in computation = 1.5 x 10 <sup>4</sup>	<b>-7</b>			, Pub. a.r., Ioni			
2.147931598	0.303177809						
0.3275911	0.3275911						
1= 0.254829592 2= -0.284496736	0.254829592 -0.284496736						
3= 1.421413741	1.421413741						
4= -1.453152027	-1.453152027						
5= 1.061405429	1.061405429						
0.586977341	0.909654604	N2 \$2557	<b>Assertation</b>	efore, not reviewed			

The Agency is authorized to a live the monitor under section of the North and an additional civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$50,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false material statement or representation 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 5/57.17). This form has been approved by the Forms Management Center.

# Illinois Environmental Protection Agency Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations

A.	Site	Identification

	IEMA Incident # (6- or 8-digit)	92344	1IE	PA LPC # (10-digit	): _1430655263
	Site Name: Illico Independent				
	Site Address (not a P.O. Box)	: 3712 University	Street		
	City: Peoria	County:	Peoria	Zip Code:	61614
	Leaking UST Technical File				
В.	Tier 2 Calculation Informa	tion			
	Contact Information for Individu Marlin Environmental, Inc. Pho			Joe Buhlig - Proj	ect Manager
	Land Use: Not App	plicable	Soil Type:	CI	ay
	Groundwater:	If Yes, then Specif 26? ⊠ Yes □ N	lo Specify C <sub>s</sub>	ource from S18/S28	
	- Mass Limit Acreage other th		neer IR on son	Name of the same o	

- 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
ATc	=	70	уг	d	=	cm
$AT_{\mathfrak{q}}$	=		yr	Dair	=	cm <sup>2</sup> /s
BW	=	70	kg	Dwater	=	cm²/s
$C_{\text{source}}$	=	see page 3	mg/L	D <sub>s</sub> eff	=	cm²/s
C <sub>(x)</sub>			mg/L	ED	==	yr
C <sub>(x)</sub> /C <sub>source</sub>	=		unitless	EF	=	d/yr

Incident#: Electronic Filing: he served, Glerk's Office 17/278/2017/01840 pro 356

Symbol			Unit	Symbol			Unit
erf	=		unitless	RAF <sub>d</sub> (PNAs)	=	0.05	unitless
f <sub>oc</sub>	=		g/g	RAF <sub>d</sub> (inorganics)	=	0	unitless
$GW_{comp}$	=		mg/L	RAF <sub>0</sub>	=	1.0	unitless
GW <sub>source</sub>	=		mg/L	RBSL <sub>air</sub> (carcinogenic)	=		μg/m³
H'	=		cm <sup>3</sup> <sub>water</sub> /cm <sup>3</sup> air	RBSL <sub>air</sub> (noncarcinogenic)	=		µg/m³
ľ	=	0.0273 0.01426 use	cm/cm	RfDi			mg/kg-d
ſ	=	30	cm/yr	RfD。	=		mg/kg-d
IR <sub>air</sub>	=	20	m³/d	SA	=	3,160	cm²/d
IR <sub>soil</sub>	=		mg/d	S <sub>d</sub>	=	200	cm
IR <sub>w</sub>	=		L/d	S <sub>w</sub>	=	7,315.2 240', but not	cm t sensitive
К	=	31.683	cm/d for R15, R19, R26; cm/yr for R24	SFi	=	10,000,710	(mg/kg-d) <sup>-1</sup>
K <sub>oc</sub>	=		cm³/g or L/kg	SF <sub>o</sub>	=		(mg/kg-d) <sup>-1</sup>
k <sub>s</sub> (non-ionizing organics)	=		cm³ <sub>water</sub> /g <sub>soil</sub>	THQ	=	1	unitless
k <sub>s</sub> (ionizing organics)	=		cm³ <sub>water</sub> /g <sub>soil</sub>	TR	=		unitless
k <sub>s</sub> (inorganics)	=		cm³ <sub>water</sub> /g <sub>soil</sub>	U	=	27	cm/d
Ls	=	100	cm	U <sub>air</sub>	=	225	cm/s
LF <sub>sw</sub>	=	200	(mg/L <sub>water</sub> ) /(mg/kg <sub>soil</sub> )	U <sub>gw</sub>	#		cm/yr
М	=	0.5	mg/cm²	VFp	=		kg/m³
Pe	=	6.9 •10-14	g/cm²-s	VF <sub>samb</sub>	=	(m	ng/m³ <sub>air</sub> )/mg/kg <sub>soil</sub> ) or kg/m³
$RAF_d$	=	0.5	unitless	VF <sub>ss</sub>	=		kg/m³

Symbol			Unit
w	<u></u>		cm
w	Ē		gwater/gsoil
х	=	see below	cm
α <sub>x</sub>	=		cm
α <sub>y</sub>	=		cm .
α <sub>z</sub>	-	23011	cm
$\delta_{ m air}$	=	200	cm
$\delta_{\mathrm{gw}}$	=	200	cm

Symbol			Unit
$\theta_{as}$	=		cm <sup>3</sup> air/cm <sup>3</sup> soil
θ <sub>ws</sub>	=		cm³ <sub>water</sub> /cm³ <sub>soil</sub>
θτ	=	0.36	cm <sup>3</sup> /cm <sup>3</sup> <sub>soil</sub>
λ	#	0.011	d-1
π	=	3.1416	
ρ <sub>b</sub>	=		g/cm <sup>3</sup>
$\rho_{\rm w}$		1	g/cm³
τ	=	9.46 •10 <sup>8</sup>	s

Equation	Result	Unit(s)
R1		mg/kg
R2	=	mg/kg
R7	=	mg/kg
R8	=	mg/kg
R12	=	mg/kg
R25	=	mg/L

Groundwater
MW-7: 24.3
MW-13: 9.9

Soil Leaching
SB-13(6'-7')
SB-15(5'-6)
MW-7 7'-9": 2.607

Not-using

### Maximum Predicted Extent of Groundwater Impact (X): (feet from point source)

Groundwater MW-7: 16' MW-13: 10.5' Soil Leaching SB-10 0'-4': 1.21' MW-7 7'-9': 3.95'

## Electronic Filings Received Clerk's Office 7/28/201. 72017-084) R. 358 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING RBCA EQUATION R26

100	Site Details		Sample Details Sample Location: MW-7		
Site Name & Location:	Illico Independer Peoria, Illinois	nt Oil Company	Sai	mple Location: Sample Date:	
LUST Incident Number(s):	923441			Sample Date.	01/23/2013
Exposure Pathway: Groundwater Classification:	Groundwater Co Class I	mponent of Groundwater Ingestion		W (484.)	T-1
Groundwater Classification:	Class I	No. 12 Sec. 1997		Analyte:	Toluene
Concentration at the source (C <sub>so</sub>	urce)=	24.3000 mg/L			
Distance along centerline of the					
plume coming from the source	:(X)=	<b>16.00</b> ft =	487.68 cm		
First order degradation constant (λ)=		0.011 /day	if toluene, lambda=0.011/day		
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec =	31.683 cm/day		
Hydraulic gradient (i)=		0.0143 m/m			Porosity Gravel=0.25 Sand=0.32
Fotal soil porosity $(\theta_T)$ =		0.36 cm <sup>3</sup> /cm <sup>3</sup> soil			Silt=0.40 Clay=0.36
Source width perpendicular to GW flow direction in horizontal plane (S <sub>w</sub> )		240 ft =	7,315.20 cm		Default=0.43
Source width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )=		6.56 A =	200 cm	(assuming comple	ete mixing)
Calculated Parameters		DO NOT ENTER VALUES HERE!			
ongitudinal dispersivity	Ax=	48.768 cm			
Transverse dispersivity	Ay=	16.256 cm			
ertical dispersivity	Az=	2.4384 cm			
pecific discharge	U	1.25499408 cm/day			
w/(4*SQRT(Ay*X))	B=	20.53959591			
Sd/(2*SQRT(Az*X))	C=	2.899137803			
error function	erf(B)=	1 To determine error	function values		
Error function	erf(C)=	0.999958663 see F46 & K46 in t			
Actual B value=		20.53959591	Actual C value=	2.899137803	
Automatic calculations : Actual erf(B)		1	Actual erf(C)=	0.999958663	
Solutions					
	C <sub>(x)</sub>	_			
	0.960	mg/l			
	C <sub>source</sub>	<b>■</b> 240°			
	0.00	mg/l			
Computation of erf(x)					
		athematical Functions, Dover Publications, N	lew York, page 299, formula 7.1.2	26	
laximum error in computation = 1.5 x 10 = 20.53959591					
= 0.3275911					
0.3273911					
2= -0.284496736					
3= 1.421413741					
-1.453152027					
i= 1.061405429					
= 0.129389727	0.51289107				

## Electronic Filing: Received Clerk's Office A 2017-084) R. 359 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING

	Site Details Name & Location: Illico Independent Oil Company			Sample Details			
Site Name & Location:	Illico Independer	nt Oil Company	The second	San	nple Location:	MW-13	
	Peoria, Illinois	CACA, SEA, MODES CO.		1	Sample Date:		
LUST Incident Number(s):	923441						
Exposure Pathway:		mponent of Groundwater I	ngestion				
Groundwater Classification:	Class I	- 146			Analyte:	Toluene	
Concentration at the source (C <sub>source</sub>	rce)=	9.9000 mg/L					
Distance along centerline of the							
plume coming from the source	(X)=	10.50 ft	=	320.04 cm			
First order degradation constant (λ)=		0.011/day		if toluene, lambda=0.011/day			
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	20	31.683 cm/day			
10					1	Porosity	
Hydraulic gradient (i)=		0.0143 m/m				Gravel-0.25	
						Sand=0.32	
Fotal soil porosity $(\theta_T)$ =		0.36 cm <sup>3</sup> /cm <sup>3</sup>	soil		Ì	Silt=0.40	
Source width perpendicular to GW						Clay=0.36 Default=0.43	
flow direction in horizontal plane (S <sub>w</sub> )=		240 ft	=	7,315.20 cm	,	Delault=0.43	
2. 22 92				1,010.00			
ource width perpendicular to GW				790			
flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	100	200 cm	(assuming comple	ete mixing)	
Calculated Parameters		DO NOT ENTER VALUES I	HERE!				
ongitudinal dispersivity	Ax=	32.004 cm					
Transverse dispersivity	Ay=	10.668 cm					
Vertical dispersivity	Az=	1.6002 cm					
Specific discharge	U=	1.25499408 cm/day					
Sw/(4*SQRT(Ay*X))	B=	31.29843186					
d/(2*SQRT(Az*X))	C=	4.417733795					
Error function	erf(B)=		mine error fu	nction values,			
error function	erf(C)=	1 see F46	& K46 in the	linear interpolation section.			
actual B value=		31.29843186		Actual C value=	4.417733795		
Automatic calculations : Actual erf(B)		1		Actual erf(C)=	1		
				rictain cri(c)	نـــــــــــــــــــــــــــــــــــــ		
Solutions							
	C <sub>(x)</sub>						
	1.0089	mg/l					
	C <sub>source</sub>						
2	0.00	mg/l					
X	0.00	]6.					
computation of erf(x)							
ource: Abramowitz, M. and I. A. Stegun,	1972. Handbook of M	athematical Functions, Dover Pub	lications. Ne	w York, page 299, formula 7.1.2	6		
faximum error in computation = 1.5 x 10		The state of the s		Page 2/21 tolling //1/2			
31.29843186							
0.3275911	0.3275911						
1= 0.254829592	0.254829592						
2= -0.284496736 3= 1.421413741	-0.284496736						
4= 1.421413741 -1.453152027	1.421413741 -1.453152027						
5- 1.061405429	1.061405429						
0.088864499							
0.000004499	0.408628556						

## Electronic Filing Received Clerk's Office 7/28/2017-084) R. 360 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING

	Site Details			Sample Deta	ils
Site Name & Location:	Illico Independe	nt Oil Co.		Sample Location:	SB-10
	Peoria, Illinois		Sa	mple Depth (feet):	0'-4'
LUST Incident Number(s):	923441				
		Very large of the			
Exposure Pathway:		of Groundwater Ingestion	(A)	S 1 64-650	
Groundwater Classification:	Class I			Analyte:	Toluene
Concentration at the source (C <sub>sou</sub>	urce)=	1.3520 mg/L			
Distance along centerline of the					
plume coming from the source	(X)=	1.21 ft =	= 36.88 cm		
First order degradation constant (λ)=		0.011/day	if toluene, lambda=0.01	/day	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec =	31.683 cm/d	ay	Porosity
Hydraulic gradient (i)=		0.0143 m/m			Gravel=0.25
Total soil porosity (θ <sub>T</sub> )=		0.36 cm <sup>3</sup> /cm <sup>3</sup> scil			Sand=0.32 Silt=0.40
Source width perpendicular to GW					Clay=0.36 Default=0.43
flow direction in horizontal plane (S <sub>w</sub> )=		240 ft =	7,315.20 cm		Delaur 0.43
Source width perpendicular to GW					
flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft =	200 cm	(assuming compl	ete mixing)
Calculated Parameters		DO NOT ENTER VALUES HE	RE!		
ongitudinal dispersivity	Ax=	3.68808 cm			
Transverse dispersivity	Ay=	1.22936 cm			
Vertical dispersivity	Az=	0.184404 cm			
Specific discharge	U=	1.25499408 cm/day			
Sw/(4*SQRT(Ay*X))	B=	271.5979624			
Sd/(2*SQRT(Az*X))	C=	38.33570648			
Error function	erf(B)=		error function values,		
Error function	erf(C)=	1 see F46 & K4	6 in the linear interpolation sec	ction.	
Actual B value=		271.5979624	Actual C value	38.33570648	I
Automatic calculations : Actual erf(B)		1	Actual erf(C)=		
Solutions					
	C <sub>(x)</sub>				
	0.98822	mg/l			
	C <sub>source</sub>				
	0.00	mg/l			
Computation of erf(x)		<del>.</del> 2			
Source: Abramowitz, M. and I. A. Stegun,		athematical Functions, Dover Publi	ications, New York, page 299,	formula 7.1.26	
Maximum error in computation = 1.5 x 10					
271.5979624 0= 0.327591					
a1= 0.254829592					
12= -0.284496736					9
1.42141374					
1.45315202					
1.061405429					
0.011114436	6 0.073754818	11.	nerefore, not review	*	

## Electronic Filling: Received Clerk's Office 7/28/2017 7017-084) R. 361 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING

	Site Details				Sample Deta	
Site Name & Location:	Illico Independe Peoria, Illinois	ent Oil Co.		W 75000000	ple Location: Depth (feet):	
LUST Incident Number(s):	923441					
Exposure Pathway: Groundwater Classification:	Soil Component Class I	of Groundwater Inges	tion		Analyte:	Toluene
		W				
Concentration at the source (C <sub>sou</sub>	rce)=	2.6070 mg/L				
Distance along centerline of the						
plume coming from the source	(X)=	3.95 ft	=	120.40 cm		
irst order degradation constant (λ)=		0.011 /day		if toluene, lambda=0.011/day		
equifer hydraulic conductivity (K)=		3.667E-04 cm/sec	=	31.683 cm/day		P :
lydraulic gradient (i)=		0.0143 m/m				Porosity  Gravel=0.25  Sand=0.32
'otal soil porosity (θ <sub>T</sub> )=		0.36 cm <sup>3</sup> /cm	soil			Silt=0.40
ource width perpendicular to GW flow direction in horizontal plane $(S_w)$ =		240 ft	=	7,315.20 cm		Clay=0.36 Default=0.43
ource width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	=	200 cm	(assuming compl	ete mixing)
Calculated Parameters		DO NOT ENTER VALUE	S HERE	l.		
ongitudinal dispersivity	Ax=	12.0396 cm				
ransverse dispersivity	Ay=	4.0132 cm				
ertical dispersivity	Az=	0.60198 cm				
pecific discharge	U=	1.25499408 cm/day				
w/(4*SQRT(Ay*X))	$\mathbf{B}^{\mathrm{in}}$	83.19836317				
d/(2*SQRT(Az*X))	C=	11.743343				
rror function	erf(B)=			r function values,		
rror function	erf(C)=	1 see F46	& K46 in	the linear interpolation section.		
ctual B value=		83.19836317		Actual C value=	11.743343	
Automatic calculations : Actual erf(B)		1		Actual erf(C)=	1	
Solutions						
Solutions	C <sub>(x)</sub>					
	0.996	mg/l				
	0.996	]mg/l				
	0.996 C <sub>source</sub>					
	0.996	]mg/l ]mg/l				
omputation of erf(x) ource: Abramowitz, M. and I. A. Stegun,	0.996 C <sub>source</sub> 0.00	mg/l	Publication	ons, New York, page 299, formu	la 7.1.26	
omputation of erf(x) ource: Abramowitz, M. and I. A. Stegun, faximum error in computation = 1.5 x 10	0.996 C <sub>source</sub> 0.00  1972, Handbook of M ^-7	mg/l	Publication	ons, New York, page 299, formu	la 7.1.26	
computation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, faximum error in computation = 1.5 x 10 <sup>-1</sup> 83.19836317	0.996  C <sub>source</sub> 0.00  1972, Handbook of M ^-7  11.743343	mg/l	Publication	ons, New York, page 299, formu	la 7.1.26	
computation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, faximum error in computation = 1.5 x 10  = 83.19836317  = 0.3275911	0.996  C <sub>source</sub> 0.00  1972, Handbook of M ^-7  11.743343 0.3275911	mg/l	Publication	ons, New York, page 299, formu	la 7.1.26	
computation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, faximum error in computation = 1.5 x 10 = 83.19836317 = 0.3275911 = 0.254829592	0.996  C <sub>source</sub> 0.00  1972, Handbook of M ^-7  11.743343  0.3275911  0.254829592	mg/l	Publication	ons, New York, page 299, formu	lla 7.1.26	
computation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, faximum error in computation = 1.5 x 10 = 83.19836317 = 0.3275911 = 0.254829592 2 -0.284496736	0.996  C <sub>source</sub> 0.00  1972, Handbook of M ^-7  11.743343  0.3275911  0.254829592  -0.284496736	mg/l	Publication	ons, New York, page 299, formu	la 7.1.26	
computation of erf(x)  cource: Abramowitz, M. and I. A. Stegun, faximum error in computation = 1.5 x 10  = 83.19836317  = 0.3275911  1= 0.254829592 2= -0.284496736 3= 1.421413741	0.996  C <sub>source</sub> 0.00  1972, Handbook of M ^-7  11.743343  0.3275911  0.254829592  -0.284496736  1.421413741	mg/l	Publication	ons, New York, page 299, formu	lla 7.1.26	
computation of erf(x)  cource: Abramowitz, M. and I. A. Stegun, faximum error in computation = 1.5 x 10  = 83.19836317  = 0.3275911  1= 0.254829592 2= -0.284496736 3= 1.421413741	0.996  C <sub>source</sub> 0.00  1972, Handbook of M ^-7  11.743343  0.3275911  0.254829592  -0.284496736  1.421413741  -1.453152027	mg/l	Publication	ons, New York, page 299, formu	ıla 7.1.26	
computation of erf(x)  cource: Abramowitz, M. and I. A. Stegun, faximum error in computation = 1.5 x 10 <sup>-1</sup> = 83.19836317 = 0.3275911 = 0.254829592 2 -0.284496736 3 1.421413741 4 -1.453152027	0.996  C <sub>source</sub> 0.00  1972, Handbook of M ^-7  11.743343  0.3275911  0.254829592  -0.284496736  1.421413741  -1.453152027  1.061405429	mg/l		ons, New York, page 299, formu	ıla 7.1.26	

The Agency is authorized to require the prophing of the control of

# Illinois Environmental Protection Agency Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations

A	Cita	Idantificatio.	_
Α.	Site	Identificatio	

	IEMA Incident # (6- or 8-digit):	9234	41	EPA LPC # (10-dig	it): 1430655263				
	Site Name: Illico Independent	Oil Co.							
	Site Address (not a P.O. Box)	3712 University	y Street						
	City: Peoria	County:	Peoria	Zip Code:	61614				
	Leaking UST Technical File								
B.	Tier 2 Calculation Information	tion							
	Equation(s) Used (ex: R12, R14, R26): R26: Ethylbenzene  Contact Information for Individual Who Performed Calculations: Joe Buhlig - Project Manager  Marlin Environmental, Inc. Phone: (217) 726-7569								
	Land Use: Not App	olicable	_ Soil Type	e:	Clay				
	Groundwater:	Class II							
	Mass Limit:	If Yes, then Spe	cify Acreage:	□0.5 □1 □2	┌5 ┌10 ┌30				
	Result from S18/S28 used in R	26?  ▼ Yes	No Specify	C <sub>source</sub> from S18/S28	see page 3 mg/L				
	- Mass Limit Acreage other th	an defaults mu	st always be re	ounded 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 <sub>c</sub>	=	70	yr	d	=	cm
ΑTη	=	177	yr	Dair	=	cm²/s
BW		70	kg	Dwater	=	cm²/s
$C_{\text{source}}$	=	see page 3	mg/L	$D_s^eff$	=	cm²/s
C <sub>(x)</sub>	(=)		mg/L	ED	i=:	yr
$C_{(x)}/C_{source}$	=	- 449	unitless	EF		d/yr

Incident	

Symbol			Unit
erf	8 <b>—</b> 8		unitless
f <sub>oc</sub>	2=2		g/g
GW <sub>comp</sub>			mg/L
GW <sub>source</sub>	=		mg/L
H'			cm³ <sub>water</sub> /cm³ <sub>air</sub>
i	=	0.0273	cm/cm
l	=	30	cm/yr
IR <sub>air</sub>	=	20	m³/d
IR <sub>soil</sub>			mg/d
IR <sub>w</sub>			L/d
к	.=	31.683	cm/d for R15, R19, R26; cm/yr for R24
K <sub>oc</sub>	:=>		cm <sup>3</sup> /g or L/kg
k <sub>s</sub> (non-ionizing organics)	-		cm³ <sub>water</sub> /g <sub>soil</sub>
k <sub>s</sub> (ionizing organics)	=		cm <sup>3</sup> water/g <sub>soil</sub>
k <sub>s</sub> (inorganics)			cm <sup>3</sup> water/g <sub>soil</sub>
L <sub>s</sub>	=	100	cm
LF <sub>sw</sub>		V5000000	(mg/L <sub>water</sub> ) /(mg/kg <sub>soil</sub> )
М		0.5	mg/cm <sup>2</sup>
Pe	=	6.9 •10-14	g/cm²-s
RAF <sub>d</sub>	×==	0.5	unitless

Symbol			Unit
RAF <sub>d</sub> (PNAs)	=	0.05	unitless
RAF <sub>d</sub> (inorganics)	H <b>=</b> 8	0	unitless
RAF <sub>0</sub>	=	1.0	unitless
RBSL <sub>air</sub> (carcinogenic)	=		µg/m³
RBSL <sub>air</sub> (noncarcinogenic)	=	*	µg/m³
RfD <sub>i</sub>	=		mg/kg-d
RfD <sub>o</sub>			mg/kg-d
SA	=	3,160	cm²/d
S <sub>d</sub>	=	200	cm
S <sub>w</sub>	= < 2	7,315.2	cm sensitive
SFi	=	<b>.</b>	(mg/kg-d) <sup>-1</sup>
SF <sub>o</sub>	=		(mg/kg-d) <sup>-1</sup>
THQ	:=:	1	unitless
TR	=		unitless
U	=		cm/d
U <sub>air</sub>	=	225	cm/s
U <sub>gw</sub>			cm/yr
VFp	=		kg/m³
VF <sub>samb</sub>	=	(m	ng/m³ <sub>air</sub> )/mg/kg <sub>soil</sub> ) or kg/m³
$VF_{ss}$	=		kg/m³

Incident #:

### Electronic Filing: Received Clerk's Office 7/28/201.2017-084) R 364

Symbol			Unit
W	=		cm
w	=		9water/9soil
Х	=	see below	cm
$\alpha_{x}$	=		cm
$\alpha_{\mathbf{y}}$	=		cm
$\alpha_{z}$	=		cm
$\delta_{air}$	=	200	cm
$\delta_{\rm gw}$	=	200	cm

Symbol			Unit
$\theta_{as}$	=		cm³ <sub>air</sub> /cm³ <sub>soil</sub>
$\theta_{ws}$	=		cm³ <sub>water</sub> /cm³ <sub>soil</sub>
$\theta_{T}$	=	0.36	cm <sup>3</sup> /cm <sup>3</sup> <sub>soil</sub>
λ	=	0.003	d-1
π		3.1416	
$\rho_{b}$	=	30 37	g/cm <sup>3</sup>
$ ho_{ m w}$	=	1	g/cm <sup>3</sup>
τ	=	9.46 •10 <sup>8</sup>	s

Equation Result Unit(s) R1 = mg/kg R2 mg/kg R7 = mg/kg R8 = mg/kg R12 = mg/kg R25 = mg/L

Groundwater
MW-4: 2.24
MW-7: 3.68
MW-13: 2.53

Soil Leaching
SB-31 4'-6': 4.0
SB-6 4'-8': 0.9290
SB-17 6'-7': 2.1180
MW-7 7'-9': 1.4990
Not using

### Maximum Predicted Extent of Groundwater Impact (X): (feet from point source)

Groundwater MW-4: 19' MW-7: 26' MW-13: 20' Soil Leaching SB-31 4'-6': 27.8' SB-6 4'-8': 4' Not using SB-17 6'-7': 17' MW-7 7'-9': 11.5' Not using

## Electronic Filings Received Cherk's Office 7/28/201.72017-084) R. 365 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING RBCA EQUATION R26

	Site Details				Sample Deta	ils
Site Name & Location:	Illico Independer	nt Oil Company		San	ple Location:	MW-4
	Peoria, Illinois			A CONTRACTOR OF THE PARTY OF TH	Sample Date:	
LUST Incident Number(s):	923441				- C-1	
	THE RELL CO.		7,53			
Exposure Pathway:		mponent of Groundwater I	ngestion		4 7475	
Groundwater Classification:	Class I		- 40-20-00		Analyte:	Ethylbenzene
		V.				
Concentration at the source (C <sub>sour</sub>	rce)=	2.24 mg/L				
		V				
Distance along centerline of the						
plume coming from the source (	(X)=	19.00 ft	=	579.12 cm		
First order degradation constant (λ)=		0.003 /day		if ethylbenzene, lambda=0.003	3/day	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	=	31.683 cm/day		200
T 70 88 8						Porosity
Hydraulic gradient (i)=		0.0143 m/m			-	Gravel=0.25
Total soil porosity (θ <sub>T</sub> )=		0.36 cm <sup>3</sup> /cm <sup>3</sup>	11			Sand=0.32 Silt=0.40
com con bereaul (at)		0.50 en /en	sou			Clay=0.36
Source width perpendicular to GW		y		2 <u></u> 2		Default=0.43
flow direction in horizontal plane ( $S_w$ )=		240 ft		7,315.20 cm		111
ource width perpendicular to GW						
flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	=	200 cm	(assuming comple	ete mixing)
Calculated Parameters		DO NOT ENTER VALUES I	IEDE!			1000 1000 1000 TCS
accurated Parameters		DO NOT ENTER VALUES I	iere:			
ongitudinal dispersivity	Ax=	57.912 cm				
Γransverse dispersivity	Ay=	19.304 cm				
/ertical dispersivity	Az=	2.8956 cm				
Specific discharge	U=	1.25499408 cm/day				
Sw/(4*SQRT(Ay*X))	B=	17.29650182				
Sd/(2*SQRT(Az*X))	C=	2.441379202		H10171711111111111111111111111111111111		
error function	erf(B)=		mine error fu			
Error function	erf(C)=	0.999444758 see F46	& K46 in the	linear interpolation section.		
actual B value=		17.29650182		Actual C value=	2.441379202	
Automatic calculations : Actual erf(B)		1		Actual erf(C)=	0.999444758	
Solutions						
	C <sub>(x)</sub>					
	0.7	mg/l				
	C <sub>source</sub>					
	0.00	mg/l				
	- Control of the Cont	-				
Computation of erf(x)						
ource: Abramowitz, M. and I. A. Stegun,		athematical Functions, Dover Pub	lications, Nev	w York, page 299, formula 7.1.2	6	
Maximum error in computation = 1.5 x 10		re-				
= 17.29650182 = 0.3275911	2.441379202 0.3275911					
1= 0.3273911						
2= -0.284496736						
3= 1.421413741	1.421413741					
4= -1.453152027						
5= 1.061405429						
0.15001095						
	0.999444758					

## Electronic Filing CReceived Clerk's Office (7/28/2017-084) R. 366 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING RBCA EQUATION R26

	Site Details				Sample Deta	ils
Site Name & Location:	Illico Independer Peoria, Illinois	nt Oil Company	11/2014	Sar	nple Location: Sample Date:	
LUST Incident Number(s):	923441					
Exposure Pathway: Groundwater Classification:	Groundwater Co Class I	mponent of Groundwater Ir	ngestion		Analyte:	Ethylbenzene
	0.0			de trans		707
Concentration at the source (C <sub>source</sub>	rce)=	3.6800 mg/L				
Distance along centerline of the						
plume coming from the source	(X)=	26.00 ft	=	792.48 cm		
First order degradation constant (λ)=		0.003 /day		if ethylbenzene, lambda=0.00	3/day	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec		31.683 cm/day		
Hydraulic gradient (i)=		0.0143 m/m				Porosity Gravel=0.25 Sand=0.32
Total soil porosity $(\theta_T)$ =		0.36 cm <sup>3</sup> /cm <sup>3</sup> ,	oil		1	Silt=0.40 Clay=0.36
Source width perpendicular to GW flow direction in horizontal plane $(S_w)$ =		240 ft	=	7,315.20 cm		Default=0.43
fource width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft		200 cm	(assuming comple	ete mixing)
Calculated Parameters		DO NOT ENTER VALUES H	ERE!			
ongitudinal dispersivity	Ax=	79.248 cm				
ransverse dispersivity	Ay=	26.416 cm				
retical dispersivity	Az=	3.9624 cm				
pecific discharge	U=	1.25499408 cm/day				
w/(4*SQRT(Ay*X))	B≔	12.63975133				
d/(2*SQRT(Az*X))	C=	1.784084802				
error function	erf(B)=			nction values,		
error function	erf(C)=	0.988366666 see F46 8	& K46 in the	linear interpolation section.		
actual B value=		12.63975133		Actual C value=	1.784084802	
Automatic calculations : Actual erf(B)		1		Actual erf(C)=	0.988366666	
Solutions						
	C <sub>(x)</sub>	- T				
	0.7	mg/l				
	C <sub>source</sub>	-W				
	0.00	mg/l				
computation of erf(x)		The second second				
			Parade and a second			
ource: Abramowitz, M. and I. A. Stegun,		athematical Functions, Dover Publ	ications, Nev	w York, page 299, formula 7.1.2	26	
faximum error in computation = 1.5 x 10 <sup>o</sup> = 12.63975133		8				
= 0.3275911	0.3275911					
1= 0.254829592						
2= -0.284496736						
3= 1.421413741	1.421413741					
4= -1.453152027	-1.453152027					
5= 1.061405429	1.061405429					
0.194527171	0.631133711					
f(x)= 1	0.988366666					

## Electronic Filing: Received Electron Officer 128/201. 72017-084) R. 367 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING RBCA EQUATION R26

llico Independen Peoria, Illinois P23441 Groundwater Cor Class I  )=	2 2 3.66	70	=	0.0000000000000000000000000000000000000	509.60 cm zene, lambda=0.0 31.683 cm/day		Porosity Gravel-0.25
223441 Groundwater Cor Class I	2	5300 mg/L  20.00 ft  0.003 /day  57E-04 cm/sec  0.0143 m/m	=	0.0000000000000000000000000000000000000	zene, lambda=0.0	Analyte:	Porosity Gravel-0.25
Class I )=	2	5300 mg/L  20.00 ft  0.003 /day  57E-04 cm/sec  0.0143 m/m	=	0.0000000000000000000000000000000000000	zene, lambda=0.0		Porosity Gravel-0.25
<b>)</b> =	3.66	20.00 ft 0.003 /day 57E-04 cm/sec 0.0143 m/m	=	0.0000000000000000000000000000000000000	zene, lambda=0.0		Porosity Gravel-0.25
	3.66	20.00 ft 0.003 /day 57E-04 cm/sec 0.0143 m/m	=	0.0000000000000000000000000000000000000	zene, lambda=0.0	)03/day	Gravel=0.25
)=	3.66	0.003 /day 57E-04 cm/sec 0.0143 m/m	=	0.0000000000000000000000000000000000000	zene, lambda=0.0	)03/day	Gravel=0.25
)=	3.66	0.003 /day 57E-04 cm/sec 0.0143 m/m	=	0.0000000000000000000000000000000000000	zene, lambda=0.0	003/day	Gravel=0.25
	3.66	57E-04 cm/sec		if ethylben		003/day	Gravel=0.25
		0.0143 m/m			31.683 cm/day		Gravel=0.25
	0		3 soil				Gravel=0.25
		0.36 cm <sup>3</sup> /cm	3 soil				
							Sand=0.32 Silt=0.40
		240 ft	=	7	,315.20 cm		Clay=0.36 Default=0.43
		6.56 ft	w		200 cm	(assuming comple	ete mixing)
	DO NOT ENTI	ER VALUES I	HERE!	30			
<b>x</b> =		60.96 cm					
.y=		20.32 cm					
Z=		3.048 cm					
=	1.2549	99408 cm/day					
=	16.4316	67673					
=	2.3193	10242					
rf(B)=		1 To deter	rmine error fu	inction values	,		
rf(C)=	0.9989						
	16.4316	67673		Actual C va	alue=	2.319310242	
		1		Actual erf(	C)=	0.99896181	
(x)	From Nation						
	mg/l						
source							
0.00	mg/l						
	- p						
772, Handbook of Ma	athematical Functi	ions, Dover Pul	blications, Ne	ew York, page	299, formula 7.1	1.26	
0.254829592							
-0.284496736							
1.421413741							
z z z z z z z z z z z z z z z z z z z	(x)  0.69527  source 0.00  72, Handbook of M 2.319310242 0.3275911 0.254829592 -0.284496736 1.421413741 -1.453152027 1.061405429 0.568251108	(x)  0.69527  10.4310  (x)  0.69527  source  0.00  mg/l  72, Handbook of Mathematical Function  2.319310242 0.3275911 0.254829592 -0.284496736	DO NOT ENTER VALUES     C	DO NOT ENTER VALUES HERE!    60.96 cm     20.32 cm     3.048 cm     1.25499408 cm/day     6.43167673     2.319310242     6.43167673     1 To determine error fi     1 see F46 & K46 in the     1 source     0.00 mg/l     1	DO NOT ENTER VALUES HERE!    60.96 cm   cm   cm   cm/day	DO NOT ENTER VALUES HERE!    60.96 cm   cm   cm   cm   cm   cm   cm   cm	DO NOT ENTER VALUES HERE!  (a) 60.96 cm (b) 20.32 cm (c) 3.048 cm (c) 1.25499408 cm/day (d) 16.43167673 (e) 1 To determine error function values, (e) 0.99896181 see F46 & K46 in the linear interpolation section.  (a) 1.6.43167673 Actual C value 2.319310242 (b) 1 Actual erf(C) 0.99896181  (b) 0.69527 mg/l (c) 0.90896181  (c) 2.319310242 (c) 3.275911 (c) 2.54829592 (c) 2.284496736 (c) 1.421413741 (c) 1.453152027 (c) 1.061405429 (c) 1.661405429

## Electronic Filing Received Ellerk's Office J28/2017-084) R. 368 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING

	Site Details				Sample Deta	ils
Site Name & Location:	Illico Independe Peoria, Illinois	ent Oil Co.		III	mple Location: le Depth (feet):	
LUST Incident Number(s):	923441					
Exposure Pathway:	Soil Componen	t of Groundwater Ingesti	on			
Groundwater Classification:	Class I				Analyte:	Ethylbenzene
Concentration at the source ( $C_{sot}$	urce)=	4.0000 mg/L				
Distance along centerline of the		( <u>-</u>				
plume coming from the source	(X)=	<b>27.80</b> ft	=	847.34 cm		
irst order degradation constant (λ)=		0.003 /day		if ethylbenzene, lambda=0.00	03/day	
aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	=	31.683 cm/day	Í	P
lydraulic gradient (i)=		0.0143 m/m				Porosity Gravel=0.25 Sand=0.32
'otal soil porosity (θ <sub>T</sub> )=		0.36 cm <sup>3</sup> /cm <sup>3</sup> <sub>s</sub>	oil			Silt=0.40
ource width perpendicular to GW						Clay=0.36 Default=0.43
flow direction in horizontal plane (S <sub>w</sub> )=		240 ft	=	7,315.20 cm	,	arvidute 0.73
ource width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	#	200 cm	(assuming comple	ete mixing)
Calculated Parameters		DO NOT ENTER VALUES	HERE!			
ongitudinal dispersivity	Ax=	84.7344 cm				
ransverse dispersivity	Ayes	28.2448 cm				
ertical dispersivity	Az=	4.23672 cm				
pecific discharge	U=	1.25499408 cm/day				
w/(4*SQRT(Ay*X))	B=	11.82135016				
d/(2*SQRT(Az*X))	C=	1.66856852				
rror function	erf(B)=			r function values,		
rror function	erf(C)=		K46 in	the linear interpolation section.		
ctual B value=		11.82135016		Actual C value=	1.66856852	
Automatic calculations : Actual erf(B)		1		Actual erf(C)=	0.981710915	
Solutions						
	C <sub>(x)</sub>	mg/l				
	C <sub>source</sub>	mg/l				
omputation of erf(x)	2.00	la.,				
ource: Abramowitz, M. and I. A. Stegun,	1972, Handbook of M	athematical Functions. Dover P	ublication	ons. New York, page 299 form	ula 7.1.26	
aximum error in computation = 1.5 x 10			water smoke	,, rem, page 277, torni	LIMBON	
11.82135016						
0.3275911						
- 0.254829592						
	-0.284496736					
-0.284496736						
1.421413741	1.421413741					
= 1.421413741 = -1.453152027	1.421413741 -1.453152027					
1.421413741	1.421413741 -1.453152027 1.061405429					

## Electronic Filing: Received ECterk's Office de 2012 017-084) R. 369 MAXIMUM PREDICTED EXTENT OF GROUNDER IMPACT MODELING

	Site Details				Sample Deta	ails
Site Name & Location:	Illico Independ Peoria, Illinois	ent Oil Co.			nple Location	
LUST Incident Number(s):	923441			Sample	e Depth (feet):	4-8
Exposure Pathway:	Sail Campanan	t of Groundwater Ingesti				
Groundwater Classification:	Class I	t of Groundwater Ingesti	on	<b>*</b>	Analyta	Ethylbenzene
					Analyte	Ethylbelizelle
Concentration at the source ( $C_{sou}$	irce)=	0.9290 mg/L				
Distance along centerline of the						
plume coming from the source	(X)=	4.00 ft	=	121.92 cm		
First order degradation constant (λ)=		0.003 /day		if ethylbenzene, lambda=0.003	3/day	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	=	31.683 cm/day		
Hydraulic gradient (i)=		0.0143 m/m				Porosity Gravel-0.25
Total soil porosity (θ <sub>T</sub> )=		0.36 cm <sup>3</sup> /cm <sup>3</sup> sc	ùl			Sand=0.32 Silt=0.40
ource width perpendicular to GW flow direction in horizontal plane (S <sub>w</sub> )=		240 ft	=	7,315.20 cm		Clay=0.36 Default=0.43
ource width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	=	200 cm	(assuming compl	ete mixing)
Calculated Parameters		DO NOT ENTER VALUES	HERE!			
ongitudinal dispersivity	Ax=	12.192 cm				
ransverse dispersivity	Ay=	4.064 cm				
ertical dispersivity	Az=	0.6096 cm				
pecific discharge	U=	1.25499408 cm/day				
w/(4*SQRT(Ay*X))	B=	82.15838363				
d/(2*SQRT(Az*X))	C=	11.59655121				
rror function	erf(B)=	1 To determ	ine error	function values,		
rror function	erf(C)=	1 see F46 &	K46 in	he linear interpolation section.		
ctual B value=		82.15838363		Actual C value=	11.59655121	ľ
Automatic calculations : Actual erf(B)		1		Actual erf(C)=	1	Į.
Solutions						
1	$C_{(x)}$	Towns and				
9	0.700	mg/l				
55	C <sub>source</sub>	=				
	0.00	mg/l				
omputation of erf(x)		<u> </u>				
ource: Abramowitz, M. and I. A. Stegun,	1972, Handbook of M	athematical Functions, Dover P	ublicatio	ns, New York, page 299, formul	la 7.1.26	
aximum error in computation = 1.5 x 10 <sup>-7</sup>						
82.15838363 0.3275911	11.59655121					
= 0.254829592	0.3275911 0.254829592					
-0.284496736	-0.284496736					
1.421413741	1.421413741					
-1.453152027	-1.453152027					
-1.453152027 - 1.061405429	1.061405429					
-1.453152027			П	efore, not reviewed		

## Electronic Filing Received EClerk's Office J. 28/2017-084) R. 370 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING

	Site Details		123	Sample Details	
Site Name & Location:	Illico Independe Peoria, Illinois	ent Oil Co.		Sample Location: SB-17 Sample Depth (feet): 6'-7'	
LUST Incident Number(s):	923441				
			<b>FIG.</b> 1		
Exposure Pathway: Groundwater Classification:		t of Groundwater Ingest	ion		
Groundwater Classification:	Class I			Analyte: Ethylbenzene	
Concentration at the source (C <sub>sou</sub>	urce)=	2.1180 mg/L			
Distance along centerline of the		0 <u> </u>			
plume coming from the source	(X)=	<b>17.00</b> ft	=	518.16 cm	
First order degradation constant (λ)=		0.003 /day		if ethylbenzene, lambda=0.003/day	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	=	31.683 cm/day	
Hydraulic gradient (i)=		0.0143 m/m		Porosity Gravel=0.25	_
Total soil porosity $(\theta_T)$		0.36 cm <sup>3</sup> /cm <sup>3</sup>	soil	Sand=0.32 Silt=0.40	
Source width perpendicular to GW				Clay=0.36 Default=0.43	
flow direction in horizontal plane (S <sub>w</sub> )=		240 ft	=	7,315.20 cm	
Source width perpendicular to GW					
flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	=	200 cm (assuming complete mixing)	
Calculated Parameters		DO NOT ENTER VALUES	S HERE	21	
ongitudinal dispersivity	Ax=	51.816 cm			
ransverse dispersivity	Ay=	17.272 cm			
ertical dispersivity	Az=	2.5908 cm			
pecific discharge	U=	1.25499408 cm/day			
w/(4*SQRT(Ay*X))	B=	19.33138438			
d/(2*SQRT(Az*X))	C=	2.728600285			
rror function	erf(B)=			or function values,	
rror function	erf(C)=	0.999886023 see F46 8	k K46 in	the linear interpolation section.	
actual B value=		19.33138438		Actual C value= 2.728600285	
Automatic calculations : Actual erf(B)		1		Actual erf(C)= 0.999886023	
Solutions					
	C <sub>(x)</sub>	L			
	0.695	mg/l			
	C <sub>source</sub>	1			
	0.00	mg/l			
omputation of erf(x)					
		athematical Functions, Dover	Publicati	ions, New York, page 299, formula 7.1.26	
laximum error in computation = 1.5 x 10					
= 19.33138438 = 0.3275911	2.728600285 0.3275911				
0.32/3911					
2= -0.284496736					
1.421413741	1.421413741				
-1.453152027	-1.453152027				
1.061405429	1.061405429				
0.13637375	0.528020694				
f(x)= 1	0.999886023				

## Electronic Filing Received Electric Offices J. 28/201. 2017-084) R. 371 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING

	Site Details				Sample Deta	
Site Name & Location:	Illico Independe Peoria, Illinois	nt Oil Co.			imple Location: ole Depth (feet):	
LUST Incident Number(s):	923441					
Exposure Pathway:	Soil Component	of Groundwater Inges	tion			
Groundwater Classification:	Class I	of Groundwater inges	tion		Analyte	Ethylbenzene
			-		Amaryte	Linyiochizone
Concentration at the source (C <sub>sou</sub>	rce)=	1.4990 mg/L				
Distance along centerline of the		77				
plume coming from the source	(X)=	11.50 ft	=	350.52 cm		
First order degradation constant (λ)=		0.003 /day		if ethylbenzene, lambda 0.0	003/day	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	=	31.683 cm/day		
Hydraulic gradient (i)=		0.0143 m/m				Porosity Gravel=0.25
Total soil porosity $(\theta_T)$ =		0.36 cm <sup>3</sup> /cm	3 soil			Sand=0.32 Silt=0.40
Source width perpendicular to GW		<u> 12 12 12 12 12 12 12 12 12 12 12 12 12 </u>		84 <u>03</u>		Clay=0.36 Default=0.43
flow direction in horizontal plane ( $S_w$ )=		240 ft	=	7,315.20 cm		
Source width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	=	200 cm	(assuming comple	ete mixing)
Calculated Parameters		DO NOT ENTER VALUE	S HERE	•		
ongitudinal dispersivity	Ax=	35.052 cm				
Transverse dispersivity	Ay=	11.684 cm				
Vertical dispersivity	Az=	1.7526 cm				
Specific discharge	U=	1.25499408 cm/day				
sw/(4*SQRT(Ay*X))	B==	28.57682909				
d/(2*SQRT(Az*X))	C≔	4.03358303				
Error function	erf(B)=			r function values,		
Error function	erf(C)=	0.999999988 see F46	& K46 in	the linear interpolation section	<b>.</b>	
actual B value=	98 19	28.57682909		Actual C value=	4.03358303	
Automatic calculations : Actual erf(B)		1		Actual erf(C)=	0.99999988	
Solutions						
	C <sub>(x)</sub>					
	0.689	mg/l				
	C <sub>source</sub>	er das				
1	THE PERSON NAMED IN COLUMN TWO	mg/l				
omputation of erf(x)						
ource: Abramowitz, M. and I. A. Stegun,	1972, Handbook of Ma	thematical Functions, Dover	Publicati	ons, New York, page 299, form	nula 7.1.26	
faximum error in computation = 1.5 x 10 <sup>-1</sup>	-7				and the second s	
28.57682909	4.03358303					
0.3275911	0.3275911					
1= 0.254829592 2= -0.284496736	0.254829592 -0.284496736					
3= 1.421413741	1.421413741					
1-1.453152027	-1.453152027					
5= 1.061405429	1.061405429					
0.096510984	0.43078086	-				
			200	e not reviewed.		

The Agency is authorized to be the manning of the property of

# Illinois Environmental Protection Agency Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations

Α.	Site	Identification
	0110	IMOTICITIONCO

	IEMA Incident # (6- or 8-digit):	923	441	EPA LPC # (10-digi	t): 1430655263
	Site Name: Illico Independent	Oil Co.			
	Site Address (not a P.O. Box):				170/2
	City: Peoria	County: _	Peoria	Zip Code:	61614
	Leaking UST Technical File				
В.	Tier 2 Calculation Informat	ion			
	Equation(s) Used (ex: R12, R14	4, R26): R26: 7	Total Xylenes		
	Contact Information for Individua	0. 2.		Joe Buhlig - Pro	ject Manager
	Marlin Environmental, Inc. Pho	ne: (217) 726-7	569		
	Land Use: Not App	licable	Soil Type	:C	clay
	Groundwater:	Class II			
	Mass Limit:	f Yes, then Spe	ecify Acreage:	□0.5 □1 □2	□ 5   □ 10   □ 30
	Result from S18/S28 used in R2	:6? ⊠ Yes ┌	No Specify (	C <sub>source</sub> from S18/S28	see page 3 mg/L
	- Mass Limit Acreage other th	an defaults mu	ıst always be ro	ounded 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		T-1/ 6	Unit	Symbol	200	Unit
ATc	=	70	yr	d	=	cm
$AT_{\eta}$	=		yr	Dair	=	cm²/s
BW	=	70	kg	Dwater	=	cm²/s
$C_{\text{source}}$	=	see page 3	mg/L	D <sub>s</sub> eff	=	cm <sup>2</sup> /s
C <sub>(x)</sub>	=		mg/L	ED	=	yr
$C_{(x)}/C_{\text{source}}$	=		unitless	EF	=	d/yr

Symbol			Unit
erf	=		unitless
f <sub>oc</sub>	=		g/g
$GW_{comp}$	=		mg/L
GW <sub>source</sub>	-		mg/L
H'	-		cm³ <sub>water</sub> /cm³ <sub>air</sub>
Ĭ	=	0.0273	cm/cm
Ĺ	=	30	cm/yr
IR <sub>air</sub>		20	m³/d
IR <sub>soil</sub>	=		mg/d
IR <sub>w</sub>			L/d
к		31.683	cm/d for R15, R19 R26; cm/yr for R2
K <sub>oc</sub>			cm³/g or L/kg
k <sub>s</sub> (non-ionizing organics)	=	, <u>, , , , , , , , , , , , , , , , , , </u>	cm³ <sub>water</sub> /g <sub>soil</sub>
k <sub>s</sub> (ionizing organics)	=		cm³ <sub>water</sub> /g <sub>soil</sub>
k <sub>s</sub> (inorganics)	=		cm³ <sub>water</sub> /g <sub>soil</sub>
Ls	=	100	cm
LF <sub>sw</sub>	=		(mg/L <sub>water</sub> ) /(mg/kg <sub>soil</sub> )
М	=	0.5	mg/cm²
Pe	=	6.9 •10-14	g/cm²-s
RAF <sub>d</sub>	=	0.5	unitless

Symbol			Unit
RAF <sub>d</sub> (PNAs)	=	0.05	unitless
RAF <sub>d</sub> (inorganics)	Ħ.	0	unitless
RAF <sub>0</sub>	=	1.0	unitless
RBSL <sub>air</sub> (carcinogenic)	=		μg/m³
RBSL <sub>air</sub> (noncarcinogenic)	=		μg/m³
RfDi	=		mg/kg-d
RfD <sub>o</sub>	=		mg/kg-d
SA	=	3,160	cm²/d
S <sub>d</sub>	=	200	cm
S <sub>w</sub>	= < Z	7,315.2	cm Sensitive
SFi	=		(mg/kg-d) <sup>-1</sup>
SF <sub>o</sub>	=		(mg/kg-d) <sup>-1</sup>
THQ	=	1	unitless
TR	=		unitless
U	=		cm/d
U <sub>air</sub>	=	225	cm/s
U <sub>gw</sub>	=		cm/yr
VFp	=		kg/m³
$VF_samb$	=	(m	g/m³ <sub>air</sub> )/mg/kg <sub>soil</sub> or kg/m³
$VF_{ss}$	=		kg/m³

Incident #:

### 

Symbol			Unit
W	=		cm
w	:=		gwater/gsoil
х	=	see below	cm
$\alpha_{x}$	=		cm
$\alpha_{y}$	=		cm
$\alpha_{z}$			cm
$\delta_{air}$	=	200	cm
$\delta_{gw}$	=	200	cm

Symbol			Unit
θ <sub>as</sub>	=		cm <sup>3</sup> <sub>air</sub> /cm <sup>3</sup> <sub>soil</sub>
$\theta_{ws}$			cm³ <sub>water</sub> /cm³ <sub>soil</sub>
$\theta_{T}$	=	0.36	cm³/cm³ <sub>soil</sub>
λ	=	0.0019	d-1
π	=	3.1416	A III.
$\rho_{b}$	=		g/cm <sup>3</sup>
$\rho_{\rm w}$		1	g/cm³
τ	=	9.46 •108	s

Equation Result Unit(s) R1 = mg/kg R2 = mg/kg R7 = mg/kg R8 mg/kg R12 = mg/kg R25 = mg/L

Csource Values: (mg/L)

### Maximum Predicted Extent of Groundwater Impact (X): (feet from point source)

Groundwater MW-7: 11.8' MW-13: 0.5' Soil Leaching SB-31 4'-6': 15', 5

## Electronic Piling Received Clerk's Office (28/201.2017-084) R. 375 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING RBCA EQUATION R26

		Site Details	Sample Details				
	Site Name & Location:	Illico Independer	nt Oil Company	-	Ço.	nple Location:	
8	Dite i ame to Escation.	Peoria, Illinois	it On Company		Sai		
	CONTROL OF AND STATE					Sample Date:	04/25/2015
60	LUST Incident Number(s):	923441					
	Exposure Pathway:	Groundwater Co	mponent of Groundwater In	ngestion			
	Groundwater Classification:	Class I	inponential or oround and in	Beotton		Anglyte	Total Xylenes
					J	Analyte	Total Aylones
	Concentration at the source (C <sub>sour</sub>	rce)=	16.7000 mg/L				
			B = = = = = = = = = = = = = = = = = = =				
	Distance along centerline of the						
	plume coming from the source (	(X)=	11.80 ft	=	359.66 cm		
1							
	First order degradation constant (λ)=		0.0019 /day		if total xylenes, lambda=0.00	19/day	
	5 W V V V V V V V V V						
	Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	=	31.683 cm/day		
	Hydraulic gradient (i)=		0.0143				Porosity
	rry draune gradient (1)-		0.0143 m/m				Gravel=0.25
	Total soil porosity $(\theta_T)$ =		0.36 cm <sup>3</sup> /cm <sup>3</sup>	1940		l	Sand=0.32
	The con percent (of)		0.36 cm /cm	soil		Y	Silt=0.40
	Source width perpendicular to GW						Clay=0.36 Default=0.43
	flow direction in horizontal plane $(S_w)$ =		240 ft	R	7,315.20 cm	Į.	Delauit-V.43
					1,515120		
	Source width perpendicular to GW						
	flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	=	200 cm	(assuming comple	te mixing)
							s de Nederland <del>po</del> cus
	Calculated Parameters		DO NOT ENTER VALUES H	ERE!			
	Longitudinal discominists	reman i	25,0664				
	Longitudinal dispersivity	Ax=	35.9664 cm				
	Transverse dispersivity	Ay=	11.9888 cm				
	Vertical dispersivity	Az=	1.79832 cm				
	Specific discharge	U=	1.25499408 cm/day				
	Sw/(4*SQRT(Ay*X))	B=	27.85029953				
	Sd/(2*SQRT(Az*X))	C=	3.931034309				
	Error function	erf(B)=			nction values,		
	Error function	erf(C)=	0.999999973 see F46 a	x K46 in the	linear interpolation section.		
	Actual B value=		27.85029953		Actual C value=	3.931034309	
			21.03025533		Actual C value	3.931034309	
	Automatic calculations : Actual erf(B)		1		Actual erf(C)=	0.999999973	
					7855		
	Solutions						
		C <sub>(x)</sub>					
	l	10.0	mg/l				
		C <sub>source</sub>					
	ì	0.00	mg/l				
		0.00	J				
19	Computation of erf(x)						
139	Source: Abramowitz, M. and I. A. Stegun,	1972 Handbook of Ma	athematical Functions Davis D. L.	ications M	v Vork nage 200 6	14	
	Maximum error in computation = 1.5 x 10 <sup>-1</sup>	-7	automatical runctions, Dover Pub	ications, Nev	w 1 ork, page 299, formula 7.1.2	10	
	x= 27.85029953	3.931034309					
	p= 0.3275911	0.3275911					
0	al= 0.254829592	0.254829592					
	a2= -0.284496736	-0.284496736					
	a3= 1.421413741	1.421413741					
	a4= -1.453152027 a5= 1.061405429	-1.453152027					
	a5= 1.061405429 t= 0.098779966	1.061405429 0.437106523					
	erf(x)= 0.098779900	0.999999973					
	no casulto						

## Electronic Filing: Received F. Clerk's Office (28/20) 7.2017-084) R. 376 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING RBCA EQUATION R26

	Site Details		Sample Details				
ite Name & Location:	Illico Independer Peoria, Illinois	nt Oil Company		Sai	nple Location: Sample Date:		
UST Incident Number(s):	923441						
Exposure Pathway:			F				
Exposure Pathway: Groundwater Classification:	Class I	mponent of Groundwater	Ingestion		Variation.	T-1-1-1-1	
Froundwater Classification.	Class I			<u> </u>	Analyte:	Total Xylenes	
Concentration at the source (C <sub>sour</sub>	<sub>rce</sub> )=	10.2000 mg/L					
Distance along centerline of the							
plume coming from the source	(X)=	<b>0.50</b> ft	=	15.24 cm			
rirst order degradation constant (λ)=		0.0019/day		if total xylenes, lambda=0.00	19/day		
quifer hydraulic conductivity (K)=		3.667E-04 cm/sec	=	31.683 cm/day			
lydraulic gradient (i)=		0.0143 m/m				Porosity Gravel=0.25	
otal soil porosity $(\theta_T)$ =		0.36 cm <sup>3</sup> /cr	n <sup>3</sup> soil			Sand=0.32 Silt=0.40 Clay=0.36	
ource width perpendicular to GW flow direction in horizontal plane $(S_w)$ =		240 ft	=	7,315.20 cm		Default=0.43	
ource width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	=	200 cm	(assuming comple	ete mixing)	
alculated Parameters		DO NOT ENTER VALUES	HERE!				
ongitudinal dispersivity	Ax=	1.524 cm					
ransverse dispersivity	Ay-	0.508 cm					
ertical dispersivity	Az=	0.0762 cm					
pecific discharge	U=	1.25499408 cm/day	,				
w/(4*SQRT(Ay*X))	B=	657.267069					
d/(2*SQRT(Az*X))	C=	92.77240969					
rror function	erf(B)=	W-70-1100-100	ermine error fu	37 TO 15 TO 15 TO 15			
rror function	erf(C)=	1 see F4	6 & K46 in the	linear interpolation section.			
ctual B value=		657.267069		Actual C value=	92.77240969		
automatic calculations : Actual erf(B)		1		Actual erf(C)=	1		
Solutions							
9	C <sub>(x)</sub>	243					
	9.9679	mg/l					
	C <sub>source</sub>						
	0.00	mg/l					
omputation of erf(x)							
ource: Abramowitz, M. and I. A. Stegun, aximum error in computation = 1.5 x 10/		athematical Functions, Dover Po	iblications, Ne	w York, page 299, formula 7.1.2	16		
657.267069	92.77240969	ů,					
	0.3275911						
0.3275911	0.254829592						
= 0.3275911 = 0.254829592	0.234629392						
= 0.254829592 = -0.284496736	-0.284496736						
= 0.254829592 - 0.284496736 = 1.421413741	-0.284496736 1.421413741						
= 0.254829592 -0.284496736 - 1.421413741 - 1.453152027	-0.284496736 1.421413741 -1.453152027						
= 0.254829592 - 0.284496736 = 1.421413741	-0.284496736 1.421413741						

## Electronic Filing CReceived Externs Office 7 20 20 17-084) R. 377 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING RBCA EQUATION R26

	Site Details				Sample Deta	nile
Site Name & Location:	Illico Independen	nt Oil Co.		So.	mple Location:	
	Peoria, Illinois	in On Co.			le Depth (feet):	
LUST Incident Number(s):	923441			Jump	2 open (reet).	
	STANCE AND THE STANCE OF THE S		2			
Exposure Pathway: Groundwater Classification:	The same of the sa	of Groundwater Inges	tion			
Groundwater Classification:	Class I				Analyte:	Total Xylenes
Concentration at the source (C <sub>sou</sub>	urce)=	19.3910 mg/L				
Distance along centerline of the						
plume coming from the source	(X)=	15.50 ft	=	472.44 cm		
	()	TOILO		472.44 CM		
First order degradation constant (λ)=		0.0019 /day		if total xylenes, lambda=0.00	019/day	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	-	31.683 cm/day		
-1 solidaci vity (x)		5.007E-04 CHI/Sec	-0-0	31.083 cm/day		Porosity
Hydraulic gradient (i)=		0.0143 m/m				Gravel=0.25
T. (1. 1)	i i					Sand=0.32
Total soil porosity (θ <sub>T</sub> )=	ļ.	0.36 cm <sup>3</sup> /cm	soil			Silt=0.40
Source width perpendicular to GW						Clay=0.36 Default=0.43
flow direction in horizontal plane (S <sub>w</sub> )=	4 3	240 ft	=	7,315.20 cm	ŝ.	Detaust 0.45
	2			20 (Control of St. (Control of		
Source width perpendicular to GW	j.				25 W 202	S 00000 S
flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	=	200 cm	(assuming comple	ete mixing)
Calculated Parameters		DO NOT ENTER VALUE	S HERE	!		
ongitudinal dispersivity	Ax=	47.244 cm				
Transverse dispersivity	Ay=	15.748 cm				
Vertical dispersivity	Az=	2.3622 cm				
Specific discharge	U=	1.25499408 cm/day				
Sw/(4*SQRT(Ay*X))	B=	21.20216352				
Sd/(2*SQRT(Az*X))	C=	2.992658377	190255 Charles	my24/1780/07 42 TT		
Error function Error function	erf(B)= erf(C)=			r function values, the linear interpolation section		
	(0)	0.333710049 Sec 140	≈ 1740 III	the inical interpolation section	*	
Actual B value=	1	21.20216352		Actual C value=	2.992658377	
Automatic calculations : Actual erf(B)	i	21		Actual orf(C)	0.000074040	s F
		1		Actual erf(C)=	0.999976849	
Solutions	^					
9	C <sub>(x)</sub>	i -w				
j.	9.919	mg/l				
9	C <sub>source</sub>	e B				
	0.00	mg/l				
Computation of erf(x)						
ource: Abramowitz, M. and I. A. Stegun,	1972. Handbook of Ma	thematical Functions Down	Publicati	ons New York name 200 f	mla 7 1 26	
faximum error in computation = 1.5 x 10		memanear Functions, Dover	i uoncati	ons, 14cw 1 Olk, page 299, 10fm	iuia 1.1.20	
21.20216352	2.992658377					
0.3275911						
1= 0.254829592 2= -0.284496736						
3= 1.421413741	1.421413741					
-1.453152027						
5= 1.061405429						
0.125855185	0.504956591					

0.125855185

1

erf(x)=

0.504956591

0.999976849

The Agency is authorized to require intermental multiple of the property of not to exceed \$10,000.00 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 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 5/57.17). This form has been approved by the Forms Management Center.

