Electronic Filing: Received, Clerk's Office 07/24/2024 BEFORE THE POLLUTION CONTROL BOARD OF THE STATE OF ILLINOIS

MARINE BANK SPRINGFIELD TRU	JST #53-0051)
)
Petition	er,)
)
v.) PCB 2024-081
) (LUST Appeal)
ILLINOIS ENVIRONMENTAL)
PROTECTION AGENCY,)
Respond	dent.)

NOTICE

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

Carol Webb, Hearing Officer Illinois Pollution Control Board 1021 North Grand Avenue East P.O. Box 19274 Springfield, IL 62794-9274 carol.webb@illinois.gov

Patrick D. Shaw
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80 Bellerive Road
Springfield, IL 62704
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PLEASE TAKE NOTICE that I have today filed with the office of the Clerk of the Pollution Control Board an APPEARANCE, the ADMINISTRATIVE RECORD, and a CERTIFICATE OF RECORD ON APPEAL, copies of which are herewith served upon you.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,

Respondent

Rich Kim

Assistant Counsel - Division of Legal Counsel

Special Assistant Attorney General

1021 North Grand Avenue, East

P.O. Box 19276

Springfield, Illinois 62794-9276

217/782-5544

866/273-5488 (TDD)

Dated: July 24, 2024

OF THE STATE OF ILLINOIS

MARINE BANK SPRINGFIELD TRUS	Γ#53-0051)
Petitioner) ,)
v.)) PCB 2024-081
ILLINOIS ENVIRONMENTAL) (LUST Appeal)
PROTECTION AGENCY,	
Responde	nt.

APPEARANCE

The undersigned, as one of its attorneys, hereby enters his Appearance on behalf of the Respondent, the Illinois Environmental Protection Agency.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, Respondent

Rich Kim

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

Dated: July 24, 2024

BEFORE THE POLLUTION CONTROL BOARD OF THE STATE OF ILLINOIS

MARINE BAN	K SPRINGFIELD TRUST #53	-0051)
	Petitioner,	
ţ#	V.) PCB 2024-081) (LUST Appeal)
	IRONMENTAL)
PROTECTION	AGENCY,)
	Respondent.)

CERTIFICATE OF RECORD ON APPEAL

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

PAGES	DOCUMENT(S)	DATE
AR000001 AR000002-AR000205 AR000206-AR000209 AR000210-AR000424 AR000425-AR000430 AR000431	Illinois HazMat Report Corrective Action Plan & Budget IEPA CAP/B response letter Corrective Action Plan & Budget IEPA Technical Review Notes Email received by IEPA	February 4, 2003 April 7, 2023 August 1, 2023 February 2, 2024 May 17, 2024 May 21-23, 2024
AR000432-AR000438	IEPA decision letter	May 28, 2024

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

Bv:

Scott R. Rothering

Leaking Underground Storage Tank Section Illinois Environmental Protection Agency

Date: 7/24/24

CERTIFICATE OF SERVICE

I, the undersigned attorney at law, hereby certify that on July 24, 2024, I served true and correct copies of an APPEARANCE, the ADMINISTRATIVE RECORD, and a CERTIFICATE OF RECORD ON APPEAL, via the Board's COOL system and email, upon the following named persons:

Don Brown, Clerk Illinois Pollution Control Board 60 E. Van Buren St., Ste. 630 Chicago, IL 60605 Don.brown@illinois.gov Carol Webb, Hearing Officer Illinois Pollution Control Board 1021 North Grand Avenue East P.O. Box 19274 Springfield, IL 62794-9274 carol.webb@illinois.gov

Patrick D. Shaw Law Office of Patrick D. Shaw 80 Bellerive Road Springfield, IL 62704 pdshaw1law@gmail.com

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,

Respondent

Rich Kim

Assistant Counsel - Division of Legal Counsel

Special Assistant Attorney General

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866/273-5488 (TDD)

richard.kim@illinois.gov

#Ju-114-2003 12:17

From-EPA EMERGENCY OPERATIONS

217-524-4036

T-195 P.011/011 F-132



Incident Recorder

Illinois HazMat Report Incident #: H 20030135

Entered by Toni Watkins on 02/04 at 08:35

Incident Type:

Illinois HazMat Report

Data Input Status:

() Open
Close

Incident Level:

Main Incident () Sub-Incident

1. Caller: TOM MCNICHOLS	14. On Scene Contact: #1
2. Call back phone#: 217/726-0275	On Scene Phone #: #2
3. Caller hapresents: MARINE BANK,	15. No. Injured: NONE
SPRINGFIELD TRUST # 530051	
4. Type of Incident: LEAK OR SPILL	Where Taken:
5. Incident Location	16. Public health risks and/or precautions taken,
Street: 9520 STATE RT. 29	including # evacuated: NONE
City: CANTRALL IN	17. Assistance needed from State Agencies: NONE
County: SANGAMON	
Milepost:	
Sec.: Twp.: Range:	
6. Area involved: FIXED FACILITY	
7. Material (s) Involved: GASOLINE	18. Containment/cleanup actions and plans: CONTRACTOR HIRED CW3M COMPANY
	19. Weather: NONE
Material Type: LiQUID	Temp.: deg. f/ Wind Dir. / Speed m.p.h.
CAS#: UNK	telip.: deg. i/ wild Dir. / Speed in par.
UN/NA#: UNK. Is this a 302 (a) Extremely Hazardous Substance?	
UNKNOWN	
Is this ACRA Hazardous Waster NO	
Is this CRA regulated facility? NO	
8. Container: UNDERGROUND TANK	20. Responsible Party: MARINE BANK,
Container Size: 3-500 GAL. 1-100 GAL.	SPRINGFIELD, TRUST # 530051
	Contact Person: #1
	Phone #: #2
9. Amount Released: UNK	Mailing Address: 3050 WABASH AVE.,
Rate of Release: /min.	SPRINGFIELD, IL 62704
10. Cause of Release: UNK	100
11. Estimated Spill Extent: UNK	Notifications: 0930 FAXED IEPA/SFM/REG.6/NR P
12. Occurred - Date: Time:	
Discovered - Date: 02/03/03 Time: 10:30	
13. Emergency Units Contacted - NONE	On Scene -
Fire: -	Fire: -
Police: -	Police: -
Sheriff: -	Sheriff: -
ESDA: -	ESDA: - RELEASABLE
Othe -	CED 1 a 2002

FFB 1 0 2003

REVIEWER MD

CW M Company

Environmental Consulting Services

701 W. South Grand Avenue Springfield, IL 62704

> Phone: (217) 522-8001 Fax: (217) 522-8009

April 7, 2023

Mr. Scott Rothering, Project Manager

LUST Section, Bureau of Land Illinois Environmental Protection Agency 1021 North Grand Avenue East Springfield, Illinois 62794-9276

RE: LPC #1670255005—Sangamon County

Cantrall/Marine Bank Trust #53-0051

9520 Illinois State Route 29 Incident Number: 2003-0135

LUST Technical Reports—Corrective Action Plan and Budget Amendment

Dear Mr. Rothering:

On behalf of Marine Bank Trust #53-0051, the owner of the former underground storage tanks at the above-referenced site, we are submitting this proposed Amendment to the Corrective Action Plan (CAP) and Budget.

If you have any questions or require additional information, please contact Mr. Matthew Saladino or me at (217) 522-8001.

Carol L. Rowe, P.G.

Senior Environmental Geologist

Enclosure

Sincerely

xc: Trust Officer, Marine Bank Trust #53-0051

CORRECTIVE ACTION PLAN & BUDGET AMENDMENT

MARINE BANK TRUST # 53-0051

CANTRALL, ILLINOIS LPC # 1670255005— Sangamon County Incident Number 2003-0135

Submitted to:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

Leaking Underground Storage Tank Section, Bureau of Land 1021 North Grand Avenue East Springfield, Illinois 62794-9276

Prepared by: CW³M COMPANY, INC.

701 South Grand Avenue West Springfield, Illinois (217) 522-8001

400 West Jackson, Suite C Marion, Illinois (618) 997-2238

April 2023

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

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	ACRONYMS AND ABBREVIATIONS
BET:	X Benzene, Ethylbenzene, Toluene, Total Xylenes
bgs	Below Ground Surface
CAP	Corrective Action Plan
CUO	Clean-up Objective
CW ³ .	
\mathbf{C}_{sat}	Soil Saturation
ELU	C Environmental Land Use Controls

Highway Authority Agreement

Ill. Adm. CodeIllinois Administrative CodeISGSIllinois State Geological SurveyISWSIllinois State Water SurveyLUSTLeaking Underground Storage Tank

mg/kg Milligrams/kilograms mg/L Milligrams/Liter

HAA

MTBE Methyl Tert-Butyl Ether

OSFM Illinois Office of the State Fire Marshal

PID Photoionization detector

PNA Polynuclear Aromatic Hydrocarbon

PVC Polyvinyl Chloride ROW Right-of-Way

SICR Site Investigation Completion Report

SIP Site Investigation Plan

SISR Site Investigation Status Report

TACO Tiered Approach to Corrective Action Objectives

USTs Underground Storage Tanks
WCR Well Completion Report

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

1. SITE HISTORY/EXECUTIVE SUMMARY

1.1 GENERAL

This proposed Corrective Action Plan (CAP) and Budget Amendment has been prepared in accordance with the requirements of the 35 Illinois Administrative Code (Ill. Adm. Code) 734. The Illinois Environmental Protection Agency (IEPA) Corrective Action Plan Form is included in this document as Appendix A.

Marine Bank Trust #53-0051, owner of the underground storage tanks (USTs) at 9520 Illinois State Route 29, Cantrall, Illinois, reported a release to the Illinois Emergency Management Agency (IEMA) and Incident Number 2003-0135 was assigned on February 4, 2003. The Marine Bank Trust Officer then requested that CW³M Company, Inc. (CW³M) proceed with the reporting and early action requirements of 415 ILCS 5/57-57.17.

The 20-Day Certification was submitted to the IEPA on February 5, 2003 (CW³M, 2003a). A 45-Day Report was submitted March 20, 2003 (CW³M, 2003b). An extension of the early action period through August 1, 2003 was approved by the IEPA on February 13, 2003 (IEPA, 2003a). A 45-Day Addendum Report was submitted to the IEPA on August 20, 2003 (CW³M, 2003c). The Site Investigation Plan (SIP) and Budget were prepared in accordance with the requirements of 415 ILCS 5/57-57.17 and submitted to the Agency on October 31, 2003 (CW³M, 2003d). The Agency approved the SIP with modifications on December 23, 2003 (IEPA, 2003b). On May 18, 2004, CW³M submitted a SIP Budget Amendment to the IEPA (CW³M, 2004a) and was approved by the Agency on June 7, 2004 (IEPA, 2004a). A Site Investigation Status Report (SISR) and budget was submitted to the IEPA on May 18, 2004 (CW³M, 2004b) and was approved by the Agency on June 7, 2004 (IEPA, 2004b).

A Site Investigation Completion Report (SICR) was submitted to the IEPA on April 8, 2005 (CW³M, 2005a) with additional information submitted on June 27, 2005 (CW³M, 2005b), which was denied by the Agency on August 29, 2005 (IEPA, 2005a). A revised SICR was submitted on September 14, 2005 (CW³M, 2005c) and was approved by the Agency on October 17, 2005 (IEPA, 2005b). A CAP and Budget was submitted on October 25, 2005 (CW³M, 2005d) and was denied by the Agency on February 21, 2006 (IEPA, 2006a). An Amended SIP Budget was submitted on November 2, 2005 (CW3M, 2005e) and was Approved by the Agency on December 2, 2005 (IEPA, 2005c). An amended SIP was submitted to the agency on February 28, 2006 (CW³M, 2006a) and was approved by the Agency on April 5, 2006 (IEPA, 2006b). A CAP and Budget was submitted on August 28, 2006 (CW³M, 2006b), which was rejected on October 23, 2006 (IEPA, 2006c). A response was submitted on November 17, 2006 (CW³M, 2006c) which was rejected on March 15, 2007 (IEPA, 2007). A CAP was submitted on November 14, 2008 (CW³M, 2008) and was approved by the Agency on March 10, 2009 (IEPA, 2009). A CAP and Budget Amendment was then submitted January 26, 2021 (CW³M, 2021) and was approved by the Agency on May 19, 2021 (IEPA, 2021).

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

The investigation was performed under the direction of an Illinois Licensed Professional Geologist and completed in accordance with the Professional Geologist Licensing Act and its Rules for Administration.

1.2 SITE LOCATION

The Marine Bank Trust #53-0051 property is located at 9520 Illinois State Route 29, Cantrall, Sangamon County, Illinois. The site is located in the SW ¼ of the SW ¼ of the NW ¼ of Section 9, Township 17 North of the Centralia Baseline, Range 5 West of the Third Principal Meridian. Site location maps are provided in Appendix B.

1.3 UNDERGROUND STORAGE TANK INFORMATION

A release was reported to the IEMA and Incident Number 2003-0135 was assigned to the notification. The Marine Bank Trust Officer then requested that CW³M proceed with the early action and reporting requirements of 415 ILCS 5/57-57.17.

On March 31, 2003, CW³M personnel were on site to initiate early action activities. Illinois Office of the State Fire Marshall (OSFM) Tank Specialist William Hurrelbrink was on site to supervise the removal of the USTs. The tanks were ventilated and the tanks and piping removed. A narrative of the tank removals and other Early Action activities was provided in the 45-Day Report Addendum (CW³M, 2003c).

Table 1-1. Underground Storage Tank Summary

Tank Number	Tank Volume (gallons)	Tank Contents	Incident Number	Release Information	Current Status
1	500	Gasoline	03-0135	Tank & Lines	Removed 3/31/03
2	1,000	Gasoline	03-0135	Tank & Lines	Removed 3/31/03
3	500	Diesel	03-0135	Tank & Lines	Removed 3/31/03
4	500	Used Oil	03-0135	Tank & Lines	Removed 3/31/03
5	150	Used Oil	03-0135	None	Removed 3/31/05

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

1.4 EARLY ACTION SUMMARY

During, and following, completion of the tank removal activities, transportation and disposal of contaminated backfill materials were conducted. CW³M Company personnel were on site through May 16, 2003 to complete early action activities.

Approximately 251.49 tons (128.27 cubic yards) of contaminated backfill materials was removed from the UST excavation and disposed of at Five Oaks Landfill in Taylorville, Illinois. Upon completion of the backfill removal, samples were collected along the walls of the excavation. The locations of the excavation samples are depicted in the April 8, 2005 SICR (CW³M, 2005a).

1.5 ADDITIONAL DRILLING

CW³M Company personnel were on site March 10, 2006 to complete the soil borings requested by the IEPA in its February 21, 2006 CAP and Budget rejection letter (IEPA 2006a). The five soil borings were advanced to further define and minimize the soil contamination plume. A table summarizing the results are included in Appendix G. The boring logs are included in Appendix F.

1.6 SITE INVESTIGATION SUMMARY

Gasoline, diesel fuel, and heating oil were released at this site; therefore, the soil was analyzed for the indicator contaminants benzene, ethylbenzene, toluene and total xylenes (BETX), methyl tert-butyl ether (MTBE) and polynuclear aromatic hydrocarbons (PNAs). Soil analytical results indicate that the Tiered Approach to Corrective Action Objectives (TACO) Tier I Residential Clean-Up Objectives (CUOs) were exceeded at the western property boundary for benzene, ethylbenzene, and naphthalene. It was determined the contamination did not exist on the adjacent property. As a result, the soil contamination plume was defined.

Groundwater analytical results indicate that groundwater contamination at the south, east, and west property boundaries have exceeded the Class I Groundwater CUOs. Groundwater analytical results depict the groundwater plume to not migrate onto the Cantrall Elementary School property to the west, the Village Park to the southwest, nor past the wells installed on the Lawson property to the south. As a result, the plume of contaminated groundwater has been defined.

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

1.6 CORRECTIVE ACTION EXECUTIVE SUMMARY

The result of corrective action activities to date indicate that the soil contamination plume has been further defined to remain on site. Previously, soil contamination was shown to migrate west into the Right-of-Way (ROW) of IL Route 29, but not onto off-site properties. Due to the length of time since site investigation took place, additional sampling was proposed to see if natural attenuation occurred from the release. The results confirmed that contamination along the site's property boundaries was below CUOs, therefore removing the need for a Highway Authority Agreement (HAA). A map depicting the soil contamination plume is included in Appendix B as Drawing 0003B

The results of site investigations and corrective action activities indicate that groundwater contamination is present on and off-site. The groundwater contamination plume is defined to remain onsite to the north. The groundwater plume is also defined off-site to the south into the ROW of Claypool Street, west into the ROW of IL Route 29, and east on into a neighboring property. The groundwater plume was demonstrated to not migrate onto the property to the west or to the south. A map depicting the groundwater contamination plume is included in Appendix B as Drawing 0004B. Well Completion Reports (WCRs) and soil boring logs are included in Appendix F for the corrective action activities. Analytical results are included in Appendix G

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

2. REMEDIATION OBJECTIVES

2.1 DETERMINATION OF CLEAN-UP OBJECTIVES

In accordance with 35 Ill. Adm. Code 734.410, remediation objectives were determined in accordance with 35 Ill. Adm. Code § 742. The site-specific physical parameters were determined as the following:

Hydraulic Conductivity (K): $1.17 * 10^{-4}$ Soil bulk density (ρ_b): 2.25 g/cm^3 Soil particle density (ρ_s): 2.65 g/cm^3 Moisture content (w): 0.195 Organic carbon content (f_{oc}): 0.000391

In order to determine the hydraulic conductivity, a slug test was performed. The test was performed by lowering a "slug" constructed of polyvinyl chloride (PVC) into a monitoring well. When the slug is lowered into the well, the groundwater is displaced by the volume of the slug. As the water within the well equilibrates, water depth changes are recorded in relation to the time interval that has passed since the test was initiated.

The hydraulic conductivity calculations are based on the total well depth, screen length and radius, initial water depth, and the water depth change over time. The depth-to-water changes over time were plotted on a semi-logarithmic graph and the curve was evaluated. The slope of the straight-line portion of the curve, along with the other slug test data, is used to calculate the hydraulic conductivity.

The remaining four parameters are determined by laboratory analysis of a soil sample, which was collected during drilling activities. Samples were collected in accordance with 35 Ill. Adm. Code 742. Analytical results were provided in the SICR (CW³M, 2005c).

It is due to note that correspondence was established with the Agency on the unusual results of the soil bulk density and soil particle density from the collected site-specific geotechnical sample. The unusually high value for the soil bulk density led to the use of the lowest default value for bulk density in the previous TACO calculations at 1.5 g/cm³.

In addition, two monitoring wells/groundwater elevations were used for the hydraulic gradient within previous TACO calculations. This CAP has revised the calculations to include multiple points for the calculations. The hydraulic gradient of 0.06188 was found by using the IEPA provided calculator found at

https://www3.epa.gov/ceampubl/learn2model/part-two/onsite/gradient4plus-ns.html, accessed on January 18, 2023. This calculation for the hydraulic gradient is referenced in Appendix E of this report.

CW³M Company, Inc.
Corrective Action Plan & Budget Amendment
Marine Bank Trust # 53-0051
LPC # 1670255005/ Incident Number 2003-0135

2.2 SOIL AND GROUNDWATER OBJECTIVES

Soil analytical results were compared to the TACO Residential Tier 1 and current TACO Industrial/Commercial Tier 2 CUOs with the soil to groundwater pathway removed in milligrams per kilogram (parts per million) (mg/kg). The calculations of the Tier 2 CUOs are included in Appendix E of this CAP.

Table 2-1. Soil Remediation Objectives

	TACO Residential	TACO
	Tier 1 CUOs	Industrial/Commercial
Parameter	(mg/kg)	Tier 2 CUOs (mg/kg)
Benzene	0.03	3.95
Ethylbenzene	13.0	58.0
Toluene	12.0	440.01
Total Xylenes	5.6	59.95
MTBE	0.32	382.29
Acenaphthene	570	-
Acenaphytylene	30	-
Anthracene	12,000	-
Benzo(a)anthracene	0.9	-
Benzo(a)pyrene	0.09	_
Benzo(b)fluoranthene	0.9	
Benzo(g,h,i)perylene	160	_
Benzo(k)fluoranthene	9.0	•
Chrysene	88.0	_
Dibenz(a,h)anthracene	0.09	-
Fluoranthene	3,100	-
Fluorene	560	-
Indeno(1,2,3-cd)pyrene	0.9	-
Naphthalene	1.8	2.00
Phenanthrene	280	
Pyrene	2,300	-

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

CW³M will consider the groundwater at this site to be Class I unless demonstrated otherwise pursuant to 35 Ill. Adm. Code § 620.210. According to the Illinois Pollution Control Board, three Class III Groundwater contributing areas exist; however, they are located in McHenry, Monroe and St. Clair Counties in northern and western Illinois. Groundwater investigation sample results would be compared to the TACO Residential Tier 1 CUOs in milligrams per liter (mg/L).

Table 2-2. Groundwater Remediation Objectives

	TACO Residential
' '	Tier 1 CUOs
Parameter	(mg/L)
Benzene	0.005
Ethylbenzene	0.7
Toluene	1.0
Total Xylenes	10.0
MTBE	0.07
Acenaphthene	0.42
Acenaphtylene	0.01
Anthracene	2.1
Benzo(a)anthracene	0.00013
Benzo(a)pyrene	0.0002
Benzo(b)fluoranthene	0.00018
Benzo(g,h,i)perylene	0.00076
Benzo(k)fluoranthene	0.00017
Chrysene	0.0015
Dibenz(a,h)anthracene	0.0003
Fluoranthene	0.28
Fluorene	0.28
Indeno(1,2,3-cd)pyrene	0.00043
Naphthalene	0.14
Phenanthrene	0.0064
Pyrene	0.210

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

3. CORRECTIVE ACTION PLAN

Based upon the analytical data from the soil and groundwater samples collected to date, it is apparent that soil contamination exceeding various CUOs for multiple indicator contaminants remains from the release. Additionally, groundwater contamination for multiple indicator contaminants remains from the release. Site investigation details were presented in the SICR (CW³M, 2005c).

The following CAP and Budget has been prepared by CW³M Company, Inc., as their recommendation for the most appropriate approach to the remediation of the contamination at the Marine Bank Trust #53-0051 site in Cantrall, Illinois. Following the most recent corrective action activities, it was determined that soil contamination plume remains on site. The soil contamination present from the release exceeds both the current TACO Tier 2 Industrial/Commercial CUOs and the TACO Tier 1 Soil Saturation (Csat) limits. Additionally, it is apparent that the groundwater contamination plume exists on and off-site, but is defined. This plan proposes additional soil borings to further define the above soil exceedances.

The sample location, SB-15, exceeding Tier 1 C_{sat} CUOs has not been fully vertically defined. Following a technical bulletin from the Agency, these Tier 1 C_{sat} exceedances must be fully defined prior to exclusion of any exposure route. SB-15 was previously collected within the 5-10 foot interval, with the groundwater table being encountered at a depth of approximately 9 feet below ground surface (bgs). Therefore, one additional boring is proposed at the location of SB-15 to a depth of 20 feet bgs. Soil samples will be collected within the 10-15 foot and 15-20 foot intervals for BETX, MTBE, and PNA analysis for a total of two (2) soil samples. If it is determined that contamination continues beyond 20 feet bgs, drilling will continue at greater depths with additional soil samples within each 5-foot interval until contamination is no longer present by visual or olfactory detection.

It is also proposed to collect an additional site-specific geotechnical soil sample while on site. As stated in the March 15, 2007 denial letter, the values generated for the site-specific physical parameters fails to meet requirements. Specifically, the soil bulk density and soil particle density did not meet requirements in accordance with 35 Ill. Adm. Code 742 (IEPA, 2007). The proposed soil boring will be advanced adjacent to a clean soil boring, SB-11. The sample will be collected at approximately 7 feet bgs and analyzed for site specific physical parameters. The TACO calculations will be updated to reflect site specific conditions once the analytical results return.

The incident currently depicts SB-7 with a concentration of benzene at 16.3 mg/kg. This concentration exceeds the present TACO Tier 2 Industrial/Commercial CUOs for benzene of 3.95 mg/kg. While the values of the TACO Tier 2 CUOs will change from the proposed resampling of the geotechnical sample, it is believed that SB-7 will still exceed TACO Tier 2 CUOs for benzene and will require additional remediation efforts. It is expected the contamination at SB-7 will need to be addressed by an engineered barrier. Therefore, three

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

(3) soil borings are proposed to potentially define and minimize the area requiring an engineered barrier surrounding SB-7. Samples will be collected in both the 0-5-foot and 5-10-foot interval above the groundwater table. A total of six (6) soil samples will be collected and analyzed for BETX, MTBE, and PNAs. The locations of the proposed soil borings are shown on Drawing 0007 in Appendix B. These borings will potentially reduce future costs by removing the need for a following CAP and Budget with a drilling minimum for these proposed samples.

Following IEPA's Leaking Underground Storage Tank (LUST) flowchart for vapor intrusion assessment, a vapor intrusion sampling will be required for this incident. Therefore, one vapor intrusion boring will be advanced at the location of highest contamination, SB-7, to a depth of 5 feet bgs. The soil-gas vapor results obtained will be compared to 35 Ill. Adm. Code 742 Appendix B, Table H to determine if further restrictions or remediation is required. A map showing the location of the proposed vapor intrusion boring is included in Appendix B as Drawing 0007.

Considering the current soil-to-groundwater and groundwater migration modeling, it is expected that the site will require Environmental Land Use Controls (ELUCs) from offsite properties. A groundwater ordinance may not be feasible for this site due to the location of the property being outside the village limits of Cantrall. It was discussed with Ted Stead, village president, that any of the properties east of Route 29 are not considered within the jurisdiction of the Village of Cantrall. It has been shown through current R-26 migration modeling that the groundwater contamination has a potential to migrate up to 329 feet east from the site. These modeling distances will be reevaluated after the proposed resampling for site specific properties.

In summary, this plan proposes:

- Re-drilling SB-15 to a depth of 20 feet with soil samples in the 10-15 and 15-20 foot intervals. Additional drilling will continue past 20 feet bgs if contamination exists at greater depths.
 - o Two (2) soil samples will be analyzed for BETX, MTBE, and PNAs.
- One (1) site-specific geotechnical soil sample will be collected as per the Agency's request adjacent to SB-11.
 - One sample will be analyzed for site-specific physical parameters
- Three (3) new soil borings will be advanced surrounding soil boring location SB-7 to delineate the impending engineered barrier. These borings will be drilled to a depth of 10 feet bgs.
 - o Six (6) soil samples will be analyzed for BETX, MTBE, and PNAs.
- One (1) vapor intrusion boring will be advanced to a depth of 5 feet bgs at SB-7.
 - One soil-gas vapor sample will be collected and analyzed.
- TACO calculations will be updated after analytical results return.

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

3.1 DRILLING METHOD

Five-foot continuous samplers are used to advance and characterize each boring. This method was selected to minimize the likelihood of gaps in the sample column. Augers were and will continue to be decontaminated with a pressure steam wash between borings to prevent cross-contamination. Soil boring logs have been and will continue to be prepared for all soil borings.

3.2 SOIL SAMPLING PROTOCOL

All samples are collected utilizing proper sampling protocol. Samplers wear new, disposable, latex gloves for each sampling event. Samples are collected from each five-foot interval from the area most contaminated; if an area of highest contamination cannot be determined or no apparent contamination is distinguished, samples are collected at the center of each five-foot sample tube. Each of the samples from the continuous sampler is screened using a photoionization detector (PID). Samples will be collected approximately every 2-3 feet and placed in sealed containers to record PID readings. This method provides the most reliable results as the samples are discrete. There is no interference with other depths and assurance that the meter zeroes out prior to reading the next sample, all while the core is left open to air. Proper sampling, decontamination and chain-of-custody procedures were employed. The sample containers were filled, labeled, and kept cool (to 6° C or below) until shipment to the laboratory for BETX, MTBE, PNA analysis. Sample descriptions were recorded on the boring log prepared for each boring. All soil samples will be analyzed by an accredited laboratory using test methods identified under 35 Ill. Adm. Code 186.180. As required by the LUST Section, Laboratory Certifications for Chemical Analyses accompanies each of the appropriate sample results that have been reported.

3.3 CURRENT AND PROJECTED USES OF THE SITE

The site is surrounded by an elementary school, residential, light commercial and agricultural properties. No detailed future plans exist for the property following its remediation.

3.4 INSTITUTIONAL CONTROLS PROPOSED

At this time, no institutional controls are being proposed until after all corrective action activities are completed. It is known that the site currently requires groundwater use restrictions, concrete replacement, engineered barriers, and construction worker inhalation caution areas. The size of those institutional controls may be determined following the proposed sampling from this CAP.

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

3.5 WATER SUPPLY WELL SURVEY

A survey of water supply wells for the purpose of identifying and locating all community water supply wells within 2,500 feet of the UST systems and all potable water supply wells within 200 feet of the UST systems was conducted. The Illinois State Geological Survey (ISGS), Illinois State Water Survey (ISWS) and the IEPA Division of Public Water Supplies data was accessed online on July 20, 2006 to update the original well survey based on the full extents of the plume.

The review indicated that twelve potable wells are located within 2,500 feet of the site. However, they are not located within the setback zone. Also, the review revealed that there are no community water supply wells located within 2,500 feet of the site. The IEPA was accessed online on July 20, 2006, to determine if there is a local ordinance or policy regulating the usage of potable water supply wells for the Village of Cantrall. There is no ordinance in effect. All wells found within 2,500 feet of the contaminant plume are listed in Table 3-2 below.

Table 3-1. Water Supply Well Information

Well ID	Type	Distance From Site	Setback Zone
		(feet)	(feet)
*00210	ISGS	362	200
00565	ISGS	1,024	200
24621	ISGS	1,135	200
22982	ISGS	2,420	200
24639	ISGS	2,016	200
25029	ISGS	2,016	200
22498	ISGS	1,056	200
22472	ISGS	2,358	200
22983	ISGS	427	200
22430	ISGS	2,358	200
22984	ISGS	1,697	200
24431	ISGS	378	200

^{*}The well ISGS has identified as 00210 belongs to the Athens Community Unit School District, Cantrall Elementary School. Cantrall Elementary School was contacted on June 10, 2003, and the school stated that they no longer use this well and currently obtain the village's water.

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

3.6 CLOSURE

Once the proposed sampling is completed, a CAP and Budget Amendment will be submitted to the IEPA detailing the results of the investigation. The CAP and Budget Amendment will contain results of the soil sampling, updated TACO calculations, updated CUOs, and the costs associated with addressing any TACO Tier 2 exceedances. This CAP and Budget Amendment will be accompanied by a certification from an Illinois Registered Professional Engineer.

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

4. REFERENCES

CW³M, 2003a. CW³M Company, Inc., 20-Day Certification, Marine Bank Trust #53-0051, Cantrall, Illinois, February 5, 2003.

CW³M, 2003b. CW³M Company, Inc., 45-Day Report, Marine Bank Trust #53-0051, Cantrall, Illinois, March 20, 2003.

CW³M, 2003c. CW³M Company, Inc., 45-Day Report Addendum, Marine Bank Trust #53-0051, Cantrall, Illinois, August 20, 2003.

CW³M, 2003d. CW³M Company, Inc., Site Investigation Plan and Budget, Marine Bank Trust #53-0051, Cantrall, Illinois, October 31, 2003.

CW³M, 2004a. CW³M Company, Inc., Site Investigation Plan and Budget Amendment, Marine Bank Trust #53-0051, Cantrall, Illinois, May 18, 2004.

CW³M, 2004b. CW³M Company, Inc., Site Investigation Status Report, Marine Bank Trust #53-0051, Cantrall, Illinois, May 18, 2004.

CW³M, 2005a. CW³M Company, Inc., *Site Investigation Completion Report*, Marine Bank Trust #53-0051, Cantrall, Illinois, April 8, 2005.

CW³M, 2005b. CW³M Company, Inc., Site Investigation Completion Report, Marine Bank Trust #53-0051, Cantrall, Illinois, June 27, 2005.

CW³M, 2005c. CW³M Company, Inc., Site Investigation Completion Report, Marine Bank Trust #53-0051, Cantrall, Illinois, September 14, 2005.

CW³M, 2005d. CW³M Company, Inc., *Corrective Action Plan and Budget*, Marine Bank Trust #53-0051, Cantrall, Illinois, October 25, 2005.

CW³M, 2005e. CW³M Company, Inc., *Amended Site Investigation Plan Budget*, Marine Bank Trust #53-0051, Cantrall, Illinois, November 2, 2005.

CW³M, 2006a. CW³M Company, Inc., *Site Investigation Plan and Budget Amendment*, Marine Bank Trust #53-0051, Cantrall, Illinois, February 28, 2006.

CW³M, 2006b. CW³M Company, Inc., Corrective Action Plan and Budget, Marine Bank Trust #53-0051, Cantrall, Illinois, August 28, 2006.

CW³M, 2006c. CW³M Company, Inc., *Corrective Action Plan Response*, Marine Bank Trust #53-0051, Cantrall, Illinois, November 17, 2006.

CW³M, 2008. CW³M Company, Inc., Corrective Action Plan, Marine Bank Trust #53-0051, Cantrall, Illinois, November 14, 2008.

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

CW³M, 2021. CW³M Company, Inc., Corrective Action Plan and Budget, Marine Bank Trust #53-0051, Cantrall, Illinois, January 26, 2021.

EPA.GOV, 2022. EPA on-Line Tools for SITE Assessment Calculation. EPA, Environmental Protection Agency, January 18, 2023, https://www3.epa.gov/ceampubl/learn2model/part-two/onsite/gradient4plus-ns.html.

IEPA, 2003a. Illinois Environmental Protection Agency, 20-Day Certification Correspondence, Marine Bank Trust #53-0051, Cantrall, Illinois, February 13, 2003.

IEPA, 2003b. Illinois Environmental Protection Agency, *Site Investigation Plan and Budget Correspondence*, Marine Bank Trust #53-0051, Cantrall, Illinois, December 23, 2003.

IEPA, 2004a. Illinois Environmental Protection Agency, Site Investigation Plan and Budget Correspondence, Marine Bank Trust #53, Cantrall, Illinois, June 7, 2004.

IEPA, 2004b. Illinois Environmental Protection Agency, Site Investigation Status Report and Budget Correspondence, Marine Bank Trust #53-0051, Cantrall, Illinois, June 7, 2004.

IEPA, 2005a. Illinois Environmental Protection Agency, Site Investigation Completion Report and Budget Correspondence, Marine Bank Trust #53-0051, Cantrall, Illinois, August 29, 2005.

IEPA, 2005b. Illinois Environmental Protection Agency, Site Investigation Completion Report and Budget Correspondence, Marine Bank Trust #53-0051, Cantrall, Illinois, October 17, 2005.

IEPA, 2005c. Illinois Environmental Protection Agency, Amended Site Investigation Plan Budget Correspondence, Marine Bank Trust #53-0051, Cantrall, Illinois, December 2, 2005.

IEPA, 2006a. Illinois Environmental Protection Agency, Corrective Action Plan and Budget Correspondence, Marine Bank Trust #53-0051, Cantrall, Illinois, February 21, 2006.

IEPA, 2006b. Illinois Environmental Protection Agency, Site Investigation Plan and Budget Correspondence, Marine Bank Trust #53-0051, Cantrall, Illinois, April 5, 2006.

IEPA, 2006c. Illinois Environmental Protection Agency, Corrective Action Plan and Budget Correspondence, Marine Bank Trust #53-0051, Cantrall, Illinois, October 23, 2006.

IEPA, 2007. Illinois Environmental Protection Agency, *Corrective Action Plan and Budget Correspondence*, Marine Bank Trust #53-0051, Cantrall, Illinois, March 15, 2007.

IEPA, 2009. Illinois Environmental Protection Agency, Corrective Action Plan Correspondence, Marine Bank Trust #53-0051, Cantrall, Illinois, March 10, 2009.

IEPA, 2021. Illinois Environmental Protection Agency, Corrective Action Plan Correspondence, Marine Bank Trust #53-0051, Cantrall, Illinois, May 19, 2021.

APPENDIX A CORRECTIVE ACTION PLAN FORM

CORRECTIVE ACTION PLAN AND BUDGET AMENDMENT

MARINE BANK TRUST # 53-0051 CANTRALL, ILLINOIS



Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 – 57.19). Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false, fictitious, or fraudulent material statement or representation, orally or in writing, to the Agency, or to a unit of local government to which the Agency has delegated authority under subsection (r) of Section 4 of this Act, related to or required by this Act, a regulation adopted under this Act, any federal law or regulation for which the Agency has responsibility, or any permit, term, or condition thereof, commits a Class 4 felony, and each such statement or writing shall be considered a separate Class 4 felony. A person who, after being convicted under paragraph 415 ILCS 5/44 (h)(8), violates paragraph 415 ILCS 5/44 (h)(8) a second or subsequent time, commits a Class 3 felony. (415 ILCS 5/44). This form has been approved by the Forms Management Center.

Leaking Underground Storage Tank Program Corrective Action Plan

		•	ALLOCATOR ACTION IN	*! *			
A. Site Ident	ification						
IEMA Incide	IEMA Incident # (6- or 8-digit): 20030135			IEPA LPC# (10-digit): 1670255005			
Site Name:	Marine Bank Trust #53-	0051					
Site Address	s (Not a P.O. Box): 952	0 Illinois State	Route 29	***************************************			
City: Cantra	all		County: Sangamon	ZIP	Code: 62625		
B. Site Inforr	mation						
1. Will the o	wner or operator seek re	eimbursement	from the Underground	Storage Tank Fund?		() No	
2. If yes, is t	he budget attached?	✓ Yes	○ No		_	Ü	
3. Is this an	amended plan?	✓ Yes	○ No				
4. Identify th	ne material(s) released:	Gasoline, I	Diesel, and Used Oil				
5. This Corr	ective Action Plan is sub				·	—	
	5 III. Adm. Code 731.16						
○ b. 3	5 III. Adm. Code 732.40	4					
⊘ c. 3	5 III. Adm. Code 734.33	5					
C. Proposed	Methods of Remed	liation					
1. Soil	TBD						
2. Groundw	ater TBD					114	
							
). Soil and G	roundwater Invest	igation Res	sults				
(for incident provided)	ts subject to 35 III. Adm.	Code 731 onl	ly or 732 that were class	ified using Method Or	ne or Two, if no	ot previous	
Provide the	following:						
1. Descript	ion of investigation activ	ities performe	d to define the extents o	of soil and/or groundw	ater contamina	ation:	
	al results, chain-of-custo					2.71	

3. Tables comparing analytical results to applicable remediation objectives:

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

E. Technical Information - Corrective Action Plan

Provide the following:

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

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

F. Exposure Pathway Exclusion

Provide the following:

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

G. Signatures

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

UST Owner or Operator	Consultant
Name Marine Bank Trust #53-0051	Company CWM Company, Inc.
Contact Trust Dept.	Contact Carol Rowe
Address 3050 West Wabash	Address 701 South Grand Avenue West
City Springfield	City Springfield
State Illinois	State Illinois
Zip Code <u>62707</u>	Zip Code 62704
Phone 217-726-0600	Phone 217-522-8001
Email trustaibank marine com	Email cwm@swmgompany.com
Signature Cathy D. Over-freed, T.D	Signature
Date <u>3//6/2 3</u>	Date April 6, 2023

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

Licensed Professional Engineer or Geologist Name Vince E. Smith	L.P.E. or L.P.G. Seal
Company CWM Company, Inc.	
Address 701 South Grand Ave. West	
City Springfield	application to the state of the
State Illinois	7:18
Zip Code 62704	
Phone 217-522-8001	
III. Registration No. 062-046118	
License Expiration Date ///3 v/23	
Signature V. E. St.	
Date 4/6/23	_

APPENDIX B SITE MAPS AND ILLUSTRATIONS

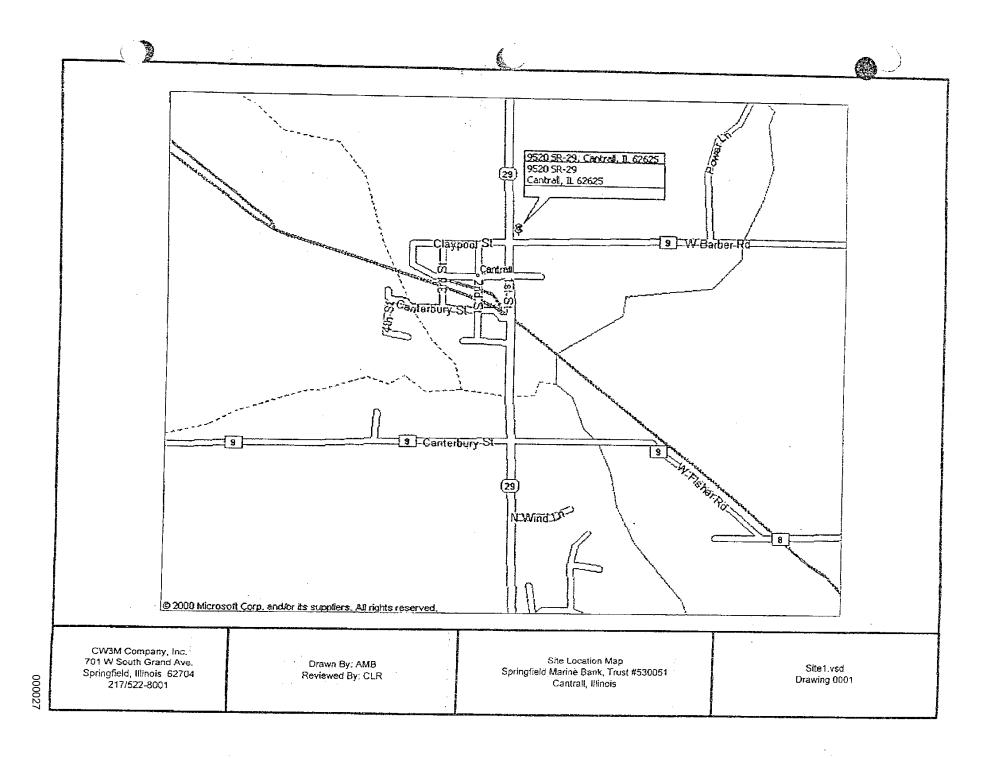
CORRECTIVE ACTION PLAN AND BUDGET AMENDMENT

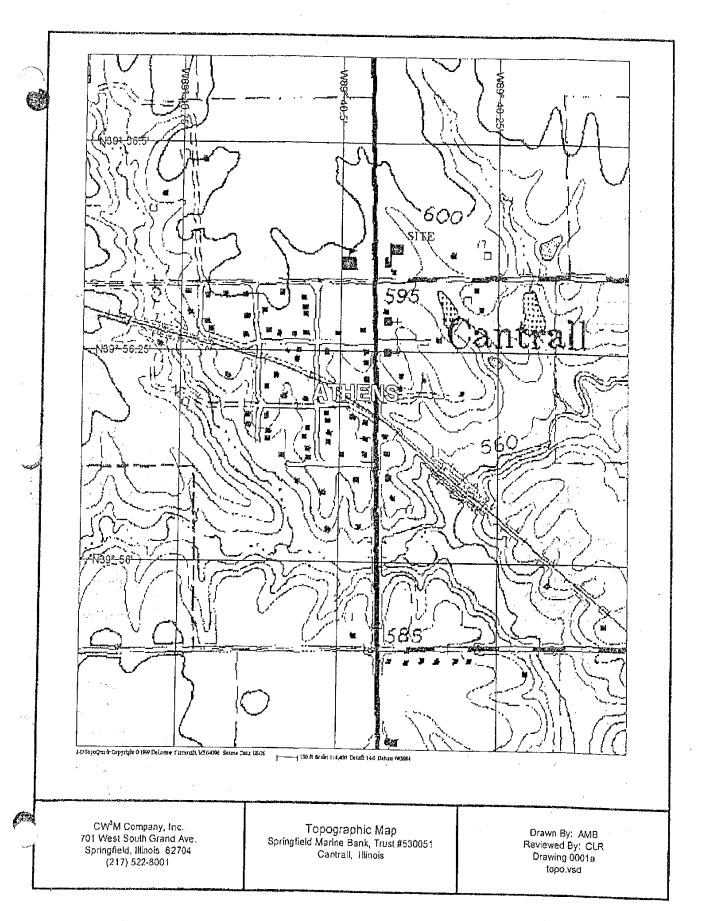
MARINE BANK TRUST # 53-0051 CANTRALL, ILLINOIS

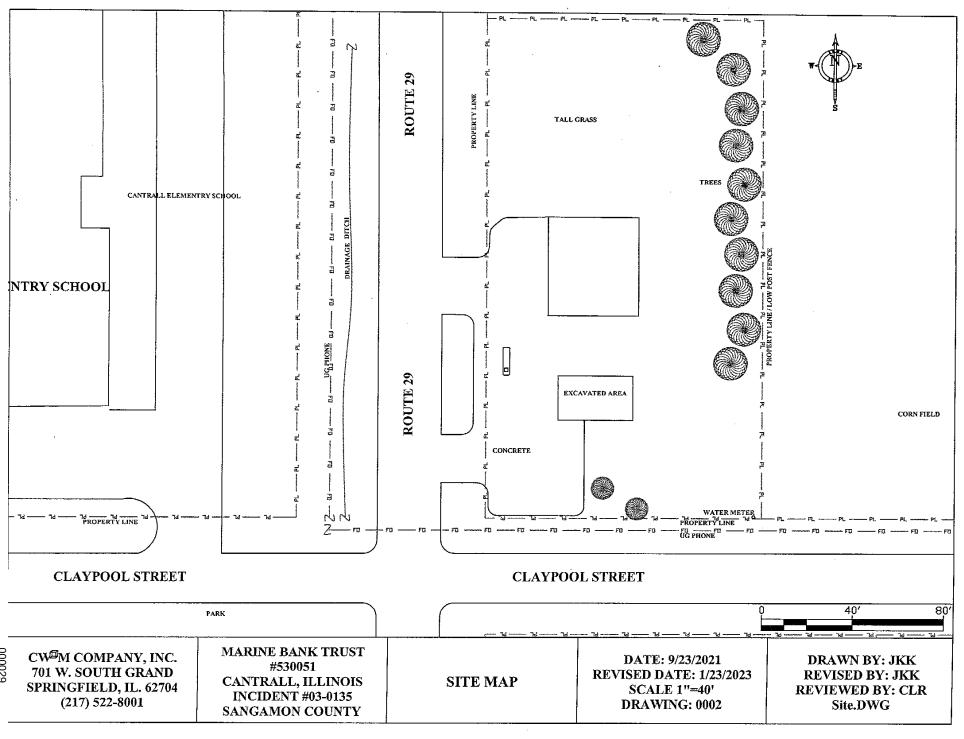
CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

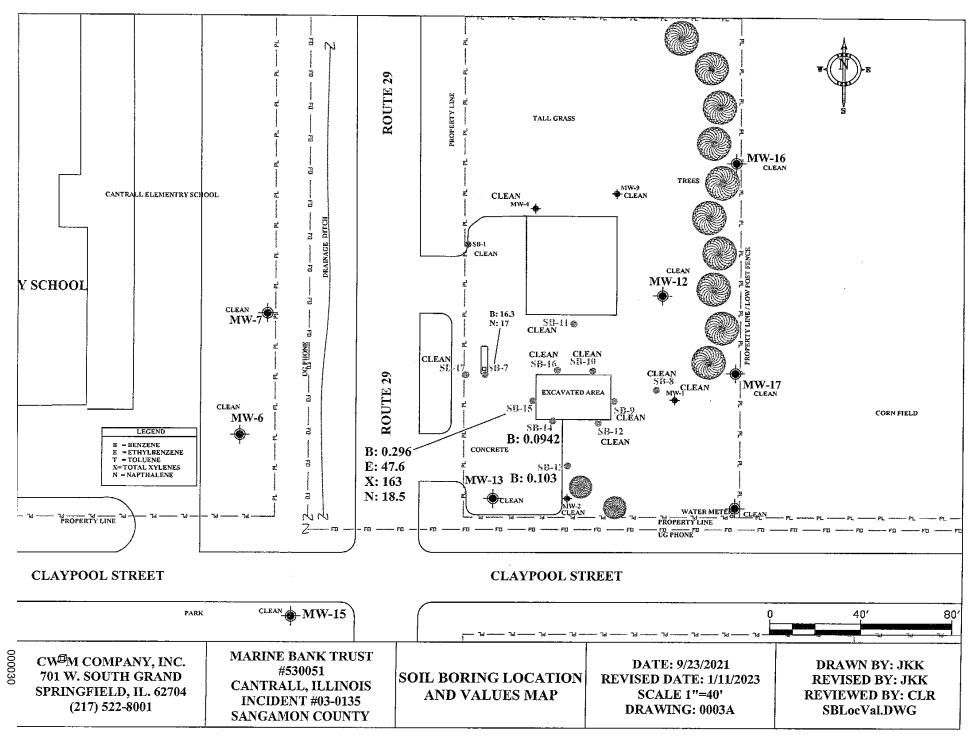
INDEX OF DRAWINGS

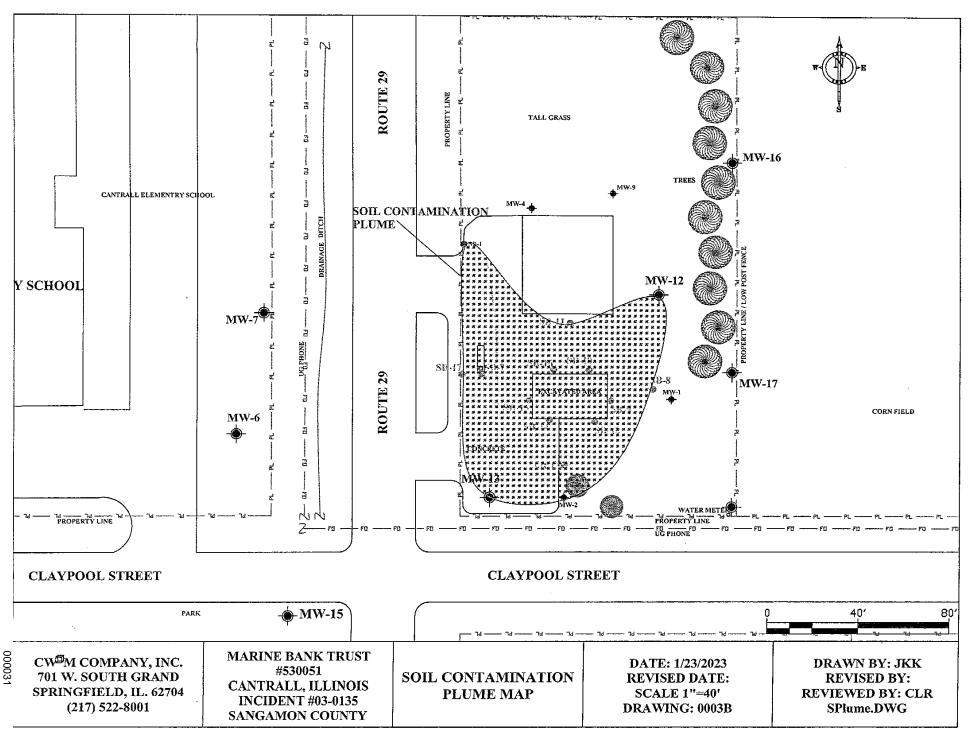
Drawing Number	Description	File Name
0001	Site Location Map	Site1.vsd
0001A	Topographic Map	topo.vsd
0002	Site Map	Site.dwg
0003A	Soil Boring Location and Values Map	SBLocVal.dwg
0003B	Soil Contamination Plume Map	SPlume.dwg
0004A	Monitoring Well Locations and GW Values Map	MWLoc-GWVal.dwg
0004B	Groundwater Contamination Plume Map	GWPlume.dwg
0005	Groundwater Flow Map	GWFlow09-21.dwg
0006A	R-26 Modeling Map	R-26.dwg
0006B	R-26 Modeling Map (close)	R-26close.dwg
0007	Proposed Soil Boring Location Map	PSB.dwg