# Illinois Environmental Protection Agency Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations

A.	Site	Identification
	Oite	identification

1930200					
	IEMA Incident # (6- or 8-digit):	9234	<u>41                                      </u>	EPA LPC# (10-digi	t): 1430655263
	Site Name: Illico Independent C	Oil Co.			
	Site Address (not a P.O. Box):	3712 University	Street	0040	
	City: Peoria	County:	Peoria	_ Zip Code:	61614
	Leaking UST Technical File				
В.	Tier 2 Calculation Information	on			
	Equation(s) Used (ex: R12, R14,	R26): R26: Na	phthalene		
	Contact Information for Individual	Who Performe	d Calculations:	Joe Buhlig - Pro	ject Manager
	Marlin Environmental, Inc. Phone	e: (217) 726-75	69		
	Land Use: Not Applie	cable	Soil Type	: c	lay
	Groundwater:	Class II			
	Mass Limit:	Yes, then Spec	ify Acreage:	□0.5 □1 □2	┌5 ┌10 ┌30
	Result from S18/S28 used in R26	? ⊠ Yes ┌	No Specify C	S <sub>source</sub> from S18/S28	see page 3 mg/L
	- Mass Limit Acreage other than	n defaults mus	t always be ro	unded 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
ATc	=	70	yr	d	=	cm
ΑTη	=		yr	Dair	=	cm²/s
BW	=	70	kg	Dwater	=	cm²/s
C <sub>source</sub>	=	see page 3	mg/L	D <sub>s</sub> eff	=	cm²/s
C <sub>(x)</sub>	=		mg/L	ED	=	yr
C <sub>(x)</sub> /C <sub>source</sub>	=		unitless	EF	=	d/yr

Incident #:

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Symbol			Unit	Symbol			Unit
erf	=		unitless	RAF <sub>d</sub> (PNAs)	=	0.05	unitless
f <sub>oc</sub>	=		g/g	RAF <sub>d</sub> (inorganics)	=	0	unitless
$GW_comp$	=		mg/L	RAF <sub>0</sub>	=	1.0	unitless
GW <sub>source</sub>			mg/L	RBSL <sub>air</sub> (carcinogenic)	=		μg/m³
H'	2=2		cm³ <sub>water</sub> /cm³ <sub>air</sub>	RBSL <sub>air</sub> (noncarcinogenic)	=		µg/m³
ľ	i=:	0.0273 0.01426 U	cm/cm	RfD <sub>i</sub>	=		mg/kg-d
T	: <b>=</b> :	30	cm/yr	RfD。	<del>-</del>		mg/kg-d
IR <sub>air</sub>	:=:	20	m³/d	SA	=	3,160	cm <sup>2</sup> /d
IR <sub>soil</sub>	=		mg/d	S <sub>d</sub>	=	200	cm
IR <sub>w</sub>	=		L/d	S <sub>w</sub>	= < 2	7,315.2	cm
к	=	31.683	cm/d for R15, R19, R26; cm/yr for R24	SFi	=		(mg/kg-d) <sup>-1</sup>
K <sub>oc</sub>	=		cm³/g or L/kg	SF <sub>o</sub>	=		(mg/kg-d) <sup>-1</sup>
k <sub>s</sub> (non-ionizing organics)			cm³ <sub>water</sub> /g <sub>soil</sub>	THQ	=	1	unitless
k <sub>s</sub> (ionizing organics)	=		cm³ <sub>water</sub> /g <sub>soil</sub>	TR	=		unitless
k <sub>s</sub> (inorganics)	=		cm³ <sub>water</sub> /g <sub>soil</sub>	U	=		cm/d
Ls	=	100	cm	U <sub>air</sub>	=	225	cm/s
LF <sub>sw</sub>	=		(mg/L <sub>water</sub> ) /(mg/kg <sub>soil</sub> )	Ugw	=		cm/yr
М	=	0.5	mg/cm²	VFp	=		kg/m³
Pe	=	6.9 •10 <sup>-14</sup>	g/cm²-s	VF <sub>samb</sub>	=		(mg/m³ <sub>air</sub> )/mg/kg <sub>soil</sub> ) or kg/m³
$RAF_d$	=	0.5	unitless	VF <sub>ss</sub>	=		kg/m³

Incident #:

### Electronic Filing: Received NClerk's Office 7/278/2017 2017 094) Reserved

Symbol	<u> </u>		Unit
W	=		cm
w	=		g <sub>water</sub> /g <sub>soil</sub>
Х	i=:	see below	cm
$a_{x}$	=		cm
α <sub>y</sub>	=		cm
$a_{z}$	=		cm
$\delta_{ m air}$	=	200	cm
$\delta_{\rm gw}$	=	200	cm

Symbol			Unit
$\theta_{\text{as}}$	8=8		cm³ <sub>air</sub> /cm³ <sub>soil</sub>
$\theta_{\text{ws}}$	=		cm³ <sub>water</sub> /cm³ <sub>soil</sub>
$\theta_{T}$	Ε	0.36	cm <sup>3</sup> /cm <sup>3</sup> <sub>soll</sub>
λ	=	0.0027	d <sup>-1</sup>
π		3.1416	
$\rho_b$	=		g/cm³
$\rho_{\rm w}$	<b>=</b>	1	g/cm³
τ	=	9.46 •10 <sup>8</sup>	s
W: UX	=	- vilu	- V - 1935

Equation	Result	Unit(s)
R1	<b>=</b>	mg/kg
R2	=	mg/kg
R7	=	mg/kg
R8	=	mg/kg
R12	=	mg/kg
R25	=	mg/L

Groundwater MW-4:0.229 MW-7: 0.472 MW-13: 0.177 Soil Leaching SB-31 4'-6': 0.300 SB-4 4'-6': 0.1790 Not using SB-17 6'-7': 0.7380 MW-7 7'-9': 0.4074 No+ using

Csource Values: (mg/L)

#### Maximum Predicted Extent of Groundwater Impact (X): (feet from point source)

Groundwater MW-7: 21' MW-13: 4'

Soil Leaching SB-31 4'-6': 12.5' SB-4 4'-6': 3.80' SB-17 6'-7': 29.10'

Not using

MW-7 7'-9": 18' Not using

## Electronic Piling Received Clark's Office Was 2017-084) R. 381 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING RBCA EQUATION R26

Site Name & Location:	11111 1 4 4	Tropping the second				
	Peoria, Illinois	at Oil Company		Sar	nple Location: Sample Date:	
UST Incident Number(s):	923441					
xposure Pathway: Groundwater Classification:	Groundwater Cor Class I	mponent of Groundwater	Ingestion		Analyte:	Naphthalene
Concentration at the source (C <sub>source</sub>	ce)=	0.4720 mg/L				
Distance along centerline of the						
plume coming from the source (	X)=	21.00 ft	=	640.08 cm		
irst order degradation constant (λ)=		0.0027/day		if naphthalene, lambda=0.002	7/day	
quifer hydraulic conductivity (K)=		3.667E-04 cm/sec	e.	31.683 cm/day	1	
lydraulic gradient (i)=		0.0143 m/m				Porosity Gravel=0.25
'otal soil porosity (θ <sub>T</sub> )=		0,36 cm <sup>3</sup> /cm	3 soil			Sand=0.32 Silt=0.40
ource width perpendicular to GW flow direction in horizontal plane (S <sub>w</sub> )		240 ft	æ	7,315.20 cm		Clay=0.36 Default=0.43
ource width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft		200 cm	(assuming comple	te mixing)
Calculated Parameters		DO NOT ENTER VALUES	HERE!			
ongitudinal dispersivity	Ax=	64.008 cm				
ransverse dispersivity	Ay=	21.336 cm				
ertical dispersivity	Az=	3.2004 cm				
pecific discharge	U≔	1.25499408 cm/day				
	B=	15.64921593				
	C=	2.208866897				
1977 UNITED AND AND AND AND AND AND AND AND AND AN	erf(B)=		rmine error fur	action values		
	erf(C)=			linear interpolation section.		
ctual B value=		15.64921593		Actual C value=	2.208866897	
Automatic calculations : Actual erf(B)		1		Actual erf(C)	0.998214605	
Solutions						
Î	C <sub>(x)</sub> 0.13818	mg/l				
<b>1.</b>	C <sub>source</sub>					
[	0.00	mg/l				
omputation of erf(x)						
ource: Abramowitz, M. and I. A. Stegun,		athematical Functions, Dover Pu	blications, Nev	v York, page 299, formula 7.1.2	6	
aximum error in computation = 1.5 x 10^-	-7 2.208866897					
= 15.64921593 = 0.3275911	0.3275911					
= 0.254829592	0.3273911					
-0.284496736	-0.284496736					
	1.421413741					
1 4/14/1/1	1.441413/41					
	-1 453152027					
-1.453152027	-1.453152027					
	-1.453152027 1.061405429 0.580179287					

## Electronic Filing: Received E Clerk's Office (1/28/2017-084) R. 382 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING RBCA EQUATION R26

	Site Details				Sample Deta	ils
Site Name & Location:	Illico Independer Peoria, Illinois	nt Oil Company		Sai	mple Location: Sample Date:	
LUST Incident Number(s):	923441					
Exposure Pathway:	Groundwater Co	mponent of Groundwater I	ngestion			
Groundwater Classification:	Class I	21 2 300	Section 1885	<u> </u>	Analyte:	Naphthalene
Concentration at the source (C <sub>source</sub>	<sub>(00</sub> )=	0.1770 mg/L				
Distance along centerline of the						
plume coming from the source (	(X)=	4.00 ft	=	121.92 cm		
First order degradation constant ( $\lambda$ )=		0.0027/day		if naphthalene, lambda=0.002	27/day	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	202	31.683 cm/day	1	
Hydraulic gradient (i)=		0.0143 m/m				Porosity Gravel=0.25 Sand=0.32
Total soil porosity $(\theta_T)$ =		0.36 cm <sup>3</sup> /cm	soil			Sand=0.32 Silt=0.40 Clay=0.36
Source width perpendicular to GW						Default=0.43
flow direction in horizontal plane (S <sub>w</sub> )=		240 ft	5.0	7,315.20 cm		
Source width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	<b>a</b> )	200 cm	(assuming comple	te mixing)
Calculated Parameters		DO NOT ENTER VALUES I	HERE!			
ongitudinal dispersivity	Ax=	12.192 cm				
Fransverse dispersivity	Ay=	4.064 cm				
Vertical dispersivity	Az=	0.6096 cm				
Specific discharge	U=	1.25499408 cm/day				
w/(4*SQRT(Ay*X))	B=	82.15838363				
6d/(2*SQRT(Az*X))	C=	11.59655121				
Error function	erf(B)=	1 To deter	mine error fun	ction values,		
error function	erf(C)=	1 see F46	& K46 in the	linear interpolation section.		
actual B value=		82.15838363		Actual C value=	11.59655121	
Automatic calculations : Actual erf(B)		1		Actual erf(C)=	1	
Solutions						
*	C <sub>(x)</sub>	mg/l				
l	0.13706 C <sub>source</sub>	• · · · · · · · · · · · · · · · · · · ·				
ı		mg/l				
Computation of erf(x) ource: Abramowitz, M. and I. A. Stegun,	C <sub>source</sub> 0.00 1972, Handbook of Ma	mg/l	olications, New	y York, page 299, formula 7.1.	26	
computation of erf(x) ource: Abramowitz, M. and I. A. Stegun, faximum error in computation = 1.5 x 10^	C <sub>source</sub> 0.00 1972, Handbook of Ma	mg/l	olications, New	/ York, page 299, formula 7.1.	26	
computation of erf(x)  ource: Abramowitz, M. and I. A. Stegun,  faximum error in computation = 1.5 x 10^  = 82.15838363	C <sub>source</sub> 0.00  1972, Handbook of Ma -7  11.59655121	mg/l	dications, New	/ York, page 299, formula 7.1./	26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, laximum error in computation = 1.5 x 10^ = 82.15838363 = 0.3275911	C <sub>source</sub> 0.00  1972, Handbook of Ma -7  11.59655121  0.3275911	mg/l	lications, New	/ York, page 299, formula 7.1.7	26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, (aximum error in computation = 1.5 x 10^  = 82.15838363 = 0.3275911 = 0.254829592	C <sub>source</sub> 0.00  1972, Handbook of Ma -7  11.59655121  0.3275911  0.254829592	mg/l	dications, New	/ York, page 299, formula 7.1.7	26	
fomputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, faximum error in computation = 1.5 x 10^  = 82.15838363 = 0.3275911 = 0.254829592 = -0.284496736	C <sub>source</sub> 0.00  1972, Handbook of Ma -7  11.59655121 0.3275911 0.254829592 -0.284496736	mg/l	olications, New	/ York, page 299, formula 7.1.	26	
omputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, laximum error in computation = 1.5 x 10^  = 82.15838363 = 0.3275911 = 0.254829592 = -0.284496736 = 1.421413741	C <sub>source</sub> 0.00  1972, Handbook of Ma -7  11.59655121 0.3275911 0.254829592 -0.284496736 1.421413741	mg/l	lications, New	v York, page 299, formula 7.1.2	26	
fomputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, faximum error in computation = 1.5 x 10^  = 82.15838363 = 0.3275911 = 0.254829592 2= -0.284496736 B= 1.421413741 4= -1.453152027	C <sub>source</sub> 0.00  1972, Handbook of Ma -7  11.59655121 0.3275911 0.254829592 -0.284496736 1.421413741 -1.453152027	mg/l	lications, New	v York, page 299, formula 7.1./	26	
fomputation of erf(x)  ource: Abramowitz, M. and I. A. Stegun, faximum error in computation = 1.5 x 10^  = 82.15838363 = 0.3275911 1= 0.254829592 2= -0.284496736 3= 1.421413741	C <sub>source</sub> 0.00  1972, Handbook of Ma -7  11.59655121 0.3275911 0.254829592 -0.284496736 1.421413741	mg/l	dications, New	v York, page 299, formula 7.1.	26	

## Electronic Filing Received F. Clerk's Office J. 28/2017-084) R. 383 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING

		Site Details			Sam	ple Deta	nils
	Site Name & Location:	Illico Independe	ent Oil Co.		Sample L		
		Peoria, Illinois			Sample Dept		and the same of th
ië l	LUST Incident Number(s):	923441				_ (-500).	reserves
	22574	G.					
100	Exposure Pathway:		t of Groundwater Ingesti	on			DAS LITTERN TO
	Groundwater Classification:	Class 1				Analyte:	Naphthalene
8	Concentration at the source (C <sub>sou</sub>	rce)=	0.3000 mg/L				
	Distance along centerline of the						
	plume coming from the source	(X)=	12.50 ft	=	381.00 cm		
		and the second of the second o			Constitution and Consti		
	First order degradation constant $(\lambda)$ =		0.0027 /day		if naphthalene, lambda=0.0027/day		
	Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	=	31.683 cm/day		
	1		J.OUTL-04 CHI/SEC	-25	31.003 Cit/day	1	Porosity
	Hydraulic gradient (i)=		0.0143 m/m				Gravel=0.25
	The state of the s						Sand=0.32
	Total soil porosity $(\theta_T)$		0.36 cm <sup>3</sup> /cm <sup>3</sup> <sub>so</sub>	ńL			Silt=0.40
	Source width perpendicular to GW		- CC - CC - CC - CC - CC - CC - CC - C				Clay=0.36
	flow direction in horizontal plane $(S_w)$ =		240 ft	=	7,315.20 cm	ļ	Default=0.43
	Pano (ow)		240 10	inti	7,5 15.20 CIII		
	Source width perpendicular to GW				70		
	flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	=	200 cm (assum	ing comple	ete mixing)
	College of Dec		BO NOT				
	Calculated Parameters		DO NOT ENTER VALUES	HERE!			
	Longitudinal dispersivity	Ax=	38.1 cm				
	Transverse dispersivity	Ay-	12.7 cm				
	Vertical dispersivity	Az=	1.905 cm				
	Specific discharge	<b>U</b> =	1.25499408 cm/day				
	Sw/(4*SQRT(Ay*X))	B=	26.29068276				
	Sd/(2*SQRT(Az*X))	C=	3.710896388				
	Error function Error function	erf(B)=			r function values,		
	LATOR TURCHOR	erf(C)=	0.339999846 see F46 &	K46 in	the linear interpolation section.		
ļ	Actual B value=		26.29068276		Actual C value= 3.7	10896388	
	Representative and the second				10 56 14554N		
	Automatic calculations : Actual erf(B)		1		Actual erf(C)= 0.9	99999846	
	Solutions						
	Solutions	Con					
	1	C <sub>(x)</sub>	<b>1</b>				
		0.140	mg/l				
	ì	C <sub>source</sub>	1 .				
		0.00	mg/l				
:	Computation of erf(x)						
	25 1.70329	1072 Handhad 1 - 654	othomostical E	.1.1			
1	Source: Abramowitz, M. and I. A. Stegun, 1 Maximum error in computation = 1.5 x 10 <sup>4</sup>	1972, Handbook of Ma	athematical Functions, Dover P	ublicatio	ons, New York, page 299, formula 7.1.26		
	x= 26.29068276	3.710896388					
23/2	p= 0.3275911	0.3275911					
	a1= 0.254829592	0.254829592					
	a2= -0.284496736 a3= 1.421413741	-0.284496736 1.421413741					
	1.421413741 14= -1.453152027	-1.453152027					
	a5= 1.061405429	1.061405429					
	0.104030195	0.451333472					
e	erf(x)=	0.999999846					

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	Site Details				Sample Deta	ils
Site Name & Location:	Illico Independe Peoria, Illinois	ent Oil Co.			mple Location: le Depth (feet):	
LUST Incident Number(s):	923441				e Deptii (ieet).	
Exposure Pathway:	Soil Component	of Groundwater Ingestion	1			
Groundwater Classification:	Class I	Carte Constant and the Constant Constan			Analyte:	Naphthalene
Concentration at the source (C <sub>sou</sub>	urce)=	0.1790 mg/L				
Distance along centerline of the						
plume coming from the source	(X)=	3.80 ft	-	115.82 cm		
First order degradation constant (λ)=		0.0027/day	if napht	halene, lambda-0.002	27/day	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec =		31.683 cm/day		
Hydraulic gradient (i)=		0.0143 m/m				Porosity Gravel=0.25
Total soil porosity (θ <sub>T</sub> )=		0.36 cm <sup>3</sup> /cm <sup>3</sup> soil				Sand=0.32 Silt=0.40
Source width perpendicular to GW flow direction in horizontal plane ( $S_w$ )=		240 ft =		7,315.20 cm	ŀ	Clay=0.36 Default=0.43
ource width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft =		200 cm	(assuming comple	te mixing)
Calculated Parameters		DO NOT ENTER VALUES E	ERE!			
ongitudinal dispersivity	Ax=	11.5824 cm				
ransverse dispersivity	Ay=	3.8608 cm				
ertical dispersivity	Az=	0.57912 cm				
pecific discharge	U=	1.25499408 cm/day				
w/(4*SQRT(Ay*X))	B≔	86.48250908				
d/(2*SQRT(Az*X))	C=	12.20689601		NOT WORK OF		
rror function	erf(B)=		e error function			
error function	erf(C)=	1 see F46 & K	46 in the linear	interpolation section.		
ctual B value=		86.48250908	Actual C	C value=	12.20689601	
Automatic calculations : Actual erf(B)		1	Actual e	rf(C)=	1	
Solutions						
	$C_{(x)}$	ė.				
	0.140	mg/l				
	C <sub>source</sub>					
	0.00	mg/l				
omputation of erf(x)						
ource: Abramowitz, M. and I. A. Stegun,	1972, Handbook of Ma	athematical Functions, Dover Pul	lications. New	York, page 299, form	ula 7.1.26	
laximum error in computation = 1.5 x 10			se superiment (1925) (19			
86.48250908						
0.3275911						
0.254829592						
2= -0.284496736 3= 1.421413741						
1.421413741 -1.453152027	1.421413741 -1.453152027					
-1.733132027						
1.061405429	1.061405429					
5= 1.061405429 0.034093737						
		Not using. The	efore and	reviewed.		

## Electronic Filing Received E Clerk's Office 7 28 2017-084) R. 385 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING

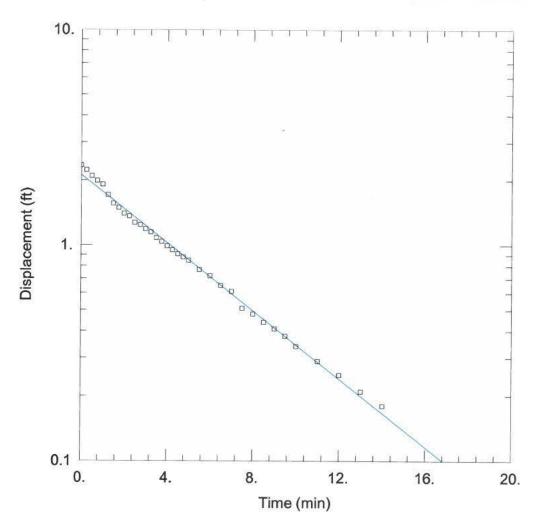
	Site Details				Sample Deta	
Site Name & Location:	Illico Independe	ent Oil Co.			le Location:	
	Peoria, Illinois			Sample 1	Depth (feet):	6'-7'
LUST Incident Number(s):	923441					
Exposure Pathway:	Soil Componen	t of Groundwater Inges	ion			
Groundwater Classification:	Class I	tor Ground water inges	.ion		Analyte:	Naphthalene
Concentration at the source (C <sub>sou</sub>	nrce)=	0.7380 mg/L				
Distance along centerline of the						
plume coming from the source	(X)=	29.10 ft	=	886.97 cm		
First order degradation constant (λ)=		0.0027 /day		if naphthalene, lambda=0.0027/o	lay	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	=	31.683 cm/day		
Hydraulic gradient (i)=		0.0143 m/m				Porosity Gravel=0.25
Total soil porosity (θ <sub>T</sub> )=		0.36 cm <sup>3</sup> /cm <sup>3</sup>	soil			Sand=0.32 Silt=0.40
Source width perpendicular to GW flow direction in horizontal plane $(S_w)$ =		240 ft	22	7,315.20 cm	l	Clay=0.36 Default=0.43
Source width perpendicular to GW flow direction in vertical plane (S <sub>d</sub> )=		6.56 ft	=	200 cm	assuming comple	te mixing)
Calculated Parameters		DO NOT ENTER VALUE	S HERE	ı		
ongitudinal dispersivity	Ax-	88.6968 cm				
ransverse dispersivity	Ay-	29.5656 cm				
/ertical dispersivity	Az=	4.43484 cm				
pecific discharge	U=	1.25499408 cm/day				
w/(4*SQRT(Ay*X))	B=	11.29324861				
d/(2*SQRT(Az*X))	C=	1.594027658				
error function	erf(B)=	1 To deter	mine erro	or function values,		
error function	erf(C)=	0.975822494 see F46	& K46 in	the linear interpolation section.		
actual B value=		11.29324861		Actual C value=	1.594027658	
Automatic calculations : Actual erf(B)		1		Actual erf(C)=	0.975822494	
Solutions						
1	C <sub>(x)</sub> 0.140 C <sub>source</sub>	mg/l				
8	0.00	mg/l				
omputation of erf(x)						
ource: Abramowitz, M. and I. A. Stegun, faximum error in computation = 1.5 x 10	1972, Handbook of M	athematical Functions, Dover	Publicati	ons, New York, page 299, formula	7.1.26	
	1.594027658					
11.29324861	0.3275911					
= 11.29324861 = 0.3275911						
		!				
= 0.3275911 1= 0.254829592 2= -0.284496736	0.254829592					
= 0.3275911 l= 0.254829592 2= -0.284496736 3= 1.421413741	0.254829592					
- 0.3275911 - 0.254829592 20.284496736 3- 1.421413741 -1.453152027	0.254829592 -0.284496736 1.421413741 -1.453152027					
= 0.3275911 1= 0.254829592 2= -0.284496736 3= 1.421413741 4= -1.453152027 5= 1.061405429	0.254829592 -0.284496736 1.421413741 -1.453152027 1.061405429					
= 0.3275911 1= 0.254829592 2= -0.284496736 3= 1.421413741 4= -1.453152027	0.254829592 -0.284496736 1.421413741 -1.453152027					

## Electronic Filing Received Clerk's Office 7/28/2017-084) R. 386 MAXIMUM PREDICTED EXTENT OF GROUNDWATER IMPACT MODELING

	Site Details	DE: 4		4-3	Sample Deta	ails
Site Name & Location:	Illico Independent Oil Co. Peoria, Illinois		Sample Location: MW-7 Sample Depth (feet): 7'-9'			
LUST Incident Number(s):	923441					
Exposure Pathway:	Sail Company	t of Groundwater Inges				
Groundwater Classification:	Class I	it of Groundwater ingest	ion		Analyta	: Naphthalene
Groundwater Classification.	Ciuss I				Analyte	Naphthalene
Concentration at the source (C <sub>sou</sub>	rce)=	0.4074 mg/L				
Distance along centerline of the						
plume coming from the source	(X)=	18.00 ft	=	548.64 cm		
First order degradation constant (λ)=		0.0027 /day		if naphthalene, lambda=0.002	7/day	
Aquifer hydraulic conductivity (K)=		3.667E-04 cm/sec	-	31.683 cm/day		
Hydraulic gradient (i)=		0.0143 m/m				Porosity Gravel=0.25
Total soil porosity (θ <sub>T</sub> )=		0.36 cm <sup>3</sup> /cm <sup>3</sup>	soil			Sand=0.32 Silt=0.40
Source width perpendicular to GW flow direction in horizontal plane $(S_w)$ =		240 ft	=	7,315.20 cm		Clay=0.36 Default=0.43
Source width perpendicular to GW flow direction in vertical plane $(S_d)$ =		6.56 ft	=	200 cm	(assuming compl	ete mixing)
Calculated Parameters		DO NOT ENTER VALUE	S HERE	K		
ongitudinal dispersivity	Ax=	54.864 cm				
Fransverse dispersivity	Ay= ·	18.288 cm				
Vertical dispersivity	Az=	2.7432 cm				
Specific discharge	U=	1.25499408 cm/day				
Sw/(4*SQRT(Ay*X))	B=	18.25741858				
Sd/(2*SQRT(Az*X))	C=	2.57701138				
	erf(B)=			r function values,		
Error function	erf(C)=	0.999731962 see F46 a	k K46 in	the linear interpolation section.		
Actual B value		18.25741858	9	Actual C value=	2.57701138	1
Automatic calculations : Actual erf(B)		1		Actual erf(C)=	0.999731962	ľ
Solutions						
	C <sub>(x)</sub> 0.140 C <sub>source</sub>	]mg/l				
Computation of erf(x)	0.00	mg/l				
ource: Abramowitz, M. and I. A. Stegun,	1972, Handbook of M	lathematical Functions Dover	Publicati	ons. New York page 200 forms	la 7 1 26	
Maximum error in computation = 1.5 x 10°		and to a discussion of the control of the co	doneath	one, 1101 101k, page 277, 101111u	10 1.1.2U	
= 18.25741858	2.57701138					
0.3275911	0.3275911					
1= 0.254829592	0.254829592					
2= -0.284496736 3= 1.421413741	-0.284496736					
3= 1.421413741 4= -1.453152027	1.421413741 -1.453152027					
5= 1.061405429	1.061405429					
0.143246613	0.542238776	5				
rf(x)=	0.999731962	Notusing.	lhere	fore not reviewed.		
		D)				

	Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 387
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### Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 388



### WELL TEST ANALYSIS

Data Set:

Date: 11/25/15

Time: 10:07:43

### PROJECT INFORMATION

Company: Marlin Environmental Client: Illico Independent Oil Co.

Project: 1382
Location: Peoria
Test Well: MW-2
Test Date: 11/24/15

#### **AQUIFER DATA**

Saturated Thickness: 20. ft Unknown

Anisotropy Ratio (Kz/Kr): 1.

### WELL DATA (MW-2)

Initial Displacement: 2.35 ft

Total Well Penetration Depth: 10. ft Unconfined -

Casing Radius: 0.08333 ft

ft Unconfined -Static Water Column Height Static Water Column Height: 8.8 ft (14.8 - 6.6)

Screen Length: 10. ft d=0, L= 8.8'

Well Radius: 0.3542 ft (8.25"/2 = 4.125"= 0.34375')

Gravel Pack Porosity: 0.25

#### SOLUTION

Aquifer Model: Unconfined

K = 0.0003667 cm/sec

Solution Method: Bouwer-Rice

v0 = 2119 ft

### Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 389

#### AQTESOLV for Windows

Data Set:

Date: 11/25/15 Time: 10:07:19

### PROJECT INFORMATION

Company: Marlin Environmental Client: Illico Independent Oil Co.

Project: 1382 Location: Peoria Test Date: 11/24/15 Test Well: MW-2

#### AQUIFER DATA

Saturated Thickness: 20. ft Unknown

Anisotropy Ratio (Kz/Kr): 1.

#### SLUG TEST WELL DATA

Test Well: MW-2

X Location: 0. ft Y Location: 0. ft

Initial Displacement: 2.35 ft

Static Water Column Height: 8.8 ft

Casing Radius: 0.08333 ft

Well Radius: 0.3542 ft

Well Skin Radius: 0.3542 ft

Screen Length: 10. ft d=0, L=8.8'

Total Well Penetration Depth: 10. ft 8.9'

Corrected Casing Radius (Bouwer-Rice Method): 0.1912 ft

Gravel Pack Porosity: 0.25

No. of Observations: 35

Observation Data								
Time (min)	Displacement (ft)	Time (min)	Displacement (ft)					
0.	2.35	4.5	0.91					
0.25	2.23	4.75	0.88					
0.5	2.09	5.	0.85					
0.75	1.99	5.5	0.77					
1.	1.91	6.	0.72					
1.25	1.71	6.5	0.65					
1.5	1.56	7.	0.61					
1.75	1.49	7.5	0.51					
2.	1.4	8.	0.48					
2.25	1.36	8.5	0.44					
2.5	1.27	9.	0.41					
2.75	1.24	9.5	0.38					
3.	1.19	10.	0.34					
3.25	1.15	11.	0.29					
3.5	1.08	12.	0.25					
3.75	1.04	13.	0.21					
4.	0.99	14.	0.18					

### Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 390

### AQTESOLV for Windows

Time (min) 4.25 Displacement (ft) 0.95 Time (min)

Displacement (ft)

### SOLUTION

Slug Test

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

In(Re/rw): 2.175

### VISUAL ESTIMATION RESULTS

### **Estimated Parameters**

Parameter K Estimate

cm/sec

y0

0.0003667 cn 2.119 ft

 $T = K*b = 0.2235 \text{ cm}^2/\text{sec}$ 



### **EPA On-line Tools for Site Assessment Calculation**

Hydraulic Gradient -- Magnitude and Direction

Gradient Calculation from fitting a plane to as many as thirty points

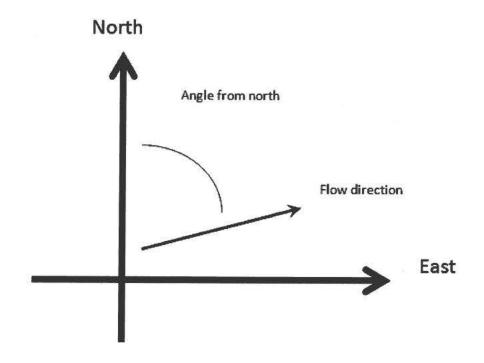
$$a x_1 + b y_1 + c = h_1$$
  
 $a x_2 + b y_2 + c = h_2$   
 $a x_3 + b y_3 + c = h_3$   
...  
 $a x_{30} + b y_{30} + c = h_{30}$ 

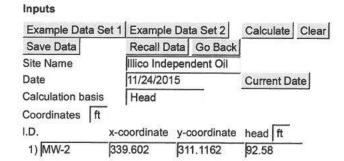
where  $(x_i, y_i)$  are the coordinates of the well and  $h_i$  is the head

i = 1, 2, 3, ..., 30

The coefficients a, b, and c are calculated by a least-squares fitting of the the data to a plane

The gradient is calculated from the square root of (a<sup>2</sup> + b<sup>2</sup>) and the angle from the arctangent of a/b or b/a depending on the quadrant





2) MW-3	334.1549	159.0299	94.01
3) MW-4	248.8599	195.0918	92.10
4) MW-5	287.8843	403.0015	92.06
5) MW-9	299.6859	319.2726	92.05
6) MW-10	307.4868	254.4922	92.98
7) MW-11	305.055	163.4879	93.65
8) MW-12	224.3695	253.8544	91.61
9) MW-13	224.3759	299.2368	91.74
10) MW-14	276.4118	332.9889	92.55
11)			
12)			
13)			
14)			
15)			
16)			
17)			
18)			
19)			
20)			
21)			
22)	a		
23)			
24)			
25)			
26)			
27)	CAS CAS CAS CAS CAS CAS CAS CAS CAS CAS		
28)			
29)			
30)			

#### Results

Number of Points Used in Calculation 10

Max. Difference Between Head Values 0.7315

Gradient Magnitude (i) 0.01426

Flow direction as degrees from North (positive y axis)292.4

Coefficient of Determination (R<sup>2</sup>) 0.831

WCMS

Last updated on 9/6/2015

П	Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 393
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# Electronic Filing: Received, Clerk's Office 28/201.2017-084) R. 394 Illinois Environmental Protection Agency

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

LPC #:	1430655263	County:	Peoria
City:	Peoria	Site Name:	Illico Independent Oil Co.
Site Address: 3'	712 University Street		
IEMA Incident N	o. 923441	- H-1 (-	
IEMA Notification	on Date: 12/ <mark>02</mark> /1992	P.	
Date this form wa		15	
This form is be	ing submitted as a (check or	ne, if applicable):	
☑ Budget I	Proposal		
☐ Budget A	Amendment (Budget amendment	s must include only the co	ests over the previous budget.)
☐ Billing F	ackage		
Please p	rovide the name(s) and date(s) of	report(s) documenting the	e costs requested:
Name(s)	Stage 3 P&B	SICR	
Date(s):	10/6/2015	12/14/2015	· · · · · · · · · · · · · · · · · · ·
35 Ill. Adm. Co			
	duct Removal after Early Action		
700000	stigation Stage 1:		Stage 3: ✓
	ve Action Actual Co.		Actual
35 Ill. Adm. Co	de 732:	*	3
☐ Early Ac	tion		
☐ Free Pro	duct Removal after Early Action		
☐ Site Clas	sification		
☐ Low Price	ority Corrective Action		RECEIVED
☐ High Pri	ority Corrective Action		
35 Ill. Adm. Co	de 731:		DEC 1 4 2015 IEPA/BOL
☐ Site Inve	stigation		IEPABOI
☐ Corrective	re Action		Lang .

IL 532-2825

LPC 630 Rev. 1/2007

### General Information Control of The C

The following address will be used as the mailing address for checks and any final determination letters regarding payment from the Fund.

Pay to the order of:		- IV	Illico Inc.					
Send in care of:		Marlin 1	Environmental, I	nc.				
Address: 3935 Commerce Drive  City: Saint Charles State: Illinois Zip: 60174								
City: S	aint Charles	State:	Illinois	Zip:	60174			
Payee is the:	Owner	Operator	(Check one or b	ooth.)				
Signature of the own	lusidet er or operator o	of the UST(s) (require	ed)	W-9 must be su Click here to pr	bmitted. int off a W-9 Form.			
or joint stock company company of the owner Fewer th Number of USTs at th have been removed.)	or operator:	101 or more:		<b>* 6</b> *	site and USTs that			
Number of incidents re Incident Numbers assi		With the state of	- 11 11 11	923441				
Please list all tanks that Product Stored in US	Size	located at the site and  Did UST have a release?	tanks that are pr	7	at the site.  Type of Release k Leak / Overfill / Piping Leak			
Unleaded Gasoline	12,000	Yes ☑ No □	92344	¥1	Overfill			
Unleaded Gasoline	12,000	Yes ☑ No □	92344	¥1	Overfill			
Unleaded Gasoline	12,000	Yes ☑ No □	92344	11	Overfill			
Diesel Fuel	12,000	Yes ☑ No □	92344	11	Overfill			
Kerosene	6,000	Yes ☑ No □	92344	<b>1</b> 1	Overfill			
		Yes □ No □	]					
		Yes □ No □	]					
		Yes □ No □	7					

Yes  $\square$ 

Yes □

Yes  $\square$ 

Yes  $\square$ 

No 🗆

No □

No □

No 🗆

## Electronic Filing: Received, Clerk's Officenia/28/2017-084) R. 396 Budget Summary

Choose the applicable regulations:

● 734

**Ø**32

734	Free Product	Stage 1 Site Investigation	Stage 2 Site Investigation	Stage 3 Site Investigation	Corrective Action
Drilling and Monitoring Wells Costs Form				\$0.00	1
Analytical Costs Form				\$109.04	
Remediation and Disposal Costs Form				\$0.00	
UST Removal and Abandonment Costs Form				\$0.00	
Paving, Demolition, and Well Abandonment Costs Form				\$0.00	
Consulting Personnel Costs Form				\$15,511.96	
Consultant's Materials Costs Form		1	)	\$604.80	200-00-00-00-00-00-00-00-00-00-00-00-00-
Handling Charges Form				is submitted to the Illi dance with the Handlin	
Total	\$0.00	\$0.00	\$0.00	\$16,225.80	\$0.00

# Electronic Filing: Received, Clerk's Office (2017-084) R. 397 Analytical Costs Form

Laboratory Analysis	Number of Samples		Cost (\$) per Analysis		Total per Parameter
Chemical Analysis					
BETX Soil with MTBE EPA 8260		X	\$105.33	=	\$0.00
BETX Water with MTBE EPA 8260		х	\$100.37	and a	\$0.00
COD (Chemical Oxygen Demand)		x	\$37.17		\$0.00
Corrosivity		х	\$18.59	=	\$0.00
Flash Point or Ignitability Analysis EPA 1010		x	\$40.88	=	\$0.00
Fraction Organic Carbon Content (fc) ASTM-D 2974-00	1	х	\$47.08	=	\$47.08
Fat, Oil, & Grease (FOG)		х	\$74.34	=	\$0.00
LUST Pollutants Soil - analysis must include volatile, base/ neutral, polynuclear aromatics and metals list in Section 732. Appendix B and 734.Appendix B		x	\$858.73	=	\$0.00
Dissolved Oxygen (DO)		х	\$29.74	===	\$0.00
Paint Filter (Free Liquids)		x	\$17.35	= 1	\$0.00
PCB / Pesticides (combination)		х	\$275.09	=	\$0.00
PCBs		X	\$137.54	=	\$0.00
Pesticides		х	\$173.48	=	\$0.00
pH		x	\$17.35		\$0.00
Phenol		х	\$42.13	=	\$0.00
Polynuclear Aromatics PNA, or PAH SOIL EPA 8270		х	\$188.36	=	\$0.00
Polynuclear Aromatics PNA, or PAH WATER EPA 8270		х	\$188.36	=	\$0.00
Reactivity		x	\$84.26	==	\$0.00
SVOC - Soil (Semi-Volatile Organic Compounds)		х	\$387.85	=	\$0.00
SVOC - Water (Semi-Volatile Organic Compounds)		x	\$387.85	-	\$0.00
TKN (Total Kjeldahl) "nitrogen"		x	\$54.52	=	\$0.00
TPH (Total Petroleum Hydrocarbons)		X	\$151.18	=	\$0.00
VOC (Volatile Organic Compounds) - Soil (Non-Aqueous)		x	\$216.85	=	\$0.00
VOC (Volatile Organic Compounds) - Water		X	\$209.42	=	\$0.00
Field Blank BTEX		x	\$100.37	=	\$0.00
Trip Blank BTEX		х	\$100.37	7 = 0 = 3 = 3 = 3 = 3 = 3 = 3 = 3 = 3 = 3	\$0.00
		х		=	\$0.00
		х		=	\$0.00
		х		=	\$0.00
Geo-Technical Analysis					
Soil Bulk Density (p.) ASTM D2937-94		x	\$27.26	FR 2	\$0.00
Ex-situ Hydraulic Conductivity / Permeability		х	\$315.98	1=3	\$0.00
Moisture Content (w) ASTM D2216-92 / D4643-93		х	\$14.87	=	\$0.00
Porosity		Х	\$37.17	=	\$0.00
Rock Hydraulic Conductivity Ex-situ		х	\$433.70	=	\$0.00
Sieve / Particle Size Analysis ASTM D422-63 / D1140-54		Х	\$179.68		\$0.00
Soil Classification ASTM D2488-90 / D2487-90		х	\$84.26	= 2	\$0.00
Soil Particle Density (ps) ASTM D854-92		х	\$90.00	=	\$0.00
50 100 100 100 100 100 100 100 100 100 1		X		=	\$0.00
		Х	Walter Street	-	\$0.00
		x		=	\$0.00

## Electronic Filing: Received, Clerk's Office 17/28/2017-084) R. 398 Analytical Costs Form

Metals Analysis				
Soil preparation fee for Metals TCLP Soil(one fee per soil sample)	x	\$97.89	=	\$0.00
Soil preparation fee for Metals Total Soil(one fee per soil sample)	x	\$19.82	=	\$0.00
Water preparation fee for Metals Water(one fee per water sample)	x	\$13.62		\$0.00
Arsenic TCLP Soil	X	\$19.82	=	\$0.00
Arsenic Total Soil	x	\$19.82	=	\$0.00
Arsenic Water	x	\$22.30	= 1	\$0.00
Barium TCLP Soil	x	\$12.39	=	\$0.00
Barium Total Soil	x	\$12.39	=	\$0.00
Barium Water	x	\$14.87	=	\$0.00
Cadmium TCLP Soil	x	\$19.82	-	\$0.00
Cadmium Total Soil	x	\$19.82	=	\$0.00
Cadmium Water	x	\$22.30	=	\$0.00
Chromium TCLP Soil	x	\$12.39	=	\$0.00
Chromium Total Soil	x	\$12.39	= 3	\$0.00
Chromium Water	x	\$14.87	=	\$0.00
Cyanide TCLP Soil	x	\$34.70	=	\$0.00
Cyanide Total Soil	x	\$42.13	=	\$0.00
Cyanide Water	x	\$42.13		\$0.00
Iron TCLP Soil	x	\$12.39	=	\$0.00
Iron Total Soil	x	\$12.39		\$0.00
Iron Water	x	\$14.87	=	\$0.00
Lead TCLP Soil	x	\$19.82		\$0.00
Lead Total Soil	x	\$19.82	=	\$0.00
Lead Water	x	\$22.30		\$0.00
Mercury TCLP Soil	x	\$23.54	= 1	\$0.00
Mercury Total Soil	x	\$12.39	= 1	\$0.00
Mercury Water	x	\$32.22	=	\$0.00
Selenium TCLP Soil	X X	\$19.82		\$0.00
Selenium Total Soil	x	\$19.82	=	\$0.00
Selenium Water	x	\$18.59		\$0.00
Silver TCLP Soil	х	\$12.39	=	\$0.00
Silver Total Soil	x	\$12.39		\$0.00
Silver Water	x	\$14.87	=	\$0.00
Metals TCLP Soil (a combination of all metals) RCRA	x	\$127.63		\$0.00
Metals Total Soil (a combination of all metals) RCRA	x	\$116.47	=	\$0.00
Metals Water (a combination of all metals) RCRA	x	\$147.45		\$0.00
	x			\$0.00
	x			\$0.00
	x		=	\$0.00
	x			\$0.00
Other				40.00
EnCore® Sampler, purge-and-trap sampler, or equivalent sampling device	x	\$12.39	=	\$0.00
Sample Shipping per sampling event	1 x	\$61.96		\$61.96

<sup>&</sup>lt;sup>1</sup>A sampling event, at a minimum, is all samples (soil and groundwater) collected in a calendar day

Total Analytical Costs:	\$109.04
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Electroni Fi El

Electronic Filing: Received, Clerk's Office 7/28/201.72017-084)

Environmental

Laboratories, Inc.

Invoice Number:

125417

IL ELAP / NELAC Accreditation # 100292

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

Tax I.D. No. 36-3925322

Invoice Date:

Dec 3, 2015

1

Page:

Sold To:

MARLIN ENVIRONMENTAL 3935 Commerce Drive St. Charles, IL 60174 Remit To:

FIRST ENVIRONMENTAL LABORATORIES, INC.

1600 Shore Road Suite D Naperville, IL 60563

Customer ID: MARLIN01

Customer	PO	Payment Terms Net 240 Days	7/30/16	e Sal	es Rep ID
Quantity	Item	Description		Unit Price	Extension
1.00		Project ID: Illico Independent 923441 FOC Date Collected 11/24/15 First Environmental File ID: 1 THANK YOU!		47.08	4
		Project Number 1382 Project Name Illico U	WIVESITY		
		Project Phase Stage 3			
		Approved by 33	**************************************		
		Date Approved 12/8/	5		

## Consulting Pelestronic Filing: Received, Clerk's Office 7/28/201.2017-084) R. 400

Employee N	ame	Personnel Title	Hours	Rate (\$)	Total Cos
Remediation Category		Task	(		
Wienhof	r	Engineer III	7.75	\$123.91	\$960.30
Stage 3-Plan Determine where		re to drill and sample, setup and cons	sulting, review	stage 2 results	
Wolfe/Bettenh	ausen	Senior Project Manager	8	\$123.91	\$991.28
Stage 3-Plan	Stage 3 plan des	sign, writing attachments			
Buhlig		Project Manager	20	\$111.52	\$2,230.40
Stage 3-Plan	Stage 3 plan pre	paration			*
Buhlig		Project Manager	5	\$111.52	\$557.60
Stage 3-Budget	Stage 3 budget p	preparation			
Wolfe		Senior Project Manager	5	\$123.91	\$619.55
Stage 3-Plan	Stage 3 plan and	l budget review and comment		AL 189	
Wienhoft		Senior Prof. Engineer	3	\$161.09	\$483.27
Stage 3-Plan	Stage 3 plan fina	al review and certification	400-0	714	
Renguso		Senior Prof. Geologist	3	\$136.31	\$408.93
Stage 3-Budget	Stage 3 budget f	inal review and certification			
Czaruk		Senior Draftsperson/CAD	3.25	\$74.34	\$241.61
Stage 3-Plan	Stage 3 plan dra	fting, maps and printing			
Egglestor		Senior Admin. Assistant	5	\$55.76	\$278.80
Stage 3-Plan	Stage 3 plan and	l budget attachments, copying, bindi	ng and submitta	al	
Egglestor		Senior Admin. Assistant	10	\$55.76	\$557.60
Stage 3-Field	coordinate off-si	te access,office time, subcontractor	coordination		

## Consulting Personnel Filing: Received, Clerk's Office 7/28/2017/084) R. 401

Employee N	ame	Personnel Title	Hours	Rate (\$)	Total Cost
Remediation Category	4	Task			
Wienhof	f	Engineer III	0.5	\$123.91	\$61.96
Stage 3-Field Coordinate off		site access			
Sutton		Senior Project Manager	6	\$123.91	\$743.46
Stage 3-Field	Field prep, trave	el to and from the site, Hand Auger, S	Sampling		
Buhlig		Project Manager	6.75	\$111.52	\$752.76
Stage 3-Field	Field prep, trave	el to and from the site, Hand Auger, S	Sampling, SLU	G	
Buhlig		Project Manager	30	\$111.52	\$3,345.60
SICR	Results evaluation	on, Modeling, report preparation, wr	iting, attachme	nts	
Czaruk		Senior Draftsperson/CAD	5.5	\$74.34	\$408.87
SICR	Maps, Edits, Up	dates, Printing		*	2 022
Wienhof	f E	Engineer III	3.75	\$123.91	\$464.66
SICR	Writing, Review	and Edits			
Wienhof		Senior Prof. Engineer	4	\$161.09	\$644.36
SICR	PE review and c	ertification			
Egglestor	1	Senior Admin. Assistant	3	\$55.76	\$167.28
SICR	Printing, Copyin	g, Scanning, Binding and Submittal			
Wolfe		Senior Project Manager	2	\$123.91	\$247.82
Stage 3-Pay	Reimbursement-	management and review			
Altman		Senior Acct. Technician	1	\$68.14	\$68.14
Stage 3-Pay	Reimbursement-	supporting data review and processing	ng	1	

### Consulting Personner Filing: Received, Clerk's Office 7/28/2017/2017-084) R. 402

Employee	Name	Personnel Title	Hours	Rate (\$)	Total Cos
Remediation Category		Task	(		
Egglest	on	Senior Acct. Technician	2	\$68.14	\$136.28
Stage 3-Pay	Reimburseme	nt-supporting data review and process	ing		
K. Reng	uso	Senior Acct. Technician	2.25	\$68.14	\$153.32
Stage 3-Pay	Reimburseme	nt-supporting data review and process	ing		
LoPicco	lo	Senior Acct. Technician	8.5	\$68.14	\$579.19
Stage 3-Pay	Reimburseme	nt-production, attachments and assemb	oly		77 HE 2 12
Rengus	so .	Senior Prof. Geologist	3	\$136.31	\$408.93
Stage 3-Pay	Reimburseme	nt-final review and certification			0-12077
				\$0.00	\$0.00
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				\$0.00	\$0.00
W-E-Parket	With the same			\$0.00	\$0.00
				\$0.00	\$0.00
	Y		nnel Costs:		

Job Name: Illico Independent Oil Co. - University (Peoria) Incident Number:

Employee	Personnel Title	Description	Date	Time In	Time Out	Total Hours
Stage 3 - Plan	Stage 3 Site Investigat	tion Work Plan	il en esta			
Wienhoff	Engineer III	Plan forward for more drilling	7/27/15	12:00	14:00	2.00
Wolfe	Sr. Proj. Manager	Stage 3 design	7/27/15	13:00	14:00	1.00
Wienhoff	Engineer III	Plan forward for more drilling	7/28/15	9:45	10:15	0.50
Wolfe	Sr. Proj. Manager	Stage 3 design	7/28/15	15:15	16:30	1.25
Wolfe	Sr. Proj. Manager	Stage 3 design, data/FOIA review	9/17/15	7:15	9:45	2.50
Buhlig	Project Manager	Review results prep for Stage 3 Plan	9/24/15	7:45	10:00	2.25
Buhlig	Project Manager	Stage 3 Plan	9/24/15	14:00	16:45	2.75
Wolfe	Sr. Proj. Manager	Stage 3 design, writing	9/24/15	9:00	10:00	1.00
Buhlig	Project Manager	Stage 3 Plan	9/25/15	7:45	9:45	2.00
Buhlig	Project Manager	Stage 3 Plan	9/25/15	10:45	12:00	1.25
Buhlig	Project Manager	Stage 3 Plan	9/25/15	12:30	15:30	3.00
Wienhoff	Engineer III	Stage 3 Plan	9/28/15	9:30	11:30	2.00
Wienhoff	Engineer III	Stage 3 Plan	9/28/15	12:00	13:15	1.25
Wolfe	Sr. Proj. Manager	Stage 3 design, writing	9/28/15	9:15	11:00	1.75
Buhlig	Project Manager	Stage 3 Plan	9/29/15	8:00	9:00	1.00
Buhlig	Project Manager	Stage 3 Plan	9/29/15	9:45	10:30	0.75
Buhlig	Project Manager	Stage 3 Plan	9/29/15	12:00	16:45	4.75
Czaruk	Sr. Draft./CAD	Figure Edits	10/1/15	7:00	8:00	1.00
Czaruk	Sr. Draft./CAD	Figure Edits	10/1/15	11:00	11:30	0.50
Czaruk	Sr. Draft./CAD	Figure Edits	10/2/15	13:30	15:00	1.50
Wienhoff	Engineer III	Stage 3 Plan	10/5/15	9:45	11:45	2.00
Wolfe	Sr. Proj. Manager	plan and budget review & comment	10/5/15	12:15	13:00	0.75
Wolfe	Sr. Proj. Manager	plan and budget review & comment	10/5/15	13:30	17:00	3.50
Buhlig	Project Manager	Plan and Budget Edits and printing	10/6/15	7:45	10:00	2.25
Eggleston	Sr. Admin. Assistant	Report Production	10/6/15	10:30	13:30	3.00
Wienhoff	Sr. Prof Engineer	Review & Cert	10/6/15	7:15	10:15	3.00
Wolfe	Sr. Proj. Manager	plan and budget review & comment	10/6/15	8:30	9:15	0.75
Bettenhausen	Sr. Proj. Manager	Site planning	10/8/15	13:00	13:30	0.50
Czaruk	Sr. Draft./CAD	Edits	10/16/15	14:00	14:15	0.25
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Stage 3 - Budget	Stage 3 Budget					5.00
Buhlig	Project Manager	Stage 3 Budget	9/30/15	7:45	9:00	1.25
Buhlig	Project Manager	Stage 3 Budget	9/30/15	15:30	16:45	1.25
Eggleston	Sr. Admin. Assistant	Report Production	10/1/15	7:30	9:30	2.00
Buhlig	Project Manager	Stage 3 Budget	10/2/15	13:00	15:30	2.50
Renguso, Robert	Sr. Prof. Geologist	Stage 3 Budget	10/5/15	16:00	16:30	0.50
Renguso, Robert	Sr. Prof. Geologist	Stage 3 Budget	10/5/15	18:00	20:00	2.00
Renguso, Robert	Sr. Prof. Geologist	Stage 3 Budget	10/6/15	8:00	8:30	0.50
Tongaso, Itobert	Di. 1101. Geologist	Junger Junger	10/0/13	0.00	0.50	0.00
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Job Name: Illico Independent Oil Co. - University (Peoria) Incident Number:

Employee	Personnel Title	Description	Date	Time In	Time Out	Total Hours
tage 3 -Field		tion Field Work and Oversight				
Eggleston	Sr. Admin. Assistant	Off-Site Access	9/28/15	8:30	11:30	3.00
ggleston	Sr. Admin. Assistant	Off-Site Access	9/29/15	13:00	14:30	1.50
Eggleston	Sr. Admin. Assistant	Subcontractor Coordination	10/5/15	13:30	14:00	0.50
Eggleston	Sr. Admin. Assistant	Off-Site Access	10/7/15	10:30	13:15	2.75
Eggleston	Sr. Admin. Assistant	Off-Site Access	10/9/15	11:45	13:30	1.75
Wienhoff	Engineer III	Deal w/ off-site owner	10/26/15	12:30	13:00	0.50
Eggleston	Sr. Admin. Assistant	Off-Site Access	10/29/15	7:30	8:00	0.50
Buhlig	Project Manager	Stage 3 Field	11/24/15	7:45	12:00	4.25
Buhlig	Project Manager	Stage 3 Field	11/24/15	13:00	15:30	2.50
Sutton	Sr. Proj. Manager	Field Prep, Travel & GW Depths	11/24/15	8:00	12:00	4.00
Sutton	Sr. Proj. Manager	Travel & Sample handling	11/24/15	13:00	15:00	2.00
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### Electronic Filinga Received, Scherkls Officer 28/201. 2017-084) R. 405

Company: Marlin Environmental, Inc.

Billing Period: to

Job Name: Illico Independent Oil Co. - University (Peoria) Incident Number: 923441

Employee	Personnel Title	Description	Date	Time In	Time Out	Total Hours
SICR	Site Investigation Con	npletion Report	- Flygge			
Buhlig	Project Manager	SICR	11/19/15	14:45	16:45	2.00
Buhlig	Project Manager	SICR	11/20/15	7:45	10:00	2.25
Buhlig	Project Manager	SICR	11/20/15	10:45	12:00	1.25
Buhlig	Project Manager	SICR	11/20/15	12:45	16:15	3.50
Buhlig	Project Manager	SICR	11/23/15	7:45	12:00	4.25
Buhlig	Project Manager	SICR	11/23/15	12:30	15:30	3.00
Buhlig	Project Manager	SICR	11/23/15	15:45	16:45	1.00
Buhlig	Project Manager	Stage 3 Results	11/24/15	15:30	17:00	1.50
Buhlig	Project Manager	R-26 Modeling	11/25/15	12:30	16:30	4.00
Czaruk	Sr. Draft./CAD	Create / Edit Figures & Printing	11/30/15	7:00	11:30	4.50
Buhlig	Project Manager	R-26 Modeling	12/1/15	7:45	10:00	2.25
Buhlig	Project Manager	SICR	12/1/15	10:00	12:00	2.00
Buhlig	Project Manager	SICR	12/1/15	12:30	15:30	3.00
Czaruk	Sr. Draft./CAD	Figure Edits & Printing	12/1/15	13:30	14:30	1.00
Wienhoff	Engineer III	SICR	12/2/15	15:30	17:00	1.50
Wienhoff	Engineer III	SICR	12/3/15	7:15	9:30	2.25
Wienhoff	Sr. Prof Engineer	PE Review & Cert	12/9/15	12:15	16:15	4.00
Eggleston	Sr. Admin. Assistant	Report Production	12/14/15	8:00	11:00	3.00
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## Electronic Filing: Received, Clerk's Point and 201.2017-084) R. 406 Company: Marlin Environmental, Inc.

Job Name: Illico Independent Oil Co. - University (Peoria) Incident Number: 923441

Employee **Personnel Title** Description Date Time In Time Out **Total Hours** Stage 3 - Pay Stage 3 Application for Payment Sr. Acct. Technician Altman reimbursement 10/19/15 14:00 15:00 1.00 Eggleston Sr. Acct. Technician reimbursement 9/28/15 11:30 13:30 2.00 Renguso, Kim Sr. Acct. Technician reimbursement 11/2/15 11:30 0.75 12:15 Renguso, Kim Sr. Acct. Technician reimbursement 11/6/15 17:15 17:30 0.25 Renguso, Kim Sr. Acct. Technician reimbursement 11/10/15 15:30 16:00 0.50 Renguso, Kim Sr. Acct. Technician reimbursement 11/19/15 16:00 16:45 0.75 LoPiccolo Sr. Acct. Technician reimbursement 12/10/15 7:30 15:30 8.00 Wolfe Sr. Proj. Manager reimbursement 12/10/15 15:15 17:15 2.00 Renguso, Robert Sr. Prof. Geologist reimbursement 12/11/15 7:45 10:45 3.00 Sr. Acct. Technician LoPiccolo reimbursement 12/11/15 11:30 12:00 0.50 0.00

### Consultant's Electronicaliting of Received Clerk's Office 17/28/201. 2017-084) R. 407

Employ	ee Name	Time or Amount Used	Rate (\$)	Unit	Total Cos
Remediation Category			/Justification		
Field	Vehicle	1	\$190.00	Day	\$190.00
Stage 3-Field	Hand Auger at Site and SI	LUG test			
Consultant I	Latex Gloves	0.5	\$34.00	Box	\$17.00
Stage 3-Field	Sampling Activities				8
Photoioniza	tion Detector	1	\$192.00	Day	\$192.00
Stage 3-Field	Soil screening during hand	d augering	Woodul Co. 19		
Water Lev	el Indicator	1	\$87.00	Day	\$87.00
Stage 3-Field	Hand Augering and SLUC	G test			
Bai	lers	1	\$41.00	Each	\$41.00
Stage 3-Field	1 SLUG test				
Nylon	Rope	15	\$0.52	Foot	\$7.80
Stage 3-Field	Sampling for SLUG test				
Metal I	Petector	1	\$40.00	Day	\$40.00
Stage 3-Field	Locate utilities and buried	infrastructure during l	nand augering		
Hand	Auger	1	\$30.00	Day	\$30.00
Stage 3-Field	Hand auger tool for foc sar	mple colction			
					\$0.00
				54.	
			.e.		\$0.00
			T		
	Total of	Consultant Mate	erials Costs:	\$60	4.80

### Electronic Filing: Received, Clerk's Office: 7 (28/2017017-084) R. 408

Form (Rev. August 2013)
Department of the Treasury

### Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

Internal	Revenue Service		_			_				
	Name (as shown on your income tax return)									
	ILLICO Incorporated									
23	Business name/disregarded entity name, if different from above									
Print or type See Specific Instructions on page	Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnersh  Other (see instructions) ►  Address (number, street, and apt. or suite no.)  P.O. Box 280, 2201 Woodlawn Rd., Suite 600	Trust/estat		Exe	emptio empt p emptio emptio de (if a	ayee on from	ode i	(if any	)	g
9	City, state, and ZIP code									
Š	Lincoln, IL 62656									
	List account number(s) here (optional)									
No.										
Par		- 12								
	your TIN in the appropriate box. The TIN provided must match the name given on the "Name"	1110	ocial	securit	y num	ber	-			_
	old backup withholding. For individuals, this is your social security number (SSN). However, for an talien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other	a			_		_			
	es, it is your employer identification number (EIN). If you do not have a number, see How to get	a			L					
TIN O	n page 3.	_								
	If the account is in more than one name, see the chart on page 4 for guidelines on whose	E	mploy	er ide	ntifical	ion n	umbe	er		
numb	er to enter.	3	6	-	2 7	8	6	1	0 1	
Par	Certification		_				_	_		_
PROPERTY.	r penalties of perjury, I certify that:									
	e number shown on this form is my correct taxpayer identification number (or I am waiting for a	number	to be	issue	d to m	ne), ar	nd			
	m not subject to backup withholding because: (a) I am exempt from backup withholding, or (b)							nal C	lavon	
Se	rvice (IRS) that I am subject to backup withholding as a result of a failure to report all interest o longer subject to backup withholding, and									
3. la	m a U.S. citizen or other U.S. person (defined below), and									
4. The	FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting	is correc	t.							
becau intere gener	fication instructions. You must cross out item 2 above if you have been notified by the IRS the use you have failed to report all interest and dividends on your tax return. For real estate transacts paid, acquisition or abandonment of secured property, cancellation of debt, contributions to ally, payments other than interest and dividends, you are not required to sign the certification, to tions on page 3.	ctions, ite an individ	m 2 d dual r	does n etirem	ot app	oly. For	or m	ortga nt (IR	age A), ar	nd
Sign	Signature of Ilico Transporated U.S. person > Lith Green Asst. Lecretary Date	e > 4/0	2.2/	14						
Ger	neral Instructions () withholding tax on foreig	n partners	share	of effe	ctively	conn	ected	d inco	me, a	nd

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. The IRS has created a page on IRS.gov for information about Form W-9, at www.irs.gov/w9. Information about any future developments affecting Form W-9 (such as legislation enacted after we release it) will be posted on that page.

#### Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, payments made to you in settlement of payment card and third party network transactions, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

- 1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
  - 2. Certify that you are not subject to backup withholding, or
- 3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the

Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct.

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

**Definition of a U.S. person.** For federal tax purposes, you are considered a U.S. person if you are:

- · An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- · An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

### Women and Mitteciton Rusilings Received is Cie Ros 10 ffice 17/28/201. Z017-084) R. 409

The Illinois EPA is required to report State and federal funds paid to Women Business Enterprises (WBE) and Minority Business Enterprises (MBE). Therefore, please provide the required information for all Prime Consultants/Contractors and Subcontractors used to perform the work for this billing:

Name of Leaking UST site:	Illico Co.	-	Incident No.	923441
This work for this billing was performed from	7/27	7/2015	to	12/11/2015
Prime Consultant:				
FIRM'S NAME, ADDRESS, AND TELEPHONE NUMBER	IS THIS FIRM A WBE OR MBE?	IF WBE OR WHAT IS IT OF ILLINOI VENDOR N	S STATE	AMOUNT PAID OR DUE THIS BILLING (\$)
Marlin Environmental, Inc. 3935 Commerce Drive Saint Charles, IL 60174 (630) 444-1933	No			\$16,178.72
First Environmental Labs 1600 Shore Road Naperville, IL	No			\$47.08
			3 3 10	
		Billing '	Total	\$16,225.80

This Illinois EPA is authorized to request this information under the Environmental Protection Act, 415 ILCS 5/1 et seq. (formerly Ill. Rev. Stat. Ch 111-1/2, 1001 et seq.). Disclosure of this information is required. Failure to properly complete this form in its entirety may result in the delay or denial of any payment requested hereunder. This form has been approved by the Forms Management Center.



## Office of the Illinois State Fire Marshal

General Office 217-785-0969

Divisions

ARSON INVESTIGATION 217-782-6855

BOILER and PRESSURE VESSEL SAFETY 217-782-2696

FIRE PREVENTION 217-785-4714

MANAGEMENT SERVICES 217-782-9889

INFIRS 217-785-1016

PERSONNEL 217-785-1009

PERSONNEL STANDARDS and EDUCATION 217-782-4542

> PETROLEUM and CHEMICAL SAFETY 217-785-5878

PUBLIC INFORMATION 217-785-1021 CERTIFIED MAIL - RECEIPT REQUESTED # P 239 741 688

November 15, 1993

David Golwitzer Illico Independent Oil Company 617 Keokuk Lincoln, IL 62656

In re:

Facility No. 3-007188
IEMA Incident No. 92-3441
Illico Independent Oil Company
3712 N. University St.
Peoria, PEORIA CO., IL

Dear Mr. Golwitzer:

The Reimbursement Eligibility and Deductibility Application, received on 9-20-93 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 corrective action 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 - 12,000 gallon gasoline Tank #2 - 12,000 gallon gasoline Tank #3 - 12,000 gallon gasoline Tank #4 - 12,000 gallon diesel Tank #5 - 6,000 gallon kerosene

This decision constitutes the preliminary determination regarding your deductible. We reserve the right to change the deductible determination should additional information that would change the determination become available.

The Illinois Environmental Protection Agency will send you 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:

- Neither the owner nor the operator is the United States Government;
- 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 1.10 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.
- 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.
- The costs have not already been paid to the owner or operator under a private insurance policy, other written agreement, or court order.
- The costs were associated with "corrective action".

This constitutes the final decision as it relates to your eligibility and deductibility. 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)).

### Electronic Filing: Received, Clerk's Office 7/28/2017017-084) R. 412

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 Pat Flannigan at (217)785-1020 or (217)785-5878 between 3:00 - 4:00 p.m.

I Me Caslin

Sincerely,

James I. McCaslin ---

Director

Division of Petroleum and Chemical Safety

JIM:PF:bc

cc: IEPA

Facility File

#5387

Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 413



### **INVOICE**

December 11, 2015

Illico, Inc. Dave Golwitzer 2201 Woodlawn Road Suite 600 Lincoln, IL 62656

RE: STAGE 3 HAND AUGERING, SAMPLING, AND SITE INVESTIGATION COMPLETION REPORT WRITING FOR 3712 N. UNIVERSITY STREET IN PEORIA

Invoice No: 1382-121115

### **ENVIRONMENTAL SERVICES**

1.	<b>Drilling and Monitoring Well Costs</b>	\$	0.00
2.	Analytical Costs	\$	109.04
3.	Remediation and Disposal Costs	\$	0.00
4.	<b>UST Removal and Abandonment Costs</b>	\$	0.00
5.	Paving, Demolition, and Well Abandonment Costs	\$	0.00
6.	Consulting Fees - Personnel	\$	15,511.96
7.	Consulting Fees – Materials	\$	604.80
8.	Handling Charges	<u>\$</u>	0.00
	TOTAL	\$	16,225.80

INVOICE PAYABLE UPON RECEIPT OF LUST FUND REIMBURSEMENT

## Owner/Electionia Hilling: Received e Clerk's Defice of Received e Certification Form

activities for Leaking US: this budget are for necessar also certify that the costs of 415 ILCS 5/57, no cost costs exceed Subpart H: N Appendix E Personnel Tit payment from the Fund put amendment. Such ineligible  Costs associated Costs associated Costs associated Costs incurred pr Costs associated Legal fees or cost Costs incurred pr	ry activities and are reason included in this budget are included in this budget are are included in this budget faximum Payment Amountles and Rates of 35 III. Adm. Codursuant to 35 III. Adm. Codursuant to 35 III. Adm. Codure costs include but are not with ineligible tanks. With site restoration (e.g., paying the utility replacement (e.g., paying to IEMA notification, with planned tank pulls.	nable and accurate to the lands for corrective action is et that are not described in ts, Appendix D Sample Hm. Code 732 or 734. I further 732.606 or 734.630 are a limited to:	further certification of my kind excess of a the correct andling and ther certify to not included the phone, etc.)	the minimum requirements ive action plan, and no Analysis amounts, and hat costs ineligible for I in the budget proposal or
Owner/Operator:		Illico Co.		
Authorized Representative	David	Golwitzer	Title: _	
Signature:	Presider		Date:	12/7/15
Subscribed and sworn to b	efore me the 7	day of Death		70 K
-m	(Notary Public)	Sea	Motor	OFFICIAL SEAL EFF WIENHOFF y Public - State of Illinois mission Expires 4/29/2018
conducted under my super or Licensed Professional C prepared under my superv	declogist and reviewed by a sision; that, to the best of maked in accordance with the accepted standards and prasm aware there are significating but not limited to fines.	inder the supervision of arme; that this plan, budget, y knowledge and belief, the Environmental Protection ctices of my profession; and penalties for submitting, imprisonment, or product d 57.17].	nother Licen , or report an he work deso Act [415 II and that the i	sed Professional Engineer and all attachments were cribed in the plan, budget, CS 5], 35 Ill. Adm. Code information presented is ments or representation
L.P.E./ <u>L.P.G.</u>	Robert E. Renguso	L.P.F./L.P.	G.Seal	THE THE REPORT OF THE PARTY OF
L.P.E./ <u>L.P.G.</u> Signature:	That 9. 7	Pay	Date:	L THE TANK THE PARTY OF THE PAR
Subscribed and sworn to b	efore me the 114	day of December	~	. 2015
The Illinois EPA is authori	(Notary Public)	Seal	N	D. EGGLESTON OFFICIAL SEAL Otary Public - State of Illinois My Commission Expires December 08, 2017
IIIIIOIO LAI II IO GUUIOII	Lea to require una mitorina	tion under 413 ILCS 3/1.	Disciosuic (	a mis miorillation is

required. Failure to do so may result in the delay or denial of any budget or payment requested hereunder.

n	
	Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 415
П	
П	
П	ATTACHMENT 6
П	

### Off-Site Access Affidavit

- It has been determined that obtaining an Environmental Land Use Control between Illico Oil Co. and Virginia McNear was not an attainable goal.
- A request was sent to Virginia McNear on October 19, 2015 via certified mail requesting access to their property to advance soil borings and monitoring wells.
- The recipient of the correspondence was notified of all the required information located within Ill. Adm. Code 734 for off-site access.
- The recipient did not respond to the access request.
- A copy of this correspondence is attached.

I affirm that the above information is, to the best of my knowledge and belief, true, accurate and complete.

Owner / Operator:Illico Oil Co.	
Authorized Representative: <u>David Golwitzer</u>	Title: President
Signature: At lesidet	Date: 12/1/5
Subscribed and Sworn to before me the	day of Death 2015
My	Seal:

OFFICIAL SEAL JEFF WIENHOFF Notary Public - State of Illinois My Commission Express 4/29/2018 Electronic Filing: Received, Clerk's Office 17/28/2017-084) R. 417



October 19, 2015

Re:

CERTIFIED MAIL

7011 2000 0001 6011 8156

Ms. McNear 4307 N Grandview Drive Peoria Heights, Illinois 61616

Property Access Request
For 3721 North University Street
West of Service Station Located at
3712 North University Street
Peoria, Illinois
LUST Incident No. 923441

To Whom It May Concern:

On behalf of Illico Oil Company, owner of the underground storage tanks at the service station located to the east of your property 3721 North University Street, Peoria, Illinois, Marlin Environmental, Inc. (Marlin) respectfully requests your approval to allow access to this property as part of an environmental response action being conducted at the service station property located at 3712 North University Street, Peoria, Illinois. The environmental response action is being performed to investigate the release of petroleum from formerly active underground storage tanks (USTs) located on the above-referenced property. The response action, to date, consists of the investigation of the degree and extent of petroleum contamination through sampling of the subsurface soil and groundwater.

Illinois petroleum UST regulations require that the UST owner or operator determine the extent of petroleum contamination caused by a UST system release. Information currently in our possession indicates that petroleum contamination may have migrated onto your property.

Illinois petroleum UST regulations state, in part, that:

- According to Section 57 of the Environmental Protection Act (Act), the UST owner or operator is legally responsible to remediate the contamination caused by the UST system release;
- If the property owner denies access to the UST owner or operator, the UST owner or operator may seek to gain entry by a court order pursuant to Section 22.2c of the Act;
- In performing the requested investigation, the UST owner or operator will work so as to minimize and disruption on the property, will maintain, or its environmental consultant

- will maintain, appropriate insurance and will repair any damage caused by the investigation;
- 4) If contamination results from a UST release by the UST owner or operator, the UST owner or operator will conduct all associate remediation at its own expense; and
- Threats to human health and the environment and diminished property value may results from failure to remediate contamination from the UST release.

Therefore, Marlin, on behalf of Illico Oil Company, requests that access to your property be granted for the purpose of conducting an investigation to comply with Illinois petroleum UST regulations. Said investigation will, at a minimum, require the collection of soil and groundwater samples. Marlin will install a minimum of three (3) 2"-diameter monitoring wells for the express purpose of collecting soil and groundwater samples. The monitoring wells will be constructed inside an approximate 8.5"-diameter hollow-stem augered boring to a depth of approximately 15 feet below ground surface. The monitoring wells will be completed with a flush-mounted bolt-down steel well box. Prior to drilling, JULIE services will be contacted to mark any underground utilities. Extreme caution shall be taken if any additional utilities are identified. Maintenance, checking groundwater levels and/or collection of groundwater samples from the monitoring wells will occur on a periodic basis. Upon completion of all off-site activities, the monitoring wells will be abandoned in accordance with applicable Public Health regulations and the ground surface will be patched to its original condition.

We have attached two copies of an access agreement for your property in the event that you will allow us access. Please review, complete and return the agreements in the attached envelope. If within 30 days no response has been received to this request, Illico Oil Company will consider this request denied and will proceed with requesting Site Investigation Completion of the incident with the Illinois Environmental Protection Agency.

Thank you for your attention to this matter. If you have any questions regarding this access request or project please contact Marlin at (630) 444-1933

Sincerely,

MARLIN ENVIRONMENTAL, INC.

Joe Buhlig

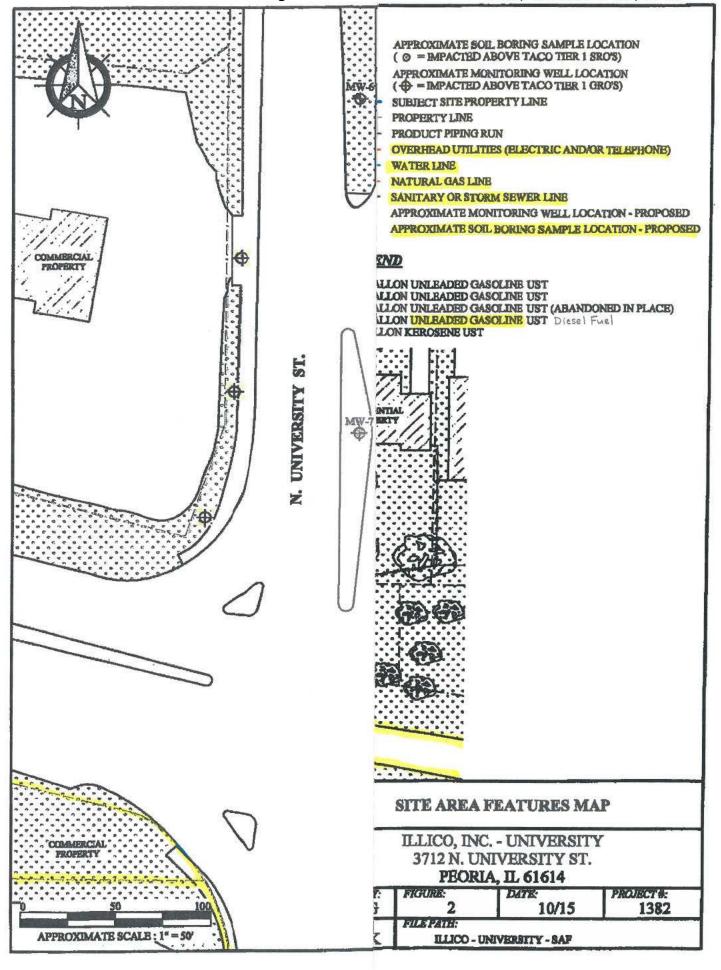
Project Manager

Jeff Wienhoff

Sr. Environmental Engineer

Attachments: Proposed Monitoring Well Location Map
Access Agreements

CC: Project File



English

**Customer Service** 

**USPS Mobile** 

Register / Sign In



### USPS Tracking®





Tracking Number: 70112000000160118156

On Time

Expected Delivery Day: Wednesday, October 21, 2015

### **Product & Tracking Information**

Avai

**Postal Product:** 

Features:

First-Class Mail®

Certified Mail™

Return F

**DATE & TIME** 

STATUS OF ITEM

LOCATION

October 21, 2015, 5:22 pm

Delivered

**PEORIA, IL 61614** 

Your item was delivered at 5:22 pm on October 21, 2015 in PEORIA, IL 61614.

October 21, 2015, 1:15 pm

Notice Left (No Authorized Recipient Available)

PEORIA HEIGHTS, IL 61616

October 21, 2015, 7:20 am

Out for Delivery

PEORIA HEIGHTS, IL 61616

October 21, 2015, 7:10 am

Sorting Complete

PEORIA HEIGHTS, IL 61616

October 21, 2015, 6:36 am

Arrived at Unit

PEORIA, IL 61614

October 20, 2015, 8:13 pm

Departed USPS Facility

PEORIA, IL 61601

October 20, 2015, 6:35 am

Arrived at USPS Destination Facility

PEORIA, IL 61601

DATE & TIME	STATUS OF ITEM	LOCATION
October 19, 2015 , 10:43 pm	Departed USPS Facility	\$PRINGFIELD, IL 62703
October 19, 2015 , 9:30 pm	Arrived at USPS Facility	SPRINGFIELD, IL 62703
October 19, 2015 , 5:33 pm	Departed Post Office	SPRINGFIELD, IL 62701
October 19, 2015 , 4:13 pm	Acceptance	SPRINGFIELD, IL 62701

### Track Another Package

Tracking (or receipt) number

70112000000160118156

Track It

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### Benanti, Trent

From: Jeff Wienhoff <jeffw@marlinenv.com>
Sent: Friday, December 18, 2015 3:30 PM

To: Benanti, Trent
Subject: Illico - IEMA 923441

Trent,

Hope everything is going well and your enjoying the holiday season. I have a request to make and I'm not sure if it's possible. Due to OSFM issues and ownership issues, the Illico Oil site in Peoria at 3712 North University has a tight timeline to perform remediation activities at their site. They are required to be completed by the end of February 2016. Illico just recently retained ownership of this incident from Premcor and is stuck with trying to complete these activities following a larger lawsuit.

Currently you have four documents that have been submitted for your review:

Stage 2 Results and Budget submitted 10/5/15 (Premcor)
Stage 3 Plan & Budget submitted 10/6/15 (Illico)
Site Investigation Completion Report submitted 12/14/15 (Illico)
Corrective Action Plan and Budget submitted 12/14/15 (Illico)

We know you have full boat of project reports to review, but we wanted to request if it is possible to review all four reports together and issue letters responding to them by the February 2<sup>nd</sup> deadline for the first submitted report. Marlin rarely makes these requests because we understand the time demands and workloads of the project managers. However, this is an extraordinary circumstance and wanted to find out if it is possible. Illico is trying to budgetarily plan for the work and would like some level of certainty with regards to what costs will be reimbursable if at all possible. If it means granting you a review extension on other Illico sites under your review currently (IEMA 931898 or 921237) if it would help on your end.

Thank you for your consideration. It is much appreciated.

Jeff Wienhoff, P.E.

Marlin Environmental, Inc. 3900 Wood Duck Drive, Suite F Springfield, IL 62711

Office: (217) 726-7569 x250

Cell: (217) 899-5486

### Electronic Filing: Received, Clerk's Offine of 128/2017-084) R. 423



### Office of the Illinois State Fire Marshal Division of Petroleum and Chemical Safety

1035 Stevenson Drive Springfield IL 62703 2177851020

### **FOR OFFICE USE ONLY**

Facility # 3007188 Permit # 00032-2016INS Request Rec'd 01/06/2016 Amended Date Approval Date 1/11/2016 DS Permit Expires 7/12/2016

### Permit for INSTALLATION of Underground Storage Tank(s) and Piping for Petroleum and Hazardous Substances.

Permission to install underground storage tank(s) or piping is hereby granted. Such installation must be in complete accordance with acceptable materials as specified in the Federal Register, Part II Environmental Protection Agency, 40 CFR Parts 280 and 281, and also with all sections of 41 Illinois Administrative Code, Parts 174, 175 and 176. The contractor the permit was issued to or an employee of that contractor (this does not include a subcontractor) shall submit a required job schedule for installation of underground storage tank(s) to the Office of the State Fire Marshal, Division of Petroleum and Chemical Safety. **THIS PERMIT IS VALID FOR SIX MONTHS FROM THE APPROVAL DATE.** 

(1) <u>OWNER OF TANKS</u> - Corporation, partnership, or other business entity:

(2) <u>FACILITY</u> - name and address where tanks are located:

Illico Incorporated

Road Ranger #234 3712 N. University

P.O. Box 280 Lincoln, IL 62656 Peoria, IL 61614

Contact: Jeff Cruise (217) 732-4193 Ext. 240

Contact: Jay Ahmed (630) 972-5363

#### (3) <u>INSTALLATION OF TANKS:</u>

- (a) Number and size of tanks being installed: (TK # 6) 12,000, (TK # 7) 6,000, (TK # 8) 4,000
- (b) Type of tank(s): (TK # 6, 7, 8) Tank Fiberglass Brine Filled Double Wall XERXES
- (c) Type of piping: (TK # 6, 7, 8) Piping Flexible Double Wall A.P.T. Poly Tech P175SC, (TK # 6, 7, 8) Piping Shear Valves, (TK # 6, 7, 8) Piping Valves Ball Valve, (TK # 6, 7, 8) Piping Dispenser Sumps A.P.T. Poly Tech Polyethylene LM Series, (TK # 6, 7, 8) Piping Submersible Sumps containment FRP, (TK # 6, 7, 8) Piping Flex Connector Steel, (TK # 7, 8) Piping Other submersible pump
- (d) Product to be stored in each tank: (TK # 6, 7) Gasoline, (TK # 8) Diesel Fuel
- (e) Type of leak detection being used:
  - Tank: (TK # 6, 7, 8) Leak Detect Tank Automatic Tank Gauging Veeder Root TLS 350, (TK # 6, 7, 8) Leak Detect Tank Hydrostatic Reservoir Sensors Interstitial Monitoring Veeder Root TLS 350
  - Piping: (TK # 6, 7) Leak Detect Piping Mechanical Pressurized Line Leak Detection Red Jacket FXIV, (TK # 8) Leak Detect Piping Mechanical Pressurized Line Leak Detection Red Jacket FXIDV
- (f) Corrosion Protection being used:

Tank: (TK # 6, 7, 8) Corrosion Prot - Tank - Fiberglass Non-Corrosive

Piping: (TK # 6, 7, 8) Corrosion Prot - Piping - Flexible Non-Corrosive

- (g) Spill containment devices, piping and dispenser containment devices: (TK # 6, 7, 8) Spill Contain Device Pre-manufactured EBW 705 CIGKT Defender spill containment
- (h) Overfill prevention devices: (TK # 6, 7, 8) Overfill Prev Device Overfill Drop Tube Valve OPW 71SO-400C
- (4) The owner must notify this Office when completion of tank installation has occurred, on the Notification for Underground Storage Tank Form and the licensed contractor must submit the required job schedule for installation to the OSFM prior to the work being performed. Both forms can be obtained at www.sfm.illinois.govor by calling (217)785-1020.
- (5) GENERAL REQUIREMENTS: There shall be a minimum of two manufactured slotted or perforated observation wells of at lease 4 inches in diameter, installed in each new tank field of tanks larger than 1000 gallons and one well for tanks less than 1000 gallons. A water tight containment shall be installed under all dispensers and at submersible pumps. A hydrostatic test must be performed on all containments. All steel piping for vents, risers, and fills in contact with the ground, backfill, or water shall be dielectrically wrapped or coated. A positive shut off valve shall be installed on pressurized product lines, at the submersibles, or installed at the tank for all suction piping systems. Vent piping

### Electronic Filing: Received, Clerk's Offine of 1/28/2017 17-084) R. 424

is required to be tested from tank to grade level. All steel flex connectors in contact with ground, backfill or water shall have corrosion protection.

### (6) SPECIAL CONTINGENCIES:

Reconstructing fuel islands to incorporate sumps, sensors, and collision protection. Islands will be in same location as existing.

Removing South half of canopy to facillitate removal of existing tanks, environmental work, and installation of new tanks.

Installing new fuel dispensers as furnished by operator

Installing two monitoring wells, one at each opposite corner of tank excavation.

Installing OPW71SO overfill drop tubes for overfill protection

Upgrading existing V/R TLS 350 to incorporate necessary sensors

Installing new submersible pumps and R/J mechanical leak detectors for line leak detection.

Tank is pending recertification from manufacturer Installing Xerxes water tight FRP STP sump 42" x 36" SMP30WT Installing V/R 794380-301 SP Hydrostatic sensor for interstitial monitoring Installing V/R 794380-208 sump sensors all sumps.

### (6) PERSON, FIRM OR COMPANY PERFORMING WORK:

Pemco Service Company, Inc. 1040 East Second Street Gilman, IL 60938 Contact Person: William "Butch" VonDrehle

Phone: (815) 265-7364

Contractor Registration # IL1224 Exp. 2/23/2016

Sincerely,

Daniel Starks

Daniel J. Starke

cc: Storage Tank Safety Specialist Division File

### Electronic Filing: Received, Clerk's Offine of 1/28/2017 17-084) R. 425



#### Office of the Illinois State Fire Marshal Division of Petroleum and Chemical Safety

1035 Stevenson Drive Springfield IL 62703 2177851020

### **FOR OFFICE USE ONLY**

Facility # 3007188 Permit # 00042-2016REM Request Rec'd 01/12/2016 Amended Date Approval Date 1/12/2016 DS Permit Expires 7/12/2016

### Permit for REMOVAL of Underground Storage Tank(s) and Piping for Petroleum and Hazardous Substances.

Permission to remove underground storage tank(s) or piping is hereby granted. Such removal shall not commence until the contractor the permit was issued to or an employee of that contractor (this does not include a subcontractor) shall establish a date certain to perform the UST activity by contacting the Office of the State Fire Marshal, Division of Petroleum and Chemical Safety, at which time the UST activity shall be scheduled. **THIS PERMIT IS VALID FOR SIX MONTHS FROM THE APPROVAL DATE.** 

(1) <u>OWNER OF TANKS</u> - Corporation, partnership, or other business

entity:

Illico Incorporated P.O. Box 280 Lincoln, IL 62656

Contact: Jeff Cruise (217) 732-4193 Ext. 240

(2) FACILITY - name and address where tanks are located:

Road Ranger #234 3712 N. University Peoria, IL 61614

Contact: Jay Ahmed (630) 972-5363

#### (3) <u>REMOVAL OF TANKS:</u>

- (a) Number and size of tanks being removed: (TK # 1, 2, 3, 4) 12,000, (TK # 5) 6,000
- (b) Description/location of piping being removed:
- (c) Product to be stored in each tank: (TK # 1, 2, 3) Gasoline, (TK # 4) Diesel Fuel, (TK # 5) Kerosene
- (d) Reason of tanks being removed:
- (e) If tank(s) is leaking, indicate IEMA incident number: 1992-3441
- (f) Date each tank was last used: (TK # 1, 2, 3, 4, 5) Unknown
- (4) The owner must notify this Office when completion of tank removal has occurred, on the Notification for Underground Storage Tank Form. This form can be obtained at www.sfm.illinois.gov or by calling (217)785-1020. After removal is completed, the owner/operator shall perform a site assessment by measuring for the presence of a release where contamination is most likely to be present at the UST site. This is in accordance with the Illinois Administrative Code 176.360 (a) regulations and 40 CFR Part 280.72 (a) Federal Register Requirement.
- (5) **SPECIAL CONTINGENCIES**: remove entire ust system, tanks and piping

### (6) PERSON, FIRM OR COMPANY PERFORMING WORK:

RCRA, Inc. d/b/a Earth Services 10903 Prestwick Drive Benton, IL 62812 Contact Person: Josh Appleton Phone: (618) 218-4958

Contractor Registration # IL002364 Exp. 8/7/2017

Sincerely,

Daniel Starks

Daniel J. Starke

cc: Storage Tank Safety Specialist Division File

## Electronic Filing: Received, Clerk's Office 2020 2017-084) R. 426 Budget Summary

Choose the applicable regulations:

734

0732

734	Free Product	Stage 1 Site Investigation	Stage 2 Site Investigation	Stage 3 Site Investigation	Corrective Action
					Proposed
Drilling and Monitoring Wells Costs Form					\$2,165.46
Analytical Costs Form					\$14,539.38
Remediation and Disposal Costs Form					\$185,626.35
UST Removal and Abandonment Costs Form					\$19,516.50
Paving, Demolition, and Well Abandonment Costs Form					\$37,281.14
Consulting Personnel Costs Form					\$43,476.63
Consultant's Materials Costs Form					\$4,901.00
Handling Charges Form	Handling charges will amount of allowable h	be determined at the tandling charges will be	time a billing package be determined in accord	is submitted to the Illindance with the Handlir	nois EPA. The ag Charges Form.
Total	\$0.00	\$0.00	\$0.00	\$0.00	\$307,506.46

# Electronic Filing: Received, Clerk's Office 17/2/2017-084) R. 427

# 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
4,626	Concrete	6	\$5.41	Replacement	\$25,026.66
			\$0.00		\$0.00
			\$0.00		\$0.00
			\$0.00		\$0.00
			\$0.00		\$0.00
			\$0.00		\$0.00
			\$0.00		\$0.00
			\$0.00		\$0.00
			\$0.00		\$0.00
			\$0.00		\$0.00

T. 10 . 14 1 1	
Total Concrete and Asphalt	625 026 66
Placement/Replacement Costs:	\$25,026.66

#### B. Building Destruction or Dismantling and Canopy Removal

	Item to Be Destroyed, Dismantled, or Removed	Unit Cost (\$)	Total Cost
Canopy		10,000.00	10,000.00

Total Building Destruction or Dismantling and	610 000 00
Canopy Removal Costs:	\$10,000.00

# Electronic Filing: Received, Clerk's Office 40/2012/2017-084) R. 428 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
MW-2	HSA	15.00	\$12.39	\$185.85
MW-3	HSA	16.00	\$12.39	\$198.24
MW-4R	HSA	14.00	\$12.39	\$173.46
MW-5	HSA	15.00	\$12.39	\$185.85
MW-6	HSA	18.00	\$12.39	\$223.02
MW-7	HSA	14.00	\$12.39	\$173.46
MW-9	HSA	12.84	\$12.39	\$159.09
MW-10	HSA	12.63	\$12.39	\$156.49
MW-11	HSA	12.89	\$12.39	\$159.71
MW-12	HSA	12.70	\$12.39	\$157.35
MW-13	HSA	13.09	\$12.39	\$162.19
MW-14	HSA	12.92	\$12.39	\$160.08
MW-15	HSA	12.89	\$12.39	\$159.71
			\$0.00	\$0.00
			\$0.00	\$0.00
			\$0.00	\$0.00
			\$0.00	\$0.00
			\$0.00	\$0.00
			\$0.00	\$0.00
	and professional and the second		\$0.00	\$0.00
			\$0.00	\$0.00
			\$0.00	\$0.00
			\$0.00	\$0.00
			\$0.00	\$0.00

Total Monitoring Well Abandonment Costs:	\$2,254.48
Γotal Paving, Demolition, and Well Abandonment Costs:	\$37,281.14

#### Electronic Filing: Received, Clerk's Office 7/28/201. 2017-084) R. 429

#### Benanti, Trent

From: Joe Buhlig <joeb@marlinenv.com>
Sent: Wednesday, January 20, 2016 9:08 AM

To: Benanti, Trent Cc: Jeff Wienhoff

Subject: Illico University #923441

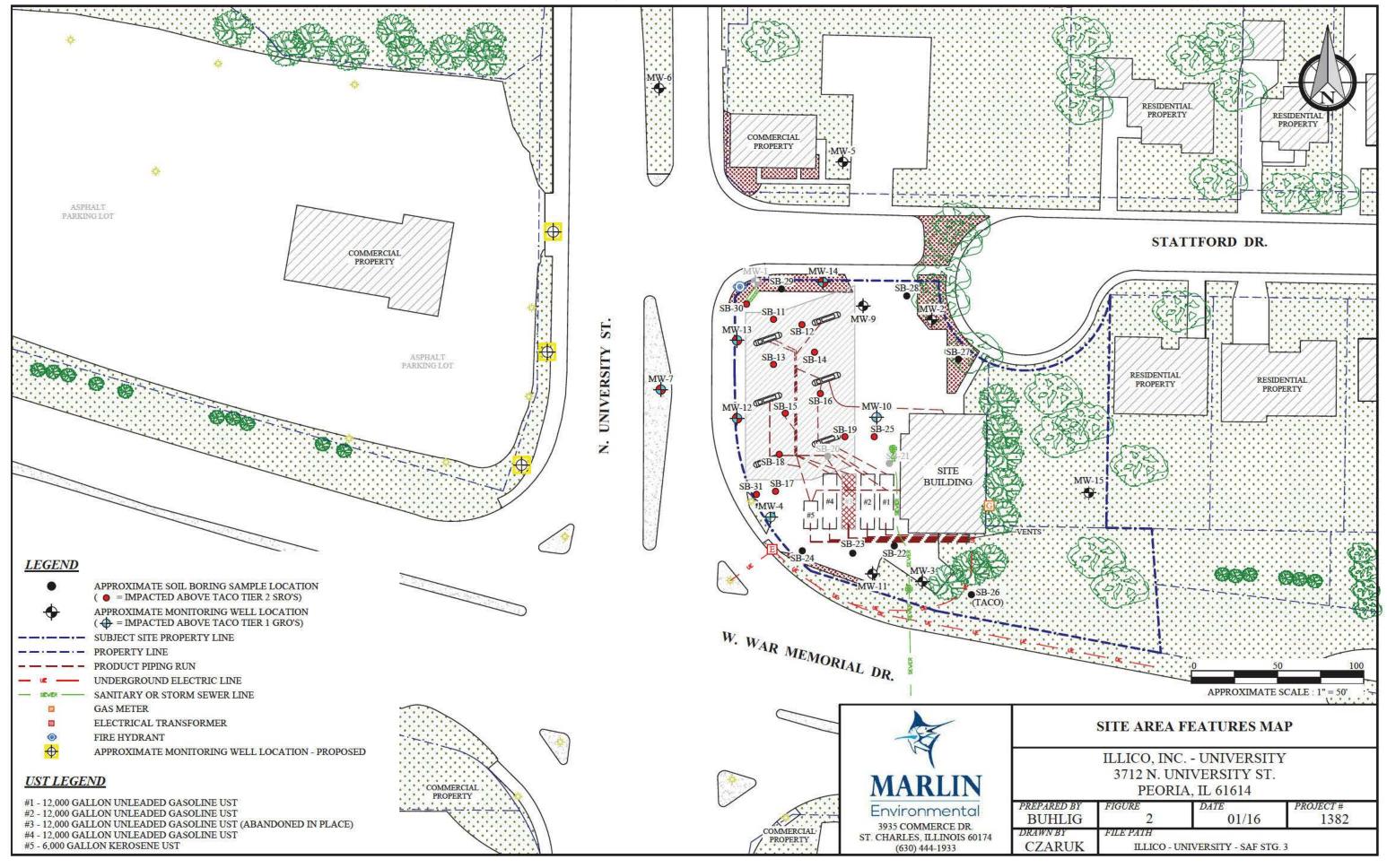
Attachments: Illico University Budget Summary & Demolition.pdf

#### Trent,

Attached please find a revised paving, demolition and well abandonment costs form as well as a revised budget summary page for the Illico University CAP dated 12/14/15. In the original forms submitted to the IEPA the costs for the canopy demolition was inadvertently left off. The removal of the canopy will be necessary to complete the activities proposed in the corrective action plan dated 12/14/15. Thank you for your assistance with this matter.

Sincerely,

Joe Buhlig Marlin Environmental, Inc. 3900 Wood Duck Drive, Suite F Springfield, IL. 62711 217-726-7569 Ext. 300



#### Electronic Filing: Received, Clerk's Office 7/28/201. 2017-084) R. 431

#### Benanti, Trent

From: Joe Buhlig <joeb@marlinenv.com>
Sent: Thursday, January 28, 2016 9:56 AM

To: Benanti, Trent Subject: Blico University

Attachments: Illico - University - SAF revised Stg 3.pdf

Trent,

Attached please find the revised Stage 3 SAF map.

Sincerely,

Joe Buhlig Marlin Environmental, Inc. 3900 Wood Duck Drive, Suite F Springfield, IL. 62711 217-726-7569 Ext. 300

# Owner/Operator and Lieensed Professional Engineer/Ceologist Budget 432 Certification Form

I hereby certify that I intend to seek activities for Leaking UST incident this budget are for necessary activitialso certify that the costs included in of 415 ILCS 5/57, no costs are incluced costs exceed Subpart H: Maximum I Appendix E Personnel Titles and Rapayment from the Fund pursuant to amendment. Such ineligible costs in Costs associated with ineliging Costs associated with site recent Costs associated with utility Costs incurred prior to IEM Costs associated with plann Legal fees or costs.  Costs incurred prior to July Costs associated with instal	923441 es and are reasonable and act this budget are not for corrided in this budget that are no Payment Amounts, Appendites of 35 Ill. Adm. Code 732.606 celude but are not limited to:  cible tanks. estoration (e.g., pump islands replacement (e.g., sewers, A notification. ed tank pulls.	. I furth courate to the best rective action in exot described in the x D Sample Hand 2 or 734. I further or 734.630 are not ls, canopies).	ner certify the of my know keess of the ecorrective ling and An certify that included in ne, etc.).	nat the costs set forth in wledge and belief. I minimum requirements action plan, and no alysis amounts, and costs ineligible for
Owner/Operator:	Illico Inc	lependent Oil Co.		
Authorized Representative:	David Golwitzer		Title:	Owner
Signature:			Date:	1/27/14
Subscribed and sworn to before me to	he 27th day of	Jun		, 2016
In addition, I certify under penalty of conducted under my supervision or w or Licensed Professional Geologist at prepared under my supervision; that, or report has been completed in according to 732 or 734, and generally accepted staccurate and complete. I am aware the to the Illinois EPA including but not	law that all activities that a vere conducted under the sund reviewed by me; that this to the best of my knowledged ance with the Environment and ards and practices of my	re the subject of the pervision of another plan, budget, or read and belief, the work at all Protection Active profession; and the	JEFF Notary Publy Commission of Public Publi	Professional Engineer Il attachments were ed in the plan, budget, 5], 35 Ill. Adm. Code rmation presented is
accurate and complete. I am aware the to the Illinois EPA, including but not the Environmental Protection Act [41]				5 062-058441 H
L.P.E./L.P.G. Jeff R.  L.P.E./L.P.G. Signature:	Wienhoff Management of the Man	<u>L.P.E.</u> /L.P.G. S	Seal: Date:	PROFESSIONAL ENGINEER OF CLLINOIS
Subscribed and sworn to before me the	5	Seal:	8	D. EGGLESTON OFFICIAL SEAL
(Notary Pu	iblic)		Notary My (	D. EGGLESTON DFFICIAL SEAL Public - State of Illinois Commission Expires scember 08, 2017

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.

#### Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 433

#### Benanti, Trent

From: Joe Buhlig <joeb@marlinenv.com>
Sent: Thursday, January 28, 2016 2:32 PM

To: Benanti, Trent Subject: Blico University

Attachments: Illico University Revised Budget Cert.pdf

Trent,

Attached please find the new budget cert for the Stage 3 budget. The original will be delivered to the IEPA tomorrow.

Sincerely,

Joe Buhlig Marlin Environmental, Inc. 3900 Wood Duck Drive, Suite F Springfield, IL. 62711 217-726-7569 Ext. 300

#### Electronic Filing: Received, Clerk's Office of 2017-084) R. 434



## **Hazardous Materials Incident** Report

Incident #: H-2016-0095

Entered By: Kattner, Paul (IEMA) on 2016-01-28 13:14:18

Input Status: Closed

Underground No

Data Input Status: Closed

Leaking Underground No Storage Tank (LUST):  $^{No}$ 

Caller.	Jeff Weinhoff				
Call Back #:	217/899-5486	217/899-5486			
Caller Represents:	Marlin Environmental	Marlin Environmental			
Hazmat Incident Type:	Leak or spill	Leak or spill			
	INCIDENT	LOCATION			
Incident Location:	3712 N. University St	712 N. University St			
County:	Peoria 61614	Peoria City: Peoria			
Primary IEMA Region:	6	Secondary IEMA Region:	Not Applicable		
Full Address:	3712 N. University St, Peoria, IL				
Latitude:	40.733045	Longitude:	-89.612568		
Milepost:	N/A	Sec:	N/A		
Twp.:	N/A	V/A Range: N/A			
Area Involved:	Fixed Facility				
Media or medium into which the release occurred:	Ground				

WEATHER INFORMATION

Temp (deg F):	40 Degrees	Wind Dir/Speed m.p.h: W 10 MPH		
	MATERIA	LS INVOLVED		
Material Name:	Gasoline, Diesel & Kerosene	Material Type:	Liquid	
CHRIS Code:	Unknown	Unknown CAS #:		
UN/NA #:	Unknown	Unknown		
Is this a 302(a) Extremely Hazardous Substance?	Unknown		PA-DIVISION OF RECORDS MANAGEMENT RELEASABLE	
Is this a RCRA Hazardous Waste?	Unknown FEB <b>08</b> 2016			
Is this a RCRA regulated facility?	Unknown		REVIEWER: JKS	
Container Type:	Under ground storage tank Container Size: X 12,000 (		3 X 12,000 Gallons (Gasoline), 1 X 12,000 Gallons (Diesel), & 1 X 6,000 Gallons (Kerosene)	
Amount Released:	Unknown Rate of Release/min:		Unknown	
Duration of Release:	Unknown			
Cause of Release:	Unknown			
Estimated Spill Extent:	Unknown	Spill Extent Units:		

# Electronic Filing: Received, Clerk's Office 3/28/2017-084) R. 435

Date/Time Occured:	(Date/Time Unknown)	(Date/Time Unknown)		
Date/Time Discovered:	2016-01-28 11:00			
Number Injured:	0	Where Taken:	N/A	
Number Killed:	0	# Evacuated:	0	
On Scene Contact:	#1 On Scene Phone #: #2			
Proper safety precautions to None	take as a result of the release, i	including evacuation:		
Assistance needed from Sta None	te Agencies:			
Containment/Cleanup action Tanks will be removed and				

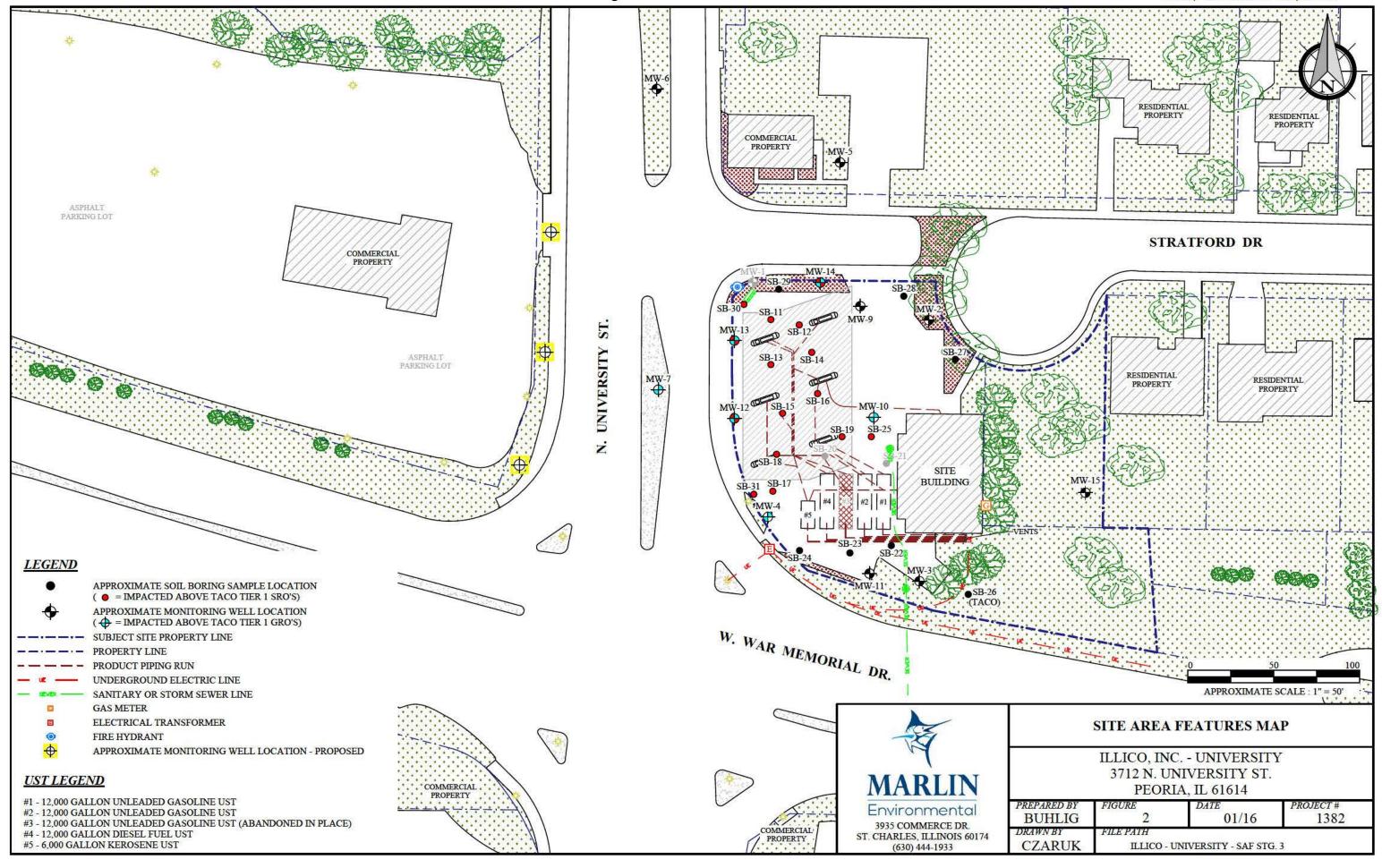
Responsible Party:	ILLICO Incorporated		
Contact Person:	Dave Golwitzer		
Caliback Phone Number:	217/732-4193		
Facility Manager:	Dave Golwitzer		
Facility Manager Phone #:	217/732-4193		
Street Address:	P.O. Box #280		
City:	Lincoln State: IL Zip Code: 62656		

Emergency Units Contacted	Contacted	On Scene	Agencies Contacted
ESDA			None
Fire			None
Police			None
Sheriff			None -
Other			None

	\		
Agency	Date/Time	Name of Person	Notification Action
IEPA, OSFM, NRTP, & IFMA Region #7322	2016-01-28 13:20	E-mailed	Report Sent

REVIEWER: JKS

Follow-Up Information:		
	·	



#### Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 437

#### Benanti, Trent

From: Joe Buhlig <joeb@marlinenv.com>
Sent: Friday, January 29, 2016 1:35 PM

To: Benanti, Trent Subject: Blico University Map

Attachments: Illico - University - SAF Stg 3.pdf

Trent,

Attached please find the Stage 3 map for Illico University with the corrections you requested.

Sincerely,

Joe Buhlig Marlin Environmental, Inc. 3900 Wood Duck Drive, Suite F Springfield, IL. 62711 217-726-7569 Ext. 300



# ELLINOIS IEN VIRONNIENTAL BROTE ETION AFGEN EY38

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-2829

BRUCE RAUNER, GOVERNOR

LISA BONNETT, DIRECTOR

(217) 524-3300

**CERTIFIED MAIL** 

7012 0470 0001 2971 2357

FEB 0 1 2016

Mr. Timothy J. Mauntel
The Premcor Refining Group Inc.
201 E. Hawthorne St.
Hartford, IL. 62048

Re: LPC #1430655263 - Peoria County

Peoria/Illico, Inc. 3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

Dear Mr. Mauntel:

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed the Stage 2 Site Investigation Results Report and the actual costs budget for the Stage 2 site investigation. The Stage 2 Site Investigation Results Report dated 10/02/2015 was received by the Illinois EPA on 10/05/2015. The actual costs budget for the Stage 2 site investigation is located in Attachment G for the Stage 2 Site Investigation Results Report.

Pursuant to Sections 57.7(a)(2) and 57.7(c) of the Environmental Protection Act (415 ILCS 5) (Act) and 35 Illinois Administrative Code (35 Ill. Adm. Code) 734.505(b) and 734.510(b), the actual costs budget for the Stage 2 site investigation is approved for the amounts listed in Attachment A. However, it should be noted that the amount of payment from the Underground Storage Tank Fund may be limited by Sections 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.

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 assistance, please contact Trent Benanti at (217) 524-4649.

Sincerely,

Michael T. Lowder

Unit Manager

Leaking Underground Storage Tank Section Division of Remediation Management

Bureau of Land

Attachments:

Attachment A

Appeal Rights

c: Karen Dixon (ERS of Illinois, Inc.)
BOL File

4302 N. Main St., Rockford, IL 61103 (815) 987-7760 595 S. State, Elgin, IL 60123 (847) 608-3131 2125 S. First St., Champaign, IL 61820 (217) 278-5800 2009 Mail St., Collinsville, IL 62234 (618) 346-5120 9511 Harrison St., Des Plaines, IL 6001 6 (847) 294-4000 412 SW Warhington St., Sutre D, Peorla, IL 61 602 (309) 671-3022 2309 W. Main St., Sutre 116, Marion, IL 62959 (618) 993-7200 100 W. Randolph, Sutre 10-300, Chicago, IL 60601 (312) 814-6026

EN-MASCRIOF RECORDS LIVINGENENT

MAR 0 2 2016

REVIEWER JRM

#### Attachment A

Re: LPC #1430655263 - Peoria County

Peoria/Illico, Inc. 3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

#### Stage 2 Actual Costs

The actual costs budget for the Stage 2 site investigation is approved for the following amounts:

Handling charges will be determined at the time a billing package 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 (Act) and 35 Illinois Administrative Code (35 Ill. Adm. Code) 734.635.

#### Appeal Rights

An underground storage tank owner/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/operator and the Illinois EPA within the initial 35-day appeal period. If the owner/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:

John Therriault, Assistant Clerk 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 Post Office Box 19276 Springfield, IL 62794-9276 217/782-5544



# ELLLINOIS EN VIBONMENTAL BROTESTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-2829

BRUCE RAUNER, GOVERNOR

LISA BONNETT, DIRECTOR

(217) 524-3300

**CERTIFIED MAIL** 

7012 0470 0001 2971 2357

FEB 01 2016

Mr. Timothy J. Mauntel
The Premcor Refining Group Inc.
201 E. Hawthorne St.
Hartford, IL 62048

Re: LPC #1430655263 - Peoria County Peoria/Illico, Inc. 3712 N. University St. Leaking UST Incident #923441 Leaking UST Technical File EPA - DIVISION OF RECORDS MANAGEMENT RELEASABLE

MAR 0 2 2016

REVIEWER JRM

Dear Mr. Mauntel:

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed the Stage 2 Site Investigation Results Report and the actual costs budget for the Stage 2 site investigation. The Stage 2 Site Investigation Results Report dated 10/02/2015 was received by the Illinois EPA on 10/05/2015. The actual costs budget for the Stage 2 site investigation is located in Attachment G for the Stage 2 Site Investigation Results Report.

Pursuant to Sections 57.7(a)(2) and 57.7(c) of the Environmental Protection Act (415 ILCS 5) (Act) and 35 Illinois Administrative Code (35 Ill. Adm. Code) 734.505(b) and 734.510(b), the actual costs budget for the Stage 2 site investigation is approved for the amounts listed in Attachment A. However, it should be noted that the amount of payment from the Underground Storage Tank Fund may be limited by Sections 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.

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  Print your name and address on the every so that we can return the cardito you.  Attach this card to the backlet the mailplace or on the front if space points.	A Signature  X
Article Addressed to:	D. Is delivery address different from (tern 1? ☐ Yes     If YES, enter delivery address below: ☐ No
Mr. Timothy J. Mauntel The Premcor Refining Roup, Inc.	MR/18 923441
201 East Hawthorne Stteet Hartford, IL 62048	3 Service Type  Certified Mail* Priority Mail Express*  Registered Return Receipt for Merchandise  Insured Mail Collect on Delivery
	4. Restricted Delivery? (Extra Fee) Yes
	000/ 297/ 2357
PS Form 3811, July 2013 Domestic Retu	ım Receipt



• Sender: Please print your name, address, and ZIP+4® in this box®

| Illinois Environmental | Protection Agency | P.O. BOX 19276 | MAIL CODE # SPRINGFIELD, IL 62794-9276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O. BOX 19276 | P.O

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# É LECTION DE SI ENSURREMENTE NI PALS PROTECTE LE TRANSPORTA GENÉ 1443

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-2829 **BRUCE RAUNER, GOVERNOR** LISA BONNETT, DIRECTOR

(217) 524-3300

**CERTIFIED MAIL** 

FEB 01 2016

7012 0470 0001 2971 2395

Mr. David Golwitzer Illico Independent Oil Co. 2201 Woodlawn Rd., Suite 600 Lincoln, IL 62656

Re: LPC #1430655263 — Peoria Country - THIS COUNTRY - THE CORDS HANGEMENT

Peoria/Illico Independent Oil Co.

RELEASABLE

3712 N. University St.

Leaking UST Incident #923441

MAR 02 2016

Leaking UST Technical File

**REVIEWER JRM** 

Dear Mr. Golwitzer:

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed the Stage 3 Site Investigation Plan and the proposed budget for the Stage 3 site investigation. The Stage 3 Site Investigation Plan dated 10/06/2015 was received by the Illinois EPA on 10/06/2015. The proposed budget for the Stage 3 site investigation is located in Attachment 1 of the Stage 3 Site Investigation Plan.

The Illinois EPA has determined that the modification listed in Attachment A is necessary to demonstrate compliance with Title XVI of the Environmental Protection Act (415 ILCS 5) (Act) and 35 Illinois Administrative Code (35 Ill. Adm. Code) 734. Therefore, pursuant to Sections 57.7(a)(1) and 57.7(c) of the Act and 35 Ill. Adm. Code 734.505(b) and 734.510(a), the Stage 3 Site Investigation Plan is conditionally approved with the Illinois EPA's modification.

The proposed budget for the Stage 3 site investigation is approved for amounts determined in accordance with Subpart H. Please be advised that, pursuant to Section 57.7(c) of the Act and 35 Ill. Adm. Code 734.310(b) and 734.510(b), costs associated with materials, activities, and services must be reasonable, must be consistent with the associated technical plan, must be incurred in the performance of corrective action activities, must not be used for corrective action activities in excess of those necessary to meet the minimum requirements of the Act and regulations, and must not exceed the maximum payment amounts set forth in 35 Ill. Adm. Code 734. Subpart H. Handling charges will be determined at the time a billing package is reviewed by the Illinois EPA. The amount of allowable handling charges will be determined in accordance with Section 57.1(a) of Act and 35 Ill. Adm. Code 734.635.

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

4302 N. Main St., Roddard, IL 61103 (815) 987-7760 595 S. State, Elgin, IL 60123 (847) 608-3131 2125 S. First St., Champaign, IL 61820 (217) 278-5800 2009 Mall St., Collinsville, IL 62234 (618) 346-5120

9511 Harrison St., Des Plaines, IL 60016 (847) 294-4000 412 SW Washington St., Suite D, Pearla, IL 61 602 (309) 671-3022 2309 W. Main St., Suite 116, Marion, IL 62959 (618) 993-7200 100 W. Randolph, Sutto 10-300, Chicago, IL 60601 (312) 814-6026

### Electronic Filing: Received, Clerk's Office 7/28/201. 2017-084) R. 444

Page 2

If you have any questions or need assistance, please contact Trent Benanti at (217) 524-4649.

Sincerely,

Michael T. Lowder

Unit Manager

Leaking Underground Storage Tank Section

Division of Remediation Management

Bureau of Land

Attachments: Attachment A

**Appeal Rights** 

c: Joe Buhlig (Marlin Environmental, Inc.)

**BOL File** 

#### Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 445

#### Attachment A

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co. 3712 N. University St. Leaking UST Incident #923441 Leaking UST Technical File

1) ERS of Illinois, Inc., The Premcor Refining Group Inc., and the Illinois EPA previously agreed that the analytical results of the soil samples collected by Parsons Engineering Science, Inc. should not be used to define the extent of the soil contamination. As such, the extent of the soil contamination north of soil boring SB-30 and monitoring well MW-14 has not been defined. The owner or operator must define the extent of the soil contamination north of soil boring SB-30 and monitoring well MW-14.

#### Appeal Rights

An underground storage tank owner/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/operator and the Illinois EPA within the initial 35-day appeal period. If the owner/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:

John Therriault, Assistant Clerk 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 Post Office Box 19276 Springfield, IL 62794-9276 217/782-5544

# Illico (PCB No. 2017-084) R. 447

Summary of Analytical Results - Additional Stage 3 Soil Borings

MARLIN ENVIRON	MENTAL					
Illico - University	923441		SB-101 2-4	SB-101 6-8	SB-102 2-4	SB-102 6-8
Date of Sample Collection:		Most Stringent	2/4/2016	2/4/2016	2/4/2016	2/4/2016
Time of Sample Collection:			10:30 AM	10:45 AM	11:05 AM	11:15 AM
First Environmental Lab. Numbers:			16-0564-001	16-0564-002	16-0564-003	16-0564-004
Contaminants of Concern:						

#### BTEX Organic Compounds (5035A/8260B)

Date Analyzed:	Units	RDL		2/11/2016	2/11/2016	2/11/2016	2/11/2016
Benzene	ug/kg	5	30	<5.0	<5.0	<5.0	<5.0
Toluene	ug/kg	5	12000	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	ug/kg	5	13000	<5.0	<5.0	<5.0	<5.0
Xylene, Total	ug/kg	5	5600	<5.0	<5.0	<5.0	<5.0
Polynuclear Aromatic Hydroc	arbons (8	3270C)					
Date Analyzed:	Units	RDL		2/9/2016	2/9/2016	2/9/2016	2/9/2016
Acenaphthene	ug/kg	50	570000	<50	<50	<50	<50
Acenaphthylene	ug/kg	50		<50	<50	<50	<50
Anthracene	ug/kg	50	12000000	<50	<50	<50	<50
Benzo(a)anthracene	ug/kg	8.7	900	<8.7	<8.7	<8.7	<8.7
Benzo(a)pyrene	ug/kg	15	90	<15	<15	<15	<15
Benzo(b)fluoranthene	ug/kg	11	900	<11	<11	<11	<11
Benzo(k)fluoranthene	ug/kg	11	9000	<11	<11	<11	<11
Benzo(ghi)perylene	ug/kg	50		<50	<50	<50	<50
Chrysene	ug/kg	50	88000	<50	<50	<50	<50
Dibenzo(a,h)anthracene	ug/kg	20	90	<20	<20	<20	<20
Fluoranthene	ug/kg	50	3100000	< 50	<50	<50	<50
Fluorene	ug/kg	50	560000	<50	< 50	<50	<50
Indeno(1,2,3-cd)pyrene	ug/kg	29	900	<29	<29	<29	<29
Naphthalene	ug/kg	25	1800	<25	<25	<25	<25
Phenanthrene	ug/kg	50		<50	<50	<50	<50
Pyrene	ug/kg	50	2300000	<50	<50	<50	<50

**Environmental Laboratories, Inc.** 

IL ELAP / NELAC Accreditation # 100292

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

February 12, 2016

Mr. Joe Buhlig

MARLIN ENVIRONMENTAL

3935 Commerce Drive

St. Charles, IL 60174

Project ID: Illico - University 923441 First Environmental File ID: 16-0564 Date Received: February 05, 2016

Dear Mr. Joe Buhlig:

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 003762: effective 12/07/2015 through 02/28/2016.

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

Molecal

## Electronic, Filing: Received, Clerk's Office 7/28/201. 2017-084) R. 449

**Environmental Laboratories, Inc.** 

IL ELAP / NELAC Accreditation # 100292

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

#### Case Narrative

#### MARLIN ENVIRONMENTAL

Lab File ID: 16-0564

Project ID: Illico - University 923441

Date Received: February 05, 2016

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
16-0564-001	SB-101 2-4	2/4/2016	10:30
16-0564-002	SB-101 6-8	2/4/2016	10:45
16-0564-003	SB-102 2-4	2/4/2016	11:05
16-0564-004	SB-102 6-8	2/4/2016	11:15

#### Sample Batch Comments:

Sample acceptance criteria were met.

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

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

# Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 450

# **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: MARLIN ENVIRONMENTAL

Illico - University 923441

**Sample ID:** SB-101 2-4 **Sample No:** 16-0564-001

Project ID:

Results are reported on a dry weight basis.

Date Collected: 02/04/16

Time Collected: 10:30

Date Received: 02/05/16

Date Reported: 02/12/16

Results are reported on a dry weight basis	) <b>.</b>	D . 14	DI	YI-24-	Floor
Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 02/05/16	Method: 2540B				
Total Solids		78.51		%	
BTEX Organic Compounds Analysis Date: 02/11/16	Method: 5035A/8	3260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		< 5.0	5.0	ug/kg	
Methyl-tert-butylether (MTBE)		< 5.0	5.0	ug/kg	
Toluene		< 5.0	5.0	ug/kg	
Xylene, Total		< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 02/09/16	Method: 8270C			Method 354 Date: 02/08/16	
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	

# Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 451

## **Environmental** Laboratories, Inc.

IL ELAP / NELAC Accreditation # 100292

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

#### **Analytical Report**

MARLIN ENVIRONMENTAL Client:

Project ID: Illico - University 923441

Sample ID:

SB-101 6-8

Sample No:

16-0564-002

Date Collected:

02/04/16

Time Collected: 10:45 Date Received:

02/05/16

Date Reported:

02/12/16

Results	are reported	d on a dry	weight basis.

Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 02/05/16	Method: 2540B				
Total Solids		86.56		%	
BTEX Organic Compounds Analysis Date: 02/11/16	Method: 5035A/8	8260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		< 5.0	5.0	ug/kg	
Methyl-tert-butylether (MTBE)		< 5.0	5.0	ug/kg	
Toluene		< 5.0	5.0	ug/kg	
Xylene, Total		< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 02/09/16	Method: 8270C			Method 354 Date: 02/08/16	
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	

## Electronic Filing: Received, Clerk's Office 7/28/201.72017-084) R. 452

## **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:

MARLIN ENVIRONMENTAL

Illico - University 923441

Project ID: Sample ID:

SB-102 2-4

Sample No:

16-0564-003

Date Collected: 02/04/16

Time Collected: 11:05 Date Received:

02/05/16

Date Reported: 02/12/16

Results are reported on a dry weight basis.

Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 02/05/16	Method: 2540B				
Total Solids		76.55		%	
BTEX Organic Compounds Analysis Date: 02/11/16	Method: 5035A/8	3260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		< 5.0	5.0	ug/kg	
Methyl-tert-butylether (MTBE)		< 5.0	5.0	ug/kg	
Toluene		< 5.0	5.0	ug/kg	
Xylene, Total		< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 02/09/16	Method: 8270C		Preparation Preparation I		
Acenaphthene		< 50	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene		< 50	50	ug/kg	
Benzo(a)anthracene		< 8.7	8.7	ug/kg	
Benzo(a)pyrene		< 15	15	ug/kg	
Benzo(b)fluoranthene		< 11	11	ug/kg	
Benzo(k)fluoranthene		< 11	11	ug/kg	
Benzo(ghi)perylene		< 50	50	ug/kg	
Chrysene		< 50	50	ug/kg	
Dibenzo(a,h)anthracene		< 20	20	ug/kg	
Fluoranthene		< 50	50	ug/kg	
Fluorene		< 50	50	ug/kg	
ndeno(1,2,3-cd)pyrene		< 29	29	ug/kg	
Naphthalene		< 25	25	ug/kg	
Phenanthrene		< 50	50	ug/kg	
Pyrene		< 50	50	ug/kg	

# Electronic Filing: Received, Clerk's Office 7/28/201. 2017-084) R. 453

## **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:

MARLIN ENVIRONMENTAL

Project ID:

Illico - University 923441

Sample ID:

SB-102 6-8

Sample No:

16-0564-004

Date Collected: 02/04/16

Time Collected: 11:15

Date Received: Date Reported: 02/12/16

02/05/16

Results are reported on a dry weight basis

Analyte		Result	R.L.	Units	Flags
Solids, Total Analysis Date: 02/05/16	Method: 2540B				
Total Solids		80.53		%	
BTEX Organic Compounds Analysis Date: 02/11/16	Method: 5035A/8	260B			
Benzene		< 5.0	5.0	ug/kg	
Ethylbenzene		< 5.0	5.0	ug/kg	
Methyl-tert-butylether (MTBE)		< 5.0	5.0	ug/kg	
Toluene		< 5.0	5.0	ug/kg	
Xylene, Total		< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Analysis Date: 02/09/16	Method: 8270C			Method 3540 Date: 02/08/16	6
Acenaphthene		< 50	50	ug/kg	
Acenaphthylene		< 50	50	ug/kg	
Anthracene		< 50	50	ug/kg	
Benzo(a)anthracene		< 8.7	8.7	ug/kg	
Benzo(a)pyrene		< 15	15	ug/kg	
Benzo(b)fluoranthene		< 11	11	ug/kg	
Benzo(k)fluoranthene		< 11	11	ug/kg	
Benzo(ghi)perylene		< 50	50	ug/kg	
Chrysene		< 50	50	ug/kg	
Dibenzo(a,h)anthracene		< 20	20	ug/kg	
Fluoranthene		< 50	50	ug/kg	
Fluorene		< 50	50	ug/kg	
ndeno(1,2,3-cd)pyrene	in the state of the state of	< 29	29	ug/kg	
Naphthalene		< 25	25	ug/kg	
Phenanthrene		< 50	50	ug/kg	
Pyrene		< 50	50	ug/kg	



# Electronic Filing: Received, Clerk's Office 2017-084) R. 454 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

		Labo	oratory Certification for	Chemical Analysis		
Α.	Site	e Identification				
	IEN	MA Incident # (6- or 8-digit): 9	23441	IEPA LPC# (10-digit):	1430655263	
	Site	Name: Illico Oil Company				_
	Site	e Address (Not a P.O. Box):	3712 University Street			
	City	y: Peoria	County: Peoria	ZIP Code	e: <u>61614</u>	
	Lea	aking UST Technical File				
В.	Sai	mple Collector				
	I ce	ertify that:			4.0	
	1.	Appropriate sampling equip	ment/methods were utilized to	obtain representative samples	s. (Initial)	_
	2.	Chain-of-custody procedure	s were followed in the field.		MAR (Initial)	_
	3.	Sample integrity was mainta	ined by proper preservation.		MNB (Initial)	_
	4.	All samples were properly la	beled.		MAP (Initial)	_
C.	Lal	boratory Representativ	е			
	I ce	ertify that:			ſ	
	1.	Proper chain-of-custody pro	cedures were followed as docu	umented on the chain-of-custo	ody forms (Initial)	
	2.	Sample integrity was mainta	ined by proper preservation.		(Initial)	
	3.	All samples were properly la	beled.		) rll (Initial)	
	4.	Quality assurance/quality co	entrol procedures were establis	shed and carried out.	(Iritial)	
	5.	Sample holding times were	not exceeded.		(Initial)	_

Laboratory Certification for Chemical Analysis
Page 1 of 2

IL 532 2283 LPC 509 Rev. March 2006

#### Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 455

- 6. SW-846 Analytical Laboratory Procedure (USEPA) methods were used for the analyses.
- An accredited lab performed quantitative analysis using test methods identified in 35 IAC 186.180 (for samples collected on or after January 1, 2003).

(Initial)

#### D. Signatures

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

Sample Collector	Laboratory Representative
Name Mike Bettenhausen	Name Bile MOTTAGHER
Title Senior Project Manager	Title Project Manager
Company Marlin Environmental, Inc.	Company First Environmental Laboratories, Inc.
Address 3900 Wood Duck Drive, Suite F	Address 1600 Shore Road
City Springfield	City Naperville
State Illinois	State Illinois
Zip Code 62711	Zip Code 60563
Phone 217-726-7569	Phone 630\1778-1200
Signature Myly Better	Signature N. Moregal
Date 2/4/16	Date 2/12/16

## Electronic Filing Received Delectes Office 7/28/2017

Page Pgs

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Wind Control of the Winds (No. 10) I control of	First
	Environmental Laboratories, Inc.
	Laboratories, Inc.

Laboratories, Inc.

1600 Shore Road, Suite D
Naperville, IL 60563
Phone: (630)778-1200 \* Fax (630)778-1233
E-Mail: info@firstenv.com
IEPA Accreditation #100292
O
Project I.D.: Illico - University
P.O. #: 923441

Notes and Special Instructions: Needs to meet IL TACO Objectives.

Relinquished By:

Relinquished By:

Rev 1/07

Company Name: Marlin En	vironmental, Inc.				
Street Address: 3935 Com	merce Drive				
City: Saint Charles		Sta	ate: IL	Zip	: 60174
Phone: 630-444-1933	Fax: 630-444-1939	e-Mail: or	n file	-	Y
Send Report To: Joe Buhlig			Via Fax:		Via e-Mail:
Sampled By: Mike B					

Freezer Temperature:

Enter analyses required on the lines to the left. Place an "X" in the box below to indicate which

Date/Time:

Date/Time:

5 P.O. #: 923441			BTEX/MTBE	A					samp	es require what analysis.			
Date/Time Taken	Samp	ple Description	Matrix	BI	PNA						Comments		Lab LD.
2/4/16 10:30	SB-101-	2-4	5	×	X							16-056	64-001
10:45	SB-101	6-8	5	×	×								002
11:05	5B-102	2-4	5	×	×							16-056	003
11:15	SB-102	6-8	5	×	×								004
			2.1										
	Cooler Temperature Received within 6 h Ice Present: Yes	:0.1-6°C Yes No rs of collection: No	Site	Sa Re	mple Re frigerate	frigerate or Temp	ed: Yes_ erature:_	_ No	Conta °C 5035 \	iners Received P	reserved: YesNo No°C		

Date/Time: 2/4/16

Date/Time:

4:00

Received By:

Received By:

#### Electronic Filing: Received, Clerk's Office 74 28 201. 2017-084) R. 457

#### Benanti, Trent

From: Joe Buhlig <joeb@marlinenv.com>
Sent: Joe Buhlig <joeb@marlinenv.com>
Thursday, February 18, 2016 3:18 PM

To: Benanti, Trent Subject: Blico University

Attachments: Illico University Boring Logs.pdf; Illico University Soil Table and Lab Report.pdf; Illico

University Stage 3 Actual Costs Ammendement.pdf

#### Trent,

Sorry I missed you call yesterday. I appreciate the update. I wanted to send you some information so you could continue your review of the SICR. On February 4, 2016 Marlin advanced two soil borings SB-101 and SB-102 . The borings were advanced to delineate soil contamination to the north of SB-30 and MW-14. I have attached the soil boring logs, analytical table and laboratory report for SB-101 and SB-102. Also attached please find the revised soil boring monitoring well costs form, analytical costs form and budget summary sheet for the Stage 3 actual costs. The revised forms reflect the cost for advancing SB-101 and SB-102. Our CAD tech is currently revising the SICR maps. Once these are complete I will forward them to you for your review. I am hoping he will have the maps done early next week. Thank you for your assistance in this matter.

Sincerely,

Joe Buhlig Marlin Environmental Consulting, LLC. 3900 Wood Duck Drive, Suite F Springfield, IL. 62711 217-726-7569 Ext. 300

# Electronic Filing: Received, Clerk's Office 402017-084) R. 458 Budget Summary

Choose the applicable regulations:

734

Ø32

734	Free Product	Stage 1 Site Investigation	Stage 2 Site Investigation	Stage 3 Site Investigation	Corrective Action
Drilling and Monitoring Wells Costs Form				\$1,486.97	
Analytical Costs Form				\$1,395.32	
Remediation and Disposal Costs Form				\$0.00	
UST Removal and Abandonment Costs Form				\$0.00	
Paving, Demolition, and Well Abandonment Costs Form				\$0.00	
Consulting Personnel Costs Form				\$15,511.96	
Consultant's Materials Costs Form				\$604.80	
Handling Charges Form	Handling charges will amount of allowable h	be determined at the t andling charges will b	ime a billing package e determined in accord	is submitted to the Illindance with the Handlin	nois EPA. The ag Charges Form.
Total	\$0.00	\$0.00	\$0.00	\$18,999.05	\$0.00

# Electronic Filing: Received, Clerk's Office (3/28/2017-084) R. 459 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
2	PUSH	10	20	Migration Pathway
			0	
			0	
			0	
			0	
			0	
			0	
			0	

Subpart H minimum payment amount applies.

	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:	0	\$28.50	\$0.00
Total Feet via PUSH:	20	\$22.30	\$446.00
Total Feet for Injection via PUSH:	0	\$18.59	\$0.00
		Total Drilling Costs:	\$1,486.97

adjusted to reflect Subpart H minimum payment amount

#### 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 (\$)
				0
				0
				0
				0
				0

Well Installation	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:	0	\$20.45	\$0.00
Total Feet via PUSH:	0	\$15.49	\$0.00
Total Feet of 4" or 6" Recovery:	0	\$30.98	\$0.00
Total Feet of 8" or Greater Recovery:	0	\$50.80	\$0.00
		Total Well Costs:	\$0.00

<b>Total Drilling and Monitoring Well Costs:</b>	\$1,486.97
--	------------

Electronic Filing: Received, Clerk's Office 74 28 201. 2017-084) R. 460



#### **INVOICE**

BILL TO

Illico, Inc.

2201 Woodlawn Road, Suite 600

Lincoln, IL 62656

SERVICE ADDRESS

Illico - University

3712 North University Drive

Peoria, IL 61614

Stage 3 Drilling

**DATE** 2/4/16

INVOICE # 1382-020416

Description	Quantity	Rate	Amount
Feet: Hollow Stem Auger Drilling	0	\$ 27.94	\$ -
Feet: Direct Push Platform for Sampling	20	\$ 21.87	\$ 1,486.97
Feet: 2" Monitoring Well Installation via HSA	0	\$ 20.05	\$ <u>-</u>
Per	rsonnel: Roth 02/04	4/16	
		TOTAL	\$ 1,486.97

Phone: 217-503-7686

# Electronic Filing: Received, Clerk's Officenia/28/2017-084) R. 461 Analytical Costs Form

Laboratory Analysis	Number of Samples		Cost (\$) per Analysis		Total per Parameter
Chemical Analysis					
BETX Soil with MTBE EPA 8260	4	х	\$105.33	=	\$421.32
BETX Water with MTBE EPA 8260		x	\$100.37		\$0.00
COD (Chemical Oxygen Demand)		x	\$37.17	_	\$0.00
Corrosivity		x	\$18.59		\$0.00
Flash Point or Ignitability Analysis EPA 1010		х	\$40.88	=	\$0.00
Fraction Organic Carbon Content (foc) ASTM-D 2974-00	1 1 1 1 1 1	х	\$47.08	=	\$47.08
Fat, Oil, & Grease (FOG)		х	\$74.34	=	\$0.00
LUST Pollutants Soil - analysis must include volatile, base/ neutral, polynuclear aromatics and metals list in Section 732. Appendix B and 734.Appendix B		х	\$858.73	=	\$0.00
Dissolved Oxygen (DO)		х	\$29.74	=	\$0.00
Paint Filter (Free Liquids)		x	\$17.35	=	\$0.00
PCB / Pesticides (combination)		x	\$275.09	=	\$0.00
PCBs		х	\$137.54	=	\$0.00
Pesticides		х	\$173.48	=	\$0.00
рН		х	\$17.35	=	\$0.00
Phenol		х	\$42.13	=	\$0.00
Polynuclear Aromatics PNA, or PAH SOIL EPA 8270	4	х	\$188.36	=	\$753.44
Polynuclear Aromatics PNA, or PAH WATER EPA 8270		х	\$188.36	=	\$0.00
Reactivity		х	\$84.26	= 10	\$0.00
SVOC - Soil (Semi-Volatile Organic Compounds)		х	\$387.85	=	\$0.00
SVOC - Water (Semi-Volatile Organic Compounds)		х	\$387.85	=	\$0.00
TKN (Total Kjeldahl) "nitrogen"		х	\$54.52	=	\$0.00
TPH (Total Petroleum Hydrocarbons)		х	\$151.18	=	\$0.00
VOC (Volatile Organic Compounds) - Soil (Non-Aqueous)		х	\$216.85	=	\$0.00
VOC (Volatile Organic Compounds) - Water		х	\$209.42	=	\$0.00
Field Blank BTEX		х	\$100.37	=	\$0.00
Trip Blank BTEX		х	\$100.37	=	\$0.00
		х		=	\$0.00
		х		=	\$0.00
		х		=	\$0.00
Geo-Technical Analysis					
Soil Bulk Density (p <sub>b</sub> ) ASTM D2937-94		х	\$27.26	=	\$0.00
Ex-situ Hydraulic Conductivity / Permeability		х	\$315.98	=	\$0.00
Moisture Content (w) ASTM D2216-92 / D4643-93		х	\$14.87	=	\$0.00
Porosity		х	\$37.17	=	\$0.00
Rock Hydraulic Conductivity Ex-situ		х	\$433.70	=	\$0.00
Sieve / Particle Size Analysis ASTM D422-63 / D1140-54		х	\$179.68	=	\$0.00
Soil Classification ASTM D2488-90 / D2487-90		х	\$84.26	=	\$0.00
Soil Particle Density (ps) ASTM D854-92		х	\$90.00	=	\$0.00
		х		=	\$0.00
		x		=	\$0.00
		х		=	\$0.00

# Electronic Filing: Received, Clerk's Officenia 2017-084) R. 462 Analytical Costs Form

Metals Analysis					
Soil preparation fee for Metals TCLP Soil (one fee per soil sample)		X	\$97.89	=	\$0.00
Soil preparation fee for Metals Total Soil (one fee per soil sample)		x	\$19.82	=	\$0.00
Water preparation fee for Metals Water (one fee per water sample)		х	\$13.62	= 1	\$0.00
Arsenic TCLP Soil		X	\$19.82		\$0.00
Arsenic Total Soil		х	\$19.82	=	\$0.00
Arsenic Water		х	\$22.30	= 3	\$0.00
Barium TCLP Soil		х	\$12.39	=	\$0.00
Barium Total Soil		х	\$12.39	=	\$0.00
Barium Water		х	\$14.87	=	\$0.00
Cadmium TCLP Soil		х	\$19.82	=	\$0.00
Cadmium Total Soil		x	\$19.82	=	\$0.00
Cadmium Water		х	\$22.30	=	\$0.00
Chromium TCLP Soil		х	\$12.39	=	\$0.00
Chromium Total Soil		х	\$12.39	(	\$0.00
Chromium Water		х	\$14.87	=	\$0.00
Cyanide TCLP Soil		x	\$34.70	=	\$0.00
Cyanide Total Soil		x	\$42.13	=	\$0.00
Cyanide Water		х	\$42.13	=	\$0.00
ron TCLP Soil		x	\$12.39	=	\$0.00
ron Total Soil		х	\$12.39	=	\$0.00
ron Water		x	\$14.87	=	\$0.00
Lead TCLP Soil		x	\$19.82	=	\$0.00
Lead Total Soil		x	\$19.82	=	\$0.00
Lead Water		x	\$22.30	=	\$0.00
Mercury TCLP Soil		x	\$23.54	T = 1	\$0.00
Mercury Total Soil		х	\$12.39		\$0.00
Mercury Water		x	\$32.22	=	\$0.00
Selenium TCLP Soil		x	\$19.82		\$0.00
Selenium Total Soil		x	\$19.82	=	\$0.00
elenium Water		x	\$18.59		\$0.00
ilver TCLP Soil		х	\$12.39	=	\$0.00
ilver Total Soil		х	\$12.39	=	\$0.00
ilver Water		x	\$14.87	=	\$0.00
Metals TCLP Soil (a combination of all metals) RCRA		х	\$127.63	0 = 0	\$0.00
Metals Total Soil (a combination of all metals) RCRA		х	\$116.47	=	\$0.00
Metals Water (a combination of all metals) RCRA		х	\$147.45	=	\$0.00
		х		=	\$0.00
		х		=	\$0.00
		х		=	\$0.00
		x		= 3	\$0.00
Other					70
nCore® Sampler, purge-and-trap sampler, or equivalent ampling device	4	x	\$12.39	=	\$49.56
ample Shipping per sampling event <sup>1</sup>	2	x	\$61.96	=	\$123.92

<sup>&</sup>lt;sup>1</sup>A sampling event, at a minimum, is all samples (soil and groundwater) collected in a calendar day

<b>Total Analytical Costs:</b>	\$1,395.32

## Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 463 received

Environmental Laboratories, Inc.

Invoice Number:

126503

IL ELAP / NELAC Accreditation # 100292

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

Tax I.D. No. 36-3925322

Invoice Date:

Feb 12, 2016

Page:

Sold To:

MARLIN ENVIRONMENTAL 3935 Commerce Drive St. Charles, IL 60174 Remit To:

FIRST ENVIRONMENTAL LABORATORIES, INC.

1600 Shore Road Suite D Naperville, IL 60563

Customer ID: MARLIN01

Customer PO	Payment Terms	Due Date	Sales Rep ID
	Net 240 Days	10/9/16	

Quantity	Item	Description	Unit Price	Extension
4.00 4.00 1.00		Project ID: Illico - University 923441 BTEX/MTBE PNAs Date Collected 2/4/16 First Environmental File ID: 16-0564 THANK YOU!	105.33 188.36	421.3 753.4

The Agency is authorized to require this information under 415 ILCS 5/4 and 21. Disclosure of this information is required. Failure to do so may result in a civil penalty up To \$25,000.00 for each day failure continues, a fine up to \$50,000.00 and imprisonment up to five years. This form has been approved by the Forms Management Center.

LUST	Inciden	t No:	92344	1	Boring Number: SB	-102	Page	1	of	1
	ite Name: Illico Independent Oil				Date:	20075	Start	2/4/2016		
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Peoria, Illinois						Finish	2/4/2016			
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Sample Number	Sample Device	Sample Recovery	Lithology Symbol	Depth (feet)	Grass surface		Z	Qu	)V	Remarks
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Marine Harrison Inches	lwater D		s are ap	Auger I		nd Auger	gradua			
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	11010.1		5							

LUST Incident No: 923441			Boring Number: SB-101	Page	1	of	1		
	Site Name: Illico Independent Oil		lent Oil	Location:	Date:		Start	2/4/2016	
Address: 3712 N. University St.		maiter C4	North of subject property; See Map						
	ss: Illinois		. Onive	isity St.				Finish	2/4/2016
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		1000/	CL	2	Brown Silty Clay	M			Sample
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	FIVE FOOT MACROCORE		CL	6		M			Sample
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abla	Depth After Drilling  NA  Note: I								
V .			Note: E	Boring backfilled with cuttings and bentonite.					

#### Benanti, Trent

From: Benanti, Trent

Sent: Thursday, March 31, 2016 2:41 PM
To: Joe Buhlig (joeb@marlinenv.com)
Cc: Jeff Wienhoff (jeffw@marlinenv.com)
Subject: Leaking UST Incident #923441

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co. 3712 N. University St.

> Leaking UST Incident #923441 Leaking UST Technical File

Joe:

I will be sending a series of emails regarding the Site Investigation Completion Report dated 12/14/2015. The emails will have the following titles (subjects):

- 1) Leaking UST Incident #923441 Site Investigation Completion Report;
- 2) Leaking UST Incident #923441 Site Investigation Completion Report FIGURES 1, 2, 3, and 4;
- 3) Leaking UST Incident #923441 Site Investigation Completion Report TABLES;
- 4) Leaking UST Incident #923441 Site Investigation Completion Report ATTACHMENT 4;
- 5) Leaking UST Incident #923441 Site Investigation Completion Report ATTACHMENT 3; and
- 6) Leaking UST Incident #923441 Site Investigation Completion Report FIGURE 5.

Please respond to the emails in the order in which they are received. Please note that some of the emails will not require a response. Also note that the Illinois EPA must notify the owner/operator in writing of its final action by 04/12/2016.

Sincerely,

Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

## Electronic Filing: Received, Clerk's Office 74 28 201. 2017-084) R. 467

#### Benanti, Trent

From: Benanti, Trent

Sent: Thursday, March 31, 2016 3:25 PM
To: Joe Buhlig (joeb@marlinenv.com)
Cc: Jeff Wienhoff (jeffw@marlinenv.com)

Subject: Leaking UST Incident #923441 – Site Investigation Completion Report

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

#### Mr. Joe Buhlig:

This email is the first email in a series of emails regarding the Site Investigation Completion Report dated 12/14/2015. I have reviewed said Site Investigation Completion Report and have the following comments regarding the body of the report:

1) The analytical results of the soil samples collected as part of site investigation were compared to the Tier 1 soil remediation objectives. The Tier 1 evaluation is discussed on page 3 of the Site Investigation Completion Report. However, the TABLE OF CONTENTS states that the Tier 1 evaluation is discussed on page 4. In addition, the TABLE OF CONTENTS and page 3 state that the analytical results of the soil samples collected as part of <u>early action and</u> site investigation were compared to the Tier 1 soil remediation objectives (TACO Tier 1 Evaluation: Early Action and Site Investigation Soil).

Please note that soil samples were not collected as part of early action;

- 2) The TABLE OF CONTENTS states that Special Resource Groundwater (Class III) and surface water are discussed on page 5 of the Site Investigation Completion Report. However, the Site Investigation Completion Report does not discuss Special Resource Groundwater (Class III) and surface water;
- 3) The Illinois EPA approved the Stage 1 Site Investigation Plan on 11/13/2012. However, the Site Investigation Completion Report states that the approval letter is dated 11/12/2012;
- 4) Leaking UST Incident #923441 was reported to the Illinois Emergency Management Agency (IEMA) on 12/03/1992. However, the Site Investigation Completion Report states that Leaking UST Incident #923441 was reported to IEMA on 12/02/1992;
- 5) The Stage 3 Site Investigation Plan is dated 10/06/2015. However, the Site Investigation Completion Report states that the Stage 3 Site Investigation Plan is dated 10/05/2015;
- 6) The site surface is a mix of concrete and grass areas. However, the Site Investigation Completion Report states that the site surface is generally paved;
- 7) The subsurface generally consists of silty clay. However, the Site Investigation Completion Report states that the subsurface generally consists of silty clay to 9' below ground surface (bgs) and sand from 9' bgs to 13' bgs;

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- 8) The groundwater levels while drilling range from 4' bgs to 9' bgs. However, the Site Investigation Completion Report states that the groundwater levels while drilling range from 4' bgs to 8' bgs;
- 9) FIGURE 2 and FIGURE 5 show the horizontal extent of the soil contamination. However, the Site Investigation Completion Report states that FIGURE 4 shows the horizontal extent of the soil contamination;
- 10) The Licensed Professional Engineer's certification states that the work described in the Site Investigation Completion Report has been completed in accordance with 35 Illinois Administrative Code (35 Ill. Adm. Code) 732. However, the Licensed Professional Engineer's certification should state that the work described in the Site Investigation Completion Report has been completed in accordance with 35 Ill. Adm. Code 734; and
- 11) Mr. Jeffrey R. Wienhoff's license expires on 11/30/2017. However, the Licensed Professional Engineer's certification states that Mr. Wienhoff's license expires on 11/30/2015.