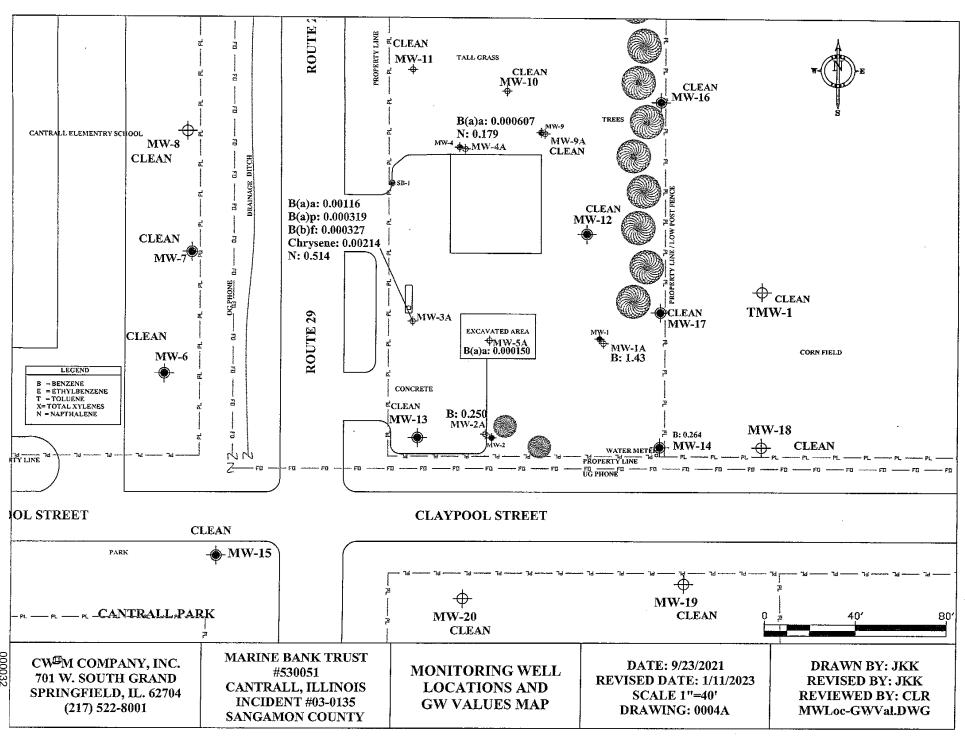


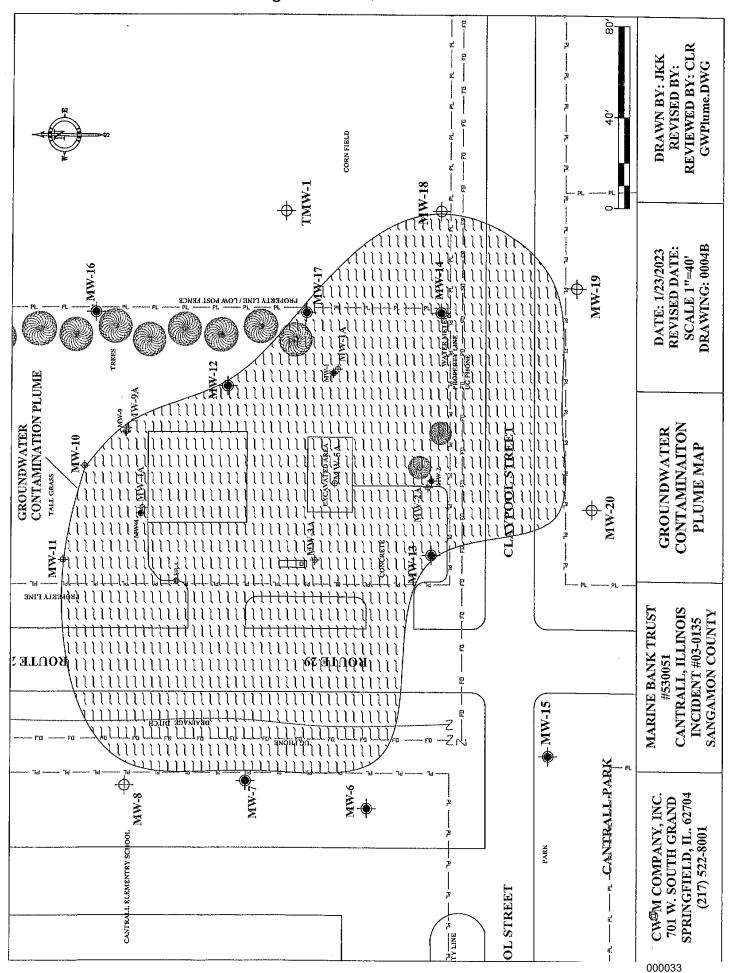


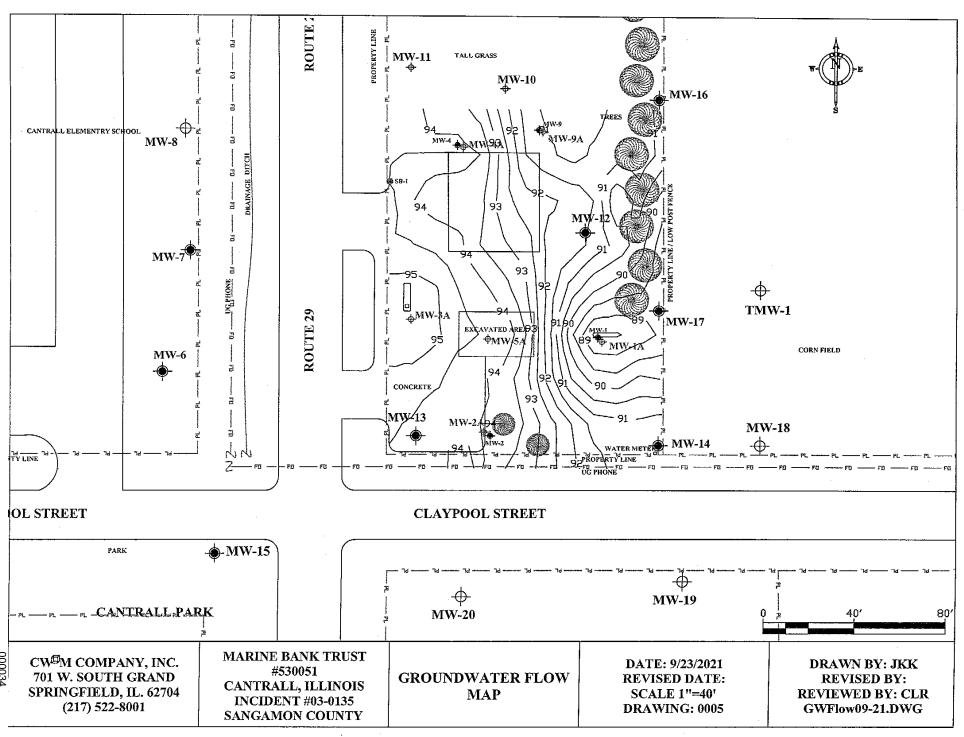


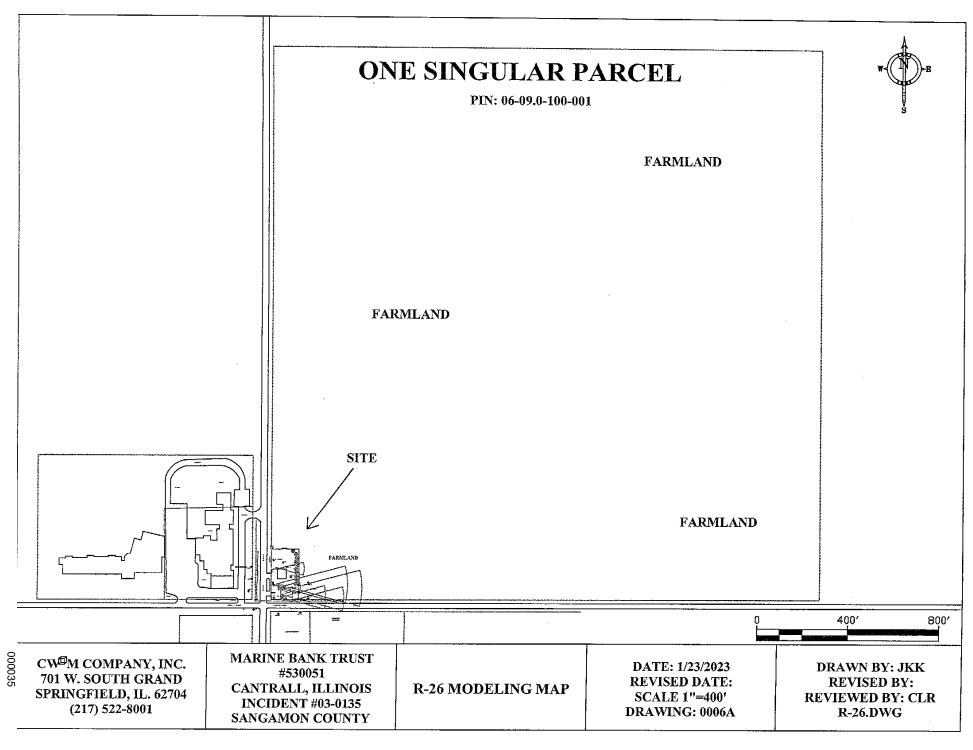


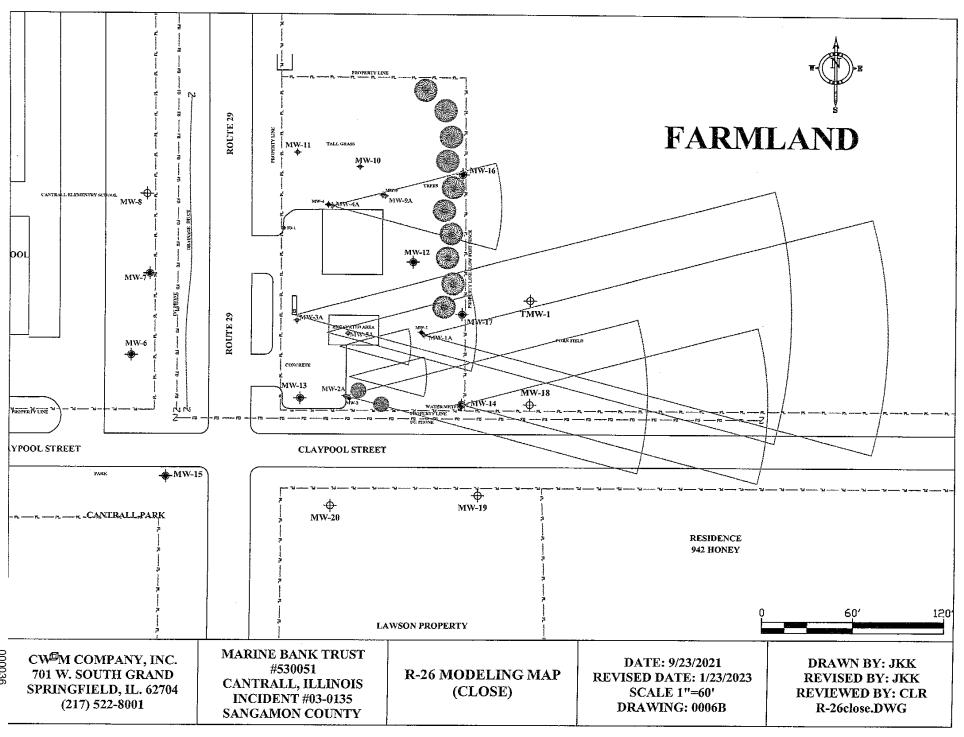


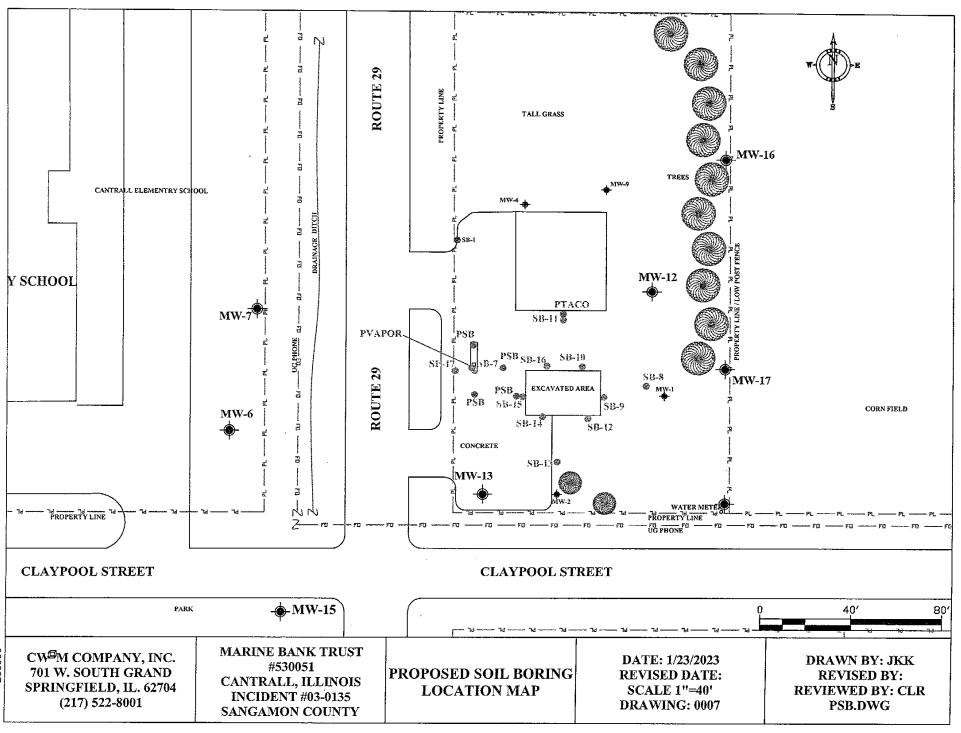












APPENDIX C OSFM ELIGIBILITY DETERMINATION

CORRECTIVE ACTION PLAN AND BUDGET AMENDMENT

MARINE BANK TRUST # 53-0051 CANTRALL, ILLINOIS



Office of the Illinois State Fire Marshal

General Office 217-785-0969 FAX 217-782-1062 Divisions

ARSON INVESTIGATION 217-782-9116 BOILER and PRESSURE VESSEL SAFETY 217-782-2696 FIRE PREVENTION

FIRE PREVENTION
217-785-4714

MANAGEMENT SERVICES
217-782-9889
INFIRS
217-785-5826

HUMAN RESOURCES

217-785-1026

PERSONNEL STANDARDS

and EDUCATION 217-782-4542 PETROLEUM and CHEMICAL SAFETY 217-785-5878 PUBLIC INFORMATION 217-785-1021 WEB SITE

www.state.il.us/osfm

CERTIFIED MAIL - RECEIPT REQUESTED #7001 2510 0002 3296 7267

REVISED

JUN 1 8 2003 BY: 6078

June 16, 2003

Marine Bank Springfield Trust #53-0051 c/o CW3M Company P.O. Box 571 Carlinville, IL 62626

In Re:

Facility No. 5-040470 IEMA Incident No. 03-0135 Ray & Lillian Ford Property 9520 State Route 29 Cantrall, Sangamon Co., IL

Dear Applicant:

The Reimbursement Eligibility and Deductible Application received on May 13, 2003 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 \$15,000. The costs must be in response to the occurrence referenced above and associated with the following tanks:

Eligible Tanks

Tank 1 500 gallon Gasoline Tank 2 500 gallon Used Oil Tank 3 500 gallon Diesel Tank 4 1,000 gallon Gasoline

You must contact the Illinois Environmental Protection Agency to receive a packet of Agency billing forms for submitting your request for payment.

An owner or operator is eligible to access the Underground Storage Tank Fund if the eligibility requirements are satisfied:

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

"Fuel", as defined in Section 1.19 of the Motor Fuel Tax Law

Aviation fuel

Heating oil

Kerosene

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

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

This constitutes the final decision as it relates to your eligibility and deductibility. We reserve the right to change the deductible determination should additional information that would change the determination become available. An underground storage tank owner or operator may appeal the decision to the Illinois Pollution Control Board (Board), pursuant to Section 57.9 (c) (2). An owner or operator who seeks to appeal the decision shall file a petition for a hearing before the Board within 35 days of the date of mailing of the final decision, (35 Illinois Administrative Code 105.102(a) (2)).

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

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

The following tanks are also listed for this site:

Tank 5 150 gallon Used Oil

Your application indicates that there has not been a release from these tanks under this incident number. You may be eligible to seek payment of corrective action costs associated with these tanks if it is determined that there has been a release from one or more of these tanks. Once it is determined that there has been a release from one or more of these tanks you may submit a separate application for an eligibility determination to seek corrective action costs associated with this/these tanks.

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

Facility File

APPENDIX D

CORRECTIVE ACTION PLAN BUDGET AND CERTIFICATION

CORRECTIVE ACTION PLAN AND BUDGET AMENDMENT

MARINE BANK TRUST # 53-0051 CANTRALL, ILLINOIS

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 2003-0135 . I further certify that the costs set forth in this budget are for necessary activities and are reasonable and accurate to the best of my knowledge and belief. I also certify that the costs included in this budget are not for corrective action in excess of the minimum requirements of 415 ILCS 5/57, no costs are included in this budget that are not described in the corrective action plan, and no costs exceed Subpart H: Maximum Payment Amounts, Appendix D Sample Handling and Analysis amounts, and Appendix E Personnel Titles and Rates of 35 Ill. Adm. Code 732 or 734. I further certify that costs ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 732.606 or 734.630 are not included in the budget proposal or amendment. Such ineligible costs include but are not limited to:
Costs associated with ineligible tanks. Costs associated with site restoration (e.g., pump islands, canopies). Costs associated with utility replacement (e.g., sewers, electrical, telephone, etc.). Costs incurred prior to IEMA notification. Costs associated with planned tank pulls. Legal fees or costs. Costs incurred prior to July 28, 1989. Costs associated with installation of new USTs or the repair of existing USTs.
Owner/Operator: Marine Bank Trust #53-0051
Authorized Representative: Cathy G. Overstreet Title: T.O. Signature: Cathy B. Overstreet Date: 3/16/23
Signature: Cathy S. Overs Level Date: 3/16/23
Subscribed and sworn to before me the 16th day of Marun 3073
Seal: STACY FOLI
(Notary Public) NOTARY PUBLIC, STATE OF ILLINOIS MY COMMISSION EXPIRES 12-13-2025
In addition, I certify under penalty of law that all activities that are the subject of this plan, budget, or report were conducted under my supervision or were conducted under the supervision of another Licensed Professional Engineer or Licensed Professional Geologist and reviewed by me; that this plan, budget, or report and all attachments were prepared under my supervision; that, to the best of my knowledge and belief, the work described in the plan, budget, or report has been completed in accordance with the Environmental Protection Act [415 ILCS 5], 35 III. Adm. Code 732 or 734, and generally accepted standards and practices of my profession; and that the information presented is accurate and complete. I am aware there are significant penalties for submitting false statements or representations to the Illinois EPA, including but not limited to fines, imprisonment, or both as provided in Sections 44 and 57.17 of the Environmental Protection Act [415 ILCS 5/44 and 57.17].
L.P.E./L.P.G.: Vince E. Smith L.P.E./L.P.G. Seal:
L.P.E./L.P.G. Signature: Date: 4/6/2)
Subscribed and sworm to before me the 6th day of April 2083
OFFICIASea EAL
(Notary Public) CAROL L. ROWE NOTARY PUBLIC, STATE OF ILLINOIS NOTARY PUBLIC, STATE OF ILLINOIS
The Illinois EPA is authorized to require this information under the EXECUTE of this fill the delay of denial of any budget of payment requested by the required. Failure to do so may result in the delay of denial of any budget of payment requested by the state of ILLINOIS



Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

General Information for the Budget and Billing Forms

LPC #: 1670255005	Co	unty:	Sangamon
City: Cantrall			Marine Bank Trust #53-0051
Site Address: 9520 Illinois State Route	29		
Date this form was prepared: Feb 22, 2	023		
List all IEMA Incident numbers associat	ed with this pac	kage:	
2003-1766		J	
List all other incidents associated with t			
This form is being submitted as a (chec	k one, if applical	ole):	
◯ Billing Package			
⊗ Budget Amendment (Budget amender)	ments must inclu	de only the cost	s over the previous budget.)
◯ Budget Proposal			
Please provide the name(s) and date	e(s) of report(s) d	ocumenting the	costs requested:
Name(s):			
Date(s):			
This package is being submitted for the			
35 III. Adm. Code 734:			
Early Action			
Free Product Removal after Early Ac		_	
Site Investigation	Stage 1:	Stage 2:	Stage 3: 🗍
☑ Corrective Action			
35 III. Adm. Code 732:			
☐ Early Action			
Free Product Removal after Early Ac	tion		
Site Classification			
Low Priority Corrective Action			
☐ High Priority Corrective Action			
35 III. Adm. Code 731:			
Site Investigation			
Corrective Action			

General Information for the Budget and Billing Forms

The following address will be used as the mailing address for checks and any final determination letters regarding payment from the Fund for this package.

Pay to the order of: Marine Bank Trus	st #53-0051				
Send in care of: CWM Company,	Inc.				
Address: 701 South Grand	Avenue West				
City: Springfield	City: Springfield				ip: 62704
The payee is the: Owner	Operator 🗌	(Check	one or b	oth.)	
Signature of the owner or opera	ator of the UST(7. (s) (réquired	<u>() .</u> I)		<u>23</u>
Cathy G. Overs Printed name of the owner or ope	trect erator of the US	T(s) (requir	ed)	W-9 must be Click here to	submitted. print off a W-9 Form.
Email: cwm@cwmcompany.com	***				
parent or joint stock company of the o joint stock company of the owner or o	perator: Fewe	er than 101	: O	101 or more: (·
Product Stored in UST	Size (gallons)	Did US* a rele		Incident No.	Tank Leak / Overfill / Piping Leak
Gasoline	500	Yes 🕢	No 🔾	2003-0135	Overfill
Gasoline	1,000	Yes 🕢	No 🔾	2003-0135	Overfill
Diesel	500	Yes 🕢	No 🔾	2003-0135	Overfill
Used Oil	500	Yes 🕢	No 🔾	2003-0135	Overfill
Used Oil	150	Yes 🔾	No ⊘	None	
		Yes 🔾	No 🔾		
		Yes 🔾	No 🔾		

Yes 🔘

No 🔾

Budget Summary

734	Free Product	Stage 1 Site Investigation	Stage 2 Site Investigation	Stage 3 Site Investigation		rrective Action
					Pr	oposed
Drilling and Monitoring Well Costs Form	\$	\$	\$	\$	\$	1,690.83
Analytical Costs Form	\$	s	\$ 1	\$ 35 S	\$	3,732.97
Remediation and Disposal Costs Form	\$	\$	\$	\$	\$	704.51
UST Removal and Abandonment Costs Form	\$	\$	\$	\$	\$	
Paving, Demolition, and Well Abandonment Costs Form	\$	\$	\$	\$	\$	
Consulting Personnel Costs Form	\$		\$ 15 m	\$	\$	12,962.66
Consultant's Materials Costs Form	\$	\$	\$	\$	\$	195.82
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	\$	\$	\$	\$	\$	19,286.79

Drilling and Monitoring Well Costs Form

1. Drilling

Number of Borings to Be Drilled	Type HSA/PUSH/ Injection	Depth (feet) of Each Boring	Total Feet Drilled	Reason for Drilling
1	PUSH	20.00	20.00	Vertical Delineation of TACO Tier 1 Csat
11	PUSH	10.00	10.00	Geotechnical Sample @ SB-11
3	PUSH	10.00	30.00	Engineered Barrier Area Delineation
1	PUSH	5.00	5.00	Vapor Intrustion Boring
	10.			

Subpart H
minimum payment
amount applies.

j	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:		32.41	
Total Feet via PUSH:	65.00	25,36	1,648.40
Total Feet for Injection via PUSH:		21.14	
	7 AM-14-01 -	Total Drilling Costs:	1,690.83 *

2. Monitoring / Recovery Wells

^{*} adjusted to reflect Subpart H minimum payment amount

Number of Wells	Type of Well HSA / PUSH / 4" or 6" Recovery / 8" Recovery	Diameter of Well (inches)	Depth of Well (feet)	Total Feet of Wells to Be Installed (\$)

Well Installation	Total Feet	Rate per Foot (\$)	Total Cost (\$)
Total Feet via HSA:		23.26	
Total Feet via PUSH:		17.61	
Total Feet of 4" or 6" Recovery:		35.23	
Total Feet of 8" or Greater Recovery:		57.77	
		Total Well Costs:	11-1

Total Drilling and Monitoring Well Costs:	\$1,690,83
	Ψ1,000.00

Analytical Costs Form

Laboratory Analysis	Number of Samples		Cost (\$) per Analysis		Total per Parameter
Chemical Analysis				I _{+.} ,	. <u>. </u>
BETX Soil with MTBE EPA 8260	T 8	Х	119,77		\$958.16
BETX Water with MTBE EPA 8260		Х	La Victoria Cara Maria		\$ 1000.10
COD (Chemical Oxygen Demand)		X		=	- No. 31. and programmers, position
Corrosivity	94,0040,009	Х	ing reformant in		
Flash Point or Ignitability Analysis EPA 1010		Х	The second second second	:	Liver in German Street of Source
Fraction Organic Carbon Content (foc) ASTM-D 2974-00		X	<i>\$</i> % ≤ 53.53		\$53,53
Fat, Oil, & Grease (FOG)	4	Х		166.528 2	
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	12 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
PCB / Pesticides (combination)		X	Service de la companya de la company	<u>^_</u> \$2>≪}_ =	
PCBs		X 9,	er Citavira	* ₩**	- Lating was a victor.
Pesticides	4.5 (4) (2) (1) (3)	Х		=	HENCER BUTTER TO THE CONTROL OF THE
pH:		X	Language Constitution		没有特尔学 法的
Phenol	The second section of the second	Х	Franchische gebestelligen		
Polynuclear Aromatics PNA, or PAH SOIL EPA 8270	/ B %	X	214.18	. 7 8	\$1,713.44
Polynuclear Aromatics PNA, or PAH WATER EPA 8270	V 200 37	X	py - 23, 4 j - 1, 10 .	斯索拉	φ j,7 jo.44
Reactivity		X	SANTERS.		
SVOC - Soil (Semi-Volatile Organic Compounds)	· A naggyaganizes	X	Charles de James de Sant	\$6 ; e 20	2-65-7-4 # 4-4-5-7 · ·
SVOC - Water (Semi-Volatile Organic Compounds)		X &	ing and the way		
TKN (Total Kjeldahl) "nitrogen"	200 - 10 Jack Willer	X	CAMPERS PORTUGE A SEC	'HARRE ■	
TPH (Total Petroleum Hydrocarbons)	<u>, </u>	·X ∜	and the stream of the		Produktavo si pelies
VOC (Volatile Organic Compounds) - Soil (Non-Aqueous)		X	ACCOUNT OF THE PARTY		The Control of the Co
VOC (Volatile Organic Compounds) - Water		X	- CARSON TOWN	= Jen 35	- 50 S. 1860 J. Bon
The state of the s	1 1947 7 13 4 13 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	X	400.00	-	The Miles Congress
Soil Gas Vapor (Syringe, Helium Shroud, canister, and analysis)		`X	402.00	二 2 5 8 70 3 10	\$402.00
	230.250	∴^∵ X			
	The second state of the second	2.7	V 2 South Set Gents	ere Geria	
		X		-	
Coo Toohnigal Anglysia		Х		=	
Geo-Technical Analysis			2		
Scil Bulk Density (p _b) ASTM D2937-94	1	Х	31.00	= 	\$ 31.00
Ex-situ Hydraulic Conductivity / Permeability		χ			
Moisture Content (w) ASTM D2216-92 / D4643-93	1	Х	16.91		\$16.91
Porosity		X		3	
Rock Hydraulic Conductivity Ex-situ		Х		=	
Sieve / Particle Size Analysis ASTM D422-63 / D1140-54	1.7	X	204.31	= 1	\$204.31
Soil Classification ASTM D2488-90 / D2487-90	Cafairataus Asi	Χ	· · · · · · · · · · · · · · · · · · ·	=	
Soil Particle Density (ps) ASTM D854-92	1	X	100,00	# 1	\$100.00
		Х		=	
		X		= 4	
		Х		=	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

Analytical Costs Form

Metals Analysis					
Soil preparation fee for Metals TCLP Soil (one fee per soil sample)		х		=	
Soil preparation fee for Metals Total Soil (one fee per soil sample)		Х		=	
Water preparation fee for Metals Water (one fee per water sample)		X		=	
Arsenic TCLP Soil		X		_	
Arsenic Total Soil		X			
Arsenic Water		x	sanger Nette	_	
Barium TCLP Soil		X	1 AST	=	
Barium Total Soil		Х		78000 E	1.0000000000000000000000000000000000000
Barium Water		Х	Living the stress section is	=	
Cadmium TCLP Soil		X		= 1	
Cadmium Total Soil		Х		=	
Cadmium Water		Х		=	
Chromium TCLP Soil	<u> </u>	Х		=	
Chromium Total Soil		X	Folk William	=	je sačila i i i i
Chromium Water	· · · · · · · · · · · · · · · · · · ·	Х		=	
Cyanide TCLP Soil		, X			
Cyanide Total Soil	<u> </u>	Х		=	
Cyaride Water		X	Establish (Sept.)		
Iron TCLP Soil		Х		=	
fron Total Soil		Х		=	1
Iron Water		Х		=	<u> </u>
Lead TCLP Soil	indige in the pa	Х	73,34 m.74		
Lead Total Soil		Х			
Lead Water		X		<u>}e</u> 20%	
Mercury TCLP Soil		Х		=	
Mercury Total Soil		X		. .	
Mercury Water		Х		=	
Selenium TCLP Soil		Х			
Selenium Total Soil		Х	<u> </u>		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Selenium Water		X	W. W. Karak		
Silver TCLP Soil	terretaria de la constitución de	Х	N 1 S 1	=	
Silver,Total Soil	ty subjects	X	#3//// #/		
Silver Water		Х		=	TOTAL MARKET CO. S. Prop. C. C. Contract
Metals TCLP Soil (a combination of all metals) RCRA		X			
Metals Total Soil (a combination of all metals) RCRA		X	**************************************	=	The second second second second
Metals Water (a combination of all metals) RCRA		Х			
		Х		=	
		X			
		Х		=	Programme to the state of the s
Two Seperate laboratories		х	York Sales		
Other			<u> </u>		16 to 28 (16 yr) (1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
EnCore® Sampler, purge-and-trap sampler, or equivalent sampling device	8	X	14.09	.	\$112.72
Sample Shipping per sampling event ¹	2	Х	70.45	. 100,000	\$140.90

¹A sampling event, at a minimum, is all samples (soil and groundwater) collected in a calendar day.

Total Analytical Costs: \$ 3,732.97

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:

Number of Cubic Yards	Cost per Cubic Yard (\$)	Total Cost
Backfilling the Excavation:		
Number of Cubic Yards	Cost per Cubic Yard (\$)	Total Cost

Overburden Removal and Return:

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

B. Alternative Technology

Alternative Technology Selected:		
Number of Cubic Yards of Soil	to Be Remediated	
Total Non-Consulting Personne	el Costs Summary Sheet (\$)	
Total Remediation Materials Co	osts Summary Sheet (\$)	
Total Cost of the System		
		Ti control of the con

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.

A Number of Gallons	Cost per Gallon (\$)	Total Cost (\$)

E. Drum Disposal

Subpart H minimum payment amount applies.

Number of Drums of Solid Waste	Cost per Drum (\$)	Total Cost (\$)
1	352.26	352.26
Number of Drums of Liquid Waste	Cost per Drum (\$)	Total Cost (\$)
Total Drum Di	sposal Costs	704.52 *

^{*} adjusted to reflect Subpart H minimum payment amount

Total Remediation and Disposal Costs:	\$704.52

Consulting Personnel Costs Form

Employee Nam	P	Personnel Title	Hours	Rate* (\$)	Total Cost
Remediation Category		Task			
		Senior Project Manager	32.00	140.90	\$4,508.80
ССАР	Amended Correc	ctive Action Plan Development			
7.7		Senior Draftperson/CAD	4.00	84.53	\$338.12
CCAP	Drafting/Editing	Maps for Plan Amendment			
		Senior Prof. Engineer	2.00	183.17	\$366.34
CCAP	Amended Correc	tive Action Plan Review & Certific	ation		****
		Senior Admin, Assistant	2.00	63.41	\$126.82
CCAP	Amended Correc	tive Action Plan Compilation, Ass	embly, and Distr	ibution	
		Senior Project Manager	4.00	140.90	\$563.60
TACO 2 or 3	TACO Tier 2 Cal	culations / Development of CUOs	/ GW Modeling		
		Senior Prof. Engineer	2.00	183,17	\$366.34
CCAP-Budget	Amended Correc	tive Action Budget Review & Cert	ification		
		Senior Project Manager	10.00	140.90	\$1,409.00
CCAP-Budget	Amended Correct	tive Action Budget Development			

Employee Name)	Personnel Title	Hours	Rate* (\$)	Total Cost
Remediation Category		Tas	k	· · · · · · · · · · · · · · · · · · ·	1
		Senior Project Manager	4.00	140,90	\$563.60
CCA-Field	Scheduling, Arra	angements/Coordination for Inve	stigation Activities	/JULIE/IEPA Notif	-
		Senior Project Manager	10.00	140.90	\$1,409.00
CCA-Field	Field Prep / Drill	ing / Soil Sampling / Soil-Gas Va	por collection / Fig	eld Reports	
		Senior Technician	8.00	91.58	\$732.64
CCA-Field	Drilling / Soil Sai	mpling / Soil-Gas Vapor collectio	n		
					
•					
					4
		Senior Project Manager	6,00	140.90	\$845.40
CCA-Field	Review Analytica	al Results, Borelogs, Tabulation	of Analytical		
		Senior Prof. Engineer	2.00	183.17	\$366.34
CA-Pay	Corrective Action	Reimbursement Review & Cert	ification	***	
		Senior Acct. Technician	16.00	77.49	\$1,239.84
CA-Pay	Corrective Action	Reimbursement Preparation			
	ii.	Senior Admin. Assistant	2.00	63.41	\$126.82
CA-Pay	Corrective Action	Reimbursement Compilation / /	Assembly / Distrib	ution	

^{*}Refer to the applicable Maximum Payment Amounts document.

Consultant's Materials Costs Form

Materials, Equipment, or Field Purchase		Time or Amount Used	Rate (\$)	Unit	Total Cost
Remediation Category	Description/Justification				
Postage		2.00	14.20	/each	\$28.40
CCAP	Corrective Action Plan and	d Budget Amendme	nt Distribution / F	orms / Client	Review
Mileage 1		38.00	.59	/mile	\$22.42
CCA-Field	1 Round Trip. (Springfield	Office: Drilling & Sa	mpling)	1	
PID Rental		1.00	75.00	/day	\$75.00
CCA-Field	Detect VOC Levels in Soil	Samples			····
Water Level Indicator		1.00	24.00	/day	\$24.00
CCA-Field	Measure Groundwater Lev	rels for Drilling			
Sampling Supplies		1.00	25.00	/day	\$25.00
CCA-Field	Gloves, Deionized Water, I	Bags, Misc Items (S	ioil Sampling)		
					-
ostage		2.00	10.50		\$21.00
CA-Pay	Distribution of Corrective A	ction Reimburseme	nt Packages / D	rafts / Forms	

Total of Consultant Materials Costs

\$195.82

APPENDIX E

TACO VARIABLES AND EQUATIONS & HYDRAULIC CONDUCTIVITY CALCULATIONS

CORRECTIVE ACTION PLAN AND BUDGET AMENDMENT

MARINE BANK TRUST # 53-0051 CANTRALL, ILLINOIS 1/17/23, 3:16 PM

EPA On-line Tools for Site Assessment Calculation | Ecosystems Research | US EPA



https://www3.epa.gov/ceampubi/learn2model/part-two/onsite/gradient4plus-ns.html

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

$$a x_1 + b y_1 + c = h_1$$

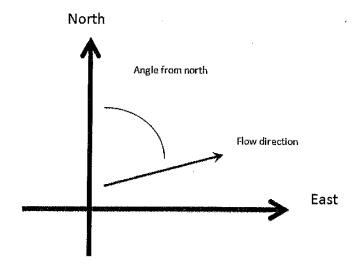
 $a x_2 + b y_2 + c = h_2$
 $a x_3 + b y_3 + c = h_3$
...
 $a x_{30} + b y_{30} + c = h_{30}$

where (x_i,y_i) are the coordinates of the well and h_i is the head

= 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 (a² + b²) and the angle from the arctangent of a/b or b/a depending on the quadrant



Inputs			
Example Data Set	1 Example Data	Set 2 Ca	culate Clear
Save Data	Recall Data	3o Back	
Site Name			
Date		Cu	rrent Date
Calculation basis	Head	~	
Coordinates ft 🗸			
I.D.	x-coordinate	y-coordinate	head ft 🗸
1) MW-1A	672.5716	551.826	88.44
2) MW-2A	620,6628	511.1571	94
3) MW-3A	588,3949	561,6454	95.36
4) MW-4A	611.4933	638.4295	94.24
5) MW-5A	622.3478	552.9812	94.48
6) MW-9A	646.4769	645,5046	90.84
7) MW-14A	697.573	505.3283	91,41
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			
16)			

1/17/23, 3:16 PM	EPA On-line Tools for Site Assessment Calculation Ecosystems Research US EPA
17)	
18)	
19)	
20)	
21)	
22)	
23)	
24)	
25)	
26)	
27)	
28)	
29)	
30)	
Results	
Number of Points Used in Calculation	7
Max. Difference Between Head Values	2.109
Gradient Magnitude (i)	0.06188
Flow direction as degrees from North (positive y	axis) 77.79
Coefficient of Determination (R ²)	0.747
WCMS	
Last updated on 8/31/2021	

R-26 Input/Summary Sheet

a de la constitue de la consti	rsion: 3/26/2018	R-26 Input/S	iummary Sheet		
IEMA Incident # (20030135			
IEPA LPC # (10 d		1670255005			
Site Name:	igit)	Marine Bank Trust 53-0051			
Site Address:		9520 State Route 29			
City:		Cantrali			
County:		Sangamon	······································		·
Zip Code:		62625			
SSL Equations U	ead:	S5,6,7,8,9,10,17,18,19,20,2	1 22 24		
RBCA Equations		R-1, R-2, R3	1,22,24		
	or Individual who Performed Calcui			the state of the s	40 7 1
Land Use:	a) III(dividual wito Felio)ilied Calcul	Residential & Construct	tion Markon		
Objective from S	17 used in 126:	No No	IDII WUKBI	· · · · · · · · · · · · · · · · · · ·	
Groundwater:	17 used III NZO.	Class 1		····	
Standard or Mace	Limit Equations:	Standard Equations	· · · · · · · · · · · · · · · · · · ·	(514 ()-2(-1)	
Sausca Foot of Di	ume for Mass Limit Eq.:	0.00		If Mass Limit, then Specifiy Acres:	
Date Data is Ente		January 11, 2023	:	< use this	s#above
Entry	Description	Louis II, 2023			
Elluy			01-11		
1.5	Holcomb Bulk Density (pcf)	or kall > 15 or Gravel = 20	Shelby Tub	e Location: = 1.6, Clay = 1.7, or site specific	*
1.5	Dry 301 Bulk Density (g/cm	or kg/L). 1.5, 01 Graver =2.0,	Sand = 1.6, Sill	= 1.b, Clay = 1.7, or site specific	
2.65	ps - Soil Particle Density		Reference		
0.434	Total Soil Porosity		0.434	0.434	
0.279	Water Filled Porosity	1	0.279	0.279	
0.155	Air Filled Porosity		0.155	0.155	
0.430	θ _T - Total Soil Porosity (RB)	CA)		0.25; Sand = 0.32; Silt = 0.40; Clay = 0.36	
0.195	w - Average Soil Moisture C	<u> </u>			
Silt Loam	USDA Soil Classification (P		U.1, or; Subsurface	Soil (top 1m) = 0.1; Subsurface Soil (below 1 m) =0.2; or Site	
Oilt Loan;	USDA Soli Classification (F	ick from List)		Entry	
0.00200	Strational Ornania Contra	/f\ !/		Organic Matter (%):	<u></u>
0.00390	Fractional Organic Carbon	(loc) in g/g		Organic Matter (mg/kg):	
				Total Organic Carbon (g/g): 0.0039	1
1.17E-04	Average Hydraulic Conductivity		İ		
1.17E-04	Falling Hydraulic Conductivity (•	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Rising Hydraulic Conductivity (Hydraulic Gradient Calculations	
0.06188	Hydraulic Gradlent (0.02 for si	les with по groundwater)	Meters	MW-1 93.	.70
10	d _a - Aquifer Thickness (ft)		3.048 m	MW-2 92	.66
10	d _a - Depth of Source (ft) (Vertical T	hickness of Contamination)	3.048 m		27
	···	the groundwater plume emanating to		Diotarios.	 1
	setback zone or surface water from		0 cm		
	groundwater flow (ft) (RBCA)	,	U GII		
262	L - Source Length Parallel to	Groundwester Flour (ft)	79.8576 m		
216	Sw: Source Width -horizonta		6583.68 cm		
210	Jow. Cource Wight-Hoffzonia	in plane (III) (NDCA)	U000,00 CM		
				differential purpose and protecting and the contraction of the contrac	
		water at distance X from the so	urce (mg/L)	Surface Water	
and in the second	Benzene	MTBE			
and the second section is					
4990 (1876) 1 Sept 18 Sept					
i kalaman din bir dalam	Total Xylenes	- 77-7-			
	Chemicals of Conce	rn			
e la la Benzena de	Naphthalene				
Toluene		Chrysene			
Ethylbenzene		Benzo(k)fluoranthene			
Total Xylenes		Indeno(1,2,3-cd)pyrene			
MTDE					

Mass Limit Equations

SSL Equations Needed

i♥ Inhaletion Equations

- ☑ Groundwater Ingestion Equations
- Csat Equations
- Fugitive Dust Equations

Text discussion for "i", L, da, ds, Sw, Sd

Hydraulic Gradient

The Hydraulic Gradient (i) was determined from an onsite survey of each of the groundwater monitoring wells. The riser elevations were determined and the depth to groundwater was noted in each well. This data was used to generate a potentiometric flow map with contour lines which show potentiometric head. A corresponding flow line, perpendicular to the contour lines, was determined between two known points of groundwater elevation. The hydraulic gradient was determined by the difference in elevation divided by the length of flow between the points.

Source Length

The Source Length Parallel to Groundwater Flow (L) was determined from the site map and analytical results. A value of 45.1104 m was used to encompass the length of contamination parallel to groundwater flow. This value is the distance between soil borings BH-1 and BH-2.

Aquifer Thickness

The Aquifer Thickness (d_a) is a site specific value determined by the length of the monitoring well screen. The Aquifer Thickness value used in the modeling equations was 3.048 meters.

Depth of Source

The Depth of Source (d_a) was determined from the analytical results and soil boring logs. A value of 3.048 m was used to encompass the vertical thickness of contamination based upon a clean soil sample at BH-1A, "hot" samples at BH-2B and BH-2C, and a clean soil sample at BH-2D. Thus the vertical thickness of soil contamination has been determined to be 3.048 m.

Source Width

The source width perpendicular to groundwater flow direction in the Horizontal Plane (S_w) was determined from the site map and analytical results. A value of 3566.16 cm was used to encompass the width of contamination in the horizontal plane. This value is the distance between clean wells MW-4 and and MW-6.

Source Depth

The source width perpendicular to groundwater flow direction in the Vertical Plane (S_d) was determined from the soil boring logs and analytical results. A value of 304.8 cm was used to encompass the width of contamination in the vertical plane based on the depths of contamination present and the PID readings from the bore logs.

Distance (X)

			BEN	ZENE		· · · · · · · · · · · · · · · · · · ·		
	Soil Exceed		V-1			Groundwater Exceed	lances	
	Soil	Х	Gw _{obj} (mg/L)	C(x)		Groundwater	X	C(x)
Location	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L)	Location	Concentration (mg/L)	(ft)	(mg/L)
SB-7	16.3	329	2.014	0.0050	MW-1	1.430	307	0.0050
\$8-13	0.103	51	0.013	0.0050	MW-2	0.250	200	0.0050
SB-14	0.0942	47	0.012	0.0050	MW-14	0.264	203	0.0050
SB-15	0.296	99	0.037	0.0050				
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	Soil Exceed		·			Groundwater Exceed		
Laadlaa	Soil	X	Gw _{obj} (mg/L)	C(x)		Groundwater	Х	C(x)
Location	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L)	Location	Concentration (mg/L)	(ft)	(mg/L)
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			Ethylb	enzene				
	Soil Exceed	dances			1	Groundwater Exceed	dances	
	Soil	Х	Gw _{ob} (mg/L)	C(x)		Groundwater	Х	C(x)
Location	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L)	Location	Concentration (mg/L)		(mg/L)
SB-15	47.6	15	1.62182790	0.6811		+ + + + + + + + + + + + + + + + + + + +	1,147	(9/=/
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			Total X	ylenes				
	Soil Exceed					Groundwater Exceed	ances	
Location	Soil Concentration (mg/kg)	X	Gw _{obj} (mg/L)	C(x)	Ţ	Groundwater	Х	C(x)
CD 45	163	(ft)	R26 Csource	(mg/L)	Location	Concentration (mg/L)	· (ft)	(mg/L)
SB-15	. 163	1	4.614417744	4.4350				
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			MT	BE				
	Soil Exceed					Groundwater Exceed	ances	
	Soil	X	Gw _{obj} (mg/L)	C(x)		Groundwater	X	C(x)
Location	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L)	Location	Concentration (mg/L)	(ft)	(mg/l
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	Soil Exceed					Groundwater Exceed	lances	
	Soil	Х	Gw _{abj} (mg/L)	C(x)		Groundwater	X	C(x)
Location	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L)	Location		(ft)	(mg/L)
SB-7	17	3	0.397559267	0.3364	MW-2A	0.178	5	0.1352
SB-15	18.5	3	0.433	0.3661	MW-3A	0.514	26	0.1399
					MW-4A	0.179	5	0.1359
								
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			Benzo[a	pyrene				
	Soil Exceed	lances				Groundwater Exceed	ances	
	Soil	X	Gw _{obj} (mg/L.)	C(x)		Groundwater	X	C(x)
Location	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L)	Location	Concentration (mg/L)	(ft)	(mg/L)
					MW-3A	0.000319	36	0.00019
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			Dibenz[a,h	anthracene				
	Soil Exceed					Groundwater Exceed	lances	
1	Soil	X	Gw _{obj} (mg/L)	C(x)		Groundwater	Х	C(x)
Location	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L)	Location	Concentration (mg/L)	(ft)	(mg/L)
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	Lead			
	Soll Exceed	ances		
	Soil	×	Gw _{abj} (mg/L)	C(x)
Location	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L
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			Benz{a]a	nthracene				
	Soil Exceed		·	Y		Groundwater Exceed	ances	
	Soil	X	Gw _{obj} (mg/L)	C(x)		Groundwater	Х	C(x)
Location	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L)	Location		(ft)	(mg/L)
			ļ		MW-3A	0.00116	156	0.0001286
					MW-4A	0.000607	112	0.0001294
					MW-5A	0.00015	14	0.0001294
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			Acenap	hthene				
	Soil Exceed	dances			Ï	Groundwater Exceed	lances	
	Soil	X	Gw _{obj} (mg/L)	C(x)		Groundwater	X (ft)	C(x)
Location	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L)	Location	Concentration (mg/L)	/ft\	(mg/L
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	larine Bank Trust WATER CLEAN-U			
	(mg/L)	OBOLOTIVE		<del></del>
-	Most Stringent	Class I	Class II	ADLs
Parameter	CUO	GW	GW	(U)
Benzene	0.005	0.005	0.025	<0.002
Ethylbenzene	0.7	0.7	1	< 0.002
MTBE	0.07	0.07	0.07	< 0.005
Toluene	1.0	1.0	2.5	< 0.002
Total Xylenes	10.0	10.0	10.0	< 0.005
Acenaphthene	0.42	0.42	2.1	<0.018
Acenaphthylene^	0.21	0.21	1.05	<0.010
Anthracene	2.1	2.1	10.5	<0.0066
Benzo(a)anthracene	0.00013	0.00013	0.00065	< 0.00013
Benzo(a)pyrene	0.0002	0.0002	0.002	< 0.0002
Benzo(b)fluoranthene	0.00018	0.00018	0.0009	<0.00018
Benzo(g,h,i)perylene^	0.21	0,21	1.05	<0.00076
Benzo(k)fluoranthene	0.00017	0.00017	0.00085	< 0.00017
Chrysene	0.0015	0.0015	0.0075	< 0.0015
Dibenz(a,h)anthracene	0.0003	0.0003	0.0015	< 0.0003
Fluoranthene	0.28	0.28	1.4	<0.0021
Fluorene	0.28	0.28	1.4	< 0.0021
Indeno(1,2,3-cd)pyrene	0.00043	0.00043	0.00215	< 0.00043
Naphthalene -	0.14	0.14	0.22	<0.010
Phenanthrene [^]	0.21	0.21	1.05	<0.0064
Pyrene	0.21	∛0.21	1.05	<0.0027
^Temporary Objectives fi Updated 12/20/04	rom additional table	s 10/1/04		

Summary of Tier 2 Calculations Marine Bank Trust 53-0051 20030135 01/11/23

Table 3

Tier 1 Objectives

		Benzene	<u> </u>	Toluene		Ethylbenzene		Total Xylenes		Naphthalene		MTBE	
Residential	Ingestion		mg/kg	16,000	mg/kg	7,800	mg/kg	16,000	mg/kg	1,600	mg/kg	780	mg/kg
	Inhalation	0.8	mg/kg	650	mg/kg	400	mg/kg	320	mg/kg	170	mg/kg	8,800	mg/kg
	ation Class 1	0.03	mg/kg	12	mg/kg	13	mg/kg	150	mg/kg	12	mg/kg	0.32	mg/kg
	ation Class 2	0.17	mg/kg	29	mg/kg	19	mg/kg	150	mg/kg	18	mg/kg	0.32	mg/kg
ndustrial/Commercial	ingestion	100	mg/kg	410,000	mg/kg	200,000	mg/kg	410,000	mg/kg	41,000	mg/kg	20,000	mg/kg
	Inhalation	1.60	mg/kg	650	mg/kg	400	mg/kg	320	mg/kg	270	mg/kg	8,800	mg/kg
Construction Worker	Ingestion	2,300	mg/kg	410,000	mg/kg	20,000	mg/kg	41,000	mg/kg	4,100	mg/kg	2,000	mg/kg
	Inhalation	2.20	mg/kg	42	mg/kg	58	mg/kg	5.6	mg/kg	1.80	mg/kg	140	mg/kg
Soil Saturation		580	mg/kg	290	mg/kg	150	mg/kg	110	ma/ka	66.28	mg/kg	8,400	/ng/kg

			<u> </u>	116	<u> </u>	jectives							
		Benzene	Equation	Toluene	Equation	Ethylbenzene	Equation	Total Xylenes	Equation	Naphthalene	Equation	MTBE	
Residential	Ingestion	11.64	S-2	6,257.14	S-1	7,821	S-1	15,643	S-1	1,564	S-1	782.1	S-1
	Inhalation	2.07	S-6	1/188/48/88/11.	\$-4	11.21	S-6	11111122111111,	S-4	194.28	S-4	1188888881	S-4
Migration Mass-Lim	nit Class 1	0.28	S-28	55.12	S-28	38.58	S-28	1113341941111	S-28	7.72	S-28	3.86	S-28
	on Class 1	0.040	S-17	16.60	S-17	20.54	S-17	11183884111	S-17	5.99	S-17	0.33	S-17
Industrial-Commercial	Ingestion	104.06	S-2	1,635,200	S-1	204,400	S-1	408.800 402	S-1	40.880	S-1	20.440	S-1
	Inhalation	. 3.95	S-6	11343343411.	S-4	21.42	S-6	11574999111,	S-4	309.31	S-4	11484478411.	S-4
Migration Mass-Lim	nit Class 1	0.28	S-28	55.12	S-28	38.58	S-28	111338181111	S-28	7.72	S-28	3.86	S-28
Migratio	n Class 1	0.040	S-17	16.60	S-17	20.54	S-17	11183334114	S-17	5.99	S-17	0.33	S-17
Construction Worker	Ingestion	2,258.21	S+3		S-1	1/18/36/3/38///	S-1	81,618	S-1	122,427	S-1	61,214	S-1
	Inhalation	5.55	S-7	111747481111	S-5	30.13	S-7	59.95	S-5	2.00	S-5	382.29	S-5
Soil Saturation		728.58	S-29	440.01	S-29	249.47	S-29	194.28	S-29	66.28	S-29	11,900.36	S-29

all values are in mg/kg

Calculated value is less than Tier 1 Objective

Groundwater Contaminate Concentration Exceedances at Surface Water or Set Back Zone (mg/L)

	Benzene	Equation	Toluene	Equation	Ethylbenzene	Equation	Total Xylenes	Equation	Naphthalene	Equation	MTBE	
Result	#DIV/0!	R-26	#DIV/0!	R-26	#DIV/0!	R-26	#DIV/0!	R-26			#DIV/0!	R-26
Surface Water Objective	0.86		0.6		0.014		0.36					

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R-17: 0, x q./3	102 (102.7) 1 3 a q, (cm) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						2 SCRT ( \$0.288 v 1002/22.1) = 0.2102 O.1020/25 V 2.504 ( 1.71020/25 V 2.504 v 1551-48 N 1.31020/25 1 University O.5960/25 V 2.504 v 1551-48 N 1.31020-2 University O.5960/25 V 2.504 v 1551-48 V 1551-48 v 1009/20 O.1004/25 V 2.504 v 1009/20	0.000076						
	2000   2012   250   10012   20   10   10012   20   10   1	100				S. 11	3048 // 2 3048 // 2 3048 // 2	304.8 /[ 2						
3 R-26 MD	18.3   0.405 = 0.231   0.151   0.1050   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250   0.0250						4 x \$0081 ( 394,254 x 10027 s2 1)	111	THE PERSON NAMED IN COLUMN 1		, , , , , , , , , , , , , , , , , , ,			
Math for R-26 Celcular RENZENE MATH FOR 1 Sample C., = (soil cor Location	SB-7 16.3 SB-14 0.0042 SB-16 0.208					Semple Location S., 16		SB-15. 0562 d8						

	11 145473 ]= Telm Z	17 1.45473 1= -0.5938 17 1.45473 1= -0.5910						:							1 × erf(1)2)	x Erd'(S ₁ ) x Erd'(S ₁ ) = mgl.	4 March & C 4013570 X 0 3873075 m C 40408	Control = Control × Control												
Tem 2" (1-509(1)+(4-1-0.)/(U))	x X X X G, 17 U ]= Telin Z x 0.00/10 x 536/735 1/ 1.45473 1= -0.8269	x 0.0050 x 619,744							-						Canana X el ^{terit}	ŀ	A district a district			1										
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	-1:1	1 SORT												11	Section 742.APPENDIX C. Table	0.256374	0.382025							-						
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Term 1** [X/Q*a, ]]	1 2 x Q,	~													; ;	x 10057.35 1)= 0.230	30 4372 x 0187 44 11 0 35355 D 001050		-											
	cm) X	372 8187.44	-			$\parallel$			1						B, = S, / (2 * SORTIO, * X)	45.7950	30.48				1									
R-18: n, = 0, / 20	8 8 8 8 8 8	7 20 = 30,9372 8187.44 !									1				B,=S,/(2	* SORT	2 xSORT													
	= 241,912 DS5 736 /	518.744														11	: :													
	a (cm)	200.2 18														1 1	3048					+	4					1		_
R-17: 0, = 0		3													; ;	0	8095 N= 1.47285 1187.44 N= 1.45700												:	
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Sumplu	VAV.	MV-14													Semple		12										$\ $			ļ

Marine . Math for R. ETHYLSEN	Bank Trust 53-0051 26 Calculations Zene Math For Vertical, Soll Mode	Marine Bank Trust 53-0051 Marine Bank Trust 53-0051 Marine Rest Gueralment Society Soc	ELED SOIL (Attachment	ą					
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Marine Math for I TOTAL XI Sample Location	Marine Bank Trust 53-0051 Walter Re Generalistes Walte. Xn. Less Marin Folk VERTICAL soll. Model Sample C., ** (soil contumination is medatory port.) Location	20030135 Eling and R-28 Modeling of Vertical By GW ₂₂ = 5.1 DF	ODELED SOIL Witnehment A) Convession: 1 feet > 30 49 cm	R-16. cc = 0.9	Rel?; g, e g, 13	R-18: q.	"tem":=  K.(Q.*a,))	Total A C a C a C a C a C a C a C a C a C a C
\$8.15	163 / 1766 = 92.288	52.288 / 20.000 = 4.51442	1 30.48	_[_[	a, (cm)	a, (cm) 3 048	30.48 / 2 x 0, = Termit	1 - SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4 x 0.005 x 3.040 v) 1- SORT 1 + ( 4
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Maring Bank Trust 53-0051 R. 20 Calculations NAPTHALENE MATH FOR R-20 MODELING	Marchine (A. 1982) (A. 198	11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (1988) 11 (19
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	Tem Z = [1	x 0, = 1-00 1 = 50RT 1 + ( 4 x A x 0, 1) U  = 150RZ x 109.729 V 1.6-6473  = -0.0037									G _{t0} =C _{trace} x e ^{llone}	B, X X )]= B, Company Company Company Application of the Company o	· V V									
	13 R-18: q, = 0, 20 Team 1 Tea	2 / 2									)TROS - 2) / S = 8	S ₄ /( 2 ×50RT (										
Marine Bank Trust 53-0051 Rad Ducaldon BROZDAIRMEN AATH FOR RAD MODELING OF GROUNDWATER Macenman to	Convention:  1 (500 = 20.45 cm   R-16; q, = 0.10 * X   X   X   X   X   X   X   X   X   X	30 1057.28 0.1 x 1097.28 = 108.728 100.728 1							74.7		B, = S, / (4 * SORT[a, * X))	5, 1( 4 × SQRT ( ct × X 1)= 5, 6583-69 1( 4 × SQRT ( 36.578 × 1097.28 1)* 8,21684										
Marine Bank R-ze Calculations BENZOLAIPYRENI	Sumple Location GW Value	MW-3A 0 IXMB19									Sample Location	A67-3A							,			

	Tem 2" = 11 - SQRTH + (4"-14"-0.3) (DJR)	-	- SORI 1 +1 4 x 0100/51 x 9413/8 1/ 1454/7 1= 0.2169 - SORI 1 +1 4 x 0.00/51 x 42.672 1/ 1454/7 1= 0.0568	771									CDB(G)	Con = Course × eller	C xe Line	0.478404 0.00118 x * x 77910 x 0.097404 x 0.00013	a stouce	*														
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	Term 1" = [X / Q - c, ]]	2 x 475,438 =	~ ~										201		g × × ); B	23.7744 x 4754 88 1)= 0.45227 0.007090	2.1336 x 426.72 N= 5.05078 1.00000								-						an, and a second	
	R-18: q, m g, / 20	475 488 ( 20 = 23,7744 4754 88 (	42.672 / 20 = 2.1336											B, = S, / (2 - SCRT	~	If 2 KNORT (	-				-											
20030135 N	R-17: 0, ± 9,	0, (cm) / 3 = 0, (cm) 0, (cm) / 475.486 / 3 = 158.406 475.488 /	87.0													3413.75 31 2.64081 204.8		-										-				
SROUNDWATER (Attachment	R-16: n, < 0.10 - X	x X(cm) Q, (cm) x 4754 80 = 475,488	x 426.72 = 42,872											β. = S _* / (4 · SORT[α, · X])	* ************************************	4 x 55247 ( 113,792 x 3413,76 11 2,64081	4 x SORT ( 14.224 x															
711ST 53-0051 Wath for R-26 Modelii	Conversion:	150 A750 BB	14 425.72										!	×	١,	dad3.68 //	) J BS 6859	ļ						1								
Marine Bank Trust 53-0051 R-ze Celouations Benzfallantracone MATH FOR R-26 M	Santple Location GW Yalus	MW-3A 0.00116	MW-8A 0.00015											Sample Location	AL VAN	NW1-4A	MW-SA															

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

Α.	Site Identification				
	IEMA Incident # (6- or 8-digit):	2003013	35 1	EPA LPC # (10-digit):	1670255005
	Site Name: Marine Bank Trust	53-0051			
	Site Address (not a P.O. Box):	9520 State Route	∋ 29		
	City: Cantrall	_ County:	Sangamon	Zip Code	: 62625
	Leaking UST Technical File				
В.	Tier 2 Calculation Information				
	Equation(s) Used (ex: S12,S17,S	S28): <u>\$5,6,7,8,9</u>	,10,17,18,19,20	),21,22,24	
	Contact Information for Individua	l Who Performed (	Calculations:		
	CWM, VES				
	Land Use: Residential		Soil Type:	Silt Loam	
	Groundwater: X Class I	Clas	ss II		
	Mass Limit: Yes X	] No If Ye	es, then Specify	/ Acreage:	
	<ul> <li>Mass Limit Acreage other than</li> <li>Failure to use site-specific para</li> <li>Maps depicting source width, pi</li> <li>Inputs must be submitted in the</li> </ul>	meters where allow ume dimensions, c	ved could affect	t payment from the UST F	und

AT (Ingestion)	=	Residential = 6	yr
		Con. Worker = 0.115	yr
AT (inhalation)	=	Residential = 30	yr
		Con. Worker = 0.115	yr
AT _c	=	70	yr
BW	=	Res. (NonCarcinogen) = 15	kg
		Res. (Carcínogen) = 70	kg
		Con. Worker = 70	kg
C _{sat} =		Benzene = 728.58	mg/kg
		Toluene = 440.007	mg/kg
		Ethylbenzene = 249,471	mg/kg
		Total Xylenes = 194.282	mg/kg
		MTBE = 11900.357	mg/kg
		Naphthalene = 66.279	mg/kg
			mg/kg

d _a		=	3.048	m
d _s		=	3.048	m
DA	=	Benzene	= 0.000357508596142774	cm ² /s
		Tolu	rene = 0.000202842099446581	cm²/s
		Ethylbenz	rene = 0.000118237116224988	cm²/s
		Xyle	enes = 8.06069228299722E-05	cm²/s
		M.	TBE = 7.74297246249364E-05	cm ² /s
		Naphth	alene = 4.0694920147726E-06	cm²/s
				cm ² /s
				-

Incident # 2003013	35		
C _w	=	Benzene = 0,1	mg/L
		Toluene = 20	mg/L
		Ethylbenzene = 20,544	-
		Total Xylenes = 353.2	_
		MTBE = 0.326	•
		Naphthalene = 5.986	·
İ		rapidio otos	mg/L
			mg/L
			mg/L
d	=	11.401	mg/L
			m
ED (inhalation of	=	Residential = 30	yr
carcinogens)		Con. Worker = 1	yr
ED (ingestion of	=	Residential = 6	yr
noncarcinogens)		Con. Worker = 1	yr
ED (inhalation of	=	Residential = 30	yr
noncarcinogens)		Con. Worker = 1	yr
ED (ingestion of	=	Residential = 30	yr
groundwater)		Con. Worker = 1	yr
ED _{M-L}	Ξ	70	yr
EF	=	Residential = 350	d/yr
		Con. Worker = 30	d/yr
F(x)	=	0.194	unitless
f _{oc}	=	0.0039	g/g
GW _{obj}	=	Benzene = 0.005	mg/L
		Toluene = 1	mg/L
		Ethylbenzene = 0.7	mg/L
		Total Xylenes = 10	mg/L
		MTBE = 0.07	mg/L.
		Naphthalene = 0.14	mg/L
			mg/L
H'	=	Benzene = 0,23	unitless
		Toluene = 0.271	unitless
		Ethylbenzene = 0.324	unitfess
		Total Xylenes = 0.271	unitless
		MTBE = 0.0241	unitless
		Naphthalene = 0.0198	unitiess
			unitless
			unitless
			unitless
1		0.06499	unitiess
<u> </u>	=	0.06188 0.3	m/m
·			m/yr
I _{M-L}	=	0.18	m/yr
IF _{soil-adj}	=	· · · · · · · · · · · · · · · · · · ·	(mg-yr)/(kg-d)
IR _{soil}	=	Residential = 200	mg/d
		Con. Worker = 480	mg/d

Di	=	Benzene = 0.088	cm²/s
		Toluene = 0.087	cm²/s
		Ethylbenzene = 0.075	cm²/s
		Total Xylenes = 0.0735	
		MTBE = 0.102	cm²/s
		Naphthalene = 0.0000075	cm²/s
			cm²/s
$D_{w}$	=	Benzene = 0.0000102	cm ² /s
		Toluene = 0.0000086	cm²/s
		Ethylbenzene = 0.0000078	cm²/s
		Total Xylenes = 0.00000923	cm²/s
		MTBE = $0.000011$	cm²/s
		Naphthalene = 0.0000075	cm²/s
			cm²/s
			cm ² /s
			cm²/s
			cm²/s
DF CONTRACT	=	2.08662718	unitless
ED (ingestion of	=	0 W 1 1	yr
carcinogens		Con. Worker = 1	yr
K _{oc}	=	Benzene = 50	cm ³ /g or L/kg
		Toluene = 158	cm ³ /g or L/kg
		Ethylbenzene = 320	cm ³ /g or L/kg
		Total Xylenes = 398 MTBE = 11.5	cm ³ /g or L/kg
		Naphthalene = 500	cm ³ /g or L/kg
		Maprimalerie – 500	cm³/g or L/kg cm³/g or L/kg
			cm ³ /g or L/kg
		•	cm³/g or L/kg
			_cm³/g or L/kg
K _s	=	120	m/yr
L	<u></u>	79.8576	m
PEF	=		m³/kg
PEF'	=		m ³ /kg
Q/C (VF equations)	=	Residential = 68.81	(g/m²-s)/(kg/m³)
		Con. Worker = 85.81	(g/m²-s)/(kg/m³)
Q/C (PEF equations)	=		(g/m²-s)/(kg/m³)
RfC (mg/m³)			chronic
Benzene	=		0.08
Toluene Ethylbenzene	=	5	5
Total Xylenes	=	1 0.1	9 0.4
MTBE	=		0.4 2.5
Naphthalene	=		.003
, rapidiolo	=		J
			NA I
	=		NA
	=		NA I
L	=		NA

### Incident # 20030135

IR _w		=	Residential = 2	L/d
K		=	36.89712	m/yr
K _d (non-ioni	zing	=	Benzene = 0.195	
organcis	)		Toluene = 0.6162	cm²/g or L/kg
			Ethylbenzene = 1.248	cm²/g or L/kg
			Total Xylenes = 1.5522	cm²/g or ⊔/kg
			MTBE = 0.04485	
			Naphthalene = 1.95	cm²/g or L/kg
				cm²/g or L/kg
İ				cm²/g or L/kg
				cm²/g or L/kg
14 (1)				cm²/g or L/kg
K _d (ionizing org		_=_		cm²/g or L/kg
K _d (inorgar	ics)	=		cm²/g or L/kg
VF'	=		Benzene = 508.615	m³/kg
		To	luene = 675.233	m³/kg
		Ethy	/lbenzene = 884.414	m³/kg
		Tota	al Xylenes = 1071.14	m ³ /kg
1		M7	ΓBE = 1092.896	m³/kg
	Naph	thal	ene = 4767.191	m³/kg
	•			m ³ /kg
				m³/kg
				m³/kg
				m ³ /kg
VM _{M-L}	=		#5 (A) 1171	m ³ /kg
A MIN-L	-		#VALUE!	- 1
			#VALUE!	m³/kg
				m³/kg
				m ³ /kg
				m ³ /kg
				m ³ /kg
VF' _{M-L}	=		#VALUE!	m ³ /kg
M-L.			#VALUE!	m³/kg
			#VALUE!	m³/kg
			#VALUE!	m³/kg
			#VALUE!	m ³ /kg
			#VALUE!	m³/kg
				m ³ /kg
				m³/kg
				m³/kg
				m³/kg
ŋ		=	0.434	L _{pore} /L _{soli}
$\theta_a$		=	0.155	L _{air} /L _{soil}
· · · · · · · · · · · · · · · · · · ·				cai SUII

RfD _o mg/(kg-d)		Chronic Su	bchronic
Benzene	_		****
Toluene	=	0.004	0.012
Ethylbenzene	=	0.08 0.1	0.8
Total Xylenes	=	0.1	0.05 0.4
MTBE	=	0.01	0.4
Naphthalene	=	0.02	0.6
	=	0.02	0.0
	=		NA
	=		NA
<u> </u>	Ξ.		NA
S	=	Benzene = 180	
		Toluene = 53	
		Ethylbenzene = 17	-
		Total Xylenes = 11	•
		MTBE = 5100	· · · · · · · · · · · · · · · · · · ·
		Naphthalene = 3	1 mg/L
			mg/L
			mg/L
			mg/L
			mg/L
SF _o	=	Benzene = 0.05	5 (mg/kg-d) ⁻¹
		Toluene = N.	A (mg/kg-d) ⁻¹
		Ethylbenzene = 0.01	
		Total Xylenes = N.	A (ma/ka-d) ⁻¹
			4 (mg/kg-d) ⁻¹
		Naphthalene = N.	
		,	(mg/kg-d) ⁻¹
			(mg/kg-d) ⁻¹
			(mg/kg-d) ⁻¹
			(mg/kg-d) ⁻¹
T	=	Residential = 9.5E08	S
		Con. Worker = 3.6 x 10 ⁶	s
T _{M-L}	=	30	yr
THQ	=	1	unitless
TR	=	1.00E-06	unitless
U _m	=	4.69	m/s
URF	=	Benzene = 7.8 x 10 ⁻⁶	(μg/m³) ⁻¹
Ut		11.32	m/s
	- <u>-</u>		
VF =		0.5 Benzene = 6625.42	unitless 4 m³/kg
¥1 –			•
		Toluene = 8795.85	
		Ethylbenzene = 11520.7	
		Total Xylenes = 13953.10	
		MTBE = 14236.49	
		Naphthalene = 62099,31	
			m³/kg

### Incident # 20030135

ITIOIGETT # 20000	100		
$\theta_{w}$	=	0.279	L _{water} /L _{soil}
$\rho_{b}$	=	1.5	kg/l or g/cm ³
$\rho_{s}$	=	2.65	g/cm ³
$\rho_{\rm w}$	=	1	g/cm ³
1/(2b+3)	=	0.074	unitless

# Illinois Enviromental 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):	200301	35	IEPA LPC # (10-	-digit):1	670255005
	Site Name: Marine Bank Trus	53-0051				
	Site Address (not a P.O. Box);	9520 State Route	29			
	City: Cantrall	County:	Sangamon		Zip Code: 62625	
	Leaking UST Technical File					
В.	Tier 2 Calculation Information					
	Equation(s) Used (ex: R12,R14,	R26): <u>R16, R17, R</u>	R18,R19, R21, R2	2, R23, R24,R26	····	
	Contact Information for Individua	l Who Performed Ca	atculations:			
	CWM, VES					
	Land Use: Residential		_ Soil Type	: Silt Loam		
	Groundwater: X Class I		lass II			
	Mass Limit: Yes	No If	Yes, then Specify	Acreage:	~	
	Objective from S17 used in R26	7 Yes	X No			
	If Yes, then	Specify C _{source} from S	S17 8	See Attached	mg/L.	
	Mass Limit Acreage other than     Failure to use site-specific para     Maps depicting source width, pl     Inputs must be submitted in the	meters where allowe ume dimensions, dis	d could affect pay		「Fund	
	AT _o = 70	уг	J	) ^{air} =	See Attached	cım²/s
	AT _n = Residential Con. Worker =	•		water =	See Attached See Attached	cm²/s cm²/s

ED

Source		0007111001100	nigre
C(x)	=	See Attached	mg/L
ď	=	100	cm
erf	=	See Attached	unitless
f∞	=	0.0039	g/g
GW _{comp}	=	See Attached	mg/L
GW _{source}	=	See Attached	mg/L
H'	=	See Attached	cm3 _{water} /cm ³ air
-	=	0.06188	cm/cm
_	=	30	cm/yr
IR _{air}	==	20	m³/d
IR _{soil}	=	Residential = 100	mg/d
II Ngoil	_	Con. Worker = 480	mg/d
IR _w	=	Residential = 2	L/d
К	=	10,109	cm/d
<del> </del>		3689.712	cm/yr
K₀a	=	See Attached	cm³/g or L/kg
K _s (non-loaizing organics)	=	See Attached	cm ³ _{water} /g _{soil}
k _g (lonizing organics)	=	Not Applicable	cm ³ _{water} /g _{soil}
K _s (inorganics)	=	Not Applicable	cm³ _{water} /g _{soil}
L _s	=	100	cm
1.F _{sw}	=	See Attached	(mg/L _{well} )/(mg/kg _{cel} )
М	=	.0.5	mg/cm²
Pe	=	6.9 · 10 ⁻¹⁴	g/cm²-s
RAF _d	=	0.5	unitiess
$\sigma_{x}$	=	See Attached	cm
α _y	=	See Attached	cm
a _z	=	See Attached	cm

See Attached

3.1416

9.46 10

70

See Attached

yr

mg/L

BW

ED	=	Residential = 30	yr
		Con. Worker = 1	yr
EF	=	Residential = 350	d/yr
		Con. Worker = 30	d/yr
RAF _d (PNAs)	<u> </u>	0.05	***
		0.05	unitless
RAF _d (Inorganics)	=	0	unitless
RAF,	=	1	unitless
RBSL _{eff} (carcinoginio)	=	See Attached	μg/m³
RBSL _{air} (noncerclnoginic)	=	See Attached	μg/m³
RfD _f	=	See Attached	mg/kg-d
SA	=	3,160	cm²/d
S _d	=	200.0	cm
S _w	=	6,583.7	cm
SF _i	=	See Attached	(mg/kg-d) ⁻¹
SF.	=	See Attached	(mg/kg-d) ⁻¹
THQ	-	1	unitless
TR	=	1.00E-06	unitless
U	=	1.4547	cm/d
U _{air}	=	225	cm/s
$U_{gw}$	=	3689.773	cm/y
VF _p	=	3.97133E-12	kg/m³
VF _{samb}	=	See Altached	(mg/m ² w/mg/kg;cal or kg/m
VFss	=	See Attached	kg/m3
W	=		cm
W	=	0.195	g _{water} /g _{soit}
δ _{air}	=	200	cm
δ _{gw}	=	200	cm
θ _{as}	=	0.1375	cm ³ _{elr} /cm ³ _{soll}
θ _{ws}	=	0.2925	cm ³ _{valer} /cm ³ _{soit}

0.43

1.5

cm³/cm³

g/cm³

g/cm

Residential = 30

	H'	λ	Koc
Benzene	0.23	0.0009	50
Toluene	0.271	0.011	158
Ethylbenzene	0.324	0.003	320
Total Xylenes	0.271	0.0019	398
MTBE	0.0241	0	11.5
Naphthalene	0.0198	0.0027	500

		Benzene R26	Modeled G	roundwater fi	om Vertical I	lodeled Soll	9	
	C _{source} from						erf: S, / (4 ·	erf: 8, / (2
Location	S17 (mg/L)	C(x) (mg/L)	X (cm)	a _x (cm)	a _y (cm)	az (cm)	√[α _γ · X])	√[(α _z · X])
SB-7	2.014	0.005	10027.92	1002.792	334.264	50.1396	0.79640454	0.2388350
SB-13	0.013	0.005	1554.48	155.448	51.816	7.7724	1	0.9500958
SB-14	0.012	0.005	1432.56	143.256	47.752	7.1628	1	0.9666346
SB-15	0.037	0,005	3017,52	301.752	100.584	15.0876	0.99997611	0.687553
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			Benzene R	26 Modeled (	Groundwater		
	i e	"				erf: S,/(4	erf: S _w / {2 ·
Location	C(x) (mg/L)	X (cm)	a _x (cm)	α _y (cm)	a _z (cm)	√(a _y · X))	√[α _z · X])
MW-1	1.430	9357.36	935,736	311.912	46.7868	0.82695441	0.25537355
MW-2	0.250	6096	609.6	203.2	30.48	0.96350876	
MW-14	0,264	6187,44	618.744	206.248	30.9372	0.96064956	0.37771241
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·		Toluene R26	Modeled G	roundwater f	rom Vertical N	lodeled Solis	3	
Location	C _{source} from S17 (mg/L)	C(x) (mg/L)	X (cm)	a _x (cm)	α _y (cm)	a _z (cm)	erf: S _x / (4 · √[α _y · X])	erf: S _w / (2 √[σ _s X])
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Toluene R26 Modeled Groundwater											
Location	C(x) (mg/L)	X (cm)	a _s (cm)	a _y (cm)	az (cm)	erf: S _n / (4 · √[(d _y · X])	erf; S _x / (2 · √[α _t · X])				
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	E	hylbenzene F	R26 Modeled	Groundwate	er from Vertic	al Modeled S	oils	
Location	C _{source} from S17 (mg/L)	C(x) (mg/L)	X (cm)	a _x (cm)	a _y (cm)	a _z (cm)	erf: S,, / (4 · v[a, · X])	erf: S _a / (2 ⋅ √[σ _z ⋅ X])
SB-15	1.6218	0.6811	457.2	45,72	15.24	2.286	1	1
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Ethylbenzene R26 Modeled Groundwater										
ocation	C(x) (mg/L)	X (cm)	α _x (cm)	α _y (cm)	α _z (cm)	√[a,·X])	√[a₂ · X])			
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	To	tal Xylenes I	R26 Modelec	! Groundwat	er from Vertic	al Modeled S	oils	
Location	C _{source} from S17 (mg/L)	C(x) (mg/L)		a _x (cm)	a _y (cm)	α _z (cm)	erf; S _w /(4 ·	erf: S _w / (2 -
SB-15	4.6144	4.4350	30.48	3.048	1.016	0.1524	√[a _y · X])	√[a _z ·X])
CD 10	7.0177	4.4330	30.70	3.040	1.010	0.1024	<u> </u>	
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			Total Xylenes	R26 Modele	d Groundwai	er	
ocation	C(x) (mg/L)	X (cm)	a _x (cm)	α _y (cm)	α _z (cm)	erf: S _w / (4 · √[α _y · X])	erf: S _w / (2 · √[a _z · X])
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		MTBE R26	Modeled Gr	oundwater fr	om Vertical M	odeled Solls		
Location	C _{source} from S17 (mg/L)		!	a _x (cm)	a _y (cm)	α _z (cm)	erf: S _w / (4 · √[α _y · X )	erf: S _* / (2 · √[a _z · X])
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			MTBE R2	6 Modeled Gr	roundwater		***************************************
ocation	C(x) (mg/L)	X (cm)	a _x (cm)	α _y (cm)	a _z (cm)	erf: S _w / (4 · √[a _y X])	erf: S, /(2 · v[(a, · X])
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	Ň	aphthalene F	26 Modeled	Groundwate	r from Vertica	Modeled So	oils	
	C _{source} from						erf: S _w / (4 ·	erf: 5,/(2
Location	S17 (mg/L)	C(x) (mg/L)	X (cm)	a _x (cm)	α _y (cm)	α _z (cm)	√[(a _y · X])	ν[α _z X])
SB-7	0.3976	0.3364	91.44	9.144	3.048	0.4572	1	1
SB-15	0.4326	0.3661	91.44	9.144	3.048	0.4572	1	1
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			Naphthalene	R26 Modeles	d Groundwate	er	
ocation	C(x) (mg/L)	X (cm)	α _κ (cm)	α _γ (cm)	α _z (cm)	erf: S,, / (4 · • [[a, · X]]	erf; 8, /(2 · √[α _z · X])
MW-2A	0.178	152.4	15.24	5.08	0.762	1	1
MW-3A	0.514	792.48	79,248	26,416	3.9624	1	0.99988001
MW-4A	0.179	152.4	15.24	5.08	0.762	1	1
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Location	C _{source} from S17 (mg/L)	C(x) (mg/L)	X (cm)	α _x (cm)	α _y (cm)	a _z (cm)	erf: S _w / (4 · √[α _y · X <del> </del> )	erf: S _π / (2 √[α _ε · X])
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Location	C(x) (mg/L)	X (cm)	α _x (cm)	α _y (cm)	a _z (cm)	erf: S _{**} /(4 ⋅ √[α _* ⋅ X)	erf: S,,/(2 √[α, X])
MW-3A	0.001	4754.88	475.488	158.496	23.7744	0.99266624	
MW-4A	0.001	3413,76	341.376	113.792	17.0688	0.99981203	
MW-5A	0.000	426.72	42.672	14.224	2.1336	1	1
			,				

Location	C _{source} from S17 (mg/L)	C(x) (mg/L)	X (cm)	a _x (cm)	α _y (cm)	az (cm)	erf; S _w / (4 · √[a _r · X])	erf: S _u / (2 √[α _z · X])

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ocation	C(x) (mg/L)	X (cm)	a _x (cm)	α _y (cm)	a _z (cm)	erf: S _w / (4 · √[α _r · X])	erf; S _w / (2 · √[α _z · X])
иW-3A	0.000	1097.28	109.728	36.576	5.4864	1	0.9945268
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Tier 2 industrial/Commercial Calculations for Benzene Marine Bank Trust 53-0051 20030135

Date Compiled:

Input Value	95											Arthur Burg	rain	
	s Bulk Density -> 0 Converted Value to be used	in calcula	tion sheet -	> 100	T =	1177717	JSDA Soil Cla	erigeoffon.	CIN L name			James Mercel	282 1 2 2 2 2 2	
Org	anic Matter (%) -> 0 FOC % (0.58 conversion) -> 0.000	Oro	enic Matter (mir/kin)	0		OC mg/kg (0.58		0.000	1	ىلىسى	Spirit and		
1.500	ρ ₅ - Dry Soil Bulk Density	1.5 or				= 1.6 Cla	y = 1.7; or Sit	Specific	0.000		oc conversion	to g/g;	0.000	100.000
2.65	ps - Soil Particle Density.	2.65	or, Site Spe	cific	u 1.0, 011	- 1.0, CIE	y = 1.7, 01 310	a opecine						
0.155	O _s - Air Filled Soil Porosity 0.155 Value from S-21	Top 1	meter = 0.3	28: belo	w 1 meter =	0.13: Gra	vel = 0.05: Se	nd = 0 14+ 9	ilt =0.24; Clay	- n 10	or Coloulated	V-1 (C	041	
0.279	Ow - Water Filled Soil Porosity 0.279 Value from S-20	Top 1	meter = 0	15: belo	w 1 meter a	0.30: Gra	vel = 0.20; Sa	nd = 0.14, c	ilt =0.16; Clay	- 0.19,	O Calculated	value (S	21)	
0.434	n - SSL: Total Soil Porosity 0.434 Value from S-24		or: Gravel -	0.25: 54	and = 0.32	Sit = 0.40	Clay = 0.36	or Calculate	d Value (S24)	- 0.17;	or Calculated	vaiuė (S	20)	
	I - Hydraulic Gradient	Site S	Specific	, p, o		One 9.40	, Ciuy - 0.50,	OI Calculate	U VAIUS (524)				·	
0.004	foc - Total Organic Carbon (g/g)	Surfa	ce Soil = 0.1	006; Sul	bsurface S	oil = 0.002	or Site Speci	fic						
20.000	DF - Dilution Factor 2.087 Value from S-22	1f calc	ulated valu	e for DF	is less tha	ri 20, then	20 default is i	ised, else c	alculated value	e is use	1			
11.402	d - Mixing Zone (m) 11.402 Value from S-25	2; or c	calculated y	alue							·	-		
3.048	d _a - Depth of source (m) feet = 10	Depth	of Source											
36.90	K - Hydraulic Conductivity (m/yr) cm/sec = 1.17E-04	Site S	Specific	1.	.01E+01 · · ·	€ cm/d	3.69E+	03 cm/vr	Use crive for l	R15 R1	9 & R26 cm	in for \$22	enders Cause System	224300000000000000000000000000000000000
	L - Source Length Parallel to Groundwater Flow (m) feet = 262	Site S	pecific (m)				_					12 10(112	Patricipal Cont. Prog.	Walter Street,
3.048	d _a - Aquifer Thickness (m) feet = 10	: Site S	specific (m)											
0.3	I - Infiltration Rate (m/yr)	0.3 fo	r Illinois											
120	K _e - Saturated Hydraulic Conductivity	See T	able K for I	nput Va	lues							_		
0.005	GW _{obj} - Groundwater Remediation Objective Class 1	\$1.62	0.025	- GW	- Groundw	afer Reme	diation Object	vo Clase 2		_				
0.074	1/(2b+3) - Exponent for \$20	C T	Table 15 Co. is		lean a									
70	BW - Body Weight	Resid	lential = 70	carcino	genic): 15	non-carcir	ogenic): Indu	strial/Comm	ercial = 70 · Co	netructi	on Morkov = 7	N. DDCA	- 70	
114	IF _{solead} -Age Adjusted Soil Ingestion Factor for Carcinogens	114							30,00	njou dou	OIL CACHYOL - 1	U, RECA	- ru	
50	R _{soli} -Soil Ingestion Rate	Resid	ential = 200	: Indust	rial/Comme	reial ≃ 50•	Construction	Marker = 45	<u> </u>					
0.055	SF _e -Oral Stope Factor	- FEET	oa = moss				CONSTRUCTION OF THE PARTY OF TH	770INDI — 40	e : 663	CONTRACTOR OF THE PARTY OF			THE STATE OF THE PROPERTY.	CONTRACTOR SERVICES
1 201 50	IR, -Daily Water Ingestion Rate	Poold	ential = 2; li	- 20000000	UC-	2000 100 100 100 100 100 100 100 100 100	ACCUSED BY SERVICE	200 PM 180 PM	CARLES CARLES	100	OF PROPERTY.	新型型型		3. L
1800	S - Solubility in Water		enua) – 2, n	IUUS(I)	//Commerc	ai = 1								
	TR - Target Cancer Risk				1-110	1 - 400								
70	AT _e -Average Time for Carcinogens	. 70	enuar - 10	; indust	naucomme	rcial = 10	; Construction	ı Warker≃ '	0 ⁻⁶ at point of	human	exposure			
	URF - Inhalation Unit Risk Factor		ASSESSMENT OF THE PARTY OF THE	and the state of t			Company and the company and th	oli di successi se se se se	arangatiiparayayayayayay	November 2	ernormoni - eromeno	· · · · · · · · · · · · · · · · · · ·		
250	EF - Exposure Frequency	erenze	THE REAL PROPERTY.	O SHATE		200	: Construction			推出的	All Tall			经
	ED - Exposure Duration for Inhalation fo Carcinogens	Posid	ential = 30;	Industri	riai/Comme	rolal = 250	Construction V	Worker = 3	0					
68.81	O/C - Inverse of the mean concentration at the center of a square source	Reside	ential = 68.8	11: Indu	etrial/Comm	781 - Z5; C	Onstruction v	orker = 1	= 85.81; or To					
7.90E+08	T - Exposure Interval	Reside	ential = 9.5	v10 ⁸ . In	duotrial/Co	mmorelal -	7.0 × 108, Ca	notruction V	$\sqrt{\text{arker}} = 3.6 \text{ x}$	able π 10 ⁸				
- 30	T _{ML} - Exposure Interval for Mall Limit Volatilization Factor Equation S26	30	Olinar - 5.0	X10 , 114	noan lan co	miorciai -	7.5 X 10 . CO	HSU CCUOIT V	(dtxe) - 3.6 X	10				
70	ED _{M2} - Exposure Duration for Migration to Groundwater Mass-Limit Equation S28	70												
0.18	I _{ML} - Infiltration Rate for Migration to Groundwater Mass-Limit Equation S28	0.18				-								
	D _i - Diffusivity in Air		0.000	-							<u>_</u>			
	H' - Henry's Law Constant		ne = 0.088 ne = 0.228											
	D _w - Diffusivity in Water			. mg										
50			ne = 9.8 x 1	U.T										
50	K _{oc} - Organic Carbon Partition Coefficient	Benze	ne = 58.9											
Industria!!C	ommercial ingestion Tier II Benzene Objective													
i														7
S-3 =	TR x BW x AT _c x 365 = 1.0E-06	X	70	x_	70	×	365			- =	1.8E+00	_	104.058	malka
_	Sf _o x 10 ⁻⁶ x EF x ED x IRsoil 0.055	x	1.00E-06	×	250	×	25	х	50	_	1.72E-02	_	104.000	mg/kg
[•			
Constructio	n Worker Ingestion Tier II Benzene Objective												-	
S-3 =	TR x BW x AT _c x 3651.0E-06	×	70	×	70	×	365				1.8E+00			
3-3 -	Sf _a x 10 ⁻⁶ x EF x IRsoil 0.055	X	1.00E-06	· ·	30	×	480	_		=	7.025.04	, =	2258.21	mg/kg
i	•			^	•	^	700				,.521-04			
ł.														

Tier 2 Industrial/Commercial Calculations for Benzene Marine Bank Trust 53-0051 20030135

								20030	135									
Industrial (Commerci	al Inhalation T	Ter II Objective															
S-6 =		-	TR x ATc x 365		1.0E-06	x	70	x	365						0.02555			
		Ĺ	JRF x 1000 x EF x ED x 1/VF		7.80E-06	×	1000	х	250	x	25	× (1/	7.53E+03	,	6.47E-03	=	3.949	mg/l
Construction	on Worker	Inhalation Ti	er il Objective					_										_
S-7 =			TR x ATc x 365		1.0E-06	x	70	х	365						0.02555			
•		L	RF x 1000 x EF x ED x 1/VF	_	7.80E-06	x	1000	х	30	х	1	× (1/	5.09E+01)	4.60E-03	=	5.553	mg/l
RESIDENT	IAL OR CO	OMMERCIAL					_								·			
S-8 =		<u> </u>	(3.14 x D _A x T) ^{1/2} x 10 ⁻⁴	=	85.81	(3.14	x	3.58E-04	×	7.90E+08) 1/2 x	0.0001		8.0809			
	*	C ^	$(3.14 \times D_A \times T)^{1/2} \times 10^{-4}$ $(2 \times p_b \times D_A)$		02.01	× (2	х	1.5	х	3.58E-04)		_ =	0.0011	-	7534.4538	
Construction	on Worker																	_
S-8 =	VF =	x	$(3.14 \times D_A \times T)^{1/2} \times 10^{-4}$ $(2 \times \rho_b \times D_A)$	_ =	85.81	× (3.14	х	3.58E-04		3.60E+06) ^{1/2} x	0.0001		0.5455	=	508.6154	
		C	$(2 \times \rho_b \times D_A)$			(2	×	1.5	x	3.58E-04	}			0.0011	-	300,0134	
S-9 =	VF' =		VF 10	_ =	508,6154 10		-						-			=	50.8615	
		on of Apparen	nt Diffusivity			1												
6-10 =	D _A =		$D_a^{3.93} \times D_i \times H^i) + (0_\omega^{3.39} \times D_\omega)$ η^2	— x	(ρ _b x K _d) -		0 _a x H')	_										
				= 5	2.01E-03	×	880.0	x	0.230 0.1) + (0.0143	3 x	1.02E-05	<u> </u>				
				7	1.5	×	0.195)+	0.28	1 + (0.155	×	0.230			=	3.58E-04	
5oil Compo 5-17 =	enent of the			(Class 1)_ 0 _a x H')		x 	0.195	x	0.195	+ (-	0.155	+	0.155 1.5	, x	0.230)]=	0.040	mg

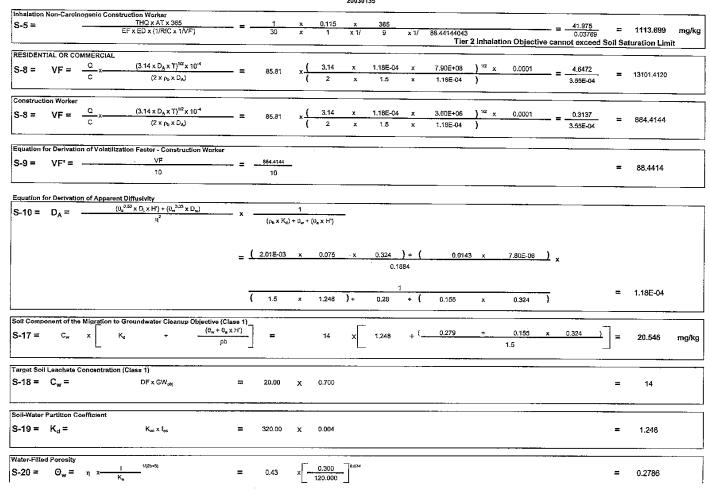
Tier 2 Industrial/Commercial Calculations for Benzene Marine Bank Trust 63-0051 20030135

Target Soil	Leachate (Concentration (Class 1)															
S-18 =			DF x GW _{obj}	=	20.00	x	0.005									:	= 0.1	
Soil-Water	Partition C	oefficient														-		
S-19 =	K _d =		Koc x foc	=	50.00	x	0.004									;	= 0.195	
Water-Fille	d Porosity	··· -																
S-20 =	⊖ _w =	η x————————————————————————————————————	1/(2b+3)	=	0.43	×[-	0.300 120.000	0,074								;	0.2786	
Air-Filled P	orosity					-												
S-21 =	Θ₂ =	η - Θ _w		=	0.43	•	0.28									:	= 0.1550	
Dilution Fac	ctor		-								_							
		1 +	Kxixd lxL	= -	36.90 0.300	x	0.0619 79.858	x	11,402	+	1					:	2.0866	
GW Ingestic	20																	
S-23 =			TR x BW x At _e x 365 SF _e x IR _w x EF x ED	 = -	1.0E-06 0.055	x	70 1.000	x	70 2 50	x	365 25	-		=	1.8E+00	<u>'</u> -	0.0052	mg/L
Total Soil P S-24 =	orosity $\eta =$	1 - P _b		=	1	- -	1.5 2.65	_									0.4340	·
Estimation																		
S-25 =	d =	(0.0112 x L ²) ^{0 5}	+ d _e 1 -exp	(-L x I) (K x I x d _a)														
				= (0.0112	x	79.858	2)0.5 +										
							3.048	x	1 - exp	{	-79.858 36.897	x x	0.3 0.0619) x	3.048	_] =	11.402	m
Soil Saturat																		
S-29 =	C _{sat} =	<u>S</u> х [(K _d x ρb) + Θw + (H' x θα)]	= -	1800	× [(0.195	x	1.5) +	0.279	+ (0.230	x	0.155)]=	728.58	mg/kg
Soil Gas Ou	itdoor Inhai	lation				-												
S-30 =		R H	Osoil X H X pb X 1000 X Θ2 + Θw + Kd X pb	— = -	3.949 2.300E-01	×	0.230 0.155	* +	1,500 0,279	x	1000 0.195	Х	1.500		-	-	2,243.84	mg/m³

Tier 2 Industrial/Commercial Calculations for Ethylbenzene Marine Bank Trust 53-0051 20030136

Tion or	U	Converted Value to be used in	8	1 sheet>		1	USDA Soil C	Classification:	silt Loam			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
ĎЖ	Organic Matter (%) -> 0 Foo % (0.58 conversion) -> =	orsion)> 0.000	Organ	Organic Matter (mg/kg)	/kg)	0	FOC mg/kp (0.58 conversion)	7	0.000	foc conversion to g/g;		0.000	
1.500	P _b - Dry Soil Bulk Density	Control of the Contro	1.5 or, G	ravel = 2.0	Sand = 1	.8; Sitt = 1.6;	1.5 or, Gravel = 2.0; Sand = 1.8; Silt = 1.6; Clay = 1.7; or Site Specific						
1	A		2.65 or	2.65 or, Site Speci	٥			1					
0,130		- 1	Top 1	eter = 0.28	; pelow 1 r	neter = 0.13;	Sravel = 0.05; Sa	and = 0.14; Si	Top 1 meter = 0.28; below 1 meter = 0.13; Gravel = 0.05; Sand = 0.14; Sitt = 0.24; Clay = 0.19; or Calculated Value (S21)	9; or Calculated V	'alue (S21)		
0.278	GW - Water Filled Soil Porosity 0.	- 1	Top 1 m	eter = 0.15	: below 1 r	reter = 0.30	Top 1 meter = 0.15; below 1 meter = 0.30; Gravel = 0.20; Sand = 0.18;	and = 0.18; S	Silt =0.16; Clay = 0.17; or Calculated Value (\$20)	7; or Calculated V	(\$20) alue	İ	
	ity	0.434 Value from S-24	0.43 or	Gravel - 0.	25; Sand =	0.32; Sut = 0	0.43 or; Grayel - 0.25; Sand = 0.32; Stit = 0.40; Clay = 0.36; or Calculated Value (\$24)	or Calculated	Value (\$24)				
0.004	foc - Total Diganio Carbon (o/o)		Sinfe Specific	CITIC Soil - 0 or	3	- 11-0		,					
20,000		387 Value from 9.22	if colonia	other velve	O SUBSULI	ace Soil = 0.0	Uz, or Site Spec	2	Folky lighted value for DE to have then 20, the 50 decilie.				
11.402	d - Mixing Zone (m)	11.402 Value from S-25	2: or cal	2: or calculated value	2 9	100 TO 100	en zo delaut is	used, else ca	culated value is us	pe			
3.048		ı	Depth o	Source	ertical thic	Depth of Source (Vertical thickness of contamination)	amination		1				T
36.90	rity (m/yr)	cm/sec = 1.17E-04	Site Specifio	ciño	1.01E+01	01 cm/d	3.695	-03 Combor	3 69E+f/3 Conford [184 (1987) 1945) E 10 2 P38 (1987) 1845 1875	Ace a Popularion	C. CO. A.	de la contraction de la contra	- Name of Street
79.858	illel to Groundwater Flow (m)	ΙI	Site Spe	Site Specific (m)		П					100 TATE OF	CONTRACTOR OF STREET	1467
3.048	d _e - Aquifer Thickness (m)	feet≂ 10	Site Specific (m)	cific (m)									T
6.9	i - Infiltration Rate (m/v		0.3 for Illinois	inois						i			Ī
120	K Saturated Hydraulic Conductivity		See Tab	See Table K for Input Values	rut Values								T
0.700	GW _{abj} - Groundwater Re		1	1	GW _{obs} - Gn	undwater Re	GW _{eis} - Groundwater Remediation Objective Class 2	tive Class 2					Γ
0.074	1/(2b+3) - Exponent for S20		See Tab	le K for In	nt Values				See Table K for Input Values				
7	Discount of the second of the		Residen	tial = 70 (c	arcinogeni	i); 15 (non-ce	rcinogenic); Indu	strial/Comme	rcial = 70; Construc	tion Worker = 70	RBCA = 70		
+	Insulati -Age Adjusted Soil Ingestion Factor for Carcinogens	S	114										
8	Ruell -Soil Ingestion Rate		Residen	tial = 200;	ndustrial/C	ommercial =	Residential = 200; Industrial/Commercial = 50; Construction Worker = 480	Worker = 48					
-	IR, -Daily Water Ingestion Rate		Residen	bal = 2; Inc	ustrial/Cor	Residential = 2; Industrial/Commercial = 1							
173	S - Solubility in Water	Service and the service and th	Ethylber	Ethylbenzene = 169								İ	
ي	TRAI arget Cancer Risk		Residen	hal = 10°	ndustrial/C	ommercial =	10°: Constructio	n Worker ≅ 1	Residential = 10°; industrial/Commercial = 10°; Construction Worker = 10° at point of human exposure	n exposure			
25	En - Expresure Frequency FD - Expresus Duration for Inhalation for Non-Carcinogens	The second of the second of the	Residen	inal = 350	ndustrial/C	ommercial =	250; Constructio	n Worker ≈ 3			Ì	İ	
	O/C - Inverse of the mean concentration at the center of	Source Source	Residen	ial = 58.81	Juditetria	mmercial = 2	Desidential = 50; Industrial/Commercial = 25; Construction Worker = 1 Desidential = 68 81 - Industrial/Commercial = 85 84 - Construction Mod	Vorker = 1	Nestdential = 30; Industrial/Commercial = 25; Construction Worker = 1 Residential = 68 81			İ	I
7.90E+08	7.90E+08 (T - Exposure Interval	200000000000000000000000000000000000000	Residen	Residential = 9.5 × 10 ^a	O ^a indust	ial/Commerci	Industrial Commercial = 7.9×10^9 . Construction Worker = 3.6×10^9 .	onetherfor M	= 50.51; or Table n orber = 3.6 v 10 ⁶			ļ	
0E :	Tax Exposure Interval for Mall Limit Volatilization Factor Equation S26	Equation S26	8						200				T
70		nit Equation S28	20										T
0.18	IML - Infiltration Rate for Migration to Groundwater Mass-Limit Equation S28	imit Equation S28	0.18	İ									T
0.075	D _i - Diffusivity in Air		Ethylben	Ethylbenzene = 0.075	75								T
0.324	0.324 H' - Henry's Law Constant		Ethylben	Ethylbanzene = 0.323	23								Γ
7.80E-06	D Diffusivity in Water		Ethylben	Ethylbenzene = 7.8 x 10	× 10°					! :			
25	AT - Average Time for Non-Caroinogens in Ingestion Equation	ation	Residen	ial = 6: Ind	ustrial/Con	mercial = 25	Residential = 6; Industrial/Commercial = 25; Construction Worker = 0.115	orker = 0.115					
-	A1 - Average Time for Non-Cercinogens in imagazon Equ THO - Terret Hezard Onefiest	ation	residen 1	n :00 = la	dustrial/Cc	mmercial = 2	5; Construction V	Vorker = 0.11	9		!		1
Section 1	RIC - Inhalation Reference Concentration		- Constitution	Children Subdiffice			n					A STATE OF THE PARTY OF THE PAR	
10.00	A Cal Reference Dose		Charle	due . 50 a	hrone a 0	10 C. C. C. C. C. C. C. C. C. C. C. C. C.	Chronic= Ga. Subohrano a QUE charace at Italia and Alexandria de Italia						
320.00	K.e Organic Carbon Partition Coefficient		Ethylben	Ethylbenzene = 363								and the second second second	
Industrial/Co	ndustrial/Commercial Indestion Remediation Objectives for Non-Cercinogenic Contaminants	arcinogenic Contamin	ants										
			×	02	×	72 X	365			638750			
i	10 ⁻⁶ × (1/RfD _o) × EF × ED × IR ₆₀₈	0.000001	1 × 1/	0.1		250 ×	25	×	909	3.125	= 504 = 504	204400 m	mg/kg
Construction	Construction Worker increasion Beneatistion Objectines for Non-Caminovania Conteminante	onimonation Contemination	4] [
onion metto	THO × BW × AT × 365	temograms contamination	×	5	×	0.115 ×	365						_
ار ا	10° × (1/RfD _o) × EF × ED × IR _{soll}	0.000001	/L× [90.0			-	×	480	0.288	11	10202 ш	mg/kg
					:] [
Industrial C.	Industrial Commercial Inhalation		,	40		3							
14 m	EFX ED X (1/RIC X 1/VE)	= 250	< ×	2 2	. ×	363 1 × 1/	13101	95	•	0.477048	11 9		mg/kg
							T.	r 2 Inhalati	Tier 2 Inhalation Objective cannot exceed	nnot exceed S	Soil Saturation Limit	n Limit	
Industrial Co	Industrial Commercial (nhalation Objective (Carcinogen)	1000000	*	۶		R. R.		Tier 2 Inh	Tier 2 Inhalation Objective does not exceed Tier 1 Objective	loes not exceed	Tier 1 Objectiv		
11 O-0	URF x 1000 x EF x ED x (1/VF)	=	×	1000	(×	250 ×	25.0000	/L×	13101.4120	0.001193	= 21.423		mg/kg
													7
Construction	Construction Worker Inhalation Objective (Caroinogen)	700000		}				Tier 2 Inh	Tier 2 Inhalation Objective does not exceed Tier 1 Objective	beenot exceed	Ter 1 Objectiv		
S-7 =	URE× 1000 × FE × FD × (10/F)	0.000001	× ,	100	×	30 000	1 0000	11.	RR AA1A	0.02555	= 30.129		mg/kg
		***************************************	¢	3	<	2	3	2	*1111	0.000040			

Tier 2 Industrial/Commercial Calculations for Ethylbenzene Marine Bank Trust 53-0051 20030135



Tier 2 Industrial/Commercial Calculations for Ethylbenzene Marine Bank Trust 53-0051

Air-Filled Porosity S-21 = Θ_a = η - Θ_w = 0.43 - 0.28 Dilution Factor S-22 = DF = 1 + $\frac{K \times I \times d}{I \times L}$ = $\frac{36.90}{0.300} \times \frac{0.0619}{79.858} \times \frac{11.402}{1.402} + 1$ GW Ingestion S-23 = $\frac{TR \times BW \times At_c \times 365}{SF_c \times IR_w \times EF \times ED}$ = $\frac{1.0E-06}{0.000} \times \frac{70}{1.000} \times \frac{0}{250} \times \frac{365}{250} = \frac{0.0E+00}{0}$	=	0.1550	
S-22 = DF = 1 + Kx x d			
TTD TILL 11 AAT		2.0866	
	=	#DIV/01	mg/L
Total Soil Porosity $S-24 = \eta = 1 - \frac{\rho_b}{\rho_a} = 1 - \frac{1.5}{2.65}$	=	0.4340	
Estimation of Mixing Zone Depth $S-25 = d = (0.0112 \times L^2)^{0.5} + d_4 \left[1 - \exp \frac{(-L \times I)}{(K \times i \times d_4)} \right]$ $= (0.0112 \times 79.858 ^2)^{0.5} +$			
3.048 x 1-exp { -79.858 x 0.3 } (-79.858 x 0.0619 x 3.048 }	=	11.402	ពា
Soil Saturation Limit $S-29 = C_{sat} = \frac{s}{\rho_b} \times \frac$] =	249.47	mg/kg
Soil Gas Outdoor Inhalation S-30 = ROs g = ROs g = ROs g = ROs g = ROs G		55,080.00	mg/m³

Tier 2 Industrial/Commercial Calculations for Total Xylenes Marine Bank Trust 53-0051 20030135

Input Valu		CASS BRISINEASE												\$.	A 140 /6/16		
		0 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Converted	Value to be used in	calcida	orn engal		-	110	DATE-II OF-	10 20 CT	Calle 1		1			
		0 FOC % (0.58	conversion)	→ . 0.000	Oran	nic Mallos (s		- 	US	DA Soil Class	sincation:	Sift Loam	,	3700	3 7 3 7 7 7 7		
1.500	Pb - Dry Soil Bulk Density	4	400110101017	7 330/1 - 1 - 0.000 ·				1 O. C.	A C. Ch	v = 1.7; or Site	OUALES IDA	0.000	foc con	version to g	/g: 0.00	0	لت
2.65	os - Soil Particle Density		Special Control of	The angle of the Saper		r Site Spe		1.0, SIR -	i.b; Cla	y = 1.7; or Site	Specific						
0.155	Θ _a - Air Filled Soll Porosi		0.155	Value from S-21					40.0								
0.279	Ow - Water Filled Soil Po			Value from S-20	1001	meter – U.	zo; below i	wetet = n	.13; Grav	vei = 0.05; Sai	nd = 0.14;	Silt =0.24; Clay	= 0.19; or Calcu	lated Value	(\$21)		
0.434	η- SSL: Total Soil Porosi				lop 1	meter = 0.	5; below 1	meter = 0).30; Grav	vel = 0.20; Sai	nd = 0.18;	Silt ≃0.16; Clay	= 0.17; or Calcu	lated Value	(\$20)		
0.06188	i - Hydraulic Gradient			Value from S-24	0.43 0	r, Grave! -	0.25; Sand	= 0.32; Si	ilt = 0.40;	Clay = 0.36:	or Calculat	ted Value (S24)					
0.004	foc - Total Organic Carbo		13.13 a	The Design Character Co.	Site S		200 0 1										
20.000	DF - Dilution Factor	11 (9(9)	2.087	Value from S-22	Surrac	6 201 = U.	JUS; SUBSUI	race Soil	= 0.002;	or Site Specif	ic						
11.402	d - Mixing Zone (m)			Value from S-25	2: 050	alculated v	e IOF DE IS	ess man.	zu, inen .	20 default is u	ised, else	calculated value	e is used				
3,048	d _a - Depth of source (m)		11.402	feet = 10				-1	; . ;		_						
36.90	K - Hydraulic Conductivit						(Vertical this										
79.858		el to Groundwater Flow (m)		1.17E-04		pecific		01 77	cm/d	3.69E+03	CITIE	Use cmid for R	15, R19, & R26	omityr for R	24 / 200	的影響的學術	700
3.048	d _a - Aquifer Thickness (m			feet = 262		pecific (m)											
				feet = 10		pecific (m)											
0.3	I - Infiltration Rate (m/yr)					Illinols											_
120	K _s - Saturated Hydraulic						nput Values					-					
10.000		mediation Objective Class	1		4.12	10 -	GWool - Gro	undwater	Remedi	ation Objectiv	e Class 2						_
0.074	1/(2b+3) - Exponent for S				See Ta	ble K for l	nput Values						 -				_
70	BW - Body Weight		4.536						on-carcin	ogenic): Indus	strial/Comp	nercial = 70° Co	nstruction Work	or = 70- PD/	Δ = 70		
114	IF _{soil-adj} -Age Adjusted So	il Ingestion Factor for Care	inogens		114			., , 110						or ~ 10, KB	5U - 10 .		-
50	IR _{sell} -Soil Ingestion Rate		J			ntini = 200	r Industria 10		(-1 - CC	C	Mada						
1			ring supplicate	· Jernatos Process	Nesi06	muzi = 200	, nousinav	commerc	aai = 50;	Construction \	vvarker = 4	HOU					
110	To water ingestio	n Rate	and water the	osasan iyon kabasa 1990 k				mmercial	= 1								
	S - Solubility in Water	ACCURATION AND AND AND AND AND AND AND AND AND AN				ylenes ≃ 1											\neg
1.0E-06					Reside	ntial = 10 ⁻⁴	: industrial/	Commerc	ial = 10 ⁻⁵	Construction	Worker =	10 th at point of	human exposure	9			
250	EF - Exposure Frequency		125	<u> </u>	Reside	intial = 350	; Industrial/	Commerci	ial × 250	; Construction	Worker =	30					
25	ED - Exposure Duration f	or Inhalation for Non-Carch	nogens	The second of the Second	Reside	intial = 30;	Industrial/C	ommercia	al = 25; C	Construction W	orker = 1					_	-
68.81		n concentration at the cente	er of a squar	re source	Reside	ntial = 68.8	31; Industria	d/Comme	rcial = 85	5.81; Construc	tion Worke	er = 85.81; or Ta	able H				
	T - Exposure Interval				Reside	ntial = 9,5	10 ⁸ ; Indus:	trial/Comr	mercial =	7.9 x 108; Co	nstruction	Worker = 3.6 x	10 ⁶				
30	T _{ML} - Exposure interval for	or Malí Limit Volatilization F	Pactor Equat	tion \$26	30												\neg
70	ED _{M4} - Exposure Duration fo	or Migration to Groundwater Ma	ass-Limit Equa	ation \$28	70												-
0.18	Infiltration Rate for N	digration to Groundwater M	lass-Limit Fr	rustion S28	0.18												-
0.074	D _i - Diffusivity in Air	3	idoo Eiiiik Ee	14440			020										
0.271						ylenes = 0											
	H' - Henry's Law Constant	<u> </u>	•			ylenes = 0											
9.23E-06						ylenes = 9											
25		on-Carcinogens In Ingestion								nstruction Wo							\neg
25		on-Carcinogens In Inhalatio	n Equation		Reside	ntial = 30;	Industrial/C	ommercia	1 = 25; C	onstruction W	orker = 0.1	115					\neg
11	THQ - Target Hazard Quo				1												\neg
# 10.14	RfC - Inhalation Reference				Chroni	DAYSU	benronic - i		No.		企业30年30万 元	STATE OF STREET		GOVERNMENT.	3.0300000	A CONTRACT	200
0.20	劉RfD。 - Oral Reference Do	se			Chronic	:-02 Sú	ochronic = (14.19	1	100 A 100 A	的使的研	KANDUKAN	The state of the state of	建筑建筑的企业	艾泽岛亚洲		0.65
398.00	K _{ee} - Organic Carbon Part	tition Coefficient				vlenes = 2				The state of the s		2,40 718 10 10 10 10 10 10 10 10 10 10 10 10 10		AT THE REAL PROPERTY.		r many many many	
						,											
Industrial/0	Commercial Ingestion Ren	nediation Objectives for N	Von-Carcino	genic Contamina	nts												\neg
S-1 =		THQ x BW x AT x 365		<u> </u>	x	7 0		25	x	365			_ 63875	50	- 4000		. І
0-1	10	x (1/RIU ₀) x EF x EU x IR _{sc}	oil	TOUUUU.	x 1/	0.2	x 2	.6U	х	25	х	50	1.562	5	= 40880)0 mg/l	Kg
L																	
Constructi	on Worker Ingestion Reme	adjation Objectives for No	on Carolinaa	enic Contaminant													_
	or more ingescourtelle	THQ x BW x AT x 365	on-carcinog	1	×	70	x 0.	115	x	365			_ 2938.2	25			Į
S-1 =	10	X (1/RID) X EF X ED X IR	oil	<u> </u>	x 1/	0.4	×	30	×	1	X	48U	= - 0.038		= 8161	8 mg/l	kg
																	[
Industrial (Commercial Inhalation																
S-4 =		THQ x AT x 365		= 1	×	25		65					<u>≃</u> 9125		= 2316.6	57 mg/l	اید
1	E	FxEDx(1/RfCx1/VF)		250	x	25	x 1/ ().1	x 1/	15867.51238			3.938865				,a
L		· .								Tier	2 Inhala	tion Objectiv	е саппот ехс	eed Soil S	Saturation L	îmit	
Inhalation I	Non-Carcinogenic Constru																
S-5 =	 	THQ x AT x 365		=	х	0.115		65					- = 41.97 0.70018	<u>.</u>	= 59.94	8 mg/k	,, l
Q-0 =	E	F x ED x (1/RfC x 1/VF')		30	х	1	x 1/ 0	.4 >	x 1/ 10	07.1140772			0.70018	808	- 55.54	o mg/r	۸a l
																	J
																	_
RESIDENTI	IAL OR COMMERCIAL																\neg
	<u> </u>	(3.14 x D, x T)1/2 x 10-4			Į.	3.14	x 8.06	SE-05	х .	7.90E+08) 1/2 ×	0.0001	_ 3.8371	1			J
S-8 =	VF =x	$(3.14 \times D_A \times T)^{1/2} \times 10^{-4}$ $(2 \times \rho_b \times D_A)$		= 85.81	×-}						, 	3.0001	- =	_ =	15867.51	24	
	C	$(2 \times \rho_b \times D_A)$			(2	x 1	.5	x	8.06E-05)		2.42E-0	14			
																	- 1