Please note that this email does not require a response.

Sincerely,

Trent Benanti Project Manager/Environmental Protection Engineer III Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

## Electronic Filing: Received, Clerk's Office 3/28/201. 2017-084) R. 469

#### Benanti, Trent

From: Benanti, Trent

Sent: Thursday, March 31, 2016 4:42 PM
To: Joe Buhlig (joeb@marlinenv.com)
Cc: Jeff Wienhoff (jeffw@marlinenv.com)

**Subject:** Leaking UST Incident #923441 – Site Investigation Completion Report – FIGURES 1, 2, 3,

and 4

Attachments: Area Map (100').pdf

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

Mr. Joe Buhlig:

This email is the second email in a series of emails regarding the Site Investigation Completion Report dated 12/14/2015. I have reviewed said Site Investigation Completion Report and have the following comments regarding the site maps:

- 1) The property boundary lines shown on FIGURE 1 (SURROUNDING LAND USAGE MAP) do not match the property boundary lines shown on the map generated by Peoria County Front Desk. Please replace FIGURE 1 (SURROUNDING LAND USAGE MAP) with the map generated by Peoria County Front Desk. A copy of the map generated by Peoria County Front Desk is attached;
- 2) FIGURE 2 (SITE AREA FEATURES MAP) shows the horizontal extents of the soil and the groundwater contamination. The Illinois EPA requests that the consultant replace FIGURE 2 (SITE AREA FEATURES MAP) with FIGURE 2A (SITE AREA FEATURES MAP SOIL) and FIGURE 2B (SITE AREA FEATURES MAP GROUNDWATER). The basis for FIGURE 2A (SITE AREA FEATURES MAP SOIL) and FIGURE 2B (SITE AREA FEATURES MAP GROUNDWATER) must be the site map titled "FIGURE 2 (SITE AREA FEATURES MAP)," which was attached to the email dated 01/29/2016. FIGURE 2A (SITE AREA FEATURES MAP SOIL) must show soil borings SB-101 and SB-102. FIGURE 2A (SITE AREA FEATURES MAP SOIL) must not show monitoring wells from which no soil sample was selected for chemical analysis. FIGURE 2A (SITE AREA FEATURES MAP SOIL) must not identify those monitoring wells for which the concentrations of contaminants in the groundwater exceed the Tier 1 remediation objectives. FIGURE 2B (SITE AREA FEATURES MAP GROUNDWATER) must not show soil borings from which no groundwater sample was selected for chemical analysis. The locations of the proposed monitoring wells and the proposed soil borings must be removed from the legends of FIGURE 2A (SITE AREA FEATURES MAP SOIL) and FIGURE 2B (SITE AREA FEATURES MAP GROUNDWATER);
- 3) The elevations of the tops of the risers of monitoring wells MW-9, MW-10, and MW-11 are 97.88', 98.94', and 99.72'. However, FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) implies that the ground surface elevations are 97.88', 98.94', and 99.72';
- 4) FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) shows the groundwater levels while drilling. However, FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) does not show the correct groundwater levels while drilling for monitoring wells MW-9, MW-10, and MW-11;

## Electronic Filing: Received, Clerk's Office 4/28/2017-084) R. 470

- 5) FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) shows the well screens for monitoring wells MW-9, MW-10, and MW-11. However, FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) does not show the correct well screens for monitoring wells MW-9, MW-10, and MW-11;
- 6) According to FIGURE 2 (SITE AREA FEATURES MAP), the underground storage tank (UST) basin measures approximately 53' north to south. However, according to FIGURE 3 (GEOLOGICAL CROSS SECTION MAP), the UST basin measures approximately 40' north to south. Please correct FIGURE 3 (GEOLOGICAL CROSS SECTION MAP);
- 7) The basis for the reference map in the lower left corner of FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) must be the site map titled "FIGURE 2 (SITE AREA FEATURES MAP)," which was attached to the email dated 01/29/2016;
- 8) The basis for FIGURE 4 (GROUNDWATER CONTOUR & FLOW MAP) must be the site map titled "FIGURE 2 (SITE AREA FEATURES MAP)," which was attached to the email dated 01/29/2016; and
- 9) At least a couple of the groundwater contour lines shown on FIGURE 4 (GROUNDWATER CONTOUR & FLOW MAP) are incorrect. Therefore, the Illinois EPA requests that the consultant remove the groundwater contour lines and the approximate localized groundwater flow directions from FIGURE 4 (GROUNDWATER CONTOUR & FLOW MAP).

Sincerely,

Trent Benanti Project Manager/Environmental Protection Engineer III Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

## Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 471

#### Benanti, Trent

From: Benanti, Trent

Sent:Monday, April 04, 2016 7:57 AMTo:Joe Buhlig (joeb@marlinenv.com)Cc:Jeff Wienhoff (jeffw@marlinenv.com)

Subject: Leaking UST Incident #923441 - Site Investigation Completion Report - TABLES

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

#### Mr. Joe Buhlig:

This email is the third email in a series of emails regarding the Site Investigation Completion Report dated 12/14/2015. I have reviewed said Site Investigation Completion Report and have the following comments regarding the tables:

- 1) The analytical results of soil samples collected from soil borings SB-1, SB-2, SB-3, SB-4, SB-5, SB-6, SB-7, SB-8, SB-9, and SB-10 and monitoring well installation boreholes MW-5, MW-6, and MW-7 are not being used. Therefore, Table 1 and Table 2 do not need to list said analytical results;
- 2) According to a footnote below Table 1, concentrations that exceed a Tier 1 remediation objective are printed in bold font. The method detection limit for benzene for soil sample SB-17 (6'-7') exceeds a Tier 1 remediation objective. However, said method detection limit is not printed in bold font;
- 3) Table 1 and Table 2 do not indicate that soil samples SB-17 (3.5'-5') and SB-17 (6'-7') were replaced by SB-31 (2'-4') and SB-31 (4'-6');
- 4) The Tier 1 remediation objectives for phenanthrene for the soil component of the groundwater ingestion exposure route are 210,000 ug/kg (Class I) and 1,100,000 (Class II). However, Table 2 states that the Tier 1 remediation objectives for phenanthrene for the soil component of the groundwater ingestion exposure route are 200,000 ug/kg (Class I) and 1,000,000 ug/kg (Class II);
- 5) According to a footnote below Table 4, concentrations that exceed a Tier 1 remediation objective are printed in bold font. The method detection limit for dibenzo(a,h)anthracene for groundwater sample MW-1 (11/22/1999) exceeds a Tier 1 remediation objective. In addition, the method detection limits for indeno(1,2,3-cd)pyrene for groundwater samples MW-1 (11/22/1999), MW-4 (11/16/2000), and MW-4 (Duplicate) exceed a Tier 1 remediation objective. However, said method detection limits are not printed in bold font; and
- 6) Table 5 lists the top of the riser (TOR) elevations and the depth to groundwater below the top of the riser (BTOR). However, Table 5 states that the elevations are the top of the casing (TOC) elevations. In addition, Table 5 states that the depth to groundwater is the depth to groundwater below the top of the casing (BTOC).

Please note that this email does not require a response.

Sincerely,

## Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 472

Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

#### Benanti, Trent

From: Benanti, Trent

Sent: Monday, April 04, 2016 8:21 AM
To: Joe Buhlig (joeb@marlinenv.com)
Cc: Jeff Wienhoff (jeffw@marlinenv.com)

Subject: Leaking UST Incident #923441 - Site Investigation Completion Report - ATTACHMENT 4

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

#### Mr. Joe Buhlig:

This email is the fourth email in a series of emails regarding the Site Investigation Completion Report dated 12/14/2015. I have reviewed said Site Investigation Completion Report and have the following comments regarding ATTACHMENT 4:

- 1) The Illinois EPA does not believe that the saturated thickness is known. Therefore, Marlin Environmental, Inc. has two options;
  - a) Estimate the saturated thickness from well logs for potable water supply wells in the area; or
  - b) Determine the sensitivity of the hydraulic conductivity to a greater saturated thickness and a lesser saturated thickness.
- 2) For monitoring wells screened across the water table, the total well penetration depth and screen length are equal to the static water column height (8.8'); and
- 3) Monitoring well MW-2 was drilled with an auger with an outside diameter of 8.25". Therefore, the well radius and the well skin radius are 4.125" (0.34375').

Sincerely,

Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

## Electronic Filing: Received, Clerk's Office 7/28/201. 2017-084) R. 474

#### Benanti, Trent

From: Benanti, Trent

Sent:Monday, April 04, 2016 10:01 AMTo:Joe Buhlig (joeb@marlinenv.com)Cc:Jeff Wienhoff (jeffw@marlinenv.com)

Subject: Leaking UST Incident #923441 - Site Investigation Completion Report - ATTACHMENT 3

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

#### Mr. Joe Buhlig:

This email is the fifth email in a series of emails regarding the Site Investigation Completion Report dated 12/14/2015. I have reviewed said Site Investigation Completion Report and have the following comments regarding ATTACHMENT 3:

1) The mass-limit acreage is either 1 acre or 2 acres. However, the SSL Input Parameters for Use with Tier 2 Calculations state that the mass-limit acreage is 0.5 acre.

Please note that the mass-limit acreage is not a parameter in equation S18 and equation S28;

- 2) The hydraulic gradient (i) is 0.1426 ft/ft (m/m). However, the forms titled "SSL Input Parameters for Use with Tier 2 Calculations" state that the hydraulic gradient (i) is 0.0131 m/m.
  - Please note that a dilution factor (DF) of 20 was used in equation S18. Therefore, the hydraulic gradient (i) will not affect the result of said equation;
- 3) According to ATTACHMENT 4, the hydraulic conductivity (K) is 0.0003667 cm/s (115.6 m/yr). However, the forms titled "SSL Input Parameters for Use with Tier 2 Calculations" state that the hydraulic conductivity (K) is 0.46 m/yr.
  - Please note that a dilution factor (DF) of 20 was used in equation S18. Therefore, the hydraulic conductivity (K) will not affect the result of said equation. Also note that the hydraulic conductivity (K) may not be 0.0003667 cm/s;
- 4) The Illinois EPA does not believe that the source length parallel to groundwater flow (L) is known. However, the Illinois EPA knows that the source length parallel to groundwater flow (L) is greater than the 39.624 m (100') listed on the form titled "SSL Input Parameters for Use with Tier 2 Calculations."
  - Please note that a dilution factor (DF) of 20 was used in equation S18. Therefore, the source length parallel to groundwater flow (L) will not affect the result of said equation;
- 5) The analytical results of the soil samples collected from soil borings SB-1, SB-2, SB-3, SB-4, SB-5, SB-6, SB-7, SB-8, SB-9, and SB-10 and monitoring well installation boreholes MW-5, MW-6, and MW-7 are not being used. Therefore, Marlin Environmental, Inc. does not need to calculate the potential concentrations of contaminants migrating from said soil samples or the X distances for said soil samples;

## Electronic Filing: Received, Clerk's Office 17-084) R. 475

- 6) Marlin Environmental, Inc. needs to calculate the potential concentrations of benzene migrating from soil samples SB-11 (7'-8'SB-12 (7'-8'), SB-13 (6'-7'), SB-14 (6'-7'), SB-15 (5'-6'), SB-16 (6'-7'), SB-18 (6'-7'), SB-19 (6'-7'), SB-25 (3.5'-5'), and MW-14 (4'-6');
- 7) Marlin Environmental, Inc. needs to calculate the potential concentrations of total xylenes migrating from soil samples SB-11 (7'-8'), SB-12 (7'-8'), SB-13 (6'-7'), SB-15 (5'-6'), SB-16 (6'-7'), SB-18 (6'-7'), and MW-14 (4'-6');
- 8) Marlin Environmental, Inc. needs to calculate the potential concentrations of toluene migrating from soil samples SB-11 (7'-8'), SB-13 (6'-7'), and SB-15 (5'-6');
- 9) Marlin Environmental, Inc. needs to calculate the potential concentrations of ethylbenzene migrating from soil samples SB-11 (7'-8'), SB-13 (6'-7'), SB-15 (5'-6'), and SB-18 (6'-7');
- 10) Marlin Environmental, Inc. needs to calculate the potential concentrations of naphthalene migrating from soil samples SB-11 (7'-8'), SB-15 (5'-6'), and SB-18 (6'-7');
- 11) Marlin Environmental, Inc. used a hydraulic gradient (i) of 0.1426 ft/ft (m/m) (cm/cm) in equation R19. However, the forms titled "RBCA Input Parameters for Use with Tier 2 Calculations" state that the hydraulic gradient (i) is 0.0273 cm/cm;
- 12) According to FIGURE 5, the source width perpendicular to the groundwater flow direction in the horizontal plane  $(S_w)$  is 214'. However, the forms titled "RBCA Input Parameters for Use with Tier 2 Calculations" state that the source width perpendicular to the groundwater flow direction in the horizontal plane  $(S_w)$  is 240'.
  - Please note that equation R26 is not sensitive to the source width perpendicular to the groundwater flow direction in the horizontal plane  $(S_w)$ ;
- 13) The potential concentration of benzene migrating from soil sample SB-31 (2'-4') is less than the potential concentration of benzene migrating from soil sample SB-31 (4'-6'). Therefore, Marlin Environmental, Inc. does not need to calculate the distance X for soil sample SB-31 (2'-4');
- 14) The potential concentration of benzene migrating from soil sample MW-12 (2'-4') is less than the potential concentration of benzene migrating from soil sample MW-12 (4'-6'). In addition, the potential concentration of benzene migrating from soil sample MW-12 (4'-6') is less than the concentration of benzene in groundwater sample MW-12. Therefore, Marlin Environmental, Inc. does not need to calculate the X distances for soil samples MW-12 (2'-4') and MW-12 (4'-6');
- 15) The potential concentration of benzene migrating from soil sample MW-13 (4'-6') is less than the concentration of benzene in groundwater sample MW-13. Therefore, Marlin Environmental, Inc. does not need to calculate the X distance for soil sample MW-13 (4'-6');
- 16) Marlin Environmental, Inc. needs to calculate the X distances for benzene for groundwater samples MW-1, MW-10, and MW-14 and soil samples SB-11 (7'-8'), SB-12 (7'-8'), SB-13 (6'-7'), SB-14 (6'-7'), SB-15 (5'-6'), and SB-16 (6'-7');
- 17) Marlin Environmental, Inc. needs to calculate the X distances for toluene for soil samples SB-13 (6'-7') and SB-15 (5'-6');
- 18) Marlin Environmental, Inc. needs to calculate the X distance for ethylbenzene for soil sample SB-15 (5'-6');

## Electronic Filing: Received, Clerk's Office 17/28/2017-084) R. 476

- 19) Marlin Environmental, Inc. needs to calculate the X distance for naphthalene for groundwater sample MW-4; and
- 20) Marlin Environmental, Inc. needs to calculate the X distance for benzo(a)anthracene for groundwater sample MW-7.

Sincerely,

Trent Benanti Project Manager/Environmental Protection Engineer III Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

## Electronic Filing: Received, Clerk's Office 37 28 201. 2017-084) R. 477

#### Benanti, Trent

From: Jeff Wienhoff <jeffw@marlinenv.com>
Sent: Monday, April 04, 2016 10:02 AM

To: Benanti, Trent; Joe Buhlig

Subject: RE: Leaking UST Incident #923441 – Site Investigation Completion Report – FIGURES 1, 2,

3, and 4

Attachments: Illico - University - 12-15 Geo EDITED 4-16.pdf; Illico - University - GWCF EDIT 4-16.pdf; Illico

- University - SAF - GW EDIT 4-16 .pdf; Illico - University - SAF -Soil EDITED 4-16.pdf; Illico -

University - SLUM edit 4-16.pdf

Trent,

Attached please find the revised maps per the directions below. One change was not made to the cross section per item #6. The SAF measures tank #1 at 32' north to south. With an estimated 4' cavity on both sides. That makes a total cavity width of 40' that matches the cross section. We are unclear how you are measuring 53' north to south, but 40' is correct and depicted on both maps in our opinion. The vent lines are shown on the SAF would only be a couple feet deep and are not shown the cross section because they are insignificant to its purpose.

Jeff

From: Benanti, Trent [mailto:Trent.Benanti@Illinois.gov]

**Sent:** Thursday, March 31, 2016 4:42 PM **To:** Joe Buhlig < <u>ioeb@marlinenv.com</u>> **Cc:** Jeff Wienhoff < jeffw@marlinenv.com>

Subject: Leaking UST Incident #923441 - Site Investigation Completion Report - FIGURES 1, 2, 3, and 4

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

Mr. Joe Buhlig:

This email is the second email in a series of emails regarding the Site Investigation Completion Report dated 12/14/2015. I have reviewed said Site Investigation Completion Report and have the following comments regarding the site maps:

- 1) The property boundary lines shown on FIGURE 1 (SURROUNDING LAND USAGE MAP) do not match the property boundary lines shown on the map generated by Peoria County Front Desk. Please replace FIGURE 1 (SURROUNDING LAND USAGE MAP) with the map generated by Peoria County Front Desk. A copy of the map generated by Peoria County Front Desk is attached;
- 2) FIGURE 2 (SITE AREA FEATURES MAP) shows the horizontal extents of the soil and the groundwater contamination. The Illinois EPA requests that the consultant replace FIGURE 2 (SITE AREA FEATURES MAP) with FIGURE 2A (SITE AREA FEATURES MAP SOIL) and FIGURE 2B (SITE AREA FEATURES MAP GROUNDWATER). The basis for FIGURE 2A (SITE AREA FEATURES MAP SOIL) and FIGURE 2B (SITE AREA FEATURES MAP GROUNDWATER) must be the site map titled "FIGURE 2 (SITE AREA FEATURES MAP)," which was attached to the email dated 01/29/2016. FIGURE 2A (SITE AREA FEATURES MAP SOIL) must show soil borings SB-101 and SB-102. FIGURE 2A (SITE AREA FEATURES MAP SOIL) must not show monitoring wells from which no

Electronic Filing: Received, Clerk's Office 7/28/201.7017-084) R. 478 soil sample was selected for chemical analysis. FIGURE 2A (SITE AREA FEATURES MAP - SOIL) must not identify those monitoring wells for which the concentrations of contaminants in the groundwater exceed the Tier 1 remediation objectives. FIGURE 2B (SITE AREA FEATURES MAP - GROUNDWATER) must not show soil borings from which no groundwater sample was selected for chemical analysis. The locations of the proposed monitoring wells and the proposed soil borings must be removed from the legends of FIGURE 2A (SITE AREA FEATURES MAP - SOIL) and FIGURE 2B (SITE AREA FEATURES MAP - GROUNDWATER);

- 3) The elevations of the tops of the risers of monitoring wells MW-9, MW-10, and MW-11 are 97.88', 98.94', and 99.72'. However, FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) implies that the ground surface elevations are 97.88', 98.94', and 99.72';
- 4) FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) shows the groundwater levels while drilling. However, FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) does not show the correct groundwater levels while drilling for monitoring wells MW-9, MW-10, and MW-11;
- 5) FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) shows the well screens for monitoring wells MW-9, MW-10, and MW-11. However, FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) does not show the correct well screens for monitoring wells MW-9, MW-10, and MW-11;
- 6) According to FIGURE 2 (SITE AREA FEATURES MAP), the underground storage tank (UST) basin measures approximately 53' north to south. However, according to FIGURE 3 (GEOLOGICAL CROSS SECTION MAP), the UST basin measures approximately 40' north to south. Please correct FIGURE 3 (GEOLOGICAL CROSS SECTION MAP);
- 7) The basis for the reference map in the lower left corner of FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) must be the site map titled "FIGURE 2 (SITE AREA FEATURES MAP)," which was attached to the email dated 01/29/2016;
- 8) The basis for FIGURE 4 (GROUNDWATER CONTOUR & FLOW MAP) must be the site map titled "FIGURE 2 (SITE AREA FEATURES MAP)," which was attached to the email dated 01/29/2016; and
- 9) At least a couple of the groundwater contour lines shown on FIGURE 4 (GROUNDWATER CONTOUR & FLOW MAP) are incorrect. Therefore, the Illinois EPA requests that the consultant remove the groundwater contour lines and the approximate localized groundwater flow directions from FIGURE 4 (GROUNDWATER CONTOUR & FLOW MAP).

Sincerely,

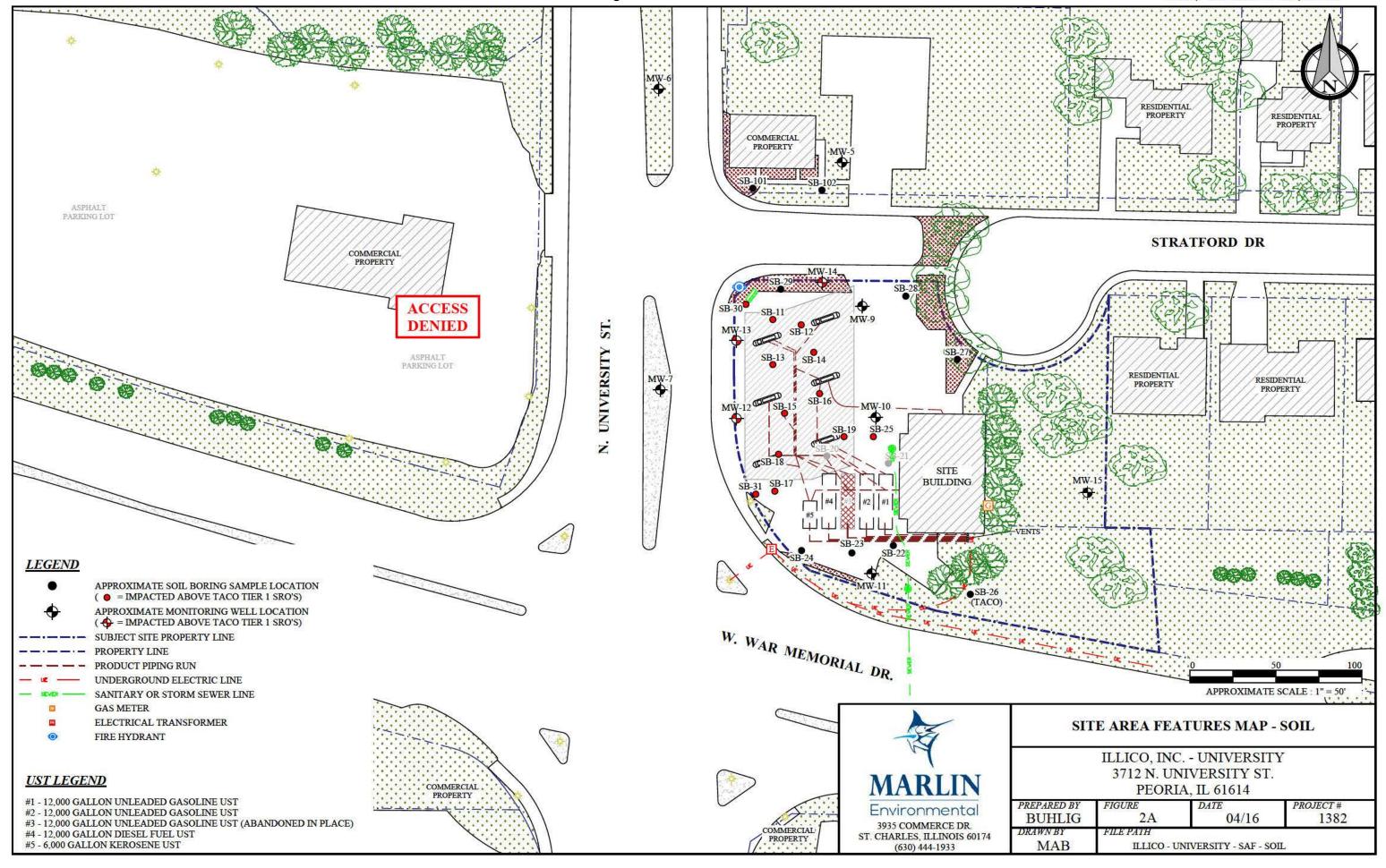
Trent Benanti

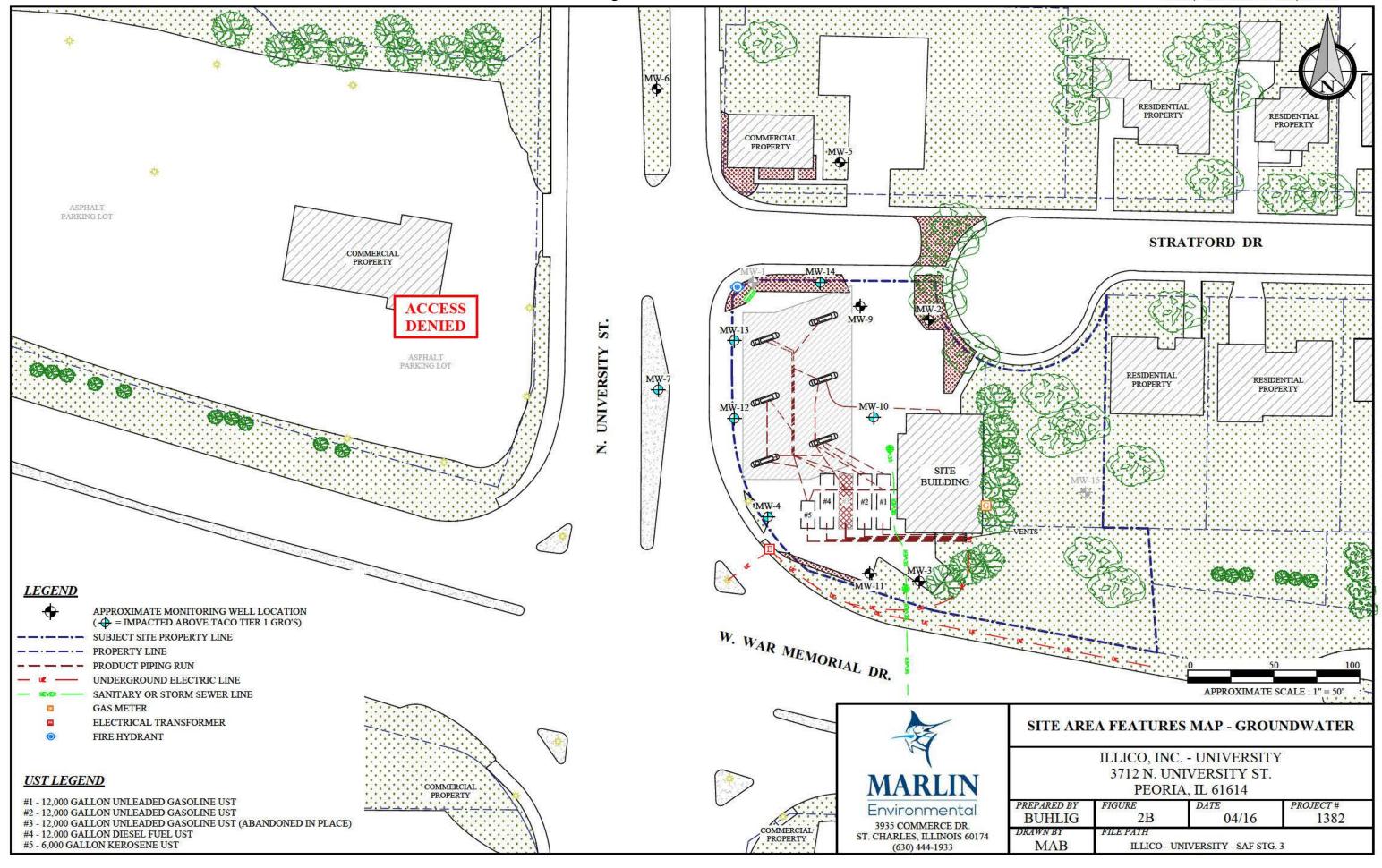
Project Manager/Environmental Protection Engineer III

Illinois EPA – Leaking UST Section

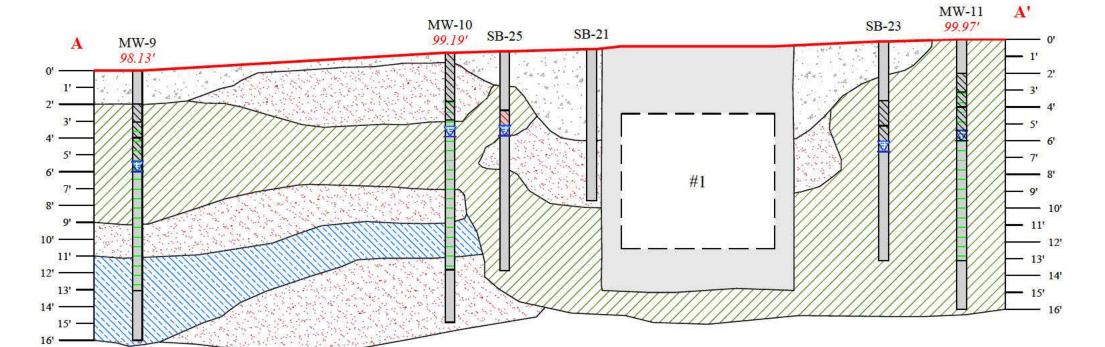
Phone: (217) 524-4649

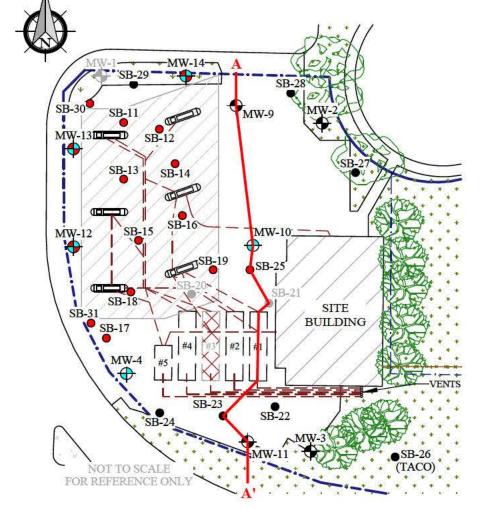
Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 479 RESIDENTIAL PROPERTY COMMERCIAL PROPERTY RESIDENTIAL COMMERICAL PROPERTY PROPERTY ST. UNIVERSITY W. STRATTFORD DR. COMMERCIAL PROPERTY ż RESIDENTIAL PROPERTY OCATION W. WAR MEMORIAL DR. COMMERCIAL **PROPERTY** 140 COMMERCIAL PROPERTY APPROXIMATE SCALE: 1" = 70' SURROUNDING LAND USAGE MAP OJECT NUMBER 1382 ILLICO, INC. - UNIVERSITY Environmental 04/16 3712 N. UNIVERSITY ST. EPARED BY PEORIA, IL 61614 3935 COMMERCE DR. BUHLIG ST. CHARLES, ILLINOIS 60174 DRAWN BY: (630) 444-1933 BETTENHAUSEN ILLICO - UNIVERSITY - SLUM





## **GEOLOGICAL CROSS SECTION A - A'**





## **LEGEND**

SAND & GRAVEL / CONCRETE

SILTY CLAY

SILT SAND

APPROXIMATE UST BASIN

G D

GROUND WATER SCREEN

DEPTH TO GROUNDWATER WHILE DRILLING

SOIL SAMPLE INTERVAL - BELOW IEPA TACO TIER 1 SRO'S

SOIL SAMPLE INTERVAL - ABOVE IEPA TACO TIER 1 SRO'S

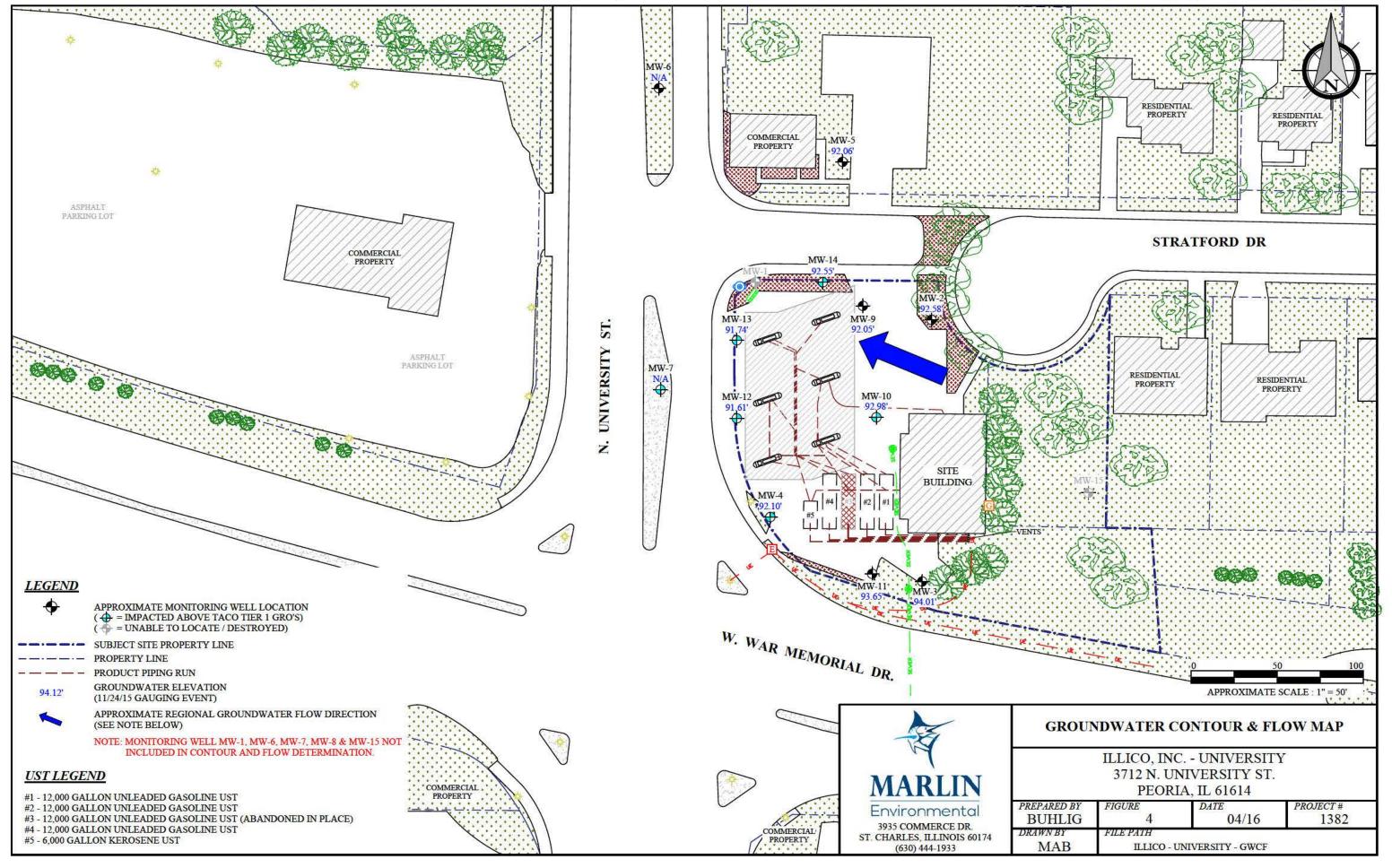


#### GEOLOGICAL CROSS SECTION MAP

ILLICO, INC. - UNIVERSITY 3712 N. UNIVERSITY ST. PEORIA, IL 61614

PEORIA, IL 01014								
PREPARED BY	FIGURE	DATE	PROJECT #					
BUHLIG	3	04/16	1382					
DRAWN BY	FILE NAME	*	***					
BETTENHAUSEN	ILLICO - UNI	VERSITY - 12-15 GEO X	SECTION					

0	20	40
APPROXIMA'	TE HORIZONTAL S	SCALE: 1" = 20
VERTIC	CAL SCALE EXAGO	ERATED



#### Benanti, Trent

From: Benanti, Trent

**Sent:** Monday, April 04, 2016 10:08 AM

To: 'Jeff Wienhoff'

Subject: RE: Leaking UST Incident #923441 – Site Investigation Completion Report – FIGURES 1, 2,

3, and 4

Jeff, I measured the distance from SB-21 to SB-23. SB-21 is clearly within the limits of the UST excavation. See the soil boring log.

Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

E-mail: trent.benanti@illinois.gov

**From:** Jeff Wienhoff [mailto:jeffw@marlinenv.com]

Sent: Monday, April 04, 2016 10:02 AM

To: Benanti, Trent; Joe Buhliq

Subject: RE: Leaking UST Incident #923441 – Site Investigation Completion Report – FIGURES 1, 2, 3, and 4

Trent,

Attached please find the revised maps per the directions below. One change was not made to the cross section per item #6. The SAF measures tank #1 at 32' north to south. With an estimated 4' cavity on both sides. That makes a total cavity width of 40' that matches the cross section. We are unclear how you are measuring 53' north to south, but 40' is correct and depicted on both maps in our opinion. The vent lines are shown on the SAF would only be a couple feet deep and are not shown the cross section because they are insignificant to its purpose.

Jeff

From: Benanti, Trent [mailto:Trent.Benanti@Illinois.gov]

**Sent:** Thursday, March 31, 2016 4:42 PM **To:** Joe Buhlig < <u>ioeb@marlinenv.com</u>> **Cc:** Jeff Wienhoff < jeffw@marlinenv.com>

Subject: Leaking UST Incident #923441 - Site Investigation Completion Report - FIGURES 1, 2, 3, and 4

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

Mr. Joe Buhlig:

This email is the second email in a series of emails regarding the Site Investigation Completion Report dated 12/14/2015. I have reviewed said Site Investigation Completion Report and have the following comments regarding the site maps:

1) The property boundary lines shown on FIGURE 1 (SURROUNDING LAND USAGE MAP) do not match the property boundary lines shown on the map generated by Peoria County Front Desk. Please replace

# Electronic Filing: Received, Clerk's Office 2017-084) R. 485 FIGURE 1 (SURROUNDING LAND USAGE MAP) with the map generated by Peoria County Front Desk. A copy of the map generated by Peoria County Front Desk is attached;

- 2) FIGURE 2 (SITE AREA FEATURES MAP) shows the horizontal extents of the soil and the groundwater contamination. The Illinois EPA requests that the consultant replace FIGURE 2 (SITE AREA FEATURES MAP) with FIGURE 2A (SITE AREA FEATURES MAP SOIL) and FIGURE 2B (SITE AREA FEATURES MAP SOIL) and FIGURE 2B (SITE AREA FEATURES MAP SOIL) and FIGURE 2B (SITE AREA FEATURES MAP GROUNDWATER) must be the site map titled "FIGURE 2 (SITE AREA FEATURES MAP)," which was attached to the email dated 01/29/2016. FIGURE 2A (SITE AREA FEATURES MAP SOIL) must show soil borings SB-101 and SB-102. FIGURE 2A (SITE AREA FEATURES MAP SOIL) must not show monitoring wells from which no soil sample was selected for chemical analysis. FIGURE 2A (SITE AREA FEATURES MAP SOIL) must not identify those monitoring wells for which the concentrations of contaminants in the groundwater exceed the Tier 1 remediation objectives. FIGURE 2B (SITE AREA FEATURES MAP GROUNDWATER) must not show soil borings from which no groundwater sample was selected for chemical analysis. The locations of the proposed monitoring wells and the proposed soil borings must be removed from the legends of FIGURE 2A (SITE AREA FEATURES MAP SOIL) and FIGURE 2B (SITE AREA FEATURES MAP GROUNDWATER);
- 3) The elevations of the tops of the risers of monitoring wells MW-9, MW-10, and MW-11 are 97.88', 98.94', and 99.72'. However, FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) implies that the ground surface elevations are 97.88', 98.94', and 99.72';
- 4) FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) shows the groundwater levels while drilling. However, FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) does not show the correct groundwater levels while drilling for monitoring wells MW-9, MW-10, and MW-11;
- 5) FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) shows the well screens for monitoring wells MW-9, MW-10, and MW-11. However, FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) does not show the correct well screens for monitoring wells MW-9, MW-10, and MW-11;
- 6) According to FIGURE 2 (SITE AREA FEATURES MAP), the underground storage tank (UST) basin measures approximately 53' north to south. However, according to FIGURE 3 (GEOLOGICAL CROSS SECTION MAP), the UST basin measures approximately 40' north to south. Please correct FIGURE 3 (GEOLOGICAL CROSS SECTION MAP);
- 7) The basis for the reference map in the lower left corner of FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) must be the site map titled "FIGURE 2 (SITE AREA FEATURES MAP)," which was attached to the email dated 01/29/2016;
- 8) The basis for FIGURE 4 (GROUNDWATER CONTOUR & FLOW MAP) must be the site map titled "FIGURE 2 (SITE AREA FEATURES MAP)," which was attached to the email dated 01/29/2016; and
- 9) At least a couple of the groundwater contour lines shown on FIGURE 4 (GROUNDWATER CONTOUR & FLOW MAP) are incorrect. Therefore, the Illinois EPA requests that the consultant remove the groundwater contour lines and the approximate localized groundwater flow directions from FIGURE 4 (GROUNDWATER CONTOUR & FLOW MAP).

Sincerely,

Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 486

Project Manager/Environmental Protection Engineer III

Illinois EPA – Leaking UST Section Phone: (217) 524-4649

#### Benanti, Trent

From: Benanti, Trent

Sent: Monday, April 04, 2016 10:27 AM
To: Joe Buhlig (joeb@marlinenv.com)
Cc: Jeff Wienhoff (jeffw@marlinenv.com)

Subject: Leaking UST Incident #923441 - Site Investigation Completion Report - FIGURE 5

Re: LPC #1430655263 – Peoria County

Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

Mr. Joe Buhlig:

This email is the fifth email in a series of emails regarding the Site Investigation Completion Report dated 12/14/2015. I have reviewed said Site Investigation Completion Report and have the following comments regarding FIGURE 5:

- 1) The Illinois EPA requests that the consultant replace FIGURE 5 (EQUATION R26 MODELED EXTENTS MAP) with FIGURE 5A (EQUATION R26 MODELED EXTENTS MAP SOIL) and FIGURE 5B (EQUATION R26 MODELED EXTENTS MAP GROUNDWATER). The basis for FIGURE 5A (EQUATION R26 MODELED EXTENTS MAP SOIL) and FIGURE 5B (EQUATION R26 MODELED EXTENTS MAP GROUNDWATER) must be the site map titled "FIGURE 2 (SITE AREA FEATURES MAP)," which was attached to the email dated 01/29/2016. FIGURE 5A (EQUATION R26 MODELED EXTENTS MAP SOIL) must show soil borings SB-101 and SB-102. FIGURE 5A (EQUATION R26 MODELED EXTENTS MAP SOIL) must not show monitoring wells from which no soil sample was selected for chemical analysis. FIGURE 5A (EQUATION R26 MODELED EXTENTS MAP SOIL) must not identify those monitoring wells for which the concentrations of contaminants in the groundwater exceed the Tier 1 remediation objectives. FIGURE 5B (EQUATION R26 MODELED EXTENTS MAP GROUNDWATER) must not show soil borings from which no groundwater sample was selected for chemical analysis;
- 2) According to the scale, the source width perpendicular to the groundwater flow direction in the horizontal plane (S<sub>w</sub>) is 214'. However, FIGURE 5 states that the source width perpendicular to the groundwater flow direction in the horizontal plane (S<sub>w</sub>) is 240'; and
- 3) FIGURE 5 shows the modeled extents as ellipses. The Illinois EPA requests that the modeled extents be shown as semicircles.

Sincerely,

Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

#### Benanti, Trent

From: Benanti, Trent

Sent: Monday, April 04, 2016 12:26 PM
To: Jeff Wienhoff (jeffw@marlinenv.com)
Cc: Joe Buhlig (joeb@marlinenv.com)

Subject: Leaking UST Incident #923441 - Email dated 04/04/2016

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

Mr. Jeff Wienhoff:

I have reviewed the site maps attached to the email dated 04/04/2016 and have the following comments:

- 1) You forgot to remove monitoring wells MW-5, MW-6, and MW-7 from FIGURE 2A (SITE AREA FEATURES MAP SOIL);
- 2) The groundwater level while drilling the monitoring well installation borehole for MW-10 was 4.0'. However, FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) shows a groundwater level while drilling of 5';
- 3) As stated in my last email, soil boring SB-21 was drilled within the limits of the UST excavation. Therefore, at a minimum, the north wall of the UST excavation as shown on FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) is incorrect;
- 4) The basis for the reference map in the lower left corner of FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) is not the site map titled "FIGURE 2 (SITE AREA FEATURES MAP). Marlin Environmental, Inc. simply removed soil borings SB-1, SB-2, SB-3, SB-4, SB-5, SB-6, SB-7, SB-8, SB-9, and SB-10 from the previous reference map; and
- 5) UST #4 stored diesel fuel. However, the legend for FIGURE 4 (GROUNDWATER CONTOUR & FLOW MAP) states that UST #4 stored gasoline.

Please correct the site maps and email a corrected FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) to me.

Sincerely,

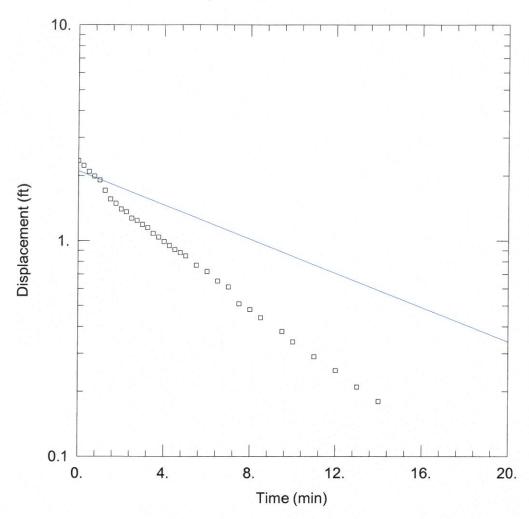
Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA - Leaking UST Section

Phone: (217) 524-4649

## Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 489



#### WELL TEST ANALYSIS

Data Set: N:\Marlin\REPORTS ILLICO\Illico - University\Stage 3\MW-2.aqt

Date: 04/04/16 Time: 15:36:33

#### PROJECT INFORMATION

Company: Marlin Environmental Client: Illico Independent Oil Co.

Project: 1382
Location: Peoria
Test Well: MW-2
Test Date: 11/24/15

#### **AQUIFER DATA**

Saturated Thickness: <u>5.</u> ft Anisotropy Ratio (Kz/Kr): <u>1.</u>

#### WELL DATA (MW-2)

Initial Displacement: 2.35 ft
Total Well Penetration Depth: 8.8 ft

Total Well Penetration Depth: 8.8 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 8.8 ft

Screen Length: 8.8 ft Well Radius: 0.3438 ft Gravel Pack Porosity: 0.25

#### SOLUTION

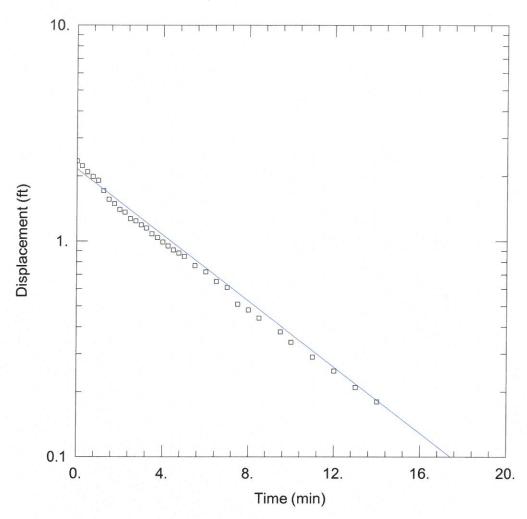
Aquifer Model: Unconfined

K = 0.0003649 cm/sec

Solution Method: Bouwer-Rice

v0 = 2107 ft

## Electronic Filing: Received, Clerk's Office 74 28 201. Z017-084) R. 490



#### WELL TEST ANALYSIS

Data Set: N:\Marlin\REPORTS ILLICO\Illico - University\Stage 3\MW-2.aqt

Date: 04/04/16 Time: 15:37:48

#### PROJECT INFORMATION

Company: Marlin Environmental Client: Illico Independent Oil Co.

Project: 1382
Location: Peoria
Test Well: MW-2
Test Date: 11/24/15

#### **AQUIFER DATA**

Saturated Thickness: 20. ft Anisotropy Ratio (Kz/Kr): 1.

#### WELL DATA (MW-2)

Initial Displacement: 2.35 ft

Total Well Penetration Depth: 8.8 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 8.8 ft

Screen Length: 8.8 ft
Well Radius: 0.3438 ft
Gravel Pack Porosity: 0.25

#### SOLUTION

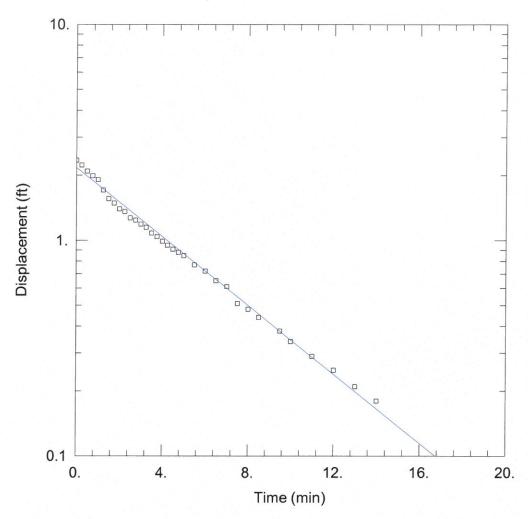
Aquifer Model: Unconfined

K = 0.0003685 cm/sec

Solution Method: Bouwer-Rice

v0 = 2.164 ft

## Electronic Filing: Received, Clerk's Office 2017-084) R. 491



#### WELL TEST ANALYSIS

Data Set: N:\Marlin\REPORTS ILLICO\Illico - University\Stage 3\MW-2.aqt

Date: 04/04/16 Time: 15:46:45

#### PROJECT INFORMATION

Company: Marlin Environmental Client: Illico Independent Oil Co.

Project: 1382 Location: Peoria Test Well: MW-2 Test Date: 11/24/15

#### **AQUIFER DATA**

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

#### WELL DATA (MW-2)

Initial Displacement: 2.35 ft Total Well Penetration Depth: 8.8 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 8.8 ft Screen Length: 8.8 ft Well Radius: 0.3438 ft

Gravel Pack Porosity: 0.25

#### SOLUTION

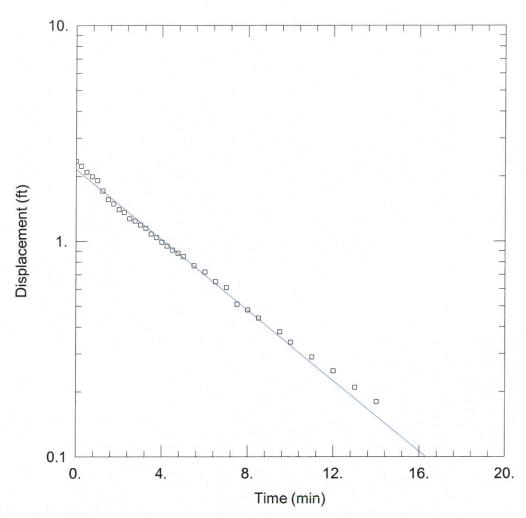
Aquifer Model: Unconfined

K = 0.0003694 cm/sec

Solution Method: Bouwer-Rice

v0 = 2173 ft

## Electronic Filing: Received, Clerk's Office 74 28 201. 2017-084) R. 492



#### WELL TEST ANALYSIS

Data Set: N:\Marlin\REPORTS ILLICO\Illico - University\Stage 3\MW-2.aqt

Date: 04/04/16 Time: 15:48:40

#### PROJECT INFORMATION

Company: Marlin Environmental Client: Illico Independent Oil Co.

Project: 1382
Location: Peoria
Test Well: MW-2
Test Date: 11/24/15

#### **AQUIFER DATA**

Saturated Thickness: 100. ft Anisotropy Ratio (Kz/Kr): 1.

#### WELL DATA (MW-2)

Initial Displacement: 2.35 ft

Total Well Penetration Depth: 8.8 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 8.8 ft

Screen Length: 8.8 ft
Well Radius: 0.3438 ft
Gravel Pack Porosity: 0.25

#### SOLUTION

Aquifer Model: Unconfined

K = 0.0003695 cm/sec

Solution Method: Bouwer-Rice

v0 = 2.151 ft

## Electronic Filing: Received, Clerk's Office 74 28 201. 2017-084) R. 493

#### Benanti, Trent

From: Jeff Wienhoff <jeffw@marlinenv.com>
Sent: Monday, April 04, 2016 3:53 PM

To: Benanti, Trent

Subject: RE: Leaking UST Incident #923441 - Site Investigation Completion Report - ATTACHMENT 4

Attachments: Illico Peoria Hyd Cond.pdf

Trent,

Attached, please find revised hydraulic conductivity calculations as described below.

#2 & #3 were implemented. Then 1b was tried.

A saturated thickness of 5' resulted in  $3.649 * 10^{-4}$  cm/s A saturated thickness of 20' resulted in  $3.685 * 10^{-4}$  cm/s A saturated thickness of 50' resulted in  $3.694 * 10^{-4}$  cm/s A saturated thickness of 100' resulted in  $3.695 * 10^{-4}$  cm/s

The difference appears to be minimal and approaching an asymptotic maximum. Therefore, 3.700 is proposed to be utilized in all future modeling to be appropriately conservative. Please confirm this to be acceptable so that the changes to attachment 3 and figure 5 can be made.

Thanks.

Jeff

From: Benanti, Trent [mailto:Trent.Benanti@Illinois.gov]

**Sent:** Monday, April 04, 2016 8:21 AM **To:** Joe Buhlig < <u>joeb@marlinenv.com</u>> **Cc:** Jeff Wienhoff < jeffw@marlinenv.com>

Subject: Leaking UST Incident #923441 - Site Investigation Completion Report - ATTACHMENT 4

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co. 3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

Mr. Joe Buhlig:

This email is the fourth email in a series of emails regarding the Site Investigation Completion Report dated 12/14/2015. I have reviewed said Site Investigation Completion Report and have the following comments regarding ATTACHMENT 4:

- 1) The Illinois EPA does not believe that the saturated thickness is known. Therefore, Marlin Environmental, Inc. has two options;
  - a) Estimate the saturated thickness from well logs for potable water supply wells in the area; or
  - b) Determine the sensitivity of the hydraulic conductivity to a greater saturated thickness and a lesser saturated thickness.

## Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 494

- 2) For monitoring wells screened across the water table, the total well penetration depth and screen length are equal to the static water column height (8.8'); and
- 3) Monitoring well MW-2 was drilled with an auger with an outside diameter of 8.25". Therefore, the well radius and the well skin radius are 4.125" (0.34375').

Sincerely,

Trent Benanti Project Manager/Environmental Protection Engineer III Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

## Electronic Filing: Received, Clerk's Office 7/28/201. 2017-084) R. 495

#### Benanti, Trent

From: Benanti, Trent

Sent: Monday, April 04, 2016 4:32 PM
To: Jeff Wienhoff (jeffw@marlinenv.com)
Cc: Joe Buhlig (joeb@marlinenv.com)

Subject: Leaking UST Incident #923441 - Email dated 04/04/2016

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

#### Mr. Jeff Wienhoff:

I have reviewed the hydraulic conductivity calculations attached to the email dated 04/04/2016 and have the following comments:

- 1) The curve for a saturated thickness of 5' does not match the data;
- 2) The data has not changed. However, the curve for a saturated thickness of 20' does not match the curve for a saturated thickness of 50'. In addition, the curve for a saturated thickness of 50' does not match the curve for a saturated thickness of 100'; and
- 3) The saturated thickness should not be less than the total well penetration depth. What is the hydraulic conductivity when the saturated thickness is 8.8'?

Sincerely,

Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA - Leaking UST Section

Phone: (217) 524-4649

## Electronic Filing: Received, Clerk's Office 7/28/201. 2017-084) R. 496

#### Benanti, Trent

From: Jeff Wienhoff <jeffw@marlinenv.com>
Sent: Monday, April 04, 2016 4:42 PM

To: Benanti, Trent Cc: Joe Buhlig

Subject: RE: Leaking UST Incident #923441 - Email dated 04/04/2016

Trent,

I agree that the curve does not match the data, but when I change the specifications per your changes, the program reestimates the curve.

I agree that the saturated thickness cannot be less than 8.8, I was simply varying the numbers to show the impact various depths per your suggestion.

At 8.8 being the lowest saturated thickness utilized, a resulting conductivity of  $3.679 * 10^{-4}$  is determined. Very close to that at the other thicknesses. I was simply suggesting  $3.7 * 10^{-4}$  as an appropriate conservative estimate. In the end, the difference in these numbers will make a negligible change in the modeled extents with many of the x distances not changing at all. If they do change, it won't be by more than 1 foot.

Jeff

From: Benanti, Trent [mailto:Trent.Benanti@Illinois.gov]

Sent: Monday, April 04, 2016 4:32 PM
To: Jeff Wienhoff < <a href="mailto:jeffw@marlinenv.com">jeffw@marlinenv.com</a>
Cc: Joe Buhlig < <a href="mailto:joeb@marlinenv.com">joeb@marlinenv.com</a>

Subject: Leaking UST Incident #923441 - Email dated 04/04/2016

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co. 3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

Mr. Jeff Wienhoff:

I have reviewed the hydraulic conductivity calculations attached to the email dated 04/04/2016 and have the following comments:

- 1) The curve for a saturated thickness of 5' does not match the data;
- 2) The data has not changed. However, the curve for a saturated thickness of 20' does not match the curve for a saturated thickness of 50'. In addition, the curve for a saturated thickness of 50' does not match the curve for a saturated thickness of 100'; and
- 3) The saturated thickness should not be less than the total well penetration depth. What is the hydraulic conductivity when the saturated thickness is 8.8'?

Sincerely,

Electronic Filing: Received, Clerk's Officenia/28/201.72017-084) R. 497

Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

#### Benanti, Trent

From: Benanti, Trent

**Sent:** Monday, April 04, 2016 4:50 PM

To: 'Jeff Wienhoff'

Subject: RE: Leaking UST Incident #923441 - Email dated 04/04/2016

The program does have a visual curve matching option. I suggest that you use that and email me a the calculations for a saturated thicknesses of 8.8', 20', 50', and 100'.

Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA - Leaking UST Section

Phone: (217) 524-4649

E-mail: trent.benanti@illinois.gov

From: Jeff Wienhoff [mailto:jeffw@marlinenv.com]

Sent: Monday, April 04, 2016 4:42 PM

**To:** Benanti, Trent **Cc:** Joe Buhlig

Subject: RE: Leaking UST Incident #923441 - Email dated 04/04/2016

Trent,

I agree that the curve does not match the data, but when I change the specifications per your changes, the program reestimates the curve.

I agree that the saturated thickness cannot be less than 8.8, I was simply varying the numbers to show the impact various depths per your suggestion.

At 8.8 being the lowest saturated thickness utilized, a resulting conductivity of  $3.679 * 10^{-4}$  is determined. Very close to that at the other thicknesses. I was simply suggesting  $3.7 * 10^{-4}$  as an appropriate conservative estimate. In the end, the difference in these numbers will make a negligible change in the modeled extents with many of the x distances not changing at all. If they do change, it won't be by more than 1 foot.

Jeff

From: Benanti, Trent [mailto:Trent.Benanti@Illinois.gov]

Sent: Monday, April 04, 2016 4:32 PM
To: Jeff Wienhoff < jeffw@marlinenv.com >
Cc: Joe Buhlig < joeb@marlinenv.com >

Subject: Leaking UST Incident #923441 - Email dated 04/04/2016

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

Mr. Jeff Wienhoff:

I have reviewed the hydraulic conductivity calculations attached to the email dated 04/04/2016 and have the following comments:

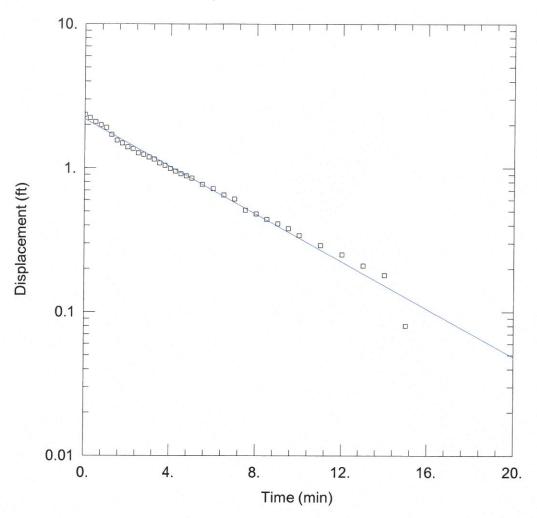
- 1) The curve for a saturated thickness of 5' does not match the data;
- 2) The data has not changed. However, the curve for a saturated thickness of 20' does not match the curve for a saturated thickness of 50'. In addition, the curve for a saturated thickness of 50' does not match the curve for a saturated thickness of 100'; and
- 3) The saturated thickness should not be less than the total well penetration depth. What is the hydraulic conductivity when the saturated thickness is 8.8'?

Sincerely,

Trent Benanti Project Manager/Environmental Protection Engineer III Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

E-mail: trent.benanti@illinois.gov



#### WELL TEST ANALYSIS

Data Set: C:\DATA\Desktop\MW-2 8.8'.aqt

Date: 04/04/16

Time: 17:27:03

#### PROJECT INFORMATION

Company: Marlin Environmental

Client: Illico, Inc.
Project: 1382
Location: Peoria
Test Well: MW-2
Test Date: 11/24/15

#### **AQUIFER DATA**

Saturated Thickness: 8.8 ft Anisotropy Ratio (Kz/Kr): 1.

#### WELL DATA (MW-2)

Initial Displacement: 2.35 ft

Total Well Penetration Depth: 8.8 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 8.8 ft

Screen Length: 8.8 ft
Well Radius: 0.3438 ft
Gravel Pack Porosity: 0.25

#### SOLUTION

Aquifer Model: Unconfined

K = 0.0004648 cm/sec

Solution Method: Bouwer-Rice

v0 = 2.189 ft

#### AQTESOLV for Windows

Data Set: C:\DATA\Desktop\MW-2 8.8'.aqt

Date: 04/04/16 Time: 17:27:22

#### PROJECT INFORMATION

Company: Marlin Environmental

Client: Illico, Inc. Project: 1382 Location: Peoria Test Date: 11/24/15 Test Well: MW-2

#### **AQUIFER DATA**

Saturated Thickness: 8.8 ft Anisotropy Ratio (Kz/Kr): 1.

#### SLUG TEST WELL DATA

Test Well: MW-2

X Location: 0. ft Y Location: 0. ft

Initial Displacement: 2.35 ft

Static Water Column Height: 8.8 ft

Casing Radius: 0.08333 ft Well Radius: 0.3438 ft Well Skin Radius: 0.3438 ft

Screen Length: 8.8 ft

Total Well Penetration Depth: 8.8 ft

Corrected Casing Radius (Bouwer-Rice Method): 0.1864 ft

Gravel Pack Porosity: 0.25

No. of Observations: 36

	Observation	on Data	
Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.	2.35	4.5	0.91
0.25	2.23	4.75	0.88
0.5	2.09	5.	0.85
0.75	1.99	5.5	0.77
1.	1.91	6.	0.72
1.25	1.71	6.5	0.65
1.5	1.56	7.	0.61
1.75	1.49	7.5	0.51
2.	1.4	8.	0.48
2.25	1.36	8.5	0.44
2.5	1.27	9.	0.41
2.75	1.24	9.5	0.38
3.	1.19	10.	0.34
3.25	1.15	11.	0.29
3.5	1.08	12.	0.25
3.75	1.04	13.	0.21
4.	0.99	14.	0.18

AQTESOLV for Windows

Time (min) 4.25 Displacement (ft) 0.95

Time (min) 15. Displacement (ft) 0.08

#### SOLUTION

Slug Test

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

In(Re/rw): 2.434

## VISUAL ESTIMATION RESULTS

#### **Estimated Parameters**

Parameter K Estimate

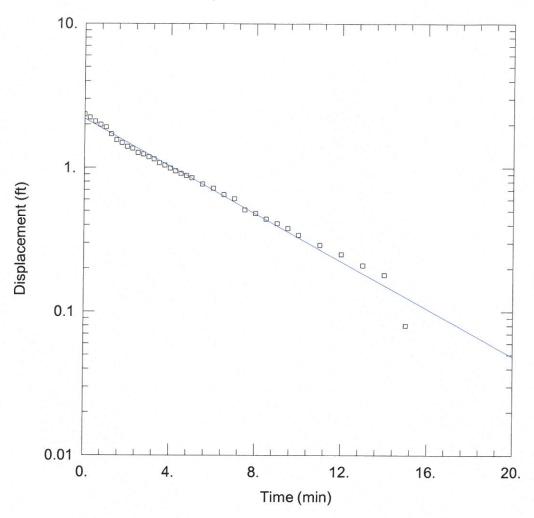
0.0004648 2.189

cm/sec

y0

ft

 $T = K*b = 0.1247 \text{ cm}^2/\text{sec}$ 



#### WELL TEST ANALYSIS

Data Set: C:\DATA\Desktop\MW-2 20'.aqt

Date: 04/04/16

Time: 17:53:05

#### PROJECT INFORMATION

Company: Marlin Environmental

Client: Illico, Inc.
Project: 1382
Location: Peoria
Test Well: MW-2
Test Date: 11/24/15

#### **AQUIFER DATA**

Saturated Thickness: 20. ft Anisotropy Ratio (Kz/Kr): 1.

#### WELL DATA (MW-2)

Initial Displacement: 2.35 ft

Total Well Penetration Depth: 8.8 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 8.8 ft

Screen Length: 8.8 ft
Well Radius: 0.3438 ft
Gravel Pack Porosity: 0.25

#### SOLUTION

Aquifer Model: Unconfined

K = 0.0003976 cm/sec

Solution Method: Bouwer-Rice

v0 = 2.189 ft

#### AQTESOLV for Windows

Data Set:

Date: 04/04/16 Time: 17:22:44

#### PROJECT INFORMATION

Company: Marlin Environmental

Client: Illico, Inc. Project: 1382 Location: Peoria Test Date: 11/24/15 Test Well: MW-2

#### **AQUIFER DATA**

Saturated Thickness: 20. ft Anisotropy Ratio (Kz/Kr): 1.

#### SLUG TEST WELL DATA

Test Well: MW-2

X Location: 0. ft Y Location: 0. ft

Initial Displacement: 2.35 ft

Static Water Column Height: 8.8 ft

Casing Radius: 0.08333 ft Well Radius: 0.3438 ft Well Skin Radius: 0.3438 ft

Screen Length: 8.8 ft

Total Well Penetration Depth: 8.8 ft

Corrected Casing Radius (Bouwer-Rice Method): 0.1864 ft

Gravel Pack Porosity: 0.25

No. of Observations: 36

	Observation	on Data	
Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.	2.35	4.5	0.91
0.25	2.23	4.75	0.88
0.5	2.09	5.	0.85
0.75	1.99	5.5	0.77
1.	1.91	6.	0.72
1.25	1.71	6.5	0.65
1.5	1.56	7.	0.61
1.75	1.49	7.5	0.51
2.	1.4	8.	0.48
2.25	1.36	8.5	0.44
2.5	1.27	9.	0.41
2.75	1.24	9.5	0.38
3.	1.19	10.	0.34
3.25	1.15	11.	0.29
3.5	1.08	12.	0.25
3.75	1.04	13.	0.21
4.	0.99	14.	0.18

AQTESOLV for Windows

Time (min) 4.25 Displacement (ft) 0.95

Time (min) 15.

Displacement (ft) 0.08

#### SOLUTION

Slug Test

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

In(Re/rw): 2.083

### VISUAL ESTIMATION RESULTS

#### **Estimated Parameters**

Parameter K Estimate

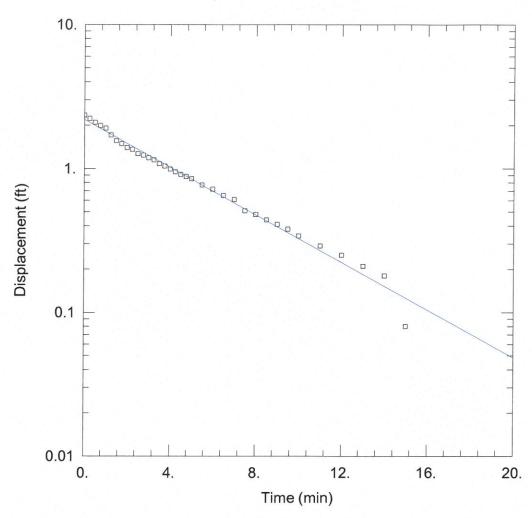
0.0003976

cm/sec

y0

2.189 ft

 $T = K*b = 0.2424 \text{ cm}^2/\text{sec}$ 



#### WELL TEST ANALYSIS

Data Set: C:\DATA\Desktop\MW-2 50'.aqt

Date: 04/04/16 Time: 17:36:52

#### PROJECT INFORMATION

Company: Marlin Environmental

Client: Illico, Inc.
Project: 1382
Location: Peoria
Test Well: MW-2
Test Date: 11/24/15

#### AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

#### WELL DATA (MW-2)

Initial Displacement: 2.35 ft

Total Well Penetration Depth: 8.8 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 8.8 ft

Screen Length: 8.8 ft
Well Radius: 0.3438 ft
Gravel Pack Porosity: 0.25

#### SOLUTION

Aquifer Model: Unconfined

K = 0.0003825 cm/sec

Solution Method: Bouwer-Rice

v0 = 2.189 ft

#### AQTESOLV for Windows

Data Set: C:\DATA\Desktop\MW-2 50'.aqt

Date: 04/04/16 Time: 17:36:58

#### PROJECT INFORMATION

Company: Marlin Environmental

Client: Illico, Inc. Project: 1382 Location: Peoria Test Date: 11/24/15 Test Well: MW-2

#### **AQUIFER DATA**

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

#### SLUG TEST WELL DATA

Test Well: MW-2

X Location: 0. ft Y Location: 0. ft

Initial Displacement: 2.35 ft

Static Water Column Height: 8.8 ft

Casing Radius: 0.08333 ft Well Radius: 0.3438 ft Well Skin Radius: 0.3438 ft

Screen Length: 8.8 ft

Total Well Penetration Depth: 8.8 ft

Corrected Casing Radius (Bouwer-Rice Method): 0.1864 ft

Gravel Pack Porosity: 0.25

No. of Observations: 36

	Observation	on Data	
Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.	2.35	4.5	0.91
0.25	2.23	4.75	0.88
0.5	2.09	5.	0.85
0.75	1.99	5.5	0.77
1.	1.91	6.	0.72
1.25	1.71	6.5	0.65
1.5	1.56	7.	0.61
1.75	1.49	7.5	0.51
2.	1.4	8.	0.48
2.25	1.36	8.5	0.44
2.5	1.27	9.	0.41
2.75	1.24	9.5	0.38
3.	1.19	10.	0.34
3.25	1.15	11.	0.29
3.5	1.08	12.	0.25
3.75	1.04	13.	0.21
4.	0.99	14.	0.18

**AQTESOLV** for Windows

Time (min) 4.25

Displacement (ft) 0.95

Time (min) 15.

Displacement (ft) 0.08

#### SOLUTION

Slug Test

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

In(Re/rw): 2.004

## VISUAL ESTIMATION RESULTS

#### **Estimated Parameters**

Parameter K

Estimate

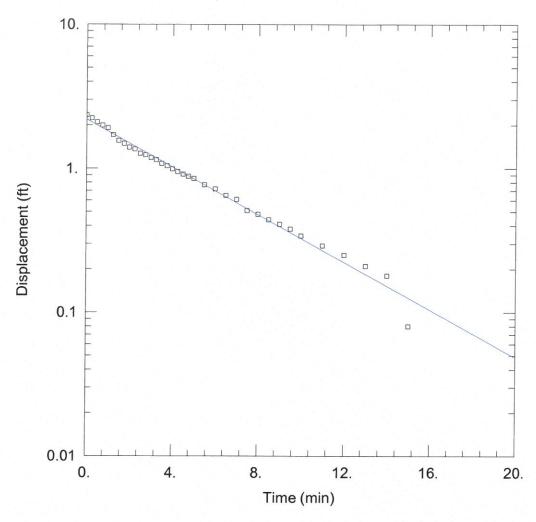
0.0003825

cm/sec

y0

2.189 ft

 $T = K*b = 0.583 \text{ cm}^2/\text{sec}$ 



#### WELL TEST ANALYSIS

Data Set: C:\DATA\Desktop\MW-2 100'.aqt

Date: 04/04/16 Time: 17:39:10

#### PROJECT INFORMATION

Company: Marlin Environmental

Client: Illico, Inc.
Project: 1382
Location: Peoria
Test Well: MW-2
Test Date: 11/24/15

#### **AQUIFER DATA**

Saturated Thickness: 100. ft Anisotropy Ratio (Kz/Kr): 1.

#### WELL DATA (MW-2)

Initial Displacement: 2.35 ft

Total Well Penetration Depth: 8.8 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 8.8 ft

Screen Length: 8.8 ft
Well Radius: 0.3438 ft
Gravel Pack Porosity: 0.25

#### SOLUTION

Aquifer Model: Unconfined

K = 0.0003739 cm/sec

Solution Method: Bouwer-Rice

v0 = 2.189 ft

#### AQTESOLV for Windows

Data Set: C:\DATA\Desktop\MW-2 100'.aqt

Date: 04/04/16 Time: 17:39:29

#### PROJECT INFORMATION

Company: Marlin Environmental

Client: Illico, Inc. Project: 1382 Location: Peoria Test Date: 11/24/15 Test Well: MW-2

#### **AQUIFER DATA**

Saturated Thickness: 100. ft Anisotropy Ratio (Kz/Kr): 1.

#### SLUG TEST WELL DATA

Test Well: MW-2

X Location: 0. ft Y Location: 0. ft

Initial Displacement: 2.35 ft

Static Water Column Height: 8.8 ft

Casing Radius: 0.08333 ft Well Radius: 0.3438 ft Well Skin Radius: 0.3438 ft

Screen Length: 8.8 ft

Total Well Penetration Depth: 8.8 ft

Corrected Casing Radius (Bouwer-Rice Method): 0.1864 ft

Gravel Pack Porosity: 0.25

No. of Observations: 36

	Observation	on Data	
Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.	2.35	4.5	0.91
0.25	2.23	4.75	0.88
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2.75	1.24	9.5	0.38
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3.75	1.04	13.	0.21
4.	0.99	14.	0.18

#### AQTESOLV for Windows

Time (min) 4.25

Displacement (ft) 0.95

Time (min) 15.

Displacement (ft) 0.08

#### SOLUTION

Slug Test

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

In(Re/rw): 1.958

#### VISUAL ESTIMATION RESULTS

#### **Estimated Parameters**

Parameter K Estimate

0.0003739

cm/sec

y0

2.189 ft

 $T = K*b = 1.14 \text{ cm}^2/\text{sec}$ 

#### Benanti, Trent

From: Jeff Wienhoff <jeffw@marlinenv.com>
Sent: Monday, April 04, 2016 5:56 PM

To: Benanti, Trent

Subject: RE: Leaking UST Incident #923441 - Email dated 04/04/2016

Attachments: Illico Peoria Hyd Cond.pdf

Trent,

Here is the best I can do with a report for each. Please let me know what you think is appropriate to use for the modeling.

Jeff

From: Benanti, Trent [mailto:Trent.Benanti@Illinois.gov]

**Sent:** Monday, April 04, 2016 4:50 PM **To:** Jeff Wienhoff < <a href="mailto:jeffw@marlinenv.com">jeffw@marlinenv.com</a>>

Subject: RE: Leaking UST Incident #923441 - Email dated 04/04/2016

The program does have a visual curve matching option. I suggest that you use that and email me a the calculations for a saturated thicknesses of 8.8', 20', 50', and 100'.

Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

E-mail: trent.benanti@illinois.gov

**From:** Jeff Wienhoff [mailto:jeffw@marlinenv.com]

Sent: Monday, April 04, 2016 4:42 PM

**To:** Benanti, Trent **Cc:** Joe Buhlig

Subject: RE: Leaking UST Incident #923441 - Email dated 04/04/2016

Trent,

I agree that the curve does not match the data, but when I change the specifications per your changes, the program reestimates the curve.

I agree that the saturated thickness cannot be less than 8.8, I was simply varying the numbers to show the impact various depths per your suggestion.

At 8.8 being the lowest saturated thickness utilized, a resulting conductivity of  $3.679 * 10^{-4}$  is determined. Very close to that at the other thicknesses. I was simply suggesting  $3.7 * 10^{-4}$  as an appropriate conservative estimate. In the end, the difference in these numbers will make a negligible change in the modeled extents with many of the x distances not changing at all. If they do change, it won't be by more than 1 foot.

Jeff

From: Benanti, Trent [mailto:Trent.Benanti@Illinois.gov]

Sent: Monday, April 04, 2016 4:32 PM

To: Jeff Wienhoff < jeffw@marlinenv.com > Cc: Joe Buhlig < joeb@marlinenv.com >

Subject: Leaking UST Incident #923441 - Email dated 04/04/2016

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co. 3712 N. University St. Leaking UST Incident #923441 Leaking UST Technical File

Mr. Jeff Wienhoff:

I have reviewed the hydraulic conductivity calculations attached to the email dated 04/04/2016 and have the following comments:

- 1) The curve for a saturated thickness of 5' does not match the data;
- 2) The data has not changed. However, the curve for a saturated thickness of 20' does not match the curve for a saturated thickness of 50'. In addition, the curve for a saturated thickness of 50' does not match the curve for a saturated thickness of 100'; and
- 3) The saturated thickness should not be less than the total well penetration depth. What is the hydraulic conductivity when the saturated thickness is 8.8'?

Sincerely,

Trent Benanti Project Manager/Environmental Protection Engineer III Illinois EPA – Leaking UST Section Phone: (217) 524-4649

E-mail: trent.benanti@illinois.gov

#### Benanti, Trent

From: Jeff Wienhoff <jeffw@marlinenv.com>
Sent: Monday, April 04, 2016 5:58 PM

To: Benanti, Trent

Subject: RE: Leaking UST Incident #923441 - Email dated 04/04/2016

Attachments: Illico - University - 12-15 Geo.pdf

Here is the corrected Figure 3.

Jeff

From: Benanti, Trent [mailto:Trent.Benanti@Illinois.gov]

**Sent:** Monday, April 04, 2016 12:26 PM **To:** Jeff Wienhoff < <u>jeffw@marlinenv.com</u>> **Cc:** Joe Buhlig < <u>joeb@marlinenv.com</u>>

Subject: Leaking UST Incident #923441 - Email dated 04/04/2016

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

Mr. Jeff Wienhoff:

I have reviewed the site maps attached to the email dated 04/04/2016 and have the following comments:

- 1) You forgot to remove monitoring wells MW-5, MW-6, and MW-7 from FIGURE 2A (SITE AREA FEATURES MAP SOIL);
- 2) The groundwater level while drilling the monitoring well installation borehole for MW-10 was 4.0'. However, FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) shows a groundwater level while drilling of 5';
- 3) As stated in my last email, soil boring SB-21 was drilled within the limits of the UST excavation. Therefore, at a minimum, the north wall of the UST excavation as shown on FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) is incorrect;
- 4) The basis for the reference map in the lower left corner of FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) is not the site map titled "FIGURE 2 (SITE AREA FEATURES MAP). Marlin Environmental, Inc. simply removed soil borings SB-1, SB-2, SB-3, SB-4, SB-5, SB-6, SB-7, SB-8, SB-9, and SB-10 from the previous reference map; and
- 5) UST #4 stored diesel fuel. However, the legend for FIGURE 4 (GROUNDWATER CONTOUR & FLOW MAP) states that UST #4 stored gasoline.

Please correct the site maps and email a corrected FIGURE 3 (GEOLOGICAL CROSS SECTION MAP) to me.

Sincerely,

Trent Benanti

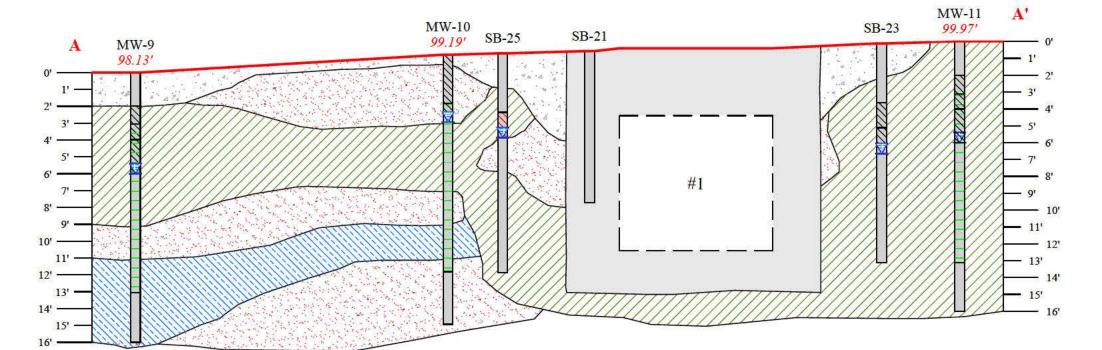
Project Manager/Environmental Protection Engineer III

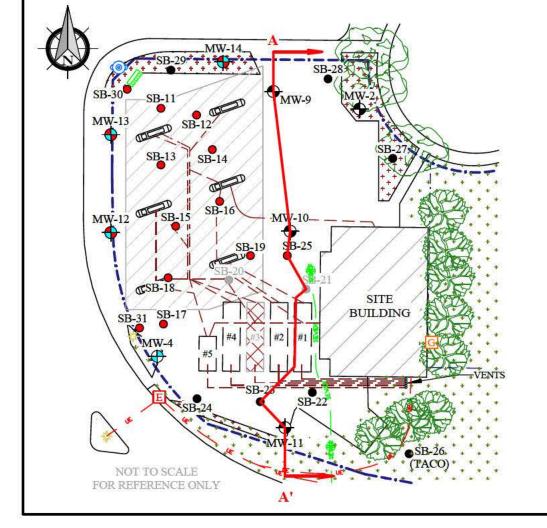
Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

E-mail: trent.benanti@illinois.gov

## **GEOLOGICAL CROSS SECTION A - A'**





## **LEGEND**

SAND & GRAVEL / CONCRETE

SILTY CLAY

VERTICAL SCALE EXAGGERATED

SILT SAND

APPROXIMATE UST BASIN

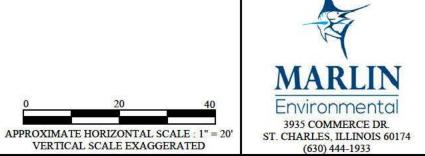
SOIL SAMPLE INTERVAL - ABOVE IEPA TACO TIER 1 SRO'S

SOIL SAMPLE INTERVAL - BELOW IEPA TACO TIER 1 SRO'S

GROUND WATER SCREEN

V

DEPTH TO GROUNDWATER WHILE DRILLING



#### GEOLOGICAL CROSS SECTION MAP

ILLICO, INC. - UNIVERSITY 3712 N. UNIVERSITY ST. DEODIA II 61614

	PEUR	IA, IL 01014			
PREPARED BY	FIGURE	DATE	PROJECT #		
BUHLIG	3	04/16	1382		
DRAWN BY MAB	FILE NAME ILLICO - UNIVERSITY - 12-15 GEO X SECTION				

#### Benanti, Trent

From: Benanti, Trent

Sent: Tuesday, April 05, 2016 8:34 AM
To: Jeff Wienhoff (jeffw@marlinenv.com)
Cc: Joe Buhlig (joeb@marlinenv.com)

Subject: Leaking UST Incident #923441 - Email dated 04/04/2016

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

#### Mr. Jeff Wienhoff:

I have reviewed the hydraulic conductivity calculations attached to the email dated 04/04/2016 and believe that you should use a hydraulic conductivity of 4.648 x 10<sup>-4</sup> cm/s in equation R19. Before you revise the Tier 2 calculations, please read the following comments:

#### <u>SSL</u>:

1) The mass-limit acreage, mixing zone depth (d), hydraulic gradient (i), hydraulic conductivity (K), and source length parallel to groundwater flow (L) do not need to be listed on the forms titled "SSL Input Parameters for Use with Tier 2 Calculations;"

#### 2) Example:

If the concentration of benzene in soil sample SB-31 (2'-4') is less than the concentration of benzene in soil sample SB-31 (4'-6'), then you only need to calculate the potential concentration of benzene migrating from soil sample SB-31 (4'-6');

- 3) I don't need the calculation sheets titled "SOIL TO GROUNDATER POTENTIAL LEACHATE CONCENTRATION" because the information that I need appears to be listed on the forms titled "SSL Input Parameters for Use with Tier 2 Calculations;" and
- 4) The dry soil bulk density is 1.684 g/cm<sup>3</sup>.

#### RBCA:

1) I don't need the calculation sheets titled "DISSOLVED HYDROCARBON CONCENTRATION ALONG CENTERLINE" because the information that I need appears to be listed on the forms titled "RBCA Input Parameters for Use with Tier 2 Calculations."

Sincerely,

Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

Electronic Filing: Received, Clerk's Office 17/28/2017-084) R. 518 E-mail: <a href="mailto:trent.benanti@illinois.gov">trent.benanti@illinois.gov</a>

#### Benanti, Trent

From: Jeff Wienhoff <jeffw@marlinenv.com>
Sent: Tuesday, April 05, 2016 5:28 PM

To: Benanti, Trent Cc: Joe Buhlig

Subject: RE: Leaking UST Incident #923441 - Email dated 04/04/2016
Attachments: Illico Peoria R26 Forms.pdf; Illico Peoria S28 Forms.pdf

Please find attached the updated modeling per the comments below and your email regarding attachment 3. I will have our draftsman start working on the changes to figure 5 but please confirm to me that theses modeled distances are appropriate once you've had a chance to review.

Thanks.

Jeff

From: Benanti, Trent [mailto:Trent.Benanti@Illinois.gov]

**Sent:** Tuesday, April 05, 2016 8:34 AM **To:** Jeff Wienhoff < <u>jeffw@marlinenv.com</u>> **Cc:** Joe Buhlig < <u>joeb@marlinenv.com</u>>

Subject: Leaking UST Incident #923441 - Email dated 04/04/2016

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

Mr. Jeff Wienhoff:

I have reviewed the hydraulic conductivity calculations attached to the email dated 04/04/2016 and believe that you should use a hydraulic conductivity of 4.648 x 10<sup>-4</sup> cm/s in equation R19. Before you revise the Tier 2 calculations, please read the following comments:

#### <u>SSL</u>:

- 1) The mass-limit acreage, mixing zone depth (d), hydraulic gradient (i), hydraulic conductivity (K), and source length parallel to groundwater flow (L) do not need to be listed on the forms titled "SSL Input Parameters for Use with Tier 2 Calculations;"
- 2) Example:

If the concentration of benzene in soil sample SB-31 (2'-4') is less than the concentration of benzene in soil sample SB-31 (4'-6'), then you only need to calculate the potential concentration of benzene migrating from soil sample SB-31 (4'-6');

- 3) I don't need the calculation sheets titled "SOIL TO GROUNDATER POTENTIAL LEACHATE CONCENTRATION" because the information that I need appears to be listed on the forms titled "SSL Input Parameters for Use with Tier 2 Calculations;" and
- 4) The dry soil bulk density is 1.684 g/cm<sup>3</sup>.

### RBCA:

1) I don't need the calculation sheets titled "DISSOLVED HYDROCARBON CONCENTRATION ALONG CENTERLINE" because the information that I need appears to be listed on the forms titled "RBCA Input Parameters for Use with Tier 2 Calculations."

Sincerely,

Trent Benanti Project Manager/Environmental Protection Engineer III Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

E-mail: trent.benanti@illinois.gov

Electronic Filing: Received, Clerk's Office 17/26/2017-084) R. 521
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 occeed \$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 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 5/57.17). This form has been approved by the Forms Management Center.

# Illinois Environmental Protection Agency

	Leaking Underground Storage Tank Program	
	RBCA Input Parameters for Use with Tier 2 Calculation	S
Α.	Site Identification	

	IEMA Incident # (6- or 8-digit): 923441 IEPA LPC # (10-digit): 1430655263
	Site Name: Illico Independent Oil Co.
	Site Address (not a P.O. Box): 3712 University Street
	City: Peoria County: Peoria Zip Code: 61614
	Leaking UST Technical File
В.	Tier 2 Calculation Information
	Equation(s) Used (ex: R12, R14, R26): R26: Benzene
	Contact Information for Individual Who Performed Calculations: Joe Buhlig - Project Manager
	Marlin Environmental, Inc. Phone: (217) 726-7569
	Land Use: Not Applicable Soil Type: Clay
	Groundwater: ⋉ Class I
	Mass Limit: ☐ Yes ☒ No If Yes, then Specify Acreage: ☐ 0.5 ☐ 1 ☐ 2 ☐ 5 ☐ 10 ☐ 30
	Result from S18/S28 used in R26?   ▼ Yes    No Specify C <sub>source</sub> from S18/S28 <u>see page 3</u> mg/L
	- Mass Limit Acreage other than defaults must always be rounded up.
	<ul> <li>Failure to use site-specific parameters where allowed could affect payment from the Underground Storage Tank Fund.</li> </ul>
	- Maps depicting source width, plume dimensions, distance, etc. must also be submitted.
	- Inputs must be submitted in the designated unit.

Symbol			Unit	Symbol		Unit
ATc	=	70	yr	d	=	cm
$AT_{\eta}$	=		yr	Dair	=	cm²/s
BW	=	70	kg	Dwater	=	cm²/s
$C_{source}$	=	see page 3	mg/L	D <sub>s</sub> eff	=	cm²/s
C <sub>(x)</sub>	=		mg/L	ED	=	yr
C <sub>(x)</sub> /C <sub>source</sub>	=		unitless	EF	=	d/yr

| Electronic Filing: Received, Clerk's Officeid | 2017-084 | R. 522 | Incident #: 923441 | Chemical: Benzene Land Use: Not Applicable

Symbol		, EW - 16	Unit	Symbol			Unit
erf	=		unitless	RAF <sub>d</sub> (PNAs)	=	0.05	unitless
f <sub>oc</sub>	=		g/g	RAF <sub>d</sub> (inorganics)	=	0	unitless
GW <sub>comp</sub>	=		mg/L	RAF <sub>0</sub>	=	1.0	unitless
GW <sub>source</sub>	=		mg/L	RBSL <sub>air</sub> (carcinogenic)	=		μg/m³
H'	=		cm³ <sub>water</sub> /cm³ <sub>air</sub>	RBSL <sub>air</sub> (noncarcinogenic)	=	- 101	μg/m³
i	=	0.01426	cm/cm	RfD <sub>i</sub>	=		mg/kg-d
I	=	30	cm/yr	RfD。	=		mg/kg-d
IR <sub>air</sub>	=	20	m³/d	SA	=	3,160	cm²/d
IR <sub>soil</sub>	=		mg/d	S <sub>d</sub>	=	200	cm
IR <sub>w</sub>	=		L/d	S <sub>w</sub>	=	6,523	cm
К	=	40.15872	cm/d for R15, R19, R26; cm/yr for R24	SF <sub>i</sub>	=		(mg/kg-d) <sup>-1</sup>
K <sub>oc</sub>	=		cm³/g or L/kg	SF <sub>o</sub>	=		(mg/kg-d) <sup>-1</sup>
k <sub>s</sub> (non-ionizing organics)	=		cm <sup>3</sup> <sub>water</sub> /g <sub>soil</sub>	THQ	=	1	unitless
k <sub>s</sub> (ionizing organics)	=		cm <sup>3</sup> <sub>water</sub> /g <sub>soil</sub>	TR	=		unitless
k <sub>s</sub> (inorganics)	=		cm <sup>3</sup> <sub>water</sub> /g <sub>soil</sub>	U	=		cm/d
L <sub>s</sub>	=	100	cm	U <sub>air</sub>	=	225	cm/s
LF <sub>sw</sub>	=		(mg/L <sub>water</sub> ) /(mg/kg <sub>soil</sub> )	U <sub>gw</sub>	=		cm/yr
М	=	0.5	mg/cm²	VFp	=		kg/m³
Pe	=	6.9 •10-14	g/cm²-s	VF <sub>samb</sub>	=		(mg/m³ <sub>air</sub> )/mg/kg <sub>soil</sub> ) or kg/m³
RAF <sub>d</sub>	=	0.5	unitless	VF <sub>ss</sub>	=		kg/m³

		•	,	(	- , - ,
Incident #:	923441	Chemical:	Benzene	Land Use:	Not Applicable

Symbol			Unit
W	=		cm
w	=		g <sub>water</sub> /g <sub>soil</sub>
Х	=	see below	cm
$\alpha_{x}$	=		cm
α <sub>y</sub>	=		cm
$\alpha_z$	=		cm
$\delta_{air}$	=	200	cm
$\delta_{\mathrm{gw}}$	=	200	cm

Symbol			Unit
$\theta_{as}$	=		cm <sup>3</sup> air/cm <sup>3</sup> soil
$\theta_{\sf ws}$	=		cm <sup>3</sup> <sub>water</sub> /cm <sup>3</sup> <sub>soil</sub>
$\theta_{T}$	=	0.36	cm <sup>3</sup> /cm <sup>3</sup> <sub>soil</sub>
λ	=	0.0009	d <sup>-1</sup>
π	=	3.1416	
$ ho_{ m b}$	=		g/cm <sup>3</sup>
$ ho_{ m w}$	=	1	g/cm <sup>3</sup>
τ	=	9.46 •10 <sup>8</sup>	s

#### Csource Values: (mg/L)

Equation		Result	Unit(s)
R1	=		mg/kg
R2	=		mg/kg
R7	=		mg/kg
R8	=		mg/kg
R12	=		mg/kg
R25	=		mg/L

Groundwater MW-1: 0.664 MW-4: 0.896 MW-7: 14.5 MW-10: 0.125 MW-12: 0.307 MW-13: 10.2 MW-14: 0.386 Soil Leaching SB-11: 0.047 SB-12: 0.010 SB-13: 0.191 SB-14: 0.014 SB-15: 0.981 SB-16: 0.060 SB-17: 0.020 SB-18: 0.111 SB-19: 0.006 SB-30: 0.007 SB-31: 0.274

#### Maximum Predicted Extent of Groundwater Impact (X):

(feet from point source)

(	J 00 a. 00)
	SB-11: 101'
	SB-12: 37.5'
MVV-1: 242'	SB-13: 173'
MW-4: 261'	SB-14: 51'
MVV-7: 463'	SB-15: 272'
MVV-10: 145'	SB-16: 113'
MW-12: 195'	SB-17: 65'
MVV-13: 434'	SB-18: 143'
MVV-14: 209'	SB-19: 11'
	SB-30: 16'
	SB-31: 194'

Electronic Filing: Received, Clerk's Office 17/26/2017-084) R. 524

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 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 5/57.17). This form has been approved by the Forms Management Center.

### Illinois Environmental Protection Agency Leaking Underground Storage Tank Program **RBCA Input Parameters for Use with Tier 2 Calculations**

A.	Site Identification					
	IEMA Incident # (6- or 8-digit):	923441		IEPA LPC # (10-digit)	143065	5263
	Site Name: Illico Independent Oi	l Co.				
	Site Address (not a P.O. Box): 3	712 University Stre	et	100,000		
	City: Peoria	County: Pe	eoria	Zip Code:	61614	
	Leaking UST Technical File					
B.	Tier 2 Calculation Information	n				
	Equation(s) Used (ex: R12, R14, I	R26): R26: Toluen	е			
	Contact Information for Individual	Who Performed Ca	lculations	s: Joe Buhlig - Proje	ct Manager	
	Marlin Environmental, Inc. Phone	(217) 726-7569			2000	
	Land Use: Not Application	able	Soil Typ	e: Cla	ıy	
	Groundwater:	Class II				
	Mass Limit:	es, then Specify A	creage:	□0.5 □1 □2 □	5   10	┌ 30
	Result from S18/S28 used in R26?	Yes	Specify	C <sub>source</sub> from S18/S28	see page 3	mg/L
	- Mass Limit Acreage other than	defaults must alw	ays be ı	rounded up.		
	<ul> <li>Failure to use site-specific para the Underground Storage Tank</li> </ul>		owed co	uld affect payment fro	om	

Symbol			Unit	Symbol		Unit
ΑΤ <sub>c</sub>	=	70	yr	d	=	cm
$AT_{\eta}$	=		yr	Dair	=	cm²/s
BW	=	70	kg	Dwater	=	cm <sup>2</sup> /s
$C_{source}$	=	see page 3	mg/L	D <sub>s</sub> eff	=	cm <sup>2</sup> /s
C <sub>(x)</sub>	=		mg/L	ED	=	yr
C <sub>(x)</sub> /C <sub>source</sub>	=		unitless	EF	=	d/yr

- Maps depicting source width, plume dimensions, distance, etc. must also be submitted.

- Inputs must be submitted in the designated unit.

Electronic Filing: Received, Clerk's Office 2017-084) R. 525
923441 Chemical: Toluene Land Use: Not Applicable Incident #:

Symbol	_		Unit	Symbol			Unit
erf	=		unitless	RAF <sub>d</sub> (PNAs)	=	0.05	unitless
f <sub>oc</sub>	=		g/g	RAF <sub>d</sub> (inorganics)	=	0	unitless
GW <sub>comp</sub>	=		mg/L	RAF <sub>0</sub>	=	1.0	unitless
GW <sub>source</sub>	=		mg/L	RBSL <sub>air</sub> (carcinogenic)	=		µg/m³
H'	=		cm³ <sub>water</sub> /cm³ <sub>air</sub>	RBSL <sub>air</sub> (noncarcinogenic)	=	77 p. 27 (18)	μg/m³
i	=	0.01426	cm/cm	RfDi	=		mg/kg-d
ſ	=	30	cm/yr	RfD <sub>o</sub>	=		mg/kg-d
IR <sub>air</sub>	=	20	m³/d	SA	=	3,160	cm²/d
IR <sub>soil</sub>	=		mg/d	S <sub>d</sub>	=	200	cm
IR <sub>w</sub>	=		L/d	S <sub>w</sub>	=	6,523	cm
К	=	40.15872	cm/d for R15, R19, R26; cm/yr for R24	SFi	=		(mg/kg-d) <sup>-1</sup>
K <sub>oc</sub>	=		cm³/g or L/kg	SF <sub>o</sub>	=		(mg/kg-d) <sup>-1</sup>
k <sub>s</sub> (non-ionizing organics)	=	No. of	cm <sup>3</sup> <sub>water</sub> /g <sub>soil</sub>	THQ	=	1	unitless
k <sub>s</sub> (ionizing organics)	=		cm <sup>3</sup> <sub>water</sub> /g <sub>soil</sub>	TR	=		unitless
k <sub>s</sub> (inorganics)	=		cm <sup>3</sup> <sub>water</sub> /g <sub>soil</sub>	U	=		cm/d
L <sub>s</sub>	=	100	cm	U <sub>air</sub>	=	225	cm/s
LF <sub>sw</sub>	=	18 18 18 18 18 18 18 18 18 18 18 18 18 1	(mg/L <sub>water</sub> ) /(mg/kg <sub>soil</sub> )	U <sub>gw</sub>	=		cm/yr
М	=	0.5	mg/cm <sup>2</sup>	VFp	=		kg/m³
Pe	=	6.9 •10 <sup>-14</sup>	g/cm²-s	VF <sub>samb</sub>	=	(m	g/m³ <sub>air</sub> )/mg/kg <sub>soil</sub> ) or kg/m³
RAF <sub>d</sub>	=	0.5	unitless	VF <sub>ss</sub>	=		kg/m³

Incident #: 923441 Chemical: Toluene Land Use: Not Applicable

Symbol			Unit	Symbol
W	=		cm	$\theta_{as}$
w	=		gwater/gsoil	$\theta_{\sf ws}$
×	=	see below	cm	$\theta_{T}$
$\alpha_{x}$	=		cm	λ
a <sub>y</sub>	=		cm	π
$\alpha_z$	=		cm	$ ho_{ m b}$
$\delta_{ m air}$	=	200	cm	$\rho_{\mathrm{w}}$
$\delta_{\mathrm{gw}}$	=	200	cm	τ

Symbol			Unit
$\theta_{as}$	=		cm³ <sub>air</sub> /cm³ <sub>soil</sub>
$\theta_{ws}$	=		cm <sup>3</sup> <sub>water</sub> /cm <sup>3</sup> <sub>soil</sub>
$\theta_{T}$	=	0.36	cm <sup>3</sup> /cm <sup>3</sup> <sub>soil</sub>
λ	=	0.011	d <sup>-1</sup>
π	=	3.1416	
$\rho_{\rm b}$	=		g/cm <sup>3</sup>
$\rho_{\rm w}$	=	1	g/cm <sup>3</sup>
τ	=	9.46 •108	s

Csource Values: (mg/L)

Equation		Result	Unit(s)
R1	=		mg/kg
R2	=		mg/kg
R7	=		mg/kg
R8	=		mg/kg
R12	=		mg/kg
R25	=		mg/L

Groundwater
MW-7: 24.3
MW-13: 9.9

Soil Leaching
SB-13: 1.511
SB-15: 4.97

Maximum Predicted Extent of Groundwater Impact (X): (feet from point source)

MW-7:19.96' MW-13: 13.37' SB-13: 2.02' SB-15: 8.8'

Electronic Filing: Received, Clerk's Office 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 the violation and an additional civil penalty of not to exceed \$10,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 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 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 5/57.17). This form has been approved by the Forms Management Center.

# Illinois Environmental Protection Agency

Leaking Underground Storage Tank Program
RBCA Input Parameters for Use with Tier 2 Calculations

A.	Site Identification				
	IEMA Incident # (6- or 8-digit):	92344	1	IEPA LPC # (10-digit):	1430655263
	Site Name: Illico Independent Oil	Co.	V-20		
	Site Address (not a P.O. Box): 3	712 University	Street		
	City: Peoria	County:	Peoria	Zip Code:	61614
	Leaking UST Technical File				
В.	Tier 2 Calculation Information	1			
	Equation(s) Used (ex: R12, R14, F	R26): R26: Eth	ylbenzene		
	Contact Information for Individual \	Nho Performed	Calculation	s: Joe Buhlig - Projec	t Manager
	Marlin Environmental, Inc. Phone	: (217) 726-756	9		>
	Land Use: Not Applica	able	Soil Typ	oe: Clay	
	Groundwater:	Class II			
	Mass Limit:	es, then Specit	y Acreage:	☐ 0.5 ☐ 1 ☐ 2 ☐	5   10   30
	Result from S18/S28 used in R26?	Yes ┌ N	lo Specify	C <sub>source</sub> from S18/S28 s	ee page 3 mg/L
	- Mass Limit Acreage other than				
	- Failure to use site-specific para the Underground Storage Tank	Fund.			
	<ul> <li>Maps depicting source width, p</li> <li>Inputs must be submitted in the</li> </ul>			ce, etc. must also be su	ıbmitted.
Sy	ymbol	Unit	Symbol		Unit

Symbol		Harris A.	Unit	Symbol		Unit
ATc	=	70	yr	d	=	cm
$AT_{\eta}$	=		yr	D <sup>air</sup>	=	cm²/s
BW	=	70	kg	Dwater	=	cm <sup>2</sup> /s
$C_{\text{source}}$	=	see page 3	mg/L	D <sub>s</sub> eff	=	cm²/s
C <sub>(x)</sub>	=		mg/L	ED	=	yr
$C_{(x)}/C_{source}$	=		unitless	EF	=	d/yr

| Electronic Filing: Received, Clerk's Officeid (2017-084) R. 528 | Incident #: 923441 | Chemical: Ethylbenzene | Land Use: Not Applicable

Symbol			Unit	Symbol		4	Unit
erf	=		unitless	RAF <sub>d</sub> (PNAs)	=	0.05	unitless
f <sub>oc</sub>	=		g/g	RAF <sub>d</sub> (inorganics)	=	0	unitless
GW <sub>comp</sub>	=		mg/L	RAF <sub>0</sub>	=	1.0	unitless
GW <sub>source</sub>	=		mg/L	RBSL <sub>air</sub> (carcinogenic)	=		μg/m³
H'	=		cm <sup>3</sup> water/cm <sup>3</sup> air	RBSL <sub>air</sub> (noncarcinogenic)	=		μg/m³
i	=	0.01426	cm/cm	RfDi	=		mg/kg-d
, I	=	30	cm/yr	RfD。	=		mg/kg-d
IR <sub>air</sub>	=	20	m³/d	SA	=	3,160	cm²/d
IR <sub>soil</sub>	=		mg/d	S <sub>d</sub>	=	200	cm
IR <sub>w</sub>	=		L/d	S <sub>w</sub>	=	6,523	cm
К	=	40.15872	cm/d for R15, R19, R26; cm/yr for R24	SFi	=		(mg/kg-d) <sup>-1</sup>
K <sub>oc</sub>	=		cm <sup>3</sup> /g or L/kg	SF <sub>o</sub>	=		(mg/kg-d) <sup>-1</sup>
k <sub>s</sub> (non-ionizing organics)	=		cm³ <sub>water</sub> /g <sub>soil</sub>	THQ	=	1	unitless
k <sub>s</sub> (ionizing organics)	=		cm³ <sub>water</sub> /g <sub>soil</sub>	TR	=		unitless
k <sub>s</sub> (inorganics)	=		cm³ <sub>water</sub> /g <sub>soil</sub>	U	=		cm/d
L <sub>s</sub>	=	100	cm	U <sub>air</sub>	=	225	cm/s
LF <sub>sw</sub>	=		(mg/L <sub>water</sub> ) /(mg/kg <sub>soil</sub> )	U <sub>gw</sub>	=		cm/yr
М	=	0.5	mg/cm²	VFp	=		kg/m³
Pe	=	6.9 <b>-</b> 10 <sup>-14</sup>	g/cm <sup>2</sup> -s	VF <sub>samb</sub>	=		(mg/m³ <sub>air</sub> )/mg/kg <sub>soil</sub> ) or kg/m³
RAF <sub>d</sub>	=	0.5	unitless	VF <sub>ss</sub>	=		kg/m³

Incident #: 923441 Chemical: Ethylbenzene Land Use: Not Applicable

Symbol			Unit
W	=		cm
w	=		g <sub>water</sub> /g <sub>soil</sub>
х	=	see below	cm
$\alpha_{x}$	=		cm
a <sub>y</sub>	=		cm
$\alpha_z$	=		cm
$\delta_{ m air}$	=	200	cm
$\delta_{\mathrm{gw}}$	=	200	cm

Symbol			Unit
θ <sub>as</sub>	=		cm³ <sub>air</sub> /cm³ <sub>soil</sub>
$\theta_{ws}$	=		cm <sup>3</sup> <sub>water</sub> /cm <sup>3</sup> <sub>soil</sub>
$\theta_{\scriptscriptstyle T}$	=	0.36	cm³/cm³ <sub>soil</sub>
λ	=	0.003	d <sup>-1</sup>
π	=	3.1416	
ρ <sub>b</sub>	=		g/cm <sup>3</sup>
$\rho_{\rm w}$	=	1	g/cm³
τ	=	9.46 •108	s

Result	Unit(s)
=	mg/kg
=	mg/kg
=	mg/kg
=	mg/kg
=	mg/kg
=	mg/L
	= = = = =

Groundwater
MW-4: 2.24
MW-7: 3.66
MW-13: 2.53

Soil Leaching
SB-15: 1.678
SB-17: 2.118
SB-31: 3.96

## Maximum Predicted Extent of Groundwater Impact (X): (feet from point source)

MW-4: 22.5' MW-7: 32.5' MW-13: 25.02' SB-15: 16.6' SB-17: 21.3' SB-31: 34'

Electronic Filing: Received, Clerk's Office 17/26/2017-084) R. 530

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 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 5/57.17). This form has been approved by the Forms Management Center.

#### Illinois Environmental Protection Agency **Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations**

A.	Site Identification				
	IEMA Incident # (6- or 8-digit):	92344	1	IEPA LPC # (10-digit):	1430655263
	Site Name: Illico Independent Oi	il Co.			
	Site Address (not a P.O. Box): 3	3712 University	Street		
	City: Peoria	County:	Peoria	Zip Code:	61614
	Leaking UST Technical File				
В.	Tier 2 Calculation Informatio	n			
	Equation(s) Used (ex: R12, R14,	R26): R26: Tot	al Xylenes		
	Contact Information for Individual	Who Performed	Calculation	s: Joe Buhlig - Projec	ct Manager
	Marlin Environmental, Inc. Phone	e: (217) 726-756	9		
	Land Use: Not Applic	able	Soil Typ	oe: Cla	у
	Groundwater:	Class II			
	Mass Limit: ☐ Yes ☒ No If Y	Yes, then Specif	y Acreage:	□0.5 □1 □2 □	5   10   30
	Result from S18/S28 used in R26	?⊠Yes ┌ N	lo Specify	C <sub>source</sub> from S18/S28 _s	see page 3 mg/L
	- Mass Limit Acreage other than	defaults must	always be	rounded up.	
	<ul> <li>Failure to use site-specific par the Underground Storage Tank</li> </ul>		allowed co	ould affect payment fro	m
	- Maps depicting source width,		1.00	ce, etc. must also be s	ubmitted.
	- Inputs must be submitted in th	ie designated u	nit.		

Symbol			Unit	Symbol		Unit
AT <sub>c</sub>	=	70	yr	d	=	cm
$AT_{\eta}$	=		yr	Dair	=	cm²/s
BW	=	70	kg	Dwater	=	cm²/s
$C_{source}$	=	see page 3	mg/L	D <sub>s</sub> eff	=	cm²/s
C <sub>(x)</sub>	=		mg/L	ED	=	yr
$C_{(x)}/C_{source}$	=		unitless	EF	=	d/yr

Incident #:

Symbol			Unit	Symbol			Unit
erf	=		unitless	RAF <sub>d</sub> (PNAs)	=	0.05	unitless
f <sub>oc</sub>	=		g/g	RAF <sub>d</sub> (inorganics)	=	0	unitless
$GW_comp$	=		mg/L	RAF <sub>0</sub>	=	1.0	unitless
$GW_{source}$	=		mg/L	RBSL <sub>air</sub> (carcinogenic)	=	1966711	μg/m³
H'	=		cm³ <sub>water</sub> /cm³ <sub>air</sub>	RBSL <sub>air</sub> (noncarcinogenic)	=		µg/m³
i	=	0.01426	cm/cm	RfDi	=		mg/kg-d
T,	=	30	cm/yr	RfD₀	=		mg/kg-d
IR <sub>air</sub>	=	20	m³/d	SA	=	3,160	cm <sup>2</sup> /d
IR <sub>soil</sub>	=		mg/d	S <sub>d</sub>	=	200	cm
IR <sub>w</sub>	=		L/d	S <sub>w</sub>	=	6,523	cm
К	=	40.15872	cm/d for R15, R19, R26; cm/yr for R24	SFi	=		(mg/kg-d) <sup>-1</sup>
K <sub>oc</sub>	=		cm <sup>3</sup> /g or L/kg	SF <sub>o</sub>	=		(mg/kg-d) <sup>-1</sup>
k <sub>s</sub> (non-ionizing organics)	=		cm <sup>3</sup> <sub>water</sub> /g <sub>soil</sub>	THQ	=	1	unitless
k <sub>s</sub> (ionizing organics)	=		cm <sup>3</sup> <sub>water</sub> /g <sub>soil</sub>	TR	=		unitless
k <sub>s</sub> (inorganics)	=		cm <sup>3</sup> <sub>water</sub> /g <sub>soil</sub>	U	=		cm/d
L <sub>s</sub>	=	100	cm	U <sub>air</sub>	=	225	cm/s
LF <sub>sw</sub>	=		(mg/L <sub>water</sub> ) /(mg/kg <sub>soil</sub> )	U <sub>gw</sub>	=		cm/yr
М	=	0.5	mg/cm²	VFp	=		kg/m³
Pe	=	6.9 •10-14	g/cm²-s	VF <sub>samb</sub>	=	(	mg/m³ <sub>air</sub> )/mg/kg <sub>soil</sub> ) or kg/m³
RAF <sub>d</sub>	=	0.5	unitless	VF <sub>ss</sub>	=		kg/m³

		•	·	`	,	
Incident #:	923441	Chemical:	Total Xylenes	Land Use:	Not Applicable	

Symbol			Unit	Symbol			Unit
W	=		cm	$\theta_{as}$	=		cm³ <sub>air</sub> /cm³ <sub>soil</sub>
w	=		gwater/gsoil	$\theta_{ws}$	=		cm <sup>3</sup> <sub>water</sub> /cm <sup>3</sup> <sub>so</sub>
Х	=	see below	cm	$\theta_{T}$	=	0.36	cm <sup>3</sup> /cm <sup>3</sup> <sub>soil</sub>
$\alpha_{x}$	=		cm	λ	=	0.0019	d <sup>-1</sup>
α <sub>y</sub>	=		cm	π	=	3.1416	
$\alpha_z$	=		cm	$ ho_{ m b}$	=		g/cm <sup>3</sup>
$\delta_{air}$	=	200	cm	$ ho_{ m w}$	=	1	g/cm <sup>3</sup>
$\delta_{\mathrm{gw}}$	=	200	cm	τ	=	9.46 •108	s
L							

Csource	1/01	(ma = /1 )
LECUITCA	vailles	(11101/1)
Source	· alaco.	(1119/ -)

Equation	Result	Unit(s)
R1	=)	mg/kg
R2	=	mg/kg
R7	=	mg/kg
R8	=	mg/kg
R12	=	mg/kg
R25	=	mg/L

MW-7: 18.7 MW-13: 10.2 Soil Leaching SB-31: 19.391

Groundwater

Maximum Predicted Extent of Groundwater Impact (X): (feet from point source)

MW-7:18.27' MW-13: 0.545' SB-31: 19.3'

Electronic Filing: Received, Clerk's Officetion 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 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 5/57.17). This form has been approved by the Forms Management Center.

#### Illinois Environmental Protection Agency **Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations**

Α.	Site Identification				
	IEMA Incident # (6- or 8-digit):	9234	41	IEPA LPC # (10-digit):	1430655263
	Site Name: Illico Independent	Oil Co.			
	Site Address (not a P.O. Box):	3712 University	/ Street		
	City: Peoria	County:	Peoria	Zip Code:	61614
	Leaking UST Technical File				
В.	Tier 2 Calculation Informati	on			
	Equation(s) Used (ex: R12, R14	, R26): R26: N	aphthalene		
	Contact Information for Individua	al Who Performe	ed Calculation	ns:Joe Buhlig - Proje	ct Manager
	Marlin Environmental, Inc. Pho	ne: (217) 726-75	569		
	Land Use: Not App	icable	_ Soil Ty	pe: Cla	у
	Groundwater:	Class II			
	Mass Limit:	Yes, then Spec	cify Acreage:	0.5   1   2	5   10   30
	Result from S18/S28 used in R2	6?  ▼ Yes	No Specify	y C <sub>source</sub> from S18/S28	see page 3 mg/L
	<ul> <li>Mass Limit Acreage other that</li> <li>Failure to use site-specific pathe Underground Storage Tail</li> <li>Maps depicting source width</li> </ul>	arameters wher nk Fund.	e allowed co	ould affect payment fro	

Symbol			Unit	Symbol		Unit
ATc	=	70	yr	d	=	cm
$AT_{\eta}$	=		yr	D <sup>air</sup>	=	cm²/s
BW	=	70	kg	Dwater	=	cm²/s
$C_{source}$	=	see page 3	mg/L	D <sub>s</sub> eff	=	cm²/s
C <sub>(x)</sub>	=		mg/L	ED	=	yr
C <sub>(x)</sub> /C <sub>source</sub>	=		unitless	EF	=	d/yr

- Inputs must be submitted in the designated unit.

| Electronic Filing: Received, Clerk's Office 7/28/201.72017-084) R. 534 | Incident #: 923441 | Chemical: Naphthalene | Land Use: Not Applicable

Symbol			Unit	Symbol			Unit
erf	=		unitless	RAF <sub>d</sub> (PNAs)	=	0.05	unitless
f <sub>oc</sub>	=		g/g	RAF <sub>d</sub> (inorganics)	=	0	unitless
GW <sub>comp</sub>	=		mg/L	RAF <sub>0</sub>	=	1.0	unitless
GW <sub>source</sub>	=		mg/L	RBSL <sub>air</sub> (carcinogenic)	=		μg/m³
H'	=		cm <sup>3</sup> <sub>water</sub> /cm <sup>3</sup> <sub>air</sub>	RBSL <sub>air</sub> (noncarcinogenic)	=		µg/m³
i	=	0.01426	cm/cm	RfDi	=		mg/kg-d
1	=	30	cm/yr	RfD。	=		mg/kg-d
IR <sub>air</sub>	=	20	m³/d	SA	=	3,160	cm²/d
IR <sub>soil</sub>	=		mg/d	S <sub>d</sub>	=	200	cm
IR <sub>w</sub>	=		L/d	S <sub>w</sub>	=	6,523	cm
К	=	40.15872	cm/d for R15, R19, R26; cm/yr for R24	SFi	=		(mg/kg-d) <sup>-1</sup>
K <sub>oc</sub>	=		cm³/g or L/kg	SF <sub>o</sub>	=		(mg/kg-d) <sup>-1</sup>
k <sub>s</sub> (non-ionizing organics)	=		cm <sup>3</sup> <sub>water</sub> /g <sub>soil</sub>	THQ	=	1	unitless
k <sub>s</sub> (ionizing organics)	=		cm <sup>3</sup> <sub>water</sub> /g <sub>soil</sub>	TR	=		unitless
k <sub>s</sub> (inorganics)	=		cm <sup>3</sup> <sub>water</sub> /g <sub>soil</sub>	U	=		cm/d
Ls	=	100	cm	U <sub>air</sub>	=	225	cm/s
LF <sub>sw</sub>	=		(mg/L <sub>water</sub> ) /(mg/kg <sub>soil</sub> )	U <sub>gw</sub>	=	(STR) (SS, SS, SS, SS, SS, SS, SS, SS, SS, SS	cm/yr
М	=	0.5	mg/cm²	VFp	=		kg/m³
Pe	=	6.9 •10 <sup>-14</sup>	g/cm²-s	VF <sub>samb</sub>	=		(mg/m³ <sub>air</sub> )/mg/kg <sub>soil</sub> ) or kg/m³
RAF <sub>d</sub>	=	0.5	unitless	VF <sub>ss</sub>	=		kg/m³

# 

Incident #:

Symbol			Unit
W	=		cm
w	=		gwater/gsoil
Х	=	see below	cm
$a_x$	=		cm
α <sub>y</sub>	=		cm
$\alpha_{z}$	=		cm
$\delta_{ m air}$	=	200	cm
$\delta_{\mathrm{gw}}$	=	200	cm

		Unit
=		cm³ <sub>air</sub> /cm³ <sub>soil</sub>
=		cm <sup>3</sup> <sub>water</sub> /cm <sup>3</sup> <sub>soil</sub>
=	0.36	cm <sup>3</sup> /cm <sup>3</sup> <sub>soil</sub>
=	0.0027	d <sup>-1</sup>
=	3.1416	
=		g/cm <sup>3</sup>
=	1	g/cm <sup>3</sup>
=	9.46 •108	s
	= = =	= 0.36 = 0.0027 = 3.1416 = 1

Csource Values: (mg/L)

Equation	Result	Unit(s)
R1	=	mg/kg
R2	=	mg/kg
R7	=	mg/kg
R8	=	mg/kg
R12	=	mg/kg
R25	=	mg/L

Groundwater MW-4: 0.229 MW-7: 0.472 MW-13: 0.177 Soil Leaching SB-17: 0.738 SB-31: 0.300

Maximum Predicted Extent of Groundwater Impact (X): (feet from point source)

MW-4: 10' MW-7: 26' MW-13: 4.6'

Soil Leaching SB-17: 35.7' SB-31: 15.8'

Electronic Filing: Received, Clerk's Office 17/26/2017-084) R. 536
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 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 5/57.17). This form has been approved by the Forms Management Center.

### Illinois Environmental Protection Agency **Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations**

A.	Site Identification
	IEMA Incident # (6- or 8-digit): 923441
	Site Name: Illico Independent Oil Co.
	Site Address (not a P.O. Box): 3712 University Street
	City: Peoria County: Peoria Zip Code: 61614
	Leaking UST Technical File
В.	Tier 2 Calculation Information
	Equation(s) Used (ex: R12, R14, R26): R26: Benzo(a)anthracene
	Contact Information for Individual Who Performed Calculations: Joe Buhlig - Project Manager
	Marlin Environmental, Inc. Phone: (217) 726-7569
	Land Use: Not Applicable Soil Type: Clay
	Groundwater:
	Mass Limit: ☐ Yes ☒ No If Yes, then Specify Acreage: ☐ 0.5 ☐ 1 ☐ 2 ☐ 5 ☐ 10 ☐ 30
	Result from S18/S28 used in R26? X Yes No Specify C <sub>source</sub> from S18/S28 see page 3 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 <sub>c</sub>	=	70	yr	d	=	cm
AΤη	=		yr	Dair	=	cm²/s
BW	=	70	kg	Dwater	=	cm²/s
C <sub>source</sub>	=	see page 3	mg/L	D <sub>s</sub> eff	=	cm²/s
C <sub>(x)</sub>	=		mg/L	ED	=	yr
C <sub>(x)</sub> /C <sub>source</sub>	=		unitless	EF	=	d/yr

Incident #: 923441 Chemical: Benzo(a)anthracene Land Use: Not Applicable

Symbol			Unit	Symbol			Unit
erf	=		unitless	RAF <sub>d</sub> (PNAs)	=	0.05	unitless
f <sub>oc</sub>	=		g/g	RAF <sub>d</sub> (inorganics)	=	0	unitless
GW <sub>comp</sub>	=		mg/L	RAF <sub>0</sub>	=	1.0	unitless
GW <sub>source</sub>	=		mg/L	RBSL <sub>air</sub> (carcinogenic)	=		μg/m³
H'	=		cm <sup>3</sup> <sub>water</sub> /cm <sup>3</sup> <sub>air</sub>	RBSL <sub>air</sub> (noncarcinogenic)	=	_	μg/m³
İ	=	0.01426	cm/cm	RfDi	=		mg/kg-d
I	=	30	cm/yr	RfD <sub>o</sub>	=		mg/kg-d
IR <sub>air</sub>	=	20	m³/d	SA	=	3,160	cm²/d
IR <sub>soil</sub>	=		mg/d	S <sub>d</sub>	=	200	cm
IR <sub>w</sub>	=		L/d	S <sub>w</sub>	=	6,523	cm
К	=	40.15872	cm/d for R15, R19, R26; cm/yr for R24	SFi	=		(mg/kg-d) <sup>-1</sup>
K <sub>oc</sub>	=		cm³/g or L/kg	SF <sub>o</sub>	=		(mg/kg-d) <sup>-1</sup>
k <sub>s</sub> (non-ionizing organics)	=		cm <sup>3</sup> <sub>water</sub> /g <sub>soil</sub>	THQ	=	1	unitless
k <sub>s</sub> (ionizing organics)	=		cm <sup>3</sup> <sub>water</sub> /g <sub>soil</sub>	TR	=		unitless
k <sub>s</sub> (inorganics)	=		cm <sup>3</sup> <sub>water</sub> /g <sub>soil</sub>	U	=		cm/d
L <sub>s</sub>	=	100	cm	U <sub>air</sub>	=	225	cm/s
LF <sub>sw</sub>	=		(mg/L <sub>water</sub> ) /(mg/kg <sub>soil</sub> )	U <sub>gw</sub>	=		cm/yr
М	=	0.5	mg/cm²	VFp	=		kg/m³
Pe	=	6.9 •10 <sup>-14</sup>	g/cm²-s	VF <sub>samb</sub>	=	(m	g/m³ <sub>air</sub> )/mg/kg <sub>soil</sub> ) or kg/m³
RAF <sub>d</sub>	=	0.5	unitless	VF <sub>ss</sub>	=		kg/m³

Incident #: 923441 Chemical: Benzo(a)anthracene Land Use: Not Applicable

Symbol			Unit
W	=		cm
w	=		g <sub>water</sub> /g <sub>soil</sub>
×	=	see below	cm
$\alpha_{x}$	=		cm
α <sub>y</sub>	=		cm
az	=		cm
$\delta_{ m air}$	=	200	cm
$\delta_{\mathrm{gw}}$	=	200	cm

Symbol			Unit
$\theta_{as}$	=		cm <sup>3</sup> air/cm <sup>3</sup> soil
$\theta_{ws}$	=		cm <sup>3</sup> <sub>water</sub> /cm <sup>3</sup> <sub>soil</sub>
$\theta_{T}$	=	0.36	cm <sup>3</sup> /cm <sup>3</sup> <sub>soil</sub>
λ	=	0.00051	d <sup>-1</sup>
π	=	3.1416	
$\rho_{\rm b}$	=		g/cm <sup>3</sup>
$\rho_{\mathrm{w}}$	=	1	g/cm <sup>3</sup>
τ	=	9.46 •108	s

Csource Values: (mg/L)

Equation	Result	Unit(s)
R1		mg/kg
R2	=	mg/kg
R7	=	mg/kg
R8	=	mg/kg
R12		mg/kg
R25	=	mg/L

Groundwater MW-7: 0.00818

# Maximum Predicted Extent of Groundwater Impact (X): (feet from point source)

MW-7: 260'

Electronic Filing: Received, Clerk's Office 17/26/2017-084) R. 539

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 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 5/57.17). This form has been approved by the Forms Management Center.

### Illinois Environmental Protection Agency **Leaking Underground Storage Tank Program** SSL Input Parameters for Use with Tier 2 Calculations

A.	Site Identification		
	IEMA Incident # (6- or 8-digit): 923441	IEPA LPC # (10-digit):	1430655263
	Site Name: Illico Independent Oil Company		
	Site Address (not a P.O. Box): 3712 University Street	t	
	City: Peoria County: Peo	oria Zip Code:	61614
	Leaking UST Technical File		
В.	Tier 2 Calculation Information		
	Equation(s) Used (ex: S12, S17, S28): <u>S28/S18: Soil</u>	Leaching to Groundwater - B	enzene
	Contact Information for Individual Who Performed Calc	ulations: Joe Buhlig - Proj	ect Manager
	Marlin Environmental, Inc. Phone: (217) 726-7569		
	Land Use: not applicable S	Soil Type: Silty	Clay
	Groundwater: X Class I Class II		
	Mass Limit:	eage: 😿 0.5 🗀 1 🗀 2	_5
	- Mass Limit Acreage other than defaults must alwa	ys be rounded up.	
	<ul> <li>Failure to use site-specific parameters where allow the Underground Storage Tank Fund.</li> </ul>		
	- Maps depicting source width, plume dimensions,	distance, etc. must also be	submitted.
	<ul> <li>Inputs must be submitted in the designated unit.</li> </ul>		

Symbol			Unit	Sy	mbol			Unit
AT (ingestion)	=		yr		da	=		m
AT (inhalation)	=		yr		ds	=	2.4384	m
AT <sub>c</sub>	=	70	yr		D <sub>A</sub>	=		cm <sup>2</sup> /s
BW	=		kg		Di	=		cm²/s
C <sub>sat</sub>	=		mg/kg		D <sub>w</sub>	=		cm²/s
C <sub>w</sub>	=		mg/L	ı	DF	=	20	unitless
d	=		m	ED (in	gestion nogens	of =		yr

Incident #: 923441 Chemical: Benzene Land Use: not applicable Symbol Unit Symbol Unit ED (inhalation of yr Koc = cm<sup>3</sup>/g or L/kg carcinogens) ED (ingestion of  $K_s$ = yr m/yr noncarcinogens) ED (inhalation of L = yr m noncarcinogens) ED (ingestion of yr PEF = m<sup>3</sup>/kg groundwater) 70 ED<sub>M-L</sub> = PEF' = yr m<sup>3</sup>/kg Q/C (VF  $(g/m^2-s)/$ EF = d/yr = equations)  $(kg/m^3)$ Q/C (PEF  $(g/m^2-s)/$ F(x)= 0.194 unitless = equations)  $(kg/m^3)$  $f_{oc}$ = g/g RfC = mg/m<sup>3</sup> **GW**<sub>obj</sub> = RfD<sub>o</sub> mg/L = mg/(kg-d) H' = S unitless = mg/L i = SF<sub>o</sub> m/m = (mg/kg-d)-1 1 0.3 m/yr T = S 0.18 30  $I_{M-L}$ m/yr  $T_{M-L}$ yr IF<sub>soil-adj</sub> = 114 1 (mg-yr)/(kg-d) THQ = unitless IR<sub>soil</sub> = mg/d TR = unitless  $IR_w$ = L/d  $U_{m}$ 4.69 m/s = K = URF m/yr =  $(\mu g/m^3)^{-1}$ K<sub>d</sub> (non-ionizing 11.32 cm3/g or L/kg Ut = kg/m<sup>3</sup> organics) K<sub>d</sub> (ionizing V cm3/g or L/kg =

VF

=

cm<sup>3</sup>/g or L/kg

organics)

K<sub>d</sub> (inorganics)

unitless

m<sup>3/</sup>kg

Incident #: 923441 Chemical: Benzene Land Use: not applicable

Symbol		Unit
VF'	=	m³/kg
VF <sub>M-L</sub>	=	m³/kg
VF' <sub>M-L</sub>	=	m³/kg
η	=	$L_{pore}/L_{soil}$
$\theta_{a}$	=	$L_{air} / L_{soil}$

Symbol			Unit
$\theta_{w}$	=		L <sub>water</sub> /L <sub>soil</sub>
ρ <sub>b</sub>	=	1.684	kg/L or g/cm <sup>3</sup>
ρs	=		g/cm <sup>3</sup>
ρ <sub>w</sub>	=	1	g/cm <sup>3</sup>
1/(2b+3)	=		unitless

Equation	Result	Unit(s)
S1	=	mg/kg
S2	=	mg/kg
S3	=	mg/kg
S4	=	mg/kg
S5	=	mg/kg
\$6	=	mg/L
S7	=	mg/kg
S17	=	mg/kg
S28	=	mg/kg
S29	=	mg/L

# Source Area Concentration Values: (mg/Kg)

SB-11(7'-8') Benzene: 2.9 SB-12(7'-8') Benzene: 0.629 SB-13(6'-7') Benzene: 11.7 SB-14(6'-7') Benzene: 0.833 SB-15(5'-6') Benzene: 41.8 SB-16(6'-7') Benzene: 3.7 SB-17(6'-7') Benzene: 1.200 SB-18(6'-7') Benzene: 0.365 SB-25(3.5'-5') Benzene: 0.148 SB-30(2'-4') Benzene: 0.402 SB-31(4'-6') Benzene: 16.800 MW-12(4'-6') Benzene: 4.230 MW-13(4'-6') Benzene: 0.347 MW-14(4'-6') Benzene: 0.654

# Soil to Groundwater Leachate Potential ( $GW_{obj}$ ): (mg/L)

B-11(7'-8') Benzene: 0.047	SB-17(6'-7') Benzene: 0.020	
SB-12(7'-8') Benzene: 0.010	SB-18(6'-7') Benzene: 0.111	MW-12(4'-6') Benzene: 0.069
SB-13(6'-7') Benzene: 0.191	SB-19(6'-7') Benzene: 0.0.006	MW-13(4'-6') Benzene: 0.006
SB-14(6'-7') Benzene: 0.014	SB-25(3.5'-5') Benzene: 0.002	MW-14(4'-6') Benzene: 0.011
SB-15(5'-6') Benzene: 0.981	SB-30(2'-4') Benzene: 0.402	
SB-16(6'-7') Benzene: 0.060	SB-31(4'-6') Benzene: 16.800	

Electronic Filing: Received, Clerk's Office 17/26/2017.0017-0084) R. 542

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 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 5/57.17). This form has been approved by the Forms Management Center.

### Illinois Environmental Protection Agency **Leaking Underground Storage Tank Program** SSL Input Parameters for Use with Tier 2 Calculations

A.	Site Identification
	IEMA Incident # (6- or 8-digit): 923441 IEPA LPC # (10-digit): 1430655263
	Site Name: Illico Independent Oil Company
	Site Address (not a P.O. Box): 3712 University Street
	City: Peoria County: Peoria Zip Code: 61614
	Leaking UST Technical File
В.	Tier 2 Calculation Information
	Equation(s) Used (ex: S12, S17, S28): S28/S18: Soil Leaching to Groundwater-Toluene/Ethylbenzer
	Contact Information for Individual Who Performed Calculations:Joe Buhlig - Project Manager
	Marlin Environmental, Inc. Phone: (217) 726-7569
	Land Use: not applicable Soil Type: Silty Clay
	Groundwater: ヌ Class I
	Mass Limit: ☐ Yes ☒ No If Yes, then Specify Acreage: ☒ 0.5 ☐ 1 ☐ 2 ☐ 5 ☐ 10 ☐ 3
	- Mass Limit Acreage other than defaults must always be rounded up.
	<ul> <li>Failure to use site-specific parameters where allowed could affect payment from the Underground Storage Tank Fund.</li> </ul>
	- Maps depicting source width, plume dimensions, distance, etc. must also be submitted.  - Inputs must be submitted in the designated unit.
	Symbol Unit Symbol Unit

Symbol			Unit	Symbol			Unit
AT (ingestion)	=		yr	d <sub>a</sub>	=		m
AT (inhalation)	=		yr	d <sub>s</sub>	=	2.4384	m
AT <sub>c</sub>	=	70	yr	D <sub>A</sub>	=		cm²/s
BW	=		kg	D <sub>i</sub>	=		cm²/s
C <sub>sat</sub>	=		mg/kg	D <sub>w</sub>	=		cm²/s
C <sub>w</sub>	=		mg/L	DF	=	20	unitless
d	=		m	ED (ingestion o carcinogens)	f =		yr

Electronic Filing: Received, Clerk's Office 2017-084) R. 543
923441 Chemical: Toluene / Ethy Land Use: not applicable Incident #:

Symbol			Unit	Symbol	55		Unit
ED (inhalation of carcinogens)	=		yr	K <sub>oc</sub>	=		cm³/g or L/kg
ED (ingestion of noncarcinogens)	=		yr	Ks	=		m/yr
ED (inhalation of noncarcinogens)	=		yr	L	=		m
ED (ingestion of groundwater)	=		yr	PEF	=		m³/kg
ED <sub>M-L</sub>	=	70	yr	PEF'	=		m³/kg
EF	=		d/yr	Q/C (VF equations)	=		(g/m²-s)/ (kg/m³)
F(x)	=	0.194	unitless	Q/C (PEF equations)	=		(g/m²-s)/ (kg/m³)
f <sub>oc</sub>	=		g/g	RfC	=		mg/m³
$GW_{obj}$	=		mg/L	RfD <sub>o</sub>	=		mg/(kg-d)
H'	=		unitless	S	=		mg/L
i	=		m/m	SF <sub>o</sub>	=		(mg/kg-d) <sup>-1</sup>
1	=	0.3	m/yr	Т	=		s
I <sub>M-L</sub>	=	0.18	m/yr	T <sub>M-L</sub>	=	30	yr
IF <sub>soil-adj</sub>	=	114	(mg-yr)/(kg-d)	THQ	=	1	unitless
IR <sub>soil</sub>	=		mg/d	TR	=		unitless
IR <sub>w</sub>	=		L/d	U <sub>m</sub>	=	4.69	m/s
К	=		m/yr	URF	=		(µg/m³)-1
K <sub>d</sub> (non-ionizing organics)	=		cm³/g or L/kg	Ut	=	11.32	kg/m³
K <sub>d</sub> (ionizing organics)	=		cm <sup>3</sup> /g or L/kg	V	=		unitless
K <sub>d</sub> (inorganics)	=		cm³/g or L/kg	VF	=	-	m³/kg

Incident #: 923441 Chemical: Toluene / Ethy Land Use: not applicable

Symbol		Unit
VF'	=	m³/kg
VF <sub>M-L</sub>	=	m³/kg
VF' <sub>M-L</sub>	=	m³/kg
η	=	$L_{pore}/L_{soil}$
$\theta_a$	=	$L_{air}/L_{soil}$

Symbol			Unit
$\theta_{w}$	=		L <sub>water</sub> /L <sub>soil</sub>
ρ <sub>b</sub>	=	1.684	kg/L or g/cm <sup>3</sup>
$\rho_{s}$	=		g/cm <sup>3</sup>
ρω	=	1	g/cm <sup>3</sup>
1/(2b+3)	=		unitless

Equation	Result	Unit(s)
S1	=	mg/kg
S2	=	mg/kg
S3	=	mg/kg
S4	=	mg/kg
S5	=	mg/kg
S6	=	mg/L
<b>S</b> 7	=	mg/kg
S17	=	mg/kg
S28	=	mg/kg
S29	=	mg/L
S17 S28	=	mg/kg mg/kg

### Source Area Concentration Values: (mg/Kg)

SB-11(7'-8') Toluene: 51.6 SB-13(6'-7') Toluene: 92.7 SB-15(5'-6') Toluene: 305.0 SB-31(4'-6') Toluene: 27.1

SB-11 (7'-8') Ethylbenzene: 31.6 SB-13 (6'-7') Ethylbenzene: 29.7 SB-15 (5'-6') Ethylbenzene: 103.0 SB-17 (6'-7') Ethylbenzene: 130.0 SB-18 (6'-7') Ethylbenzene: 27.0 SB-31 (4'-6') Ethylbenzene: 243.0 MW-12 (2'-4') Ethylbenzene: 42.3

# Soil to Groundwater Leachate Potential (GW<sub>obj</sub>): (mg/L)

SB-11 (7'-8') Ethylbenzene: 0.515
SB-13 (6'-7') Toluene: 0.841
SB-13 (6'-7') Toluene: 1.511
SB-15 (5'-6') Toluene: 4.970
SB-31 (4'-6') Toluene: 0.442
SB-15 (5'-6') Ethylbenzene: 2.118
SB-18 (6'-7') Ethylbenzene: 0.440
SB-31 (4'-6') Ethylbenzene: 3.960
MW-12 (2'-4') Ethylbenzene: 0.689

Electronic Filing: Received, Clerk's Office 17/20/2017-084) R. 545
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 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 5/57.17). This form has been approved by the Forms Management Center.

### **Illinois Environmental Protection Agency** Leaking Underground Storage Tank Program SSL Input Parameters for Use with Tier 2 Calculations

A.	Site Identification								
	IEMA Incident # (6- or 8-digit):	923441	IEPA LPC # (10-digit):	1430655263					
	Site Name: Illico Independent Oil	Company							
	Site Address (not a P.O. Box): 37	12 University Street							
	City: Peoria	County: Peoria	Zip Code:	61614					
	Leaking UST Technical File								
В.	Tier 2 Calculation Information								
	Equation(s) Used (ex: S12, S17, S2	28): <u>S28/S18: Soil Lea</u>	aching to Groundwater-Tota	al Xylenes					
	Contact Information for Individual W	Contact Information for Individual Who Performed Calculations: Joe Buhlig - Project Manager							
	Marlin Environmental, Inc. Phone:	(217) 726-7569							
	Land Use: not applicab	ole Soil	Type: Silty 0	Clay					
	Groundwater: 🔀 Class I	Class II							
	Mass Limit: ☐ Yes ☒ No If Ye	es, then Specify Acrea	ge: 👿 0.5 🗀 1 🗀 2 📑	5					
	- Mass Limit Acreage other than	defaults must always	be rounded up.						
	<ul> <li>Failure to use site-specific para the Underground Storage Tank</li> </ul>		d could affect payment fro	om					
	- Maps depicting source width, pl		tance, etc. must also be s	submitted.					
	- Inputs must be submitted in the	designated unit.							