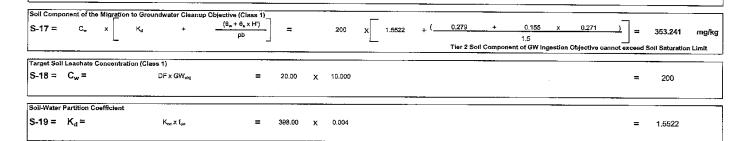
Tier 2 Industrial/Commercial Calculations for Total Xylenes Marine Bank Trust 53-0051 20030135

Construct S-8 =	ion Worker VF ≔	_a	(3.14 x D _A x T) ^{1/2} x 10 ⁻⁴		85.81	(3.14	x	8.06E-05	×	3.60E+06) 1/2 x	0.0001		0.2590		
J- Q		c ^	(2 × ρ _b × D _A)		00.01	*(2	х	1.5	×	8.06E-05)		_ = -	2.42E-04	=	1071.1408
quation 1	for Derivati	on of Volatili	zation Factor - Construction Worke	r													
6-9 =	VF'=		VF 10	=	<u>1071,1408</u> 10	-			•							=	107.1141
quation 1	for Derivati		ent Diffusivity														
S-10 =	D _A =		$(0_a^{2.33} \times D_l \times H') + (0_w^{-3.33} \times D_w)$ η^2	x	(р _в х K _d)	1 + 0 _w + (0) _a x H')	_									
				= 1	2.01E-03	_ x	0.074	×) ÷ (0.014	3 x	9.23E-06	_) ×			
									0.1	1884							
		•		7	1.5		1 5522	١.,	0.29	1 . /	DAFE		0.054	_		=	8.06E-05

0.28

0.155

0.271 }



x 1.5522)+

Water-Filled Porosity
$$S-20 = \Theta_{\mathbf{w}} = v_1 \times \frac{1}{K_u} \xrightarrow{1.(25+0)} = 0.43 \times \left[\frac{0.300}{120.000} \right]^{0.074} = 0.2786$$

Tier 2 Industrial/Commercial Calculations for Total Xylenes Marine Bank Trust 53-0051 20030135

				20030	1133									
Air-Filled Porosity														
S-21 = Θ _a = η - Θ _w	= 0.4	3 -	0.28									=	0.1550	
Dilution Factor														
S-22 = DF = 1 + Kxixd IxL	= 36.	90 x	0.0619 79.858	х	11,402	+	1					-	2.0866	
GW Ingestion														
S-23 = TR x BW x At, x 365 SF ₀ x IR _w x EF x ED	= 1.0E		70 1.000	x	0 250	×	365 25	-		=	0.0E+00 0	_ =	#DIV/0!	mg/L
Total Soil Porosity						-								
S-24 = $\eta = 1 - \frac{\rho_b}{\rho_*}$	= 1	-	2.65	_								=	0.4340	
Estimation of Mixing Zone Depth $S-25 = d = (0.0112 \times L^2)^{0.6} + d_0 \qquad 1 - \exp \frac{1}{(K-1)^{1/2}}$	(- <u>L</u> × I)													_
(K	xixd _a)													
	= (0.01	12 x	79,858	²) ^{0.5} +										
			3.048	×	1 - exp	{-	-79.858 36.897	x x	0.3 0.0619) x	3.048	_] =	11.402	m ′
Soil Saturation Limit											-:-			
S-29 = $C_{\text{sat}} = \frac{S}{\rho_b} \times [(K_d \times \rho b) + \Theta w + (H' \times \theta a)]$	= - 110	× E (1.5522	x	1.5	+	0.279	+ (0,271	x	0.155)]=	194.28	mg/kg
Soil Gas Outdoor Inhalation								-						
S-30 = ROs g = ROsoi! X H X pb X 1000 H' X Oa + Ow + Kd X pb	= 59.9	48 x -01 x	0.271 0.155	* +	1.500 0.279	*	1000 1.552	X	1.500	_		=	9,198.24	mg/m³
										-		-		

Tier 2 Industrial/Commercial Calculations for Naphthalene Marine Bank Trust \$3-0051 20030135

SSL & RECA

Date Compiled: 01/11/23

	s															
	s Bulk Density –		Converted	Value to be used in					USDA Soil Clas				15	2.00		1777 1711
	nic Matter (%) -		FOC % (0.58 conversion)> i 0.000		nic Matter (21900	OC mg/kg (0.58	(noiarevnoc	>0.000 a s	fe	oc conversion		0.000	1
	P _b - Dry Soil Bul			F1. E4. Tuil 1	1.5 or	Gravel =	2.0; Sand = 1.8; 9	ilt = 1.6;	Clay = 1.7; or S	ite Specific			-			
	ps - Soil Particle					r, Site Spe										
	Θ _a - Air Filled So		0.155	Value from S-21		meter = 0.	.28; below 1 mete	= 0.13;	Gravel = 0.05; \$	and = 0.14	Silt =0.24; CI	ay = 0.1	9; or Calculate	d Value	s (S21)	
	Ow - Water Fille		0.279	Value from S-20	Top 1	meter = 0.	.15; below 1 mete	= 0.30;	Gravel = 0.20; S	and = 0.18	: Silt =0.16: CI	ay = 0.1	7; or Calculate	d Value	(S20)	
	η - SSL: Total Se		0.434	Value from S-24	0.43 c	r; Gravel -	0.25; Sand = 0.3	; Sitt = (1.40; Clay = 0.36	; or Calcula	sted Value (S2	4)				
	i - Hydraulic Gra foc - Total Organ				<u>ି Site S</u>											
	DF - Dilution Fa				Sunac	9 501 = 0	.006; Subsurface	501 = 0.0	002; or Site Spe	cific .						
	d - Mixing Zone				2. or c	alculated ·	ue for DF is less t	an ∠∪, ti	en 20 detault is	used, else	calculated va	<u>ue is us</u>	ed			
	d, - Depth of so			feet = 10			(Vertical thickness	e of cont	amination)							
	K - Hydraulic Co		cm/sec ≖	1,17E-04		pecific	1.01E+01	Øcm/d		TO AMERICAN IN		weller	T T T T T T T T T T T T T T T T T T T	-	The State of the S	CHI MANAGA MANAGA
			oundwater Flow (m)	feet = 262		pacific (m)		* Olipu	3.03E+0	S A:GILBAL	OSB CITE OF F	(0):1(18	A REST CITY	/ top/k2	4 3 3 3 3	J. 190
3.048	da - Aquifer Thio	kness (m)		feet = 10		pecific (m)										
0.3	I - Infiltration Ra	te (m/yr)				Illinois										
120	K _a - Saturated H	ydraulic Conduc	ativity				Input Values						 -			
0.140	GWabi - Groundy	vater Remediation	on Objective Class 1				GW _{∞ol} - Groundy	ater Ren	andiation Object	tive Class 2	,					
	1/(2b+3) - Expor						Input Values		icalization object	110 Class 2						
	BW - Body Weig		400	ere compensation	Resid	ential = 70	(carcinogenic); 1	(non-cs	rcinogenia): Ind	ustrial/Com	mercial = 70·	Constru	tion Worker=	70-90	CΔ = 70	
114	IF _{soll-adj} -Age Adj	usted Soil Inges	tion Factor for Carcinogens		114				againe, no		10141 - 10,5	201100100	- received and a second of the	, 0, 130	ON - 10	
50	IR _{soll} -Soil Ingest	tion Rate				ential = 20	0; Industrial/Comr	nercial =	50: Constructio	n Worker =	480					
. 1.	IR., -Daily Water	Ingestion Rate	Section 1997	Charle Children			Industrial/Comme		30, 30,100,130,00	ii ironto: -	400					
	S - Solubility in \					halene = 3		- I								
	TR - Target Can		The second second				6; Industrial/Com	arcial #	10-6: Constructi	on Markor	= 10 ⁻⁶ bt = sink	-f b				
250	EF - Exposure F	requency	A STATE OF THE STA	and the property of the	Resid	ential = 35	0; Industrial/Com	iercial =	250: Constructi	on Worker:	-10 atpomit =30	<u> şı numa</u>	in exposure			
25	ED - Exposure D	uration for Inhal	lation for Non-Carcinogens	at the will be well as	Reside	ential = 30	Industrial/Comm	ercial = 2	5: Construction	Worker = 1						-
			entration at the center of a squa	re source	Reside	ential ≈ 68.	.81; Industrial/Cor	ımercial	= 85.81; Constr	uction Worl	ker = 85.81; or	Table H	1			
	T - Exposure Inte				Reside	ential = 9.5	x10 ⁶ ; Industrial/C	ommerc	$al = 7.9 \times 10^{3}$; (Construction	Worker = 3.6	x 10 ^d				
			Limit Volatilization Factor Equa		30						_				•	
			ion to Groundwater Mass-Limit Equ		70											
			n to Groundwater Mass-Limit E	quation S28	0.18											
	D _i - Diffusivity In				Napht	nalene = 0	.059									
	H' - Henry's Law				Napht	natene = 0	.0198									
	D _w - Diffusivity in				Napht	nalene = 7	.5 x 10 ⁻⁶									
25	AT - Average Tir	ne for Non-Carc	inogens in Ingestion Equation				Industrial/Comme									
			inogens in Inhalation Equation		Reside	ential = 30;	: Industrial/Comm	rcial = 2	5; Construction	Worker = 0	.115					
	THQ - Target Ha RfC - Inhalation				1			7.726 5.765	Several and a series	SOURCE CONTRACTOR OF THE PARTY		e de la companya de la companya de la companya de la companya de la companya de la companya de la companya de		TOTAL SECURIO	COLUMN TO THE STATE OF THE STAT	
	RfD _o - Oral Refe		entration				Subchronic = 0.0									
							Subchronic = 0.6							With the constitution	details and the same of the	WILL SHARE THE PARTY
			m · ,				222	TO SHARE	Transfer of the second	and the Lotte America	In the country of the last	海線路	A STATE OF		e telepat ja	建
	K _∞ - Organic Ca		pefficient		Napht	nalene = 2	,000		E COMMENT STREET	***************************************	A Che seemen Sections	****		lac.		
500.00	K _∞ - Organic Ca	rbon Partition Co		orenic Contamina		nalene = 2	,000							Les es		
500.00 I	K _∞ - Organic Ca	rbon Partition Co	on Objectives for Non-Carcin	ogenic Contamina		70		X								
500.00 I	K _∞ - Organic Ca	rbon Partition Co stion Remediation THQ x	on Objectives for Non-Carcin BW x AT x 365	=1	nts x	70	x 25	x	365				638750		40880	mg/kg
500.00 I	K _∞ - Organic Ca	rbon Partition Co stion Remediation THQ x	on Objectives for Non-Carcin	ogenic Contamina = 1 0.000001				X X		x	50			=		mg/kg
500.00 dustrial/Co	K _{oo} - Organic Ca	rbon Partition Co tion Remediation THQ x 10 ⁻⁶ x (1/Rfl	on Objectives for Non-Carcin BW x AT x 365 D _o) x EF x ED x IR _{sell}	0.000001	nts x x 1/	70	x 25	x	365			- = -	638750	=		mg/kç
500.00 ndustrial/Co 5-1 =	K _{oo} - Organic Ca	rbon Partition Co tion Remediate THQ x 10 ⁻⁶ x (1/Rft	on Objectives for Non-Carcin BW x AT x 365 D _e) x EF x ED x IR _{solt} n Objectives for Non-Carcino	0.000001	nts x x 1/	70 0.02	x 25 x 250	x	365 25			- = -	638750 15.625	=	40880	mg/kç
500.00 dustrial/Co	K _{oo} - Organic Ca	rbon Partition Co tion Remediation THQ x 10 ⁻⁶ x (1/Rfl Ion Remediation THQ x	on Objectives for Non-Carcin BW x AT x 365 D _o) x EF x ED x iR _{solt} n Objectives for Non-Carcino BW x AT x 365	9 1 0.000001	x 1/	70 0.02 70	x 25 x 250 x 0.115	x x	365 25 365	x	50	- = -	638750 15.625 2938.25	=		
500.00 dustrial/Co	K _{oo} - Organic Ca	rbon Partition Co tion Remediation THQ x 10 ⁻⁶ x (1/Rfl Ion Remediation THQ x	on Objectives for Non-Carcin BW x AT x 365 D _e) x EF x ED x IR _{solt} n Objectives for Non-Carcino	0.000001	x 1/	70 0.02	x 25 x 250	x	365 25			- = -	638750 15.625	=	40880	
500.00 dustrial/Co	K _{oo} - Organic Ca	rbon Partition Co tion Remediation THQ x 10 ⁻⁶ x (1/Rfl Ion Remediation THQ x	on Objectives for Non-Carcin BW x AT x 365 D _o) x EF x ED x iR _{solt} n Objectives for Non-Carcino BW x AT x 365	9 1 0.000001	x 1/	70 0.02 70	x 25 x 250 x 0.115	x x	365 25 365	x	50		638750 15.625 2938.25	=	40880	
500.00 dustrial/Co	K _{oo} - Organic Ca	rbon Partition Control Remediation THQ x 10° x (1/Rfi	on Objectives for Non-Carcin :BW x AT x 365 D _e) x EF x ED x iR _{epit} In Objectives for Non-Carcino :BW x AT x 365 D _{el}) x EF x ED x iR _{epit}	9 1 0.000001	x 1/	70 0.02 70 0.6	x 25 x 250 x 0.115 x 30	x x	365 25 365	x	50	- = -	638750 15.625 2938.25	=	40880	
500.00 dustrial/Co -1 = onstruction -1 = dustrial Co	K _∞ - Organic Ca ommercial Inges n Worker Ingesti	rbon Partition Cot tion Remediation THQ x 10° x (1/Rif tion Remediation THQ x 10° x (1/Rif tion Remediation THQ x 10° x (1/Rif tion THQ	on Objectives for Non-Carcin BW x AT x 365 D ₀) x EF x ED x IR _{eolt} n Objectives for Non-Carcino BW x AT x 365 D ₀) x EF x ED x IR _{eolt}	genic Contaminant = 1 0.000001 genic Contaminant 1 0.000001	x 1/	70 0.02 70 0.6	x 25 x 250 x 0.115 x 30 x 365	x x	365 25 365 1	x	50	- = -	638750 15.625 2938.25	=	40880	mg/k
tustrial/Co	K _∞ - Organic Ca ommercial Inges n Worker Ingesti	rbon Partition Cot tion Remediation THQ x 10° x (1/Rif tion Remediation THQ x 10° x (1/Rif tion Remediation THQ x 10° x (1/Rif tion THQ	on Objectives for Non-Carcin :BW x AT x 365 D _e) x EF x ED x iR _{epit} In Objectives for Non-Carcino :BW x AT x 365 D _{el}) x EF x ED x iR _{epit}	genic Contaminan = 1 0.000001	x 1/	70 0.02 70 0.6	x 25 x 250 x 0.115 x 30	x x	365 25 365	x	50	- = -	638750 15.625 2938.25 0.024	=	40880	mg/k
dustrial/Co -1 = construction -1 = dustrial Co	K _{oc} - Organic Ca	rbon Partition Co stion Remediation THQ x 10° x (1/Rif) Ion Remediation THQ x 10° x (1/Rif) THQ x 10° x (1/Rif) THC THC THC FF x ED	on Objectives for Non-Carcin: BW x AT x 365 D ₀) x EF x ED x iR _{epit} In Objectives for Non-Carcino BW x AT x 365 D ₀) x EF x ED x iR _{epit} Q x AT x 365 x (1/RfC x 1/VF)	genic Contaminant = 1 0.000001 genic Contaminant 1 0.000001	x x 1/	70 0.02 70 0.6	x 25 x 250 x 0.115 x 30 x 365	x x	365 25 365 1	x	50	- = -	638750 15.625 2938.25 0.024	=	40880	mg/k
dustrial/Co -1 = -1 = -1 = -1 = -1 = -1 = -1 = -1 =	K _∞ - Organic Ca ommercial Inges n Worker Ingesti	rbon Partition Co tion Remediation THQ x 10° x (1/Rif tion Remediation THQ x 10° x (1/Rif tion Remediation THQ x 10° x (1/Rif tion THC EF x ED	on Objectives for Non-Carcin BW x AT x 365 D _q) x EF x ED x iR _{sol} n Objectives for Non-Carcino BW x AT x 365 D _a) x EF x ED x IR _{sol} Q x AT x 385 x (I/RIG x 1/VF)	genic Contaminant = 1 0.000001 genic Contaminant 1 0.000001	x x 1/	70 0.02 70 0.6	x 25 x 250 x 0.115 x 30 x 365 x 1/ 0.003	x x	365 25 365 1	x	50	- = -	638750 15.625 2938.25 0.024 9125 29.5008	=	40880	mg/k
dustrial/Co -1 = onstruction -1 = dustrial Co -4 =	K _{oc} - Organic Ca	rbon Partition Co tition Remediation THQ x 10° x (1/Rif) Ion Remediation THQ x 10° x (1/Rif) atlon THQ EF x ED	on Objectives for Non-Carcin (BW x AT x 365 D ₀) x EF x ED x iR _{solt} IN Objectives for Non-Carcino (BW x AT x 365 D ₀) x EF x ED x IR _{solt} Q x AT x 365 0 x {1/RfC x 1/VF}	= 1 0.000001 genic Contaminan = 1 0.000001 = 1 250	x x 1/	70 0.02 70 0.6	x 25 x 250 x 0.115 x 30 x 365 x 1/ 0.003	x x x	365 25 365 1	x	50	- = -	638750 15.625 2938.25 0.024 9125 29.5008	=	40880	mg/kg
tustrial/Co 1 = nstruction 1 = ustrial Co 4 =	K _{oc} - Organic Ca	rbon Partition Co tition Remediation THQ x 10° x (1/Rif) Ion Remediation THQ x 10° x (1/Rif) atlon THQ EF x ED	on Objectives for Non-Carcin BW x AT x 365 D _q) x EF x ED x iR _{sol} n Objectives for Non-Carcino BW x AT x 365 D _a) x EF x ED x IR _{sol} Q x AT x 385 x (I/RIG x 1/VF)	genic Contaminant = 1 0.000001 genic Contaminant 1 0.000001	x x 1/	70 0.02 70 0.6	x 25 x 250 x 0.115 x 30 x 365 x 1/ 0.003	x x	365 25 365 1	x	50	- = -	638750 15.625 2938.25 0.024 9125 29.5008	=	40880 122427 309.314	mg/kg
500.00 lustrial/Co -1 = construction -1 = lustrial Co -4 = construction No.	K _{oc} - Organic Ca	rbon Partition Co tition Remediation THQ x 10° x (1/Rif) Ion Remediation THQ x 10° x (1/Rif) atlon THQ EF x ED	on Objectives for Non-Carcin (BW x AT x 365 D ₀) x EF x ED x iR _{solt} IN Objectives for Non-Carcino (BW x AT x 365 D ₀) x EF x ED x IR _{solt} Q x AT x 365 0 x {1/RfC x 1/VF}	= 1 0.000001 genic Contaminan = 1 0.000001 = 1 250	x x 1/	70 0.02 70 0.6	x 25 x 250 x 0.115 x 30 x 365 x 1/ 0.003	x x x	365 25 365 1	x	50	_ = -	638750 15.625 2938.25 0.024 9125 29.5008	=	40880 122427 309.314	mg/kg
dustrial/Co-1 = onstruction -1 = dustrial Co-4 = nalation No5 =	K _o - Organic Ca	rbon Partition Co tition Remediatin THQ x 10 ⁻⁶ x (1/Rii fon Remediation THQ x 10 ⁻⁶ x (1/Rii atlon THQ x 10 ⁻⁶ x (1/Rii atlon THC EF x ED C Construction I	on Objectives for Non-Carcin (BW x AT x 365 D ₀) x EF x ED x iR _{solt} IN Objectives for Non-Carcino (BW x AT x 365 D ₀) x EF x ED x IR _{solt} Q x AT x 365 0 x {1/RfC x 1/VF}	= 1 0.000001 genic Contaminan = 1 0.000001 = 1 250	x x 1/	70 0.02 70 0.6	x 25 x 250 x 0.115 x 30 x 365 x 1/ 0.003	x x x	365 25 365 1	x	50	_ = -	638750 15.625 2938.25 0.024 9125 29.5008	=	40880 122427 309.314	mg/kg
tustrial/Co-1 = Instruction 1 = Justrial Co-4 = Instruction No.5 = SIDENTIA	K _o - Organic Ca mmercial Inges m Worker Ingest promercial Inhala on-Carcinogenic	rbon Partition Co tion Remediation THQ x 10** x (1/Rif tion Remediation THQ x 10** x (1/Rif tion Remediation THQ x 10** x (1/Rif tion THQ EF x ED CONSTRUCTION V THG EF x ED CIAL	on Objectives for Non-Carcin BW x AT x 365 D ₀) x EF x ED x iR _{solt} n Objectives for Non-Carcino BW x AT x 365 D ₀) x EF x ED x IR _{solt} Q x AT x 365 x (1/RfC x 1/VF) Worker 2 x AT x 365 x (1/RfC x 1/VF)	real contaminant genic Contaminant = 1 0.000001 = 1 250 = 1 30	x x 1/	70 0.02 70 0.6	x 25 x 250 x 0,115 x 30 x 365 x 1/ 0,003 x 365 x 1/ 0,003	x x x x x x x x x x x x x x x x x x x	365 25 365 1 70619.54528	x	50	_ = -	638750 15.625 2938.25 0.024 9125 29.5008 41.975 20.97671	=	40880 122427 309.314 2.001	mg/kg
S00.00 Solution So	K _o - Organic Ca mmercial Inges m Worker Ingest promercial Inhala on-Carcinogenic	rbon Partition Co tion Remediation THQ x 10** x (1/Rif tion Remediation THQ x 10** x (1/Rif tion Remediation THQ x 10** x (1/Rif tion THQ EF x ED CONSTRUCTION V THG EF x ED CIAL	on Objectives for Non-Carcin (BW x AT x 365 D ₀) x EF x ED x iR _{solt} IN Objectives for Non-Carcino (BW x AT x 365 D ₀) x EF x ED x IR _{solt} Q x AT x 365 0 x {1/RfC x 1/VF}	= 1 0.000001 genic Contaminan = 1 0.000001 = 1 250	x x 1/	70 0.02 70 0.6	x 25 x 250 x 0.115 x 30 x 365 x 1/ 0.003	x x x x x x x x x x x x x x x x x x x	365 25 365 1	x	50	_ = -	638750 15.625 2938.25 0.024 9125 29.5008	=	40880 122427 309.314	mg/kg mg/kg mg/kg

Input Values

Tier 2 Industrial/Commercial Calculations for Naphthalene Marine Bank Trust 53-0051

				20030	135							
Construction Worker $S-8 = VF = \frac{Q}{x} \times \frac{(3.14 \times D_A \times T)^{1/2} \times 10^{4}}{z}$	85.81).,	3.14	x	4.07E-06	x	3.60E+06	} 1/2 x	0.0001	0.0582		
C (2 x ρ _b x D _A)		^(2	x	1.5	×	4.07E-06)		1.22E-05	= 4767.1918	

Equation for Derivation of Apparent Diffusivity $S-10 = D_A = \frac{(0_a^{3.93} \times D_1 \times H') + (0_a^{3.93} \times D_w)}{\eta^2} \times \frac{1}{(p_b \times K_d) + 0_w + (0_a \times H')} = \frac{\left(2.01E \cdot 0.03 \times 0.059 \times 0.020\right) + \left(0.0143 \times 7.50E \cdot 0.06\right)}{0.1884} \times \frac{1}{\left(1.5 \times 1.95\right) + 0.28 + \left(0.155 \times 0.020\right)} = 4.07E \cdot 0.06$

| Soil Component of the Migration to Groundwater Cleanup Objective (Class 1) | S-17 = C_w x | K_d + (0.279 + 0.155 x 0.020) | = 5.987 mg/kg

Target Soil Leachate Concentration (Class 1)

S-18 = C_w = DF x GW_{obj} = 20.00 x 0.140 = 2.8

Soil-Water Partition Coefficient

 $S-19 = K_d = K_{oc} \times f_{oc} = 500.00 \times 0.004 = 1.95$

Water-Filled Porcelty $S-20 = \Theta_{w} = \eta \times \frac{1}{K_{s}} \qquad = 0.43 \times \left[\frac{0.300}{120.000} \right]^{0.674} = 0.2786$

Tier 2 Industrial/Commercial Calculations for Naphthalene Marine Bank Trust 53-0051 20030135

									200301	135									
Air-Filled P S-21 =	-	η - 6) _w		=	0.43	-	0.28										= 0.1550	- <u></u>
Dilution Fa		1 +	Kxixd IxL			36.90	x	0.0619	. ×	11.402		1	-		<u>-</u>				
GW Ingestic			IxL			0.300		79.858								-		= 2.0866	
S-23 =			TR x BW x At _e x 365 SF _e x IR _w x EF x ED		= .	1.0E-06 0.000	x	70 1.000	×	0 250	x x	365 25	<u> </u>		=	0.0E+00	<u>'</u> :	= #DIV/0!	mg/L
Total Soil F S-24 =	'orosity η =	1	Db Ds		-	1	- •	1.5 2.65	-									= 0.4340	
		Zone Depth (0.0112 x L²)	p.5 + d _a 1 -exp	(Kx1x0	ار _ه ا														
					= (0.0112	x		•		,	-79.858	×	0.3	1		7		
Soll Satura												-79.858 36.897			×	3.048	_Л .	11.402	
S-29 =	C _{sat} =	<u>- 5-</u> х	[(K _d x pb) + 9w + (H	x 82)]	-	31 1.5	-× [(1.95	×	1.5) +	0.279	+ (0.020	×	0.155)] =	= 66.2	8 mg/kg
Soil Gas Ou S-30 =			ROsoil X H X pb X 1000 H' X Oa + Ow + Kd X pb		= -	2.001 1.980E-02	x	0.020 0.155	* +	1.600 0.279	* +	1000 1.950	X	1.500	_			= 18.53	mg/m³

Tier 2 Industrial/Commercial Calculations for Benzo[a]pyrene Marine Bank Trust 53-0051 20030135

SSL SSL'A RECA RBCA RISHEAST

Date Compiled: 01/11/23

Input Value	BS ROCA	BRISMEASE												2.3	J. 1784	
	s Bulk Density -> 0	Converte	d Value to be used in	relet	lation et aut	228.000		1	USDA SõU C	terminal de la companya de la companya de la companya de la companya de la companya de la companya de la compa	710061					
Org	janic Matter (%) -> 0	FOC % (0.58 conversion			ganic Matter (0		OC malles (O.E.	assilcatio	1: Sitt Loam		foc conversion	A CONTRACTOR		
1.5	ρ _b - Dry Soil Bulk Density							31t = 1 6 C	lay ≈ 1.7; or	City Carall	191 0.00	1. 8.10	Toc conversion	to g/g:	0.000	200.00
2.65			Service Care Service	2.65	or Site Spe	edfic	- 1.0, .	ян. — т.о. с	ay = 1.7; or	Site Specii	ic .					
0.155	⊕ _a - Air Filled Soil Porosity	0.155	Value from S-21				1 mete	c= 0.13: G	revel = 0.05:	Sand = 0.1	4: Silt =0.24	· Clay = 0	.19; or Calculate		(004)	
0.279	Ow - Water Filled Soil Porosity		Value from \$-20	Top	1 meter = 0	15: balaw	1 mote	- 0.10, 0	ravel = 0.00,	Sanu - 0.1	4, 501 -0.24	; Clay = 0.	.19; or Calculate	ed Value	(521)	
0.434	η - SSL: Total Soil Porosity	0,434	Value from S-24	0.43	or: Gravel -	D 75: San	4 - 0 3	2 - 0.30; G	10; Clay = 0.20;	Sand = 0.1	5; Sit =0.16	; Clay = 0.	.17; or Calculate	ed Value	(S20)	
0.06188	1 - Hydraulic Gradient		7 AS	Site	Specific	V.25. 5ai	<u>u</u> ~ 0.5.	z, an - u	iu; Clay - 0.5	or Calcu	iated value	(524)				
0.004	foc - Total Organic Carbon (g/g)				006: Subs	surface	Soit = 0.00	2; or Site Sp	ecific						
	DF - Dilution Factor	2.087	Value from S-22	if ca	culated valu	te for DF is	s less t	nan 20, the	n 20 default	is used, els	e calculated	l value is u	ısed			
	d - Mixing Zone (m)	11.402		2; cr	calculated v	value				-						
	K - Hydraulic Conductivity (m/y		1.17E-04		Specific	1.01	E+01	cm/d	3.69E	+03 5 cm/y	Use cm/d	for R 15, F	(19) & R25. cm	/vr for R	24	
	L - Source Length Parallel to G	roundwater Flow (m)	feet = 262		Specific (m)											<u></u>
	d _e - Aquifer Thickness (m)		feet = 10		Specific (m))										
0.3	I - Infiltration Rate (m/yr)				or Illinois											
120	K _a - Saturated Hydraulic Condu				Table K for											
		ion Objective Class 1						vater Reme	ediation Obje	ctive Class	2					
0.074	1/(2b+3) - Exponent for S20			See	Table K for	Input Valu	99									
	BW - Body Weight		entraction and a substitution of the	Resi	dential = 70	(carcinoge	enic); 1.	5 (non-care	ginogenia); In	dustrial/Co	mmercial =	70; Constr	uction Worker =	70; RB	CA = 70	
	IF _{solked} -Age Adjusted Soil Inge	stion Factor for Carcinogens		114				_								
50	R _{sell} -Soil Ingestion Rate								0; Constructi							
and the tree	SF _o -Oral Slop Factor					Ser Early	(3)	* 10 To 1					5 (1) (1) (1) (1)	10 m		
1	IR. Daily Water Ingestion Rate	 And the best of the second of t			dential = 2; l									William W. Callerine	AND DESCRIPTION OF THE PARTY OF	and control of the co
0.00162	S - Solubility in Water				o[a]pyrene											
	TR - Terget Cancer Risk			Resi	dential = 10	⁸ ; Industria	al/Comr	nercial = 1	0°5: Construc	tion Worke	r = 10 ⁻⁶ at po	int of hum	nan exposure			
70	AT _e -Average Time for Carcino	rens .	away isani biliya	70												
	URF - Inhalation Unit Risk Fact				Alter and the				V 100 12 150		1999		3	V2165.		
250	EF - Exposure Frequency No.			Resi	dential = 350	D: Industria	al/Comr	nercial = 2	50: Construct	tion Worke	r=30				ALL DESCRIPTION OF THE PARTY OF	11.50
25	ED - Exposure Duration for Inh			Resi	dential = 30:	Industrial	/Comm	ercial = 25	Construction	n Worker =	1					
85.81	Q/C - Inverse of the mean cond T - Exposure Interval	entration at the center of a squ	are source	Kesi	dential = 68.	.81; Indust	rial/Cor	nmercial ≍	85.81; Const	truction We	rker = 85.81					
	D _I - Diffusivity in Air						ustrial/(ommercia	$= 7.9 \times 10^6$;	Construction	on Worker =	3.6 x 10°				
	H' - Henry's Law Constant				o[a]pyrene =											
					o[a]pyrene =											
	D _w - Diffusivity in Water				o[a]pyrene =									_		
1020000	K _∞ - Organic Carbon Partition (Coefficient		Benz	o[a]pyrene =	= 1,020,00	10									
Industriai/C	ommercial Ingestion Tier II Ob															
S-3 =		BW x AT _e x 365	1.0E-06	х	70	х	70	x	365				1.8E+00	-	5.723	mg/kg
-	Sf _o x 10	⁶ x EF x ED x lRsoil	1.000	x	1.00E-06	х	250	x	25	,	50		3.13E-01	_	3.123	mg/kg
														-		
Constructio	on Worker Ingestion Tier II Obje	ctive														
S-3 =	TRx	BW x AT _c x 365	_ 1.0E-06	x	70	x	70	x	365			_	_ 1.8E+00	_		_
3-3	Sf _n x	10 ⁻⁶ x EF x IRsoil	1.000	×	1,00E-06	Y	30	x	480			=	1.44E-02	=	124.20	mg/kg
									-700				1.442-02			
										-						
Industrial/C	ommercial inhalation Tier II Ob	ective											•			
		- R x ATc x 365	_ 1.0E-06	v	70	x	365						0.02555			
S-6 =	· · · · · · · · · · · · · · · · · · ·		- =	_^										=	9.81E+01	mg/kg
1	URF x 10	00 x EF x ED x 1/VF	6.00E-04	×	1000	×	250	×	25	× (1	1.44E+	07 }	2.60E-04			

Tier 2 Industrial/Commercial Calculations for Benzo[a]pyrene

						Marine	Bank T 20030	rust 53-005	ī	Denzolajh	,						
Construc	tion Worke	Inhalation Tier II Objective															
S-7 =		TR x ATc x 365	=	1.0E-06	x	70	x	365						0.02555	. =	1.26E+02	mg/kg
		URF x 1000 x EF x ED x 1/VF		6.00E-04	×	1000	x	30	x	1	х (1	/ 8.86E+04)	2.03E-04	_	1202102	mgreg
RESIDEN	TIAL OR C	OMMERCIAL .											_				
S-8 =	VF =	$\frac{Q}{C} \times \frac{(3.14 \times D_A \times T)^{1/2} \times 10^{-4}}{(2 \times \rho_B \times D_A)}$	=	85.81	. (3.14	x	1.18E-10	х	9.50E+08) 1/2	0.0001		0.0051			
		C (2 × ρ ₀ × D _A)		00.01	^(2	х	1.18E-10 1.5	×	1.18E-10)	0.0001		3.53E-10	. =	14400861.2016	
	tion Worke		-														
S-8 =	VF =	Q (3.14 x D _A x T) ^{1/2} x 10 ⁻⁴ C (2 x P _D x D _A)	=	85.81	<u>, (</u>	3.14	x	1.18E-10 1.5	×	3.60E+06) 1/2 >	0.0001		0.0003	_	0.000.05	
		C (2 x p ₀ x D _A)			(2	×	1.5	×	1.18E-10)			3.53E-10	_	8.86E+05	
Equation	for Derivat	ол of Volatilization Factor - Construction V	/orker														
S-9 =	VF' =	VF	=	886498,3107													
		10		10											=	88649.8311	
Equation	for Derivati	on of Apparent Diffusivity															
C 40 -		$(0_a^{3.33} \times D_i \times H') + (0_a^{3.33} \times D_a)$			1								•				
5-10 =	D _A =	$\frac{(O_a^{-3.33} \times D_i \times H') + (O_w^{-3.33} \times D_w)}{\eta^2}$	x	(ρ _b x K _d) -	+ 0 _ω + ((0 _e x H')	-										
			•														
			=	(2.01E-03	х	0.043	×	0.000) + (0.014	3 x	9.00E-06	_) _×	ı			
								0.1	884								
				(1.5	x	3978	Y	0.28	+ (0.155	×	4.63E-05			=	1.18E-10	
				1.0		3970		Ų.20	- '	0.155	x	4.63E-05		·			
		e Migration to Groundwater Cleanup Object		7					,	0.070		2			. ¬		
S-17 =	C _w	x K _d +	ρδ	=		0.1	x	3978	+ '-	0.279		1.5	×	4.63E-05	=	397.819	mg/kg
1		Concentration (Class 1)															
S-18 =	C ^w =	DF x GW₀ыj	=	20.00	х	0.005									=	0.1	
Soll-Water	Partition (cefficient								·						3	
S-19 =		K _{oc} x f _{oc}	=	1.02E+06		0.004									=	2070	
3-19 -	rv _d −	roc X loc	-	1.022-06	X	0.004									-	3978	
Water-Fille	d Porosity	1774.191			_												
S-20 =	⊙ _w =	η x————————————————————————————————————	=	0.43	x	0.300 120.000	0.074								=	0.2786	

Tier 2 Industrial/Commercial Calculations for Benzo[a]pyrene Marine Bank Trust 53-0051

Air-Filled Porosity							20030135											
$6-21 = \Theta_a =$	η - Θω		=	0.43	-	0.28									;	-	0.1550	
ilution Factor		Kxixd		36.90	×	0.0619	x 1	1 402										
3-22 = DF =	1 +	Kxìxd IxL	= -	0.300		79.858		1.402	+	1		<u> </u>				=	2.0866	
W Ingestion S-23 =		TR x BW x At, x 365 SF ₀ x IR _w x EF x ED	= -	1.0E-06	×	70 1.000		70 250	x	365 25	_		= -	1.8E+00 6250			0.0003	mg/
Total Soil Porosity	·				_			250						6250			<u> </u>	
6-24 = η =	1 P _b	<u> </u>	=	1		1.5 2.65									:	=	0.4340	
stimation of MixIng 6-25 = d =	Zone Depth (0.0112 x L ²) ^{0.6}	+ d _a 1 -exp (K	-		_													
stimation of Mixing. S-25 = d =	Zопе Depth (0.0112 x L ²) ^{0.5}	+ d _a 1-exp (K	-	0.0112	x		•	- exp	{-	-79.858 36.897	x x	0.3) × 3	3.048] =	=	11.402	m
S-25 = d =	(0.0112 x L ²) ^{0.5}	+ d_a 1 -exp (K	= {			3.048	x 1							0.155				m mg/k

Tier 2 Industrial/Commercial Calculations for Benz[a]anthracene Marine Bank Trust 53-0061 20030136

SSL SSLARBCA

Date Compiled: 01/11/23

input Value	95	,													y:	a hir si	n. 161h	
Holcomb	s Bulk Density	0 احت	Conv	erted Value	e to be used i	n calcu	lation sheet	ا د جہ		12775C.23	USDA Sall CI	applification	SULLOSS		1.4	hat of the c	r to white the first own or to the	
Org	anic Matter (%)	0 خب	FOC % (0.58 conve	ersion)>	0.000	Or	anic Metter (mc/kc)	0				0.000	foo	conversion	e e glise	0.000	20 27 h - w
1.5	Pb - Dry Soil I	Bulk Density			_					ilt = 1.6 C	lay = 1.7; or	Site Specific	-was district	100	CONVENSION	io g/g.	0.000	11,574,5
2.65	ps - Soil Part	cie Density	MEDIANA I I PENANTE		Care Catal Can	2.65	or: Site Spe	ecific			1.7, 01	Site Obeonio	<u>-</u>					
0.155	Θ, - Air Filled	Soil Peresity			e from S-21				v 1 meter	= 0.13: G	ravel = 0.05	Send = 0.14	; Silt ≃0.24; Cla	ov = 0.10r e	r Coloulata	d Malua	(024)	
0.279	⊝w - Water F	iled Soil Parasity	0.:		e from S-20	Top	1 meter = 0	15: helow	v 1 meter	= 0.30, 6	ravol = 0.00;	Sand - 0.14	Silt =0.16; Cl	ay = 0.13, (Calculate	u vaiue	(321)	
0.434	η-SSL: Total	Soll Porosity			e from S-24	0.43	or Gravel	A 25: Sa	nd = 0.31	- 0.50, G	10- Closs = 0.20,	Sanu = U. 15	ted Value (S2	$\frac{ay = 0.1776}{4}$	or Calculate	<u>a valñe</u>	(S20)	
0.06188	i - Hydraulic (radient			10 20 10 10 10 10 10 10 10 10 10 10 10 10 10	Site	Specific	0.20, 00	0.02		u. Ciay - 0.0	o, or carcur	neu vane (32	41				
0.004	foc - Total On	anic Carbon (g/c	1)					.006: Sub	surface	Soil = 0.00	2: or Site Spa	ecific	-					
	DF - Dilution		2.0	087 Valu	e from \$-22	. If ca	culated value	ue for DF	is less th	an 20, the	n 20 default	s used else	calculated val	hagu al au	_			
	d - Mixing Zo				e from S-25	2; or	calculated	value					and and a very	<u></u>				
36.90		Conductivity (m/y			E-04	Site	Specific	1.01	1E+01	Cm/d	3.69E	03 % cm/yr	Use cm/d for	R15: R19:	8 R26 cm/	vr for R	24 offerances	Company of the company
			roundwater Flow (m)		= 262	Site	Specific (m)	}										5 5 2 7 7 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
3.048	d _e - Aquifer T			· feet	1 = 10	Site	Specific (m))										
	l - Infiltration l						or Illinois									-		
120		l Hydraulic Condu				See	Table K for	Input Valu	ues								•	
0.005			tion Objective Class 1			Contract of	0.025	GW _{obl} -	Groundy	ater Reme	diation Object	tive Class 2						
	1/(2b+3) - Ex					See	Table K for											
70			Charles on the same		Section Section 1	Resi	dential = 70	(carcinoc	genic); 1:	(non-cere	inogenic): In	dustrial/Com	mercial = 70; 0	Construction	n Worker =	70: RB	CA = 70	
114	IF _{soil-adj} -Age /	Adjusted Soil Inge	stion Factor for Carcinoge	ns		114										,	-1-10	
50	IR _{soil} -Soil Ing	estion Rate				Resi	dential = 20	0: industr	rial/Comr	nercial ≖ 5	0; Construction	n Worker =	480					
6.10	SFOral Slo	Factor	THE PROPERTY	THE STATE OF	THE PROPERTY OF SHAPE											AZSEA S	er volument of	
1		ter Ingestion Rate					dential = 2;				TOTAL CONTRACTOR OF		and the second	and the same			THE RESERVE	de la desta de la compansión de la compa
0.0094				hard y take	and an income					cia) – 1								
				Commercial Name	remarkan partition of the		[a]anthrace				ad a							
70						34 Kesi 370	dential = 10	*; Industr	rial/Comr	nercial = 1	0°; Construc	tion Worker	≈ 10 ⁶ at point	<u>of human e</u>	xposure			
		on Unit Risk Fact		Superior State	Carl of Labority			Metallia de la companio	DOWNERS TO	ALCO COMPANION		encur water religion from the	er var var de de de de de de de de de de de de de	***************************************				
				Carrier State Con-	evigens/gazzen.	400.000	A CONTRACTOR SALES	On Indiana	ACCEPTANTA		60-6	3.67605783	<i>X</i>	以中国的和新	2422 N	4504X	ezwa-osani	
25	ED - Exposur	a Duration for loh	alation to Carcinogens	e transfer		Posi	CC - Isimeo	u; industri	Ial/Comr	nercial = 2	50; Construction	ion worker	= 30					
- 85.81			entration at the center of a								85.81; Const							
				. 0494.0 00.	2.00								Worker = 3,6	+06			-	
	D _i - Diffusivity						[a]anthrace			Cimional	(- 7.0 X 10 ,	CONSTRUCTION	1101KBI - 3.0	A 10				
	H' - Henry's L						[a]anthrace											
398000		Carbon Partition (D (D) . 1 4			Benz[a]ahthracene = 9.00 x 10 ⁻⁸ Benz[a]anthracene = 398,000												
398000	Noc - Organic	Carbon Partition	Coefficient			Benz	[a]anthrace	ne = 398,	000									
In discount (177		. 41 TI PO																
mqustrial/C	vommercial jud	jestion Tier II Ob			4.00.00													
S-3 =			BW x AT _e x 365	=	1.0E-06	х	70	x	70	x	365			_ = _	00+38.1	=	57.232	mg/kg
1 -		Sf ₆ x 10	⁴x EF x ED x IRsoil		0.100	х	1.00E-06	×	250	x	25	x	50	3	.13E-02		VI.202	99
l																		
Construction	on Worker Inge	stion Tier It Obje																
S-3 =		TRX	: BW x AT _e x 365	_	1.0E-06	x	70	x	70	×	365				1.8E+00	_	40400:	
3-3 =	_	Sf. x 10	s x EF x ED x Rsoil		0.100	х	1.00E-06	¥	30	х	480	_			.44E-03	=	1242.01	mg/kg
								-		^	-100			•				
Industrial/C	ommercial Inf	alation Tier II OI	piective															
ł					4.05.00		70		005									
S-6 =	_		R x ATc x 365	=	1.0E-06	. x	70	×	365					— = -	0.02555	=	5.91E+02	mg/kg
]		URF x 10	000 x EF x ED x 1/VF		6.00E-05	х	1000	x	250	x	25	x (1/	8.67E+06) 4	.32E-05			

Tier 2 Industrial/Commercial Calculations for Benz[a]anthracene Marine Bank Trust \$3-0051

Construction																		
	on Worker	Inhalation Tier I	l Objective					20030	100									
S-7 =			TR x ATa x 365		1.0E-06	х	70	х	365					_	0.02555			
	URF x 1000 x EF x ED x 1/VF'		F'	6.00E-05	x	1000	x	30	x	1	× (1/	5.34E+04)	3.37E-05	=	7.58E+02	mg/kg	
		MMERCIAL																
S-8 =	VF =	Q x	(3.14 x D _A x T) ^{1/2} x 10 (2 x p _b x D _A)	<u>,4 </u>	= 85.81	.(3.14	x	3.25E-10 1.5	x	9.50€+08) 1/2 ×	0.0001	_	0.0084			
			(2 x ρ _b x D _A)		- 00.0.	^(2	×	1.5	×	9.50E+08 3.25E-10)			9.74E-10	-	8672296.4141	
Construction												_	-					
S-8 =	VF =	x	$(3.14 \times D_A \times T)^{1/2} \times 10^{-1}$ $(2 \times \rho_b \times D_A)$	<u> </u>	= 85.81	1.	3.14	x	3.25E-10	x	3.60E+06) 1/2 x	0.0001	_	0.0005			
		c	(2 x p _b x D _A)		- 00.07	<u>^{(</u>	2	х	1.5	х	3.60E+06 3.25E-10)		_ =	9.74E-10	=	5.34E+05	
Equation fo	or Derivation	on of Volatilization	on Factor - Construction	n Worker														
S-9 =	VF'=		VF		533855,3030													
	••		10		10											=	53385.5303	
Equation fo	or Derivatio	on of Apparent D	iffusivity															-
C 40 -	D -	(0, 3.	³³ x D _i x H') + (0,, ^{3,33} x D,	١		1			 ··· .									
3-10-	D _A -		n²	,	(ρ _b x K _d)	+0 +1	n v Hn	_										
									0.1	884	0.014							
					(1.5	x	1552.2			1						_		
Soil Compo	nant of th	. N:					,	} +	0.28	÷ (0.155	×	1.37E-04)		=	3.25E-10	
S-17 =	mone or the		roundwater Cleanus Ob	significa (Class	4)			}+	0.28	+ (0.155	x	1.37E-04)			3.25E-10	
	C"	x K ₄	roundwater Cleanup Ob	bjective (Class (θ _w + θ _a x H') ρb	1) =		0.1				0.155			<u> </u>	1.37E-04)]=	3.25E-10 155.239	mg/kg
Target Soil			+	bjective (Class (θ _w + θ _a x H') ρb	1) =								0.155		1.37E-04)			mg/kg
	Leachate	x K ₄	+	bjective (Class (8 _w + 8 _e x H') pb	<u> </u>	x							0.155		1.37E-04)			mg/kç
S-18 =	Leachate C _w =	x K _d	tass 1)	ρb ρb	<u> </u>	x	0.1						0.155		1.37E-04 }]=	155.239	mg/kg
S-18 =	C _w =	x K _d	tass 1)	ρb ρb	<u> </u>		0.1						0.155		1.37E-04)]=	155.239	mg/kş
S-18 = Soil-Water F S-19 = Water-Filled	Leachate C _w = Partition C K _d =	x K _d	Tlass 1) DF x GW _{obj} K _{se} x f _{oe}	ρb ρb	20.00		0.1						0.155		1.37E-04 }] =	155.239	mg/kg

Tier 2 Industrial/Commercial Calculations for Benz[a]anthracene Marine Bank Trust 53-0051 20030135

Air-Filled P	-				•••				-										
S-21 =	⊖ _a =	η -	Θ.,,	=	0.43	-	0.28										=	0.1550	
		-			<u> </u>														
Dilution Fac	ctor			• • •												-			
S-22 =	DF =	1 +	Kxixd IxL	 =	36.90	×	0.0619 79.858	_ x	11.402	- +	1						_ '	2.0866	
							10.000												
GW Ingestio	эπ			_															
S-23 =			TR x BW x At _c x 365	=	1.0E-06	x	70	×	70	x	365	_		=	1.8E+0	0	=	0.0029	mg/L
			SF _o x IR _w x EF x ED		0.100	х	1.000	x	250	x	25				625		_	0.0029	mgr
Total Soil P																	_		
S-24 =	η=	1	P ₆	=	1		1.5 2.65	-									=	0.4340	
	of Mixing	Zone Dept	th _										<u></u>						
	of Mixing	Zone Dept (0.0112	th x L ^Z) ^{0.5} + d _s 1 -exp	(-L x I) (K x i x d _e)]			···-						_					
	of Mixing	Zone Dept (0.0112	th x L ²) ^{0.5} + d _s 1 -exp	_	0.0112	×	79.858	2)0.5+			-				<u> </u>		••		
	of Mixing	Zone Dept (0.0112	th x L ²) ^{0.5} + d _e 1 -exp —	_	•	x		•			.70 858		0.3						
	of Mixing	Zone Dept (0.0112	th x L ² / ₂ 0.5 + d _e 1 -exp ——	_	•	×		•	1 - exp	{-	-79.858 36.897	x x	0.3 0.0619) x	3.048		=	11.402	m
S-25 =	d =	Zone Dept (0.0112:	th x L ²) ^{0.5} + d _e 1 -exp ——	_	•	×		•	1 - exp	{-	-79.858 36.897	x x	0.3) x	3.048	_]	=	11.402	m
Estimation of S-25 = Soil Saturat S-29 =	d =	(0.0112	(K _d x Pb) + Θw + (H' x Θa)	= (0.0112	_	3.048	×											·
S-25 =	d =	(0.0112	x L ² } ^{0.5} + d _s 1 -exp	= (0.0112	_	3.048	×											·
S-25 =	d = ion Limit C _{sat} =	(0.0112:		= (9.40E-03 1.5	×[(3.048 1552.2	×	1.5		0.279								·
S-25 = Soil Saturat S-29 =	d = ion Limit C _{sat} =	(0.0112) S Pb x	x L ² } ^{0.5} + d _s 1 -exp	= (9.40E-03 1.5	×[(3.048	×											mg/kg

Marine Bank Trust 53-0051 20030135

Appendix C - Table K Parameter Estimates for Calculating Water - Filled Soil Porosity (Ow)

Soil Texture	Saturated Hydraulic Conductivity (Ks) (m/yr)	1/ (2b+3)
Sand	1830	0.09
Loamy Sand	540	0.085
Sandy Loam	230	80.0
Silt Loam	120	0.074
Loam	60	0.073
Sandy Clay Loam	40	0.058
Silt Clay Loam	13	0.054
Clay Loam	20	0.05
Sandy Clay	10	0.042
Silt Clay	8	0.042
Clay	5	0.039

Version: 3/26/2018

APPENDIX F

BORE LOGS AND WELL COMPLETION REPORTS

CORRECTIVE ACTION PLAN AND BUDGET AMENDMENT

MARINE BANK TRUST # 53-0051 CANTRALL, ILLINOIS

	Illinois Environmental Protection Agenc	y	· · · · · · · · · · · · · · · · · · ·				COMPANY, INC.
						DRILLI	NG BOREHOLE LOG
TICT IN	CIDENT #: 03-0135		DODEHO	T birts ar		an a	Page 1 of 1
	ME: Marine Bank Trust #530051		BOREHOI BORING I			SB-7	W of SW Tree
	DRESS: 9520 State Route 29		DOM:NO I	JOCATIC	711.	31 IV & 41 V	A OLZM TLEE
	Cantrall, Illinois		RIG TYPE	: Truck M	lounted Di	rill Rig	
	ME STARTED: 8/12/2021 9:30		DRILLING/				
	ME FINISHED: 8/12/2021 8:40		BACKFIL				
EPTH	SOIL AND ROCK	USCS	Sample	PID	Sample		REMARKS: (Odor, Color,
EET)	DESCRIPTION	CLASS	Recovery	(ppm)	Type	NUMBER	Moisture, Penetrometer, etc.)
	Asphalt						
	Subbase						
1							
:	Black Silty Clay	CL		0.0			
2							-
			95%		•		
3				51.0			Strong Odor and Discoloration
	Black/Green Silty Clay	CL		51,0			onong Odor and Discoloration
	Diack Green Sitey Clay						
⁴—							
₋⊢				88.0			
5 🚽							
5				260.0	Grab	SB-7	BETX, MTBE & PNA's
							,
7							
′—			0.007	***			
. ⊢			90%	580.0			
8							
_							Wet
9				499.0			
)]							
T	End of boring 10'	7	····				
2							
			j				
·							
ţ _							
							,
, 🕂							
	tradification lines are appropries to in the bounded.	m noil trans	1 1 1			l	
	tratification lines are approximate, in-situ transition betwee Sampled @ 6' per IEPA approved plan	n son types ma	y oe gradual.				
دا بن سه	week-ag 60 o bot morty abbiosog bran						
7.	Manway / Surface Elevation:						
	Groundwater Depth While Drilling:	~8'	Auger Dep	th:	10'	Driller:	CW^3M

	Illinois Environmental Protection Agency						COMPANY, INC. NG BOREHOLE LOG	
						DIGILLI	Page 1 of 1	
UST II	NCIDENT #: 03-0135		BOREHOI	E NUMI	BER.	SB-8	rage 1 01 1	
	AME: Marine Bank Trust #530051		BORING I			43'N & 32'E of SW Tree		
TE AI	DDRESS: 9520 State Route 29					1011 00 02 1	JOI DA TICC	
	Cantrall, Illinois		RIG TYPE	: Truck M	founted D	rill Rig		
TE/T	TIME STARTED: 8/12/2021 11:10			DRILLING/SAMPLE METHOD: Push				
	IME FINISHED: 8/12/2021 11:20		BACKFIL	L: Grout/0	Cuttings			
EPTH		USCS	Sample	PID	Sample		REMARKS: (Odor, Color,	
EET)	DESCRIPTION	CLASS	Recovery	(ppm)	Type	NUMBER	Moisture, Penetrometer, etc.)	
0	Grass							
	Topsoil						No Odor and Discoloration	
1							Throughout	
_	Black Silty Clay	- CT		0.0			Imoughout	
	I Slack Silly Clay	CL		0.0				
²	-							
			100%					
3				0.0				
	Brown Silty Clay	CL						
4								
`								
_ —				0.0				
5 _								
5				0.0				

,								
7								
			80%	0.0				
3								
	Brown Silty Clay w/ Fine Grained Sand	\mid $_{\mathrm{CL}}\mid$						
, 🕇	· ·			0.0	Grab	CD 0	DETV MEDE C DALL	
´—				0.0	Grad	SB-8	BETX, MTBE & PNA's	
4							Wet	
<u> </u>								
i	End of boring 10'							
	•							
		1						
;		-						
. –								
_								
ΓES:	Stratification lines are approximate, in-situ transition between sampled @ 9' per IEPA approved plan Manway / Surface Elevation:	soil types ma	y be gradual.					
	Groundwater Depth While Drilling:	~9'	Auger Dep	th:	10'	Driller:	CW ³ M	
$\overline{\bigcirc}$	Groundwater Depth After Drilling:		Rotary De					
	Crossessiant wohen there brining.		Rotary De	, rii.		Geologist:	MJS/KTR	

	Illinois Environmental Protection Agenc	y					COMPANY, INC.
						DRILLI	NG BOREHOLE LOG
LIST IN	NCIDENT #: 03-0135		BOREHOI	D MILITAR	DED.	SB-9	Page 1 of 1
	ME: Marine Bank Trust #530051		BORING I				of SW Tree
	DDRESS: 9520 State Route 29				···	3011 62 131	JOI SW TICE
	Cantrall, Illinois		RIG TYPE	: Truck M	Iounted Di	rill Rig	
	IME STARTED: 8/12/2021 11:20		DRILLING/				
	IME FINISHED: 8/12/2021 11:30		BACKFIL				
EPTH		USCS	Sample	PID	Sample		REMARKS: (Odor, Color,
FEET)	DESCRIPTION	CLASS	Recovery	(ppm)	Туре	NUMBER	Moisture, Penetrometer, etc.)
_	Grass						-
	Topsoil						No Odor and Discoloration
1							Throughout
	Brown Silty Clay	CL		0.0			-
$_{2}$			[
	1		90%				
3 -			3070				
'—ا				0.0			
-4							
4							
				0.0			
5							
╕							
6				0.0	Grab	SB-9	DETY MEDE & DAY
~ —				0.0	Grab	35-9	BETX, MTBE & PNA's
_							
7							
	Brown Silty Clay w/ Fine Grained Sand	CL	80%	0.0			
8	•						
9 T				0.0			
				0.0			
\downarrow							Wet
0		⊣ i					
_	End of boring 10'						•
1		j					
2							
\dashv	•		ļ				
, ⊢] [
3							
4]				
, 1							
- 5	Stratification lines are approximate, in-situ transition betwee Sampled @ 6' per IEPA approved plan	n soil types ma	y be gradual.				
	Manway / Surface Elevation:		_		,		
<u> </u>							
	Groundwater Depth While Drilling:	~9¹	Auger Dep	th:	10'	Driller:	CW ³ M

	Illinois Environmental Protection Agency						COMPANY, INC. NG BOREHOLE LOG	
LUST IN	ICIDENT #: 03-0135		BOREHOI	E MILIMI	DED.	CD 10	Page 1 of 1	
	ME: Marine Bank Trust #530051		BORING I			SB-10 52'N & 4'E of SW Tree		
	DRESS: 9520 State Route 29				,,	32110012	01044 1166	
	Cantrall, Illinois		RIG TYPE	: Truck M	Iounted Di	rill Rig		
	IME STARTED: 8/12/2021 11:30		DRILLING/			: Push		
	IME FINISHED: 8/12/2021 11:40		BACKFIL			,		
DEPTH (FEET)	i e e e e e e e e e e e e e e e e e e e	USCS	Sample	PID	Sample		REMARKS: (Odor, Color,	
	DESCRIPTION Concrete	CLASS	Recovery	(ppm)	Type	NUMBER	Moisture, Penetrometer, etc.)	
						 		
	Subbase	1			İ		No Odor and Discoloration	
1		_}					Throughout	
_	Dark Brown Silty Clay	CL		0.0				
2			:		Í			
			80%					
3				0.0				
-				3.3				
4	Brown Silty Clay	CL						
~ 		[CL						
ہے ا				0.0]			
5								
6				0.0	Grab	SB-10	BETX, MTBE & PNA's	
					ļ		,	
7								
	Brown Silty Clay w/ Fine Grained Sand	CL	050/	0.0				
-	Brown Sitty Clay w/ Pille Grained Sand	CL	95%	0.0				
8								
9				0.0				
							Wet	
10								
	End of boring 10'	1						
11	and or soring to							
**								
						ŀ		
12						}		
_								
13								
14]				ŀ		
-			}				,	
15 +]		
15	20.00	<u> </u>		i				
IOTES: S	Stratification lines are approximate, in-situ transition between Sampled @ 6' per IEPA approved plan Manway / Surface Elevation:	sou types ma	ly be gradual.					
T	Groundwater Depth While Drilling:	~9'	Auger Dep	th.	10'	Driller:	CW ³ M	
<u></u>					10			
~ (Groundwater Depth After Drilling:	1	Rotary De	pth:		Geologist:	MJS/KTR	

	Illinois Environmental Protection Agency					CW-M	COMPANY, INC.			
						DRILLI	NG BOREHOLE LOG			
							Page 1 of 1			
	NCIDENT #: 03-0135		BOREHOI	E NUME	BER:	SB-11				
	AME: Marine Bank Trust #530051		BORING I	OCATIO	ON:	73'N & 5'W	of SW Tree			
SITE AI	DDRESS: 9520 State Route 29									
	Cantrall, Illinois		RIG TYPE: Truck Mounted Drill Rig							
	IME STARTED: 8/12/2021 13:55		DRILLING/SAMPLE METHOD: Push BACKFILL: Grout/Cuttings							
DEPTH	IME FINISHED: 8/12/2021 14:05	Noce				I =				
(FEET)		USCS CLASS	Sample Recovery	PID	Sample		REMARKS: (Odor, Color,			
0	Concrete	CLASS	Recovery	(ppm)	Type	NUMBER	Moisture, Penetrometer, etc.)			
~ <u> </u>			ļ							
	Subbase]				No Odor and Discoloration			
1							Throughout			
	Black Silty Clay	CL		0.0						
2			-							
			95%							
3			5570	0.0						
٠ <u>-</u>	Brown Silty Clay	CT.		0.0						
	Brown Silly Clay	CL								
4										
_				0.0						
5										
6				0.0	Grab	SB-11	BETX, MTBE & PNA's			
Ÿ				0.0	Grab	20-11	BEIA, MIBE & FNA'S			
7										
	Brown Silty Clay w/ Fine Grained Sand	CL	95%	0.0						
8										
9 -				0.0						
9—				0.0						
	-						Wet			
10										
	End of boring 10'									
11	_									
., -										
12										
			ŀ							
13										
				Í						
14				ļ						
-∵										
., -		-								
15										
	Stratification lines are approximate, in-situ transition between so	oil types ma	ıy be gradual.							
NOTES:	Sampled @ 6' per IEPA approved plan	-								
	Manway / Surface Elevation:									
		· · · · · · · · · · · · · · · · · · ·								
▼	Groundwater Depth While Drilling:	~9'	Auger Dep	th:	10'	Driller:	CW ³ M			
\vee	Groundwater Depth After Drilling:		Rotary De	oth:		Geologist:	MJS/KTR			

	Illinois Environmental Protection Agency						COMPANY, INC. NG BOREHOLE LOG Page 1 of 1
LUST IN	ICIDENT #: 03-0135		BOREHOI	LE NUMI	BER:	SB-12	1 480 1 01 1
	ME: Marine Bank Trust #530051		BORING I				of SW Tree
SITE AD	DRESS: 9520 State Route 29						
	Cantrall, Illinois		RIG TYPE	: Truck M	lounted Di	rill Rig	
	IME STARTED: 8/12/2021 14:05		DRILLING/			: Push	
	IME FINISHED; 8/12/2021 14:15	****	BACKFIL				,
DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS	Sample	PID	Sample		REMARKS: (Odor, Color,
	Grass	CLASS	Recovery	(ppm)	Туре	NUMBER	Moisture, Penetrometer, etc.)
		 			<u></u>		
	Topsoil	OM					No Odor and Discoloration
1		_					Throughout
	Dark Brown Silty Clay	CL		0.0			
2							
			100%				
3		1	/0	0.0			
	Brown Silty Clay			0.0	[
_	Blown Sitty Clay	CL			1		
4						}	
		}		0.0			
5							
7							
6				0.0	Grab	SB-12	BETX, MTBE & PNA's
~—				0.0	Grau	3D-12	BEIA, MIBE & FNA'S
7							
ال	Brown Silty Clay w/ Fine Grained Sand	CL	95%	0.0			
8							
9				0.0			
² -				0.0			
							Wet
10							
	End of boring 10'					!	i
11							
\neg							
12							
14							
4		ļ					
13							
14							
\dashv							
15							
15							
VOTES: S	Stratification lines are approximate, in-situ transition between s Sampled @ 6' per IEPA approved plan Manway / Surface Elevation:	oil types ma	y be gradual.				
	Groundwater Depth While Drilling:	~9'	Auger Dep	th.	10'	Driller:	CW ³ M
		···			10		CW [*] M
- V (Groundwater Depth After Drilling:	ŀ	Rotary De	pth:		Geologist:	MJS/KTR

	Illinois Environmental Protection Agency	,				CW M COMPANY, INC.		
						DRILLI	NG BOREHOLE LOG	
******	IOVE TO THE METERS OF THE PROPERTY OF THE PROP						Page 1 of 1	
	NCIDENT #: 03-0135 NME: Marine Bank Trust #530051		BOREHO			SB-13		
	DDRESS: 9520 State Route 29		BORING	LOCATIO	JN:	9'N & 6'W	of SW Tree	
1 17 210	Cantrall, Illinois		RIG TYPE	Truck N	founted D	rill Dia		
ATE/T	IME STARTED: 8/12/2021 14:15		DRILLING					
	IME FINISHED: 8/12/2021 14:25		BACKFIL			. i usti		
EPTH	SOIL AND ROCK	USCS	Sample	PID	Sample	SAMPLE	REMARKS: (Odor, Color,	
FEET)	DESCRIPTION	CLASS	_	(ppm)	Type		Moisture, Penetrometer, etc.)	
0	Grass							
	Topsoil	ОМ					No Odor and Discoloration	
1	-						1.0 Guor and Disconstantion	
	Black Silty Clay		}					
-	Black Silty Clay	CL		0.0				
2					İ			
_			100%			}		
3				0.0		1		
4	Brown Silty Clay	CL						
				0.0				
5				0.0				
´ ⊢								
_		i e						
6				0.0				
							Strong Odor and Discoloration	
7							8 - I - I MAD D ISOCIONALION	
_	Brown Silty Clay w/ Fine Grained Sand		90%	41.0				
8 –	Die wir oney Olay we'r me Granied State	CL	9076	41.0				
°-								
_								
9				350.0	Grab	SB-13	BETX, MTBE & PNA's	
							Wet	
0								
	End of boring 10'	1						
ı T	or oring to							
' —								
_								
2								
3			·					
			ļ					
4								
-								
\sim \perp								
	Stratification lines are approximate, in-situ transition between Sampled @ 9' per IEPA approved plan	soil types ma	y be gradual.					
1E5; 5								
ľ	Manway / Surface Elevation:							
<u> </u>	Manway / Surface Elevation: Groundwater Depth While Drilling:	~9'	Auger Dep	oth:	10'	Driller:	CW ³ M	

	Illinois Environmental Protection Agency						COMPANY, INC. NG BOREHOLE LOG Page 1 of 1	
LUST IN	CIDENT #: 03-0135		BOREHO	LE NUMI	BER:	SB-14	rage r or r	
SITE NA	ME: Marine Bank Trust #530051		BORING I			29'N & 13'W of SW Tree		
SITE AD	DRESS: 9520 State Route 29		1					
	Cantrall, Illinois		RIG TYPE	: Truck M	founted Di	rill Rig		
	IME STARTED: 8/12/2021 14:25		DRILLING/	SAMPLE	метнор	: Push		
	ME FINISHED: 8/12/2021 14:35		BACKFIL	L: Grout/0	Cuttings			
DEPTH	SOIL AND ROCK	USCS	Sample	PID	Sample	SAMPLE	REMARKS: (Odor, Color,	
(FEET)	DESCRIPTION	CLASS	Recovery	(ppm)	Type	NUMBER	Moisture, Penetrometer, etc.)	
0	Grass							
	Topsoil	OM					No Odor and Discoloration	
1 7			ŀ				and Disconstanting	
	Black Silty Clay	-	:					
	black Silly Clay	CL	!	0.0				
2								
			90%					
3				0.0				
_	Brown Silty Clay	CL		0.0				
	Diown birty Oray							
4								
		Ì		100.0			Strong Odor and Discoloration	
5							_	
6				999.0	Grab	SB-14	BETX, MTBE & PNA's	
7								
	D							
	Brown Silty Clay w/ Fine Grained Sand	CL	90%	850.0		Ì		
8								
-								
9				713.0				
´				/13.0				
_							Wet	
10								
1	End of boring 10'	1						
11]			
**								
12						1		
					[
13						1		
~~								
_					1			
14								
\neg								
15								
15		<u> </u>			<u> </u>			
NOTES: S	Stratification lines are approximate, in-situ transition between s Sampled @ 6' per IEPA approved plan	oil types ma	iy be gradual.					
V	Manway / Surface Elevation:	0,	Aug D	.41	101	m	over .	
	Groundwater Depth While Drilling:	~9'	Auger Der	oth:	10'	Driller:	CW ³ M	
V (Groundwater Depth After Drilling:		Rotary De	pth:		Geologist:	MJS/KTR	

	Illinois Environmental Protection Agency	7					COMPANY, INC.
						DKILLI	NG BOREHOLE LOG Page 1 of 1
UST IN	NCIDENT #: 03-0135		BOREHO	LE NUME	BER:	SB-15	1.480 1 01 1
	ME: Marine Bank Trust #530051		BORING I			38'N & 20'V	V of SW Tree
TE AD	DDRESS: 9520 State Route 29						
THE PE	Cantrall, Illinois IME STARTED: 8/12/2021 14:35		RIG TYPE				
	IME STARTED: 8/12/2021 14:35 IME FINISHED: 8/12/2021 14:45		DRILLING/ BACKFIL			: Push	
ЕРТН		USCS	Sample	PID	Sample	SAMPLE	REMARKS: (Odor, Color,
EET)	DESCRIPTION	CLASS	Recovery	(ppm)	Туре		Moisture, Penetrometer, etc.)
0	Concrete			<u> </u>			
_	Subbase	-	- 				Strong Odor and Discoloration
1 T			[]		Throughout
	Plack/Green Silty Clay			200.0			1 nroughout
-	Black/Green Silty Clay	CL		300.0			
²							
_			80%				
3				410.0			
4							
				406,0			
, T				100,0		ļ	
´ -			-				
				0=4.0			
°—				851.0	Grab	SB-15	BETX, MTBE & PNA's
		1					
7			•				
			100%	603.0			
₃							<u> </u>
							-
, 🕂				716.0			
				710.0			
							Wet
` _		_[
	End of boring 10'						
·							
\neg							
,							
\dashv							
, -							
4							
;				-			
TES: S	Stratification lines are approximate, in-situ transition between Sampled @ 6' per IEPA approved plan Manway / Surface Elevation:	soil types ma	y be gradual.				
	Groundwater Depth While Drilling:	~9'	Auger Dep	oth:	10'	Driller:	CW ³ M
,					10		
<u> </u>	Groundwater Depth After Drilling:		Rotary De	pth:		Geologist:	MJS/KTR

	Illinois Environmental Protection Agency			•:		DRILLI	COMPANY, INC. NG BOREHOLE LOG Page 1 of 1
	CIDENT #: 03-0135		BOREHOI	E NUM	BER:	SB-16	1:0
	ME: Marine Bank Trust #530051		BORING I				V of SW Tree
SITE ADI	DRESS: 9520 State Route 29						_
	Cantrall, Illinois		RIG TYPE	: Truck M	Iounted Dr	ill Rig	
	ME STARTED: 8/12/2021 14:45		DRILLING/				
	ME FINISHED: 8/12/2021 15:00		BACKFIL	L: Grout/0	Cuttings		
DEPTH	SOIL AND ROCK	USCS	Sample	PID	Sample	SAMPLE	REMARKS: (Odor, Color,
(FEET)	DESCRIPTION	CLASS	Recovery	(ppm)	Туре	NUMBER	Moisture, Penetrometer, etc.)
00	Concrete						
5	Subbase						No Odor and Discoloration
1		1					Throughout
	Black Silty Clay						Tinougnout
	Black Silly Clay	CL		0.0]		
2		j					
ļ.	Brown Silty Clay	CL	80%				
3 7				0.0	[]	
]]	0.0			
, -						[
4—							
				0.0			
5							
\mathcal{A}					. .		
6				0.0	Grab	SB-16	BETX, MTBE & PNA's
.7							
E	Brown Silty Clay w/ Fine Grained Sand	CL	000/	0.0			
	Stown Sitty Clay w/ Title Granded Sand	CT	90%	0.0			
88	j						
							Wet
9				0.0			
_				0.0			
10							
E	End of boring 10'						
11					İ		
		İ					
12							
13							
\dashv							
,, -			ŀ				
14			İ				
15			l				
OTES: Sa	tratification lines are approximate, in-situ transition between so ampled @ 6' per IEPA approved plan	oil types ma	y be gradual.				
	Annway / Surface Elevation:	01					2
- G		~9'	Auger Dep	th:	10'	Driller:	CW ³ M
	Froundwater Depth After Drilling:						

	Illinois Environmental Protection Agenc	У	****		***	CW≅M	COMPANY, INC.	
						DRILLING BOREHOLE LOG		
							Page 1 of 1	
	RCIDENT #: 03-0135		BOREHO			SB-17		
	ME: Marine Bank Trust #530051 DDRESS: 9520 State Route 29		BORING I	LOCATIO	ON:	51'N & 48'V	V of SW Tree	
ILE AD	Cantrall, Illinois		RIG TYPE	'r Tanale M	formed D	.211 D/=		
DATE/TI	IME STARTED: 8/12/2021 15:00		DRILLING					
	IME FINISHED: 8/12/2021 15:10		BACKFIL			. 1 usii		
DEPTH		USCS	Sample	PID	Sample	SAMPLE	REMARKS: (Odor, Color,	
(FEET)	DESCRIPTION	CLASS	Recovery	(ppm)	Туре		Moisture, Penetrometer, etc.)	
0	Asphalt							
	Subbase						Strong Odor and Discoloration	
1 7							Throughout	
	Black/Green Silty Clay	CL		502.0			Imoughout	
2				302.0				
		CT	1000/					
ຸ ⊣		CL	100%		1			
3				655.0				
4								
				612.0				
5 7								
_								
6				000.0	_ ,	GD 16		
°—				899,0	Grab	SB-17	BETX, MTBE & PNA's	
7								
		CL	95%	409.0				
8								
							Wet	
9 7				801.0			77 01	
_				801.0				
., -								
10		_						
	End of boring 10'							
11			•					
12								
13								
-				,				
., -								
14]						
15								
	Stratification lines are approximate, in-situ transition between Sampled @ 6' per IEPA approved plan	n soil types ma	y be gradual.					
W	Manway / Surface Elevation:							
$\overline{}$	Groundwater Depth While Drilling:	~9'	Auger Dep	th:	10'	Driller:	CW ³ M	
1/0	Groundwater Depth After Drilling:		Rotary De	nth:		Geologist:	MJS/KTR	

	Illinois Environmental Protection Agency			· - · · · · · · · · · · · · · · · · · ·	1		COMPANY, INC. NG BOREHOLE LOG
LUSTIN	CIDENT #: 03-0135		PORFIIO	E MILITATE	DED.	N/11/ 1 A	Page 1 of 1
	ME: Marine Bank Trust #530051		BOREHOI BORING L			MW-1A	E of SW Tree
	DRESS: 9520 State Route 29		DOMING	OCATIC	2144	39 N & 43 E	colsw free
	Cantrall, Illinois		RIG TYPE	· Truck M	Jounted Di	rill Rig	
DATE/T	IME STARTED: 8/12/2021 8:45					: Hollow Stem	Augus
	IME FINISHED: 8/12/2021 9:30		BACKFILI			. Honow Stem	Augei
DEPTH		USCS	Sample	PID	Sample	SAMPLE	REMARKS: (Odor, Color,
(FEET)	DESCRIPTION	CLASS		(ppm)	Туре		Moisture, Penetrometer, etc.)
0	Asphalt			<u> </u>			, I should metal, die.
	Subbase						
. ⊢							
1		4					
	Black Silty Clay	CL					
2						-	
						Ì	
3				!			
-	D	-					
_	Brown Silty Clay	CL					
4							
5							
6					•		
			}				
7							
_							
8							
	Brown Silty Clay w/ Fine Grained Sand	CL					Wet
9 7							
_							
10							
_							
11							
_							
10							
12							
13							
P	:		ļ	İ			
., ⊢			į				
14							
$_{15}$ \neg I	End of Boring - 15'						
	Stratification lines are approximate, in-situ transition between se	nil types me	ıv he orodual			L	
NOTES:1	No Soil Samples Taken - Well Set Only	er Abount	-, oo Braddal.				
<u>N</u>	Manway / Surface Elevation:	 -					
<u>▼ (</u>	Groundwater Depth While Drilling:	~8'	Auger Dep	th:	15'	Driller:	CW ³ M
\sim \sim	Groundwater Depth After Drilling:		Rotary Dep	oth:		Geologist:	MJS/KTR
					·	201081011	A I A COLVI

	Illinois Environmental Protection Agency					CW [□] M	COMPANY, INC.
							NG BOREHOLE LOG
ł							Page 1 of 1
LUST I	NCIDENT #: 03-0135		BOREHOI	E NUMI	BER:	MW-2A	1 450 1 01 1
SITE N	AME: Marine Bank Trust #530051		BORING I			5'S & 6'W c	f SW Tree
SITE A	DDRESS: 9520 State Route 29	-					
	Cantrall, Illinois		RIG TYPE				
	IME STARTED: 8/12/2021 9:40					Hollow Stem	Auger
	IME FINISHED: 8/12/2021 10:25		BACKFIL				
DEPTH (FEET)		USCS	Sample	PID	Sample		REMARKS: (Odor, Color,
0		CLASS	Recovery	(ppm)	Type	NUMBER	Moisture, Penetrometer, etc.)
"	Asphalt	ļ <u>.</u>					
_	Subbase	İ					
1]	1				
i _	Black Silty Clay	CL					
2							
3 -		i					
	Brown Silty Clay						
l ⁴ —	Brown Sifty Clay	CL					
_							
5 _							
_				:			
6							
` <u></u>					:		
7							
_	Brown Silty Clay w/ Fine Grained Sand	Cl					
8		i					
			j	Ì			Wet
9 -	-						•
10							
10		ı					
_							
11							
		Ì					
12							
12							
13							
_							
14							
15	End of Boring - 15'	İ					
	Stratification lines are approximate, in-situ transition between so	oil types ma	v he pradual			****	
	No Soil Samples Taken - Well Set Only	sypes ma	y oc gradual,				Į.
	· · · · · · · · · · · · · · · · · · ·						İ
]	Manway / Surface Elevation:						
	Groundwater Depth While Drilling:	~8'	Auger Dep	th	15'	Deillag	Carry v
$\overline{}$						Driller:	CW ³ M
<u> </u>	Groundwater Depth After Drilling:		Rotary De _l	oth:		Geologist:	MJS/KTR

	Illinois Environmental Protection Agency	· · · · · ·			_ 		COMPANY, INC.
							NG BOREHOLE LOG
LUSTIN	CIDENT #: 03-0135		BOREHOI	E MIIMI	DED.	MW-3A	Page 1 of 1
	ME: Marine Bank Trust #530051		BORING I				V of SW Tree
	DRESS: 9520 State Route 29				, · · ·	47 11 00 42 1	7 01 0 W 11CC
	Cantrall, Illinois		RIG TYPE	: Truck M	Iounted Dr	ill Rig	
ATE/TI	IME STARTED: 8/12/2021 10:25					: Hollow Stem	Auger
DATE/TI	IME FINISHED: 8/12/2021 11:10		BACKFILI	L: N/A Se	t Well		
DEPTH	SOIL AND ROCK	USCS	Sample	PID	Sample		REMARKS: (Odor, Color,
(FEET)	DESCRIPTION	CLASS	Recovery	(ppm)	Type	NUMBER	Moisture, Penetrometer, etc.)
0	Grass						
	Topsoil	OM	, i				
1							
	Black Silty Clay	CL					
2		"-					
~							
<u>,</u> –							
3		4					
_	Black/Green Silty Clay	CL					
4							
5							
_		-					
, <u> </u>							
6							
_							
7							
8							
							Wet
9							W 6t
"—							
4							
10							
11							
		1					
12							
12 —							
4							
13							
14							
	End of Boring - 15'						
		<u></u>			<u> </u>		
	Stratification lines are approximate, in-situ transition between s No Soil Samples Taken - Well Set Only	oil types ma	ay be gradual,				
1	Manway / Surface Elevation:						
▼ (Groundwater Depth While Drilling:	~8'	Auger Dep	th:	15'	Driller:	CW^3M

	Illinois Environmental Protection Agency					CW M COMPANY, INC. DRILLING BOREHOLE LOG Page 1 of 1		
	ICIDENT #: 03-0135		BOREHOI			MW-4A		
	ME: Marine Bank Trust #530051		BORING I	OCATIO	DN:	123'N & 21'W of SW Tree		
SITE AD	DDRESS: 9520 State Route 29							
D. 1	Cantrall, Illinois		RIG TYPE					
	IME STARTED: 8/12/2021 11:40					: Hollow Stein	Auger	
	IME FINISHED: 8/12/2021 12:25	F	BACKFILI			· · · · · · · · · · · · · · · · · · ·	·	
DEPTH (FEET)		USCS	Sample	PID	Sample		REMARKS: (Odor, Color,	
	DESCRIPTION	CLASS	Recovery	(ppm)	Туре	NUMBER	Moisture, Penetrometer, etc.)	
	Concrete	<u>.</u>	1					
	Subbase							
1								
	Black Silty Clay	CL						
2			†					
		ŀ						
, 4								
3]						
	Brown Silty Clay	CL					•	
4			<u> </u>		1			
						}		
5					İ			
` -		ļ						
		ĺ						
6								
			1					
7			l					
		ļ						
_	Brown Silty Clay w/ Fine Grained Sand	CL	ĺ					
88								
							Wet	
9 7								
- 1							·	
_								
10								
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11								
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12								
_								
13			1					
\neg								
_, -		ĺ						
14								
15	End of Boring - 15'		İ					
NOTES: 1	Stratification lines are approximate, in-situ transition between so No Soil Samples Taken - Well Set Only Manway / Surface Elevation:	oil types ma	ny be gradual.					
_		~8'	Auger Dep	th:	15'	Driller:	CW ³ M	
~ (Groundwater Depth After Drilling:		Rotary De	pm;		Geologist:	MJS/KTR	

	Illinois Environmental Protection Agency					DRILLI	COMPANY, INC. NG BOREHOLE LOG Page 1 of 1
LUST IN	CIDENT #: 03-0135		BOREHOR	E NUME	BER:	MW-5A	
SITE NA	ME: Marine Bank Trust #530051		BORING I	OCATIO	N:	38'N & 11'V	V of SW Tree
SITE AD	DRESS: 9520 State Route 29		1				
	Cantrall, Illinois		RIG TYPE	: Truck M	lounted Dr	ill Rig	
DATE/TI	ME STARTED: 8/12/2021 12:25					Hollow Stem	Auger
	ME FINISHED: 8/12/2021 13:10		BACKFILI				
DEPTH	SOIL AND ROCK	USCS	Sample	PID	Sample	SAMPLE	REMARKS: (Odor, Color,
(FEET)	DESCRIPTION	CLASS		(ppm)	Туре		Moisture, Penetrometer, etc.)
	Grass				<u>*-</u>		, , , , , , , , , , , , , , , , , , , ,
		03.5					
	Topsoil	OM					
1		l					
	Black Silty Clay	CL					
2		"				;	
<i>"</i> —							
3							
	Brown Silty Clay	CL					
. –	Blown Sitty Clay	CL					
4		İ	<u> </u>		ŀ		
					ļ		
5							
´		ļ					
6		ĺ					
		1					
_ —							·
7							
]]	Brown Silty Clay w/ Fine Grained Sand	CL					
8					}		
°-							
_							Wet
9							
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10							
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12							
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13							·
14].		·
17						Ì	
			ļ				
15	End of Boring - 15'		[·				
S	Stratification lines are approximate, in-situ transition between so No Soil Samples Taken - Well Set Only	oil types m	ay be gradual.				
	Manway / Surface Elevation:						
— (Groundwater Depth While Drilling:	~8'	Auger De _l	oth:	15'	Driller:	CW ³ M
∇	Groundwater Depth After Drilling:		Rotary De	pth:		Geologist:	MJS/KTR

	Illinois Environmental Protection Agency					CW [□] M	COMPANY, INC.
							NG BOREHOLE LOG
							Page 1 of 1
	NCIDENT #: 03-0135		BOREHOI	E NUMI	BER:	MW-9A	
	AME: Marine Bank Trust #530051		BORING I	OCATIO	N:	131'N & 18	E of SW Tree
SITE AL	DDRESS: 9520 State Route 29						
DATE/T	Cantrall, Illinois TME STARTED: 8/12/2021 13:10		RIG TYPE				
	TME FINISHED: 8/12/2021 13:55		BACKFILI			Hollow Stem	Auger
DEPTH	· · · · · · · · · · · · · · · · · · ·	USCS	Sample	PID	Sample	SAMPLE	REMARKS: (Odor, Color,
(FEET)	DESCRIPTION	CLASS		(ppm)	Туре	NUMBER	Moisture, Penetrometer, etc.)
0	Grass						s, - such of total, otc.)
	Topsoil	ОМ			· · · · · · · · · · · · · · · · · · ·		
1 -			l				
[^]	Black Silty Clay	CL					
2 -	l	CL					
-							
3							
_	Brown Silty Clay	CL					
4							
5							
-							
6							
l °⊢							
7				•			
	Brown Silty Clay w/ Fine Grained Sand	CL					
8							
							Wet
9 -		İ					
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10							
10		ļ					
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11							
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12							
13			ļ				
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14_							
15	End of Boring - 15'						
	Stratification lines are approximate, in-situ transition between so	il types ma	y be gradual.				
NOTES: I	No Soil Samples Taken - Well Set Only						
							ĺ
1	Manway / Surface Elevation:						
		~8'	Auger Dep	th.	15'	Driller:	CW ³ M
$\overline{}$	Groundwater Depth After Drilling:		Rotary Dep				
- '	Caramanar wohm with nimile.		notary De	JtΠ,		Geologist:	MJS/KTR

inois Environmental	Protect	tion Agei	acy	-	LUST Well Completion Rep	ort
cident No.	03	3-0135			Well No.	MW-1A
te Name	M	arine Bar	nk Trust #5300	51	Date Drilled	8/12/2021
rilling Contractor	AJ	EDC			Date Completed	8/12/2021
riller		EDC			Geologist	MJS/KTR
rilling Method	Ho	ollow Ste	m Auger		Drilling Fluids	N/A
nnular Space Deta	<u>ails</u>					
Type of Surface Sea	.1	Cor	icrete			
Type of Annular Sea	alant	Ben	tonite			
Type of Bentonite		Hig	h-Yield	_		
Type of Sand Pack		Coa	rse 20-20	_		Top of Protective
•						99.54 ft. Casing
						99.29 ft. Top of riser pipe
						99.54 ft. Ground surface
						Top of Annular
7 H.C						99.04 ft. Sealant
ell Construction N	viater	<u>iais</u>				N/A Casing Stickup
	Stainles		IPVC	lout-		
	Stainles	S		Other		
			Specify	Specify		
	Туре		Туре	Туре		
Riser Coupling Joint				+	- 	
Riser Pipe Above			Sched40			
w.t.			Sched40		I	99.04 ft. Top of Seal
Riser Pipe Below w.t.						
Screen			Sched40			3.00 ft. Total Seal interva
Coupling Joint			Sched40		ा	
Screen to Riser	<u> </u>		Belled,-+0		_	96.04 ft. Top of Sand
	i			Steel		
Protective Casing						
Protective Casing easurements	<u>I </u>					95.04 ft. Top of Screen
	<u> </u>	4.25	ft.			95.04 ft, Top of Screen
easurements	<u></u>	4.25 10.0				95.04 ft, Top of Screen
easurements Riser Pipe Length Screen Length Screen Slot Size	J		ft.			95.04 ft, Top of Screen
easurements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length	J.	10.0 10-s N/A	ft. lot			95.04 ft. Top of Screen
easurements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water		10.0 10-s	ft. lot	rilling		75.04 ft. Top of Screen
easurements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water		10.0 10-s N/A ~8' 88.4	ft. lot ft. while d 4 ft. static	rilling		
Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness		10.0 10-s N/A ~8' 88.4 N/A	ft. lot ft. while d ft. static			Total Screen
Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop)		10.0 10-s N/A ~8' 88.4 N/A Appr	ft. lot ft. while d 4 ft. static roximately 1 ga	allon		Total Screen
Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop) Gallons removed (purge)		10.0 10-s N/A ~8' 88.4 N/A Appr	ft. lot ft. while d ft. static	allon		Total Screen
Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop)		10.0 10-s N/A ~8' 88.4 N/A Appr	ft. lot ft. while d 4 ft. static roximately 1 ga	allon		Total Screen
Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop) Gallons removed (purge)		10.0 10-s N/A ~8' 88.4 N/A Appr	ft. lot ft. while d 4 ft. static roximately 1 ga	allon		Total Screen 10.0 ft. Interval
Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop) Gallons removed (purge) Other		10.0 10-s N/A ~8' 88.4 N/A Appr	ft. lot ft. while d 4 ft. static roximately 1 ga	allon		Total Screen 10.0 ft. Interval Bottom of
Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop) Gallons removed (purge) Other	JKK	10.0 10-s N/A ~8' 88.4 N/A Appr	ft. lot ft. while d 4 ft. static roximately 1 ga	allon		Total Screen 10.0 ft. Interval
Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop) Gallons removed (purge) Other		10.0 10-s N/A ~8' 88.4 N/A Appr	ft. lot ft. while d 4 ft. static roximately 1 ga	allon		Total Screen 10.0 ft. Interval Bottom of

llinois Environmental	Protect	ion Age	ncy		LUST Well Completion Repo	ort
ncident No.	03	-0135			Well No.	MW-2A
ite Name	M	arine Ba	nk Trust #5300	51	Date Drilled	8/12/2021
rilling Contractor	Al	EDC			Date Completed	8/12/2021
riller		EDC			Geologist	MJS/KTR
rilling Method			m Auger		Drilling Fluids	N/A
nnular Space Det	ails	· · · · · · · · · · · · · · · · · · ·				
Type of Surface Sea	ıl	Cor	ıcrete			
Type of Annular Se			tonite	_		
Type of Bentonite			h-Yield	_		
Type of Sand Pack			rse 20-20			Top of Protec
		-		_		99.16 ft. Casing
						98.91 ft. Top of riser p
						99.16 ft, Ground surface
						Top of Annul
						98.66 ft. Sealant
Vell Construction I	Materi	ials				N/A Casing Sticku
on Constitution 1	, itter	14425				1,711
	Stainless	,	PVC	Other		
	Steel	,	Specify			
				Specify		
	Туре		Туре	Туре		
Diag Caratina taint	1	· · · · · · · · · · · · · · · · · · ·			→	
Riser Coupling Joint	ļ				_	
Riser Pipe Above			Sched40	İ		
w,t.					⊣	98.66 ft. Top of Seal
Riser Pipe Below w.t.	<u> </u>				_l	
Screen	ļ		Sched40		」	3.00 ft. Total Seal into
Coupling Joint			Sched40			·
Screen to Riser	<u> </u>		Bonea. 10	<u> </u>	_l	95.66 ft. Top of Sand
Protective Casing				Steel		·
						94.66 ft. Top of Screen
leasurements						
Riser Pipe Length		4.25				
Screen Length		10.0				•
Screen Slot Size		10-s	lot			
Protective Casing Length	·	N/A				
Depth to Water		~8'	ft. while d	rilling		Total Screen
Depth to Water		94,0	0 ft. static			10.0 _ ft. Interval
Free Product Thickness		N/A				
Gallons removed (develop)		App	roximately 1 ga	allon		
Gallons removed (purge)			roximately 1 ga			
Other						
						П-н е
						Bottom of
					サービター 和出り	
Completed by:	JKK					84.66 ft. Screen
Completed by:	JKK					84.66 ft. Screen Bottom of

Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	AEDC AEDC Hollow S S nt E C Aterials ainless seel	Stem Auger Concrete Bentonite High-Yield Coarse 20-20 PVC Specify	Other	D D G	Vell No. Pate Drilled Pate Completed Geologist Prilling Fluids	99.75 ft 100.00 ft	Top of Protecti Casing Top of riser pip Ground surface Top of Annular Sealant
rilling Contractor riller rilling Method nnular Space Details Type of Surface Seal Type of Annular Seala. Type of Bentonite Type of Sand Pack Vell Construction Ma Sta Sta Ty Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	AEDC AEDC Hollow S S nt E C Aterials ainless seel	Stem Auger Concrete Bentonite High-Yield Coarse 20-20	Other	D G	Pate Completed	8/12/202 8/12/202 MJS/KT N/A 100.00 ft 99.75 ft 100.00 ft	Top of Protective. Casing Top of riser pip Ground surface Top of Annular
riller rilling Method nnular Space Details Type of Surface Seal Type of Annular Sealas Type of Bentonite Type of Sand Pack Vell Construction Ma Sta Sta Sta Ty Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	AEDC Hollow S S Int E C Atterials ainless seel	Concrete Bentonite High-Yield Coarse 20-20		G	eologist	8/12/202 MJS/KT N/A 100.00 ft 99.75 ft 100.00 ft 99.50 ft	Top of Protective Casing Top of riser pipe Ground surface Top of Annular
Type of Surface Seal Type of Annular Seala Type of Bentonite Type of Sand Pack Vell Construction Ma Struction Ma Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	Hollow S S Int E H C Atterials Aminless aminless aminless	Concrete Bentonite High-Yield Coarse 20-20		G	eologist	MJS/KT N/A 100.00 ft 99.75 ft 100.00 ft 99.50 ft	Top of Protective. Casing Top of riser pipe. Ground surface Top of Annular
Type of Surface Seal Type of Annular Seala Type of Bentonite Type of Sand Pack Vell Construction Ma Ste Ste Ty Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	nt E	Concrete Bentonite High-Yield Coarse 20-20			_	N/A 100.00 ft 99.75 ft 100.00 ft	Top of Protective. Casing Top of riser pipe. Ground surface Top of Annular
Type of Surface Seal Type of Annular Seala. Type of Bentonite Type of Sand Pack Vell Construction Ma Sta Sta Ty Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	nt E	Bentonite High-Yield Coarse 20-20				99.75 ft 100.00 ft 99.50 ft	Casing Top of riser pip Ground surface Top of Annular Sealant
Type of Annular Sealar Type of Bentonite Type of Sand Pack Vell Construction Ma State State Ty Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	nt E H C C C C C C C C C C C C C C C C C C	Bentonite High-Yield Coarse 20-20				99.75 ft 100.00 ft 99.50 ft	Casing Top of riser pip Ground surface Top of Annular Sealant
Type of Annular Sealar Type of Bentonite Type of Sand Pack Vell Construction Ma State State Ty Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	aterials ainless	High-Yield Coarse 20-20				99.75 ft 100.00 ft 99.50 ft	Casing Top of riser pip Ground surface Top of Annular Sealant
Type of Bentonite Type of Sand Pack Vell Construction Ma Sta Sta Ty Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	aterials ainless	Coarse 20-20				99.75 ft 100.00 ft 99.50 ft	Casing Top of riser pip Ground surface Top of Annular Sealant
Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	aterials ainless	Coarse 20-20				99.75 ft 100.00 ft 99.50 ft	Casing Top of riser pip Ground surface Top of Annular Sealant
Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	aterials ainless	PVC				99.75 ft 100.00 ft 99.50 ft	Top of riser pip Ground surface Top of Annular Sealant
Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	ainless eel	1		_		99.75 ft 100.00 ft 99.50 ft	Top of riser pip Ground surface Top of Annular Sealant
Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	ainless eel	1				99.50 ft	Ground surface Top of Annular Sealant
Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	ainless eel	1				99.50 ft	Top of Annular Sealant
Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	ainless eel	1		<u> </u>		********	Sealant
Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	ainless eel	1				********	
Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	ainless eel	1		<u> </u>			_ `
Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	eel	1		— —			
Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen		Specify					
Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	ma		Specify				
Riser Coupling Joint Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	pc	Туре	Туре				
Riser Pipe Above w.t. Riser Pipe Below w.t. Screen	-	1	1"				
Riser Pipe Above w.t. Riser Pipe Below w.t. Screen			1	_			
w.t. Riser Pipe Below w.t. Screen			·	\dashv			
Riser Pipe Below w.t. Screen		Sched40	1			99.50 ft	Top of Seal
Screen		1	1	\dashv		79.50 IL	- op or ocar
		Sched40	 	\dashv	XX XX	3.00 ft	Total Seal inter
Coupling Joint			1	_	XX XX	- J.00 II	, rom bear meet
Screen to Riser		Sched40			XX XX	96.50 ft	Top of Sand
Protective Casing			Stee			70,30 II	- or band
3			Dicc			95.50 ft	Top of Screen
						93,30 11	rop or acreen
<u>easurements</u>							
Riser Pipe Length	4.	.25 ft.					
Screen Length	10	0.0 ft.			ÀП		
Screen Slot Size	10	0-slot					
Protective Casing Length		/A					
Depth to Water	~{	8' ft. while d	rilling		ř Hill		Total Screen
Depth to Water	9.5	5.36 ft. static			\$- □	10.0 ft	. Interval
Free Product Thickness	N	/A			i Ha		
Gallons removed (develop)	A-	pproximately 1 g	allon				
Gallons removed (purge)		pproximately 1 g					
Other		<u> </u>					
	· · · · · · · · · · · · · · · · · · ·						
							Pottor of
							Bottom of
Completed by: JK	K.		_	•		85.50 ft	Screen
			-	;			Bottom of

inois Environmental Protection Agency				T Well Completion Report
cident No.	03-0135			Well No. MW-4A
e Name		nk Trust #5300	51	Date Drilled 8/12/2021
illing Contractor	AEDC			Date Completed 8/12/2021
iller	AEDC			Geologist MJS/KTR
illing Method	Hollow Ste	em Auger		Drilling Fluids N/A
nular Space Details	<u> </u>			
Type of Surface Seal	Cor	ncrete		
Type of Annular Sealar	t Ber	ntonite	_	
Type of Bentonite		gh-Yield		
Type of Sand Pack	Coa	arse 20-20	_	Top 100.62 ft. Cas 100.37 ft. Top 100.62 ft. Grou Top
ell Construction Ma	erials			100.12 ft. Seale N/A Casi
Sta	nless	IPVC	Other	
Ste		Specify	Specify	
Туұ		Туре	Туре	
Riser Coupling Joint				
Riser Pipe Above		C-1-1 40		· []
w.t.		Sched40		100.12 ft. Top
Riser Pipe Below w.t.				——————————————————————————————————————
Screen		Sched40		3.00 ft. Tota
Coupling Joint		School 40		
1		Sched40		97.12 ft. Top
Screen to Riser			Steel	AAAA AAAA
Screen to Riser Protective Casing				07.10 0 75-
				96.12 ft. Top
Protective Casing Pasurements Riser Pipe Length	4.25	5 ft.		90.12 It. 10p
Protective Casing easurements	4.25			90.12 II. 10p
Protective Casing Pasurements Riser Pipe Length Screen Length Screen Slot Size) ft.		90.12 It. 10p
Protective Casing Pasurements Riser Pipe Length Screen Length	10.0) ft. slot		96.12 It. 10p
Protective Casing Pasturements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water	10.0 10-s) ft. slot	rilling	96.12 ft. 1op
Protective Casing Pasurements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water	10.0 10-s N/A) ft. slot ft. while d	rilling	Tota
Protective Casing Pasturements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water	10.0 10-s N/A ~8' 94.2) ft. slot ft. while d 24 ft. static	rilling	Tota
Protective Casing Pasurements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water	10.0 10-8 N/A ~8' 94.2 N/A) ft. slot ft. while d 24 ft. static		Tota
Protective Casing Pastrements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop)	10.0 10-s N/A ~8' 94.2 N/A App	oft. slot ft. while d 4 ft. static oroximately 1 ga	allon	Tota
Protective Casing Pasurements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness	10.0 10-s N/A ~8' 94.2 N/A App) ft. slot ft. while d 24 ft. static	allon	Tota

llinois Environmental	Protection	n Agency	LU	ST Well Completion Rep	ort
acident No.	03-0	135		Well No.	MW-5A
ite Name		ne Bank Trust #5300)51	Date Drilled	8/12/2021
rilling Contractor	AED			Date Completed	8/12/2021
riller	AED			Geologist	MJS/KTR
rilling Method	Hollo	ow Stem Auger		Drilling Fluids	N/A
annular Space Det	ails	· · · · · · · · · · · · · · · · · · ·			
Type of Surface Sea	.i	Concrete			
Type of Annular Se		Bentonite	_		
Type of Bentonite		High-Yield	_		
Type of Sand Pack		Coarse 20-20	_		Top of Protect
-, F- 01 1					99.75 ft. Casing
					99.50 ft. Top of riser pi
					99.75 ft. Ground surface
					Top of Annula
					99.25 ft, Sealant
Vell Construction	Material	s			N/A Casing Stickup
		_			
	Stainless	PVC	Other		
	Steel	Specify	Specify		
	Туре	Туре	Туре		
	``	"	'`		
Riser Coupling Joint			<u> </u>		
Riser Pipe Above			1		
w.t.	Ì	Sched40			99.25 ft. Top of Seal
Riser Pipe Below w.t.					37123 It
Screen	 	Sched 40			3.00 ft, Total Seal inter
Coupling Joint					3.00 It.
Screen to Riser		Sched40			96.25 ft. Top of Sand
Protective Casing	<u> </u>		Steel	100 100 100 100 100 100 100 100 100 100	30,20 10,
					95.25 ft. Top of Screen
_					
<u>leasurements</u>					
		4.25 ft.			
Riser Pipe Length		10.0 ft.			
Screen Length					
Screen Length Screen Slot Size		10-slot		15, 73L 107 Al	
Screen Length Screen Slot Size Protective Casing Length		10-slot N/A			
Screen Length Screen Slot Size Protective Casing Length Depth to Water		10-slot N/A ~8' ft, while o	lrilling		Total Screen
Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water		10-slot N/A ~8' ft. while of 94.48 ft. static	Irilling		Total Screen 10.0 ft. Interval
Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness		10-slot N/A ~8' ft. while of the static N/A			
Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop)		10-slot N/A ~8' ft. while of the static stat	allon		
Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop Gallons removed (purge)		10-slot N/A ~8' ft. while of the static N/A	allon		
Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop)		10-slot N/A ~8' ft. while of the static stat	allon		
Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop Gallons removed (purge)		10-slot N/A ~8' ft. while of the static stat	allon		
Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop Gallons removed (purge)		10-slot N/A ~8' ft. while of the static stat	allon		10.0 ft, Interval
Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop Gallons removed (purge) Other		10-slot N/A ~8' ft. while of the static stat	allon		10.0 ft. Interval
Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop Gallons removed (purge)	JKK	10-slot N/A ~8' ft. while of the static stat	allon		Bottom of 85.25 ft. Screen
Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop Gallons removed (purge) Other		10-slot N/A ~8' ft. while of the static stat	allon		10.0 ft. Interval

inois Environmental	Protecti	ion Ager	ney		ST Well Completion Report
cident No.	03-	-0135			Well No. MW-9A
te Name	Mε	arine Bar	ık Trust #5300	51	Date Drilled 8/12/2021
illing Contractor		EDC			Date Completed 8/12/2021
iller		EDC	······		Geologist MJS/KTR
illing Method			m Auger		Drilling Fluids N/A
nnular Space Det	ans				
Type of Surface Sea			crete	_	
Type of Annular Se	ealant		tonite		
Type of Bentonite		High	h-Yield		
Type of Sand Pack		Coa	rse 20-20	_	Top of Prot
					100.80 ft. Casing
					100.55 ft. Top of rise
					100.80 ft. Ground sur
					Top of Ann
					100.30 ft. Sealant
ell Construction	Materi	ale			N/A Casing Stice
en constituction	ITIATCI I	4113			
	Stainless		PVC	Other	
	1			1	
	Steel		Specify	Specify	
	Туре		Туре	Type	
D: C:1:	 				
Riser Coupling Joint					
Riser Pipe Above			Sched40		
w.t.		·	5011041 10		
Riser Pipe Below w.t.					× × ×
			Sched40		3.00 ft. Total Seal i
Screen			i		
Screen Coupling Joint			Sahad 40		
			Sched40		97.30 ft. Top of Sand
Coupling Joint			Sched40	Stee	97.30 ft. Top of Sand
Coupling Joint Screen to Riser			Sched40	Stee	
Coupling Joint Screen to Riser			Sched40	Stee	97.30 ft. Top of Sand
Coupling Joint Screen to Riser Protective Casing			Sched40	Stee	
Coupling Joint Screen to Riser			Sched40	Stee	
Coupling Joint Screen to Riser Protective Casing easurements Riser Pipe Length		4.25	ft.	Stee	
Coupling Joint Screen to Riser Protective Casing easurements Riser Pipe Length Screen Length		4.25 10.0	ft.	Stee	
Coupling Joint Screen to Riser Protective Casing easurements Riser Pipe Length			fi. ft.	Stee	
Coupling Joint Screen to Riser Protective Casing easurements Riser Pipe Length Screen Length		10.0	fi. ft.	Stee	
Coupling Joint Screen to Riser Protective Casing easurements Riser Pipe Length Screen Length Screen Slot Size		10.0 10-s	ft. ft.		
Coupling Joint Screen to Riser Protective Casing easurements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length		10.0 10-sl N/A ~8'	ft. ft. lot ft. while d		96.30 ft. Top of Scree
Coupling Joint Screen to Riser Protective Casing easurements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water		10.0 10-si N/A ~8' 90.8	ft. ft. lot ft. while d		96.30 ft. Top of Scre
Coupling Joint Screen to Riser Protective Casing easurements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness		10.0 10-si N/A ~8' 90.8-	ft. ft. lot ft. while d 4 ft. static	rilling	96.30 ft. Top of Scree
Coupling Joint Screen to Riser Protective Casing easurements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop)	10.0 10-si N/A ~8' 90.8- N/A Appr	ft. ft. lot ft. while d 4 ft. static	rilling allon	96.30 ft. Top of Scree
Coupling Joint Screen to Riser Protective Casing easurements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop Gallons removed (purge)		10.0 10-si N/A ~8' 90.8- N/A Appr	ft. ft. lot ft. while d 4 ft. static	rilling allon	96.30 ft. Top of Scree
Coupling Joint Screen to Riser Protective Casing easurements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop		10.0 10-si N/A ~8' 90.8- N/A Appr	ft. ft. lot ft. while d 4 ft. static	rilling allon	96.30 ft. Top of Scree
Coupling Joint Screen to Riser Protective Casing easurements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop Gallons removed (purge)		10.0 10-si N/A ~8' 90.8- N/A Appr	ft. ft. lot ft. while d 4 ft. static	rilling allon	96.30 ft. Top of Scree
Coupling Joint Screen to Riser Protective Casing easurements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop Gallons removed (purge)		10.0 10-si N/A ~8' 90.8- N/A Appr	ft. ft. lot ft. while d 4 ft. static	rilling allon	96.30 ft. Top of Scree
Coupling Joint Screen to Riser Protective Casing easurements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop Gallons removed (purge) Other		10.0 10-si N/A ~8' 90.8- N/A Appr	ft. ft. lot ft. while d 4 ft. static	rilling allon	96.30 ft. Top of Scree Total Scree 10.0 ft. Interval
Coupling Joint Screen to Riser Protective Casing easurements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop Gallons removed (purge)	JKK	10.0 10-si N/A ~8' 90.8- N/A Appr	ft. ft. lot ft. while d 4 ft. static	rilling allon	96.30 ft. Top of Scree Total Scree 10.0 ft. Interval Bottom of 86.30 ft. Screen
Coupling Joint Screen to Riser Protective Casing easurements Riser Pipe Length Screen Length Screen Slot Size Protective Casing Length Depth to Water Depth to Water Free Product Thickness Gallons removed (develop Gallons removed (purge) Other		10.0 10-si N/A ~8' 90.8- N/A Appr	ft. ft. lot ft. while d 4 ft. static	rilling allon	96.30 ft. Top of Scree Total Scree 10.0 ft. Interval

Illinois Environmental	Protect	tion Age	ney		UST Well Completion Report
Incident No.	03	-0135			Well No. MW-14
Site Name	M	arine Ba	nk Trust #5300	51	Date Drilled 8/12/2021
Drilling Contractor	A	EDC			Date Completed 8/12/2021
Driller	A	EDC			Geologist MJS/KTR
Drilling Method	Ho	ollow Ste	m Auger		Drilling Fluids N/A
Annular Space Det	ails				
Type of Surface Sea	1	Cor	ıcrete		
Type of Annular Sea			tonite	_	<u> </u>
Type of Bentonite	arant		h-Yield	-	
Type of Sand Pack			rse 20-20	_	Top of Protecti
Well Construction I	Mater	i <u>als</u>			98.47 ft. Casing 98.22 ft. Top of riser pip 98.47 ft. Ground surface Top of Annular 97.97 ft. Sealant N/A Casing Stickup
	Stainles	2	PVC	Other	
	Steel	•	Specify	Specify	
	Type		Туре		
	Type		Type	Type	
Riser Coupling Joint				1	-
Riser Pipe Above					-
w.t.			Sched40		07.07 C Townson
Riser Pipe Below w.t.				ļ	
Screen			Sched40		3.00 ft. Total Seal inter
Coupling Joint				 	
Screen to Riser	!		Sched40		94.97 ft. Top of Sand
Protective Casing				Steel	94.97 11. 10p of Saild
77000000	<u></u>		!	Sicc.	
Measurements					
Riser Pipe Length		4.25	ft.		
Screen Length		10.0			
Screen Slot Size		10.0			
Protective Casing Length		N/A	101		
Depth to Water		~8'	ft. while d	rilling	Total Screen
Depth to Water		91.4		rmmg	[in the state of t
Free Product Thickness		91.4 N/A	1 ft. static		10.0 ft. Interval
Gallons removed (develop)			roximately 1 ga	illor	
Gallons removed (purge)			roximately 1 ga roximately 1 ga		
Other		App	commatery i ga	anon	
Completed by:	JKK				Bottom of 83.97 ft. Screen
				-	Bottom of 83.47 ft. Borehole