Symbol			Unit	Symbol			Unit
AT (ingestion)			yr	da	=		m
AT (inhalation)	= .		yr	ds	=	2.4384	m
AT <sub>c</sub>	=	70	yr	D <sub>A</sub>	=		cm <sup>2</sup> /s
BW	=		kg	Di	=		cm²/s
$C_sat$	=		mg/kg	D <sub>w</sub>	=		cm²/s
C <sub>w</sub>	=		mg/L	DF	=	20	unitless
d	=		m	ED (ingestion carcinogens)	of =		yr

Incident #: 923441 Chemical: Total Xylenes Land Use: not applicable Symbol Unit Symbol Unit ED (inhalation of yr Koc = cm<sup>3</sup>/g or L/kg carcinogens) ED (ingestion of  $K_s$ = yr m/yr noncarcinogens) ED (inhalation of L = yr m noncarcinogens) ED (ingestion of PEF yr m<sup>3</sup>/kg groundwater)  $ED_{M-L}$ 70 = PEF' = yr m<sup>3</sup>/kg Q/C (VF  $(g/m^2-s)/$ **EF** = d/yr = equations)  $(kg/m^3)$ Q/C (PEF  $(g/m^2-s)/$ F(x)= 0.194 unitless = equations)  $(kg/m^3)$  $f_{oc}$ RfC =g/g = mg/m<sup>3</sup>  $GW_{obj}$ = RfD<sub>o</sub> = mg/L mg/(kg-d) H' = S unitless = mg/L i = m/m SF<sub>o</sub> = (mg/kg-d)-1 1 = 0.3 m/yr Т S  $I_{M-L}$ = 0.18 m/yr  $T_{M-L}$ 30 yr IF<sub>soil-adj</sub> 114 1 (mg-yr)/(kg-d) THQ unitless IR<sub>soil</sub> = TR mg/d = unitless  $IR_w$ = L/d  $U_{m}$ 4.69 m/s K = **URF** m/yr =  $(\mu g/m^3)^{-1}$ K<sub>d</sub> (non-ionizing Ut 11.32 cm3/g or L/kg = kg/m<sup>3</sup> organics) K<sub>d</sub> (ionizing V cm3/g or L/kg = unitless organics) K<sub>d</sub> (inorganics) = cm<sup>3</sup>/g or L/kg VF m<sup>3/</sup>kg

923441 Chemical: Total Xylenes Incident #: Land Use: not applicable

Symbol		Unit
VF'	=	m³/kg
VF <sub>M-L</sub>	=	m³/kg
VF' <sub>M-L</sub>	=	m³/kg
η	=	L <sub>pore</sub> /L <sub>soil</sub>
$\theta_{a}$	=	L <sub>air</sub> /L <sub>soil</sub>

Symbol			Unit
$\theta_{w}$	=		L <sub>water</sub> /L <sub>soil</sub>
$\rho_b$	=	1.684	kg/L or g/cm <sup>3</sup>
ρs	=		g/cm <sup>3</sup>
$\rho_{W}$	=	1	g/cm <sup>3</sup>
1/(2b+3)	=		unitless

Equation	Result	Unit(s)
S1	=	mg/kg
S2	=	mg/kg
S3	=	mg/kg
S4	=	mg/kg
S5	=	mg/kg
S6	=	mg/L
<b>S</b> 7	=	mg/kg
S17	=	mg/kg
S28	=	mg/kg
S29	=	mg/L

### Source Area Concentration Values: (mg/Kg)

SB-11 (7'-8') Total Xylenes: 159.0 SB-12 (7'-8') Total Xylenes: 13.7 SB-13 (6'-7') Total Xylenes: 142.0 SB-15 (5'-6') Total Xylenes: 568.0 SB-16 (6'-7') Total Xylenes: 36.1 SB-17 (6'-7') Total Xylenes: 574.0 SB-18 (6'-7') Total Xylenes: 112.0 SB-31(4'-6') Total Xylenes: 1,190.0 MW-12 (4'-6') Total Xylenes: 178.0 MW-13 (4'-6') Total Xylenes: 6.61 MW-14 (4'-6') Total Xylenes: 44.6

### Soil to Groundwater Leachate Potential (GWobj): (mg/L)

B-11 (7'-8') Total Xylenes: 2.591 SB-12 (7'-8') Total Xylenes: 0.223 SB-13 (6'-7') Total Xylenes: 2.314 SB-15 (5'-6') Total Xylenes: 9.255 SB-16 (6'-7') Total Xylenes: 0.588 SB-17 (6'-7') Total Xylenes: 9.353 SB-18 (6'-7') Total Xylenes: 1.825

SB-31(4'-6') Total Xylenes: 19.391

MW-12 (4'-6') Total Xylenes: 2.90 MW-13 (4'-6') Total Xylenes: 0.108 MW-14 (4'-6') Total Xylenes: 0.727

Electronic Filing: Received, Clerk's Office 17, 26, 2017-084) R. 548

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 discose 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 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 5/57.17). This form has been approved by the Forms Management Center.

## Illinois Environmental Protection Agency **Leaking Underground Storage Tank Program** SSL Input Parameters for Use with Tier 2 Calculations

A.	Site Identification						
	IEMA Incident # (6- or 8-digit): 923441						
	Site Name: Illico Independent Oil Company						
	Site Address (not a P.O. Box): 3712 University Street						
	City: Peoria County: Peoria Zip Code: 61614						
	Leaking UST Technical File						
В.	Tier 2 Calculation Information						
	Equation(s) Used (ex: S12, S17, S28): S28/S18: Soil Leaching to Groundwater - Naphthalene						
	Contact Information for Individual Who Performed Calculations:Joe Buhlig - Project Manager						
	Marlin Environmental, Inc. Phone: (217) 726-7569						
	Land Use: not applicable Soil Type: Silty Clay						
	Groundwater:  ▼ Class I						
	Mass Limit:  ☐ Yes  ☐ No If Yes, then Specify Acreage:  ☐ 0.5  ☐ 1  ☐ 2  ☐ 5  ☐ 10  ☐ 30						
	- 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						

Symbol			Unit	Symbol			Unit
AT (ingestion)	=		yr	da	=		m
AT (inhalation)	=		yr	d <sub>s</sub>	=	2.4384	m
AT <sub>c</sub>	=	70	yr	D <sub>A</sub>	=		cm²/s
BW	=		kg	D <sub>i</sub>	=		cm²/s
C <sub>sat</sub>	=		mg/kg	D <sub>w</sub>	=		cm²/s
C <sub>w</sub>	=		mg/L	DF	=	20	unitless
d	=		m	ED (ingestion carcinoger	on of =		yr

| Electronic Filing: Received, Clerk's Officeid | 2017-084 | R. 549 | Incident #: 923441 | Chemical: Naphthalene | Land Use: not applicable

Symbol			Unit	Symbol			Unit
ED (inhalation of carcinogens)	=		yr	K <sub>oc</sub>	=		cm³/g or L/kg
ED (ingestion of noncarcinogens)	=		yr	Ks	=		m/yr
ED (inhalation of noncarcinogens)	=		yr	L	=		m
ED (ingestion of groundwater)	=		yr	PEF	=		m³/kg
ED <sub>M-L</sub>	=	70	yr	PEF'	=		m³/kg
EF	=		d/yr	Q/C (VF equations)	=		(g/m²-s)/ (kg/m³)
F(x)	=	0.194	unitless	Q/C (PEF equations)	=		(g/m²-s)/ (kg/m³)
$f_{oc}$	=		g/g	RfC	=		mg/m³
$GW_{obj}$	=		mg/L	RfD <sub>o</sub>	=		mg/(kg-d)
H'	=		unitless	S	=		mg/L
i	=		m/m	SF <sub>o</sub>	=		(mg/kg-d) <sup>-1</sup>
1	=	0.3	m/yr	Т	=		S
I <sub>M-L</sub>	=	0.18	m/yr	T <sub>M-L</sub>	=	30	yr
IF <sub>soil-adj</sub>	=	114	(mg-yr)/(kg-d)	THQ	=	1	unitless
$IR_{soil}$	=		mg/d	TR	=		unitless
IR <sub>w</sub>	=		L/d	U <sub>m</sub>	=	4.69	m/s
К	=		m/yr	URF	=		(µg/m³)-1
K <sub>d</sub> (non-ionizing organics)	=	1. 1.2	cm³/g or L/kg	Ut	=	11.32	kg/m³
K <sub>d</sub> (ionizing organics)	=		cm³/g or L/kg	V	=	_	unitless
K <sub>d</sub> (inorganics)	=		cm³/g or L/kg	VF	=		m³/kg

Incident #: 923441 Chemical: Naphthalene Land Use: not applicable

Symbol		Unit
VF'	=	m³/kg
VF <sub>M-L</sub>	=	m³/kg
VF' <sub>M-L</sub>	=	m³/kg
η	=	L <sub>pore</sub> /L <sub>soil</sub>
$\theta_{a}$	=	$L_{air}/L_{soil}$

Symbol			Unit
θ <sub>w</sub>	=		$L_{water}/L_{soil}$
Рь	=	1.684	kg/L or g/cm <sup>3</sup>
ρ <sub>s</sub>	=		g/cm <sup>3</sup>
ρ <sub>w</sub>	=	1	g/cm <sup>3</sup>
1/(2b+3)	=		unitless

Equation		Result	Unit(s)
S1	=		mg/kg
S2	=		mg/kg
S3	=		mg/kg
S4	=		mg/kg
S5	=		mg/kg
S6	=		mg/L
<b>S</b> 7	_		mg/kg
S17	=		mg/kg
S28	=		mg/kg
S29	=		mg/L

# Source Area Concentration Values: (mg/Kg)

SB-11 (7'-8') Naphthalene: 4.83 SB-15 (5'-6') Naphthalene: 5.34 SB-17 (6'-7') Naphthalene: 45.3 SB-18 (6'-7') Naphthalene: 4.18 SB-31 (4'-6') Naphthalene: 20.7 MW-12 (2'-4') Naphthalene: 4.2

# Soil to Groundwater Leachate Potential ( $GW_{obj}$ ): (mg/L)

SB-11 (7'-8') Naphthalene: 0.079 SB-15 (5'-6') Naphthalene: 0.087 SB-17 (6'-7') Naphthalene: 0.738 SB-18 (6'-7') Naphthalene: 0.068 SB-31 (4'-6') Naphthalene: 0.337 MW-12 (2'-4') Naphthalene: 0.068

### Benanti, Trent

From: Benanti, Trent

Sent: Wednesday, April 06, 2016 4:33 PM
To: Jeff Wienhoff (jeffw@marlinenv.com)
Cc: Joe Buhlig (joeb@marlinenv.com)

Subject: Leaking UST Incident #923441 - Email dated 04/05/2016 - SSL and RBCA

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

### Mr. Jeff Wienhoff:

I have reviewed the forms attached to the email dated 04/05/2016 and have the following comments:

1) The mass-limit acreage is either 1 acre or 2 acres. However, the forms titled "SSL Input Parameters for Use with Tier 2 Calculations" state that the mass-limit acreage is 0.5 acre.

Please note that mass-limit acreage is not a parameter in equation S18 or equation S28. Therefore, the forms do not need to be corrected at this time;

2) The benzene concentration in soil sample SB-11 (7'-8') is 3.980 mg/kg. Therefore, the potential concentration of benzene migrating from said soil sample is 0.065 mg/L. However, the form titled "SSL Input Parameters for Use with Tier 2 Calculations" states that the benzene concentration in soil sample SB-11 (7'-8') is 2.9 mg/kg and that the potential concentration of benzene migrating from said soil sample is 0.047 mg/L.

Please see comment #9 for further information;

3) The potential concentration of benzene migrating from soil sample SB-15 (5'-6') is 0.681 mg/L. However, the form titled "SSL Input Parameters for Use with Tier 2 Calculations" states that the potential concentration of benzene migrating from said soil sample is 0.981 mg/L.

Please see comment #10 for further information;

4) The potential concentration of benzene migrating from soil sample SB-30 (2'-4') is 0.007 mg/L. However, the form titled "SSL Input Parameters for Use with Tier 2 Calculations" states that the potential concentration of benzene migrating from said soil sample is 0.402 mg/L.

Please note that the form titled "RBCA Input Parameters for Use with Tier 2 Calculations" correctly states that the potential concentration of benzene migrating from soil sample SB-30 is 0.007 mg/L. Therefore, the error does not affect the X distance;

5) The potential concentration of benzene migrating from soil sample SB-31 (4'-6') is 0.274 mg/L. However, the form titled "SSL Input Parameters for Use with Tier 2 Calculations" states that the potential concentration of benzene migrating from said soil sample is 16.800 mg/L.

Please note that the form titled "RBCA Input Parameters for Use with Tier 2 Calculations" correctly states that the potential concentration of benzene migrating from soil sample SB-31 is 0.274 mg/L. Therefore, the error does not affect the X distance;

- 6) The naphthalene concentration in soil sample SB-11 (7'-8') is 4.63 mg/kg. Therefore, the potential concentration of naphthalene migrating from said soil sample is 0.075 mg/L. However, the form titled "SSL Input Parameters for Use with Tier 2 Calculations" states that the naphthalene concentration in soil sample SB-11 (7'-8') is 4.83 mg/kg and that the potential concentration of naphthalene migrating from said soil sample is 0.079 mg/L.
  - Please note that neither potential concentration of naphthalene exceeds the Tier 1 remediation objective. Therefore, the error does not affect the X distance;
- 7) The naphthalene concentration in soil sample SB-18 (6'-7') is 4.16 mg/kg. However, the form titled "SSL Input Parameters for Use with Tier 2 Calculations" states that the naphthalene concentration in said soil sample is 4.18 mg/kg.
  - Please note that, regardless of the whether the naphthalene concentration is 4.16 mg/kg or 4.18 mg/kg, the potential concentration of naphthalene is 0.068 mg/L. Also note that, regardless of the whether the naphthalene concentration is 4.16 mg/kg or 4.18 mg/kg, the potential concentration of naphthalene does not exceed the Tier 1 remediation objective. Therefore, the error does not affect the X distance;
- 8) The benzene concentration in groundwater sample MW-10 is 0.126 mg/L. Therefore, the X distance is 146'. However, the form titled "RBCA Input Parameters for Use with Tier 2 Calculations" states that the benzene concentration in groundwater sample MW-10 is 0.125 mg/L and that the X distance is 145';
- 9) The potential concentration of benzene migrating from soil sample SB-11 is 0.065 mg/L. Therefore, the X distance is 112'. However, the form titled "RBCA Input Parameters for Use with Tier 2 Calculations" states that the potential concentration of benzene migrating from soil sample SB-11 is 0.047 mg/L and that the X distance is 101';
- 10) The potential concentration of benzene migrating from soil sample SB-15 is 0.681 mg/L. Therefore, the X distance is 243'. However, the form titled "RBCA Input Parameters for Use with Tier 2 Calculations" states that the potential concentration of benzene migrating from soil sample SB-15 is 0.981 mg/L and that the X distance is 272';
- 11) The ethylbenzene concentration in groundwater sample MW-7 is 3.68 mg/L. However, the form titled "RBCA Input Parameters for Use with Tier 2 Calculations" states that the ethylbenzene concentration in groundwater sample MW-7 is 3.66 mg/L.
  - Please note that, regardless of the whether the ethylbenzene concentration is 3.66 mg/L or 3.68 mg/L, the X distance is 32.5';
- 12) The total xylenes concentration in groundwater sample MW-7 is 16.7 mg/L. Therefore, the X distance is 14.66'. However, the form titled "RBCA Input Parameters for Use with Tier 2 Calculations" states that the total xylenes concentration in groundwater sample MW-7 is 18.7 mg/L and that the X distance is 18.27';
- 13) The potential concentration of naphthalene migrating from soil sample SB-31 is 0.337 mg/L. Therefore, the X distance is 18.5'. However, the form titled "RBCA Input Parameters for Use with Tier 2 Calculations" states that the potential concentration of naphthalene migrating from soil sample SB-31 is 0.300 mg/L and that the X distance is 15.8';

14) The benzo(a)anthracene concentrations in the soil do not exceed the Tier 1 remediation objective for the soil component of the groundwater ingestion exposure route for sites with Class I groundwater. Therefore, the benzo(a)anthracene result from equation S18 was not used in equation R26. However, the form titled "RBCA Input Parameters for Use with Tier 2 Calculations" states that the benzo(a)anthracene result from equation S18 was used in equation R26.

Please note that the form does not need to be corrected at this time;

15) The benzo(a)anthracene concentration in groundwater sample MW-7 is 0.00018 mg/L. Therefore, the X distance is 31'. However, the form titled "RBCA Input Parameters for Use with Tier 2 Calculations" states that the benzo(a)anthracene concentration in groundwater sample MW-7 is 0.00818 mg/L and that the X distance is 260'.

Please proceed with the preparation of FIGURE 5A (EQUATION R26 MODELED EXTENTS MAP – SOIL) and FIGURE 5B (EQUATION R26 MODELED EXTENTS MAP – GROUNDWATER). I believe that FIGURE 5A (EQUATION R26 MODELED EXTENTS MAP – SOIL) should show the following X distances:

SB-11	Benzene	112'
SB-12	Benzene	37.5'
SB-13	Benzene	173'
SB-14	Benzene	51'
SB-15	Benzene	243'
SB-16	Benzene	113'
SB-17	Benzene	65'
SB-18	Benzene	143'
SB-19	Benzene	11'
SB-30	Benzene	16'
SB-31	Benzene	194'

I believe that FIGURE 5B (EQUATION R26 MODELED EXTENTS MAP – GROUNDWATER) should show the following X distances:

MW-1	Benzene	242'
MW-4	Benzene	261'
MW-7	Benzene	463'
MW-10	Benzene	146'
MW-12	Benzene	195'
MW-13	Benzene	434'
MW-14	Benzene	209'

Sincerely,

Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

E-mail: trent.benanti@illinois.gov

### Benanti, Trent

From: Benanti, Trent

Sent:Friday, April 08, 2016 3:16 PMTo:Jeff Wienhoff (jeffw@marlinenv.com)Cc:Joe Buhlig (joeb@marlinenv.com)

Subject: Leaking UST Incident #923441 - Email dated 04/08/2016

Re: LPC #1430655263 – Peoria County

Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

Mr. Jeff Wienhoff:

I have received your email dated 04/08/2016. Could you email me a waiver pursuant to 35 Ill. Adm. Code 734.505(d)? I will need time to review the site maps titled "FIGURE 5A (EQUATION R26 MODELED EXTENTS MAP – SOIL) and FIGURE 5B (SITE AREA FEATURES MAP – GROUNDWATER). I will also need time to determine how the corrections to the Site Investigation Completion Report will affect the Corrective Action Plan and Budget.

Sincerely,

Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

E-mail: trent.benanti@illinois.gov

### Benanti, Trent

From: Jeff Wienhoff <jeffw@marlinenv.com>
Sent: Friday, April 08, 2016 3:42 PM

To: Benanti, Trent Cc: Joe Buhlig

Subject: RE: Leaking UST Incident #923441

Trent,

Per our client, Illico, Inc., we would like to provide this letter to waive our right to a final decision with 120 days after submittal of the Site Investigation Completion Report dated December 14, 2015 and the Corrective Action Plan and Budget submitted December 14, 2015. This waiver is for an additional 60 days to complete your review and provide a final decision.

Should you have any questions or need additional information, please let me know.

Jeff Wienhoff, P.E.

Green Wave Consulting, LLC 3900 Wood Duck Drive, Suite F Springfield, IL 62711

Office: (217) 726-7569 x250

Cell: (217) 899-5486 www.greenwavecon.com



# Electronic Filing: Received, Clerk's Office 2/28/2017/017-084) R. 556 LLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

BRUCE RAUNER, GOVERNOR

ALEC MESSINA, ACTING DIRECTOR

217/524-3300

**CERTIFIED MAIL** 

AUG 2 5 2016

7014 2120 0002 3289 6852

Mr. David Golwitzer Illico Independent Oil Co. 2201 Woodlawn Rd., Suite 600 Lincoln, IL 62656

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co. 3712 N. University St. Leaking UST Incident #923441 Leaking UST Technical File

IEPA-DIVISION OF RECORDS MANAGEMENT

SEP **2 9** 2016

**REVIEWER: JKS** 

Dear Mr. Golwitzer:

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed the Site Investigation Completion Report and the actual costs budget for the Stage 3 site investigation submitted for the above-referenced incident. The Site Investigation Completion Report dated 12/14/2015 was received by the Illinois EPA on 12/14/2015. The actual costs budget for the Stage 3 site investigation is located in ATTACHMENT 5 of the Site Investigation Completion Report.

Pursuant to Subsections 57.7(a)(5) and 57.7(c) of the Environmental Protection Act (415 ILCS 5) (Act) and 35 Illinois Administrative Code (35 Ill. Adm. Code) 734.505(b) and 734.510(a), the Illinois EPA has determined that the requirements of Title XVI of the Act have been satisfied. Therefore, the Site Investigation Completion Report is approved. Please note that this approval was made possible by the subsequent submittal of additional information by Marlin Environmental, Inc. via email on various dates.

Pursuant to Subsections 57.7(a)(2) and 57.7(c) of the Act and 35 III. Adm. Code 734.505(b) and 734.510(b), the actual costs budget for the Stage 3 site investigation is approved for the amounts listed in Section 1 of Attachment A of this letter. However, the amount of payment from the Underground Storage Tank Fund may be limited by Subsections 57.8(d), 57.8(e), and 57.8(g) of the Act, as well as 35 III. Adm. Code 734.630 and 734.655. Please note that this approval was made possible by the subsequent submittal of amended Budget and Billing Forms by Marlin Environmental, Inc. via mail on 02/02/2016 and via email on 02/18/2016. Also note that the Illinois EPA is approving unit rates that lack supporting documentation (e.g., field vehicle, consultant latex gloves, photoionization detector, water level indicator, bailers, nylon rope, and metal detector) because the unit rates in question were previously approved as part of the proposed budget for the Stage 3 site investigation.

### Page 2

If you have any questions or need assistance, please contact Trent Benanti at (217) 524-4649.

Sincerely,

Michael T. Lowder

Unit Manager

Leaking Underground Storage Tank Section

Division of Remediation Management

Bureau of Land

Attachment (1): Attachment A

c: Mr. Joe Buhlig (Green Wave Consulting, LLC) BOL File

### Attachment A

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co. 3712 N. University St. Leaking UST Incident #923441 Leaking UST Technical File

### Section 1

# Actual Costs Budget for the Stage 3 Site Investigation

The following amounts are approved:

Drilling and Monitoring Well Costs
Analytical Costs
Remediation and Disposal Costs
UST Removal and Abandonment Costs
Paving, Demolition, and Well Abandonment Costs
Consulting Personnel Costs
Consultant's Materials Costs

Handling charges will be determined at the time a billing package is reviewed by the Illinois EPA. The amount of allowable handling charges will be determined in accordance with Subsection 57.1(a) of the Environmental Protection Act (415 ILCS 5) (Act) and 35 Illinois Administrative Code (35 Ill. Adm. Code) 734.635.

Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 559 RESIDENTIAL PROPERTY COMMERCIAL PROPERTY RESIDENTIAL COMMERICAL PROPERTY PROPERTY ST. UNIVERSITY W. STRATTFORD DR. COMMERCIAL PROPERTY ż RESIDENTIAL PROPERTY OCATION W. WAR MEMORIAL DR. COMMERCIAL **PROPERTY** 140 COMMERCIAL PROPERTY APPROXIMATE SCALE: 1" = 70' SURROUNDING LAND USAGE MAP OJECT NUMBER 1382 ILLICO, INC. - UNIVERSITY Environmental 04/16 3712 N. UNIVERSITY ST. EPARED BY PEORIA, IL 61614 3935 COMMERCE DR. BUHLIG ST. CHARLES, ILLINOIS 60174 DRAWN BY: (630) 444-1933 BETTENHAUSEN ILLICO - UNIVERSITY - SLUM

### Benanti, Trent

From: Benanti, Trent

Sent: Wednesday, September 28, 2016 2:41 PM

To: jeffw@greenwavecon.com

Subject: Leaking UST Incident #923441 - Corrective Action Plan - FIGURE 1 (SURROUNDING LAND

**USAGE MAP)** 

Attachments: FIGURE 1 (SURROUNDING LAND USAGE MAP).pdf

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

Mr. Wienhoff:

On 04/04/2016, you emailed a new FIGURE 1 (SURROUNDING LAND USAGE MAP) to me. Please note that the new FIGURE 1 dated 04/2016 replaces the old FIGURE 1 dated 12/2015. Also note that the Site Investigation Completion Report dated 12/14/2015 and the Corrective Action Plan dated 12/14/2015 contain the old FIGURE 1 dated 12/2015. Please make sure that future plans and reports contain the new FIGURE 1 dated 04/2016. A copy of the new FIGURE 1 dated 04/2016 is attached.

Sincerely,

Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

E-mail: trent.benanti@illinois.gov

### **LUST TECHNICAL REVIEW NOTES**

Reviewed by: Melinda Friedel

Date: 18 November 2016

LPC #1430655263 -- Peoria Co.

Peoria / Illico Independent Oil Company

**3712 University Street** 

LUST Incident #923441 & 20160095

**LUST Technical Review Notes** 

### **Document(s) Reviewed:**

12/14/15 CAP & Budget received 12/14/15 (prepared by Marlin Environmental, Inc.)

### General Site Information:

IEMA date(s): 12/3/92 & 1/28/16

Size & Product of Tanks: (1) 12,000 gal gasoline, (1) 6,000 gal gasoline & (1) 4,000 gal diesel fuel UST currently

located on-site

UST System Removed (Y/N): Y -- (3) 12,000 gal gasoline, (1) 12,000 gal diesel fuel & (1) 6,000 gal kerosene UST

removed 1/28-29/16

Encountered Groundwater (Y/N): Y

Free Product (Y/N): N

Current/Past Land Use: active gasoline service station

Reimbursement (Y/N/unknown): Y

OSFM Fac. ID #3-007188

SWAP Eval Completed: Y -- 11/18/16

Site located in an EJ area: Y

Investigation of indoor inhalation exposure route required: Y

MTBE >40 ppb in GW: n/a

IEPA - DIVISION OF RECORDS MANAGEMENT RELEASABLE

DEC 08 2016

REVIEWER EAV

### **Review Note Comments:**

3/1/16 Misc. Corres. for 20160095 received 3/4/16 (prepared by Marlin)

- notice of release letter sent 2/29/16 regarding this incident; release reported at the request of an OSFM representative present during removal of 5 USTs from the subject site based on his observation of petroleum contamination around the USTs & associated piping; USTs were being removed as part of a previously submitted CAP for 923441; "The subject USTs were previously determined to have released during that incident. Therefore, it is appropriate to determine IEMA 20160095 as a re-reporting of EIMA #923441 as no release has occurred."

8/25/16 Agency Review Letter approving SICR; Stage 3 actual costs approved for the following: \$1,486.97 for drilling/MW costs, \$1,395.32 for analytical costs, \$15,511.96 for consulting personnel costs & \$604.80 for consultant's materials costs

### 12/14/15 CAP & Budget received 12/14/15 (prepared by Marlin)

- material released was gasoline, diesel & kerosene
- proposed on-site soil remediation includes removal of 5 USTs & piping to eliminate the contaminated source soils; conventional technology remediation of contaminant plume in excess of calculated Tier 2 SROs, taking into account an on-site potable well restriction & indus/comm land use limitation; soils defined as impacted in excess of the Tier 1 SROs, but below calculated Tier 2 SROs, will remain in-place on-site; soil contamination that has migrated beneath the adjacent ROW of North University St & W. War Memorial Drive will be addressed with a HAA with the City of Peoria & IDOT; commercial property to the W of N. University St. will be addressed by access denial
- GW... shortly after soil excavation activities have been completed, MW-4 will be reinstalled; approx. 2 weeks following completion of backfilling activities, each existing well will be resampled to update modeling data; GW contamination will be addressed through ICs; water surrounding the USTs & throughout the excavation have the potential to exhibit free product conditions due to saturated soil contamination levels; free product conditions will be removed from the base of the excavation during excavation activities; HAA will be sought for GW contamination beneath the ROW of North University St. & West War Memorial Dr.; contamination that has the potential to affect the commercial property to the W will be addressed through access denial
- areas of the site to be remediated include surrounding the USTs & associated piping will be removed to a depth of 8 & 13' below grade (excavation depicted on map)
- USTs & contaminated backfill to be removed to access soils contaminated above Tier 2 SROs & remove the source of contamination; currently (4) 10,000 gal (NOTE: should be 12,000 gal) & (1) 6,000 gal USTs at the subject site

- entire excavation to be to an approx. depth of 8' bgl; if saturated zone is contacted, excavation of impacted soils will be halted at that depth; due to the size of the USTs (12,000 & 6,000 gal), tank pit area will be excavated to 13' bgl to remove the tanks & contaminated backfill surrounding them
- soil confirmation samples for BTEX & PNA analysis to be collected at 20' intervals; TACO eqn. S28 to be used to assess soil migration to GW
- residual highly contaminated GW & GW exhibiting a sheen encountered in the excavation cavity will be recovered with a vacuum tanker truck & transported for proper off-site disposal
- once soil remediation has concluded, excavation cavity will be backfilled with suitable clean materials; on-site areas to be restored to pre-excavation conditions with concrete pavement replaced in areas where it currently exists; after site has been returned to pre-excavation conditions, consultant will reinstall MW-4
- 1 final round of GW confirmation samples to be collected to measure the effect the soil remediation has had on GW; remaining soil & GW contamination will be modeled using eqns. S28 & R26 to determine potential long-term extents of GW contamination; anticipate a significant amount of source removal will result in reduction of GW contaminant levels
- HAA will be sought & executed for the ROW of West War Memorial Drive with IDOT & North University Street with the City of Peoria; access denial affidavit will be submitted with the CACR for commercial property to the W
- approx. 1,640 yds<sup>3</sup> of contaminated soil will be excavated & properly disposed (along with removing the USTs)
- approx. 2 weeks following completion of backfill activities, Marlin will return to the site & collect a final round of GW samples
- proposed CAP will address soil contamination above Tier 2 objs. along with highly contaminated GW at the site & address other remaining contamination through an on-site potable well restriction, indus/comm land use restriction, CWCS, HAA & access denial affidavit
- process of obtaining HAAs will be initiated after MW network is sampled approx. 14 days following backfilling
  activities; following receipt of executed HAAs, CACR will be prepared & MWs will be abandoned after issuance of
  the NFR letter
- subject site is currently an active gasoline service station; neighboring properties consist of commercial & residential properties; site & surrounding area likely to retain similar usage post-remediation
- water supply well survey provided in previously submitted reports
- total CAP budget of \$297,506.46 includes \$2,165.46 for drilling/MW costs, \$14,539.38 for analytical costs, \$185,626.35 for remediation/disposal costs, \$19,516.50 for UST removal/abandonment costs, \$27,281.14 for paving/demo/well abandonment costs, \$43,476.63 for consulting personnel costs & \$4,901.00 for consultant's materials costs

PM Recommendation/Comments: CAP & budget denied -- proposing remediation of soils already shown to meet Tier 2 objs.; need to calculate remediation objs. based on mass-limit eqns. and non-M-L in order to determine the most restrictive objs. for a site; since both of these scenarios would be equally protective, the larger value would become the site-specific remediation obj.; based on info provided, the only reported sample locations at the subject site that exceed Tier 2 indus/comm remediation objs. would be SB-4, 17 & 31; proposed removal of the UST system along with 1,640 yds<sup>3</sup> of contaminated soil exceeds the min. reqs.; budget rejected since the associated plan has not been approved; need to provide additional details regarding incident #20160095 (including soil sample results collected from the excavation at the time of UST removal)

Response due: 90 days

LPC 1430655263 - Peoria County Peoria / Illico Independent Oil Company 3712 University Street Leaking UST Incident No. 923441 & 20160095 Leaking UST Technical File

### Right-to-Know Evaluation

The Bureau of Land site identified above has been reviewed. A check mark next to any one of the following criteria indicates further evaluation of the site is necessary.

<u>CRIT</u>	ERIA:
П	Groundwater contamination is measured or modeled to exceed, within the setback zone or regulated recharge area of a potable Community Water Supply (CWS) well, or setback zone of a private well or non-CWS well, either TACO Tier 1 groundwater remediation objectives under Part 742, Appendix B, Table E or Class I groundwater standards under Part 620; or   Five or fewer properties   More than five properties
<u>D</u> .	Measured off-site groundwater contamination from volatile chemicals from the site where a release occurred poses a threat of indoor inhalation exposure above appropriate Tier I remediation objectives for the current use of the site; or   Five or fewer properties   More than five properties
	Soil contamination exceeding applicable remediation objectives for the soil component of the groundwater ingestion route is modeled to exceed, within the setback zone or regulated recharge area of a potable Community Water Supply (CWS) well, or setback zone of a private well or non-CWS well, either TACO Tier 1 groundwater remediation objectives under Part 742, Appendix B, Table E or Class I groundwater standards under Part 620; or    Five or fewer properties   More than five properties
	Contaminated soil is measured off-site to exceed the appropriate Tier 1 remediation objectives based on the current use of the off-site property; or $\Box$ Five or fewer properties $\Box$ More than five properties
П	Measured off-site soil gas contamination from the site where the release occurred poses a threat of exposure above the appropriate Tier 1 remediation objectives for the current use of the site: or    Five or fewer properties   More than five properties
	BOL refers a matter to the Division of Legal Counsel for enforcement under Section 43(a) of the Act; or
П	BOL refers a site to the Division of Legal Counsel for issuance of a seal order under Section 34(a) of the Act.
Comme	ents:
	At least one of the above criteria is met and the above-identified site must be further evaluated.
Г	Insufficient information submitted to make an adequate RTK decision.
<b>.</b>	None of the above criteria are met and the above-identified site does not warrant any further evaluation.
Project l	Manager Signature: Melinda Friedel Date: 11/22/16

# **VI Incomplete Pathway Checklist**

Reviewed by: Melinda Date Reviewed: Novem		LPC #1430655263 Peoria County Peoria / Illico Independent Oil Company 3712 University Street Leaking UST Incident No. 923441 Leaking UST Technical File				
SECTION 1	•					
Yes x No	Is there free product exceeding one-eighth of an inch in depth as measured in a groundwater monitoring well?					
x Yes	Do laboratory analytical results indicate concentrations of indicator contaminants as a result of the release from the UST that exceed the soil saturation ( $C_{sat}$ ) limit as determined at 35 Ill. Adm. Code 742.220?					
x Yes	Is there contaminated groundwater (i.e., based upon laboratory analytical results [actual measured concentrations], levels of indicator contaminants as a result of the release from the UST that exceed Tier 1, Class I groundwater remediation objectives for the groundwater component of the groundwater ingestion route at 35 Ill. Adm. Code 742.Appendix B.Table E)?					
If "No" or "N/A" is checkin Section 4) of this checkin		ve questions, continue with the final question				
If "Yes" is checked for a in Section 2 to assess the		e questions above, continue with the questions				
SECTION 2	•					
☐ Yes x No ☐ N/A	contaminated groundwater	ast five feet of uncontaminated soil between and the lowest point of an overlying receptor ation, slab, or crawl space) or ground ying receptor?				
Yes No	C <sub>sat</sub> soil or free product in lowest point of an overlying	ast 15 feet of uncontaminated soil between a groundwater monitoring well and the ng receptor (building basement, foundation, bund surface if there is no overlying receptor?				

If "No" is checked for either or both of the above two questions, investigation of PVI (via the indoor inhalation exposure route in accordance with Part 742) is required. Continue with

Page	2		
			formational purposes only, then go to the Conclusion section and check at investigation of PVI is required.
			r either or both of the above two questions, continue with the question(s) in potential for PVI.
SEC	TION 3		
	Yes	x No	Are there natural or man-made pathways that may allow migration of vapors to indoor receptors?
If "N	lo" is ch	ecked, co	ntinue with the question in Section 4 to assess the potential for PVI.
If "Y	es" is ch	necked, co	ontinue with the following question.
[	Yes	x No	Has the UST owner or operator provided a 20-Day Certification?
Cont	inue wit	h the ques	stion in Section 4 to assess the potential for PVI.
SEC	TION 4		
	Yes	x No	Are there petroleum vapors in buildings as a result of the release from the UST?
			I gas sampling is not required. Investigation of PVI (via the indoor ute in accordance with Part 742) is not required.
		ecked, in	vestigation of PVI (via the indoor inhalation exposure route in accordance red.
CON	NCLUSI	ON	
Base	d upon t	he results	of the current review and the Illinois EPA site-specific Tier 3 evaluation:
x		igation of s required	FPVI (via the indoor inhalation exposure route in accordance with Part I.
	Invest	igation of	f PVI is not required.

### Friedel, Melinda

From:

Jeff Wienhoff <jeffw@greenwavecon.com>

Sent:

Tuesday, November 22, 2016 3:55 PM

To:

Friedel, Melinda

Subject:

[External] RE: Leaking UST Incident #923441 -- Illico in Peoria

I apologize for the inconsistency. The owner wants to limit the institutional controls to the use of industrial/commercial restrictions and a potable well restriction on-site. The inclusion of construction worker caution is section 1b. of the CAP was incorrect.

Thank you very much for picking this plan up and helping to move this site forward.

Jeff

From: Friedel, Melinda [mailto:Melinda.Friedel@Illinois.gov]

Sent: Tuesday, November 22, 2016 1:57 PM
To: Jeff Wienhoff < jeffw@greenwayecon.com >

Subject: RE: Leaking UST Incident #923441 -- Illico in Peoria

One last thing. Portions of the report reference a construction worker caution for the site and others leave that out. Please clarify exactly which institutional controls/land use limitations will be agreed upon by the property owner for use in the NFR letter. Thanks!!

From: Jeff Wienhoff [mailto:jeffw@greenwavecon.com]

Sent: Tuesday, November 22, 2016 11:01 AM

To: Friedel, Melinda

Subject: [External] RE: Leaking UST Incident #923441 -- Illico in Peoria

The entirety of the tank removal and soil excavation activities in the proposed CAP have been implemented. This includes the collection of the soil confirmation samples as proposed. It was completed prior to the installation of the new USTs. The owner decided to go ahead with the work in advance of the approval based on his needs for the property.

No we have not done additional checks on MW-7 since the CAP submittal and one gauging event where it was no longer present.

Jeff

From: Friedel, Melinda [mailto:Melinda.Friedel@Illinois.gov]

Sent: Tuesday, November 22, 2016 10:48 AM To: Jeff Wienhoff < <a href="mailto:ieffw@greenwavecon.com">ieffw@greenwavecon.com</a>

Subject: RE: Leaking UST Incident #923441 -- Illico in Peoria

Sorry. More questions.

When the 5 tanks were removed in January 2016, were there any soil confirmation samples taken from the excavation-limits at that time? It also looks like the new tanks went in at approximately the same location. Are you just looking at digging around the new tanks for removal of additional soils as proposed in the CAP? Has there been any re-occurrence of free product in MW-7? I only saw one gauging event after reporting 0.06 feet of measurable product in 2011.

Thanks for all your help.

### Melinda

**From:** Jeff Wienhoff [mailto:jeffw@greenwavecon.com]

Sent: Friday, November 18, 2016 9:29 AM

To: Friedel, Melinda

Subject: [External] RE: Leaking UST Incident #923441 -- Illico in Peoria

Sure, I'll have to work with marlin a little today on it to get you updated info and support. Should be able to get it to you today.

Jeff

From: Friedel, Melinda [mailto:Melinda.Friedel@Illinois.gov]

Sent: Friday, November 18, 2016 9:22 AM

To: Jeff Wienhoff < jeffw@greenwavecon.com >; Joe Buhlig < joeb@greenwavecon.com >

Subject: Leaking UST Incident #923441 -- Illico in Peoria

Good morning. I was hoping you could provide justification/documentation for the requested Consultant's Materials Costs included in the CAP budget. Your help is greatly appreciated! Thanks!!

Melinda

State of Illinois - CONFIDENTIALITY NOTICE: The information contained in this communication is confidential, may be attorney-client privileged or attorney work product, may constitute inside information or internal deliberative staff communication, and is intended only for the use of the addressee. Unauthorized use, disclosure or copying of this communication or any part thereof is strictly prohibited and may be unlawful. If you have received this communication in error, please notify the sender immediately by return e-mail and destroy this communication and all copies thereof, including all attachments. Receipt by an unintended recipient does not waive attorney-client privilege, attorney work product privilege, or any other exemption from disclosure.

### Friedel, Melinda

From: Sent: Shawn Wolfe <shawnw@marlinenv.com> Friday, November 18, 2016 1:10 PM

To:

Friedel, Melinda

Cc:

'Jeff Wienhoff'; Mel @ Marlin; Bob @ Marlin

Subject:

[External] RE: Leaking UST Incident #923441 -- Illico in Peoria

Attachments:

Illico University CAB Revised Consultants Materials.pdf; 01 Mileage Springfield Office to Site.pdf; 02 BAGGIES.PDF; 03 ALCONOX.PDF; 04 DISTILLED WATER.PDF; 05 PID - MINIRAE 2000 10point6eV.PDF; 06a Digital Camera -1.pdf; 06b Digital Camera -2.pdf; 07 Measuring Wheel - ROLATAPE.PDF; 08 GLOVES.PDF; 09 Water Level - SOLINST WATER LEVEL METER.PDF; 10 Mag Locator - SCHONSTEDT GA52CX.PDF; 11 BAILERS.PDF; 12

ROPE.PDF

Hi Melinda,

Jeff asked me to forward the requested justification/documentation for the Consultant's Materials Costs. I have attached "Illico University CAB Revised Consultant's Materials" along with the justification pages for the consumable and non-consumable materials.

### A few notes:

- I have added the costs to copy the CAP and ship to the owner/operator (I believe the report was hand-delivered to the IEPA)
- The field vehicle has been converted from a unit day rate to mileage
- I have removed the Consulting Field Sampling Equipment line item and replaced with some of the consumable materials that were part of that line item, since that entry has long been denied due to lack of justification.
- I have also included costs for the digital camera and measuring wheel, which have been denied as so-called "indirect" costs. Please note that the Illinois Pollution Control Board has recently ruled on a case (PCB 2016-103) determining that charging for the use of a digital camera to document field activities is not an indirect Corrective Action cost for equipment. I believe the same decision will be made in regards to the measuring wheel when those cases are ruled upon.

Please let me know if you have any questions specific to the consultant's materials.

Thanks and have a great weekend, Shawn

Shawn D. Wolfe

Senior Project Manager

Marlin Environmental Consulting, LLC

**From:** Jeff Wienhoff [mailto:jeffw@greenwavecon.com]

Sent: Friday, November 18, 2016 10:30 AM

To: Shawn Wolfe

Subject: FW: Leaking UST Incident #923441 -- Illico in Peoria

Jeff

From: Friedel, Melinda [mailto:Melinda.Friedel@Illinois.gov]

Sent: Friday, November 18, 2016 9:22 AM

To: Jeff Wienhoff < jeffw@greenwavecon.com >; Joe Buhlig < joeb@greenwavecon.com >

Subject: Leaking UST Incident #923441 -- Illico in Peoria

Good morning. I was hoping you could provide justification/documentation for the requested Consultant's Materials Costs included in the CAP budget. Your help is greatly appreciated! Thanks!!

### Melinda

State of Illinois - CONFIDENTIALITY NOTICE: The information contained in this communication is confidential, may be attorney-client privileged or attorney work product, may constitute inside information or internal deliberative staff communication, and is intended only for the use of the addressee. Unauthorized use, disclosure or copying of this communication or any part thereof is strictly prohibited and may be unlawful. If you have received this communication in error, please notify the sender immediately by return e-mail and destroy this communication and all copies thereof, including all attachments. Receipt by an unintended recipient does not waive attorney-client privilege, attorney work product privilege, or any other exemption from disclosure.

# **Consultant's Materials Costs Form**

Materials, Equipme	nt or Field Purchase	Time or - Amount Used	Rate (\$)	Unit	Total Cost		
Remediation Category	Description/Justification						
Copies - Corrective A	Action Plan & Budget	264	\$0.10	Per Page	\$26.40		
ССАР .	Copies of CAP/B (66 page	ges/copy: 2x for IEPA +	1x for Owner/C	Operator + 1x for	Consultant)		
Shipping - Corrective	Action Plan & Budget	1	\$8.00	Per Shipment	\$8.00		
ССАР	UPS Shipping of CAP/B reimbursement)	to Owner/Operator (esti	mated, only act	ual costs will be	requested for		
Field V	/ehicle .	2,352	\$0.54	Miles	\$1,270.08		
CCA-Field	168 miles/round trip: US Sampling (1 trip)	T Removal & Soil Remo	ediation (12 trip	os), Drilling (1 tri	p) & GW		
Baggies		46	\$0.08	Each	\$3.68		
CCA-Field	Soil Remediation Event	(x38), Replacement MW	Install Event (	x8) - Soil Screeni	ng		
Alco	Alconox		\$0.90	Per Packet	\$8.10		
CCA-Field	Non-Phosphate Deterger and Water Level Indicate		f Consultant's 1	Non-Disposable S	lampling Equ		
Distilled Water		. 9	\$2.08	Per Gallon	\$18.72		
CCA-Field	Decon Water for Consultant's Non-Disposable Sampling Equipment and Water Level Indicator						
Photoionization Detector "MiniRAE 2000 10.6eV"		8	\$88.00	Day	\$704.00		
CCA-Field	Soil Remediation Event	(x8), Replacement MW	Install Event (x	(1) - Soil Screenir	ng		
Digital Camera		9	\$8.00	Day	\$72.00		
CCA-Field	UST Removal and Soil I	Remediation Documenta	tion (8), Re-ins	stalling MW-4 (1)	· · · · · · · · · · · · · · · · · · ·		
Measuri	ng Wheel	7	\$10.00	Event	\$70.00		
CCA-Field	UST Removal and Soil	Remediation Measureme	nt (1), Re-insta	alling MW-4 meas	surement (1)		
Consultant Latex Gloves		2.25	\$7.94	Box	\$17.87		
CCA-Field	UST Removal and Soil measurement (~0.25 box			), Re-installing M	W-4		

### **Consultant's Materials Costs Form**

Materials, Equipme	nt or Field Purchase	Time or Amount Used	Rate (\$)	Unit	Total Cos
Remediation Category		Description/	Justification		
Water Leve "Solinist Mo		1	\$30.00	Day	\$30.00
CCA-Field	Re-installing MW-4 meass	urement (x1); Groundw	vater Sampling (x	(1)	
Certifie	ed Mail	1	\$5.00	Each	\$5.00
CCA-Field	Certified Mail charges for	Mailing City HAA			
NFR Recor	ding Costs	1	\$100.00	Each	\$100.00
CACR	NFR Recording Costs, inc reimbursement)	ludes certified copy (es	stimated, only act	tual costs will	be requested for
ELUC Reco	rding Costs	2	\$100.00	Each	\$200.00
ELUC	ELUC Recording Costs, in for reimbursement)	cludes certified copy (			l be requested
Magnetic "Schonstedt		2	\$40.00	Day	\$80.00
CCA-Field	Locating Wells and Utilitie	es			
Disposabl	e Bailers	13	\$4.77	Each	\$62.01
CCA-Field	Developing MW-4R (x1);	Water Well Sampling	(x12)		
Nylon	Rope	234	\$0.18	Foot	\$42.12
CCA-Field	Developing MW-4R (1x1)	8'); Water Well Sampli	ng (12x18')		
					\$0.00
					· · ·
					\$0.00
· ·					\$0.00
	Total of	Consultant Mate	rials Costs	\$2.7	717.98

\*Order History Detail

Electronic Filing: Received, Clerk's Office 17/28/2017 2017-084) R. 572 file:///C:/Users/USER/Pictures/Order History Detail.htm

Free Test Samples : 6-Month Quote Guarantee : Flex Pay Warehousing Call us' Li-F Buni-Spin ET 800-926-5100 Associated Bag Volume Discounts - Instant Credit - Same-Day Shipping Packaging, Shipping Search thousands of quality products! Welcome, Melanie (Sign Out) My Account ▼ Cart 0 Made in USA | New Items | Close-out Items | Quick Order Entry Product Menu 🔝 Free Catalog Ordaring & Services Product Information About Us Billing Information Order details Billing address Order number: E431749 Martin Environmental Inc. Purchase order: LOPICCOLO 1/21-3935 Commerce Drive Wednesday, January 21, 2015 Saint Chades, IL 60174 Billing method Credit Card Item Description Unit Price Quantity AMEX - ending in 1136 Price 6" x 9" Our Own Brand Write-on® Zipper Bag with Hang. Delivery Information \$64,048 \$192.14 Item Number: 277-4-06W Delivery address (Add to Cart) Marlin Environmental Inc. 3935 Commerce Drive Subtotal: \$192.14 Saint Charles, IL 60174 If you are tax exempt, please e-mail accounting@assoc atedbag com or Shipping: Delivery method call 800-926-4613 and we will deduct tax from your order. UPS Ground Sales Tax (IL): \$12.01 Order Total: \$217.93 Bags | Boxes | Bubble | Envelopes | Liners | Mailers | Paper | Strapping | Tape | Ties | Tubing | Vinyl More Products **Customer Service** Made in USA Free Catatog Locations New Items Online Catalog Careers Terms & Conditions Close-out Items Contact Us Quick Order Entry Privacy Policy Site Map Call us: M-F 8am-8pm ET 800-926-6100 © 1998-2016 Associated Bag



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ACCOUNT ACTIVITY For questions or a report on water quality and information, call 1-800-274-5282 or visit eservice.readyrefresh.com.

## DATE REFERENCE # QTY DESCRIPTION

		Delive	ry address: MARLIN ENVIRONMENTAL, 3935 COMMERCE DRIVE, SAINT CHARLES IL 60174	
10/03	590033	i	PREVIOUS BALANCE PAYMENT-THANK YOU	90.14 -90.14
10/29	0959064189	12 12 2 12	5 GAL ICE MOUNTAIN DRK WIHANDLE 5 GALLON ICE MOUNTAIN BOTTLE DEPOSIT 1 GAL ICE MT DIST WIFRONT HANDLE 5 GALLON ICE MOUNTAIN DEPOSIT RETURN	106.56 .00 23.98 -72.00
10/31	0966565533	1	DELIVERY FEE	3.95
,			SALES TAX	2.59
			TOTAL	65.08

PER YOUR INSTRUCTIONS, WE WILL BE CHARGING THE AMOUNT DUE TO YOUR DESIGNATED PAYMENT SOURCE. NO ACTION IS NECESSARY.

ACCOUNT SUMMARY

Subject to terms on reverse side.

PAYMENT / ADJUSTMENT PREVIOUS BALANCE **CURRENT ACTIVITY PAY THIS AMOUNT** 90.14 65.08 65.08 Auto-Pay

Detach this stub and return with your payment

P.O. Box 856680 Louisville, KY 40285-6680

ACCOUNT NUMBER	PAY BY	PAY THIS AMOUNT
8105845997	11/22/15	AUTO-PAY
INVOICE NUMBER 15J8105845997	BILLING DATE 11/04/15	AMT. ENCLOSED

408981058459974 0006508 00065080 5

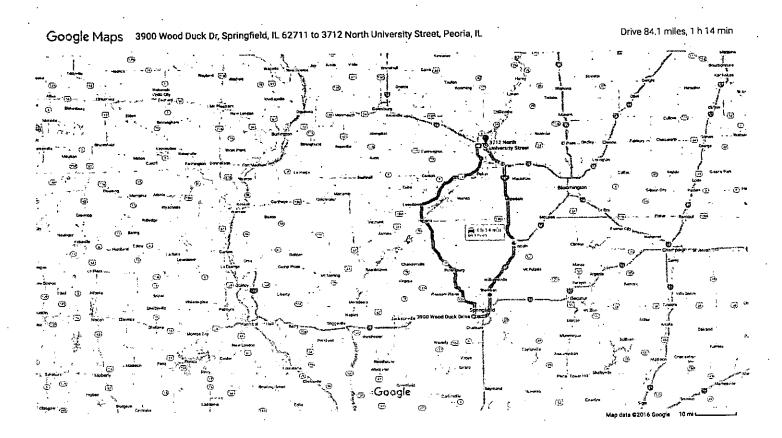
ReadyRefresh by Nestlé a Division of Nestlé Waters North America Inc. P.O. Box 856680 Louisville, KY 40285-6680

MARLIN ENVIRONMENTAL 3935 COMMERCE DRIVE ST CHARLES IL 60174-5321

FO	R CUSTOMER	SERVICE CA	LL 1-800-274-5282
	- · · - · · · · · · · · · · · · ·		

SIGN UP FOR FREE AUTOPAY! Sign Up Required On Re	verse Side.	Print Any Changes On Reverse Side.

890423-040-0\*\*\* --4-D-E-C ~0005,205



#### **Melanie LoPiccolo**

From:

Unimax West <unimaxwestorder@gmail.com>

Sent:

Wednesday, July 16, 2014 12:10 PM

To:

Melanie Lo Piccolo

Subject:

Order #116481 from Unimax West shipped on 7/16/2014.

Dear Melanie Lo Piccolo.

Thank you for shopping at Unimax West! We are happy to report that your order, number 116481, shipped on 7/16/2014. To view further details regarding this order, please visit your order status page.

#### **Invoice**

INSTRUMENT CLEANING	Detergents for Cleaning Instruments # MC-1118 Alconox 50 Packettes \$ 39.95	3	\$39.95	\$119.85	Melanie Lo Piccolo 3935 Commerce Driv Saint Charles, IL 601 630-444-1933 x 10 Ship Via: <b>UPS Ground</b> Tracking Number: 1z60117x0340200
		Subtotal Sales Tax Shipping Order Tota		\$119.85 \$0.00 \$13.00 \$132.85	<u>Reorder</u> <u>Package Tracking</u>

Again, thank you for shopping with us.

Unimax West http://www.unimaxwest.com (866) 909-1944 unimaxwestorder@gmail.com

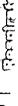
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## Photoionization Detectors (PID) - RAE Legacy Instruments





### RAE Systems MiniRAE 2000 Photoionization Detector (PID)

RAE Systems' MiniRAE 2000 is a programmable personal volatile organic compound (VOC) detector that provides individualized protection when working in hazardous environments that require continuous monitoring of exposure to organic vapors.

Part Number	Unit Description		Daily	Weekly	Monthly
405-0062	MiniRAE 2000 PID, 10.6 eV Lamp		\$88.00	\$264.00	\$792.00
405-1000	MiniRAE 2000 PID, 10.6 eV Lamp; Wirele	SS	\$88,00	\$264.00	\$792.00
405-0014	MiniRAE Dilution Probe		\$14.00	\$42.00	\$126.00
455-1003	RAELink2 Remote Wireless Receiver		\$47.00	\$141.00	\$423.00
455-1004	RAELink2 Remote Wireless Transmitter		\$47.00	\$141.00	\$423,00
405-0002	11.7 eV Lamp (MiniRAE 2000 PID) A	dd on:	\$25.00	\$75.00	\$225.00
402-0001	Regulator, Demand Flow			Charge with	

ental Includes: MiniRAE 2000, Probe, External Filter, Strap, Battery Adapter, 4-Piece Tool Kit, RAE Suite Software, Regulator, User Manual, and Carrying Case.



#### RAE Systems ppbRAE Photoionization Detector (PID)

A sensitive hand-held volatile organic compound (VOC) monitor with true parts per billion (ppb) detection of extremely low level, low vapor pressure and highly toxic VOCs such as nerve agent, pesticide residues and low level permeation breakthrough detection.

#### Rental Information:

Part Number	Unit Description	Daily	Weekly	Monthly
405-1001	ppbRAE, NiMH, 10.6 eV Lamp	\$140.00	\$420.00	\$1,260.00
402-0001	Regulator, Demand Flow	No Charge with Rental		•

Rental Includes: ppbRAE, Probe, External Filter, Strap, Battery Adapter, 4-piece Tool Kit, Software, Cable, Regulator, User Manual, and Carry Case.



#### **RAE Systems Ultra RAE** Photoionization Detector (PID) & Benzene Monitor

The UltraRAE monitor, displays and datalogs toxic vapors in the workplace and potentially hazardous environments. UltraRAE combines both a patented photoionization detector (PID) and a vapor specific separation tube (RAE-SEP™ tube). The first of a series of field-replaceable, bar coded RAE-SEP tubes analyzes specifically benzene. An improved PID design, with new 9.8 eV lamp detects benzene down to sub ppm levels.

#### Rental Information:

Part Number	Unit Description	Daily	Weekly	Monthly
405-0012	Ultra RAE PID/Benzene Monitor	\$105.00	\$315.00	\$945.00
402-0001	Regulator, Dernand Flow	· No	Charge with	Rental

Rental Includes: UltraRAE PID / Benzene Monitor, Philips Screwdriver, Datalogging Cable, Charger/AC Adapter, Benzene Tubes Set, Top Cap, Tubing (0.118" I.D. X 0.158" O.D.), Yellow Rubber Boot, RAESuite, Regulator, User Manual, and Carrying Case.

#### Purchase Support Accessories:

Part Number	Unit Description
	A1111 DE3015101

RAE012-3022-010 Benzene Separation Tubes for UltraRAE Series Monitor (10 tubes/box)

#### FREE Calibration Gas Offer

Receive one free 17L cylinder of Isobutylene calibration gas with rental of the RAE Legacy PID units for one week or more. Customer is responsible for Hazardous Shipment costs.



Canada Online: argus-hazco.ca US Online: argus-hazco.com

### ILLINOIS ENTINO ROMENTA POPORE VET A POPORE TO



1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

BRUCE RAUNER, GOVERNOR

ALEC MESSINA, ACTING DIRECTOR

217/524-3300

**CERTIFIED MAIL** 

NOV 2 9 2016

7014 2120 0002 3292 0854

Illico Independent Oil Co. Attention: David Golwitzer 2201 Woodlawn Rd., Suite 600 Lincoln, Illinois 62656

Re:

LPC #1430655263 -- Peoria County Peoria / Illico Independent Oil Company

3712 University Street

Leaking UST Incident No. 923441

Leaking UST Technical File

PA-DIETROF RECORDS TANAGEMENT RELSANGE DEC 08 2016 REVIEWS

Dear Mr. Golwitzer:

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed the Corrective Action Plan (plan) submitted for the above-referenced incident. This plan, dated December 14, 2015, was received by the Illinois EPA on December 14, 2015. 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 plan and the associated budget are rejected for the reason(s) listed below (Sections 57.7(b) and 57.7(c) of the Act and 35 Ill. Adm. Code 734.505(b), 734.510(a) and 734.510(b)).

The plan is rejected for the following reason(s):

1. In approving any plan submitted pursuant to Section 57.7(a) or (b) of the Act, the Illinois EPA shall determine, by a procedure promulgated by the Illinois Pollution Control Board (Board) under Section 57.14 of the Act, that the costs associated with the plan are reasonable, will be incurred in the performance of site investigation or corrective action, and will not 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.

For purposes of payment from the Fund, corrective action activities required to meet the minimum requirements of Title XVI of the Act shall include, but not be limited to, the following use of the Board's Tiered Approach to Corrective Action Objectives rules adopted under Title XVII of the Act:

- a. For the site where the release occurred, the use of Tier 2 remediation objectives that are no more stringent than Tier 1 remediation objectives.
- b. The use of industrial/commercial property remediation objectives, unless the owner or operator demonstrates that the property being remediated is residential property or being developed into residential property.

9511 Harrison St., Des Plaines, il. 6001 à (847) 294-4000 412 SW Washington St., Suite D, Peorla, il. 61602 (309) 671-3022 2309 W. Main St., Suite 116, Marion, il. 62959 (618) 993-7200 100 W. Randolph, Suite 10-300, Chicage, il. 60601

#### Page 2

- c. The use of groundwater ordinances as institutional controls in accordance with Board rules.
- d. The use of on-site groundwater use restrictions as institutional controls in accordance with Board rules.

(Section 57.7(c)(3)(A) of the Act)

The proposed corrective action strategy consists of removing soils already shown to meet applicable Tier 2 remediation objectives. The owner/operator must calculate Tier 2 remediation objectives based on the mass-limit equations and non-mass-limit equations in order to determine the most restrictive objectives for a site. Since both scenarios would be equally protective of human health and the environment, the larger value would become the site-specific remediation objective. Based on the information provided, the only reported sample locations at the subject site that exceed Tier 2 industrial/commercial remediation objectives and/or site-specific soil saturation limits would be SB-4/MW-4, SB-17 and SB-31.

The plan budget is rejected for the following reason(s):

- 1. The Illinois EPA has not approved the plan with which the budget is associated. Until such time as the plan is approved, a determination regarding the associated budget—i.e., a determination as to whether costs associated with materials, activities, and services are reasonable; whether costs are consistent with the associated technical plan; whether costs will be incurred in the performance of corrective action activities; whether costs will not be used for corrective action activities in excess of those necessary to meet the minimum requirements of the Act and regulations, and whether costs exceed the maximum payment amounts set forth in Subpart H of 35 Ill. Adm. Code 734—cannot be made (Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.510(b)).
- 2. The budget includes costs for UST removal and soil excavation activities, which exceed the minimum requirements necessary to comply with the Act. Costs associated with site investigation and corrective action activities and associated materials or services exceeding the minimum requirements necessary to comply with the Act are not eligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(o).
- 3. The budget includes costs associated with on-site corrective action to achieve remediation objectives that are more stringent than the Tier 2 remediation objectives developed in accordance with 35 Ill. Adm. Code 742. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(aaa). In addition, such costs are not approved pursuant to Section 57.7(c)(3) of the Act because they will 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.

#### Page 3

The budget includes costs that lack supporting documentation. Such costs are ineligible 4. for payment from the Fund pursuant to 35 III. 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 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. The budget includes site investigation or corrective action costs for use of a digital camera and measuring wheel 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). Additional information regarding justification for the proposed charges for use of a digital camera and measuring wheel was requested via e-mail and has not been received. An explanation should also be submitted concerning Environmental Land Use Control (ELUC) recording costs included in the proposed budget even though there was no ELUC proposed in the corrective action strategy for the subject site.

The Illinois EPA has the following additional comment at this time:

 Additional information is necessary regarding Leaking UST Incident #20160095 prior to demonstrating that this release is a re-reporting of incident #923441. Analytical results should be provided for soil confirmation samples collected in accordance with 35 Ill. Adm. Code 734.200(h) for comparison with previously obtained sample results from similar locations.

Pursuant to Sections 57.7(b) and 57.12(c) and (d) of the Act and 35 III. Adm. Code 734.100 and 734.125, a plan and/or budget must be submitted within 90 days of the date of this letter 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.

#### Page 4

If you have any questions or need further assistance, please contact Melinda Friedel, P.E. at 217/785-5736 or melinda.friedel@illinois.gov.

Sincerely,

Michael T. Lowder

Unit Manager

Leaking Underground Storage Tank Section

Division of Remediation Management

Bureau of Land

Attachment: Appeal Rights

c: Jeff Wienhoff / Green Wave Consulting, LLC (electronic copy),

jeffw@greenwavecon.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 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:

John Therriault, Assistant Clerk 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 Post Office Box 19276 Springfield, IL 62794-9276 217/782-5544

#### Benanti, Trent

From: Friedel, Melinda

Sent: Tuesday, December 20, 2016 11:12 AM

To: Jeff Wienhoff

Cc: Benanti, Trent; Lowder, Mike

Subject: RE: Leaking UST Incident #923441 -- Illico site on Univerity St. in Peoria

Good morning. Looks like I missed that there was a Tier 2 exceedence at SB-15 (5-6'); thank you for bringing that to my attention. Please note that this does not change the overall review decision since the December 2015 CAP still proposed removal of soils that meet the applicable Tier 2 objectives. The November 2016 review letter constitutes the final decision by the Illinois EPA on that CAP, so you would need to appeal the decision if you are in disagreement.

There is also the option of submitting a CAP Addendum that addresses a more refined scope of work that only includes areas with identified Tier 2 exceedences. The originally proposed excavation area includes removal of soils at SB-15 (3.5-5') and SB-18, which are already below Tier 2 objectives. That submittal would be considered a separate report and subject to the review timeframes for any newly submitted report.

Please let me know if there are any additional questions. Happy Holidays!!

#### Melinda

----Original Message-----

From: Jeff Wienhoff [mailto:jeffw@greenwavecon.com]

Sent: Friday, December 16, 2016 1:09 PM

To: Friedel, Melinda

Subject: [External] RE: Leaking UST Incident #923441 -- Illico site on Univerity St. in Peoria

#### Melinda,

I do appreciate you picking this up and moving it forward and I'm replying to you since I know you've already put the effort into reviewing this CAP thoroughly. With regards to you technical comment, running the Tier 2 inhalation for the non-mass limit method for benzene (the exceeded contaminant at SB-15), SB-15 still remains above Tier 2 objectives and requires remediation. I have attached the calculation and revised tables. It was the only sample location that your letter indicated would change from above objectives to below objectives. With this being the case, is it possible for you to complete the review that you started, since a re-submitted CAP wouldn't have any changes?

As for the reimbursement questions, the digital camera and measuring wheel are no longer being requested and should be cut from the budget. The ELUC costs were submitted in error and should be cut from the budget.

My client had to wait a year for the initial review for nearly a year (I know this wasn't in any way your responsibility), if there's any way to avoid another complete review period, it would be much appreciated.

Thanks and Happy Holidays.

Jeff

-----Original Message-----

From: Friedel, Melinda [mailto:Melinda.Friedel@Illinois.gov]

Sent: Wednesday, November 30, 2016 2:10 PM To: Jeff Wienhoff < jeffw@greenwavecon.com>

Subject: Leaking UST Incident #923441 -- Illico site on Univerity St. in Peoria

Please find attached the review letter for the above-referenced site. Just let me know if there are any questions. Also, my guess is you should expect some follow-up comments/questions regarding this CAP from Trent Benanti since he is still the project manager for the Illinois EPA assigned to this site. Thanks!

#### Melinda

State of Illinois - CONFIDENTIALITY NOTICE: The information contained in this communication is confidential, may be attorney-client privileged or attorney work product, may constitute inside information or internal deliberative staff communication, and is intended only for the use of the addressee. Unauthorized use, disclosure or copying of this communication or any part thereof is strictly prohibited and may be unlawful. If you have received this communication in error, please notify the sender immediately by return e-mail and destroy this communication and all copies thereof, including all attachments. Receipt by an unintended recipient does not waive attorney-client privilege, attorney work product privilege, or any other exemption from disclosure.



## CORRECTIVE ACTION PLAN SOIL REMEDIATION AND TACO CLOSURE

ILLICO INDEPENDENT OIL CO.

3712 NORTH UNIVERSITY STREET
PEORIA, ILLINOIS 6164
LUST INCIDENT #923441
IEPA LPC #1430655263

Prepared for:

Illico Independent Oil Co.

Mr. David Golwitzer 2201 Woodlawn Road, Suite 600 Lincoln, Illinois 62656

Prepared by:

Green Wave Consulting, LLC 3900 Wood Duck Drive, Suite F Springfield, Illinois 62711

January 16, 2017

Jeff Wienhoff, P.E.

Senior Professional Engineer

Mike Bettenhausen

Senior Project Manager

RECEIVED

JAN 17 2017

## Electronic Filing: Received, Clerk's Office 2/2/2/2017-084) R. 585 TABLE OF CONTENTS

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#### **FIGURES**

- 1. Surrounding Land Usage Map
- 2. Site Area Features Map
- 3. Proposed Excavation Area Map

#### **TABLES**

I. Comparison of Tier 1 SRO Exceedances On-Site to Applicable Tier 2 SROs

- ATTACHMENTS
  1. TACO Calculations
- 2. CAP Budget Forms

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 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 5/57.17). This form has been approved by the Forms Management Center 1 5144 and

#### Hlinois Environmental Protection Agency Leaking Underground Storage Tank Program Corrective Action Plan

A.	Sit	te Id	lentification						
IEN	/IA	Inci	dent # (6- or	8-digit): 923441		IEPA LI	PC # (10-digit): 143065	55263	
Site	Na	ıme:	Illico In	dependent Oil Co	mpany	y			
Site	Site Address (Not a P.O. Box): 3712 University Street								
		Peo g US	oria <del>ST Technical</del>	County:_		Peoria	ZIP Code:	61614	
B.	Sit	e In	formation						
	1.			or operator seek re orage Tank Fund?		rsement from the		Yes 🛛	No 🗌
	2.	If y	es, is the bud	get attached?				Yes 🛛	No 🗌
	3.	Is t	his an amend	ed plan?				Yes 🗌	No 🛛
	4.	Ide	ntify the mat	erial(s) released: _	Ga	soline, Diesel & I	Kerosene	_	
	5.	Thi	is Corrective	Action Plan is bei	ng su	bmitted pursuant	to:		
		a.	35 Ill. Adm.	Code Section 73	1.166:				
			35 Ill. Adm.	- petroleum - hazardous substar Protection  Code Section 732  Code Section 734	Act So 2.404	ection 3.215)	JAN 17 2017		

#### C. Proposed Methods of Remediation

1. Soil On-site: Removal of the four (4) 12,000-gallon capacity and one (1) 6,000-gallon capacity underground storage tanks (USTs) and related integral product piping to eliminate the source of the contaminated soils and provide the ability to access the worst soils. Conventional technology remediation of the contaminant plume in excess of the calculated site-specific Tier 2 Soil Remediation Objectives (SROs), taking into account an on-site [ potable well restriction and the industrial/commercial use of the property, will be excavated for transport and proper disposal. Those soils defined as impacted in excess of the Pier 17 SROs, but below the calculated Tier 2 SROs, will be left to remain in-place on-site.

Soil that contains Contaminants at Concentrations greater than the Tier I ROS but less than the Tier 2 ROS may be used as backfill per Greg Dunn (05/16/17)

IEPA/BOL

Electronic Filing: Received, Clerk's Office 7/28/2017 017-084) R 587 (#1-site: The soil contamination that has migrated beneath the adjacent Right-of-Way of North University Street and W. War Memorial Dr. will be addressed with a Highway Authority Agreement through the City of Peoria and the Illinois Department of Transportation (IDOT). The commercial property to the West of N. University Street will be addressed with access denial.

The modeled extent of the groundwater contamination includes more than N. University, W. War Memorial and the property to the west See the 04/08/2016 Email.

2. Groundwater Shortly after approval of this Corrective Action Plan, monitoring well MW-4 will be reinstalled. Approximately two weeks following its installation, each existing well will be resampled to update modeling data. The groundwater contamination that exists at the site will be addressed through institutional controls. Water surrounding the USTs and throughout the excavation exhibited free product conditions due to saturated soil contamination levels. These free product conditions were removed from the base of the excavation during the excavation activities. A Highway Authority Agreement will be sought for the groundwater contamination beneath the Right-of-Way of North University St. and West War Memorial Dr. Contamination that has the potential to affect the commercial property to the west will be addressed through access denial.

- 3. Soil Gas A soil gas investigation will need to be completed in accordance with the Illinois EPA guidelines; however, it should not be completed prior to the active remediation. A single soil gas sample will be collected during the reinstallation of MW-4. At a minimum, future construction will be limited to slab-on-grade building with no sumps. The final determination of required institutional controls will be made following the collection of a soil gas sample.
- 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 extent of soil and/or groundwater contamination;

Please refer to the IEPA approved Site Investigation Completion Report (SICR) dated December 14, 2015. The site location and site features are presented as Figure 1, 2 and 3, respectively.

#### **Indoor Inhalation Exposure Route**

Green Wave Consulting, LLC (GWC) evaluated the soil and groundwater analytical results and completed an evaluation of the IEPA "VI Incomplete Pathway Checklist." Based on the current contaminant loading analytical results, it was determined that investigation of Petroleum Vapor Intrusion (PVI) via the Indoor Inhalation Exposure Route is required:

- free product exceeding one-eighth of an inch (1/8") in depth as measured in a groundwater monitoring well is not present at the site,
- the laboratory analytical results for the soil samples collected at the site above the groundwater table while drilling will not exceed the Soil Saturation Limits (Csat) as determined by 35 IAC 742.220(c) (please note these are the Tier 2 Csat values calculated as part of this plan) and therefore the interval test is not required;
- the groundwater beneath the site does exceed the most stringent IEPA TACO Tier 1 GROs, and, there is not an interval of at least five (5) feet of uncontaminated soil between the contaminated groundwater and the lowest point of an overlying receptor or ground surface.
- there are not natural or man-made pathways that may allow migration of vapors to indoor receptors and the UST owner or operator has provided a 20-Day Certification,
- petroleum vapors are not present in buildings as a result of the release from the LECEIVED

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Electronic Filing: Received, Clerk's Office 7/28/2017-084) R. 588
Based on the lack of an interval of at least five (5) feet of unconfaminated soil between the contaminated groundwater and the surface, it is determined that a soil gas sample needs to be collected. This will be discussed in proposed Section of this CAP.

2. Analytical results, chain-of-custody forms, and laboratory certifications;

Please refer to the previously submitted reports approved by the IEPA.

3. Tables comparing analytical results to applicable remediation objectives;

Please refer to the previously submitted reports approved by the IEPA along with Table I.

4. Boring logs;

Please refer to the previously submitted reports approved by the IEPA.

5. Monitoring well logs; and

Please refer to the previously submitted reports approved by the IEPA.

- 6. Site maps meeting the requirements of 35 Ill. Adm. Code 732.110(a) or 734.440 and showing:
  - a. Soil sample locations; please refer to Figure 3. FIGURE 2
  - b. Monitoring well locations; please refer to Figure 3. FIGURE 2 and FIGURE 3 only show wells from which The plume of soil and groundwater contamination based on analytical results; please refer to soil samples
  - Figure 3. FIGURE 2

#### **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

This Corrective Action Plan (CAP) has been designed to remove on-site soil in excess of the calculated Tier 2 SROs while taking into account an on-site potable well restriction and the industrial/commercial use of the property. Site-specific physical data collected during Site Investigation activities was utilized to calculate appropriate Tier 2 SROs. Table I compares the results above Tier 1 SROs to appropriate Tier 2 SROs to demonstrate compliance with TACO. The remediation areas of the site including areas surrounding the USTs and their associated piping will be removed to a depth of 8 and 13 feet below grade. The proposed areas of excavation are delineated in Figure 3.

In order to access the soils contaminated above the Tier 2 SROs and remove the source of the contamination, the UST systems at the site along with the contaminated backfill material needed to be removed. There were previously four (4) 10,000-gallon and one (1) 6,000-12,000 gallon USTs at the Illico facility. These USTs, along with the dispensers and integral product piping, are illustrated on Figure 3. Appropriate Office of the Illinois State Fire Marshal (OSFM) UST Removal Permits were obtained prior to the removal of the tanks. The USTs, pump islands and associated integral piping were decommissioned and removed as part of the necessary Corrective Actions for the facility. The USTs were pumped of any remaining residual free product associated with the USTs by a Licensed Special Waste vacuum truck and disposed off-site at a wastewater treatment facility, if/as applicable. The UST removals were supervised by a Licensed UST Decommissioner and the OSFM

Electronic Filing: Received, Clerk's Office 728/2017:017-084) Representative and will follow the procedures set forth in 41 Illinois Administrative (IAC) Part 170.670 - Removal or Abandonment in-Place of Underground Storage Tanks.

The proposed on-site excavation at approximate depths of eight (8) feet was maintained across the entire proposed excavation without significant contact with the fully present saturated zone. Due to the size of the USTs (12,000 & 6,000) the tank pit area will be excavated to thirteen (13) feet in order to remove the tanks and the contaminated backfill surrounding them.

Soil confirmation samples were collected at 20-foot intervals, per IEPA protocols. The soil confirmation sample results will be compared to the calculated Tier 2 SROs. Confirmation samples will also be modeled using the S28 equation as promulgated in 35 IAC 742, to determine the potential leaching capacity of the soil and whether or not the soil samples pose a potential future leaching threat to the shallow groundwater regime. The soil confirmation samples will be analyzed for BTEX/PNA constituents.

If not a re-report ing, then need to include MTBE.

Residual highly contaminated groundwater and groundwater exhibiting a sheen encountered within the excavation cavity was recovered utilizing a vacuum tanker truck and transported for proper disposal at a licensed TSD facility. The recovery of highly contaminated groundwater exhibiting a sheen associated with the release was required.

Once the soil remediation actions had concluded, the excavation cavity will be backfilled to grade with suitable clean materials. The on-site areas will be restored to pre-excavation conditions with the concrete pavement also being replaced in the areas where it had existed.

Once the CAP is approved, it is proposed to re-install MW-4 which was lost during excavation activities. GWC will then mobilize to the facility to collect one (1) final round of groundwater confirmation samples and measure the effect the soil remediation has on the groundwater regime. The remaining soil and groundwater contaminant levels will be modeled using Equations S28 (soil leaching) and R26 in order to determine the potential long-term extents of groundwater contamination. It is anticipated that the significant amount of source removal will result in a reduction of groundwater contaminant levels.

The modeled extent of the groundwater more than N. University. W. War Memorial, and the property to the west See the 04/08/2016 Email

A Highway Authority Agreement will be sought and executed for the Right-of-Way of West War Memorial Drive with IDOT and North University Street with the City of Peoria. This contamination includes agreement will address the contamination that has already migrated and has the potential to migrate into the Right-of-Way. An access denial affidavit will be submitted with the CACR for the commercial property to the west.

> Following the receipt of an executed Highway Authority, a Corrective Action Completion Report (CACR) will be submitted to the IEPA with, requesting issuance of a No Further Remediation letter for the incident. Upon issuance of the NFR designation from the IEPA, the owner shall record the NFR document to the title of the site with the County Recorder of The groundwater monitoring wells shall be properly abandoned, in accordance with 77 IAC 920.120, following the receipt of the NFR designation from the IEPA.

The budget for the work associated with this CAP proposal is included as Attachment 2.

#### RESPONSE TO IEPA CONCERNS

SB-4/MW-4 is not. This CAP is very similar to the IEPA CAP submitted in December 2015 and rejected in Excavate November 2016. The IEPA lone rejection point for that CAP was that only 3 samples SB-15(5<sup>1</sup>-6<sup>1</sup>) SB-4/MW-4 is < Tier 2 objectives if both mass SB-31(4'-6') limit and non-mass limit calculations were provided. This CAP shows that the only sample SB-31 replaces SB-12 outside of those locations above Tier 2 in the original CAP (SB-15 (6-82) still remains above

Electronic Filing: Received, Clerk's Office 7/28/2017/017-084) R 590 Tier 2 objectives when both calculation methods are considered. In a follow-up email, the IEPA indicated that it believed SB-18 was also proposed to be excavated in the original plan, however, that was not the case. It was not indicated in Table I as being above Tier 2 industrial/commercial Objectives and the excavation was stopped at its location.

The other IEPA concern was that the top 5' at the SB-15 location was below clean-up objectives and therefore should not be disposed off-site. While the discrete sample at SB-15 >5CGIER (3.5-5') was slightly below Tier 2 SROs, the release was from piping at that location and soils were disposed. It remains technically acceptable to dispose of those soils at a landfill, however, for the purposes of the attached CAP budget, the soils are only being budgeted as overburden to be replaced.

A schedule for implementation and completion of the plan;

Due to the needs of the current property owner, the on-site excavation and UST system removal has already been completed. The excavation has been backfilled, and surface restored. Within one month of the approval of this CAP, MW-4 will be reinstalled, the soil gas sample will be collected and the groundwater monitoring well network will then be sampled for dissolved BTEX/PNA constituents. The process of obtaining the required Highway Authority Agreement with IDOT and the City of Peoria will then be initiated.

Following receipt of the executed Highway Authority Agreement, the CACR will be prepared and submitted. Following issuance of the No Further Remediation letter, the monitoring wells at the site will be abandoned.

2. Identification of the remediation objectives proposed for this site;

The indicator contaminants for the unleaded gasoline and diesel fuel release associated with this facility are BTEXMTBE and PNA constituents. Soil and groundwater analytical results were compared against the most stringent appropriate 35 IAC 742 SRO and/or GRO. On-site soils were compared against the calculated site-specific Tier 2 objectives. These objectives are listed 1/ex 2 in Table I, Table II and Table III.

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;

Conventional soil excavation and disposal is known and immediate technology that immediately achieves remediation objectives. Institutional controls are being proposed to address any remaining contamination beyond the excavation.

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;

Floor samples Page 4 says no significant contact with

The walls of the excavation were sampled on 20-foot intervals with 38 samples being collected where 8'deee? during excavation activities. One (1) final event of groundwater monitoring and sampling will be conducted with each monitoring well being tested for dissolved BTEX/PNA LUST site indicators to determine the long-term migration potential of the remaining contaminants.

the saturated 5. A description of the current and projected future uses of the site;

Groundwater levels while drilling: 4'-9'BGS

MW-2, MW-3, MW-4R, MW-5 MW-6, MW-7, MW-9, MW-10 MW-11, MW-12, MW-13, and MW-14 MW-land MW-15: Unable to be located destroyed.

MW-8: No boring log or diagram.

5

Electronic Filing: Received, Clerk's Office 2017-084) R. 591. The current use of the site is as an active gasoline service station. Neighboring properties consist solely of commercial and residential properties. The site and surrounding area are likely to retain similar usage post-remediation, as of the time of this report.

- 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;

The NFR Letter shall be recorded as a permanent part of the chain of title for the subject property and shall serve as an appropriate institutional control. At a minimum, the NFR letter shall stipulate the following access controls for the remediation site:

- o An Industrial/Commercial restriction;
- o An on-site potable well restrictions;
- o An HAA with IDOT; and
- o An HAA with the City of Peoria.

#### 7. The water supply well survey:

- a. Map(s) showing the 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 other 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);

Please refer to the previously submitted reports.

#### 8. Appendices;

- a. References and data sources report that are organized; and
- b. Field logs, well logs, and reports of laboratory analyses;

Please refer to the previously submitted reports.

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

Please refer to Figures 1, 2 and 3.

10. Engineering design specifications, diagrams, schematics, calculations, manufacturer's specifications, etc.;

	Excavation Area (ft²)	g: Received, Overburden Depth (ft)	Excavation Depth (ft)	Overburden Volume (yd³)	Excavation Volume (yd³)
Green	616	5	3	114	72
Blue	1,340	-0-4	-8 4	199 0	417 208
Orange	2,670	0	13	0	1,350
			Minus U	ST Volume	-321
					1,518

Landfill Volume  $(yd^3) = [(Area \times Landfill Depth)/27] \times 1.05$  bulking factor

#### 11. A description of bench/pilot studies;

Not applicable for this LUST facility at this time.

## 12. Cost comparison between proposed method of remediation and other methods of remediation;

This CAP proposed conventional technology and institutional controls. Due to contaminant levels, alternative technology does not have a substantial likelihood of success. Therefore, a cost comparison is not required nor applicable for this CAP.

#### 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;

1,956 ft2

The original TACO Calculations were performed by Marlin Environmental in the CAP dated December of 2015. In accordance with the IEPA comments in its letter dated November 29, 2016, it indicated a belief that non-mass limit considerations would lead to SB-15 (6'-8') also being considered below Tier 2 Objectives. The non-mass limit calculations are provided herein to demonstrate sample SB-15 (6'-8') in fact remains above Tier 2 SROs.

Please refer to **Attachment 1** for the additional IEPA TACO Tier 2 calculation spreadsheets and the IEPA-prescribed input parameter sheets.

#### 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:
- The owner or operator will obtain all Illinois EPA permits necessary to legally authorize use of 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.

Not applicable for this CAP.

#### 15. Property Owner Summary Form

This will be provided within the CACR for this facility.

#### F. Exposure Pathway Exclusion

Provide the following:

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

Not applicable for this CAP. a and b always apply

2. A discussion of how any exposure pathways are to be excluded.

Not applicable for this CAP.

#### 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.

USI Owner	or Operator	Consultant	
Name:	Illico, Inc.	Company:	Green Wave Consulting, LLC
Contact:	David Golwitzer	Contact:	Joe Buhlig
Address:	2201 Woodlawn Road, Suite 600	Address:	3900 Wood Duck Dr., Suite F
City:	Lincoln	City:	Springfield
State:	Illinois	State:	Illinois
ZIP Code: _	62656	ZIP Code:	62711
Phone:	217-732-4193	Phone:	217-726-7569
	11 0	Email:	joeb@greenwavecon.com
Signature:	M Pready	Signature:	4-14
Date:	1/12/17	Date:	1/16/17

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

L. P.E. Seal

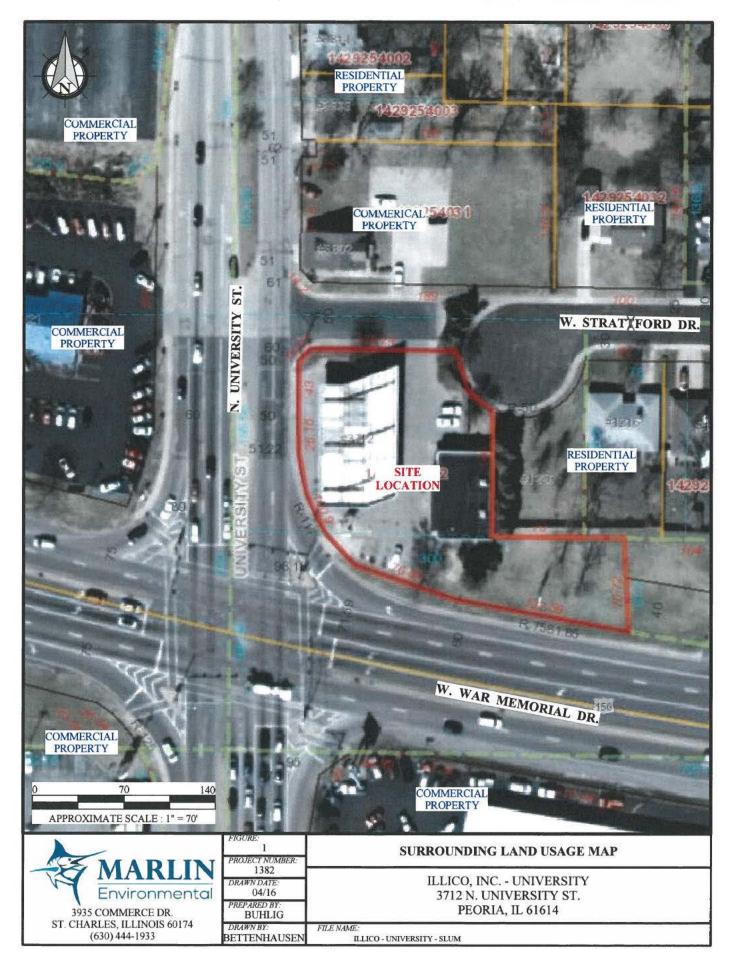
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IEPA/BOL



**FIGURES** 



**TABLES** 

Comparison of Tier 1 SRO Exceedences On-Site to Applicable Tier 2 SROs

Sample ID	Depth	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	
Component of SROs for O	Class I Gro	ater Ingestion oundwater	310	61,400	43,000 83,000	614,000 806,000#	1 <del>2,000</del> 26,000	
Resident	ACO Tier ial Inhalation	on SROs	17,600 No. 400	N/E	N/E	806,000 #	N/E	
Commerc	Tier 2 Induial Inhalati	on SROs	32,400 31,400	N/E	N/E	804,000 #	<u>N/E</u>	
	nalation SR	.Os	246,000 414,200	580,000 井	350,000 #	<del>798,000</del> (600,000	9,460 11,000	
	ACO Tier : Saturation I	Limit	N/E	1,569,000	1,009,000	806,000	N/E	04/04/20 Email
SB-4	4'-6'	11/18/1999	<1,100	11,000	37,000	193,000	11,000	
SB-5	2'-4'	11/18/1999	<63	*	*	7,700	2,100	
555	4'-6'	11/10/1999	1,200	23,000	* 74,000	*		
SB-9	0'-4'	11/22/2015	230	•	*	8,100	*	n
56-7	4'-8'	11/22/2015	690	58,000	57,000	370,000		Remov
SB-10	0'-4'	11/22/1999	7,900	83,000	42,000	182,000	3,000	
56-10	4'-8'	11/22/1999	1,400	16,000	*	35,000	*	
MW-6	4'-6'	11/16/2000	*		*	*	2,400	
MW-7	7'-9'	11/16/2000	13,000	160,000	92,000	420,000	25,000	
SB-11	3.5'-5'	08/07/2012	288	*		*	*	
SD-11	7'-8'	00/07/2012	3,980	51,600	31,600	159,000	4,630	
SB-12	3.5'-5'	08/07/2012	51.5	* 1123	*	*	*	
55-12	7'-8'	00/07/2012	629.0	.*.	*	13,700	*	
SB-13	3.5'-5'	08/07/2012	2,050	*	*	8,400	*	]
3D-13	6'-7'	06/07/2012	11,700	92,700	29,700	142,000	*	
SB-14	3.5'-5'	08/07/2012	669	*	*	*	*	
3D-14	6'-7'	00/07/2012	833	*	*	*	*	
SB-15	3.5'-5'	08/07/2012	4,210	24,100	*	49,900	2,150	
3D-13	5'-6'	08/07/2012	41,800	305,000	103,000	568,000	5,340	
SB-16	3.5'-5'	08/07/2012	1,010	•	*	*	*	
35-10	6'-7'	08/07/2012	3,700		*	36,100	*	
SB-17	3.5'-5'	3.5'-5' 08/08/2012	337		*	7,820	*	See SB-3
35-17	6'-7'	08/08/2012	<1.200 * Bold	*	130,000	574,000	45,300	
SB-18	31-5'	08/08/2012	1,190	*	*	*	*	Server Assert
55-10	6'-7'	00/00/2012	6,790	*	27,000	112,000	4,160	
SB-19	3.5'-5'	08/08/2012	40.5	*	*	*	*	
00 17	6'-7'		365	*	*	*	*	
SB-25	3.5'-5'	08/08/2012	148	*	*	*	*	
SB-30	0'-2'	03/10/2015	101	*	*	*	*	
DD 30	2'-4'	03/10/2013	402	*	*	*	*	
SB-31	2'-4'	03/10/2015	1,600	*	*	24,200	*	
55-51	4'-6'	03/10/2013	16,800 Red	27,100	243,000	1,190,000	20,700	N <scg1e< td=""></scg1e<>
MW-12	2'-4'	3/10/2015	1,660	*	42,300	168,000	4,200	
171 17 - 12	4'-6'	5/10/2015	4,230	*	35,500	178,000	1,990	
MW-13	4'-6'	03/10/2015	347	*	*	6,610	*	
MW-14	4'-6'	03/10/2015	654	*	*	44,600	*	

#### Notes

Only samples above Tier 1 objectives collected on-site listed in the table.

Analytical testing results for BTEX and PNAs are expressed in parts-per-billion (ppb) concentrations.

Key:

Bold Indicates Exceeds TACO Tier 2 Soil Comp. of Groundwater Ingestion SRO for Class I GW.

Red Indicates Exceeds TACO Tier 2 Residential Soil Inhalation SRO.

<u>Underlined</u> Indicates Exceeds TACO Tier 2 Industrial / Commercial Soil Inhalation SRO.

Shaded Indicates Exceeds TACO Tier 2 Construction Worker Soil Inhalation SRO.

Sample below Tier 1 SROs for specified contaminant

^ Calculated Tier 2 Objective was more restrictive than Tier 1, therefore Tier 1 objective was utilized 
# Calculated Tier 2 Objective exceeded soil saturation limit (SSL), therefore appropriate SSL was utilized

N/E Specified Exposure Route SRO not exceeded at Tier 1 for on-site samples.

SB-17(6'-7'): MDL > Tier 1 Benzo (a) a, Benzo (a) p, Benzo (b) f, Dibenzo, and Indeno

SB-31 replaces SB-17. See page 4 of
the Stage 2 Site Investigation Results
Report dated 10102/2015 and 04/04/16
Email.

Page 1 of 1

Excavate SB-31 (4'-6'): Xylenes > Tier 2 Inh. (all)

Xylenes > Tier 2 CSat
Naphthalene > Tier 2 CW Inh.

### **ATTACHMENT 1**

Electronic Filing: Received, Clerk's Office 17/26/2017-084) R. 602
The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57-57.47). 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 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 5/57.17). This form has been approved by the Forms Management Center.

#### Illinois Environmental Protection Agency **Leaking Underground Storage Tank Program** SSL Input Parameters for Use with Tier 2 Calculations

A.	Site Ide	entific	ation						
	IEMA In	cident	# (6- or 8-digit):	923441		IEPA LPC	# (10-digit):	1430655263	
	Site Na	me: <u>II</u>	lico Independent C	Oil Co.					
	Site Add	dress	(not a P.O. Box):	3712 Unive	rsity Street				_
	City: F	eoria		County:	Peoria	Zip	Code: 6160	4 61614	
	Leaking	UST 1	echnical File						
B.	Tier 2 (	Calcul	ation Information	on					
	Equatio	n(s) Us	sed (ex: S12, S17,	S28): S6	58, 59, 5	510, 519, 520	on of Carcinoo	ens SROs	
			ation for Individua		THEFACE IN AN	65		7) 726-7569 x~	
				. Trillo i olio	inoa Galdala	Jens. Jen	vviennon (21	1) 120-1309 X~	2
	Land Us	se: R	es., Ind./Com. & C	onst Worke	er Soil	Type: Silt C	lav		
	Groundy	(Access		Class II	<u> </u>	1)po: <u>o o</u>			-
						F7 0.5		-	
						-		5 10 30	See 04/04/11
			Acreage other that se site-specific pa				11 10 11 15 15 15 15 15 15 15 15 15 15 15 15		Email #3
	the Un	dergr	ound Storage Tar	nk Fund.			e 2		Email.
			ing source width be submitted in t			tance, etc. n	nust also be	submitted.	
9	ymbol	must	be submitted in	Unit		hall .		216660	
J.	yiiiboi			Onic	Symi	301	1547	Unit	1
AT (in	gestion)	=		yr	da	=		m	
AT (in	halation)			yr	ds			m	
,	AT <sub>c</sub>	=	70	yr	DA	=	0.000004	cm²/s	4.48E-06
E	3W	2=2		kg	Di	=	0.088	cm²/s	
(	Ssat	=		mg/kg	D <sub>w</sub>	=	0.000010	2 cm <sup>2</sup> /s	
	C <sub>w</sub>			mg/L	DF	=		unitless	

d

=

m

ED (ingestion of \_

carcinogens)

yr

Incident #: 923441 Chemical: Benzene Land Use: Res., Ind./Com., CW Symbol Unit Symbol Unit ED (inhalation of see page 3 Koc yr 50 cm3/g or L/kg carcinogens) ED (ingestion of yr Ks = 8 m/yr noncarcinogens) ED (inhalation of L = yr m noncarcinogens) ED (ingestion of PEF yr m<sup>3</sup>/kg groundwater) 70 ED<sub>M-L</sub> = yr PEF' = m<sup>3</sup>/kg Q/C (VF  $(g/m^2-s)/$ EF see page 3 d/yr = equations)  $(kg/m^3)$ Q/C (PEF (g/m2-s)/ 0.194 F(x)= unitless = equations)  $(kg/m^3)$ foc 0.0179 RfC g/g = mg/m<sup>3</sup> GW<sub>obi</sub> = mg/L RfD<sub>o</sub> mg/(kg-d) H' = 0.23 S unitless = mg/L i -SF<sub>o</sub> m/m = (mg/kg-d)-1 = 0.3 T m/yr = S 25: I-C = 0.18 T<sub>M-L</sub> = 30 residential yr M-L m/yr 1: CW IF<sub>soil-adj</sub> = 114 1 (mg-yr)/(kg-d) THQ = unitless IR<sub>soil</sub> = mg/d TR 0.000001 unitless IR<sub>w</sub> = L/d Um 4.69 m/s = K = **URF**  $(\mu g/m^3)^{-1}$ m/yr see page 3 K<sub>d</sub> (non-ionizing 0.9 11.32 Ut cm3/g or L/kg kg/m<sup>3</sup> organics) 0.895 K<sub>d</sub> (ionizing ٧ cm3/g or L/kg unitless organics) \_ 52,725 K<sub>d</sub> (inorganics) cm<sup>3</sup>/g or L/kg VF m<sup>3/</sup>kg 59,959

Incident #: 923441 Chemical: Benzene Land Use: Res., Ind./Com., CW

_	Symbol			Unit	
	VF'	=		m³/kg	
	VF <sub>M-L</sub>	=	9,569.33	m³/kg	
	VF' <sub>M-L</sub>	=	956.93	m³/kg	
	η	(m)	0.38	L <sub>pore</sub> /L <sub>soil</sub>	
	$\theta_{a}$	=	0.05	L <sub>air</sub> /L <sub>soil</sub>	

Symbol	8-,		Unit	_
$\theta_{w}$	=	0.33	L <sub>water</sub> /L <sub>soil</sub>	
$\rho_{b}$	=	1.685	kg/L or g/cm <sup>3</sup>	1.684
$\rho_{s}$	=	2.702	g/cm <sup>3</sup>	of the Sto
$\rho_{w}$	=	1	g/cm <sup>3</sup>	10/06/15, page 3 of
1/(2b+3)	=	0.042	unitless	the SICR dated 12/1 04/05/16
E		Frequency (	(EF):	Email and 04/05/16 Email #2

Equation	Result	Unit(s)
S1	Ħ	mg/kg
S2	=	mg/kg
S3	=	mg/kg
S4	:=:	mg/kg
S5	(=)	mg/kg
S6	= See Boxes Below	mg/L
S7	= See Box Below	mg/kg
S17	=	mg/kg
S28	=	mg/kg
S29	=	mg/L

(uays/year)	-
Residential = 350	
Industrial/Commercial = 250	ľ
Construction Worker = 30	

### **Exposure Duration (ED):** (years)

Residential = 30 Industrial/Commercial = 25 Construction Worker = 1

#### Inhalation Unit Risk Factor (URF): $[(ug/m^3)-1]$

Benzene = 0.0000078

Solution to Equation S6:	Solution to Equation S7:
(mg/kg)	(mg/kg)
Industrial/Commercial	Construction Worker
Benzene = <del>32.4</del>	Benzene = <mark>45.6</mark>
<u>31.4</u>	<u>닉닉, 2</u>
	(mg/kg) Industrial/Commercial  Benzene = 32.4

#### Electronic Filing: Received, Clerk's Office 7/28/201.7017-084) R. 605 EQUATIONS S20, S21 & S24 FOR DERIVATION OF TOTAL SOIL POROSITY, WATER-FILLED SOIL POROSITY & AIR-FILLED SOIL POROSITY

### Illico - University Ave. Peoria, IL

S24 - Equation for Derivation of Total Soil Porosity,  $\eta \; (L_{\text{pore}}\!/\!L_{\text{soil}})$ 

$$\eta = 1 - \frac{\rho_b}{\rho_s}$$

	SYMBOL	PARAMETER	UNITS	PARAMETER VALUES
	$\rho_{b}$	Dry Soil Bulk Density	g/cm <sup>3</sup>	Site-Specific Value
St.	ρ	Soil Particle Density	g/cm <sup>3</sup>	Site-Specific Value

#### INPUT PARAMETERS FOR 11

 $\rho_b = \frac{1.685 \text{ g/cm}^3}{2.702 \text{ g/cm}^3}$ 

 $\eta$ = 0.38  $L_{pore}/L_{soil}$ 

S20 - Equation for Derivation of Water-Filled Soil Porosity,  $\theta_{w}\left(L_{water}/L_{soil}\right)$ 

$$\theta_{w} = \eta \cdot \left(\frac{I}{K_{s}}\right)^{1/(2b+3)}$$

SYMBOL	PARAMETER	UNITS	PARAMETER VALUES
η	Total Soil Porosity	$L_{pore}/L_{soil}$	Calculated Value Equation S24 in TACO
1	Infiltration Rate	m/yr	0.3
Soil Texture	USDA Soil Texture Classification	5(3204)	Site-Specific Value Appendix C, Illust. C
K <sub>s</sub>	Saturated Hydraulic Conductivity	m/yr	Site-Specific Value Appendix C, Table K
1/(2b+3)	Exponential in Equation S20	unitless	Site-Specific Value Appendix C, Table K

Sandy Loam Loam Sandy Loam Clay Silt Clay Loam Clay Loam

Sandy Clay Silt Clay

Ks Values

Loamy Sand

Sandy Loam

Sandy Loam Clay

Silt Clay Loam

1/(2b+3) Values Sand

Loamy Sand

Clay Loam

Sandy Clay

Silt Clay Clay

Sand

Loam

1,830

230

60

40

13

20

10

0.090

0.085

0.074

0.058

0.054

0.042

0.073

INPUT PARAMETERS FOR  $\theta_w$ 

η= 0.38 L<sub>pore</sub>/L<sub>soil</sub>
I= 0.3 m/yr

Soil Texture= Silt Clay

K<sub>s</sub>= 8 m/yr

1/(2b+3)= 0.042

 $\theta_{\rm w}$ = 0.33 L<sub>water</sub>/L<sub>soil</sub>

S21 - Equation for Derivation of Air-Filled Soil Porosity,  $\theta_{a}\left(L_{air}/L_{soil}\right)$ 

$$\theta_\alpha = \eta - \theta_w$$

	SYMBOL	PARAMETER	UNITS	PARAMETER VALUES
	η	Total Soil Porosity	L <sub>pore</sub> /L <sub>soil</sub>	Calculated Value Equation S24 in TACO
200	$\theta_{\rm w}$	Water-Filled Soil Porosity	Lwater/Lsoil	Calculated Value Equation S20 in TACO

#### INPUT PARAMETERS FOR $\theta_a$

 $\eta$ = 0.38 g/cm<sup>3</sup>  $\theta_w$ = 0.33 g/cm<sup>3</sup>

 $\theta_a = 0.05 L_{air}/L_{soil}$ 

# Electronic Filing: Received, Clerk's Office at 2017-084) R. 606 EQUATION S10 FOR DERIVATION OF APPARENT DIFFUSIVITY (D<sub>A</sub>)

### Illico - University Ave. Peoria, IL

S10 - Equation for Derivation of Apparent Diffusivity,  $D_{A} \ (cm^{2} \! / \! s)$ 

$$D_A = \frac{\left(\theta_\alpha^{3.33} \cdot D_i \cdot H'\right) + \left(\theta_w^{3.33}\right) \cdot D_w)}{\eta^2} \cdot \frac{1}{\left(\rho_b \cdot K_d\right) + \theta_w + \left(\theta_\alpha \cdot H'\right)}$$

SYMBOL	PARAMETER	UNITS	PARAMETER VALUES
$\theta_a$	Air-Filled Soil Porosity	$L_{atr}/L_{soil}$	Gravel = 0.05 Sand = 0.14 Silt - 0.24 Clay = 0.19, or Calculated Value
θ.,	Water-Filled Soil Porosity	$L_{water}/L_{soil}$	Gravel = 0.20 Sand = 0.18 Silt = 0.16 Clay = 0.17, or Calculated Value
D <sub>i</sub>	Diffusivity in Air	cm <sup>2</sup> /s	Chemical-Specific Benzene = 0,0880
$D_{\rm w}$	Diffusivity in Water	cm <sup>2</sup> /s	Chemical-Specific Benzene = 0.0000102
н	Henry's Law Constant	unitless	Chemical-Specific Benzene = 0.230
η	Total Soil Porosity	Lpore/Lsoil	Calculated Value Equation S24 in TACO
Ρ <sub>b</sub>	Dry Soil Bulk Density	g/cm <sup>3</sup>	Site-Specific Value
K <sub>d</sub>	Soil-Water Partition Coefficient	cm³/g	Calculated Value Equation S19 in TACO

S24 - Total Soil Porosity ( $L_{poir}/L_{soil}$ )  $\eta=1-rac{
ho_b}{
ho_s}$  S19 - Soil Water Partition Coefficient (cm $^3$ /g)  $K_d=K_{oc}\cdot f_{oc}$ 

SYMBOL	PARAMETER	UNITS	PARAMETER VALUES
ρ <sub>b</sub>	Dry Soil Bulk Density	g/cm <sup>3</sup>	Site-Specific Value
ρ <sub>s</sub>	Soil Particle Density	g/cm <sup>3</sup>	Site-Specific Value
K∞	Organic Carbon Partition Coefficient	cm <sup>3</sup> /g	Chemical-Specific Benzene = 50.0
f <sub>oc</sub>	Organic Carbon Content of Soil	g/g	Site-Specific Value

#### INPUT PARAMETERS FOR 11

ρ <sub>b</sub> =	+685 g/cm3 1,684
ρ <sub>s</sub> tst	2,702 g/cm <sup>3</sup>
η=	0.38 Lpore/Lsoil

INPUT PARAMETER VALUES FOR DERIVATION OF APPARENT DIFFUSIVITY, DA (cm²/s)

 $\begin{array}{llll} \theta_a^{=} & 0.05 \ L_{scir}/L_{scil} \\ \theta_w^{=} & 0.33 \ L_{water}/L_{scil} \\ D_i^{=} & 0.0880 \ cm^2/s \\ D_w^{=} & 0.0000102 \ cm^2/s \\ H^{=} & 0.230 \end{array}$ 



50.0 cm<sup>3</sup>/g

0.90 cm3/g O.895

 $D_A = \frac{4.20E-06}{cm^2/s}$ 

4.48 E-06

INPUT PARAMTERS FOR Kd

# EQUA Electronic Filing: Received, Clerk's Office 2020 2017-084) R. 607

# Illico University Ave. Peoria, IL

Residential, Industrial/Commercial Remediation Objectives for Carcinogenic Contaminants (mg/kg)

$$\frac{TR \cdot AT_c \cdot 365 \frac{d}{yr}}{URF \cdot 1000 \frac{\mu g}{mg} \cdot EF \cdot ED \cdot \frac{1}{VF}}$$

Construction Worker Remediation Objectives for Carcinogenic Contaminants (mg/kg)

$$\frac{TR \cdot AT_c \cdot 365 \frac{d}{yr}}{URF \cdot 1000 \frac{\mu g}{mg} \cdot EF \cdot ED \cdot \frac{1}{VF'}}$$

SYMBOL	PARAMETER	UNITS	PARAMETER VALUES
AT <sub>c</sub>	AVERAGING TIME FOR CARCINOGENS	year	70
ED	EXPOSURE DURATION FOR INHALATION OF CARCINOGEN	year	RESIDENTIAL 30 INDUS/COMM 25 CONST WRKR 1
EF	EXPOSURE FREQUENCY	d/yr	RESIDENTIAL 350 INDUS/COMM 250 CONST WRKR 30
TR	TARGET CANCER RISK	unitless	RESIDENTIAL 10 <sup>-6</sup> INDUS/COMM 10 <sup>-6</sup> CONST WRKR 10 <sup>-6</sup>
URF	INHALATION UNIT RISK FACTOR	(P8/m³)-1	7.8x10 <sup>-6</sup> benzene
VF	VOLATILIZATION FACTOR	m³/kg	REFER TO EQ S&& S9 WITHIN TACO

S8- Volatilization Factor for the Inhalation Exposure Route - Residential, Industrial/Commercial (m³/kg)

$$VF = \frac{Q}{C} \cdot \frac{(3.14 \cdot D_A \cdot T)^{1/2}}{2 \cdot \rho_b \cdot D_A} \cdot 10^{-4}$$

S9 - Volatilization Factor for the Inhalation Exposure Route - Construction Worker (m³/kg)

$$VF' = \frac{VF}{10}$$

SYMBOL	PARAMETER	UNITS	PARAMETER VALUES
D <sub>A</sub>	APPARENT DIFFUSIVITY	cm <sup>2</sup> /s	CALCULATED VALUE
Pb	DRY BULK DENSITY	g/cm³	1.5, OR GRAVEL-2.0 SAND=1.8 SILT=1.6 CLAY=1.7, OR SITE SPECIFIC
QC	INVERSE OF THE MEAN CONCENTRATION AT THE CENTER OF A SQUARE SOURCE	(g/m²-s)/(kg/m³)	RESIDENTIAL 68.81 INDUS/COMM. 85.81 CONST WRKR 85.81 OR 742.Appendix C, Table H: Q/C by Source Area
т	EXPOSURE INTERVAL	S	RESIDENTIAL 9.5*10 <sup>8</sup> INDUS/COMM. 7.9*10 <sup>8</sup> CONST WRKR 3.6*10 <sup>6</sup>

#### INPUT PARAMETERS FOR VF RES/INDUS/COM PROP

#### INPUT PARAMTERS FOR VF' CONSTRUCTION WORKER

D <sub>A</sub> =	4.20E-06 cm <sup>2</sup> /s 4.48E-06
Pb=	1 685 g/cm² 1.16 6 4
Q/C=	68.81 (g/m <sup>2</sup> -s)/(kg/m <sup>3</sup> ) (Residential)
Q/C=	85.81 (g/m <sup>2</sup> -s)/(kg/m <sup>3</sup> ) (Industrial/Commercial)
T =	9.5E+08 s (Residential)
T =	7.9E+08 s (Industrial / Commercial)
VF=	54,416 m³/kg (Residential) 52,725
VF=	61,882 m³/kg (Industrial/Commercial) _59,959

D <sub>A</sub> =	4:20E=06	cm <sup>2</sup> /s
Pb=	1.685	g/cm <sup>3</sup>
Q/C=	85.81	(g/m <sup>2</sup> -s)/(kg/m <sup>3</sup> )
T=	3.6E+06	

VF- 418 m<sup>3</sup>/kg 405

#### INPUT PARAMETER VALUES RES/INDUS/COM PROP

Industrial/Commercial Inhalation

### INPUT PARAMETER VALUES FOR CONSTRUCTION WORKERS

AT <sub>c</sub> -	70 year
ED=	30 year (Residential)
ED=	25 year (Industrial/Commercial)
EF=	350 d/ут (Residential)
EF=	250 d/yr (Industrial/Commercial)
TR=	1 00E-06 unitless
URF=	7.80E-06 (HR/m²)-1
VF=	64415.63 m³/kg (Residential) 52,725
VF=	61881.63 m³/kg (Industrial/Commercial) 59,959

AT <sub>c</sub> -	70 year
ED=	1 year
EF=	30 d/yr
TR=	1.00E-06 unitless
URF=	7.80E-06 (P8/m³)-1
VF'=	417.73 m³/kg 404.8

Residential Inhalation Remediation Objective (S6) =	16.4	17.0 mg/kg	Construction Worker Inhalation Remediation Objective (S7) =	44 2 456 mg/kg
	130.41		02,000.0	P. G. G P P P P.

Remediation Objective (S6) = 31, 4 32.4 mg/kg

Tier 1 Non-Exceedence Check (value of SRO will change if Tier 2 SRO is less than Tier 1 SRO):

Soil Remediation Objective (Residential Inhalation) =	17.0 mg/kg
Soil Remediation Objective (Industrial/Commercial Inhalation) =	32.4 mg/kg
Soil Remediation Objective (Construction Worker Inhalation) =	45:6 mg/kg

# **ATTACHMENT 2**



# Electronic Filing: Received, Clerk's Office 2012017-084) R. 609 Illinois Environmental Protection Agency

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

General Infor	mation for the Budget and B	illing Forms	
LPC #:	1430655263	County:	Peoria
City:	Peoria	Site Name:	Illico Independent Oil Co.
	712 North University St		
IEMA Incident N	No923441		
IEMA Notificati	on Date: 12/ <del>02</del> /1992		
Date this form w	ras prepared: 03/10/20	17	
This form is b	eing submitted as a (check or	ne, if applicable):	
☑ Budget	Proposal		
☐ Budget	Amendment (Budget amendment	ts must include only the	costs over the previous budget.)
☐ Billing l	Package		
Please p	provide the name(s) and date(s) of	f report(s) documenting	the costs requested:
Date(s):	Nesses		
This form is be	eing submitted for the site ac	tivities indicted belo	ow:
35 Ill. Adm. Co	ode 734:		RECEIVE
☐ Early A	ction		THE HOUSE SECRET
☐ Free Pro	oduct Removal after Early Action		JAN 17 2017
☐ Site Inve	estigation Stage 1:	☐ Stage 2:	Stage 3: FPA/BOL
☑ Correcti	ve Action Actual Co	sts	
35 Ill. Adm. Co	ode 732:		
☐ Early Ac	etion		
☐ Free Pro	duct Removal after Early Action		
☐ Site Clas	ssification		
☐ Low Pri	ority Corrective Action		
☐ High Pri	ority Corrective Action		
35 Ill. Adm. Co	ode 731:		
☐ Site Inve	estigation		
☐ Correctiv	ve Action		

IL 532-2825

LPC 630 Rev. 1/2007

### General Information for the Budget and Billing Forms

12K

12K 6K 12K

6K 4K The following address will be used as the mailing address for checks and any final determination letters regarding payment from the Fund.

Pay to the order of:	Illico Independent Oil Co.					
Send in care of:	Green Wave Consulting, LLC					
Address:	3900 Wood Duck Drive, Suite F					
City: S <sub>I</sub>	Springfield State: Illinois		Illinois	Zip: 62711		
Payee is the:	wner 🗆	Operator	eck one or both.)			
M.	herdy			nust be submitted. here to print off a W-9 Form.		
Signature of the owne	r or operator o	f the UST(s) (required)	Click	nere to print off a w-9 rotti.		
or joint stock company company of the owner of	of the owner or or operator:	operator; and any compan		operator; any subsidiary, par rent, subsidiary or joint stoc		
Fewer tha	n 101: 🗹	101 or more: □				
Number of USTs at the	site: 8	(Number of USTs inc	cludes UST's presen	ntly at the site and USTs tha		
have been removed.)						
Number of incidents rea	ported to IEMA	for this site:	9			
		ue to releases from USTs:				
Product Stored in UST	Size	Did UST have a release?	Incident No.	Type of Release Tank Leak / Overfill		
II lead at Complete	8850 85		022441	Piping Leak		
Unleaded Gasoline	10,000	Yes ☑ No □	923441	Overfill		
Unleaded Gasoline	10,000	Yes 🗹 No 🗆	923441	Overfill		
Unleaded Gasoline	10,000	Yes 🗹 No 🗆	923441	Overfill		
Diesel Fuel	10,000	Yes 🗹 No 🗆	923441	Overfill		
Kerosene	10,000	Yes 🗹 No 🗆	923441	Overfill		
Unleaded Gasoline	10,000	Yes 🗆 No 🗹	- 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2			
Unleaded Gasoline	12,000	Yes □ No ☑				
Diesel Fuel	12,000	Yes □ No ☑	W43553065-W4			
**************************************		Yes 🗆 No 🗆				
		Yes 🗆 No 🗆	(F. 1949)			
		Yes 🗆 No 🗆				
		Yes D No D				

# **Budget Summary**

Choose the applicable regulations:

734

0732

734	Free Product	Stage 1 Site Investigation	Stage 2 Site Investigation	Stage 3 Site Investigation	Corrective Action	
Drilling and Monitoring Wells Costs Form					\$2,187.20	
Analytical Costs Form					\$15,862.39	3,737.84
Remediation and Disposal Costs Form					\$ <del>178,573.0</del> 2	29, 237.5
UST Removal and Abandonment Costs Form					\$ <del>19,711.65</del> -	0.00
Paving, Demolition, and Well Abandonment Costs Form				1100	<del>\$27,958.59</del>	12,730.0
Consulting Personnel Costs Form					<del>\$52,074.26</del>	29,922.3
Consultant's Materials Costs Form					\$2,078.20	401.90
Handling Charges Form	Handling charges will amount of allowable h	be determined at the handling charges will be	time a billing package be determined in accor	is submitted to the Illi	nois EPA. The ng Charges Form.	
Total	\$0.00	\$0.00	\$0.00	\$0.00	<del>\$298,445.31</del>	78.216.8

## **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	HSA	15	15	MW-4 Replacement
			0	
			0	
			0	
		24.27	0	
			0	
			0	
			0	

Subpart H minimum payment amount applies.

	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:	15	\$28.79	\$431.85
Total Feet via PUSH:	0	\$22.53	\$0.00
Total Feet for Injection via PUSH:	0	\$18.77	\$0.00
	*	Total Drilling Costs:	\$1,877.30

adjusted to reflect Subpart H minimum payment amount

### 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 (\$)
1	HSA	2	15	15
				0
				0
				0
				0

Well Installation	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:	15	\$20.66	\$309.90
Total Feet via PUSH:	0	\$15.64	\$0.00
Total Feet of 4" or 6" Recovery:	0	\$31.29	\$0.00
Total Feet of 8" or Greater Recovery:	0	\$51.31	\$0.00
		Total Well Costs:	\$309.90

	3 - 3 S (
Total Drilling and Monitoring Well Costs:	\$2,187.20
	Φ=,207.20

Electronic Filing: Received, Clerk's Office 228201.2017-084) R. 2013 and ETD

Costs Form Groundwater samples will be collected (levent).

## **Analytical Costs Form**

Laboratory Analysis	Number of Samples		Cost (\$) per Analysis		Total per Parameter	
Chemical Analysis						
BETX Soil with MTBE EPA 8260	38		\$106.29	=	54.042.44	
BETX Water with MTBE EPA 8260	12	X	\$106.38 \$101.37		\$4,042.44 \$1,042.44	105.33,
COD (Chemical Oxygen Demand)	12	X	\$101.37	=	\$1,216.44	4,002,54
Corrosivity		X	\$37.55	7.750	\$0.00	
Flash Point or Ignitability Analysis EPA 1010		X	\$18.77	=	\$0.00	200 57.50
Fraction Organic Carbon Content (f <sub>oc</sub> ) ASTM-D 2974-00	1	X	\$41.29	=	\$41.29	40.88
Fat, Oil, & Grease (FOG)		х	\$47.55	=	\$0.00	
		Х	\$75.08	=	\$0.00	
LUST Pollutants Soil - analysis must include volatile, base/ neutral, polynuclear aromatics and metals list in Section 732. Appendix B and 734.Appendix B		х	\$867.31	=	\$0.00	
Dissolved Oxygen (DO)		х	\$41.29	=	\$0.00	
Paint Filter (Free Liquids)	1	x	\$17.52	-	\$17.52	17.35
PCB / Pesticides (combination)		х	\$277.84	=	\$0.00	11100
PCBs		X	\$138.91	=	\$0.00	
Pesticides		х	\$175.21	=	\$0.00	1
pH		X	\$17.52	=	\$0.00	1
Phenol		x	\$42.55	=	\$0.00	1
Polynuclear Aromatics PNA, or PAH SOIL EPA 8270	38	x	<del>\$190.2</del> 4	=	\$7,229.12	188,36,
Polynuclear Aromatics PNA, or PAH WATER EPA 8270	12	х	\$190.24	=	\$2,282.88	7.157.6
Reactivity		х	\$85.10		\$0.00	11100 100
SVOC - Soil (Semi-Volatile Organic Compounds)		х	\$391.73	=	\$0.00	1
SVOC - Water (Semi-Volatile Organic Compounds)		х	\$391.73	=	\$0.00	
TKN (Total Kjeldahl) "nitrogen"		х	\$55.07	=	\$0.00	1
TPH (Total Petroleum Hydrocarbons)		x	\$452.69	=	\$0.00	
VOC (Volatile Organic Compounds) - Soil (Non-Aqueous)		x	\$219.02	=	\$0.00	1
VOC (Volatile Organic Compounds) - Water		X	\$211.52	=	\$0.00	1
BETX Water with MTBE EPA 8260 (field and trip blank)		х	\$101.37	=	\$0.00	1
		х		=	\$0.00	
		х		=	\$0.00	
	NE DISTRICT	х		==	\$0.00	
		х		=	\$0.00	
Geo-Technical Analysis			V-	200		1
Soil Bulk Density (p <sub>b</sub> ) ASTM D2937-94		х	\$27.53	=	\$0.00	1
Ex-situ Hydraulic Conductivity / Permeability		х	\$319.14	=	\$0.00	1
Moisture Content (w) ASTM D2216-92 / D4643-93		х	\$15.02	=	\$0.00	1
Porosity		х	\$37.55	=	\$0.00	1
Rock Hydraulic Conductivity Ex-situ		х	\$438.04	=	\$0.00	1
Sieve / Particle Size Analysis ASTM D422-63 / D1140-54		х	\$181.48	=	\$0.00	1
Soil Classification ASTM D2488-90 / D2487-90		х	\$85.10	=	\$0.00	1
Soil Particle Density (ps) ASTM D854-92		х	\$110.00	=	\$0.00	1
		x		=	\$0.00	1
		х		=	\$0.00	1
		X		=	\$0.00	1

Unknown how many soil samples are associated with the USTrem val. Deduct all except waste characterization.

# **Analytical Costs Form**

						-
Soil preparation fee for Metals TCLP Soil (one fee per soil sample)	1	x	\$98.87	=	\$98.87	97,89
Soil preparation fee for Metals Total Soil (one fee per soil sample)		х	\$20.01		\$0.00	11,01
Water preparation fee for Metals Water (one fee per water sample)		x	\$13.76	=	\$0.00	
Arsenic TCLP Soil		х	\$20.01	=	\$0.00	
Arsenic Total Soil		х	\$20.01	=	\$0.00	
Arsenic Water		х	\$22.53	-	\$0.00	
Barium TCLP Soil		x	\$12.52	=	\$0.00	
Barium Total Soil		x	\$12.52	=	\$0.00	
Barium Water		x	\$15.02	=	\$0.00	
Cadmium TCLP Soil		x	\$20.01	=	\$0.00	
Cadmium Total Soil	,	x	\$20.01	=	\$0.00	
Cadmium Water		x	\$22.53	=	\$0.00	
Chromium TCLP Soil		х	\$12.52	=	\$0.00	
Chromium Total Soil		x	\$12.52	=	\$0.00	
Chromium Water		x	\$15.02	1 = 1	\$0.00	
Cyanide TCLP Soil		x	\$35.04	-	\$0.00	
Cyanide Total Soil		x	\$42.55		\$0.00	7
Cyanide Water		x	\$42.55	1 = 1	\$0.00	
ron TCLP Soil		х	\$12.52	=	\$0.00	
ron Total Soil		x	\$12.52		\$0.00	
ron Water		x	\$15.02	=	\$0.00	
ead TCLP Soil	1	х	\$20.01		\$20.01	19.82
ead Total Soil		х	\$20.01	= 1	\$0.00	11000
Lead Water		x	\$22.53	1 = 1	\$0.00	
Mercury TCLP Soil		х	\$23.78	= 1	\$0.00	7
Mercury Total Soil		х	\$12.52	= 1	\$0.00	
Mercury Water		х	\$32.54	=	\$0.00	7
Selenium TCLP Soil		х	\$20.01	=	\$0.00	
Selenium Total Soil		x	\$20.01	1 = 1	\$0.00	
Selenium Water		х	\$18.77	=	\$0.00	
Silver TCLP Soil	35- 17	x	\$12.52	=	\$0.00	7
Silver Total Soil		x	\$12.52	=	\$0.00	7
Silver Water		x	\$15.02	=	\$0.00	7
Metals TCLP Soil (a combination of all metals) RCRA		x	\$128.91	-	\$0.00	
Metals Total Soil (a combination of all metals) RCRA		x	\$117.64	=	\$0.00	7
Metals Water (a combination of all metals) RCRA		x	\$148.93		\$0.00	
		x		=	\$0.00	
		x	Savily .	=	\$0.00	
		x		=	\$0.00	
	AUTO BOOK	x		=	\$0.00	
Other					and the constitution of th	
nCore® Sampler, purge-and-trap sampler, or equivalent ampling device	38	x	\$12.52	-	\$475.76	12.39,4
sample Shipping per sampling event <sup>1</sup>	7	x	\$62.58	=	\$438.06	12.59,9 10×61.9

**Total Analytical Costs:** 

\$15,862.39

3,737.84

# Remediation & Disposal Costs Form UST removal (01/28-29/2016)

### A. Conventional Technology

Excavation, Transportation, and Disposal of contaminated soil and/or the 4-foot backfill material removal during early action activities:

	Number of Cubic Yards	Cost per Cubic Yard (\$)	Total Cost	
280	1518	<del>\$71.34</del>	\$108,294.12	19 77/ 4/
	***	70.63		11) 11(0,1)

### Backfilling the Excavation:

	Number of Cubic Yards	Cost per Cubic Yard (\$)	Total Cost	
2.80	1839	\$25.03	\$46,030.17	L 929 4A
		24.78		1 0 , 100.10

### Overburden Removal and Return:

	Number of Cubic Yards	Cost per Cubic Yard (\$)	Total Cost	
313	414	\$8.14	<del>\$927.96</del>	2 522 70
		8.06		14,064010

## **B.** Alternative Technology

Alternative Technology Selected:	
Number of Cubic Yards of Soil to Be Remediated	
Total Non-Consulting Personnel Costs Summary Sheet (\$)	
Total Remediation Materials Costs Summary Sheet (\$)	
Total Cost of the System	\$0.00

# Remediation & Disposal Costs Form

### C. Groundwater Remediation and/or Free Product Removal System

Total Non-Consulting Personnel Costs Summary Sheet (\$)	
Total Remediation Materials Costs Summary Sheet (\$)	
Total Cost of the System	\$0.00

## D. Groundwater and/or Free Product Removal and Disposal USTremoval (01/28-29/2016)

☐ Subpart H minimum payment amount applies.

	Number of Gallons	Cost per Gallon (\$)	Total Cost	
0	26,700	\$0.85	\$22,695.00	

0.84

0.00

## E. Drum Disposal

MW-4R

☑ Subpart H minimum payment amount applies.

Number of Drums of Solid Waste	Cost per Drum (\$)	Total Cost
1	\$312.88	\$312.88
	\$312.88	\$0.00
	\$312.88	\$0.00
Number of Drums of Liquid Waste	Cost per Drum (\$)	Total Cost
	\$187.74	\$0.00
	\$187.74	\$0.00
	\$187.74	\$0.00
Total Drum Disposal Costs		\$625.77

adjusted to reflect Subpart H minimum payment amount

<b>Total Remediation and Disposal Costs:</b>	\$178,573.02	29,237,58

# UST Removal and Abandonment Costs Form 01/28-29/2016

		Did UST have a release?		Cost (\$)	Abandoned or Removed	Size (gallons)	Product Stored in UST
3,903	No 🗆	☑ No	Yes	\$3,942.33	Removed	12,000	Unleaded Gasoline
	No 🗆	☑ No	Yes	\$ <del>3,942.3</del> 3	Removed	12,000	Unleaded Gasoline
	No 🗆	☑ No	Yes	\$3,942.33	Removed	12,000	Unleaded Gasoline
1	No 🔲	☑ No	Yes	\$3,942.33	Removed	12,000	Diesel Fuel
ĭ ↓	No 🗆	☑ No	Yes	\$3,942.33	Removed	6,000	Kerosene
	No 🗆	□ No	Yes	\$0.00			
1	No 🗆	□ No	Yes	\$0.00			
1	No 🗆	□ No	Yes	\$0.00			
	No 🗆	□ No	Yes	\$0.00			TABLE MARKET AND THE STATE OF T
1	No 🗆	□ No	Yes	\$0.00			
1	No 🗆	□ No	Yes	\$0.00			
Ī	No 🗆	□ No	Yes	\$0.00			
	No 🗆	□ No	Yes	\$0.00			
Ī	No 🗆	☐ No	Yes	\$0.00			
	No 🗆	□ No	Yes	\$0.00	A .		
	No 🗆	□ No	Yes	\$0.00			
	No 🗆	□ No	Yes	\$0.00	1000		
61	No 🗆	□ No	Yes	\$0.00			
	No 🗆	□ No	Yes	\$0.00			
	No 🗆	□ No	Yes	\$0.00	A-suss		
0.0	5	9,711.65	<del>\$1</del>	onment Costs:	oval and Abando	otal UST Remo	

## Paving, Demolition, and Well Abandonment Costs Form

## A. Concrete and Asphalt Placement/Replacement USTremoval (01/28-29/2016)

	Number of Square Feet	Asphalt or Concrete	Thickness (inches)	Cost (\$) per Square Foot	Replacement or Placement for an Engineered Barrier	Total Cost	
956	4,626	Concrete	6	\$5.47	Replacement	\$25,3 <del>0</del> 4.22	5.41
				\$0.00		\$0.00	10,58
				\$0.00		\$0.00	
				\$0.00		\$0.00	
				\$0.00		\$0.00	
				\$0.00		\$0.00	
				\$0.00		\$0.00	
9				\$0.00		\$0.00	19
				\$0.00		\$0.00	
0				\$0.00		\$0.00	

625 204 22	- 8
323,304.22	10,581.96
	\$25,304.22

## B. Building Destruction or Dismantling and Canopy Removal

Item to Be Destroyed, Dismantled, or Removed	Unit Cost (\$)	Total Cost	

THE THE PARTY OF T		
Total Building Destruction or Dismantling and	\$0.00	
Canopy Removal Costs:	30.00	

# Paving, Demolition, and Well Abandonment Costs Form

C. Well Abandonment MW-1 and MW-15: Unable to be located/destroyed.

MW-8: No boring log or construction diagram.

Monitoring Well ID #	Type of Well (HSA / PUSH / Recovery)	Depth of Well (feet)	Cost (\$) per Foot	Total Cost	
MW-1	HSA	15:00	\$12.52	\$187.80	
MW-2	HSA	15.00	\$12.52	\$187.80	
MW-3	HSA	15.00	\$12.52	\$187.80	1le, 2
MW-4R	HSA	15.00	\$12.52	\$187.80	150)
MW-5	HSA	15.00	\$12.52	\$187.80	
MW-6	HSA	15.00-	\$12.52	<del>\$187.80</del>	18, 2
MW-7	HSA	15.00	\$12.52	<del>\$187.80</del>	14, 1-
MW-8	HSA	15.00	\$12.52	\$187.80	1141
MW-9	HSA	13.09	\$12.52	\$163.89	
MW-10	HSA	12.88	\$12.52	\$161.26	
MW-11	HSA	13.44	\$12.52	\$168.27	13.14
MW-12	HSA	12.95	\$12.52	\$162.13	-
MW-13	HSA	13.34	\$12.52	\$167.02	7
MW-14	HSA	13.17	\$12.52	\$164.89	
MW-15	HSA	13.14	\$12.52	\$164.51	-
			\$0.00	\$0.00	
			\$0.00	\$0.00	
			\$0.00	\$0.00	
			\$0.00	\$0.00	
			\$0.00	\$0.00	
			\$0.00	\$0.00	7
			\$0.00	\$0.00	
			\$0.00	\$0.00	7
			\$0.00	\$0.00	

Total Monitoring Well Abandonment Costs:	\$2,654.37	2,148.06
Total Paving, Demolition, and Well Abandonment Costs:	\$27,958.59	12.730.02

# Consulting Pelectronic Filing Received, Clerk's Office 7/28/201.7017-084) R. 620

Employee N	lame	Personnel Title	Hours	Rate (\$)	Total Co
Remediation Category		Task			
		Engineer III	25	\$125.15	\$3,128.7
CCAP	CA Plan- Desig	n, Development & Management / Ad	ditional Info		
		Project Manager	30	\$112.64	\$3,379.2
CCAP	CA Plan - Prepa	aration / Attachments			
		Project Manager	15	\$112.64	\$1,689.6
TACO 2 or 3	Tier 2 SRO Cale	culation IEPA Input Parameter Sheet	s / Additional (	Calculations	ATTEN TO THE STATE OF THE STATE
		Senior Draftsperson/CAD	10	\$75.08	\$750.80
CCAP	CA Plan - Maps	and Map Printing / Revised Maps Pe	er IEPA PM		
		Project Manager	9	\$112.64	\$1,013.7
CCAP-Budget	CA Budget - Bu	dget Development, Writing			- 101 11
		Senior Project Manager	8.5	\$125.15	\$1,063.7
CCAP	CA Plan - Prepa	aration, Management, Review & Con	nments		
		Senior Prof. Engineer	5	\$162.70	\$813.50
CCAP	CA Plan - Final	Review & Certification			
		Senior Prof. Engineer	5	\$162.70	\$813.50
CCAP-Budget	CA Budget - Fin	al Review & Certification			
		Senior Admin. Assistant	6	\$56.32	\$337.92
CCAP	CA Plan & Budg	get Production: copying, binding, filir	ng and submitta	al to IEPA and cl	ient
		Senior Project Manager	5	\$125.15	\$625.75
CCA-Field	Project Coordina	ation - office time, project management	nt coordination	n	

13,616.56

# Consulting Pelectronia Filingts Received, Clerk's Office 2/28/2017-084/R. 621

Employee Name		Personnel Title	Hours	Rate (\$)	Total Cost	
Remediation Category		Task				
				123.91		
		Senior Project Manager	105	\$125.15	\$13,140.75	
CCA-Field	CA field prep and	l travel, UST removal oversight, re	mediation,soil s	sampling, truck o	coordination	
				111,52		
		Project Manager	80	\$112.64	\$9,011.20	
CCA-Field	CA field prep and	travel, soil remediation, PID scree	ning, field coo	dination, site res	toration	
		Project Manager	5	\$112.64	\$563.20	
CCA-Field	Travel, Prep, Rei	nstall MW-4 oversight, boring log		Ti.		
		Project Manager	9	\$112.64	\$1,013.76	
CCA-Field	CCA-Field Data interpretation and results, tables					
		Senior Acct. Technician	40.25	\$68.83	\$2,770.41	
CA-Pay	Billing Package (	CAP Remediation) - Preparation &	Assembly			
		Senior Prof. Geologist	5	\$137.67	\$688.35	
CA-Pay	Billing Package (	CAP Remediation) - Review & Cer	tification			
# Letter Section		Senior Project Manager	7	\$125.15	\$876.05	
CCA-Field	Travel, Prep and g	groundwater monitoring and sampli	ng entre netwo	rk		
	- 1-040	Project Manager	7	\$112.64	\$788.48	
CCA-Field	Travel, Prep and g	groundwater monitoring and sampli	ng entire netwo	ork		
		Senior Project Manager	2	\$125.15	\$250.30	
CA-Pay	1	GW Evaluation) - Management				

Unsure how many hours are associated with the USTremoval. Deduct all

# Consulting Pelectronia Filingts Received, Clerk's Office 7/28/2017-084) R. 622

Employee N	lame	Personnel Title	Hours	Rate (\$)	Total Cos	
Remediation Category	Task					
		Senior Acct. Technician	15	\$68.83	\$1,032.45	
CA-Pay	Billing Package	(GW Evaluation) - Preparation & A	ssembly			
		Senior Prof. Engineer	3	\$162.70	\$488.10	
CA-Pay	Billing Package	(GW Evaluation) - Review & Certifi	cation		- 1111	
		Engineer III	9	\$125.15	\$1,126.35	
TACO 2 or 3	Data Analysis -	Extents Determination / Modeling				
		Project Manager	24	\$112.64	\$2,703.36	
НАА	City and IDOT	forms, negotiation, execution				
		Senior Project Manager	5	\$125.15	\$625.75	
CACR	CACR - Design,	, Data Review				
		Project Manager	30	\$112.64	\$3,379.20	
CACR	CACR Preparati	ion - tables, writing				
			6	\$0.00	\$0.00	
CACR	CACR Review a	and Certification				
			8	\$0.00	\$0.00	
CACR	CACR & HAA	Maps and Printing				

9,355.2

# Consulting Pelectronia Filingts Received, Clerk's Office 7/28/2017-084) R. 623

Employee N	ame	Personnel Title	Hours	Rate (\$)	Total Co
Remediation Category		Tas	k		
			5	\$0.00	\$0.00
CACR	CACR Printing, Co	opying & Binding, Project Filing			
			15	\$0.00	\$0.00
CA-Pay	CACR and NFR Bi	illing Package - Production			
			: 4	\$0.00	\$0.00
CA-Pay	CACR and NFR Bi	illing Package - Review and Cert	ification		
	VENT TO SEE			\$0.00	\$0.00
				\$0.00	\$0.00
					•
70 TE 18 18 18 18				\$0.00	\$0.00
				\$0.00	\$0.00
			1		
	West and services			\$0.00	\$0.00
				\$0.00	\$0.00
				44.77	\$0.00
	T	Cotal of Consulting Person	onnel Costs:	\$52,0	74.26
			-	Z9,922	.32

Page 4 of 4

# Consultant's Retropic Filing: Received Clerk's Office 7/28/2017-084) R. 624

CCA-Field UST Removal / Excavation (7 @ 170 RT) / Drilling 1 @ 170 RT / GW Sample 1 @ 170 R	als, Equipment or F	nit Total Cost
CCA-Field UST Removal / Excavation (7 @ 170 RT) / Drilling (1 @ 170 RT / GW Sample 1 @ 170	n Category	
CCA-Field Supplies / Baggies / Sampling / Consultant Non Disposable Field Equipment  PID	Field Vehicle	ile \$826.20
CCA-Field Supplies / Baggies / Sampling / Consultant Non Disposable Field Equipment  PID	Field UST	ample 1 @ 170RT
PID 8- \$85.00 Day \$686  CCA-Field Soil Excavation (7) / Drilling (1)  Consultant Latex Gloves 2- \$12.00 Box \$24  CCA-Field Soil Remediation Sampling / GW Sampling  Water Level Indicator 1 \$30.00 Day \$30  CCA-Field GW Sampling  NFR Recording Costs 1 \$100.00 Each \$100  CACR Costs for recording NFR  Magnetic Locator 2 \$45.00 Day \$90  CCA-Field Locating Wells & Utilities	onsultant Field & Dec	s224.00
CCA-Field Soil Excavation (7) / Drilling (1)  Consultant Latex Gloves 2- \$12.00 Box \$24  CCA-Field Soil Remediation Sampling / GW Sampling  Water Level Indicator 1 \$30.00 Day \$30  CCA-Field GW Sampling  NFR Recording Costs 1 \$100.00 Each \$100  CACR Costs for recording NFR  Magnetic Locator 2 \$45.00 Day \$90  CCA-Field Locating Wells & Utilities	Field Supp	ent
CCA-Field Soil Remediation Sampling / GW Sampling  Water Level Indicator 1 \$30.00 Day \$30  CCA-Field GW Sampling  NFR Recording Costs 1 \$100.00 Each \$100  CACR Costs for recording NFR  Magnetic Locator 2 \$45.00 Day \$90  CCA-Field Locating Wells & Utilities	PID	s \$680.00
CCA-Field Soil Remediation Sampling / GW Sampling  Water Level Indicator 1 \$30.00 Day \$30  CCA-Field GW Sampling  NFR Recording Costs 1 \$100.00 Each \$100  CACR Costs for recording NFR  Magnetic Locator 2 \$45.00 Day \$90  CCA-Field Locating Wells & Utilities	Field Soil	
Water Level Indicator 1 \$30.00 Day \$30  CCA-Field GW Sampling  NFR Recording Costs 1 \$100.00 Each \$100  CACR Costs for recording NFR  Magnetic Locator 2 \$45.00 Day \$90  CCA-Field Locating Wells & Utilities	Consultant Latex G	x \$24.00
CCA-Field GW Sampling  NFR Recording Costs 1 \$100.00 Each \$100  CACR Costs for recording NFR  Magnetic Locator 2 \$45.00 Day \$900  CCA-Field Locating Wells & Utilities	Field Soil	
NFR Recording Costs 1 \$100.00 Each \$100 CACR Costs for recording NFR  Magnetic Locator 2 \$45.00 Day \$90 CCA-Field Locating Wells & Utilities	Water Level Indic	y \$30.00
CACR Costs for recording NFR  Magnetic Locator 2 \$45.00 Day \$90  CCA-Field Locating Wells & Utilities	Field GW:	
Magnetic Locator 2 \$45.00 Day \$90.  CCA-Field Locating Wells & Utilities	NFR Recording Co	ch \$100.00
CCA-Field Locating Wells & Utilities	CR Costs	
	Magnetic Locate	y \$90.00
D'	Field Locat	
Disposable Bailers & String 13 \$8.00 Each	Disposable Bailers &	sh \$104.00
CCA-Field Developing MW-4R (1) / Groudnwater Sampling (12)	Field Deve	
\$0.0		\$0.00
\$0.		\$0.00

# Consultant' Flagrage Filing: Received Clerk's Office 2/28/201. 2017-084) R. 625

Materials, Equipment or Field	Purchase	Time or Amount Used	Rate (\$)	Unit	Total Cost
Remediation Category		Description/J	ustification		
					\$0.00
					<u> </u>
					T 60.00
					\$0.00
	W-18- 12-, 13-				
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					1 40.00
					1
					\$0.00
					\$0.00
					\$0.00
	TD / 1 C/	Consultant Mater		00.0	78.20

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

		ei illication			
I hereby certify that I intend activities for Leaking UST is this budget are for necessary also certify that the costs inco of 415 ILCS 5/57, no costs a costs exceed Subpart H: Ma Appendix E Personnel Titles payment from the Fund pursamendment. Such ineligible	ncident	923441 casonable and ac are not for corre udget that are no counts, Appendix Adm. Code 732 Code 732.606 of	. I furth curate to the best ective action in ex of described in the x D Sample Hand 2 or 734. I further	er certify to of my known cess of the corrective ling and Au certify that	hat the costs set forth in wledge and belief. I minimum requirements action plan, and no nalysis amounts, and costs ineligible for
Costs associated wi Costs incurred prior Costs associated wi Legal fees or costs. Costs incurred prior	th site restoration (e th utility replacement to IEMA notification th planned tank pulls	nt (e.g., sewers, e.g., son. s.	electrical, telephor		JAN 17 2017 IEPA/BOL
Authorized Representative:	Da	wid Golwitzer		Title:	President
Signature:	+ Pr	ered		Date:	1-12-17
Subscribed and sworn to bef	ore me the 12 <sup>H</sup>	day of	Truz		, 217
In addition, I certify under preconducted under my supervior Licensed Professional Geoprepared under my supervisior report has been completed 732 or 734, and generally accurate and complete. I am to the Illinois EPA, including the Environmental Protection	sion or were conducted blogist and reviewed on; that, to the best of in accordance with cepted standards and aware there are significant of the si	ted under the sup by me; that this of my knowledge the Environmen practices of my ificant penalties ines, imprisonment	pervision of anoth plan, budget, or a e and belief, the watal Protection Act profession; and the for submitting fall	My Conis plan, but the Licensed report and a cork described [415 ILCS hat the infose statements.]	d Professional Engineer all attachments were bed in the plan, budget, 5 5], 35 Ill. Adm. Code ormation presented is atts or representations
L.P.E./L.P.G. Signature:  Subscribed and sworn to be to the state of t	Jeff R. Wienhoff  Dre me the 104  Anti-public	nm day of	L.P.E./L.P.G. S  Annary  Seal:	Date:	D. EGGLESTON OFFICIAL SEAL any Public - State of Illinois dy Commission Expires December 08, 2017

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.