APPENDIX G ANALYTICAL RESULTS

CORRECTIVE ACTION PLAN AND BUDGET AMENDMENT

MARINE BANK TRUST # 53-0051 CANTRALL, ILLINOIS

EA Lust App. B

	Location		N-1	_
	Date		5/15/2003	
Parameter	Tier I CUO	PH Specific CUO		
Arsenic	5.2	30	13.2	
Barium	122.0	1800.0	76.1	
Cadmium	0.5	59.0	0.826	
Chromium	13.0	32.0	13.1	
Lead	20.9	20.9*	13.9	
Mercury	0.05	6.4	<0.111	
Selenium	0.37	3.3	<0.555	
PH Specific values from	742 Appendix A, Tal	ble G		
* - Value from 742 Appe	ndix B, Table C			
BOLD & SHADING E	xceeds the TACO Tier	1 Most Stringent Soil Cl	ean-up Objective.	
Results are in mg/Kg				

EA Soil

	Location	E	S-1	S-2	W	N-1	N-2
	Depth	6'	6'	6'	6'	6'	6'
	Date	5/15/2003	5/15/2003	5/15/2003	5/15/2003	5/15/2003	5/15/2003
Parameter	Tier I CUO	*	*	*	*	*	*
Benzene	0.03	0.035	0.711	0.17	3.4	0.983	0.971
Ethylbenzene	13.0	0.139	11.1	14.	47.8	112.	75.4
Toluene	12.0	0.009	0.023	0.02	89.7	30.3	43.6
Total Xylenes	5.6	0.23	25.4	32.6	186.	418.	291
MTBE	0.32	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Acenaphthene	570.0	<1.200	<1.200	<1.200	<1.200	<1.200	<1.200
Acenaphtylene	15.0	< 0.660	<0.660	< 0.660	< 0.660	<0.660	<0.660
Anthracene	12,000.0	<0.660	<0.660	< 0.660	<0.660	<0.660	<0.660
Benzo(a)anthracene	0.9	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087
Benzo(a)pyrene	0.09	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Benzo(b)fluoranthene	0.9	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011
Benzo(g,h,i)perylene	2,300.0	<0.051	<0.051	<0.051	<0.051	<0.051	< 0.051
Benzo(k)fluoranthene	9.0	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011
Chrysene	88.0	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Dibenz(a,h)anthracene	0.09	<0.020	<0.020	<0.020	<0.020	<0.020	< 0.020
Fluoranthene	4,300.0	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660
Fluorene	560.0	<0.140	<0.140	<0.140	<0.140	< 0.140	<0.140
Indeno(1,2,3-cd)pyrene	0.9	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029
Naphthalene	1.8	<0.660	1.57	0.666	<0.660	<0.660	6.59
Phenanthrene	140.0	< 0.660	<0.660	<0.660	<0.660	<0.660	<0.660
Pyrene	2,300.0	<0.180	<0.180	<0.180	<0.180	<0.180	<0.180
Numbers not bold indicate a	ctual quantities, bu	t are below th	e TACO Tie	r 1 Most Stri	ingent Soil C	lean-up Obje	ctive.
BOLD & SHADING - Ex	ceeds the TACO Ti	er 1 Most Str	ingent Soil C	lean-up Obje	ective.		
Results are in mg/Kg							
*Resampled							

Soil 1-15-04

	Location	MW-1	MW-2	MW-3	MW-4	Τ	
	Date	1/15/2004			1/15/2004		
	Depth	9'	9'	6'	9'	 	
Parameter	Tier I CUO			*			
Benzene	0.03	0.005	0.016	11.2	0.00492		
Ethylbenzene	13.0	0.013	0.037	3.19	0.00391		
Toluene	12.0	0.012	0.009	0.419	0.0103		
Total Xylenes	5.6	0.043	0.02	9.49	0.0093		
MTBE	0.32	<0.005	<0.005	< 0.005	<0.005		
Acenaphthene	570.0	<1.200	<1.200	<1.200	<1.060		<u> </u>
Acenaphtylene	15.0	<0.660	<0.660	<0.660	<0.582		
Anthracene	12,000.0	< 0.660	< 0.660	<0.660	<0.582		
Benzo(a)anthracene	0.9	0.063	<0.0087	<0.0087	< 0.00767		
Benzo(a)pyrene	0.09	<0.015	<0.015	<0.015	< 0.0132		·
Benzo(b)fluoranthene	0.9	<0.011	<0.011	<0.011	<0.00970		
Benzo(g,h,i)perylene	2,300.0	<0.051	<0.051	<0.051	<0.0450		
Benzo(k)fluoranthene	9.0	<0.011	<0.011	<0.011	< 0.00970		
Chrysene	88.0	< 0.100	<0.100	<0.100	<0.0882		
Dibenz(a,h)anthracene	0.09	<0.020	<0.020	<0.020	< 0.0176		T
Fluoranthene	4,300.0	<0.660	<0.660	< 0.660	<0.582		
Fluorene	560.0	<0.140	<0.140	1.25	<0.123		
Indeno(1,2,3-cd)pyrene	0.9	<0.029	<0.029	<0.029	<0.0256		
Naphthalene	1.8	<0.660	<0.660	3.08	<0.582		
Phenanthrene	140.0	<0.660	<0.660	2.03	<0.582		
Pyrene	2,300.0	<0.180	<0.180	0.452	<0.159		
Numbers not bold indicate a	actual quantities, bu	t are below th	e TACO Tie	r 1 Most Str	ngent Soil C	lean-up Ob	jective.
BOLD & SHADING - Ex	ceeds the TACO Ti	er 1 Most Str	ingent Soil C	lean-up Obje	ective.		
Results are in mg/Kg							
*Resampled							

Soil August 2004

	Location	MW-6	MW-7	MW-9	SB-1	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17
	Depth	6'	6'	9'	9'	6'	6'	6'	6'	9'	6'
Date		8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/6/2004	8/30/2004	8/30/2004	8/30/2004		8/30/2004
Parameter	Tier I CUO								3,00,2001	0,00,2004	0/00/2004
Benzene	0.03	0.002	0.0092	0.00426	0.002	< 0.002	0.004	<0.002	0.003	0.006	0.003
Ethylbenzene	13.0	0.011	0.0057	0.00307	0.002	0.003	0.003	<0.002	0.003	0.013	0.003
Toluene	12.0	0.00218	0.0307	0.00814	0.004	< 0.002	0.007	0.004	0.006	0.033	0.006
Total Xylenes	5.6	<0.00338	0.0221	0.00670	<0.005	0.01	0.007	< 0.005	0.006	0.059	0.006
MTBE	0.32	<0.00338	<0.00351	< 0.00384	<0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005
Acenaphthene	570.0	<1.200	<1.200	<1.200	<1.200	<1.200	<1.200	<1.200	<1.200	<1.200	<1.200
Acenaphtylene	15.0	<0.660	<0.660	<0.660	< 0.660	<0.660	< 0.660	<0.660	<0.660	<0.660	<0.660
Anthracene	12,000.0	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660
Benzo(a)anthracene	0.9	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087
Benzo(a)pyrene	0.09	<0.015	<0.015	<0.015	<0.015	<0.015	< 0.015	<0.015	<0.015	<0.015	<0.015
Benzo(b)fluoranthene	0.9	<0.011	< 0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011
Benzo(g,h,i)perylene	2,300.0	<0.051	<0.051	<0.051	<0.051	<0.051	< 0.051	<0.051	<0.051	<0.051	<0.051
Benzo(k)fluoranthene	9.0	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011
Chrysene	88.0	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Dibenz(a,h)anthracene	0.09	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Fluoranthene	4,300.0	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	< 0.660
Fluorene	560.0	<0.140	<0.140	<0.140	<0.140	<0.140	<0.140	<0.140	<0.140	<0.140	< 0.140
Indeno(1,2,3-cd)pyrene	0.9	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029
Naphthalene	1.8	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660
Phenanthrene	140.0	<0.660	<0.660	<0.660	<0.660	< 0.660	<0.660	<0.660	<0.660	<0.660	<0.660
Pyrene	2,300.0	<0.180	<0.180	<0.180	<0.180	<0.180	<0.180	<0.180	<0.180	<0.180	<0.180
Numbers not bold indicate						lean-up Obje	ctive.				
BOLD & SHADING - Ex	ceeds the TACO Tie	er I Most Stri	ngent Soil C	lean-up Obje	ctive.						
Results are in mg/Kg											

Groundwater

	Location	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	1 100/ 40
	Date	2/27/04	2/27/04	2/27/04	2/27/04	2/27/04	8/11/04	8/11/04	8/11/04	8/11/04	8/11/04	8/11/04		MW-13
Parameter	Class I CUO	*	*	*	*	*		0711704	0/11/04	*	0/11/04	0/11/04	9/30/04	9/1/04
Benzene	0.005	0.067	0.069	3.51	0.008	1.66	<0.002	<0.002	<0.002	0.014	<0.002	<0.002	<0.002	
Ethylbenzene	0.7	0.139	0.008	2.82	1.86	8.92	<0.002	<0.002	<0.002	0.147	<0.002	<0.002		0.002
Toluene	1.0	0.014	<0.002	0.052	0.015	1.2	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002 <0.002	<0.002
Total Xylenes	10.0	0.539	0.01	4.19	3.01	25.	<0.005	<0.005	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002
MTBE	0.07	<0.005	<0.005	<0.005	<0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005
Acenaphthene	0.42	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.003	<0.003	<0.005	<0.005 <0.010	<0.005
Acenaphtylene	0.210	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Anthracene	2.1	< 0.0066	<0.0066	<0.0066	< 0.0066	< 0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.010
Benzo(a)anthracene	0.00013	<0.00013	< 0.00013	0.0014	< 0.00013	<0.00013		< 0.00013	< 0.00013	< 0.00013				<0.00013
Benzo(a)pyrene	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00013	<0.00013	<0.00013
Benzo(b)fluoranthene	0.00018	<0.00018	<0.00018	<0.00018	< 0.00018	<0.00018	< 0.00018		< 0.00018		<0.00018			
Benzo(g,h,i)perylene	0.21	<0.00076	< 0.00076	< 0.00076			<0.00076			< 0.00076		< 0.00076		
Benzo(k)fluoranthene	0.00017	<0.00017	< 0.00017	< 0.00017	<0.00017	< 0.00017	< 0.00017	<0.00017	<0.00017	< 0.00017		<0.00017		<0.00070
Chrysene	0.0015	<0.0015	<0.0015	0.0015	<0.0015	<0.0015	< 0.0015	< 0.0015	< 0.0015	<0.0015	< 0.0015	<0.0015	<0.0017	<0.00017
Dibenz(a,h)anthracene	0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	< 0.0003	< 0.0003	<0.0003	< 0.0003	<0.0003	<0.0003	<0.0013	<0.0003
Fluoranthene	0.28	<0.0021	<0.0021	<0.0021	< 0.0021	<0.0021	< 0.0021	<0.0021	<0.0021	< 0.0021	<0.0021	<0.0021	<0.0021	0.0003
Fluorene	0.28	<0.0021	<0.0021	0.0473	0.013	0.019	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021
Indeno(1,2,3-cd)pyrene	0.00043	<0.00043	< 0.00043	<0.00043	< 0.00043	<0.00043	< 0.00043	< 0.00043	< 0.00043	<0.00043		< 0.00043	< 0.00043	
Naphthalene	0.14	0.026	<0.010	0.451	0.14	0.782	<0.010	<0.010	<0.010	<0.010	< 0.010	<0.010	<0.010	<0.010
Phenanthrene	0.21	<0.0064	<0.0064	0.0567	0.019	0.022	< 0.0064	< 0.0064	<0.0064	<0.0064	<0.0064	< 0.0064	< 0.0064	<0.0064
Pyrene	0.21	<0.0027	<0.0027	0.0157	0.005	0.005	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	< 0.0027	<0.0027
Numbers not bold indicate a	ictual quantities, bu	t are below t	he TACO T	ier 1 Most S	tringent Soi	l Clean-up C	Objective.			·		111111111111111111111111111111111111111		
BOLD & SHADING - Ex	ceeds the TACO Ti	er 1 Most St	ringent Soil	Clean-up O	bjective.								·	
Results are in mg/L														
*Resampled														

Groundwater

	Location	MW-14	MW-15	MW-16	MW-17	MW-18	TMW-1	MW-19	MW-20
	Date	9/1/04	9/1/04	9/1/04	9/30/04	1/24/05	1/24/05	8/9/05	8/9/05
Parameter	Class I CUO	*			T				0.0,00
Benzene	0.005	0.822	<0.002	<0.002	<0.002	0.002	<0.002	<0.002	<0.002
Ethylbenzene	0.7	1.08	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Toluene	1.0	0.023	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Total Xylenes	10.0	2.47	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MTBE	0.07	0.016	<0.005	<0.005	<0.005	< 0.005	<0.005	<0.005	<0.005
Acenaphthene	0.42	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	< 0.0164	< 0.0164
Acenaphtylene	0.210	<0.010	<0.010	<0.010	<0.010	< 0.010	<0.010	< 0.00909	<0.00909
Anthracene	2.1	<0.0066	<0.0066	<0.0066	<0.0066	< 0.0066	<0.0066	< 0.000600	<0.000600
Benzo(a)anthracene	0.00013	<0.00013	<0.00013	< 0.00013	<0.00013	<0.00013	< 0.00013	< 0.000118	<0.000118
Benzo(a)pyrene	0.0002	<0.0002	<0.0002	< 0.0002	<0.0002	<0.0002	<0.0002		< 0.000182
Benzo(b)fluoranthene	0.00018	<0.00018	<0.00018	<0.00018	<0.00018	< 0.00018	<0.00018	< 0.000164	
Benzo(g,h,i)perylene	0.21	< 0.00076	0.003	<0.00076	<0.00076		< 0.00076		
Benzo(k)fluoranthene	0.00017	<0.00017	< 0.00017	< 0.00017	<0.00017	< 0.00017	< 0.00017	< 0.000155	<0.000155
Chrysene	0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	< 0.00136	< 0.00136
Dibenz(a,h)anthracene	0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	< 0.000273	<0.000273
Fluoranthene	0.28	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.00191	<0.00191
Fluorene	0.28	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.00191	<0.00191
Indeno(1,2,3-cd)pyrene	0.00043	<0.00043	<0.00043	< 0.00043	< 0.00043	< 0.00043	< 0.00043	< 0.000391	< 0.000391
Naphthalene	0.14	0.16	<0.010	<0.010	<0.010	<0.010	<0.010	<0.00909	<0.00909
Phenanthrene	0.21	<0.0064	<0.0064	<0.0064	<0.0064	<0.0064	<0.0064	<0.00582	<0.00582
Pyrene	0.21	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	< 0.00245	<0.00245
Numbers not bold indicate a	actual quantities, bu	[]							
BOLD & SHADING - Ex	ceeds the TACO T	i		ì					
Results are in mg/L									
*Resampled									

Soil 3-10-06

	Location	SB-2	SB-3	SB-4	SB-5		
	Depth	9'	6'	9'	9'		
Date		3/10/2006	3/10/2006	3/10/2006	3/10/2006		
Parameter	Tier I CUO	*	*	*	*		
Benzene	0.03	0.871	9.55	0.082	0.612		
Ethylbenzene	13.0	0.055	119.	0.358	0.106		†
Toluene	12.0	0.013	0.58	0.019	0.03		
Total Xylenes	150.0	0.026	105.	0.289	0.178		
MTBE	0.32	<0.005	<0.005	<0.005	<0.005		
Acenaphthene	570.0	<1.200	<1.200	<1.200	<1.200		
Acenaphtylene	15.0	<0.660	< 0.660	< 0.660	< 0.660		
Anthracene	12,000.0	<0.660	< 0.660	<0.660	<0.660		
Benzo(a)anthracene	0.9	<0.0087	<0.0087	<0.0087	<0.0087		
Benzo(a)pyrene	0.09	<0.015	<0.015	<0.015	<0.015		
Benzo(b)fluoranthene	0.9	<0.011	<0.011	<0.011	<0.011		
Benzo(g,h,i)perylene	2,300.0	<0.051	<0.051	<0.051	<0.051		
Benzo(k)fluoranthene	9.0	<0.011	<0.011	<0.011	<0.011		
Chrysene	88.0	<0.100	<0.100	<0.100	<0.100		
Dibenz(a,h)anthracene	0.09	<0.020	<0.020	<0.020	<0.020		
Fluoranthene	4,300.0	<0.660	<0.660	<0.660	<0.660		
Fluorene	560.0	<0.140	0.483	<0.140	<0.140		
Indeno(1,2,3-cd)pyrene	0.9	<0.029	<0.029	0.046	<0.029		
Naphthalene	1.8	<0.660	1.91	<0.660	<0.660		
Phenanthrene	140.0	<0.660	1.09	<0.660	<0.660		
Pyrene	2,300.0	<0.180	0.164	<0.180	<0.180		
Numbers not bold indicate a	ectual quantities, bu	t are below th	e TACO Tie	r 1 Most Stri	ngent Soil C	lean-up Ob	jective.
BOLD & SHADING Ex	ceeds the TACO Ti	er 1 Most Str	ingent Soil C	lean-up Obje	ective.		1
Results are in mg/Kg							
*Resampled						2.7100	

Soil 8-12-2021 Analytical Results

	Location	SB-7	SB-8	SB-9	SB-10	SB-11	SB-12	SB-13	SB-14	SB-15	SB-16	SB-17
	Date	8/12/2021	8/12/2021	8/12/2021	8/12/2021	8/12/2021	8/12/2021	8/12/2021	8/12/2021		8/12/2021	
	Resampled @:	MW-3	SB-5	Е	N2	SB-4	S1	SB-2	S2	W	N1	SB-3
	Depth	6'	9'	6'	6'	6'	6'	9'	6'	6'	6'	6'
Parameter	Tier I CUO									<u></u>	 	
Benzene	0.03	16.3	<0.0452	<0.0121	<0.0133	< 0.0162	<0.0134	0.103	0.0942	0,296	<0.0138	<0.0131
Ethylbenzene	13.0	7.41	< 0.0514	<0.0484	< 0.0532	< 0.0649	< 0.0534	0.226	<0.0572	47.6	<0.0150	<0.0523
Toluene	12.0	0.613	<0.0514	< 0.0514	< 0.0532	<0.0649	< 0.0534	<0.0493	<0.0572	0.277	<0.0551	<0.0523
Total Xylenes	150.0	7.24	<0.103	< 0.0967	< 0.106	< 0.130	<0.107	<0.109	<0.114	163.	<0.0001	<0.0023
MTBE	0.32	< 0.0463	< 0.0514	<0.0514	<0.0532	< 0.0649	< 0.0534	<0.0493	<0.0572	< 0.0519	<0.0551	<0.0523
Acenaphthene	570.0	1.34	< 0.0490	<0.0489	< 0.0503	<0.0497	<0.0507	<0.0493	<0.0519	0.0674	<0.0503	<0.0529
Acenaphtylene	15.0	0.548	<0.0490	<0.0489	< 0.0503	< 0.0497	< 0.0507	<0.0493	<0.0519	<0.0516	<0.0503	<0.0529
Anthracene	12,000.0	1.23	<0.0490	<0.0489	< 0.0503	< 0.0497	<0.0507	<0.0493	<0.0519	<0.0516	<0.0503	<0.0529
Benzo(a)anthracene	0.9	<0.0493	<0.0490	<0.0489	< 0.0503	< 0.0497	< 0.0507	< 0.0493	< 0.0519	<0.0516	<0.0503	<0.0529
Benzo(a)pyrene	0.09	<0.0493	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507	<0.0493	<0.0519	< 0.0516	<0.0503	<0.0529
Benzo(b)fluoranthene	0.9	<0.0493	< 0.0490	<0.0489	<0.0503	<0.0497	< 0.0507	<0.0493	<0.0519	<0.0516	< 0.0503	<0.0529
Benzo(g,h,i)perylene	2,300.0	<0.0493	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507	<0.0493	<0.0519	<0.0516	<0.0503	<0.0529
Benzo(k)fluoranthene	9.0	<0.0493	<0.0490	<0.0489	< 0.0503	<0.0497	< 0.0507	<0.0493	<0.0519	<0.0516	<0.0503	< 0.0529
Chrysene	88.0	0.153	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507	<0.0493	<0.0519	<0.0516	<0.0503	<0.0529
Dibenz(a,h)anthracene	0.09	_<0.0493	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507	<0.0493	<0.0519	<0.0516	<0.0503	<0.0529
Fluoranthene	4,300.0	0.298	<0.0490	<0.0489	< 0.0503	<0.0497	<0.0507	<0.0493	< 0.0519	<0.0516	<0.0503	<0.0529
Fluorene	560.0	3.13	<0.0490	<0.0489	< 0.0503	<0.0497	< 0.0507	<0.0493	< 0.0519	0.109	<0.0503	< 0.0529
Indeno(1,2,3-cd)pyrene	0.9	<0.0493	<0.0490	<0.0489	< 0.0503	<0.0497	<0.0507	<0.0493	< 0.0519	<0.0516	< 0.0503	< 0.0529
Naphthalene	1.8	17.	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507	0.0990	0.0937	18.5	<0.0503	0.0584
Phenanthrene	140.0	10.6	<0.0490	<0.0489	< 0.0503	<0.0497	<0.0507	<0.0493	< 0.0519	0.195	<0.0503	<0.0529
Pyrene	2,300.0	1.5	<0.0490	<0.0489	<0.0503	<0.0497	< 0.0507	<0.0493	<0.0519	<0.0516	< 0.0503	<0.0529
Numbers not bold indicate						lean-up Obje	ective.					
BOLD & SHADING Ex	ceeds the TACO Tie	r 1 Most Stri	ngent Soil C	lean-up Obje	ctive.							
Results are in mg/Kg												

Marine Bank-Cantrall Site Assessment Data

Groundwater 2021 Analytical Results

	Location	MW-1A	MW-2A	MW-3A	MW-4A	MW-5A	MW-9A	MW-14A	
	Date	9/7/2021	9/7/2021	9/7/2021	9/7/2021	9/7/2021	9/7/2021	9/7/2021	
Parameter	Class I CUO					-		311/2021	
Benzene	0.005	1.43	0.250	<0.00100	< 0.00100	<0.00100	0.00291	0.264	
Ethylbenzene	0.7	0.2	0.0400	<0.00100	0.471	0.0122	0.0913	0.00912	
Toluene	1.0	0.0176	0.00608	<0.00100	< 0.00100	<0.00100	0.00604	0.00374	
Total Xylenes	10.0	0.331	0.0148	<0.00200	0.0582	0.0569	0.0837	0.00592	
MTBE	0.07	0.0136	<0.00100	<0.00100	<0.00100	< 0.00100	<0.00100	0.0167	
Acenaphthene	0.42	0.000216	0.00258	0.0194	0.00451	0.00104	0.000994	<0.000100	
Acenaphtylene	0.210	<0.000100	0.000328	0.00720	0.00208	0.000589	0.000368	<0.000100	
Anthracene	2.1	<0.000100	0.00294	0.0141	0.00337	0.000718	< 0.000152		
Benzo(a)anthracene	0.00013	<0.000100	<0.000100	0.00116	0.000607	0.000150	< 0.000152		
Benzo(a)pyrene	0.0002	<0.000100	<0.000100	0.000319	0.000132	< 0.000100	< 0.000152		
Benzo(b)fluoranthene	0.00018	<0.000100	< 0.000100	0.000327	0.000104	< 0.000100			
Benzo(g,h,i)perylene	0.21	<0.000100	< 0.000100	0.000268	0.000127	< 0.000100	< 0.000152	<0.000100	
Benzo(k)fluoranthene	0.00017	<0.000100	<0.000100	0.000140	<0.000100	< 0.000100	< 0.000152	< 0.000100	
Chrysene	0.0015	<0.000100	<0.000100	0.00214	0.000879	0.000156	< 0.000152		
Dibenz(a,h)anthracene	0.0003	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	< 0.000152	<0.000100	
Fluoranthene	0.28	<0.000100	0.000206	0.00464	0.00158	0.000337	< 0.000152	< 0.000100	
Fluorene	0.28	0.000194	0.00258	0.0447	0.00915	0.00202	0.00159	< 0.000100	
Indeno(1,2,3-cd)pyrene	0.00043	<0.000100	<0.000100	0.000141	<0.000100	< 0.000100	< 0.000152	<0.000100	
Naphthalene	0.14	0.00621	0.178	0.514	0.179	0.0382	0.0935	0.00167	
Phenanthrene	0.21	<0.000100	0.00170	0.131	0.0314	0.00385	0.00156	< 0.000100	
Pyrene	0.21	<0.000100	0.000202	0.0178	0.00519	0.000825	0.000168	<0.000100	
Numbers not bold indicate a	ctual quantities, bu	t are below th	e TACO Tier	1 Most String	gent Soil Clea	n-up Objectiv	ve.		
BOLD & SHADING - Exceeds the TACO Tier 1 Most Stringent Soil Clean-up Objective.									
Results are in mg/L				· · · · · · · · · · · · · · · · · · ·					

SUBURBAN LABORATORIES, Inc.



1950 S. Batavla Ave., Suite 150 Geneva, Illinois 60134 Tel. (708) 544-3260 • Toll Free (800) 783-LABS Fax (708) 544-8587 www.suburbaniabs.com

August 25, 2021

Carol Rowe CWM Company, Inc. 701 West South Grand Springfield, IL 62704

TEL: (217) 522-8001 FAX: (217) 522-8009

RE: Marine Bank 2003 - D135 Cantrall

Workorder: 2108F20

9 3 9 2 5 2021 J 107, CW

Dear Carol Rowe:

Suburban Laboratories, Inc. received 11 sample(s) on 8/13/2021 for the analyses presented in the following report.

All data for the associated quality control (QC) met EPA, method, or internal laboratory specifications except where noted in the case narrative. If you are comparing these results to external QC specifications or compliance limits and have any questions, please contact us.

This final report of laboratory analysis consists of this cover letter, case narrative, analytical report, dates report, and any accompanying documentation including, but not limited to, chain of custody records, raw data, and letters of explanation or reliance. This report may not be reproduced, except in full, without the prior written approval of Suburban Laboratories, Inc.

If you have any questions regarding these test results, please call me at (708) 544-3260.

Sincerely,

Keith Sinon

Project Manager

708-544-3260 ext 212

keith@suburbanlabs.com

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Case Narrative

Client: CWM Company, Inc

Project: Marine Bank 2003 - D135 Cantrall

WorkOrder: 2108F20

Temperature of samples upon receipt at SLI: 5 C

Date: August 25, 2021

PO #:

QC Level:

Chain of Custody #:

General Comments:

- All results reported in wet weight unless otherwise indicated. (dry = Dry Weight)

- Sample results relate only to the analytes of interest tested and to sample as received by the laboratory.

- Environmental compliance sample results meet the requirements of 35 IAC Part 186 unless otherwise indicated.

- Waste water analysis follows the rules set forth in 40 CFR part 136 except where otherwise noted.

- Accreditation by the State of Illinois is not an endorsement or a guarantee of the validity of data generated.

- For more information about the laboratories' scope of accreditation, please contact us at (708) 544-3260 or the Agency at (217) 782-6455.

- All radiological results are reported to the 95% confidence level.

Abbreviations:

- Reporting Limit: The concentration at which an analyte can be routinely detected on a day to day basis, and which also meets regulatory and client needs.
- Quantitation Limit: The lowest concentration at which results can be accurately quantitated.
- J: The analyte was positively identified above our Method Detection Limit and is considered detectable and usable; however, the associated numerical value is the approximate concentration of the analyte in the sample.
- ATC: Automatic Temperature Correction. TNTC: Too Numerous To Count
- TIC: Tentatively Identified Compound (GCMS library search identification, concentration estimated to nearest internal standard).
- SS (Surrogate Standard): Quality control compound added to the sample by the lab.

Method References:

For a complete list of method references please contact us.

- E: USEPA Reference methods
- SW: USEPA, Test Methods for Evaluating Solid Waste (SW-846)
- M: Standard Methods for the Examination of Water and Wastewater
- USP: Latest version of United States Pharmacopeia

Workorder Specific Comments:

DESERVED AUG 2 5 2021 J



Suburban Laboratories, Inc.

1950 S. Batavin Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank 2003 - D135 Cantrall

Report Date: August 25, 2021

Workorder: 2108F20

Client Sample ID: SB-7

Lab ID: 2108F20-001

Date Received: 08/13/2021 11:35 AM Collection Date: 08/12

Collection Date: 08/12/2021 9:40 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method	: EPA-8260B-R	lev 2, Dec-96		Analyst: RY	
Benzene	16.3	0.0232		mg/Kg-dry	75.28	08/17/2021 11:59 AM	R137437
Ethylbenzene	7.41	0.0463		mg/Kg-dry	37.64	08/16/2021 2:06 PM	R137370
m,p-Xylene	7.02	0.0927		mg/Kg-dry	37.64	08/16/2021 2:06 PM	R137370
Methyl tert-butyl ether	ND	0.0463		mg/Kg-dry	37,64	08/16/2021 2:06 PM	R137370
o-Xylene	0.222	0.0463		mg/Kg-dry	37.64	08/16/2021 2:06 PM	R137370
Total Xylenes	7.24	0.0927		mg/Kg-dry	37.64	08/16/2021 2:06 PM	R137370
Toluene	0.613	0.0463		mg/Kg-dry	37.64	08/16/2021 2:06 PM	R137370
Internal Quality Control Compounds				,		100111	107370
SS: 4-Bromofluorobenzene	99,8	80-130		%Rec	37.64	08/16/2021 2:06 PM	R137370
SS: Dibromofluoromethane	91.7	76.1-120		%Rec	37.64	08/16/2021 2:06 PM	R137370
SS: Toluene-d8	90.9	85-115		%Rec	37.64	08/16/2021 2:06 PM	R137370
SEMIVOLATILE ORGANICS, BY GCMS S	SIM	Method:	EPA-8270C-R			Analyst: RHY	17137370
Acenaphthene	1.34	0.0493		mg/Kg-dry	1	08/23/2021 3:12 PM	75991
Acenaphthylene	0.548	0.0493		mg/Kg-dry	1	08/23/2021 3:12 PM	75991
Anthracene	1.23	0.0493		mg/Kg-dry	1	08/23/2021 3:12 PM	75991 75991
Benzo(a)anthracene	ND	0.0493		mg/Kg-dry	1	08/23/2021 3:12 PM	75991
Benzo(a)pyrene	ND	0.0493		mg/Kg-dry	1	08/23/2021 3:12 PM	75991
Benzo(b)fluoranthene	ND	0.0493		mg/Kg-dry	1	08/23/2021 3:12 PM	75991 75991
Benzo(g,h,i)perylene	ND	0.0493		mg/Kg-dry	1	08/23/2021 3:12 PM	75991 75991
Benzo(k)fluoranthene	ND	0.0493		mg/Kg-dry	1	08/23/2021 3:12 PM	
Chrysene	0.153	0.0493		mg/Kg-dry	1	08/23/2021 3:12 PM	75991 75004
Dibenzo(a,h)anthracene	ND	0.0493		mg/Kg-dry	1	08/23/2021 3:12 PM	75991
Fluoranthene	0.298	0.0493		mg/Kg-dry	1	08/23/2021 3:12 PM	75991
Fluorene	3,13	0.0493		mg/Kg-dry	1	08/23/2021 3:12 PM	75991 75994
Indeno(1,2,3-cd)pyrene	ND	0.0493		mg/Kg-dry	1	08/23/2021 3:12 PM	75991
Naphthalene	17.0	0.246		mg/Kg-dry	5	08/24/2021 6:38 PM	75991
Phenanthrene	10.6	0.246		mg/Kg-dry	5	08/24/2021 6:38 PM	75991
Pyrene	1,50	0.0493		mg/Kg-dry	1	08/23/2021 3:12 PM	75991
Internal Quality Control Compounds		-14.44		mgr vg-ary	,	00/23/2021 3.12 PW	75991
SS: 2-Fluorobiphenyl	54.7	72,1-138	S	%Rec	1	08/23/2021 3:12 PM	75001
SS: 4-Terphenyl-d14	74.6	45,3-152	Ü	%Rec	1		75991
SS: Nitrobenzene-d5	86,4	62.6-144		%Rec	1	08/23/2021 3:12 PM 08/23/2021 3:12 PM	75991 75991
PERCENT MOISTURE		Method:	ASTM-D2216-	Rev 2005		Analyst: JNG	10001
Percent Moisture	19	1.0	С	wt%	1	08/19/2021 2:14 PM	R137536

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank 2003 - D135 Cantrall

Report Date: August 25, 2021

Workorder: 2108F20

Client Sample ID: SB-8

Lab ID: 2108F20-002

Date Received: 08/13/2021 11:35 AM Collection Da

Matrix: SOIL

Collection Date: 08/12/2021 11:20 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: E	EPA-8260B-R	ev 2, Dec-96		Analyst: RY	
Benzene	0,0452	0.0128		mg/Kg-dry	41,64	08/17/2021 12:25 PM	R137437
Ethylbenzene	ND	0.0514		mg/Kg-dry	41.64	08/17/2021 12:25 PM	R137437
m,p-Xylene	ND	0.103		mg/Kg-dry	41.64	08/17/2021 12:25 PM	
Methyl tert-butyl ether	ND	0.0514		mg/Kg-dry	41.64	08/17/2021 12:25 PM	R137437 R137437
o-Xylene	ND	0.0514		mg/Kg-dry	41.64	08/17/2021 12:25 PM	R137437
Total Xylenes	ND	0.103		mg/Kg-dry	41.64	08/17/2021 12:25 PM	
Toluene	ND	0.0514		mg/Kg-dry	41.64	08/17/2021 12:25 PM	R137437
Internal Quality Control Compounds					11.01	00/11/2021 12.25 PW	R137437
SS: 4-Bromofluorobenzene	96.5	80-130		%Rec	41,64	08/17/2021 12:25 PM	R137437
SS: Dibromofluoromethane	97.7	76.1-120		%Rec	41,64	08/17/2021 12:25 PM	R137437
SS: Toluene-d8	98.1	85-115		%Rec	41.64	08/17/2021 12:25 PM	R137437 R137437
SEMIVOLATILE ORGANICS, BY GCMS 8	STIM	Method: E	PA-8270C-Re	ev 3, Dec-96		Analyst: RHY	N13/43/
Acenaphthene	ND	0.0490		mg/Kg-dry	1	08/23/2021 3:49 PM	75991
Acenaphthylene	ND	0.0490		mg/Kg-dry	1	08/23/2021 3:49 PM	75991
Anthracene	ND	0.0490		mg/Kg-dry	1	08/23/2021 3:49 PM	75991
Benzo(a)anthracene	ND	0.0490		mg/Kg-dry	1	08/23/2021 3:49 PM	75991 75991
Benzo(a)pyrene	ND	0.0490		mg/Kg-dry	1	08/23/2021 3:49 PM	75991 75991
Benzo(b)fluoranthene	ND	0.0490		mg/Kg-dry	1	08/23/2021 3:49 PM	75991 75991
Benzo(g,h,i)perylene	ND	0.0490		mg/Kg-dry	1	08/23/2021 3:49 PM	75991 75991
Benzo(k)fluoranthene	ND	0.0490		mg/Kg-dry	1	08/23/2021 3:49 PM	
Chrysene	ND	0.0490		mg/Kg-dry	1	08/23/2021 3:49 PM	75991
Dibenzo(a,h)anthracene	ND	0.0490		mg/Kg-dry	1	08/23/2021 3:49 PM	75991 75 9 91
Fluoranthene	· ND	0.0490		mg/Kg-dry	1	08/23/2021 3:49 PM	
Fluorene	ND	0.0490		mg/Kg-dry	1	08/23/2021 3:49 PM	75991
Indeno(1,2,3-cd)pyrene	ND	0.0490		mg/Kg-dry	1	08/23/2021 3:49 PM	75991
Naphthalene	ND	0.0490		mg/Kg-dry	1	08/23/2021 3:49 PM	75991 75004
Phenanthrene	ND	0.0490		mg/Kg-dry	1	08/23/2021 3:49 PM	75991 75991
Pyrene	ND	0.0490		mg/Kg-dry	1	08/23/2021 3:49 PM	75991
Internal Quality Control Compounds					,	0012012021 J.45 FW	75991
SS: 2-Fluorobiphenyl	83.6	72.1-138		%Rec	1	08/23/2021 3:49 PM	75004
SS: 4-Terphenyl-d14	77.9	45.3-152		%Rec	1	08/23/2021 3:49 PM	75991 75004
SS: Nitrobenzene-d5	86.7	62.6-144		%Rec	1	08/23/2021 3:49 PM	75991 75991
PERCENT MOISTURE		Method: AS	STM-D2216-R		-	Analyst: JNG	7 988 1
Percent Moisture	19	1.0	С	wt%	1	08/19/2021 2:14 PM	R137536

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank 2003 - D135 Cantrall

Report Date: August 25, 2021

Workorder: 2108F20

Client Sample ID: SB-9

Lab ID: 2108F20-003

Date Received: 08/13/2021 11:35 AM Collection

Matrix: SOIL

Collection Date: 08/12/2021 11:30 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method;	EPA-8260B-R	ev 2, Dec-96		Analyst: RY	
Benzene	ND	0.0121		mg/Kg-dry	38,97	08/16/2021 2:58 PM	D407070
Ethylbenzene	ND	0.0484		mg/Kg-dry	38.97	08/16/2021 2:58 PM	R137370 R137370
m,p-Xylene	ND	0.0967		mg/Kg-dry	38.97	08/16/2021 2:58 PM	R137370
Methyl tert-butyl ether	ND	0.0484		mg/Kg-dry	38.97	08/16/2021 2:58 PM	R137370
o-Xylene	ND	0.0484		mg/Kg-dry	38.97	08/16/2021 2:58 PM	R137370
Total Xylenes	ND	0.0967		mg/Kg-dry	38.97	08/16/2021 2:58 PM	
Toluene	ND	0.0484		mg/Kg-dry	38.97	08/16/2021 2:58 PM	R137370
Internal Quality Control Compounds					00,01	00/10/2021 2.36 PM	R137370
SS: 4-Bromofluorobenzene	96.8	80-130		%Rec	38.97	08/16/2021 2:58 PM	Didagowa
SS: Dibromofluoromethane	102	76.1-120		%Rec	38.97	08/16/2021 2:58 PM	R137370
SS: Toluene-d8	97.2	85-115		%Rec	38,97	08/16/2021 2:58 PM	R137370
SEMIVOLATILE ORGANICS, BY GCMS	SIM	Method;	EPA-8270C-R			Analyst: RHY	R137370
Acenaphthene	ND	2.0.400				·	
Acenaphthylene	ND	0.0489		mg/Kg-dry	1	08/23/2021 4:26 PM	75991
Anthracene		0.0489		mg/Kg-dry	1	08/23/2021 4:26 PM	75991
Benzo(a)anthracene	ND	0.0489		mg/Kg-dry	1	08/23/2021 4:26 PM	75991
Benzo(a)pyrene	ND	0.0489		mg/Kg-dry	1	08/23/2021 4:26 PM	75991
Benzo(b)fluoranthene	ND ND	0.0489		mg/Kg-dry	1	08/23/2021 4:26 PM	75991
• •	ND	0.0489		mg/Kg-dry	1	08/23/2021 4:26 PM	75991
Benzo(g,h,i)perylene	ND	0.0489		mg/Kg-dry	1	08/23/2021 4:26 PM	75991
Benzo(k)fluoranthene	ND	0.0489		mg/Kg-dry	1	08/23/2021 4:26 PM	75991
Chrysene	ND	0.0489		mg/Kg-dry	1	08/23/2021 4:26 PM	75991
Dibenzo(a,h)anthracene	ND	0.0489		mg/Kg-dry	1	08/23/2021 4:26 PM	75991
Fluoranthene	ND	0.0489		mg/Kg-dry	1	08/23/2021 4:26 PM	75991
Fluorene	ND	0.0489		mg/Kg-dry	1	08/23/2021 4:26 PM	75991
Indeno(1,2,3-cd)pyrene	ND	0.0489		mg/Kg-dry	1	08/23/2021 4:26 PM	75991
Naphthalene	ND	0.0489		mg/Kg-dry	1	08/23/2021 4:26 PM	75991
Phenanthrene	ND	0.0489		mg/Kg-dry	1	08/23/2021 4:26 PM	75991
Pyrene	ND	0.0489		mg/Kg-dry	1	08/23/2021 4:26 PM	75991
Internal Quality Control Compounds							, , ,
SS: 2-Fluorobiphenyl	95.5	72.1-138		%Rec	1	08/23/2021 4:26 PM	75991
SS: 4-Terphenyl-d14	79.1	45.3-152		%Rec	1	08/23/2021 4:26 PM	75991
SS: Nitrobenzene-d5	90.7	62.6-144		%Rec	1	08/23/2021 4:26 PM	75991
PERCENT MOISTURE		Method: A	STM-D2216-F	Rev 2005		Analyst: JNG	
Percent Moisture	19	1.0	С	wt%	1	08/19/2021 2:14 PM	R137536

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank 2003 - D135 Cantrall

Report Date: August 25, 2021

Workorder: 2108F20

Client Sample ID: SB-10

Lab ID: 2108F20-004

Matrix: SOIL Date Received: 08/13/2021 11:35 AM

Collection Date: 08/12/2021 11:40 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method;	EPA-8260B-R	ev 2, Dec-96		Analyst: RY	
Benzene	ND	0.0133		mg/Kg-dry	42.34	08/16/2021 3:23 PM	R137370
Ethylbenzene	ND	0.0532		mg/Kg-dry	42,34	08/16/2021 3:23 PM	R137370
m,p-Xylene	ND	0.106		mg/Kg-dry	42.34	08/16/2021 3:23 PM	R137370
Methyl tert-butyl ether	ND	0,0532		mg/Kg-dry	42.34	08/16/2021 3:23 PM	R137370
o-Xylene	ND	0,0632		mg/Kg-dry	42.34	08/16/2021 3:23 PM	R137370
Total Xylenes	ND	0.106		mg/Kg-dry	42.34	08/16/2021 3:23 PM	R137370
Toluene	ND	0.0532		mg/Kg-dry	42.34	08/16/2021 3:23 PM	R137370
Internal Quality Control Compounds							11107070
SS: 4-Bromofluorobenzene	94.5	80-130		%Rec	42.34	08/16/2021 3:23 PM	R137370
SS: Dibromofluoromethane	100	76.1-120		%Rec	42.34	08/16/2021 3:23 PM	R137370
SS: Toluene-d8	98.1	85-115		%Rec	42.34	08/16/2021 3:23 PM	R137370
SEMIVOLATILE ORGANICS, BY GCMS S	SIM	Method:	EPA-8270C-R	ev 3, Dec-96		Analyst: RHY	107370
Acenaphthene	ND	0.0503		mg/Kg-dry	1	08/23/2021 5:04 PM	75991
Acenaphthylene	ND	0.0503		mg/Kg-dry	1	08/23/2021 5:04 PM	75991
Anthracene	ND	0.0503		mg/Kg-dry	1	08/23/2021 5:04 PM	75991 75991
Benzo(a)anthracene	ND	0,0503		mg/Kg-dry	1	08/23/2021 5:04 PM	75991
Benzo(a)pyrene	ND	0.0503		mg/Kg-dry	1	08/23/2021 5:04 PM	75991 75991
Benzo(b)fluoranthene	ND	0.0503		mg/Kg-dry	1	08/23/2021 5:04 PM	75991 75991
Benzo(g,h,i)perylene	ND	0.0503		mg/Kg-dry	1	08/23/2021 5:04 PM	75991 75991
Benzo(k)fluoranthene	ND	0.0503		mg/Kg-dry	1	08/23/2021 5:04 PM	75991 75991
Chrysene	ND	0.0503		mg/Kg-dry	1	08/23/2021 5:04 PM	75991 75991
Dibenzo(a,h)anthracene	ND	0.0503		mg/Kg-dry	1	08/23/2021 5:04 PM	
Fluoranthene	ND	0.0503		mg/Kg-dry	1	08/23/2021 5:04 PM	75991
Fluorene	ND	0.0503		mg/Kg-dry	1	08/23/2021 5:04 PM	75991
Indeno(1,2,3-cd)pyrene	ND	0.0503		mg/Kg-dry	1	08/23/2021 5:04 PM	75991 75991
Naphthalene	ND	0.0503		mg/Kg-dry	1	08/23/2021 5:04 PM	
Phenanthrene	ND	0.0503		mg/Kg-dry	1	08/23/2021 5:04 PM	75991
Pyrene	ND	0.0503		mg/Kg-dry	1	08/23/2021 5:04 PM	75991
Internal Quality Control Compounds				mgring dry	•	00/20/2021 5.04 FM	75991
SS: 2-Fluorobiphenyl	95.1	72.1-138		%Rec	1	08/23/2021 5:04 PM	75004
SS: 4-Terphenyl-d14	78.1	45.3-152		%Rec	1	08/23/2021 5:04 PM 08/23/2021 5:04 PM	75991
SS: Nitrobenzene-d5	90,3	62,6-144		%Rec	1	08/23/2021 5:04 PM 08/23/2021 5:04 PM	75991 75991
PERCENT MOISTURE		Method: /	ASTM-D2216-F		·	Analyst: JNG	10991
Percent Moisture	20	1.0	С	wt%	1	08/19/2021 2:14 PM	R137536

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank 2003 - D135 Cantrall

Report Date: August 25, 2021

Workorder: 2108F20

Client Sample ID: SB-11

Lab ID: 2108F20-005

Date Received: 08/13/2021 11:35 AM

Matrix: SOIL

Collection Date: 08/12/2021 2:05 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method:	EPA-8260B-R	ev 2, Dec-96		Analyst: RY	
Benzene	ND	0.0162		mg/Kg-dry	52,25	08/16/2021 3:49 PM	R137370
Ethylbenzene	ND	0.0649		mg/Kg-dry	52,25	08/16/2021 3:49 PM	R137370
m,p-Xylene	ND	0.130		mg/Kg-dry	52,25	08/16/2021 3:49 PM	R137370
Methyl tert-butyl ether	ND	0.0649		mg/Kg-dry	52.25	08/16/2021 3:49 PM	R137370
o-Xylene	ND	0.0649		mg/Kg-dry	52.25	08/16/2021 3:49 PM	R137370
Total Xylenes	ND	0.130		mg/Kg-dry	52,25	08/16/2021 3:49 PM	R137370
Toluene	ND	0.0649		mg/Kg-dry	52.25	08/16/2021 3:49 PM	R137370
Internal Quality Control Compounds				0 0 ,		5 - 7 - 1 - 2 - 2 - 1 - 0 : FO 1 VI	10137370
SS: 4-Bromofluorobenzene	95.4	80-130		%Rec	52,25	08/16/2021 3:49 PM	R137370
SS: Dibromofluoromethane	102	76.1-120		%Rec	52,25	08/16/2021 3:49 PM	R137370
SS: Toluene-d8	98.1	85-115		%Rec	52.25	08/16/2021 3:49 PM	R137370
SEMIVOLATILE ORGANICS, BY GCMS S	SIM	Method: I	EPA-8270C-R	ev 3, Dec-96		Analyst: RHY	107370
Acenaphthene	ND	0.0497		mg/Kg-dry	1	08/23/2021 5:41 PM	75001
Acenaphthylene	ND	0.0497		mg/Kg-dry	1	08/23/2021 5:41 PM	75991
Anthracene	ND	0.0497		mg/Kg-dry	1	08/23/2021 5:41 PM 08/23/2021 5:41 PM	75991
Benzo(a)anthracene	ND	0.0497		mg/Kg-dry	1	08/23/2021 5:41 PM	75991
Benzo(a)pyrene	ND	0.0497		mg/Kg-dry	1	08/23/2021 5:41 PM 08/23/2021 5:41 PM	75991
Benzo(b)fluoranthene	ND	0.0497		mg/Kg-dry	1	08/23/2021 5:41 PM 08/23/2021 5:41 PM	75991
Benzo(g,h,i)perylene	ND	0.0497		mg/Kg-dry	1	08/23/2021 5:41 PM	75991
Benzo(k)fluoranthene	ND	0.0497		mg/Kg-dry	1	08/23/2021 5:41 PM	75991
Chrysene	ND	0.0497		mg/Kg-dry	1		75991
Dibenzo(a,h)anthracene	ND	0.0497		mg/Kg-dry	1	08/23/2021 5:41 PM	75991
Fluoranthene	ND	0.0497		mg/Kg-dry	1	08/23/2021 5:41 PM	75991
Fluorene	ND	0.0497		mg/Kg-dry	1	08/23/2021 5:41 PM	75991
Indeno(1,2,3-cd)pyrene	ND	0.0497		mg/Kg-dry	1	08/23/2021 5:41 PM	75991
Naphthalene	ND	0.0497		mg/Kg-dry	1	08/23/2021 5:41 PM	75991
Phenanthrene	ND	0.0497		mg/Kg-dry	1	08/23/2021 5:41 PM	75991
Pyrene	ND	0.0497		mg/Kg-dry	1	08/23/2021 5:41 PM	75991
Internal Quality Control Compounds	, 1,5	0.0407		mg/rxg-dry	,	08/23/2021 5:41 PM	75991
SS: 2-Fluorobiphenyl	91.7	72.1-138		%Rec	1	00/00/0004 5 44 504	
SS: 4-Terphenyl-d14	79.5	45.3-152		%Rec	1	08/23/2021 5:41 PM	75991
SS: Nitrobenzene-d5	91.8	62.6-144		%Rec	1	08/23/2021 5:41 PM 08/23/2021 5:41 PM	75991 75004
PERCENT MOISTURE	···-		\STM-D2216-I		,	Analyst: JNG	75991
Percent Moisture	20	1.0	c	wt%	1	08/19/2021 2:14 PM	R137536

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank 2003 - D135 Cantrall

Report Date: August 25, 2021

Workorder: 2108F20

Client Sample ID: SB-12

Lab ID: 2108F20-006

Date Received: 08/13/2021 11:35 AM Collection Da

Matrix: SOIL

Collection Date: 08/12/2021 2:15 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method; E	PA-8260B-R	ev 2, Dec-96		Analyst: RY	
Benzene	ND	0.0134		mg/Kg-dry	41,64	08/16/2021 4:14 PM	R137370
Ethylbenzene	ND	0.0534		mg/Kg-dry	41,64	08/16/2021 4:14 PM	R137370
m,p-Xylene	ND	0.107		mg/Kg-dry	41,64	08/16/2021 4:14 PM	R137370
Methyl tert-butyl ether	ND	0.0534		mg/Kg-dry	41.64	08/16/2021 4:14 PM	R137370
o-Xylene	ND	0.0534		mg/Kg-dry	41.64	08/16/2021 4:14 PM	R137370
Total Xylenes	ND	0.107		mg/Kg-dry	41.64	08/16/2021 4:14 PM	R137370
Toluene	ND	0,0534		mg/Kg-dry	41.64	08/16/2021 4:14 PM	R137370
Internal Quality Control Compounds				- ,			11107070
SS: 4-Bromofluorobenzene	97.1	80-130		%Rec	41.64	08/16/2021 4:14 PM	R137370
SS: Dibromofluoromethane	99.8	76.1-120		%Rec	41.64	08/16/2021 4:14 PM	R137370
SS: Toluene-d8	96.9	85-115		%Rec	41.64	08/16/2021 4:14 PM	R137370
SEMIVOLATILE ORGANICS, BY GCMS	SIM	Method: E	PA-8270C-Re			Analyst; RHY	137370
Acenaphthene	ND	0.0507		mg/Kg-dry	1	08/23/2021 6:18 PM	75001
Acenaphthylene	ND	0.0507		mg/Kg-dry	1	08/23/2021 6:18 PM	75991
Anthracene	ND	0,0507		mg/Kg-dry	1	08/23/2021 6:18 PM	75991
Benzo(a)anthracene	ND .	0.0507		mg/Kg-dry	1		75991
Benzo(a)pyrene	ND	0.0507		mg/Kg-dry	1	08/23/2021 6:18 PM	75991
Benzo(b)fluoranthene	ND	0.0507		mg/Kg-dry	1	08/23/2021 6:18 PM	75991
Benzo(g,h,i)perylene	ND	0.0507			1	08/23/2021 6:18 PM	75991
Benzo(k)fluoranthene	ND	0.0507		mg/Kg-dry mg/Kg-dry	1	08/23/2021 6:18 PM	75991
Chrysene	ND	0.0507				08/23/2021 6:18 PM	75991
Dibenzo(a,h)anthracene	ND	0.0507		mg/Kg-dry	1	08/23/2021 6:18 PM	75991
Fluoranthene	ND	0.0507		mg/Kg-dry	1	08/23/2021 6:18 PM	75991
Fluorene	ND	0.0507		mg/Kg-dry	1	08/23/2021 6:18 PM	75991
Indeno(1,2,3-cd)pyrene	ND	0.0507		mg/Kg-dry	1	08/23/2021 6:18 PM	75991
Naphthalene	ND	0.0507		mg/Kg-dry	1	08/23/2021 6:18 PM	75991
Phenanthrene	ND ND			mg/Kg-dry	1	08/23/2021 6:18 PM	7599 1
Pyrene	ND ND	0.0507		mg/Kg-dry	1	08/23/2021 6:18 PM	75991
•	NU	0.0507		mg/Kg-dry	1	08/23/2021 6:18 PM	75991
Internal Quality Control Compounds	07.6	70 4 400		a			
SS: 2-Fluorobiphenyl	97.6	72.1-138		%Rec	1	08/23/2021 6:18 PM	75991
SS: 4-Terphenyl-d14	76.3	45.3-152		%Rec	1	08/23/2021 6:18 PM	75991
SS: Nitrobenzene-d5	89.3	62.6~144		%Rec	1	08/23/2021 6:18 PM	75991
PERCENT MOISTURE		Method: As	STM-D2216-F	Rev 2005		Analyst: JNG	
Percent Moisture	22	1.0	С	wt%	1	08/19/2021 2:14 PM	R137536