Office of the Illinois

### State Fire Marshal

"Partnering With the Fire Service to Protect Illinois"

December 30, 2015

Illico, Incorporated P.O. Box 280 Lincoln, IL 62656 Attn: Mr. Dave Golwitzer

In Re:

Facility No. 3-007188 IEMA Incident No. 92-3441 Road Ranger #234 3712 N. University Peoria, Peoria Co., IL

### Dear Applicant:

The Reimbursement Eligibility and Deductible Application received on December 16, 2015 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 12,000 gallon Gasoline
Tank 2 12,000 gallon Gasoline
Tank 3 12,000 gallon Gasoline
Tank 4 12,000 gallon Diesel Fuel
Tank 5 6,000 gallon Kerosene

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.

- 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.
- 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 105.504(b)).

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

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, please contact our Office at (217) 785-1020 or (217) 785-5878.

Sincerely,

Deanne Lock

Administrative Assistant

Division of Petroleum and Chemical Safety

cc: IEPA

Marlin Environmental, Inc.

### Benanti, Trent

From: Jeff Wienhoff <jeffw@greenwavecon.com>

**Sent:** Tuesday, May 16, 2017 6:36 AM

To: Benanti, Trent Cc: Joe Buhlig

Subject: [External] IEMA 923441

#### Trent,

Just a quick follow-up note prior to your manager's meeting today, as I was thinking more about our conversation overnight. The removal of the USTs was not only due to their previous history of leaking but additionally to access and remove highly contaminated soils including those in excess of Tier 2 Soil Saturation limits. Not sure if that is clearly spelled out in the CAP, but wanted to clarify it was necessary to complete soil remediaiton.

Thanks.

Jeff Wienhoff, P.E.

Green Wave Consulting, LLC 3900 Wood Duck Drive, Suite F Springfield, IL 62711

Office: (217) 726-7569 x250

Cell: (217) 899-5486 www.greenwavecon.com

### Benanti, Trent

From: Benanti, Trent

Sent:Tuesday, May 16, 2017 7:41 AMTo:jeffw@greenwavecon.comSubject:Leaking UST Incident #923441

Mr. Wienhoff:

You sealed the Owner/Operator and Licensed Professional Engineer/Geologist Budget Certification Form with your notary public seal, not your Licensed Professional Engineer seal. Please email a corrected Owner/Operator and Licensed Professional Engineer/Geologist Budget Certification Form to me and place a hard copy in the mail.

Sincerely,

Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

E-mail: trent.benanti@illinois.gov

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

I hereby certify that I intend to seek pay activities for Leaking UST incident this budget are for necessary activities a also certify that the costs included in the of 415 ILCS 5/57, no costs are included costs exceed Subpart H: Maximum Pay Appendix E Personnel Titles and Rates payment from the Fund pursuant to 35 I amendment. Such ineligible costs include	923441 and are reasonable and acciss budget are not for correct in this budget that are not ment Amounts, Appendix of 35 Ill. Adm. Code 732 Ill. Adm. Code 732.606 or	. I further to the best of ctive action in excit described in the a D Sample Handle or 734. I further of	er certify that of my knowledges of the magnetive acting and Anacertify that cortifies the cortifies	t the costs set forth in edge and belief. I inimum requirements ction plan, and no lysis amounts, and losts ineligible for
Costs associated with ineligible Costs associated with site restor Costs associated with utility re Costs incurred prior to IEMA recosts associated with planned Legal fees or costs.  Costs incurred prior to July 28, Costs associated with installation	oration (e.g., pump islands placement (e.g., sewers, enotification. tank pulls.	lectrical, telephor		
Owner/Operator:	Illico Ind	ependent Oil Co.		
Authorized Representative:	David Golwitzer		Title:	President
Signature:	Pres. M		Date:	1-12-17
Subscribed and sworn to before me the	12 <sup>1</sup> day of	Truz		, 217
Notary Pub	1	Seal:	My Com	OFFICIAL SEAL EFF WIENHOFF / Public - State of Illinois mission Expires 4/29/2018
In addition, I certify under penalty of la conducted under my supervision or wer or Licensed Professional Geologist and prepared under my supervision; that, to or report has been completed in accorda 732 or 734, and generally accepted stan accurate and complete. I am aware there to the Illinois EPA, including but not lir the Environmental Protection Act [415]	e conducted under the sup reviewed by me; that this the best of my knowledge ince with the Environment dards and practices of my e are significant penalties mited to fines, imprisonment	pervision of anoth plan, budget, or read belief, the watal Protection Act profession: and t	er Licensed and all ork describe [415 ILCS] hat the information of the control of	Professional Engineer attachments were d in the plan, budget, 5], 35 Jim Admin Gode mation prevented is prepresentations 44 and 57117 of
L.P.E./L.P.G. Jeff R. W	/ienhoff	<u>L.P.E.</u> /L.P.G. S	Seal:	OF OF
<u>L.P.E.</u> /L.P.G. Signature:	1411-1111	Γ	Date:	WAS INTO IS NOT THE WASHINGTON
Subscribed and sworn to before me the	day of	fanvary		, 2017
Olorfox Prife	to	Seal:	Notal	D. EGGLESTON OFFICIAL SEAL y Public - State of Illinois

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.

### Benanti, Trent

From: Jeff Wienhoff <jeffw@greenwavecon.com>

**Sent:** Tuesday, May 16, 2017 7:45 AM

To: Benanti, Trent

Subject: [External] RE: Leaking UST Incident #923441

Attachments: PE Cert w Stamp.pdf

Sorry about that. It is attached.

We will be dropping other things off today, so it will be delivered this afternoon.

Jeff Wienhoff, P.E.

Green Wave Consulting, LLC 3900 Wood Duck Drive, Suite F

Springfield, IL 62711

Office: (217) 726-7569 x250

Cell: (217) 899-5486 www.greenwavecon.com

From: Benanti, Trent [mailto:Trent.Benanti@Illinois.gov]

Sent: Tuesday, May 16, 2017 7:41 AM

To: Jeff Wienhoff < jeffw@greenwavecon.com>

Subject: Leaking UST Incident #923441

Mr. Wienhoff:

You sealed the Owner/Operator and Licensed Professional Engineer/Geologist Budget Certification Form with your notary public seal, not your Licensed Professional Engineer seal. Please email a corrected Owner/Operator and Licensed Professional Engineer/Geologist Budget Certification Form to me and place a hard copy in the mail.

Sincerely,

Trent Benanti

Project Manager/Environmental Protection Engineer III

Illinois EPA – Leaking UST Section

Phone: (217) 524-4649

E-mail: trent.benanti@illinois.gov

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### **Environmental Justice (EJ) Area Reporting Form for Leaking UST Program Sites**

Reviewed By: Trent Benanti

Re: LPC #1430655263 – Peoria County

Date Reviewed: 05/17/2017

Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

For a site located in an **EJ area**, as defined on the EJ GIS map, the information listed below will be provided by the Leaking UST Section's assigned project manager to the EJ Officer as soon as possible *upon receipt* of all Corrective Action Plans (CAPs) and Completion Reports (CACRs). For subsequent amended CAPs, if no substantial change in remedial effort is proposed then an additional memo is not necessary.

Request for Review of Leaking	UST Program Site Located in EJ Area
Project Manager Name	Trent Benanti
BOL ID#	1430655263
Site Name	Illico Independent Oil Co.
Site Address (Street Address)	3712 N. University St.
Site City	Peoria
Site County	Peoria
UST Owner/Operator Name	Illico Independent Oil Co.
UST Owner/Operator Contact	Mr. David Golwitzer
UST Owner/Operator Phone	(217) 732-4193
Previous Use of Site	Industrial-commercial
Current/Proposed Use of Site	Industrial-commercial
Corrective Action	Tier 2 evaluation and excavation
Land Use after Corrective Action	Industrial-commercial
Engineered Barriers Used	N/A
Institutional Controls Used	Industrial-commercial land use limitation
	On-site groundwater use restriction
	Highway Authority Agreements
Contaminants of Concern	BTEX and PNAs
Is there off-site contamination as a result of the release?	Yes
Was site referred to CEG for Right-to-	No
Know notifications?	110
Thio Windmidulons	
If yes, then have notifications been sent,	
and who is the assigned Community	
Relations Coordinator?	
Other Relevant Information: Enforcement,	
citizen complaint, public interest, etc.	
Date Corrective Action Plan Received	01/17/2017
Date Request for Review Sent to EJ	05/17/2017
Officer	03/17/2017

# HIECHOOMS FEING RECEIVED NO VALUE PROCEETE 2882 NO. 24 GEN CRY 634



1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS'62794-9276 • (217) 782-3397

BRUCE RAUNER, GOVERNOR

ALEC MESSINA, DIRECTOR

(217) 524-3300

**CERTIFIED MAIL** 

7014 2120 0002 3286 8729

### MAY 1 7 2017

Mr. David Golwitzer Illico Independent Oil Co. 2201 Woodlawn Rd., Suite 600 Lincoln, IL 62656

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co. 3712 N. University St. Leaking UST Incident #923441 Leaking UST Technical File

Dear Mr. Golwitzer:

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed the Corrective Action Plan and Corrective Action Plan Budget submitted for the above-referenced incident. The Corrective Action Plan dated 01/16/2017 was received by the Illinois EPA on 01/17/2017. The Corrective Action Plan Budget is located in ATTACHMENT 2 of the Corrective Action Plan.

Pursuant to Subsections 57.7(b)(2) and 57.7(c) of the Environmental Protection Act [(415 ILCS 5) (Act)] and 35 Illinois Administrative Code (35 Ill. Adm. Code) 734.505(b) and 734.510(a), the Corrective Action Plan is modified. The Illinois EPA has determined that the modifications listed in Attachment A of this letter are necessary to demonstrate compliance.

Pursuant to Subsections 57.7(b)(3) and 57.7(c) of the Act and 35 III. Adm. Code 734.505(b) and 734.510(b), the Corrective Action Plan Budget is modified. Based on the modifications listed in Section 2 of Attachment B of this letter, the Corrective Action Plan Budget is approved for the amounts listed in Section 1 of Attachment B of this letter. However, it should be noted that the amount of payment from the Underground Storage Tank Fund (Fund) may be limited by Subsections 57.7(c), 57.8(d), 57.8(e), and 57.8(g) of the Act, as well as 35 III. Adm. Code 734.630 and 734.655.

Pursuant to Subsection 57.8(a)(5) of the Act, if payment from the Fund will be sought for any additional costs that may be incurred as a result of the Illinois EPA's modifications, an amended Corrective Action Plan Budget must be submitted and approved prior to the issuance of a No Further Remediation (NFR) Letter. Costs that have not been approved prior to the issuance of an NFR Letter will not be paid from the Fund.

Pursuant to 35 III. Adm. Code 734.145, the owner/operator must notify the Illinois EPA of the corrective action field activities prior to the date the field activities take place. This notification must include a description of the field activities to be conducted; the name of the person

4302 N. Main St., Rodeford, IL 61103 (815)987-7760 595 S. State, Bgin, IL 60123 (847)608-3131 2125 S. First St., Champaign, IL 61820 (217)278-5800 2009 Mail St., Callinsville, IL 62234 (618)346-5120

### Page 2

conducting the field activities; and the date, time, and place the field activities will be conducted. This notification may be done by facsimile or electronic mail and must be provided at least two weeks prior to the scheduled field activities.

Pursuant to Subsections 57.7(b), 57.12(c), and 57.12(d) of the Act and 35 III. Adm. Code 734.100 and 734.125, the Illinois EPA requires that a Corrective Action Completion Report be submitted within 30 days after completion of the Corrective Action Plan 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/operator may appeal this decision to the Illinois Pollution Control Board. Appeal rights are attached.

If you have any questions or need assistance, please contact Trent Benanti at (217) 524-4649.

Sincerely,

Michael T. Lowder

Unit Manager

Leaking Underground Storage Tank Section

Division of Remediation Management

Bureau of Land

Attachments (3): Attachment A

Attachment B Appeal Rights

c: BOL File

#### Attachment A

Re: LPC #1430655263 - Peoria County Peoria/Illico Independent Oil Co. 3712 N. University St. Leaking UST Incident #923441 Leaking UST Technical File

The modifications listed below are necessary to demonstrate compliance.

- 1) The Corrective Action Plan contains errors. <u>Please contact Trent Benanti at (217) 524-4649</u> for more details, and correct the errors.
- The indicator contaminants for Leaking UST Incident #923441 shall be benzene, toluene, ethylbenzene, and total xylenes (collectively referred to as BTEX) and polynuclear aromatic hydrocarbons (PNAs).
- 3) The mass-limit acreage shall be 2 acres.
- 4) The exposure interval for the mass-limit volatization factor (T<sub>M-L</sub>) for the industrial-commercial population shall be 25 yr. The exposure interval for the mass-limit volatization factor (T<sub>M-L</sub>) for the construction worker population shall be 1 yr.
- 5) The dry soil bulk density ( $\rho_b$ ) shall be 1.684 g/cm<sup>3</sup>.
- 6) The Tier 2 remediation objectives for benzene for the outdoor inhalation exposure route for the residential, industrial-commercial, and construction worker populations shall be 16,400 μg/kg, 31,400 μg/kg, and 44,200 μg/kg, respectively.
- 7) The calculated soil saturation limits for toluene, ethylbenzene, and total xylenes shall be 1,607,000 μg/kg, 1,009,000 μg/kg, and 806,000 μg/kg, respectively.
- 8) The Tier 2 remediation objectives for ethylbenzene, total xylenes, and naphthalene for the soil component of the groundwater ingestion exposure route shall be 83,000 μg/kg, 806,000 μg/kg, and 26,000 μg/kg, respectively.
- 9) The Tier 2 remediation objectives for total xylenes for the outdoor inhalation exposure route for the residential, industrial-commercial, and construction worker populations shall be 806,000 μg/kg, 806,000 μg/kg, and 600,000 μg/kg.
- 10) The Tier 2 remediation objective for naphthalene for the outdoor inhalation exposure route for the construction worker population shall be 11,000 µg/kg.
- The owner/operator shall remove the soil samples collected from SB-4, SB-5, SB-9, SB-10, MW-6, and MW-7 from TABLE I.

- 12) The owner/operator shall not remove the underground storage tanks (USTs), piping, and pump islands because the owner/operator has not demonstrated that the USTs, piping, and pump islands must be removed to access backfill/soil that contains contaminants at concentrations greater than the Tier 2 remediation objectives.
- 13) The owner/operator may excavate, transport, and dispose of 280 yd3 of soil.
  - a) The owner/operator may excavate, transport, and dispose of the bottom 3' of soil in the green zone. See FIGURE 2 and FIGURE 3.
  - b) The owner/operator shall return the top 5' of soil in the green zone to the excavation. See FIGURE 2 and FIGURE 3.
  - c) The owner/operator may excavate, transport, and dispose of the bottom 4' of soil in the blue zone. See FIGURE 2 and FIGURE 3.
  - d) The owner/operator shall return the top 4' of soil in the blue zone to the excavation. See FIGURE 2 and FIGURE 3.
  - e) The owner/operator shall not excavate, transport, and dispose of the backfill/soil in the orange zone because the owner/operator has not demonstrated that the backfill/soil in the orange zone contains contaminants at concentrations greater than the Tier 2 remediation objectives. See FIGURE 2 and FIGURE 3.
- 14) Where the excavation is 8' deep, the owner/operator shall collect samples from the excavation floor.
  - a) The Corrective Action Plan states that the contractor was able to excavate to 8' below ground surface (BGS) without making significant contact with the saturated zone.
- 15) The owner/operator shall return 313 yd<sup>3</sup> of soil to the excavation.
  - a) The owner/operator shall return the top 5' of soil in the green zone to the excavation. See FIGURE 2 and FIGURE 3.
  - b) The owner/operator shall return the top 4' of soil in the blue zone to the excavation. See FIGURE 2 and FIGURE 3.
- 16) The owner/operator may purchase, transport, and place 280 yd<sup>3</sup> of clean backfill. See items #12, #13, and #15 above.

- 17) The owner/operator may replace 1,956 ft<sup>2</sup> of concrete.
  - a) The owner/operator may replace 616 ft<sup>2</sup> of concrete over the green zone. See FIGURE 2 and FIGURE 3.
  - b) The owner/operator may replace 1,340 ft<sup>2</sup> of concrete over the blue zone. See FIGURE 2 and FIGURE 3.
  - c) The owner/operator shall not replace 2,670 ft<sup>2</sup> of concrete over the orange zone because the owner/operator has not demonstrated that the USTs, piping, and pump islands must be removed to access backfill/soil that contains contaminants at concentrations greater than the Tier 2 remediation objectives. See FIGURE 2 and FIGURE 3.
- 18) The owner/operator shall demonstrate that the concentrations of the organic contaminants of concern remaining in the soil will not exceed the attenuation capacity of the soil.
- 19) The proposed institutional controls shall cover the modeled extent of the groundwater contamination.
  - a) FIGURE 5A and FIGURE 5B, which were attached to the email dated 04/08/2016, show the modeled extent of the groundwater contamination. According to said site maps, the modeled extent of the groundwater contamination includes more than N. University St., W. War Memorial Dr., and 3721 N. University St. However, the Corrective Action Plan states that the owner/operator will pursue Highway Authority Agreements (HAAs) with the City of Peoria and the Illinois Department of Transportation (IDOT) for N. University St. and W. War Memorial Dr. In addition, the owner/operator will demonstrate an inability to obtain access to 3721 N. University St. despite best efforts.
  - b) The proposed institutional controls shown on FIGURE 2 do not cover the modeled extent of the groundwater contamination.
- 20) The owner/operator shall submit the Corrective Action Completion Report to the Illinois Environmental Protection Agency (Illinois EPA) on a current version of the technical form. The owner/operator shall fill out the technical form, save the technical form to his/her local drive, print the technical form, and sign the technical form. The owner/operator shall not retype the technical form.
  - a) The owner/operator submitted the Corrective Action Plan to the Illinois EPA on an outdated version of the technical form.
  - b) The owner/operator retyped the technical form.

- 21) The owner/operator may abandon the following monitoring wells after receipt of the No Further Remediation (NFR) Letter: MW-2, MW-3, MW-4R, MW-5, MW-6, MW-7, MW-9, MW-10, MW-11, MW-12, MW-13, and MW-14.
  - a) Monitoring wells MW-1 and MW-15 cannot be located or have been destroyed.
  - b) The Illinois EPA does not have a soil boring log or monitoring well construction diagram for MW-8. Therefore, said monitoring well has not been used to investigate Leaking UST Incident #923441.

### Attachment B

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co. 3712 N. University St. Leaking UST Incident #923441 Leaking UST Technical File

### Section 1

Based on the modifications listed in Section 2 of this Attachment B, the Corrective Action Plan Budget is approved for the following amounts:

\$ 2,187.20	Drilling and Monitoring Well Costs	
\$ 3,737.84 Analytical Costs		
\$29,237.58	Remediation and Disposal Costs	
\$ 0.00	UST Removal and Abandonment Costs	
\$12,730.02	Paving, Demolition, and Well Abandonment Costs	
\$29,922.32	Consulting Personnel Costs	
\$ 401.90	Consultant's Materials Costs	

Handling charges will be determined at the time a billing package is reviewed by the Illinois Environmental Protection Agency (Illinois EPA). The amount of allowable handling charges will be determined in accordance with Subsection 57.1(a) of the Environmental Protection Act [(415 ILCS 5) (Act)] and 35 Illinois Administrative Code (35 Ill. Adm. Code) 734.635.

### Section 2

- 1) The approved corrective action does not include removal of the underground storage tanks (USTs), piping, pump islands, or backfill/soil in the orange zone, and the Illinois EPA is unable to determine how many of the thirty-eighty budgeted soil samples are associated with removal of the USTs, piping, pump islands, and backfill/soil in the orange zone. Therefore, the Illinois EPA deducted all of the budgeted soil samples. Pursuant to Subsection 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.510(b), costs that are inconsistent with the associated technical plan are ineligible for payment from the Underground Storage Tank Fund (Fund).
- 2) Pursuant to 35 III. Adm. Code 734.870(d)(2), for costs not approved by the Illinois EPA in writing prior to the date the costs are incurred, the applicable maximum payment amounts must be the amounts in effect on the date the costs were incurred. The soil samples were collected between 07/01/2015 and 06/30/2016. Therefore, the applicable maximum payment amount for BTEX analysis shall be \$105.33/analysis.

- 3) Pursuant to 35 III. Adm. Code 734.870(d)(2), for costs not approved by the Illinois EPA in writing prior to the date the costs are incurred, the applicable maximum payment amounts must be the amounts in effect on the date the costs were incurred. The soil samples were collected between 07/01/2015 and 06/30/2016. Therefore, the applicable maximum payment amount for PNA analysis shall be \$188.36/analysis.
- 4) Pursuant to 35 III. Adm. Code 734.870(d)(2), for costs not approved by the Illinois EPA in writing prior to the date the costs are incurred, the applicable maximum payment amounts must be the amounts in effect on the date the costs were incurred. The soil samples were collected between 07/01/2015 and 06/30/2016. Therefore, the applicable maximum payment amount for an Encore® Sampler, purge-and-trap sampler, or equivalent sampling device shall be \$12.39/sampler.
- 5) Pursuant to 35 III. Adm. Code 734.870(d)(2), for costs not approved by the Illinois EPA in writing prior to the date the costs are incurred, the applicable maximum payment amounts must be the amounts in effect on the date the costs were incurred. The waste characterization sample was collected between 07/01/2015 and 06/30/2016. Therefore, the applicable maximum payment amount for flash point or ignitability analysis shall be \$40.88/analysis.
  - The Illinois EPA reduced the unit rate for flash point or ignitability analysis to \$40.88/analysis. Pursuant to 35 Ill. Adm. Code 734.630(zz), costs that exceed the maximum payment amounts set forth in 35 Ill. Adm. Code 734.Subpart H are ineligible for payment from the Fund. In addition, such costs are not approved because they are not reasonable (Subsection 57.7(c)(3) of the Act).
- 6) Pursuant to 35 III. Adm. Code 734.870(d)(2), for costs not approved by the Illinois EPA in writing prior to the date the costs are incurred, the applicable maximum payment amounts must be the amounts in effect on the date the costs were incurred. The waste characterization sample was collected between 07/01/2015 and 06/30/2016. Therefore, the applicable maximum payment amount for paint filter (free liquids) analysis shall be \$17.35/analysis.
  - The Illinois EPA reduced the unit rate for paint filter (free liquids) analysis to \$17.35/analysis. Pursuant to 35 Ill. Adm. Code 734.630(zz), costs that exceed the maximum payment amounts set forth in 35 Ill. Adm. Code 734.Subpart H are ineligible for payment from the Fund. In addition, such costs are not approved because they are not reasonable (Subsection 57.7(c)(3) of the Act).

- 7) Pursuant to 35 Ill. Adm. Code 734.870(d)(2), for costs not approved by the Illinois EPA in writing prior to the date the costs are incurred, the applicable maximum payment amounts must be the amounts in effect on the date the costs were incurred. The waste characterization sample was collected between 07/01/2015 and 06/30/2016. Therefore, the applicable maximum payment amount for soil preparation for TCLP metals analysis shall be \$97.89/sample.
  - The Illinois EPA reduced the unit rate for soil preparation for TCLP metals analysis to \$97.89/sample. Pursuant to 35 Ill. Adm. Code 734.630(zz), costs that exceed the maximum payment amounts set forth in 35 Ill. Adm. Code 734.Subpart H are ineligible for payment from the Fund. In addition, such costs are not approved because they are not reasonable (Subsection 57.7(c)(3) of the Act).
- 8) Pursuant to 35 Ill. Adm. Code 734.870(d)(2), for costs not approved by the Illinois EPA in writing prior to the date the costs are incurred, the applicable maximum payment amounts must be the amounts in effect on the date the costs were incurred. The waste characterization sample was collected between 07/01/2015 and 06/30/2016. Therefore, the applicable maximum payment amount for TCLP lead analysis shall be \$19.82/analysis.
  - The Illinois EPA reduced the unit rate for TCLP lead analysis to \$19.82/analysis. Pursuant to 35 Ill. Adm. Code 734.630(zz), costs that exceed the maximum payment amounts set forth in 35 Ill. Adm. Code 734.Subpart H are ineligible for payment from the Fund. In addition, such costs are not approved because they are not reasonable (Subsection 57.7(c)(3) of the Act).
- 9) The approved corrective action does not include removal of the USTs, piping, pump islands, or backfill/soil in the orange zone, and the Illinois EPA is unable to determine how many of the six budgeted soil sampling events are associated with removal of the USTs, piping, pump islands, and backfill/soil in the orange zone. Therefore, the Illinois EPA deducted the sample shipping costs associated with all of the budgeted soil sampling events. Pursuant to Subsection 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.510(b), costs that are inconsistent with the associated technical plan are ineligible for payment from the Fund.
- 10) Pursuant to 35 III. Adm. Code 734.870(d)(2), for costs not approved by the Illinois EPA in writing prior to the date the costs are incurred, the applicable maximum payment amounts must be the amounts in effect on the date the costs were incurred. The soil samples were collected between 07/01/2015 and 06/30/2016. Therefore, the applicable maximum payment amount for sample shipping shall be \$61.96/soil sampling event.
- 11) The approved corrective action includes excavation, transportation, and disposal of 280 yd<sup>3</sup> of soil. However, the Remediation & Disposal Costs Form includes costs associated with excavation, transportation, and disposal of 1,518 yd<sup>3</sup> of soil. Therefore, the Illinois EPA deducted costs associated with excavation, transportation, and disposal of 1,238 yd<sup>3</sup> of soil. Pursuant to Subsection 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.510(b), costs that are inconsistent with the associated technical plan are ineligible for payment from the Fund.

- 12) Pursuant to 35 III. Adm. Code 734.870(d)(2), for costs not approved by the Illinois EPA in writing prior to the date the costs are incurred, the applicable maximum payment amounts must be the amounts in effect on the date the costs were incurred. The excavation, transportation, and disposal of soil were completed between 07/01/2015 and 06/30/2016. Therefore, the applicable maximum payment amount for excavation, transportation, and disposal of soil shall be \$70.63/yd<sup>3</sup>.
  - The Illinois EPA reduced the unit rate for excavation, transportation, and disposal of soil to \$70.63/yd<sup>3</sup>. Pursuant to 35 Ill. Adm. Code 734.630(zz), costs that exceed the maximum payment amounts set forth in 35 Ill. Adm. Code 734.Subpart H are ineligible for payment from the Fund. In addition, such costs are not approved because they are not reasonable (Subsection 57.7(c)(3) of the Act).
- 13) The approved corrective action includes the purchase, transportation, and placement of 280 yd³ of clean backfill. However, the Remediation & Disposal Costs Form includes costs associated with the purchase, transportation, and placement of 1,839 yd³ of soil. Therefore, the Illinois EPA deducted costs associated with the purchase, transportation, and placement of 1,559 yd³ of clean backfill. Pursuant to Subsection 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.510(b), costs that are inconsistent with the associated technical plan are ineligible for payment from the Fund.
- 14) Pursuant to 35 III. Adm. Code 734.870(d)(2), for costs not approved by the Illinois EPA in writing prior to the date the costs are incurred, the applicable maximum payment amounts must be the amounts in effect on the date the costs were incurred. The purchase, transportation, and placement of clean backfill were completed between 07/01/2015 and 06/30/2016. Therefore, the applicable maximum payment amount for the purchase, transportation, and placement of clean backfill shall be \$24.78/yd<sup>3</sup>.
  - The Illinois EPA reduced the unit rate for the purchase, transportation, and placement of clean backfill to \$24.78/yd<sup>3</sup>. Pursuant to 35 Ill. Adm. Code 734.630(zz), costs that exceed the maximum payment amounts set forth in 35 Ill. Adm. Code 734.Subpart H are ineligible for payment from the Fund. In addition, such costs are not approved because they are not reasonable (Subsection 57.7(c)(3) of the Act).
- 15) The approved corrective action includes the return of 313 yd³ of soil to the excavation. However, the Remediation & Disposal Costs Form includes costs associated with the return of 114 yd³ of soil to the excavation. Therefore, the Illinois EPA added costs associated with the return of 199 yd³ of soil to the excavation.

- 16) Pursuant to 35 III. Adm. Code 734.870(d)(2), for costs not approved by the Illinois EPA in writing prior to the date the costs are incurred, the applicable maximum payment amounts must be the amounts in effect on the date the costs were incurred. The overburden was returned to the excavation between 07/01/2015 and 06/30/2016. Therefore, the applicable maximum payment amount for the return of overburden to the excavation shall be \$8.06/yd<sup>3</sup>.
  - The Illinois EPA reduced the unit rate for the return of overburden to the excavation to \$8.06/yd<sup>3</sup>. Pursuant to 35 Ill. Adm. Code 734.630(zz), costs that exceed the maximum payment amounts set forth in 35 Ill. Adm. Code 734.Subpart H are ineligible for payment from the Fund. In addition, such costs are not approved because they are not reasonable (Subsection 57.7(c)(3) of the Act).
- 17) According to the Corrective Action Plan, the contractor was able to excavate to 8' below ground surface (BGS) without making significant contact with the saturated zone. Therefore, all of the budgeted groundwater removal and disposal costs are associated with removal of the USTs, piping, pump islands, and backfill/soil in the orange zone. The approved corrective action does not include removal of the USTs, piping, pump islands, or backfill/soil in the orange zone. Therefore, the Illinois EPA deducted all of the budgeted groundwater removal and disposal costs. Pursuant to Subsection 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.510(b), costs that are inconsistent with the associated technical plan are ineligible for payment from the Fund.
- 18) Pursuant to 35 III. Adm. Code 734.870(d)(2), for costs not approved by the Illinois EPA in writing prior to the date the costs are incurred, the applicable maximum payment amounts must be the amounts in effect on the date the costs were incurred. The groundwater was removed and disposed of between 07/01/2015 and 06/30/2016. Therefore, the applicable maximum payment amount for removal and disposal of groundwater shall be \$0.84/gal.
- 19) The approved corrective action does not include removal of the USTs, piping, pump islands, or backfill/soil in the orange zone. Therefore, the Illinois EPA deducted the costs associated with removal of the USTs. Pursuant to Subsection 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.510(b), costs that are inconsistent with the associated technical plan are ineligible for payment from the Fund.
- 20) Pursuant to 35 III. Adm. Code 734.870(d)(2), for costs not approved by the Illinois EPA in writing prior to the date the costs are incurred, the applicable maximum payment amounts must be the amounts in effect on the date the costs were incurred. The USTs were removed on 01/28/2016 and 01/29/2016. Therefore, the applicable maximum payment amount for UST removal shall be \$3,903.30/UST.
- 21) The approved corrective action includes replacement of 1, 956 ft<sup>2</sup> of concrete. However, the Paving, Demolition, and Well Abandonment Costs Form includes costs associated with replacement of 4,626 ft<sup>2</sup> of concrete. Therefore, the Illinois EPA deducted costs associated with replacement of 2,670 ft<sup>2</sup> of concrete. Pursuant to Subsection 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.510(b), costs that are inconsistent with the associated technical plan are ineligible for payment from the Fund.

22) Pursuant to 35 III. Adm. Code 734.870(d)(2), for costs not approved by the Illinois EPA in writing prior to the date the costs are incurred, the applicable maximum payment amounts must be the amounts in effect on the date the costs were incurred. The concrete was replaced between 07/01/2015 and 06/30/2016. Therefore, the applicable maximum payment amount for replacement of concrete shall be \$5.41/ft<sup>2</sup>.

The Illinois EPA reduced the unit rate for replacement of concrete to \$5.41/ft². Pursuant to 35 III. Adm. Code 734.630(zz), costs that exceed the maximum payment amounts set forth in 35 III. Adm. Code 734.Subpart H are ineligible for payment from the Fund. In addition, such costs are not approved because they are not reasonable (Subsection 57.7(c)(3) of the Act).

23) The Illinois EPA approved well abandonment costs associated with the following wells:

Monitoring Well ID	Depth (ft)
MW-2	15.00
MW-3	16.00
MW-4R	15.00
MW-5	15.00
MW-6	18.00
MW-7	14.00
MW-9	13.09
MW-10	12.88
MW-11	13.14
MW-12	12.95
MW-13	13.34
MW-14	13.17

Pursuant to Subsection 57.7(c)(3) of the Act and 35 III. Adm. Code 734.510(b), costs that are inconsistent with the associated technical plan are ineligible for payment from the Fund. In addition, pursuant to Subsection 57.7(c)(3) of the Act and 35 III. Adm. Code 734.630(cc), costs that lack supporting documentation are ineligible for payment from the Fund.

- 24) The approved corrective action does not include removal of the USTs, piping, pump islands, or backfill/soil in the orange zone, and the Illinois EPA is unable to determine how many of the one hundred five budgeted senior project manager hours are associated with removal of the USTs, piping, pump islands, and backfill/soil in the orange zone. Therefore, the Illinois EPA deducted all one hundred five budgeted senior project manager hours. Pursuant to Subsection 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.510(b), costs that are inconsistent with the associated technical plan are ineligible for payment from the Fund.
- 25) Pursuant to 35 III. Adm. Code 734.870(d)(2), for costs not approved by the Illinois EPA in writing prior to the date the costs are incurred, the applicable maximum payment amounts must be the amounts in effect on the date the costs were incurred. The USTs were removed on 01/28/2016 and 01/29/2016. Therefore, the applicable maximum payment amount for a senior project manager shall be \$123.91/hr.

- 26) The approved corrective action does not include removal of the USTs, piping, pump islands, or backfill/soil in the orange zone, and the Illinois EPA is unable to determine how many of the eighty budgeted project manager hours are associated with removal of the USTs, piping, pump islands, and backfill/soil in the orange zone. Therefore, the Illinois EPA deducted all eighty budgeted project manager hours. Pursuant to Subsection 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.510(b), costs that are inconsistent with the associated technical plan are ineligible for payment from the Fund.
- 27) Pursuant to 35 III. Adm. Code 734.870(d)(2), for costs not approved by the Illinois EPA in writing prior to the date the costs are incurred, the applicable maximum payment amounts must be the amounts in effect on the date the costs were incurred. The USTs were removed on 01/28/2016 and 01/29/2016. Therefore, the applicable maximum payment amount for a project manager shall be \$111.52/hr.
- 28) The Consultant's Materials Costs Form contains costs associated with the following materials, activities, and services that do not have maximum payment amounts set forth in 35 Ill. Adm. Code 734.Subpart H: mileage, field and decon equipment, photoionization detector (PID), latex gloves, water level indicator, No Further Remediation (NFR) Letter recording costs, magnetic locator, and disposable bailers and string. Pursuant to 35 Ill. Adm. Code 734.850(b), the maximum payment amounts for materials, activities, and services that do not have maximum payment amounts set forth in other Sections of 35 Ill. Adm. Code 734.Subpart H must be determined by the Illinois EPA on a site-specific basis, and the owner/operator must demonstrate to the Illinois EPA that the costs being sought are reasonable.

When the owner/operator has not provided supporting documentation to justify the unit rate for the mileage, the Illinois EPA will reduce the unit rate for the mileage to \$0.535/mi. The owner/operator has not provided supporting documentation to justify the unit rate for the mileage. Therefore, the Illinois EPA reduced the unit rate for the mileage to \$0.535/mi.

When the owner/operator has not provided supporting documentation to justify the unit rates for the field and decon equipment, PID, latex gloves, water level indicator, magnetic locator, and disposable bailers and string, the Illinois EPA may deduct the costs. The owner/operator has not provided supporting documentation to justify the unit rates for the field and decon equipment, PID, latex gloves, water level indicator, magnetic locator, and disposable bailers and string. Therefore, the Illinois EPA deducted the costs associated with the field and decon equipment, latex gloves, and disposable bailers and string. The Illinois EPA did not deduct the costs associated with the water level indicator and magnetic locator because the Illinois EPA determined that the costs being sought are reasonable. Please note that the Illinois EPA determined that the unit rate for the PID is reasonable. However, the Illinois EPA deducted the costs associated with the PID for the reason listed in item #31 below.

The Illinois EPA did not deduct the NFR Letter recording costs because the owner/operator will have to provide receipts as part of the billing package.

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- 29) The approved corrective action does not include removal of the USTs, piping, pump islands, or backfill/soil in the orange zone, and the Illinois EPA is unable to determine how many of the seven budgeted round trips are associated with removal of the USTs, piping, pump islands, and backfill/soil in the orange zone. Therefore, the Illinois EPA deducted all seven budgeted round trips. Pursuant to Subsection 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.510(b), costs that are inconsistent with the associated technical plan are ineligible for payment from the Fund.
- 30) The approved corrective action does not include removal of the USTs, piping, pump islands, or backfill/soil in the orange zone., and the Illinois EPA is unable to determine how many of the budgeted field and decon equipment days are associated with removal of the USTs, piping, pump islands, and backfill/soil in the orange zone. Therefore, the Illinois EPA deducted all of the budgeted field and decon equipment days. Pursuant to Subsection 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.510(b), costs that are inconsistent with the associated technical plan are ineligible for payment from the Fund.
- 31) The approved corrective action does not include removal of the USTs, piping, pump islands, or backfill/soil in the orange zone, and the Illinois EPA is unable to determine how much of the budgeted PID costs are associated with removal of the USTs, piping, pump islands, and backfill/soil in the orange zone. Therefore, the Illinois EPA deducted all of the budgeted PID costs. Pursuant to Subsection 57.7(c)(3) of the Act and 35 III. Adm. Code 734.510(b), costs that are inconsistent with the associated technical plan are ineligible for payment from the Fund.
- 32) The approved corrective action does not include removal of the USTs, piping, pump islands, or backfill/soil in the orange zone, and the Illinois EPA is unable to determine how many of the budgeted latex gloves are associated with removal of the USTs, piping, pump islands, and backfill/soil in the orange zone. Therefore, the Illinois EPA deducted all of the budgeted latex gloves. Pursuant to Subsection 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.510(b), costs that are inconsistent with the associated technical plan are ineligible for payment from the Fund.

### Appeal Rights

Pursuant to Section 40 and Subsection 57.7(c)(4) of the Environmental Protection Act [(415 ILCS 5) (Act)], an underground storage tank owner/operator may appeal this final decision to the Illinois Pollution Control Board 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/operator and the Illinois EPA within the initial 35-day appeal period. If the owner/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 Electronic Filing: Received, Clerk's Office 17/28/2017-084) R. 649

### 2016/01/29 Email

• FIGURE 2 (SITE AREA FEATURES MAP)

#### 2016/04/04 Email #4

- FIGURE 1 (SURROUNDING LAND USAGE MAP)
- FIGURE 2A (SITE AREA FEATURES MAP SOIL): Did not remove monitoring wells MW-5, MW-6, and MW-7.
- FIGURE 2B (SITE AREA FEATURES MAP GROUNDWATER)
- FIGURE 4 (GROUNDWATER CONTOUR & FLOW MAP)

#### 2016/04/04 Email #14

• FIGURE 3 (GEOLOGICAL CROSS SECTION MAP)

### 2016/04/05 Email

- Use a hydraulic conductivity of  $4.64 \times 10^{-4}$  cm/s in the Tier 2 calculations.
- The dry soil bulk density is 1.684 g/cm<sup>3</sup>.

### 2016/04/05 Email #2

- SSL Input Parameters for Use with Tier 2 Calculations
- RBCA Input Parameters for Use with Tier 2 Calculations

### 2016/04/06 Email

• Comments regarding the SSL Input Parameters for Use with Tier 2 Calculations and RBCA Input Parameters for Use with Tier 2 Calculations

### 2016/04/08 Email

- FIGURE 5A (EQUATION R26 MODELED EXTENTS MAP SOIL)
- FIGURE 5B (SITE AREA FEATURES MAP GROUNDWATER): EQUATION R26 MODELED EXTENTS MAP GROUNDWATER

### PROJECT LABOR AGREEMENT DETERMINATION

Reviewed By: Trent Benanti

Re: LPC #1430655263 – Peoria County

Date Reviewed: 05/17/2017

Re: LPC #1430655263 – Peoria County

Peoria/Illico Independent Oil Co.

3712 N. University St.

Leaking UST Incident #923441 Leaking UST Technical File

### **Documents Reviewed:**

The Corrective Action Plan dated 01/16/2017 was received by the Illinois EPA on 01/17/2017. The Corrective Action Plan Budget is located in ATTACHMENT 2 of the Corrective Action Plan.

### **Corrective Action Plan Information (Field Work):**

- 1) Excavate and return 313 yd<sup>3</sup> of overburden.
- 2) Excavate, transport, and dispose of 280 yd<sup>3</sup> of soil.
- 3) Purchase, transport, and place 280 yd<sup>3</sup> of clean backfill.
- 4) Replace 1,956 ft<sup>2</sup> of 6" concrete.
- 5) Install replacement monitoring well MW-4R to 15' below ground surface (BGS).
- 6) Collect groundwater samples from replacement monitoring well MW-4R and eleven existing monitoring wells.
- 7) Abandon replacement monitoring well MW-4R and eleven existing monitoring wells after receipt of the No Further Remediation (NFR) Letter.

Payment from the Underground Storage Tank Fund (Fund) will be requested. Pursuant to Subsection 57.7(c)(3) of the Environmental Protection Act [(415 ILCS 5) (Act)], the following considerations are made in determining whether the corrective action shall include a project labor agreement (PLA):

1) The use of a PLA will advance the State's interest in reducing costs paid from the Fund.
2) The use of a PLA will advance the State's interest in efficiency, timeliness, and quality of work.
3) The use of a PLA will advance the State's interest in promoting safety.

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Page	2	
	4)	The use of a PLA will advance the State's interest in labor continuity and stability.
	5)	The use of a PLA will advance the State's interest in work performed by a skilled labor force.
	6)	The use of a PLA will provide for timely completion of the work, thereby reducing the threat to human health and the environment that would result from delays.
	7)	The use of a PLA will advance the State's interest in women and minority-owned business enterprises and female and minority employment.
CON	/MEI	NTS:
The	Illino	is EPA has determined that the corrective action:
	shall	include a PLA.
	shall	not include a PLA.
Greg	Dun	<u> </u>

# **Right-to-Know Evaluation**

Re: LPC #1430655263 – Peoria County Peoria/Illico Independent Oil Co. 3712 N. University St. Leaking UST Incident #923441 Leaking UST Technical File

e above-referenced Bureau of Land site has been evaluated. A check mark next to any one of criteria listed below indicates that further evaluation of the site is necessary.
The measured or modeled concentration of a contaminant of concern in groundwater within the setback zone or regulated recharge area of a community water supply (CWS) well or setback zone of a potable water supply well other than a CWS well exceeds the applicable Tier 1 remediation objective under 35 III. Adm. Code 742.APPENDIX B. TABLE E or the applicable groundwater quality standard under 35 III. Adm. Code 620; or
$\square$ Five or fewer properties $\square$ More than five properties
The concentration of a contaminant of concern in soil within the setback zone or regulated recharge area of a community water supply (CWS) well or setback zone of a potable water supply well other than a CWS well exceeds the applicable Tier 1 remediation objective under 35 Ill. Adm. Code 742.APPENDIX B. TABLE A or 35 Ill. Adm. Code 742.APPENDIX B. TABLE B for the soil component of the groundwater ingestion exposure route, and the projected concentration of the contaminant of concern migrating from the soil to the groundwater exceeds the applicable Tier 1 remediation objective under 35 Ill. Adm. Code 742.APPENDIX B. TABLE E or the applicable groundwater quality standard under 35 Ill. Adm. Code 620; or
$\square$ Five or fewer properties $\square$ More than five properties
The concentration of a contaminant of concern in soil outside of the setback zone or regulated recharge area of a community water supply (CWS) well or setback zone of a potable water supply well other than a CWS well exceeds the applicable Tier 1 remediation objective under 35 Ill. Adm. Code 742.APPENDIX B. TABLE A or 35 Ill. Adm. Code 742.APPENDIX B. TABLE B for the soil component of the groundwater ingestion exposure route, and the projected concentration of the contaminant of concern migrating from the soil to the groundwater is modeled to exceed the applicable Tier 1 remediation objective under 35 Ill. Adm. Code 742.APPENDIX B. TABLE E or the applicable groundwater quality standard under 35 Ill. Adm. Code 620 within the setback zone or regulated recharge area of a CWS well or setback zone of a potable water supply well other than a CWS well; or
$\square$ Five or fewer properties $\square$ More than five properties

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	The concentration of a contaminant of concern in soil beyond the boundary of the site where the release occurred exceeds the applicable Tier 1 remediation objectives under 35 Ill. Adm. Code 742.APPENDIX B. TABLE A or 35 Ill. Adm. Code 742.APPENDIX B. TABLE B, based on the current use of the off-site property; or
	$\square$ Five or fewer properties $\square$ More than five properties
	The measured concentration of a volatile contaminant of concern in groundwater beyond the boundary of the site where the release occurred exceeds the applicable Tier 1 remediation objective under 35 Ill. Adm. Code 742.APPENDIX B. TABLE H, based on the current use of the off-site property; or
	$\square$ Five or fewer properties $\square$ More than five properties
	The measured concentration of a volatile contaminant of concern in soil gas beyond the boundary of the site where the release occurred exceeds the applicable Tier 1 remediation objective under 35 Ill. Adm. Code 742.APPENDIX B. TABLE H, based on the current use of the off-site property; or
	$\square$ Five or fewer properties $\square$ More than five properties
	The Bureau of Land has referred the site to the Division of Legal Counsel for enforcement under Subsection 43(a) of the Act; or
	The Bureau of Land has referred the site to the Division of Legal Counsel for issuance of a seal order Subsection 34(a) of the Act.
Rig	ght-to-Know Status
	One or more of the above criteria is met; therefore, further evaluation of the site is necessary.
	The Illinois EPA does not have sufficient information to complete the initial RTK evaluation.
V	None of the above criteria are met; therefore, further evaluation of the site is unnecessary.
Pro	oject Manager Signature: Date:

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IEMA date: 12/03/1992

Tank # 3 abandoned: 05/09/2012

Tank Numbers 1, 2, 3, 4, 5, and to removed: 01/28-29/2016

Tank Numbers 6, 7, and 8 installed 02/10/2016

· Same location as previous USTs

41' from USTS SB-15(5'-6') ? Remove 5 USTS + 1309 yd3 ETD + 313 yd3 Overburden + 1630 yd3 Backfull

Would've requested that 0/0 fine-tune the extent of Soil > Tree 2.

CAP dated 12/14/2015 proposed a construction worker caution.

If CAP dated 01/16/2017 proposed, SB-17(61-71) Would not need to be excavated. Benzene < 1, 200 ppb.

If USTs were leaking, would you wait 23+ years to remove them?

May remove USTs, piping, Visibly contaminated fill material wlin 4; and groundwater in the excavation that exhibits a sheen. May also abandon USTs as part of early action. After early action, must demonstrate that removal is necessary and get removal approved as part of a CAP.

	Electronic Filing: Received, Clerk's Officenia 2017-084) R. 656
- 410	· Need 45-Day Report for 20160095.
	· Determine if 20160095 is a re-reporting.
_	· May pay for backfill removal whin 4' if 20160095 is not a
	re-reporting, i.e., there is reason to believe that a new release occurred.
	· Wouldn't pay for UST removal be it was a planned removal.
	· 2016 0095 reported in response to UST removal.

### Facility Details

### **Facility**

Facility Number:	3007188
Facility Name:	Marathon
Address:	3712 N. Uniuversity Street Peoria, IL 61614
County:	
Status:	Active

## Owners for this Facility

Owner Number	Owner Name	Owner Status	Purchase Date
U0038432	HD Properties of Peoria, Inc.	Current Owner	8/12/2016
U0035623	Paras Gasoline, Inc.	Former Owner	7/15/2009
U0024842	First Ranger Petroleum, L.L.C.	Former Owner	8/28/2003
U0007457	Illico Incorporated	Former Owner	1/1/1981
U0033990	Road Ranger, LLC	Former Owner	
U0003073	Clark Retail Enterprises, Inc.	Former Owner / Operator	11/22/1988
U0029789	Clark Retail Enterprises, Inc.	Former Owner / Operator	
U0028787	Clark Retail Enterprises, Inc.,	Former Owner / Operator	

### Owners for Tanks at this Facility

Owner Number	Owner Name	Tank Nbr	Capacity	Product	Tank Status	Owner Status	Date
U0038432	HD Properties of Peoria, Inc.	6	12000	Gasoline	Currently in use	Current Owner	8/16/2016
U0038432	HD Properties of Peoria, Inc.	7	6000	Gasoline	Currently in use	Current Owner	8/16/2016
U0038432	HD Properties of Peoria, Inc.	8	4000	Diesel Fuel	Currently in use	Current Owner	8/16/2016
U0007457	Illico Incorporated	1	12000	Gasoline	Removed	Current Owner	3/17/2011
U0007457	Illico Incorporated	2	12000	Gasoline	Removed	Current Owner	3/17/2011
U0007457	Illico Incorporated	3	12000	Gasoline	Removed	Current Owner	3/17/2011
U0007457	Illico Incorporated	4	12000	Diesel Fuel	Removed	Current Owner	3/17/2011
U0007457	Illico Incorporated	5	6000	Kerosene	Removed	Current Owner	3/17/2011
U0007457	Illico Incorporated	8	4000	Diesel Fuel	Currently in use	Prior Owner	1/6/2016
U0007457	Illico Incorporated	7	6000	Gasoline	Currently in use	Prior Owner	1/6/2016
U0007457	Illico Incorporated	6	12000	Gasoline	Currently in use	Prior Owner	1/6/2016
U0035623	Paras Gasoline, Inc.	1	12000	Gasoline	Removed	Prior Owner	11/18/2009
U0035623	Paras Gasoline, Inc.	2	12000	Gasoline	Removed	Prior Owner	11/18/2009
U0035623	Paras Gasoline, Inc.	3	12000	Gasoline	Removed	Prior Owner	11/18/2009
U0035623	Paras Gasoline, Inc.	4	12000		Removed	Prior Owner	11/18/2009

# Electronic Filing: Received, Clerk's Office 17/28/2017-084) R. 658

Owner Number	Owner Name	Tank Nbr	Capacity	Product	Tank Status	Owner Status	Date
				Diesel Fuel			
U0035623	Paras Gasoline, Inc.	5	6000	Kerosene	Removed	Prior Owner	11/18/2009
U0033990	Road Ranger, LLC	1	12000	Gasoline	Removed	Prior Owner	6/11/2007
U0033990	Road Ranger, LLC	2	12000	Gasoline	Removed	Prior Owner	6/11/2007
U0033990	Road Ranger, LLC	3	12000	Gasoline	Removed	Prior Owner	6/11/2007
U0033990	Road Ranger, LLC	4	12000	Diesel Fuel	Removed	Prior Owner	6/11/2007
U0033990	Road Ranger, LLC	5	6000	Kerosene	Removed	Prior Owner	6/11/2007
U0024842	First Ranger Petroleum, L.L.C.	1	12000	Gasoline	Removed	Prior Owner	10/28/2003
U0024842	First Ranger Petroleum, L.L.C.	2	12000	Gasoline	Removed	Prior Owner	10/28/2003
U0024842	First Ranger Petroleum, L.L.C.	3	12000	Gasoline	Removed	Prior Owner	10/28/2003
U0024842	First Ranger Petroleum, L.L.C.	4	12000	Diesel Fuel	Removed	Prior Owner	10/28/2003
U0024842	First Ranger Petroleum, L.L.C.	5	6000	Kerosene	Removed	Prior Owner	10/28/2003
U0029789	Clark Retail Enterprises, Inc.	1	12000	Gasoline	Removed	Prior Owner	11/20/2000
U0029789	Clark Retail Enterprises, Inc.	2	12000	Gasoline	Removed	Prior Owner	11/20/2000
U0029789	Clark Retail Enterprises, Inc.	3	12000	Gasoline	Removed	Prior Owner	11/20/2000
U0029789	Clark Retail Enterprises, Inc.	4	12000	Diesel Fuel	Removed	Prior Owner	11/20/2000
U0029789	Clark Retail Enterprises, Inc.	5	6000	Kerosene	Removed	Prior Owner	11/20/2000
U0028787	Clark Retail Enterprises, Inc.,	1	12000	Gasoline	Removed	Prior Owner	7/14/1999
U0028787	Clark Retail Enterprises, Inc.,	2	12000	Gasoline	Removed	Prior Owner	7/14/1999
U0028787	Clark Retail Enterprises, Inc.,	3	12000	Gasoline	Removed	Prior Owner	7/14/1999
U0028787	Clark Retail Enterprises, Inc.,	4	12000	Diesel Fuel	Removed	Prior Owner	7/14/1999
U0028787	Clark Retail Enterprises, Inc.,	5	6000	Kerosene	Removed	Prior Owner	7/14/1999
U0003073	Clark Retail Enterprises, Inc.	1	12000	Gasoline	Removed	Prior Owner	1/1/1998
U0003073	Clark Retail Enterprises, Inc.	2	12000	Gasoline	Removed	Prior Owner	1/1/1998
U0003073	Clark Retail Enterprises, Inc.	3	12000	Gasoline	Removed	Prior Owner	1/1/1998
U0003073	Clark Retail Enterprises, Inc.	4	12000	Diesel Fuel	Removed	Prior Owner	1/1/1998
U0003073	Clark Retail Enterprises, Inc.	5	6000	Kerosene	Removed	Prior Owner	1/1/1998

Facility: 3007188 Tank: 1

Click for Facility/Tank Ownership history

Capacity:	12000
Product:	Gasoline
Status:	Removed
OSFM First Notify Date:	4/7/1986
Current Age:	35
Install Date:	1/1/1981
Last Used Date:	
Product Date:	
Petroleum Use:	
CERCLA Substance:	
CAS Code:	
Removed Date:	1/29/2016
Abandoned Material:	
Abandoned Date:	
Red Tag Issue Date:	
Fee Due:	\$0.00

## **Equipment Information**

Equipment Type	Equipment	Last Passing Date	Test Expire Date	
Corrosion Prot - Piping	Impressed Current Cathodic Protection	11/17/2014	N/A	
Corrosion Prot - Piping	Fiberglass Non-Corrosive	N/A	N/A	
Corrosion Prot - Tank	Impressed Current Cathodic Protection	10/16/2015	N/A	
Corrosion Prot - Tank	Lining Materials Internal Armor Shield TL 300	10/23/2014	N/A	
Leak Detect - Piping	Mechanical Pressurized Line Leak Detection Red Jacket FX1V	11/17/2014	N/A	
Leak Detect - Tank	Automatic Tank Gauging Veeder Root TLS 350 with CSLD	N/A	N/A	
Manway At Grade	Accessible Manway Accessible at Grade	N/A	N/A	
Overfill Prev Device	Overfill Drop Tube Valve	N/A	N/A	
Piping	Fiberglass Single Wall Piping Ameron	N/A	N/A	
Spill Contain Device	Manhole Pre-manufactured EBW 705	N/A	N/A	
Tank	Steel Single Wall Tank	N/A	N/A	

Facility: 3007188 Tank: 2

Click for Facility/Tank Ownership history

Capacity:	12000
Product:	Gasoline
Status:	Removed
OSFM First Notify Date:	4/7/1986
Current Age:	35
Install Date:	1/1/1981
Last Used Date:	1/24/2016
Product Date:	
Petroleum Use:	
CERCLA Substance:	
CAS Code:	
Removed Date:	1/29/2016
Abandoned Material:	
Abandoned Date:	
Red Tag Issue Date:	
Fee Due:	\$0.00

## **Equipment Information**

Equipment Type	Equipment	Last Passing Date	Test Expire Date
Corrosion Prot - Piping	Impressed Current Cathodic Protection	11/17/2014	N/A
Corrosion Prot - Piping	Fiberglass Non-Corrosive	N/A	N/A
Corrosion Prot - Tank	Impressed Current Cathodic Protection	11/17/2014	N/A
Corrosion Prot - Tank	Lining Materials Internal Armor Shield TL 300	10/23/2014	N/A
Leak Detect - Piping	Mechanical Pressurized Line Leak Detection Red Jacket FX1V	11/11/2015	N/A
Leak Detect - Tank	Automatic Tank Gauging Veeder Root TLS 350 with CSLD	N/A	N/A
Manway At Grade	Accessible Manway Accessible at Grade	N/A	N/A
Overfill Prev Device	Overfill Drop Tube Valve	N/A	N/A
Piping	Fiberglass Single Wall Piping Ameron	N/A	N/A
Spill Contain Device	Manhole Pre-manufactured EBW 705	N/A	N/A
Tank	Steel Single Wall Tank	N/A	N/A

Facility: 3007188 Tank: 3

Click for Facility/Tank Ownership history

Capacity:	12000
Product:	Gasoline
Status:	Removed
OSFM First Notify Date:	4/7/1986
Current Age:	35
Install Date:	1/1/1981
Last Used Date:	5/9/2012
Product Date:	1/1/1981
Petroleum Use:	
CERCLA Substance:	
CAS Code:	
Removed Date:	1/28/2016
Abandoned Material:	Inert Materials
Abandoned Date:	5/9/2012
Red Tag Issue Date:	
Fee Due:	\$0.00

## **Equipment Information**

Equipment Type	Equipment	Last Passing Date	Test Expire Date
Corrosion Prot - Piping	Impressed Current Cathodic Protection	11/10/2011	N/A
Corrosion Prot - Piping	Fiberglass Non-Corrosive	N/A	N/A
Corrosion Prot - Tank	Impressed Current Cathodic Protection	11/10/2011	N/A
Corrosion Prot - Tank	Lining Materials Internal Armor Shield TL 300	6/4/2009	N/A
Leak Detect - Piping	Mechanical Pressurized Line Leak Detection Red Jacket FX1V	11/22/2011	N/A
Leak Detect - Tank	Automatic Tank Gauging Veeder Root TLS 350 with CSLD	N/A	N/A
Manway At Grade	Accessible Manway Accessible at Grade	N/A	N/A
Overfill Prev Device	Overfill Drop Tube Valve	N/A	N/A
Piping	Fiberglass Single Wall Piping Ameron	N/A	N/A
Spill Contain Device	Manhole Pre-manufactured EBW 705	N/A	N/A
Tank	Steel Single Wall Tank	N/A	N/A

Facility: 3007188 Tank: 4

Click for Facility/Tank Ownership history

Capacity:	12000
Product:	Diesel Fue
Status:	Removed
OSFM First Notify Date:	4/7/1986
Current Age:	35
Install Date:	1/1/1981
Last Used Date:	1/24/2016
Product Date:	
Petroleum Use:	
CERCLA Substance:	
CAS Code:	
Removed Date:	1/28/2016
Abandoned Material:	
Abandoned Date:	
Red Tag Issue Date:	
Fee Due:	\$0.00

## **Equipment Information**

Equipment Type	Equipment	Last Passing Date	Test Expire Date
Corrosion Prot - Piping	Impressed Current Cathodic Protection	11/17/2014	N/A
Corrosion Prot - Piping	Fiberglass Non-Corrosive	N/A	N/A
Corrosion Prot - Tank	Impressed Current Cathodic Protection	11/17/2014	N/A
Corrosion Prot - Tank	Lining Materials Internal Armor Shield TL 300	7/3/2012	N/A
Leak Detect - Piping	Mechanical Pressurized Line Leak Detection Red Jacket FX1DV	11/17/2014	N/A
Leak Detect - Tank	Automatic Tank Gauging Veeder Root TLS 350 with CSLD	N/A	N/A
Manway At Grade	Accessible Manway Accessible at Grade	N/A	N/A
Overfill Prev Device	Overfill Drop Tube Valve	N/A	N/A
Piping	Fiberglass Single Wall Piping Ameron	N/A	N/A
Spill Contain Device	Manhole Pre-manufactured EBW 705	N/A	N/A
Tank	Steel Single Wall Tank	N/A	N/A

Facility: 3007188 Tank: 5

Click for Facility/Tank Ownership history

Capacity:	6000
Product:	Kerosene
Status:	Removed
OSFM First Notify Date:	4/7/1986
Current Age:	35
Install Date:	1/1/1981
Last Used Date:	1/24/2016
Product Date:	
Petroleum Use:	
CERCLA Substance:	
CAS Code:	
Removed Date:	1/28/2016
Abandoned Material:	
Abandoned Date:	
Red Tag Issue Date:	
Fee Due:	\$0.00

## **Equipment Information**

Equipment Type	Equipment	Last Passing Date	Test Expire Date
Corrosion Prot - Piping	Impressed Current Cathodic Protection	11/17/2014	N/A
Corrosion Prot - Piping	Fiberglass Non-Corrosive	N/A	N/A
Corrosion Prot - Tank	Impressed Current Cathodic Protection	10/16/2015	N/A
Corrosion Prot - Tank	Lining Materials Internal Armor Shield TL 300	10/23/2014	N/A
Leak Detect - Piping	Mechanical Pressurized Line Leak Detection Red Jacket FX1DV	11/17/2014	N/A
Leak Detect - Tank	Automatic Tank Gauging Veeder Root TLS 350 with CSLD	N/A	N/A
Manway At Grade	Accessible Manway Accessible at Grade	N/A	N/A
Overfill Prev Device	Overfill Drop Tube Valve	N/A	N/A
Piping	Fiberglass Single Wall Piping Ameron	N/A	N/A
Spill Contain Device	Manhole Pre-manufactured EBW 705	N/A	N/A
Tank	Steel Single Wall Tank	N/A	N/A

Facility: 3007188 Tank: 6

Click for Facility/Tank Ownership history

Capacity:	12000
Product:	Gasoline
Status:	Currently in use
OSFM First Notify Date:	7/5/2016
Current Age:	1
Install Date:	2/10/2016
Last Used Date:	
Product Date:	
Petroleum Use:	
CERCLA Substance:	
CAS Code:	
Removed Date:	
Abandoned Material:	
Abandoned Date:	
Red Tag Issue Date:	
Fee Due:	\$0.00

## **Equipment Information**

<b>Equipment Type</b>	Equipment	Last Passing Date	Test Expire Date
Corrosion Prot - Piping	Flexible Non-Corrosive	N/A	N/A
Corrosion Prot - Tank	Fiberglass Non-Corrosive	N/A	N/A
Leak Detect - Piping	Mechanical Pressurized Line Leak Detection Red Jacket FX1V	6/13/2016	6/13/2017
Leak Detect - Piping	Piping Sump Sensors Interstitial Monitoring Veeder Root TLS 350	6/13/2016	6/13/2017
Leak Detect - Tank	Hydrostatic Reservoir Sensors Interstitial Monitoring Veeder Root TLS 350	6/13/2016	6/13/2017
Leak Detect - Tank	Automatic Tank Gauging Veeder Root TLS 350 with CSLD	N/A	N/A
Overfill Prev Device	Overfill Drop Tube Valve OPW 71SO-400C	N/A	N/A
Piping	Flexible Double Wall A.P.T. Poly Tech S175SC	N/A	N/A
Spill Contain Device	Pre-manufactured EBW 705 C1GKT Defender spill containment	N/A	N/A
Tank	Fiberglass Brine Filled Double Wall XERXES	N/A	N/A

Facility: 3007188 Tank: 7

Click for Facility/Tank Ownership history

Capacity:	6000
Product:	Gasoline
Status:	Currently in use
OSFM First Notify Date:	7/5/2016
Current Age:	1
Install Date:	2/10/2016
Last Used Date:	
Product Date:	
Petroleum Use:	
CERCLA Substance:	
CAS Code:	
Removed Date:	
Abandoned Material:	
Abandoned Date:	
Red Tag Issue Date:	
Fee Due:	\$0.00

## **Equipment Information**

<b>Equipment Type</b>	Equipment	Last Passing Date	Test Expire Date
Corrosion Prot - Piping	Flexible Non-Corrosive	N/A	N/A
Corrosion Prot - Tank	Fiberglass Non-Corrosive	N/A	N/A
Leak Detect - Piping	Mechanical Pressurized Line Leak Detection Red Jacket FX1V	6/13/2016	6/13/2017
Leak Detect - Piping	Piping Sump Sensors Interstitial Monitoring Veeder Root TLS 350	6/13/2016	6/13/2017
Leak Detect - Tank	Hydrostatic Reservoir Sensors Interstitial Monitoring Veeder Root TLS 350	6/13/2016	6/13/2017
Leak Detect - Tank	Automatic Tank Gauging Veeder Root TLS 350 with CSLD	N/A	N/A
Overfill Prev Device	Overfill Drop Tube Valve OPW 71SO-400C	N/A	N/A
Piping	Flexible Double Wall A.P.T. Poly Tech S175SC	N/A	N/A
Spill Contain Device	Pre-manufactured EBW 705 C1GKT Defender spill containment	N/A	N/A
Tank	Fiberglass Brine Filled Double Wall XERXES	N/A	N/A

Facility: 3007188 Tank: 8

Click for Facility/Tank Ownership history

Capacity:	4000		
Product:	luct: Diesel Fuel tus: Currently in use		
Status:			
OSFM First Notify Date:	7/5/2016		
Current Age:	1		
Install Date:	2/10/2016		
Last Used Date:			
Product Date:			
Petroleum Use:			
CERCLA Substance:			
CAS Code:			
Removed Date:	The state of the s		
Abandoned Material:			
Abandoned Date:			
Red Tag Issue Date:			
Fee Due:	\$0.00		

## **Equipment Information**

<b>Equipment Type</b>	Equipment	Last Passing Date	Test Expire Date
Corrosion Prot - Piping	Flexible Non-Corrosive	N/A	N/A
Corrosion Prot - Tank	Fiberglass Non-Corrosive	N/A	N/A
Leak Detect - Piping	Mechanical Pressurized Line Leak Detection Red Jacket FX1DV	6/13/2016	6/13/2017
Leak Detect - Piping	Piping Sump Sensors Interstitial Monitoring Veeder Root TLS 350	6/13/2016	6/13/2017
Leak Detect - Tank	Hydrostatic Reservoir Sensors Interstitial Monitoring Veeder Root TLS 350	6/13/2016	6/13/2017
Leak Detect - Tank	Automatic Tank Gauging Veeder Root TLS 350 with CSLD	N/A	N/A
Overfill Prev Device	Overfill Drop Tube Valve OPW 71SO-400C	N/A	N/A
Piping	Flexible Double Wall A.P.T. Poly Tech S175SC	N/A	N/A
Spill Contain Device	Pre-manufactured EBW 705 C1GKT Defender spill containment	N/A	N/A
Tank	Fiberglass Brine Filled Double Wall XERXES	N/A	N/A

## Electronic Filing: Received, Clerk's Office 7/28/2017

### **CERTIFICATE OF SERVICE**

I, the undersigned, on affirmation state the following:

That I have served the attached MOTION FOR LEAVE TO FILE RECORD INSTANTER AND CERTIFICATE OF RECORD ON APPEAL and the accompanying documents comprising the entire record of the Respondent's decision by e-mail upon Patrick D. Shaw at the e-mail address of pdshawllaw@gmail.com and upon Hearing Officer Carol Webb at the e-mail address of Carol.Webb@Illinois.gov.

That my e-mail address is Scott.Sievers@Illinois.gov.

That the number of pages in the e-mail transmission is six hundred and seventy-three (673).

That the e-mail transmission took place before 4:30 p.m. on the date of July 28, 2017.

/s/Scott B. Sievers July 28, 2017