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank 2003 - D135 Cantrall

Report Date: August 25, 2021

Workorder: 2108F20

Client Sample ID: SB-13

Lab ID: 2108F20-007

Date Received: 08/13/2021 11:35 AM

Matrix: SOIL

Collection Date: 08/12/2021 2:25 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method:	EPA-8260B-R	ev 2, Dec-96		Analyst: RY	
Benzene	0.103	0.0136		mg/Kg-dry	43,49	08/16/2021 4:40 PM	R137370
Ethylbenzene	0,226	0.0543		mg/Kg-dry	43,49	08/16/2021 4:40 PM	R137370
m,p-Xylene	ND	0.109		mg/Kg-dry	43.49	08/16/2021 4:40 PM	R137370
Methyl tert-butyl ether	ND	0.0543		mg/Kg-dry	43.49	08/16/2021 4:40 PM	R137370
o-Xylene	ND	0.0543		mg/Kg-dry	43.49	08/16/2021 4:40 PM	R137370
Total Xylenes	ND	0.109		mg/Kg-dry	43.49	08/16/2021 4:40 PM	R137370
Toluene	ND	0.0543		mg/Kg-dry	43.49	08/16/2021 4:40 PM	R137370
Internal Quality Control Compounds				,			11107070
SS: 4-Bromofluorobenzene	96.9	80-130		%Rec	43.49	08/16/2021 4:40 PM	R137370
SS: Dibromofluoromethane	97.4	76.1-120		%Rec	43.49	08/16/2021 4:40 PM	R137370
SS: Toluene-d8	97.3	85-115		%Rec	43.49	08/16/2021 4:40 PM	R137370
SEMIVOLATILE ORGANICS, BY GCMS	S SIM	Method:	EPA-8270C - R	ev 3, Dec-96		Analyst; RHY	10101010
Acenaphthene	ND	0.0493		mg/Kg-dry	1	08/23/2021 6:55 PM	75991
Acenaphthylene	ND	0.0493		mg/Kg-dry	1	08/23/2021 6:55 PM	75991 75991
Anthracene	ND	0.0493		mg/Kg-dry	1	08/23/2021 6:55 PM	75991 75991
Benzo(a)anthracene	ND	0.0493		mg/Kg-dry	1	08/23/2021 6:55 PM	75991 75991
Benzo(a)pyrene	ND	0.0493		mg/Kg-dry	1	08/23/2021 6:55 PM	75991 75991
Benzo(b)fluoranthene	ND	0.0493		mg/Kg-dry	1	08/23/2021 6:55 PM	75991 75991
Benzo(g,h,i)perylene	ND	0.0493		mg/Kg-dry	1	08/23/2021 6:55 PM	75991 75991
Benzo(k)fluoranthene	ND	0.0493		mg/Kg-dry	1	08/23/2021 6:55 PM	75991 75991
Chrysene	ND	0.0493		mg/Kg-dry	1	08/23/2021 6:55 PM	75991 75991
Dibenzo(a,h)anthracene	ND	0.0493		mg/Kg-dry	1	08/23/2021 6:55 PM	75991 75991
Fluoranthene	ND	0.0493		mg/Kg-dry	1	08/23/2021 6:55 PM	
Fluorene	ND	0.0493		mg/Kg-dry	1	08/23/2021 6:55 PM	75991
Indeno(1,2,3-cd)pyrene	ND	0.0493		mg/Kg-dry	1	08/23/2021 6:55 PM	75991
Naphthalene	0.0990	0.0493		mg/Kg-dry	1	08/23/2021 6:55 PM	75991
Phenanthrene	ND	0.0493		mg/Kg-dry	1	08/23/2021 6:55 PM	75991 75994
Pyrene	ND	0.0493		mg/Kg-dry	1	08/23/2021 6:55 PM	75991
Internal Quality Control Compounds				ing/itg diy	'	00/23/2021 0.33 FW	75991
SS: 2-Fluorobiphenyl	95,8	72.1-138		%Rec	1	08/23/2021 6:55 PM	25001
SS: 4-Terphenyl-d14	77.8	45.3-152		%Rec	1	08/23/2021 6:55 PM	75991 75994
SS: Nitrobenzene-d5	95.6	62.6-144		%Rec	1	08/23/2021 6:55 PM	75991 75991
PERCENT MOISTURE		Method; /	ASTM-D2216-f	Rev 2005	-	Analyst: JNG	10001
Percent Moisture	20	1.0	С	wt%	1	08/19/2021 2:14 PM	R137536

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank 2003 - D135 Cantrall

Report Date: August 25, 2021

Workorder: 2108F20

Client Sample ID: SB-14

Lab ID: 2108F20-008

Date Received: 08/13/2021 11:35 AM

Matrix: SOIL

Collection Date: 08/12/2021 2:35 PM

Parameter	Result	Report Limit	Ougl	Units	Dilution		_
	ixesuit	Linut	Qual.	Units	ractor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method:	EPA-8260B-R	ev 2, Dec-96		Analyst: RY	
Benzene	0,0492	0.0143		mg/Kg-dry	44,12	08/16/2021 5:06 PM	R137370
Ethylbenzene	ND	0.0572		mg/Kg-dry	44.12	08/16/2021 5:06 PM	R137370
m,p-Xylene	ND	0. 1 14		mg/Kg-dry	44.12	08/16/2021 5:06 PM	R137370
Methyl tert-butyl ether	ND	0.0572		mg/Kg-dry	44.12	08/16/2021 5:06 PM	R137370
o-Xylene	ND	0.0572		mg/Kg-dry	44.12	08/16/2021 5:06 PM	R137370
Total Xylenes	ND	0.114		mg/Kg-dry	44.12	08/16/2021 5:06 PM	R137370
Toluene	ND	0.0572		mg/Kg-dry	44.12	08/16/2021 5:06 PM	R137370
Internal Quality Control Compounds				J. J. ,	.,	10,70720210,001101	11137370
SS: 4-Bromofluorobenzene	122	80-130		%Rec	44.12	08/16/2021 5:06 PM	R137370
SS: Dibromofluoromethane	97.0	76.1-120		%Rec	44.12	08/16/2021 5:06 PM	R137370
SS: Toluene-d8	95,4	85-115		%Rec	44,12	08/16/2021 5:06 PM	R137370
						00/10/2021 0:00 FIVI	K13/3/0
SEMIVOLATILE ORGANICS, BY GCMS	SIM	Method;	EPA-8270C-R	ev 3, Dec-96		Analyst: RHY	
Acenaphthene	ND	0.0519		mg/Kg-dry	1	08/23/2021 7:31 PM	75991
Acenaphthylene	ND	0,0519		mg/Kg-dry	1	08/23/2021 7:31 PM	75991
Anthracene	ND	0.0519		mg/Kg-dry	1	08/23/2021 7:31 PM	75991
Benzo(a)anthracene	ND	0.0519		mg/Kg-dry	1	08/23/2021 7:31 PM	75991
Benzo(a)pyrene	ND	0.0519		mg/Kg-dry	1	08/23/2021 7:31 PM	75991
Benzo(b)fluoranthene	ND	0.0519		mg/Kg-dry	1	08/23/2021 7:31 PM	75991
Benzo(g,h,i)perylene	ND	0.0519		mg/Kg-dry	1	08/23/2021 7:31 PM	75991
Benzo(k)fluoranthene	ND	0.0519		mg/Kg-dry	1	08/23/2021 7:31 PM	75991
Chrysene	ND	0.0519		mg/Kg-dry	1	08/23/2021 7:31 PM	75991 75991
Dibenzo(a,h)anthracene	ND	0.0519		mg/Kg-dry	1	08/23/2021 7:31 PM	75991 75991
Fluoranthene	ND	0.0519		mg/Kg-dry	1	08/23/2021 7:31 PM	75991 75991
Fluorene	ND	0.0519		mg/Kg-dry	1	08/23/2021 7:31 PM	75991 75991
Indeno(1,2,3-cd)pyrene	ND	0.0519		mg/Kg-dry	1	08/23/2021 7:31 PM	75991 75991
Naphthalene	0.0937	0.0519		mg/Kg-dry	1	08/23/2021 7:31 PM	75991 75991
Phenanthrene	ND	0.0519		mg/Kg-dry	1	08/23/2021 7:31 PM	75991 75991
Pyrene	ND	0.0519		mg/Kg-dry	1	08/23/2021 7:31 PM	75991 75991
Internal Quality Control Compounds				mgmg ary	•	00/20/2021 / .51 FW	75991
SS: 2-Fluorobiphenyl	86.9	72.1-138		%Rec	1	08/23/2021 7:31 PM	75004
SS: 4-Terphenyl-d14	77.8	45.3-152		%Rec	1	08/23/2021 7:31 PM	75991
SS: Nitrobenzene-d5	96.4	62.6-144		%Rec	1	08/23/2021 7:31 PM	75991 75991
PERCENT MOISTURE		Method; ,	ASTM-D2216-6	Rev 2005		Analyst: JNG	, 5551
Percent Moisture	23	1.0	С	wt%	1	08/19/2021 2:14 PM	R137536

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank 2003 - D135 Cantrall

Report Date: August 25, 2021

Workorder: 2108F20

Client Sample ID: SB-15

Lab ID: 2108F20-009

Matrix: SOIL Date Received: 08/13/2021 11:35 AM Collection Date: 08/12

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Collection Date: 08/12/2021 2:45 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
			- Quan	Onics	1 4000	Dute Analyzed	Daten ID
VOLATILE ORGANIC COMPOUNDS		Method	l: EPA-8260B-R	ev 2, Dec-96		Analyst: RY	
Benzene	0.296	0,0130		mg/Kg-dry	40.28	08/16/2021 5:31 PM	R137370
Ethylbenzene	47.6	0.519		mg/Kg-dry	402,75	08/17/2021 12:51 PM	R137437
m,p-Xylene	137	1.04		mg/Kg-dry	402,75	08/17/2021 12:51 PM	R137437
Methyl tert-butyl ether	ND	0.0519		mg/Kg-dry	40.28	08/16/2021 5:31 PM	R137370
o-Xylene	26.2	0.519		mg/Kg-dry	402.75	08/17/2021 12:51 PM	R137437
Total Xylenes	163	1.04		mg/Kg-dry	402.75	08/17/2021 12:51 PM	R137437
Toluene	0.277	0.0519		mg/Kg-dry	40.28	08/16/2021 5:31 PM	R137370
Internal Quality Control Compounds				,			
SS: 4-Bromofluorobenzene	87.8	80-130		%Rec	40.28	08/16/2021 5:31 PM	R137370
SS: Dibromofluoromethane	95.1	76.1- 1 20		%Rec	40.28	08/16/2021 5:31 PM	R137370
SS: Toluene-d8	83.0	85-115	S	%Rec	40.28	08/16/2021 5:31 PM	R137370
SEMIVOLATILE ORGANICS, BY GCMS	SIM	Method	: EPA-8270C-R	ev 3, Dec-96		Analyst: RHY	
Acenaphthene	0.0674	0.0516		mg/Kg-dry	1	08/23/2021 8:08 PM	75991
Acenaphthylene	ND	0.0516		mg/Kg-dry	1	08/23/2021 8:08 PM	75991 75991
Anthracene	ND	0.0516		mg/Kg-dry	1	08/23/2021 8:08 PM	75991 75991
Benzo(a)anthracene	ND	0.0516		mg/Kg-dry	1	08/23/2021 8:08 PM	75991 75991
Benzo(a)pyrene	ND	0,0516		mg/Kg-dry	1	08/23/2021 8:08 PM	75991 75991
Benzo(b)fluoranthene	ND	0.0516		mg/Kg-dry	1	08/23/2021 8:08 PM	
Benzo(g,h,i)perylene	ND	0.0516		mg/Kg-dry	1	08/23/2021 8:08 PM	75991
Benzo(k)fluoranthene	ND	0,0516		mg/Kg-dry	1	08/23/2021 8:08 PM	75991
Chrysene	ND	0.0516		mg/Kg-dry	1	08/23/2021 8:08 PM	75991
Dibenzo(a,h)anthracene	ND	0.0516		mg/Kg-dry	1	08/23/2021 8:08 PM	75991
Fluoranthene	ND	0.0516		mg/Kg-dry	1	08/23/2021 8:08 PM	75991
Fluorene	0.109	0,0516		mg/Kg-dry	1	08/23/2021 8:08 PM	75991
Indeno(1,2,3-cd)pyrene	ND	0.0516		mg/Kg-dry	1	08/23/2021 8:08 PM	75991
Naphthalene	18.5	0.258		mg/Kg-dry	5		75991
Phenanthrene	0.195	0.0516		mg/Kg-dry	1	08/24/2021 7:16 PM 08/23/2021 8:08 PM	75991
Pyrene	ND	0.0516		mg/Kg-dry	1	08/23/2021 8:08 PM	75991
Internal Quality Control Compounds	11.5	0,0010		mg//tg-dry	•	00/23/2021 0:08 PW	75991
SS: 2-Fluorobiphenyl	86,2	72,1-138		%Rec	1	00/03/2004 0:00 0:4	7500.
SS: 4-Terphenyl-d14	76.7	45,3-152		%Rec	1	08/23/2021 8:08 PM	75991
SS: Nitrobenzene-d5	92.1	62,6-144		%Rec	1	08/23/2021 8:08 PM 08/23/2021 8:08 PM	75991 75991
PERCENT MOISTURE		Method:	: ASTM-D2216-	Rev 2005		Analyst: JNG	10001
Percent Moisture	22	1.0	С	wt%	1	08/19/2021 2:14 PM	R137536

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank 2003 - D135 Cantrall

Report Date: August 25, 2021

Workorder: 2108F20

Client Sample ID: SB-16

Lab ID: 2108F20-010

Date Received: 08/13/2021 11:35 AM

Matrix: SOIL

Collection Date: 08/12/2021 3:00 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method:	EPA-8260B-R	lev 2, Dec-96		Analyst; RY	
Benzene	ND	0.0138		mg/Kg-dry	43.62	08/17/2021 1:16 PM	R137437
Ethylbenzene	ND	0.0551		mg/Kg-dry	43,62	08/17/2021 1:16 PM	R137437
m,p-Xylene	ND	0,110		mg/Kg-dry	43.62	08/17/2021 1:16 PM	R137437
Methyl tert-butyl ether	ND	0.0551		mg/Kg-dry	43.62	08/17/2021 1:16 PM	R137437
o-Xylene	ND	0.0551		mg/Kg-dry	43.62	08/17/2021 1:16 PM	R137437
Total Xylenes	ND	0.110		mg/Kg-dry	43.62	08/17/2021 1:16 PM	R137437
Toluene	ND	0.0551		mg/Kg-dry	43.62	08/17/2021 1:16 PM	R137437
Internal Quality Control Compounds				5 5 ,			11107407
SS: 4-Bromofluorobenzene	96.5	80-130		%Rec	43,62	08/17/2021 1:16 PM	R137437
SS: Dibromofluoromethane	95,5	76,1-120		%Rec	43.62	08/17/2021 1:16 PM	R137437
SS: Toluene-d8	98.2	85-115		%Rec	43.62	08/17/2021 1:16 PM	R137437
SEMIVOLATILE ORGANICS, BY GCMS	SIM	Method:	EPA-8270C-R	ev 3, Dec-96		Analyst: RHY	11101-101
Acenaphthene	ND	0.0503		mg/Kg-dry	1	08/23/2021 11:48 PM	75991
Acenaphthylene	ND	0,0503		mg/Kg-dry	1	08/23/2021 11:48 PM	75991 75991
Anthracene	ND	0.0503		mg/Kg-dry	1	08/23/2021 11:48 PM	75991 75991
Benzo(a)anthracene	ND	0.0503		mg/Kg-dry	1	08/23/2021 11:48 PM	75991 75991
Benzo(a)pyrene	ND	0.0503		mg/Kg-dry	1	08/23/2021 11:48 PM	75991 75991
Benzo(b)fluoranthene	ND	, 0,0503		mg/Kg-dry	1	08/23/2021 11:48 PM	75991 75991
Benzo(g,h,i)perylene	ND	0.0503		mg/Kg-dry	1	08/23/2021 11:48 PM	
Benzo(k)fluoranthene	ND	0.0503		mg/Kg-dry	1	08/23/2021 11:48 PM	75991
Chrysene	ND	0,0503		mg/Kg-dry	1	08/23/2021 11:48 PM	75991
Dibenzo(a,h)anthracene	ND	0,0503		mg/Kg-dry	1	08/23/2021 11:48 PM	75991
Fluoranthene	ND	0.0503		mg/Kg-dry	1	08/23/2021 11:48 PM	75991
Fluorene	ND	0.0503		mg/Kg-dry	1	08/23/2021 11:48 PM	75991
Indeno(1,2,3-cd)pyrene	ND	0.0503		mg/Kg-dry	1		75991
Naphthalene	ND	0.0503		mg/Kg-dry	1	08/23/2021 11:48 PM 08/23/2021 11:48 PM	75991
Phenanthrene	ND	0.0503		mg/Kg-dry	1		75991
Pyrene	ND	0.0503		mg/Kg-dry	1	08/23/2021 11:48 PM	75991
Internal Quality Control Compounds	110	0,0000		mg/Mg-ury	į.	08/23/2021 11:48 PM	7 5991
SS: 2-Fluorobiphenyl	80.8	72.1-138		%Rec	1	00/00/0004 44.40 654	
SS: 4-Terphenyl-d14	89.8	45.3-152		%Rec	1	08/23/2021 11:48 PM	75991
SS: Nitrobenzene-d5	92.0	62.6-144		%Rec %Rec	1	08/23/2021 11:48 PM 08/23/2021 11:48 PM	75991 75991
PERCENT MOISTURE			ASTM-D2216-I		•	Analyst: JNG	79991
Percent Moisture	21	1.0	С	wt%	1	08/19/2021 2:14 PM	R137536

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank 2003 - D135 Cantrall

Report Date: August 25, 2021

Workorder: 2108F20

Client Sample ID: SB-17

Lab ID: 2108F20-011

Date Received: 08/13/2021 11:35 AM Collection Date: 08/12/

Collection Date: 08/12/2021 3:10 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method:	EPA-8260B-Rev	2, Dec-96		Analyst: RY	
Benzene	ND	0.0131	ı	mg/Kg-dry	39.6	08/16/2021 6:23 PM	R137370
Ethylbenzene	ND	0.0523	ı	mg/Kg-dry	39,6	08/16/2021 6:23 PM	R137370
m,p-Xylene	ND	0,105	ı	mg/Kg-dry	39,6	08/16/2021 6:23 PM	R137370
Methyl tert-butyl ether	ND	0.0523	ŀ	mg/Kg-dry	39.6	08/16/2021 6:23 PM	R137370
o-Xylene	ND	0.0523	t	mg/Kg-dry	39.6	08/16/2021 6:23 PM	R137370
Total Xylenes	ND	0.105	1	mg/Kg-dry	39.6	08/16/2021 6:23 PM	R137370
Toluene	ND	0.0523	r	mg/Kg-dry	39.6	08/16/2021 6:23 PM	R137370
Internal Quality Control Compounds							
SS: 4-Bromofluorobenzene	95,3	80-130		%Rec	39.6	08/16/2021 6:23 PM	R137370
SS: Dibromofluoromethane	100	76.1-120		%Rec	39,6	08/16/2021 6:23 PM	R137370
SS: Toluene-d8	97.5	85-115		%Rec	39.6	08/16/2021 6:23 PM	R137370
SEMIVOLATILE ORGANICS, BY GCMS	SIM	Method:	EPA-8270C-Rev	3, Dec-96		Analyst; NJ	
Acenaphthene	ND	0.0529	r	mg/Kg-dry	1	08/24/2021 6:01 PM	75991
Acenaphthylene	ND	0.0529	ŗ	mg/Kg-dry	1	08/24/2021 6:01 PM	75991
Anthracene	ND	0.0529	r	ng/Kg-dry	1	08/24/2021 6:01 PM	75991
Benzo(a)anthracene	ND	0.0529		mg/Kg-dry	1	08/24/2021 6:01 PM	75991
Benzo(a)pyrene	ND	0.0529		mg/Kg-dry	1	08/24/2021 6:01 PM	75991
Benzo(b)fluoranthene	ND	0,0529	1	ng/Kg-dry	1	08/24/2021 6:01 PM	75991
Benzo(g,h,i)perylene	ND	0,0529	ſ	mg/Kg-dry	1	08/24/2021 6:01 PM	75991
Benzo(k)fluoranthene	ND	0.0529		ng/Kg-dry	1	08/24/2021 6:01 PM	75991
Chrysene	ND	0.0529		ng/Kg-dry	1	08/24/2021 6:01 PM	75991
Dibenzo(a,h)anthracene	ND	0.0529		ng/Kg-dry	1	08/24/2021 6:01 PM	75991
Fluoranthene	ND	0.0529		ng/Kg-dry	1	08/24/2021 6:01 PM	75991
Fluorene	ND	0.0529		ng/Kg-dry	1	08/24/2021 6:01 PM	75991
Indeno(1,2,3-cd)pyrene	ND	0.0529		ng/Kg-dry	1	08/24/2021 6:01 PM	75991
Naphthalene	0.0584	0.0529		ng/Kg-dry	1	08/24/2021 6:01 PM	75991
Phenanthrene	ND	0.0529		ng/Kg-dry	1	08/24/2021 6:01 PM	75991
Pyrene	ND	0.0529		mg/Kg-dry	1	08/24/2021 6:01 PM	75991
Internal Quality Control Compounds			·	J	,		10001
SS: 2-Fluorobiphenyl	93.7	72.1-138		%Rec	1	08/24/2021 6:01 PM	75991
SS: 4-Terphenyl-d14	85.3	45.3-152		%Rec	1	08/24/2021 6:01 PM	75991
SS: Nitrobenzene-d5	93.3	62.6-144		%Rec	1	08/24/2021 6:01 PM	75991 75991
PERCENT MOISTURE		Method:	ASTM-D2216-Re	ev 2005		Analyst: JNG	, = 7 - 7
Percent Moisture	24	1.0	c	wt%	1	08/19/2021 2:14 PM	R137536

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

PREP DATES REPORT

Client:

CWM Company, Inc

Project: Marine Bank 2003 - D135 Cantrall

Report Date: August 25, 2021

Lab Order: 2108F20

Sample ID	Collection Date	Batch ID	Prep Test Name	TCLP Date Prep Date
2108F20-001A	8/12/2021 9:40:00 AM	75916	CLOSED SYSTEM P&T VOC Prep	8/17/2021
2108F20-001B		75991	SOLID PREP SONICATION: BNA	8/19/2021
2108F20-002A	8/12/2021 11:20:00 AM	75916	CLOSED SYSTEM P&T VOC Prep	8/17/2021
2108F20-002B		75991	SOLID PREP SONICATION: BNA	8/19/2021
2108F20-003A	8/12/2021 11:30:00 AM	75916	CLOSED SYSTEM P&T VOC Prep	8/17/2021
2108F20-003B		75991	SOLID PREP SONICATION: BNA	8/19/2021
2108F20-004A	8/12/2021 11:40:00 AM	75916	CLOSED SYSTEM P&T VOC Prep	8/17/2021
2108F20-004B		75991	SOLID PREP SONICATION: BNA	8/19/2021
2108F20-005A	8/12/2021 2:05:00 PM	75916	CLOSED SYSTEM P&T VOC	8/17/2021
2108F20-005B		76991	SOLID PREP SONICATION: BNA	8/19/2021
2108F20-006A	8/12/2021 2:15:00 PM	75916	CLOSED SYSTEM P&T VOC Prep	8/17/2021
2108F20-006B		75991	SOLID PREP SONICATION: BNA	8/19/2021
2108F20-007A	8/12/2021 2:25:00 PM	75916	CLOSED SYSTEM P&T VOC Prep	8/17/2021
2108F20-007B		75991	SOLID PREP SONICATION: BNA	8/19/2021
2108F20-008A	8/12/2021 2:35:00 PM	75916	CLOSED SYSTEM P&T VOC	8/17/2021
2108F20-008B		75991	SOLID PREP SONICATION: BNA	8/19/2021
2108F20-009A	8/12/2021 2:45:00 PM	. 75916	CLOSED SYSTEM P&T VOC	8/17/2021
2108F20-009B		75991	SOLID PREP SONICATION: BNA	8/19/2021
2108F20-010A	8/12/2021 3:00:00 PM	75916	CLOSED SYSTEM P&T VOC	8/17/2021
2108F20-010B		75991	SOLID PREP SONICATION: BNA	8/19/2021
2108F20-011A	8/12/2021 3:10:00 PM	75916	CLOSED SYSTEM P&T VOC	8/17/2021
2108F20-011B		75991	SOLID PREP SONICATION: BNA	8/19/2021





WI

Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Qualifier Definitions

WO#: 2108F20 Date: 8/25/2021

Qualifier	
*/X	Value exceeds Maximum Contaminant Level
В	Analyte detected in the associated Method Blank
C	Value is below Minimum Concentration Limit
c	Analyte not in SLI scope of accreditation Estimated, detected above quantitation range
E	Estimated, detected above quantitation range
G	Refer to case narrative page for specific comments
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limit (QL)
N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit
P	Present
Q	Accreditation is not available from Wisconsin
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
T	Analyte detected in sample trip blank
V	EPA requires field analysis/filtration. Lab analysis would be considered past hold time.

This sample was ran at the Wisconsin Laboratory, WI DNR Certified #246179890

n ver A	SUBURBAN LABO	RATORIES, In	C.	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	CHAIN	IOF	CUSTODY	RECORD		
	1950 S. Batavia Ave. Ste. 150 Ge			Tel. 708.544.32	260 login@suburt	adsinso		burbanlabs.com		
Company I	CWN Company 1	nc-			TIME REQUESTED		ANALYSIS & METHOD Enter an "X" in box belo		Page of	
Company	-7 61 5 / wind Ave	. W.		Normal	RUSH*				PO#	of 16
City 5 ₀	Insticld State Mobile Mobile	20 G27 b4			d surcharges apply. Checki approval of surcharges.	ng	- Arrange of the second of the		Report Normal	Special*
Office /	7)522-8001	Fax \$009	Da	ate and Time port Needed:		133			"Additional charges apply for Quarter for data. Specify in commen	
Emzii Add	Ewm (Cwm company.			fy Regulatory Program:	: None/Info On	MTB	in .		Shipping Method	is section
Project ID	Marine Bank 2003-DI	35 / cantral)	Xu	UST sr	P SDWA	,×			LAB USE ON	Y
Project Ma	mager (Report to) RUWE	33 / WATISTI		503 Sludge NP	DES MWRDG	رياً ي			Work Order # 2108 F 2	
Sample Co		·		Disposal CC	DD OTHER-	19			Temperature of	
	SAMPLE IDENTIFICATION	COLLECTION		GRAB/ CONTAI	Specify Seid	-			Received within 24	
	(Use 1 line per container type)	DATE TIME	1 1		& TYPE PRESERVATI	VE			hours of collection? INO	LAB#
1	58-7	8/12/2 9:40	S	G 2/3 40M	L/402 MEDH/N	one X	X			TT
2	58-8	11:20								
3	58-9	11:30								
4	58-10	11:40								
5	58-11	14:05					110000000000000000000000000000000000000		·	
6	58-12	14:15								
7	5B-13	14:25								
8	5B-14	14:35								
9	SB-15	14:45	NT -	The state of the s	- Constitution of the Cons	1				
10	5B-16	15:00					The state of the s	and the second		
11	58-17	15:10	\bigvee	1 4	$V \mid V$	W	$U \mid \cdot \mid$			
12										
Waste V Ground V Sludge (V 40z, 80z,	; Drinking Water (DW), Soil (S), Vater (WW), Surface Water(SW), Water (GW), Soild Waste (WA), J), Wipe (P) CONTAINER: 20z, 40ml Vial, 500ml, Liter (L), Tube,), Plastic (P) PRESERVATIVE;	S & SPÉCIAL INSTRUCTI	ONS:					Special States	5 2 5 2021 CN	
	ICI, HNO3, Methanol (MeOH) odium Bisulfate (NaB): NaThio							ili sa v sei	· · · · · · · · · · · · · · · · · · ·	Biticana 1
1. Refinquis		2. Relinquished By		8/13/21	3. Relinquished By			4. Relinquished By	Date	
Reteived	RM MUST BE FILLED OUT COMPLETELY	Thereiting By Normal Slep		ne /[:05	Received By	1	ice	Received By	☐ Ice	Rev 2/17

000157



A. Site Identification

Illinois Environmental Protection Agency

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

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

Leaking Underground Storage Tank Program Laboratory Certification for Chemical Analysis

	ΙE	MA Incident # (6- or 8-digit): 2	20030135	IEPA LPC# (10-digit): 167025500	05
	Sit	e Name: Marine Bank Trust	# 53-0051	· · · · · · · · · · · · · · · · · · ·	
	Sit	e Address (Not a P.O. Box):	9520 State Rt. 29		
	Cit	y: Cantrall,	County: Sangamon	ZIP Code: 62625	
	Le	aking UST Technical File	·		
В.	Sa	mple Collector			
	l ce	ertify that:			
	1.	Appropriate sampling equip	ment/methods were utilized to obt	ain representative samples.	MJS
	2.	Chain-of-custody procedure	s were followed in the field.		(Initial) (Initial)
	3.	Sample integrity was mainta	ained by proper preservation.		MJS (Initial)
	4.	All samples were properly la	abeled.	1: 5EP - 7 2021	MJ (Initial)
Э.	La	boratory Representativ	е	200 and 200 vool 1277022	
	l ce	ertify that:		H12120512339	
	1.	Proper chain-of-custody pro	cedures were followed as docume	ented on the chain-of-custody forms	(Initial)
	2.	Sample integrity was mainta	ined by proper preservation.		(Initial)
	3.	All samples were properly la	beled.		(Initial)
	4.	Quality assurance/quality co	ntrol procedures were establishe	d and carried out.	2CS (Initial)
	5.	Sample holding times were	not exceeded.		(Initial)
					1

- 6. SW-846 Analytical Laboratory Procedure (USEPA) methods were used for the analyses.
- (Initial)
- 7. An accredited lab performed quantitative analysis using test methods identified in 35 IAC 186.180 (for samples collected on or after January 1, 2003).

D. Signatures

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

Sample Collector	Laboratory Representative
Name Matthew Saladino	Name Keith Shon Title Robert Manager
Title Environmental Engineer	Title Project Menager
Company CWM Company, Inc.	Company Suburban Laboratories, Inc.
Address 701 South Grand Ave. West	Address 1950 S. Batavia Ave., Suite 150
City Springfield	City Geneva
State IL	State IL
Zip Code 62704	Zip Code 60134
Phone 217-522-8001,	Phone 708-544-3260
Signature MATO	Signature Sour
Date	Date 8/30/2/

SUBURBAN LABORATORIES, Inc.



1950 S. Batavia Ave., Suite 150 Geneva, Illinois 60134 Tel. (708) 544-3260 • Toll Free (800) 783-LABS Fax (708) 544-8587 www.suburbanlabs.com

September 17, 2021

Carol Rowe CWM Company, Inc 701 West South Grand Springfield, IL 62704

TEL: (217) 522-8001 FAX: (217) 522-8009

RE: Marine Bank Trust #53-0051

Workorder: 2109977

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Dear Carol Rowe:

Suburban Laboratories, Inc. received 7 sample(s) on 9/10/2021 for the analyses presented in the following report.

All data for the associated quality control (QC) met EPA, method, or internal laboratory specifications except where noted in the case narrative. If you are comparing these results to external QC specifications or compliance limits and have any questions, please contact us.

This final report of laboratory analysis consists of this cover letter, case narrative, analytical report, dates report, and any accompanying documentation including, but not limited to, chain of custody records, raw data, and letters of explanation or reliance. This report may not be reproduced, except in full, without the prior written approval of Suburban Laboratories, Inc.

If you have any questions regarding these test results, please call me at (708) 544-3260.

Sincerely,

Keith Sinon Project Manager

708-544-3260 ext 212

keith@suburbanlabs.com

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Case Narrative

Client: CWM Company, Inc.

Project: Marine Bank Trust #53-0051

WorkOrder: 2109977

Temperature of samples upon receipt at SLI: 2 C

Date: September 17, 2021

PO #:

QC Level:

Chain of Custody #:

General Comments:

- All results reported in wet weight unless otherwise indicated. (dry = Dry Weight)

- Sample results relate only to the analytes of interest tested and to sample as received by the laboratory.

- Environmental compliance sample results meet the requirements of 35 IAC Part 186 unless otherwise indicated.
- Waste water analysis follows the rules set forth in 40 CFR part 136 except where otherwise noted.
- Accreditation by the State of Illinois is not an endorsement or a guarantee of the validity of data generated.
- For more information about the laboratories' scope of accreditation, please contact us at (708) 544-3260 or the Agency at (217) 782-6455.
- All radiological results are reported to the 95% confidence level.

Abbreviations:

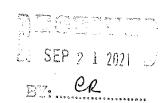
- Reporting Limit: The concentration at which an analyte can be routinely detected on a day to day basis, and which also meets regulatory and client needs.
- Quantitation Limit: The lowest concentration at which results can be accurately quantitated.
- J: The analyte was positively identified above our Method Detection Limit and is considered detectable and usable; however, the associated numerical value is the approximate concentration of the analyte in the sample.
- ATC: Automatic Temperature Correction. - TNTC: Too Numerous To Count
- TIC: Tentatively Identified Compound (GCMS library search identification, concentration estimated to nearest internal standard).
- SS (Surrogate Standard): Quality control compound added to the sample by the lab.

Method References:

For a complete list of method references please contact us.

- E: USEPA Reference methods
- SW: USEPA, Test Methods for Evaluating Solid Waste (SW-846)
- M: Standard Methods for the Examination of Water and Wastewater
- USP: Latest version of United States Pharmacopeia

Workorder Specific Comments:





Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank Trust #53-0051

Report Date: September 17, 2021

Workorder: 2109977

Client Sample ID: MW-1

Lab ID: 2109977-001

Date Received: 09/10/2021 11:05 AM

Matrix: GROUNDWATER

Collection Date: 09/07/2021 12:10 PM

		Report			Dilution		
Parameter	Result	Limit	Qual.	Units	Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method:	EPA-SW8260B	-Rev 2, Dec-96		Analyst: RY	
Benzene	1.43	0.0100		mg/L	10	09/ 1 5/2021 4:10 PM	R138769
Ethylbenzene	0.200	0.0100		mg/L	10	09/15/2021 4:10 PM	R138769
m,p-Xylene	0.306	0,00200		mg/L	1	09/14/2021 4:04 PM	R138706
Methyl tert-butyl ether	0.0136	0.00100		mg/L	1	09/14/2021 4:04 PM	R138706
o-Xylene	0.0254	0.00100		mg/L	1	09/14/2021 4:04 PM	R138706
Total Xylenes	0,331	0.00200		mg/L	1	09/14/2021 4:04 PM	R138706
Tofuene	0.0176	0.00100		mg/L	1	09/14/2021 4:04 PM	R138706
Internal Quality Control Compounds							11130700
SS: 4-Bromofluorobenzene	93.9	80-130		%Rec	1	09/14/2021 4:04 PM	R138706
SS: Dibromofluoromethane	95.4	76.1-120		%Rec	1	09/14/2021 4:04 PM	R138706
SS: Toluene-d8	98.3	85-115		%Rec	1	09/14/2021 4:04 PM	R138706
SEMIVOLATILE ORGANICS, BY GCA	AS SIM	Method:	EPA-8270C-Rev	v 3, Dec-96		Analyst: RHY	
Acenaphthene	0,000216	0.000100		mg/L	1	09/14/2021 7:31 PM	76590
Acenaphthylene	ND	0.000100		mg/L	1	09/14/2021 7:31 PM	76590
Anthracene	ND	0.000100		mg/L	1	09/14/2021 7:31 PM	76590
Benzo(a)anthracene	ND	0.000100		mg/L	1	09/14/2021 7:31 PM	76590
Benzo(a)pyrene	ND	0.000100		mg/L	1	09/14/2021 7:31 PM	76590
Benzo(b)fluoranthene	ND	0.000100		mg/L	1	09/14/2021 7:31 PM	76590 76590
Benzo(g,h,i)perylene	ND	0.000100		mg/L	1	09/14/2021 7:31 PM	76590 76590
Benzo(k)fluoranthene	ND	0.000100		mg/L	1	09/14/2021 7:31 PM	76590 76590
Chrysene	ND	0.000100		mg/L	1	09/14/2021 7:31 PM	76590 76590
Dibenzo(a,h)anthracene	ND	0.000100		mg/L	1	09/14/2021 7:31 PM	76590
Fluoranthene	ND	0.000100		mg/L	1	09/14/2021 7:31 PM	
Fluorene	0.000194	0.000100		mg/L	1	09/14/2021 7:31 PM	76590
Indeno(1,2,3-cd)pyrene	ND	0.000100		mg/L	1	09/14/2021 7:31 PM	76590
Naphthalene	0.00621	0.000100		mg/L	1	09/14/2021 7:31 PM	76590
Phenanthrene	ND	0.000100		mg/L	1	09/14/2021 7:31 PM	76590
Pyrene	ND	0.000100		mg/L	1	09/14/2021 7:31 PM	76590
Internal Quality Control Compounds	-	-		gr.	1	00/14/2021 /:31 PM	76590
SS: 2-Fluorobiphenyl	66.3	26.8-113		%Rec	1	09/14/2021 7:31 PM	70505
SS: 4-Terphenyl-d14	48.5	31.3-152		%Rec	1	09/14/2021 7:31 PM 09/14/2021 7:31 PM	76590
SS: Nitrobenzene-d5	71.8	13.8-115		%Rec	1		76590
		10.0 110		/0T/EU		09/14/2021 7:31 PM	76590

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank Trust #53-0051

Report Date: September 17, 2021

Workorder: 2109977

Client Sample ID: MW-2

Lab ID: 2109977-002

Date Received: 09/10/2021 11:05 AM

Matrix: GROUNDWATER

Collection Date: 09/07/2021 12:20 PM

		Report			Dilution		
Parameter	Result	Limit	Qual.	Units		Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method:	EPA-SW8260B	-Rev 2, Dec-96		Analyst: RY	· · · · · · · · · · · · · · · · · · ·
Benzene	0.250	0.0100		mg/L	10	09/15/2021 4:36 PM	R138769
Ethylbenzene	0.0400	0.0100		mg/L	10	09/15/2021 4:36 PM	R138769
m,p-Xylene	0.0138	0.00200		mg/L	1	09/14/2021 4:30 PM	R138709
Methyl tert-butyl ether	ND	0.00100		mg/L	1	09/14/2021 4:30 PM	R138706
o-Xylene	0.00100	0.00100		mg/L	1	09/14/2021 4:30 PM	R138706
Total Xylenes	0.0148	0.00200		mg/L	1	09/14/2021 4:30 PM	R138706
Toluene	0.00608	0.00100		mg/L	1	09/14/2021 4:30 PM	R138706
Internal Quality Control Compounds				u -		*** * ********************************	17130706
SS: 4-Bromofluorobenzene	101	80-130		%Rec	1	09/14/2021 4:30 PM	R138706
SS: Dibromofluoromethane	90.4	76.1-120		%Rec	1	09/14/2021 4:30 PM	R138706
SS: Toluene-d8	92,9	85-115		%Rec	1	09/14/2021 4:30 PM	R138706
SEMIVOLATILE ORGANICS, BY GCM	IS SIM	Method:	EPA-8270C-Re	v 3, Dec-96	·	Analyst: RHY	K130/U0
						v monyou (A)	
Acenaphthene	0.00258	0.000100		mg/L	1	09/14/2021 8:06 PM	76590
Acenaphthylene	0.000328	0.000100		mg/L	1	09/14/2021 8:06 PM	76590
Anthracene	0.000294	0.000100		mg/L	1	09/14/2021 8:06 PM	76590
Benzo(a)anthracene	ND	0.000100		mg/L	1	09/14/2021 8:06 PM	76590
Benzo(a)pyrene	ND	0.000100		mg/L	1	09/14/2021 8:06 PM	76590
Benzo(b)fluoranthene	ND	0.000100		mg/L	1	09/14/2021 8:06 PM	76590
Benzo(g,h,i)perylene	ND	0.000100		mg/L	1	09/14/2021 8:06 PM	76590
Benzo(k)fluoranthene	ND	0.000100		mg/L	1	09/14/2021 8:06 PM	76590
Chrysene	ND	0.000100		mg/L	1	09/14/2021 8:06 PM	76590
Dibenzo(a,h)anthracene	ND	0.000100		mg/L	1	09/14/2021 8:06 PM	76590
Fluoranthene	0.000206	0.000100		mg/L	1	09/14/2021 8:06 PM	76590
Fluorene	0.00258	0.000100		mg/L	1	09/14/2021 8:06 PM	76590
Indeno(1,2,3-cd)pyrene	ND	0.000100		mg/L	1	09/14/2021 8:06 PM	76590 76590
Naphthalene	0.178	0.00500		mg/L	50	09/15/2021 1:11 PM	76590 76590
Phenanthrene	0.00170	0.000100		mg/L	1	09/14/2021 8:06 PM	=
Pyrene	0.000202	0.000100		mg/L	1	09/14/2021 8:06 PM	76590
Internal Quality Control Compounds					•	00/ 14/2021 0:00 PM	76590
SS: 2-Fluorobiphenyl	57.8	26.8-113		%Rec	1	09/14/2021 8:06 PM	70500
SS: 4-Terphenyl-d14	35,3	31.3-152		%Rec	1	09/14/2021 8:06 PM	76590
SS: Nitrobenzene-d5	66.5	13.8-115		%Rec	1	09/14/2021 8:06 PM	76590 76590

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank Trust #53-0051

Report Date: September 17, 2021

Workorder: 2109977

Client Sample ID: MW-3

Lab ID: 2109977-003

Date Received: 09/10/2021 11:05 AM

Matrix: GROUNDWATER

Collection Date: 09/07/2021 12:30 PM

VOLATILE ORGANIC COMPOUNDS Benzene Ethylbenzene m,p-Xylene	ND ND ND ND	Method: 0.00100 0.00100 0.00200	EPA-SW8260E			Analyst: RY	
Ethylbenzene	ND ND ND	0.00100					
•	ND ND			mg/L	1	09/14/2021 4:57 PM	R138706
m,p-Xylene	ND	0.00200		mg/L	1	09/14/2021 4:57 PM	R138706
				mg/L	1	09/14/2021 4:57 PM	R138706
Methyl tert-butyl ether	ND	0.00100		mg/L	1	09/14/2021 4:57 PM	R138706
o-Xylene	ND	0.00100		mg/L	1	09/14/2021 4:57 PM	R138706
Total Xylenes	ND	0.00200		mg/L	1	09/14/2021 4:57 PM	R138706
Toluene	ND	0.00100		mg/L	1	09/14/2021 4:57 PM	R138706
Internal Quality Control Compounds				ū	•	1 17402 4.07 0	130706
SS: 4-Bromofluorobenzene	96.7	80-130	•	%Rec	1	09/14/2021 4:57 PM	R138706
SS: Dibromofluoromethane	89.1	76.1-120		%Rec	1	09/14/2021 4:57 PM	
SS: Toluene-d8	95.1	85-115		%Rec	1	09/14/2021 4:57 PM	R138706
SEMIVOLATILE ORGANICS, BY GCMS	SIM	Method:	EPA-8270C-Re		·		R138706
·				, 0, 500 00		Analyst: RHY	
Acenaphthene	0.0194	0.000581		mg/L	5	09/15/2021 2:59 PM	76590
Acenaphthylene	0.00720	0.000116		mg/L	1	09/14/2021 8:42 PM	76590
Anthracene	0.0141	0.000581		mg/L	5	09/15/2021 2:59 PM	76590
Benzo(a)anthracene	0.00116	0.000116		mg/L	1	09/14/2021 8:42 PM	76590
Benzo(a)pyrene	0.000319	0.000116		mg/L	1	09/14/2021 8:42 PM	76590
Benzo(b)fluoranthene	0.000327	0.000116		mg/L	1	09/14/2021 8:42 PM	76590
Berizo(g,h,i)perylene	0.000268	0.000116		mg/L	1	09/14/2021 8:42 PM	76590 76590
Berizo(k)fluoranthene	0.000140	0.000116		mg/L	1	09/14/2021 8:42 PM	76590
Chrysene	0.00214	0.000116		mg/L.	1	09/14/2021 8:42 PM	76590 76590
Dibenzo(a,h)anthracene	ND	0.000116		mg/L	1	09/14/2021 8:42 PM	76590 76590
Fluoranthene	0.00464	0.000116		mg/L	1	09/14/2021 8:42 PM	76590 76590
Fluorene	0.0447	0.000581		mg/L	5	09/15/2021 2:59 PM	
Indeno(1,2,3-cd)pyrene	0.000141	0.000116		mg/L	1	09/14/2021 8:42 PM	76590
Naphthalene	0.514	0.0116		mg/L	100	09/15/2021 1:48 PM	76590
Phenanthrene	0.131	0.0116		mg/L	100	09/15/2021 1:48 PM	76590
Pyrene	0.0178	0.000581		mg/L	5	09/15/2021 2:59 PM	76590
Internal Quality Control Compounds					v	00/10/2021 2.08 PM	76590
SS: 2-Fluorobiphenyl	16.7	26.8-113	S	%Rec	1	09/14/2021 8:42 PM	70506
SS: 4-Terphenyl-d14	16.9	31.3-152	S	%Rec	1	09/14/2021 8:42 PM	76590
SS: Nitrobenzene-d5	609	13.8-115	ES	%Rec	1	09/14/2021 8:42 PM	76590 76590

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Suburban Laboratories, Inc.

1950 S. Batavin Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank Trust #53-0051

Report Date: September 17, 2021

Workorder: 2109977

Client Sample ID: MW-4

Lab ID: 2109977-004

Date Received: 09/10/2021 11:05 AM

Matrix: GROUNDWATER

Collection Date: 09/07/2021 12:40 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method	d: EPA-SW8260E	I-Rev 2, Dec-96		Analyst: RY	
Benzene	ND	0.00100		mg/L	1	09/14/2021 5:23 PM	R138706
Ethylbenzene	0.471	0.0100		mg/L	10	09/15/2021 5:02 PM	R138769
m,p-Xylene	0.0477	0.00200		mg/L	1	09/14/2021 5:23 PM	R138706
Methyl tert-butyl ether	ND	0.00100		mg/L	1	09/14/2021 5:23 PM	R138706
o-Xylene	0.00509	0.00100		mg/L	1	09/14/2021 5:23 PM	R138706
Total Xylenes	0.0528	0.00200		mg/L	1	09/14/2021 5:23 PM	
Toluene	ND	0.00100		mg/L	1	09/14/2021 5:23 PM	R138706
Internal Quality Control Compounds				9. =		00/14/2021 5.23 FW	R138706
SS: 4-Bromofluorobenzene	132	80-130	s	%Rec	1	09/14/2021 5:23 PM	D400700
SS: Dibromofluoromethane	82.8	76.1-120		%Rec	1	09/14/2021 5:23 PM	R138706
SS: Toluene-d8	83.0	85-1 1 5	s	%Rec	1	09/14/2021 5:23 PM	R138706
SEMIVOLATILE ORGANICS, BY GCN	AS SIM	Method	: EPA-8270C-Re		•		R138706
		Welliod	. LI A-02/00-NE	v a, Dec-96		Analyst: RHY	
Acenaphthene	0.00451	0.000100		mg/L	1	09/14/2021 9:17 PM	76590
Acenaphthylene	0.00208	0.000100		mg/L	1	09/14/2021 9:17 PM	76590
Anthracene	0.00337	0.000100		mg/L	1	09/14/2021 9:17 PM	76590
Benzo(a)anthracene	0.000607	0.000100		mg/L	1	09/14/2021 9:17 PM	76590
Benzo(a)pyrene	0.000132	0.000100		mg/L	1	09/14/2021 9:17 PM	76590
Benzo(b)fluoranthene	0.000104	0.000100		mg/L	1	09/14/2021 9:17 PM	76590
Benzo(g,h,i)perylene	0.000127	0.000100		mg/L	1	09/14/2021 9:17 PM	76590
Benzo(k)fluoranthene	ND	0.000100		mg/L	1	09/14/2021 9:17 PM	76590
Chrysene	0.000879	0.000100		mg/L	1	09/14/2021 9:17 PM	76590 76590
Dibenzo(a,h)anthracene	ND	0.000100		mg/L	1	09/14/2021 9:17 PM	
Fluoranthene	0.00158	0.000100		mg/L	1	09/14/2021 9:17 PM	76590
Fluorene	0.00915	0.000100		mg/L	1	09/14/2021 9:17 PM	76590
Indeno(1,2,3-cd)pyrene	ND	0.000100		mg/L	1	09/14/2021 9:17 PM	76590
Naphthalene	0.179	0.00500		mg/L	50	09/15/2021 3:35 PM	76590
Phenanthrene	0.0314	0.00500		mg/L	50 50	09/15/2021 3:35 PM	76590
Pyrene	0.00519	0.000100		mg/L	1	09/14/2021 9:17 PM	76590
Internal Quality Control Compounds				mg/C	ı	00/14/2021 9(1/ PM	76590
SS; 2-Fluorobiphenyl	35.4	26.8-113		%Rec	1	09/14/2021 9:17 PM	70700
SS: 4-Terphenyl-d14	41.4	31,3-152		%Rec	, 1	09/14/2021 9:17 PM 09/14/2021 9:17 PM	76590
SS: Nitrobenzene-d5	160	13.8-115	S	%Rec	1		76590
		10.0110	· ·	/01/GC		09/14/2021 9:17 PM	76590

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank Trust #53-0051

Report Date: September 17, 2021

Workorder: 2109977

Client Sample ID: MW-5

Lab ID: 2109977-005

Date Received: 09/10/2021 11:05 AM

Matrix: GROUNDWATER

Collection Date: 09/07/2021 12:50 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method:	EPA-\$W8260B	-Rev 2, Dec-96		Analyst: RY	
Benzene	ND	0.00100		mg/L	1	09/14/2021 5:49 PM	R138706
Ethylbenzene	0.0122	0.00100		mg/L	1	09/14/2021 5:49 PM	R138706
m,p-Xylene	0.0569	0.00200		mg/L	1	09/14/2021 5:49 PM	R138706
Methyl tert-butyl ether	ND	0.00100		mg/L	1	09/14/2021 5:49 PM	R138706
o-Xylene	ND	0.00100		mg/L	1	09/14/2021 5:49 PM	R138706
Total Xylenes	0.0569	0.00200		mg/L	1	09/14/2021 5:49 PM	R138706
Toluene	ND	0.00100		mg/L	1	09/14/2021 5:49 PM	R138706
Internal Quality Control Compounds							11100700
SS: 4-Bromofluorobenzene	103	80-130		%Rec	1	09/14/2021 5:49 PM	R138706
SS: Dibromofluoromethane	88.8	76.1-120		%Rec	1	09/14/2021 5:49 PM	R138706
SS: Toluene-d8	90.7	85-115		%Rec	1	09/14/2021 5:49 PM	R138706
SEMIVOLATILE ORGANICS, BY GCMS	SIM	Method:	EPA-8270C-Re	v 3, Dec-96		Analyst; RHY	
Acenaphthene	0.00104	0.000100		mg/L	1	09/14/2021 9:53 PM	76590
Acenaphthylene	0.000589	0.000100		mg/L	1	09/14/2021 9:53 PM	76590
Anthracene	0.000718	0.000100		mg/L	1	09/14/2021 9:53 PM	76590
Benzo(a)anthracene	0.000150	0.000100		mg/L	1	09/14/2021 9:53 PM	76590
Benzo(a)pyrene	ND	0.000100		mg/L	1	09/14/2021 9:53 PM	76590
Benzo(b)fluoranthene	ND	0.000100		mg/L	1	09/14/2021 9:53 PM	76590
Benzo(g,h,i)perylene	ND	0.000100		mg/L	1	09/14/2021 9:53 PM	76590 76590
Benzo(k)fluoranthene	ND	0.000100		mg/L	1	09/14/2021 9:53 PM	76590
Chrysene	0.000156	0.000100		mg/L	1	09/14/2021 9:53 PM	76590
Dibenzo(a,h)anthracene	ND	0.000100		mg/L	1	09/14/2021 9:53 PM	76590
Fluoranthene	0.000337	0.000100		mg/L	1	09/14/2021 9:53 PM	76590
Fluorene	0.00202	0.000100		mg/L	1	09/14/2021 9:53 PM	76590
Indeno(1,2,3-cd)pyrene	ND	0.000100		mg/L	1	09/14/2021 9:53 PM	76590
Naphthalene	0.0382	0.00100		mg/L	10	09/15/2021 4:48 PM	76590
Phenanthrene	0.00385	0.000100		mg/L	1	09/14/2021 9:53 PM	76590
Pyrene	0,000825	0.000100		mg/L	1	09/14/2021 9:53 PM	76590
Internal Quality Control Compounds					•	05/ 1/11/20/21 0.00 FW	7 0090
SS; 2-Fluorobiphenyl	50,0	26.8-113		%Rec	1	09/14/2021 9:53 PM	76590
SS: 4-Terphenyl-d14	36,8	31.3-152		%Rec	1	09/14/2021 9:53 PM	76590 76590
SS: Nitrobenzene-d5	82.9	13.8-115		%Rec	1	09/14/2021 9:53 PM	76590 76590

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank Trust #53-0051

Report Date: September 17, 2021

Workorder: 2109977

Client Sample ID: MW-9

Lab ID: 2109977-006

Date Received: 09/10/2021 11:05 AM

Matrix: GROUNDWATER

Collection Date: 09/07/2021 1:00 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method:	EPA-SW8260B	-Rev 2, Dec-96		Analyst: RY	
Benzene	0.00291	0.00100		mg/L	1	09/14/2021 6:15 PM	R138706
Ethylbenzene	0.0913	0.00100		mg/L	1	09/14/2021 6:15 PM	R138706
m,p-Xylene	0.0730	0.00200		mg/L	1	09/14/2021 6:15 PM	R138706
Methyl tert-butyl ether	ND	0.00100		mg/L	1	09/14/2021 6:15 PM	R138706
o-Xylene	0.0107	0.00100		mg/L	1	09/14/2021 6:15 PM	R138706
Total Xylenes	0.0837	0.00200		mg/L	1	09/14/2021 6:15 PM	R138706
Toluene	0.00604	0.00100		mg/L	1	09/14/2021 6:15 PM	R138706
Internal Quality Control Compounds				•			11100700
SS: 4-Bromofluorobenzene	94.6	80-130		%Rec	1	09/14/2021 6:15 PM	R138706
SS: Dibromofluoromethane	89.9	76.1-120		%Rec	1	09/14/2021 6:15 PM	R138706
SS: Toluene-d8	94.6	85-115		%Rec	1 -	09/14/2021 6:15 PM	R138706
SEMIVOLATILE ORGANICS, BY GCMS	SIM	Method:	EPA-8270C-Re	v 3, Dec-96		Analyst: RHY	
Acenaphthene	0.000994	0.000152		mg/L	1	09/14/2021 10:28 PM	70500
Acenaphthylene	0.000368	0.000152		mg/L	1	09/14/2021 10:28 PM	76590
Anthracene	ND	0.000152		mg/L	1	09/14/2021 10:28 PM	76590
Benzo(a)anthracene	ND	0.000152		mg/L	1	09/14/2021 10:28 PM	76590
Benzo(a)pyrene	ND	0.000152		mg/L	1	09/14/2021 10:28 PM	76590
Benzo(b)fluoranthene	ND	0.000152		mg/L	1	09/14/2021 10:28 PM	76590
Benzo(g,h,i)perylene	ND	0.000152		mg/L	1	09/14/2021 10:28 PM	76590
Benzo(k)fluoranthene	ND	0.000152		mg/L	1	09/14/2021 10:28 PM	76590
Chrysene	ND	0.000152		mg/L	1	09/14/2021 10:28 PM	76590
Dibenzo(a,h)anthracene	ND	0.000152		mg/L	1	09/14/2021 10:28 PM	76590
Fluoranthene	ND	0.000152		mg/L	1	09/14/2021 10:28 PM	76590
Fluorene	0.00159	0.000152		mg/L	1	09/14/2021 10:28 PM	76590 76590
Indeno(1,2,3-cd)pyrene	ND	0.000152		mg/L	1	09/14/2021 10:28 PM	76590
Naphthalene	0.0935	0.00152		mg/L	10	09/15/2021 5:24 PM	76590 76590
Phenanthrene	0.00156	0.000152		mg/L	1	09/14/2021 10:28 PM	
Pyrene	0,000168	0.000152		mg/L	1	09/14/2021 10:28 PM	76590 76590
Internal Quality Control Compounds		· · · · · · · · · · · · · · · · · · ·			•	55, 1712021 10,20 FW	70090
SS: 2-Fluorobiphenyl	48.0	26.8-113		%Rec	1	09/14/2021 10:28 PM	76590
SS: 4-Terphenyl-d14	18,2	31,3-152	s	%Rec	1	09/14/2021 10:28 PM	76590 76590
SS; Nitrobenzene-d5	68,8	13.8-115	_	%Rec	1	09/14/2021 10:28 PM	76590 76590

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank Trust #53-0051

Report Date: September 17, 2021

Workorder: 2109977

Client Sample ID: MW-14

Lab ID: 2109977-007

Date Received: 09/10/2021 11:05 AM

Matrix: GROUNDWATER

Collection Date: 09/07/2021 1:15 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method:	EPA-SW8260B	-Rev 2, Dec-96		Analyst: RY	
Benzene	0.264	0.0100		mg/L	10	09/15/2021 5:28 PM	R138769
Ethylbenzene	0.00912	0.00100		mg/t_	1	09/14/2021 6;41 PM	R138706
m,p-Xylene	0.00592	0.00200		mg/L	1	09/14/2021 6:41 PM	R138706
Methyl tert-butyl ether	0.0167	0.00100		mg/L	1	09/14/2021 6:41 PM	R138706
o-Xylene	ND	0.00100		mg/L	1	09/14/2021 6:41 PM	R138706
Total Xylenes	0.00592	0.00200		mg/L	1	09/14/2021 6:41 PM	R138706
Toluene	0.00374	0.00100		mg/L	1	09/14/2021 6:41 PM	R138706
Internal Quality Control Compounds				-			11130700
SS: 4-Bromofluorobenzene	93.9	80-130		%Rec	1	09/14/2021 6:41 PM	R138706
SS: Dibromofluoromethane	92.8	76,1-120		%Rec	1	09/14/2021 6:41 PM	R138706
SS: Toluene-d8	97.9	85-115		%Rec	1	09/14/2021 6:41 PM	R138706
SEMIVOLATILE ORGANICS, BY GCMS	SIM	Method:	EPA-8270C-Re	/ 3, Dec-96		Analyst: RHY	11,00,00
Acenaphthene	ND	0.000100		mg/L	1	09/14/2021 11:04 PM	70500
Acenaphthylene	ND	0.000100		mg/L	1	09/14/2021 11:04 PM	76590
Anthracene	ND	0.000100		mg/L	1	09/14/2021 11:04 PM	76590
Benzo(a)anthracene	ND	0.000100		mg/L	1	09/14/2021 11:04 PM	76590
Benzo(a)pyrene	ND	0.000100		mg/L	1	09/14/2021 11:04 PM	76590
Benzo(b)fluoranthene	ND	0,000100		mg/L	1	09/14/2021 11:04 PM	76590
Benzo(g,h,i)perylene	ND	0.000100		mg/L	1	09/14/2021 11:04 PM	76590
Benzo(k)fluoranthene	ND	0.000100		mg/L	1	09/14/2021 11:04 PM	76590
Chrysene	ND	0.000100		mg/L	1	09/14/2021 11:04 PM	76590
Dibenzo(a,h)anthracene	ND	0.000100		mg/L	1	09/14/2021 11:04 PM	76590
Fluoranthene	ND	0.000100		mg/L	1	09/14/2021 11:04 PM	76590
Fluorene	ND	0.000100		mg/L	1	09/14/2021 11:04 PM	76590
Indeno(1,2,3-cd)pyrene	ND	0.000100		mg/L	1	09/14/2021 11:04 PM	76590
Naphthalene	0.00167	0.000100		mg/L	1		76590
Phenanthrene	ND	0.000100		mg/L	1	09/14/2021 11:04 PM	76590
Pyrene	ND	0.000100		mg/L	1	09/14/2021 11:04 PM	76590
Internal Quality Control Compounds		3.333,03		mg/L	'	09/14/2021 11:04 PM	76590
SS: 2-Fluorobiphenyl	54,9	26.8-113		%Rec	1	00/44/0004 44 04 04	
SS: 4-Terphenyl-d14	37.3	31,3-152		%Rec	1	09/14/2021 11:04 PM	76590
SS: Nitrobenzene-d5	51.4	13.8-115		%Rec	1	09/14/2021 11:04 PM	76590
	· · · · · · · · · · · · · · · · · · ·	10.0-110		MURC	ļ	09/14/2021 11:04 PM	76590

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

PREP DATES REPORT

Client: Project: CWM Company, Inc

Marine Bank Trust #53-0051

Report Date: September 17, 2021

Lab Order: 2109977

Sample ID	Collection Date	Batch ID	Prep Test Name	TCLP Date	Prep Date
2109977-001B	9/7/2021 12:10:00 PM	76590	AQUEOUS PREP SEP FUNNEL: BNA		9/14/2021
2109977-002B	9/7/2021 12:20:00 PM	76590	AQUEOUS PREP SEP FUNNEL: BNA		9/14/2021
2109977-003B	9/7/2021 12:30:00 PM	76590	AQUEOUS PREP SEP FUNNEL: BNA		9/14/2021
2109977-004B	9/7/2021 12:40:00 PM	76590	AQUEOUS PREP SEP FUNNEL: BNA		9/14/2021
2109977-005B	9/7/2021 12:50:00 PM	76590	AQUEOUS PREP SEP FUNNEL: BNA		9/14/2021
2109977-006B	9/7/2021 1:00:00 PM	76590	AQUEOUS PREP SEP FUNNEL: BNA		9/14/2021
2109977-007B	9/7/2021 1:15:00 PM	76590	AQUEOUS PREP SEP FUNNEL: BNA		9/14/2021

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Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Qualifier Definitions

WO#: 2109977 Date: 9/17/2021

Qualifiers:

$*/_{\rm X}$	Value exceeds Maximum Contaminant Level
В	Analyte detected in the associated Method Blank
C	Value is below Minimum Concentration Limit
c	Analyte not in SLI scope of accreditation
E	Estimated, detected above quantitation range
G	Refer to case narrative page for specific comments
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limit (QL)
N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit
P	Present
Q	Accreditation is not available from Wisconsin
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
T	Analyte detected in sample trip blank
V	EPA requires field analysis/filtration. Lab analysis would be considered past hold time.
WI	This sample was ran at the Wisconsin Laboratory, WI DNR Certified #246179890

SUBURBAN LAB	· · · · · · · · · · · · · · · · · · ·	The second secon	CHAIN OF C	USTODY RECORD)
1950 S. Batavia Ave. Ste. 150 G	Seneva, IL 60134	Tel. 708.544.3260	login@suburbanlabs.com		
Chy Co Inc		TURNAROUND TIME REC		VALYSIS & METHOD REQUESTED Inter an "X" in box below for request	Page [of]
Company Address TO W. South Grand City Cold City State	Ave.	Nomai	RUSH*		PO# # 04 1
Springfield IV	Zip	* Must be pre-approved and surcharge this box indicates your approval o	es apply. Checking		Report I Name Upage
Office Mobile /	62704 Fex 8009	Date and Time	or surcharges.		Type X Normal Expected Additional charges apply for QC reports and
Email Address		Report Needed: Specify Regulatory Program:	None Made Only		raw data. Specify in comments section Shipping Method
Project 10/Location	1	1_/	None/Info Only		
Morine Bank Trust Project Manager (Report to)		LUST SRP	SDWA		LAB USE ONLY
Sample Collector(s) Larol L. Ron	/e	503 Sludge NPDES	MWRDGC } "		Work Order # 2 09977
Sample Collector(s) KTR / JKK		Disposal CCDD	OTHER- Specify Below	32	Temperature of 2.3 °C
SAMPLE IDENTIFICATION	COLLECTION	GRAB/ CONTAINERS	€ £		Received within 24 No Yes
(Use 1 line per container type)	DATE TIME MATE		PRESERVATIVE		Lab Comment LAB#
1 MW-1	9-7-21 17:10 Gu	1 Gab 1/3 Liter non-	WA WU XX	$\langle \times $	
2 MW-2	1 12:20 1		1 1		
3 MW-3	12:30				1
4 MW-4	12:40				
5 MW-5	12:50				
6 MW-9	13,00				
7 MW-14	13:15				
8					1
9					
10		:			
11					
12					
	TS & SPECIAL INSTRUCTIONS:				
Waste Water (WW), Surface Water(SW), Ground Water (GW), Solid Waste (WA).					·
Sludge (U), Wipe (P) CONTAINER: 2oz,				orn at 1	191
4oz, 8oz, 40ml Vlal, 500ml, Liter (L), Tube, Glass (G), Plastic (P) PRESERVATIVE:				SEP 2 1 21	141
H ₂ SO ₄ , HCI, HNO ₃ , Methanol (MeOH)				CR.	
NaCH, Sodium Bisulfate (NaB), NaThio 1. Relinguished By Date	2. Relinguisted By	Date \$3. Relinquish	ned By	Date 4. Relinquished By	Date
Am 195 1/16/2	2) 1/1/ace	- 10-2/ 3. Relinquish		, , , , , , , , , , , , , , , , , , , ,	
Received by All Mice Sco	Received By	Fine 6 Received By	☐ lce	Time Redelved By	Time
THIS FORM MUST BE FILLED OUT COMPLETEL	Y BY THE SAMPLE COLLECTOR	OR SUBMITTER AND ORIGINAL FO		Y SAMPLES AT ALL TIMES.	Rev 2/17



Illinois Environmental Protection Agency

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

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

Leaking Underground Storage Tank Program Laboratory Certification for Chemical Analysis

A.	Si	te Identification			
	ΙE	MA Incident # (6- or 8-digit): 2	0030135	IEPA LPC# (10-digit): 167025	5005
	Si	te Name: Marine Bank Trust #	‡ 53-0051		
	Si	te Address (Not a P.O. Box):	9520 State Rt. 29		
	Ci	ty: Cantrall	County: Sangamon	ZIP Code: 62625	
	Le	aking UST Technical File			
В.	Sa	mple Collector	•		:
	l c	ertify that:			
	1.	Appropriate sampling equipm	nent/methods were utilized to	obtain representative samples.	JKK
	2.	Chain-of-custody procedures	s were followed in the field.		(Initial) <u>JKK</u> (Initial)
	3.	Sample integrity was maintai	ined by proper preservation.		JIS K (Initial)
	4.	All samples were properly lai	beled.	21 OCT (1 2021 D	JKは (Initial)
C.	La	boratory Representative	e	420,000 L	
	l ce	ertify that:		· '	
	1.	Proper chain-of-custody proc	edures were followed as docu	umented on the chain-of-custody forms	(Initial)
	2.	Sample integrity was maintai	ned by proper preservation.		(Initial)
	3.	All samples were properly lab	peled.		(Initial)
	4.	Quality assurance/quality cor	ntrol procedures were establis	hed and cárried out.	(Initial)
	5.	Sample holding times were n	ot exceeded.		288

(Initial)

- 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).

(Initial)
(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 John Kuka	Name Keith Sinon
Title Project Manager	Title Project Manager
Company CWM Company, Inc.	Company Suburban Laboratories, Inc.
Address 701 South Grand Ave. West	Address 1950 S. Batavia Ave., Suite 150
City Springfield	City Geneva
State IL	State IL
Zip Code 62704	Zip Code 60134
Phone 217-522-8001	Phone 708-544-3260
Signature An Am	Signature Sevel
Date	DateQ /28/Z

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APPENDIX H PLA DOCUMENTATION

CORRECTIVE ACTION PLAN AND BUDGET AMENDMENT

MARINE BANK TRUST # 53-0051 CANTRALL, ILLINOIS

Project	Labor Agreement Form.
_	•
The pur	rpose of this form is to provide information with regard to Project Labor Agreement criteria.
consulta consulta sought f	Labor Agreements potentially apply under the following circumstances: (a) approval is requested of a Corrective Action Plan plan involves field work activities; (c) the field work activities would be performed by a subcontractor (as opposed to the ant); (d) an approval letter would be issued by the Illinois EPA on or after July 25, 2013; and (e) reimbursement would be from the Illinois Underground Storage Tank Fund. Project Labor Agreement determinations are required by Section 3) of the Illinois Environmental Protection Act.
The field samples	d work activities which are proposed in the Corrective Action Plan (Advancement of soil borings and collection of soil s) may potentially be subject to the use of a Project Labor Agreement.
Please a	answer the following questions either "yes" or "no", and please discuss the basis for each answer:
1.	Will the use of a Project Labor Agreement advance the state's interest in reducing project costs paid from the Illinois Underground Storage Tank Fund?
	☐ Yes ⊠ No
	Discussion: The original intent of PLAs was for large scale construction projects. These projects would include multiple trades working together or in conjunction with one another and could make disputes between parties a potential liability as the project might last a few years. However, LUST sites differ in that one to two trades are typically necessary to complete the work. The "teams" that work together on hazardous sites, such as LUST sites, train together and develop cohesive relationships. Only a handful of workers are necessary to conduct the work; jurisdictional disputes are non-existent as the parties work in harmony.
	Further, the number of trades on this work is minimal as well; the work will be done by separate contractors without a mix of union and non-unionized work force. The site's small project will easily more than double the cost of the project with a PLA required, contradicting the idea to minimize site remediation cost.
2.	Will the use of a Project Labor Agreement advance the state's interest in efficiency, timeliness, and quality of project work, based upon the overall size, scope, complexity, and remediation objectives of the project?
	☐ Yes ☒ No
	Discussion: PLAs were first used in Illinois for large scale, large cost, and long duration highway development projects. All LUST work, no matter size or scope, is deemed small in comparative size to work normally prescribed a PLA. Collective bargaining agreements are unneeded as the number of facets required for any work does not reach a quantity warranting these agreements.
	Specifically, the Marine Bank Trust # 53-0051 site in Cantrall, Illinois requires a minimal amount of work to be completed during the corrective action stage. Drilling soil borings and collection of soil and vapor samples comprise the entirety of this proposed plan. This should take no more than a day.
3.	Does the project present safety concerns, including but not limited to the threat to human health and the environment? Will the use of a Project Labor Agreement advance the state's interest in promoting safety?
	☐ Yes ☒ No
	Discussion: LUST sites do not typically involve working within roadways unless the Corrective Action is within rights-of-way, on ingress / egress creates roadway issues which is not commonplace. Specifically, the Marine Bank Trust # 53-0051 site in Cantrall, Illinois is located on a moderately traveled road. Drilling activities should take no more than a day and therefore the length of time that safety of the traveling public as an issue is null. As for safety, consultants co-train teams in OSHA HAZWOPER to ensure not only worker safety, but safety for those who may enter or be near the work environment.

3.

4.	Will the use of a Project Labor Agreement advance the state's interest in labor continuity and stability in completing the project work in accordance with the plan approved by the Illinois EPA?
	□ Yes ⊠ No
	Discussion: The timetable for the work to be performed at the Marine Bank Trust # 53-0051 site is no more than a day; not exceeding or coming remotely close to 110 days in duration. On a scale of a day, labor force continuity and stability does not arise as an issue to complete the project as it does not span the duration of collective bargaining agreements. Simply put, the scale of time and scope of work is so small that a labor agreement would not expire, causing workers to walk out of the job.
5.	Will the use of a Project Labor Agreement advance the state's interest in performance of the project work by a skilled labor force, thereby achieving the remediation objectives of the project?
	☐ Yes ☑ No
	Discussion: Attracting workers from a union hall for non-sequential days of work puts them at a disadvantage for the bulk of the time, and is not an enticing option to union workers. Simply put, small LUST projects are not going to attract the workforce that would conduct "efficient" and "safe" work. A PLA, then, does not guarantee skilled workers.
	Because of the small scope of work, the bidding process would significantly increase the cost of activities at the Marine Bank Trust # 53-0051 site in Cantrall, Illinois. This would only increase the hardship of the owner and solely be detrimental to the efficiency of the project, which is the opposite of the objective put in place to push the project along towards closure.
6.	Will the use of a Project Labor Agreement provide timely completion of the project work, thereby reducing the threat to human health and the environment that would result from delays in achieving the remediation objectives?
	☐ Yes No
	Discussion: With only its consultant and local contractors present at the Marine Bank Trust # 53-0051 site during the "construction event", which will last a day, there are not multiple trades with closely or paralleled functions to create a work stoppage. The work will be completed within a day for the drilling soil borings and collection of soil samples.
7.	Will the use of a Project Labor Agreement advance the state's interest of advancing minority owned and women owned businesses and minority and female employment?
	☐ Yes ⊠ No
	Discussion: By applying a PLA to a project, the Agency may in fact directly negate one of its primary objectives, as stated to advance disadvantaged businesses. The Agency has provided no basis or discussion as to how the PLA will actually increase WBE participation. We believe that the opposite effect will occur.
	Furthermore, IEPA correspondence approving PLAs for various projects states that a "PLA will advance the State's interest of advancing minority-owned and women-owned business and minority and female employment". A PLA only requires that if a minority or woman employee or business is used for the project, then additional reports are required. In the competitive bidding process, it is unlikely that all bidders are female or minority; or it is far-fetched to think that all one-day construction projects with one to two workers will have either a female or minority represented in the workforce on site. There are no incentives to entice disadvantaged business participation.
	In this instance, the box should not be checked if there are no incentives to hire minority workers, for example, the apprenticeship program offers \$10.00/hour back to prime contractors when minority participation is required. Use of this screening criteria needs understood and not used loosely. If in fact any disadvantaged businesses are utilized under a PLA, their reporting costs are increased, increasing the project costs.

SCREENING CRITERIA

With the lack of detailed screening criteria from the IEPA for deciding which projects require the use of a PLA, CW³M has followed screening criteria that IDOT uses for government funded programs in their department as that State Agency follows the executive orders of Illinois Governors Blagojevich and Quinn, and President Obama. Attached at the end of this appendix is a copy of the IDOT PLA Determination screening criteria and it lists twelve seemingly ubiquitous standards used to determine the applicability of PLA for construction projects. It has been included for your reference but will be used herein as a systematic way to show how each criterion has been evaluated for applicability for 'yes/no' answers and whether or not the use of a PLA should be considered. CW³M recognizes that these standards may not be the same standards IEPA uses to determine the applicability of PLA for LUST sites, but IEPA correspondence issuing PLA for various sites appears to have very closely matched various IDOT screening criterion as determined in LUST Incidents 2002-0851, 2006-0366, 2009-1397, 2009-0202, 2009-0203, 2011-0859, 2012-0382, 2012-0695, 2013-0906, and 2013-1123.

1. The project is being awarded and administered by a governmentally funded program.

The "project" is privately contracted, a similar means as when a party secures legal counsel and other services. A contract is in place between a private company or citizen and a consultant or contractor who may also serve as a general contractor. That consultant will interface with governmental agencies on their behalf. They will submit claims for reimbursement after the completion of work, budgets and plan approval, and review of claims. The LUST Fund is a motor fuel tax collected by petroleum distributors, for reimbursement of LUST claims managed by the IEPA, so the answer to this question is "no". The IEPA administers the LUST Program to process claims and review technical plans and budgets not to award or administer the actual work done. As indicated on the PLA documents, the prime contractor is to secure the PLA. There is no "award" or "payment guarantee".

2. The project is being constructed using state or local funds.

The project is constructed using private funds, which ultimately may or may not be reimbursed with state funds. The current rates that the IEPA grants for LUST work have not been modified to reflect the recent changes regarding mandated payment of prevailing wages. That disport is placed on the owner/operator and their contractors. UST owners/operators collect sales tax into the LUST Fund for reimbursement of remediation work; thus, it is no longer a clear "yes" answer and the owner/operator pays

a deductible and is then reimbursed for "eligible" costs. The legislative intent of Public Act was for the IPCB to remedy rates to pay prevailing wages and rectify costs of PLAs and attorney fees.

3. The overall size, scope, sequencing, logistics, or other aspects of the project make it particularly challenging to manage, and use of a PLA is expected to help assure that the construction work is performed properly and efficiently under the circumstances.

As stated, PLAs were first used in Illinois for large scale, large cost, and long duration highway development projects. All LUST work, no matter size or scope, is deemed small in comparative size to work normally prescribed a PLA, therefore disqualifying it from any PLA consideration. Collective bargaining agreements are unneeded as the number of facets required for any work does not reach a quantity warranting these agreements.

Specifically, the Marine Bank Trust # 53-0051 site in Cantrall, Illinois requires a minimal amount of work to be completed during the corrective action stage. Drilling of soil boings and collecting soil and gas-vapor samples comprise the entirety of this proposed plan. This can and will be done in a day.

4. The duration of construction activity on the project is expected to exceed one construction season (110 or more working days), or the nature of the project results in a heightened need for labor force continuity and stability over a substantial period of time.

The timetable for the work to be performed at the Marine Bank Trust # 53-0051 site is no more than a day; not exceeding or coming remotely close to 110 days in duration. On a scale of a day, labor force continuity and stability does not arise as an issue to complete the project as it does not span the duration of collective bargaining agreements. Simply put, the scale of time and scope of work is so small that a labor agreement would not expire, causing workers to walk out of the job.

5. There is a firm construction completion date established for the project thereby increasing the adverse consequences of any work stoppage or other labor disruption.

It is on the discretion of the consultant as to how quickly a plan is implemented once it is approved. With the Agency having 120 days to approve, modify, or deny a plan, consultants cannot pre-plan or schedule the work until approved. Once approved, they

coordinate with owners/operators and any subcontractors necessary with weather contingencies. Therefore, adverse consequences of labor disruptions or work stoppage are non-existent on a job that lasts a few hours to a day for corrective action for actual remediation to complete. Many contractors can perform remediation services in-house or from a pool of reliable subcontractors, with easily adjustable start dates; however, it is fiscally advantageous for the consultant to complete the work as quickly as possible with fewer workers.

The norm on small projects like this is to solicit contractors who provide estimates as to how much the cost to complete each individual task after the contract is awarded. Because this process cannot be completed, prices will ultimately change and push the project into being "stuck" as the costs cannot be met.

6. The time required to complete the project is expected to extend beyond the expiration date of one or more existing collective bargaining agreements covering trades likely to be involved in the project, thereby increasing the likelihood of work stoppages or other labor disruptions during construction of the project.

With only its consultant and local contractors present at the Marine Bank Trust # 53-0051 site during the "construction event", which will last a day, there are not multiple trades with closely or paralleled functions to create a work stoppage. The time required to complete the project will in no way come close to extending beyond the expiration of any existing collective bargaining agreements covering any of the trades.

7. In the absence of a PLA, there is an increased likelihood of jurisdictional disputes among unions or of conflict between unionized and non-unionized workers on the project that could have a potentially material adverse effect on the time, cost, or quality of work performed on the project.

As stated, the original intent of PLAs was for large scale construction projects. These projects would include multiple trades working together or in conjunction with one another and could make disputes between parties a potential liability as the project might last a few years. However, LUST sites differ in that one to two trades are typically necessary to complete the work. The "teams" that work together on hazardous sites, such as LUST sites, train together and develop cohesive relationships. Only a handful of workers are necessary to conduct the work; jurisdictional disputes are non-existent as the parties work in harmony.

Further, the number of trades on this work is minimal as well; the work will be done by separate contractors without a mix of union and non-unionized work force.

8. The project presents specific safety concerns to the travelling public and a PLA will ensure labor force continuity and stability, decreasing the length of the safety concern.

LUST sites do not typically involve roads unless the Corrective Action is within rights-of-way, on ingress / egress creates roadway issues which is not commonplace. Specifically, the Marine Bank Trust # 53-0051 site in Cantrall, Illinois is located on a moderately traveled road to one site, but the work will be conducted on the property. As stated, construction activities will take day and therefore the length of time that safety of the traveling public as an issue is null. As for safety, consultants co-train teams in OSHA HAZWOPER to ensure not only worker safety, but safety for those who may enter or be near the work environment.

9. Use of the PLA is expected to result in improved access to skilled labor, improved efficiency, or improved safety performance on the project.

Attracting workers from a union hall for only a day to a partial day of work puts them at a disadvantage for the bulk of the time, and is not an enticing option to union workers. Simply put, small LUST projects are not going to attract the workforce that would conduct "efficient" and "safe" work. A PLA, then, does not guarantee skilled workers.

Because of the small scope of work, the bidding process would significantly increase the cost of activities at the Marine Bank Trust # 53-0051 site in Cantrall, Illinois. This would only increase the hardship of the owner and solely be detrimental to the efficiency of the project, which is the opposite of the objective put in place to push the project along towards closure.

10. Use of the PLA on the project is not expected to have a material adverse effect on the competitive bidding process.

The use of a PLA on the project does have a material adverse effect on bidding, financing and completion of the project. The contract award process takes place long before the work or construction ever begins. As stated, budgets are approved or modified at the discretion of the IEPA Project Managers and pre-approved IEPA rates. Competitive bidding is an option when work cannot be performed at the Agency's approved rates.

The key factor here is financing. No owner can afford to pay cash for work that is bid on that they would pay double, wait months or even years to get paid for nominal handling charges, no payment guarantee (below what contractors outside of LUST get paid), and be responsible for the extra business costs of the PLA. They are not banks and NATLUST realized very quickly that having an approved budget meant nothing for security of payment, folded its tent, leaving owner/operators no other option than to pay or let contractors carry the burden. The legislative intent was to adjust the rates paid every day to the mandated prevailing wage rate and make the use of PLA's limited in scope.

11. Use of a PLA on the project is not expected to have an adverse material effect on the ability of the Department to achieve other Departmental goals, (e.g. utilization of disadvantaged business, utilization of Illinois domiciled businesses, development of competitive vendor alternatives over time, etc.).

By applying a PLA to a project, the Agency may in fact directly negate one of its primary objectives, as stated to advance disadvantaged businesses. The Agency has provided no basis or discussion as to how the PLA will actually increase WBE participation. We believe that the opposite effect will occur.

Furthermore, IEPA correspondence approving PLAs for various projects states that a "PLA will advance the State's interest of advancing minority-owned and women-owned business and minority and female employment". A PLA only requires that if a minority or woman employee or business is used for the project, then additional reports are required. In the competitive bidding process, it is unlikely that all bidders are female or minority; or it is far-fetched to think that all day construction projects with one to two workers will have either a female or minority represented in the workforce on site. There are no incentives to entice disadvantaged business participation.

In this instance, the box should not be checked if there are no incentives to hire minority workers, for example, the apprenticeship program offers \$10.00/hour back to prime contractors when minority participation is required. Use of this screening criteria needs understood and not used loosely. If in fact any disadvantaged businesses are utilized under a PLA, their reporting costs are increased, increasing the project costs.

- 12. There are other material considerations favoring or disfavoring use of a PLA on this project as follows:
 - The total cost for current corrective action field activities involving skilled labor totals an estimated \$ 1,690.83 for drilling soil borings, not warranting a PLA in any program.
 - The site's small project will easily increase the cost of the project with a PLA required, contradicting the idea to minimize site remediation cost.
 - No reason was given by the IEPA for the implementation of a PLA on what may
 and should be the final step to gain closure on site; this will only further delay the
 goal of the Agency: closing the project, which the client is eager to finish.
 - The common goal of the Agency and owner/operators is closure. A PLA on an extremely small plan will delay or indefinitely stall closure when closure is within the grasp of all parties involved.

Contract Number County

IDOT PROJECT LABOR AGREEMENT DETERMINATION

Re:		•
Date:		
From:		
To:		

In accordance with Executive Order 2003-13 (Blagojevich), it is recommended that a project labor agreement (PLA) be utilized for the above-captioned Project. This recommendation is based on the considerations indicated below.

- l) The Project is being awarded and administered by IDOT (i.e., not by another governmental agency).
- 2) The Project is being constructed using state or local funds only (i.e., no federal funds).
- 3) The overall size, scope, sequencing, logistics or other aspects of the Project make it particularly challenging to manage, and use of a PLA is expected to help assure that the construction work is performed properly and efficiently under the circumstances.
- 4) The duration of construction activity on the Project is expected to exceed one construction season (i.e., 110 or more working days), or the nature of the Project results in a heightened need for labor force continuity and stability over a substantial period of time.
- 5) There is a firm construction completion date established for the Project thereby increasing the adverse consequences of any work stoppage or other labor disruption.
- 6) The time required to complete the Project is expected to extend beyond the expiration date of one or more existing collective bargaining agreements covering trades likely to be involved in the Project, thereby increasing the likelihood of work stoppage(s) or other labor disruption(s) during construction of the Project.
- 7) In the absence of a PLA, there is an increased likelihood of jurisdictional disputes among unions or of conflict between unionized and non-unionized workers on the Project that could have a potentially material adverse effect on the time, cost, or quality of work performed on the Project.

Contract Number County

- 8) This project presents specific safety concerns to the traveling public and a PLA, will ensure labor force continuity and stability, decreasing the length of the safety concern.
- 9) Use of a PLA is expected to result in improved access to skilled labor, improved efficiency, or improved safety performance on the Project.
- 10) Use of a PLA on the Project is not expected to have a material adverse effect on the competitive bidding process.
- 11) Use of a PLA on the Project is not expected to have a material adverse effect on the ability of the Department to achieve other Departmental goals (e.g., utilization of disadvantaged businesses, utilization of Illinois domiciled businesses, development of competitive vendor alternatives over time, etc.).

12) There are other material considerations favoring or disfavoring use of a PLA on this Project as follows:		
faith a PLA with the relevant labor organize	ve recommend that you approve use of a PLA epartment shall undertake to negotiate in good ration(s), and shall include in all necessary bid ation regarding the actual or form of PLA that uployees.	

Agreeu,		
	(Division Chief)	(Date)
Agreed:		·
Ū	{Bureau of Design & Environment}	(Date)
Agreed:		
	{Regional Engineer}	(Date)
Approved:		
	Gary Hannig, Secretary	(Date)
FHWA conc	urrence in the PLA for the above mentioned contract.	
	Division Administrator FHWA	(Date)

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

Ann L. Schneider, Secretary

PROJECT LABOR AGREEMENTS





Revised 01/01/13

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STATE OF ILLINOIS PROJECT LABOR AGREEMENTS

- Definition of (Project Labor Agreement) A Project Labor Agreement is a comprehensive prehire collective bargaining agreement that is negotiated between a project's owner (a state for example) and an appropriate labor organization (an area or state building and construction trades council) which sets out the basic terms and work conditions for that particular project.
- Intent of a Project Labor Agreement A Project Labor Agreement's intent is to ensure the efficient, timely and most cost-effective completion of a construction project.
- General Provisions Contained in a Project Labor Agreement
 - > A skilled and trained workforce is available through the craft's hiring halls.
 - > Work schedules and general terms for labor are made uniform among the crafts.
 - Monthly meetings established throughout the project with the trade unions and contractors to help coordinate manpower and settle disputes.
 - > Dispute resolution procedures are put into place addressing contractual and jurisdictional disputes.
 - > Ensures a timely completion of the project with no work stoppages.
 - Levels the playing field for potential bidders.
 - > Prevailing wage laws are applied to wage rates and fringe benefits.
- History of the Project Labor Agreement Project Labor Agreements (PLAs) have a long history
 of use in the construction industry dating back before World War II. PLAs have been used on
 federal construction projects since the 1930s. Some examples include the Grand Coulee Dam
 1937-1938, Kennedy Space Center and Nuclear missile sites.

In February of 1993, President Clinton signed Executive Order 12836, which revoked Executive Order 12818 issued in October of 1992 by President Bush that prohibited the use of PLAs on federal construction contracts. In June of 1997, President Clinton issued a presidential memorandum for the Heads of Executive Departments and Agencies expressing his support for the use of PLAs and encouraging their use within the federal government. President Clinton asked department heads to consider their use on a project-by-project basis for use on large scale projects where cost savings, efficiency and quality could be advanced.

On February 6, 2009, President Obama signed Executive Order 13502 allowing the use of PLAs by Executive Agencies on projects where federal funds will be obligated in excess of \$25 million. This order revokes Executive Orders 13202 and 13208, signed by President George W. Bush in 2001, and which prohibited the use of PLAs on federally-funded construction projects. President Obama's Executive Order lists the same advantages and the same requirements for a PLA that IDOT has recognized and required for many years. Importantly, the use of PLAs is not precluded for projects receiving federal financial assistance. Illinois received the first PLA granted on a federal-aid project under the Obama administration. (See Attachments A-E for complete text of Executive Orders referenced herein.)

 History of the Project Labor Agreement in Illinois – Project Labor Agreements have been used on a limited basis since 1992. The first agreement was implemented on the Supermax Prison project in Tamms, Illinois. The agreement was negotiated by the Building & Construction Trades Council, the Builder's Association and the Capital Development Board (state of Illinois). The agreements have been used on a project-by-project basis when they meet the criteria for their use.

In May of 2003, the Governor issued an executive order on Project Labor Agreements. The executive order allows a state department, agency, authority, board or instrumentality, which is under the control of the Governor, to include a PLA on a public works project where said department, agency, authority, board or instrumentality has determined that such agreement advances the state's interests of cost, efficiency, quality, safety, timeliness, skilled labor force, labor stability or the state's policy to advance minority- and female-owned businesses and minority and female employment.

After months of experience with Executive Order 2003-13, it became apparent that a statewide PLA committee needed to be established to provide better communication and efficiency between the state of Illinois and Labor. As a result, beginning February 25, 2005 an Illinois AFL-CIO Statewide Project Labor Agreement Committee was created.

On March 31, 2010, Executive Order 2010-03 was Issued by Governor Pat Quinn which supersedes Executive Order 2003-13.

The Project Labor Agreements Act (30 ILCS 571) became effective July 27, 2011. Additional diversity language and reporting provisions were included.

Criteria for Use of a Project Labor Agreement

- project size
- > complexity
- > length of project
- > disruption to the public
- > impact on quality of life
- > availability of skilled workforce
- history of workforce harmony
- cost savings from use of a PLA
- > geographical area (benefit to the state for keeping payrolls within the state)
- request by Using Agencies
- > other factors as determined by the department

Strategy for Use of Project Labor Agreements

- > Continue to meet with the 21 Building and Construction Trades Councils promoting the use of PLAs on projects that meet the criteria for their use.
- > Meet with AFL-CIO and other labor organizations at their quarterly meetings.
- > Meet with other Using Agencies including the Capital Development Board to share language and discuss the benefits of PLAs.

ILLINOIS AFL-CIO BUILDING & CONSTRUCTION TRADES STATEWIDE PROJECT LABOR AGREEMENT COMMITTEE

On May 7, 2003 Executive Order 2003-13 was signed allowing the use of Project Labor Agreements on a project-by-project basis for a state department, an agency, an authority, a board or instrumentality, which is under the control of the Governor. The Governor ordered that Project Labor Agreements should be utilized on a public works project where said department, agency, authority, board or instrumentality had determined that such agreement advances the state's interests.

After months of experience with Executive Order 2003-13, it became apparent that a statewide PLA committee needed to be established to provide better communication and efficiency between the state of Illinois and Labor.

As a result, beginning February 25, 2005 an Illinois AFL-CIO Statewide Project Labor Agreement Committee was created. The PLA committee members will:

- Meet as determined by the Illinois AFL-CIO. The meeting will be chaired by an officer (or their designee) of the Illinois AFL-CIO.
- Be compriséd of one authorized representative from each craft from the Illinois Building and Construction Trades.
- Seek input from and work in concert with the twenty-one (21) Illinois Building and Construction Trades councils.
- Will have full authority and responsibility to attend statewide PLA committee meetings and to negotiate PLAs with the state of Illinois; to sign PLAs with the state of Illinois; and, to have decision-making capabilities on any and all matters which may arise regarding Executive Order 2003-13 on behalf of their respective craft.
- Promulgate PLA committee procedures and rules as necessary in order to conduct business in an
 efficient and respectful manner and to bring a unified bargaining team to the PLA negotiating
 process.

On March 31, 2010, Executive Order 2003-13 was superseded by Executive Order 2010-03.

The Project Labor Agreements Act (30 ILCS 571) became effective July 27, 2011. Additional diversity language and reporting provisions were included.

FINANCE

(30 ILCS 571/) Project Labor Agreements Act.

(30 ILCS 571/1)

Sec. 1. Short title. This Act may be cited as the Project Labor Agreements Act. (Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/5)

Sec. 5. Findings.

- (a) The State of Illinois has a compelling interest in awarding public works contracts so as to ensure the highest standards of quality and efficiency at the lowest responsible cost.
- (b) A project labor agreement, which is a form of pre-hire collective bargaining agreement covering all terms and conditions of employment on a specific project, can ensure the highest standards of quality and efficiency at the lowest responsible cost on appropriate public works projects.
- (c) The State of Illinois has a compelling interest that a highly skilled workforce be employed on public works projects to ensure lower costs over the lifetime of the completed project for building, repairs, and maintenance.
- (d) Project labor agreements provide the State of Illinois with a guarantee that public works projects will be completed with highly skilled workers.
- (e) Project labor agreements provide for peaceful, orderly, and mutually binding procedures for resolving labor issues without labor disruption, preventing significant lost-time on construction projects.
- (f) Project labor agreements allow public agencies to predict more accurately the actual cost of the public works project.
- (g) The use of project labor agreements can be of particular benefit to complex construction projects. (Source: P.A. 97-199, eff. 7-27-11; 97-813, eff. 7-13-12.)

(30 ILCS 571/10)

Sec. 10. Public works projects. On a project-by-project basis, a State department, agency, authority, board, or instrumentality that is under the control of the Governor shall include a project labor agreement on a public works project when that department, agency, authority, board, or instrumentality has determined that the agreement advances the State's interests of cost, efficiency, quality, safety, timeliness, skilled labor force, labor stability, or the State's policy to advance minority-owned and womenowned businesses and minority and female employment. (Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/15)

Sec. 15. Public works projects funded with federal funds. When it has been determined that a project labor agreement is appropriate, and in furtherance of the President's Executive Order 13502, the State department, agency, authority, board, or instrumentality responsible for awarding the project may include a project labor agreement on a public works project funded in whole or in part with federal funds. (Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/20)

Sec. 20. Negotiation of agreement. When it has been determined that a project labor agreement is appropriate for a particular public works project, the State department, agency, authority, board, or instrumentality responsible for awarding the project shall in good faith negotiate a project

labor agreement with labor organizations engaged in the construction industry. If the State department, agency, authority, board, or instrumentality and the labor organizations engaged in the construction industry ("the parties") cannot agree to the terms of the project labor agreement, the Governor shall appoint a designee to assist the parties in reaching an agreement.

(Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/25)

Sec. 25. Contents of agreement. Pursuant to this Act, any project labor agreement shall:

- (a) Set forth effective, Immediate, and mutually binding procedures for resolving jurisdictional labor disputes and grievances arising before the completion of work.
 - (b) Contain guarantees against strikes, lockouts, or similar actions.
 - (c) Ensure a reliable source of skilled and experienced labor.
- (d) For minorities and females as defined under the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, set forth goals for apprenticeship hours to be performed by minorities and females and set forth goals for total hours to be performed by underrepresented minorities and females.
- (e) Permit the selection of the lowest qualified responsible bidder, without regard to union or non-union status at other construction sites.
- (f) Bind all contractors and subcontractors on the public works project through the inclusion of appropriate bld specifications in all relevant bid documents.
 - (g) Include such other terms as the parties deem appropriate.

(Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/30)

Sec. 30. Publicly disclosed finding. Any decision to use a project labor agreement in connection with a public works project by a State department, agency, authority, board, or instrumentality shall be supported by a written, publicly disclosed finding by the department, agency, authority, board, or instrumentality, setting forth the justification for use of the project labor agreement.

(Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/35)

Sec. 35. Compliance. All State departments, agencies, authorities, boards, and instrumentalities shall ensure that all public works projects are implemented in a manner consistent with the terms of this Act and are in full compliance with all statutes, regulations, and Executive Orders. (Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/37)

Sec. 37. Quarterly report; annual report. A State department, agency, authority, board, or instrumentality that has a project labor agreement in connection with a public works project shall prepare a quarterly report that includes workforce participation under the agreement by minorities and

females as defined under the Business Enterprise for Minorities, Females, and Persons with Disabilities Act. These reports shall be submitted to the Illinois Department of Labor. The Illinois Department of Labor shall submit to the General Assembly and the Governor an annual report that details the number of minorities and females employed under all public labor agreements within the State.

(Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/40)

Sec. 40. Severability. Nothing in this Act shall be construed to contravene any state or federal law or to jeopardize the State's entitlement to federal funding. If any provision of this Act or its application to any person or circumstance is held invalid by any court of competent jurisdiction, this invalidity does not affect any other provision or application of this Act that can be given effect without the invalid provision or application. To achieve this purpose, the provisions of this Act are declared to be severable. (Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/45)

Sec. 45. (Amendatory provisions; text omitted). (Source: P.A. 97-199, eff. 7-27-11; text omitted.)

(30 ILCS 571/99)

Sec. 99. Effective date. This Act takes effect upon becoming law.

(Source: P.A. 97-199, eff. 7-27-11.)



Summentain, Lungares

EXECUTIVE ORDER ON PROJECT LABOR AGREEMENTS (2010-03)

WHEREAS, the State of Illinois has a compelling Interest in awarding public works contracts so as to ensure the highest standards of quality and efficiency at the lowest responsible cost; and

WHEREAS, a project labor agreement, which is a form of pre-hire collective bargaining agreement covering all terms and conditions of employment on a specific project, can ensure the highest standards of quality and efficiency at the lowest responsible cost on appropriate public works projects; and

WHEREAS, the State of Illinois has a compelling interest that a highly skilled workforce be employed on public works projects to ensure lower costs over the lifetime of the completed project for building, repairs and maintenance; and

WHEREAS, project labor agreements provide the State of Illinois with a guarantee that public works projects will be completed with highly skilled workers; and

WHEREAS, project labor agreements provide for peaceful, orderly and mutually binding procedures for resolving labor issues without labor disruption, preventing significant lost-time on construction projects; and

WHEREAS, project labor agreements allow public agencies to predict more accurately the actual cost of the public works project; and

WHEREAS, the use of project labor agreements can be of particular benefit to complex construction projects; and

THEREFORE, 1, Pat Quinn, Governor of the State of Illinois, pursuant to the supreme executive authority of the Governor as set forth in Article V, Section 8 of the Illinois Constitution, do hereby order as follows:

- 1. On a project-by-project basis, a State department, agency, authority, board or instrumentality, which is under the control of the Governor, shall include a project labor agreement on a public works project where said department, agency, authority, board or instrumentality has determined that such agreement advances the State's interests of cost, efficiency, quality, safety, timeliness, skilled labor force, labor stability or the State's policy to advance minority- and women-owned businesses and minority and female employment.
- 2. Where it has been determined that a project labor agreement is appropriate, and in furtherance of the President's Executive Order 13502, the State department, agency, authority, board or instrumentality responsible for awarding the project may include a project labor agreement on a public works project funded in whole or in part with Federal funds.
- 3. Where it has been determined that a project labor agreement is appropriate for a particular public works project, the State department, agency, authority, board or instrumentality responsible for awarding the project shall in good faith negotiate a project labor agreement with labor organizations engaged in the construction industry. In the event that the State department, agency, authority, board or instrumentality and the labor organizations engaged in the construction industry ("the parties") cannot agree to the terms of the project labor agreement, the Governor shall appoint a designee to assist the parties in reaching an agreement.
- 4. Pursuant to this Order, any project labor agreement:
 - a. shall set forth effective, immediate and mutually binding procedures for resolving jurisdictional labor disputes and grievances arising before the completion of work;
 - b. shall contain guarantees against strikes, lockouts, or similar actions;
 - c shall ensure a reliable source of skilled and experienced labor;
 - d shall further public policy objectives as to Improved employment opportunities for minorities and women In the construction industry to the extent permitted by state and federal law;

- e. shall permit the selection of the lowest qualified responsible bidder, without regard to union or non-union status at other construction sites:
- shall be made binding on all contractors and subcontractors on the public works project through the inclusion of appropriate bid specifications in all relevant bid. documents; and
- g. shall include such other terms as the parties deem appropriate.
- 5. Any decision to use a project labor agreement in connection with a public works project by a State department, agency, authority, board or instrumentality shall be supported by a written, publicly disclosed finding by such department, agency, authority, board or instrumentality, setting forth the justification for use of the project labor agreement.
- 6. All State departments, agencies, authorities, boards and instrumentalities are hereby ordered to ensure that all public works projects are implemented in a manner consistent with the terms of this Order and are in full compliance with all statutes, regulations and Executive Orders,
- 7. Nothing in this Executive Order shall be construed to contravene any state or federal law or to Jeopardize the State's entitlement to federal funding. If any provision of this Executive Order or its application to any person or Circumstance is held invalid by any court of competent jurisdiction, this invalidity does not affect any other provision or application of this Executive Order that can be given effect Without the invalid provision or application. To achieve this purpose, the provisions of this Executive Order are declared to be severable.
- 8. This Order supersedes Executive Order 2003-13.
- This Order shall be in full force and effect upon its filing with the Secretary of State.

Pat Quinn

Governor

Issued by the Governor: March 31, 2010

Filed with the Secretary of State: March 31, 2010

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Search Feedback

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Quality | Management & Coordination | Details | Safety | Materials | Contract Administration FHWA > Engineering > Construction > Construction Guide > IDOT Project Labor Agreement Determination Construction Printable Version of this page (.doc, 44 kb) More Guide Information Construction Program Guide **Fact Sheets** <u>Contract</u> IDOT Project Labor Agreement Determination <u>Administration</u> Links Contract Number Contact County Memos Julie Trunk To: Publications Office of Program <u>Administration</u> From: Research 202-366-4639 Date: E-mail Julie Reviews Re: Construction Feedback Technical In accordance with Executive Order 2003-13 (Blagojevich), it is E-mail Construction recommended that a project labor agreement (PLA) be utilized for the Advisories above-captioned Project. This recommendation is based on the Training & considerations indicated below. Workshops 1. The Project is being awarded and administered by IDOT (i.e., not by another governmental agency). 2. The Project is being constructed using state or local funds only (i.e., no federal funds). 3. The overall size, scope, sequencing, logistics or other aspects of the Project make it particularly challenging to manage, and use of a PLA is expected to help assure that the construction work is performed properly and efficiently under the circumstances. 4. The duration of construction activity on the Project is expected to exceed one construction season (i.e., 110 or more working days), or the nature of the Project results in a heightened need for labor force continuity and stability over a substantial period of 5. There is a firm construction completion date established for the Project thereby increasing the adverse consequences of any work stoppage or other labor disruption. 6. The time required to complete the Project is expected to extend beyond the expiration date of one or more existing collective bargaining agreements covering trades likely to be involved in the Project, thereby increasing the likelihood of work stoppage(s) or other labor disruption(s) during construction of the Project. 7. In the absence of a PLA, there is an increased likelihood of jurisdictional disputes among unions or of conflict between unionized and non-unionized workers on the Project that could have a potentially material adverse effect on the time, cost, or quality of work performed on the Project.

IDOT Project Labor Agreement Determination - Construction Guide - Construction - FH... Page 2 of 2 8. This project presents specific safety concerns to the traveling public and a PLA, will ensure labor force continuity and stability, decreasing the length of the safety concern. 9. Use of a PLA is expected to result in improved access to skilled labor, improved efficiency, or improved safety performance on the Project. 10. Use of a PLA on the Project is not expected to have a material adverse effect on the competitive bidding process. 11. Use of a PLA on the Project is not expected to have a material adverse effect on the ability of the Department to achieve other Departmental goals (e.g., utilization of disadvantaged businesses, utilization of Illinois domiciled businesses, development of competitive vendor alternatives over time, etc.). 12. There are other material considerations favoring or disfavoring use of a PLA on this Project as follows: Based upon the identified considerations, we recommend that you approve use of a PLA on this Project. Upon your approval, the Department shall undertake to negotiate in good faith a PLA with the relevant labor organization(s), and shall include in all necessary bid specifications and other documents information regarding the actual or form of PLA that is binding upon all contractors and their employees, Agreed: {Division Chief} (Date) {Bureau of Design & Environment} (Date) Agreed: (Regional Engineer) (Date) Approved: Gary Hannig, Secretary (Date)

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FHWA concurrence in the PLA for the above mentioned contract.

Division Administrator FHWA (Date)

Updated: 04/04/2011

. Word files can be viewed with the Word Viewer

OFHWA

United States Department of Transportation - Federal Highway Administration

http://www.fhwa.dot.gov/construction/eqit/pla il.cfm

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Project Labor Agreement

A project labor agreement (PLA) is a pre-hire collective bargaining agreement with one or more labor organizations that establishes the terms and conditions of employment for a specific construction project. For highway projects, PLAs are typically negotiated between a State department of transportation, or another relevant contracting agency, and an appropriate labor organization (such as an area or state building and construction trades councils and relevant local unions). As a condition of being awarded a contract, the contractor must sign the negotiated PLA with the relevant union organizations.

On February 6, 2009 President Obama signed an Executive Order 13502 titled "Use of Project Labor Agreement for Federal Construction Projects." This Executive Order encourages executive agencies to consider requiring the use of PLAs on large-scale direct Federal construction projects (defined as a project with a total cost of \$25 million or more). Specifically, section 3 allows agencies to require the use of a PLA in Federal contracts where such use will: " . . . (I) advance the Federal Government's interest in achieving economy and efficiency in Federal procurement, producing labor-management stability, and ensuring compliance with laws and regulations governing safety and health, equal employment opportunity, labor and employment standards, and other matters, and (ii) be consistent with law." By its terms, section 3 applies only to Federal procurement, not contracts awarded under Federal financial assistance programs. With respect to projects receiving Federal financial assistance, section 5 provides, "This order does not require an agency to use a project labor agreement on any construction project, nor does it preclude the use of a project labor agreement in circumstances not covered by the order, including leasehold arrangements and projects receiving Federal financial assistance."

Executive Order 13502 revokes Executive Order 13202 of February 17, 2001, and Executive Order 13208 of April 6, 2001, and directs agencies, to the extent permitted by law to revoke any orders, rules or regulations implementing the two Executive Orders.

Authority/Legal Basis

- 1. Laws
 - None
- 2. Regulations
 - None

More Information

 Contract Administration

Contact

Julie Trunk
Office of Program
Administration
202-366-4639
E-mail Julie

Construction Feedback E-mail Construction

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3. Orders

Executive Order 13502 of February 6, 2009

4. Policy

 <u>FHWA Interim Guldance - May 7, 2010</u> (Note: FHWA Division Offices should forward a copy of the State's justification and PLA to Michael Harkins (HCC-30) and Julie Trunk (HIPA-30) for review. A recommendation will then be forwarded to the Deputy Administrator for a final determination.)

Guidance

- 1. General Information
 - Illinois Department of Transportation Project Labor Agreement Master Plan (.pdf)
 - Illinols Department of Transportation PLA Project Determination Criteria
- 2. 2. Training
 - None

PDF files can be viewed with the Acrobat® Reader®

Updated: 03/15/2012

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United States Department of Transportation - Federal Highway Administration

FAP Route 729(US 136) Project ACF-0729(014) Section 36(W,RS-1) & 34Z-2(W,RS) Vermillon County Contract No. 90939

Illnois Department of Transportation PROJECT LABOR AGREEMENT

ARTICLE 1 - INTENT AND PURPOSES

- 1.1. This PLA is entered into in furtherance of illinois Executive Order No. 2010-03 and P.A. 097-0199. It is mutually understood and agreed that the terms and conditions of this PLA are intended to promete the public interest in obtaining timely and economical completion of the Project by encouraging productive and efficient construction operations; by establishing a spirit of harmony and cooperation among the parties; and by providing for peaceful and prompt settlement of any and all labor grievances or jurisdictional disputes of any kind without strikes, lockouts, slowdowns, delays or other disruptions to the prosecution of the work.
- 1.2. As a condition of the award of the contract for performance of work on the Project, IDOT's Prime Contractor and each of its Subcontractors shall be required to sign a "Contractor Letter of Assent", in the form attached hereto as Exhibit A, prior to commencing Construction Work on the Project. Each Union affiliate and separate local representing workers engaged in Construction Work on the Project in accordance with this PLA are bound to this agreement by the illinois AFL-CIO Statewide Project Labor Agreement Committee which is the central committee established with full authority to negotiate and sign PLAs with the State on behalf of all respective crafts. Upon their signing the Letter of Assent, the Prime Contractor, each Subcontractor, and the individual Unions shall thereafter be deemed a party to this PLA. No party signatory to this PLA shall, contract or subcontract, nor permit any other person, firm, company or entity to contract or subcontract for the performance of Construction Work for the Project to any person, firm, company or entity that does not agree in writing to become bound by the terms of this PLA prior to commencing such work.
- 1.3. It is understood that the Prime Contractor(s) and each Subcontractor will be considered and accepted by the Unions as separate employers for the purposes of collective bargaining, and it is further agreed that the employees working under this PLA shall constitute a bargaining unit separate and distinct from all others. The Parties hereto also agree that this PLA shall be applicable solely with respect to this Project, and shall have no bearing on the interpretation of any other collective bargaining agreement or as to the recognition of any bargaining unit other than for the specific purposes of this Project.

FAP Route 729(US 136)
Project ACF-0729(014)
Section 36(W,RS-1) & 34Z-2(W,RS)
Vermilion County
Contract No. 90939

1.8. In the event that the applicable collective bargaining agreement between a Prime Contractor and the Union or between the Subcontractor and the Union expires prior to the completion of this Project, the expired applicable contract's terms will be maintained until a new applicable collective bargaining agreement is ratified. The wages and fringe benefits included in any new applicable collective bargaining agreement will apply on and after the effective date of the newly negotiated collective bargaining agreement, except to the extent wage and fringe benefit retroactivity is specifically agreed upon by the relevant bargaining parties.

ARTICLE II - APPLICABILITY, RECOGNITION, AND COMMITMENTS

- 2.1 The term Construction Work as used herein shall include all "construction, prosecution, completion, or repair" work performed by a "laborer or mechanic" at the "site of the work" for the purpose of "building" the specific structures and improvements that constitute the Project. Terms appearing within quotation marks in the preceding sentence shall have the meaning ascribed to them pursuant to 29 CFR Part 5.
- 2.2 By executing the Letters of Assent, Prime Contractor and each of its Subcontractors recognizes the Unions signatory to this PLA as the sole and exclusive bargaining representatives for their craft employees employed on the jobsite for this Project. Unions who are signatory to this PLA will have recognition on the Project for their craft.
- 2.3 The Prime Contractor and each of its Subcontractors retains and shall be permitted to exercise full and exclusive authority and responsibility for the management of its operations, except as expressly limited by the terms of this PLA or by the terms and conditions of the applicable collective bargaining agreement.
- 2.4 Except to the extent contrary to an express provision of the relevant collective bargaining agreement, equipment or materials used in the Project may be pressembled or pre-fabricated, and there shall be no refusal by the Union to handle, transport, install, or connect such equipment or materials. Equipment or materials delivered to the job-site will be unloaded and handled promptly without regard to potential jurisdictional disputes; any such disputes shall be handled in accordance with the provisions of this PLA.
- 2.5 Unions commit to furnishing qualified and skilled craft persons as required by the Prime Contractor and its Subconfractors in fulfillment of their obligations to complete the Project. In order to promote the long-term development of a skilled and knowledgeable work force, the parties are encouraged to utilize apprentices to the maximum extent permitted by the applicable collective bargaining agreement.

FAP Route 729(US 138)
Project ACF-0729(014)
Section 36(W,RS-1) & 34Z-2(W,RS)
Vermilion County

Contract No. 90939 3.4 Not later than the earlier of (a) five business days following the pre-job conference, or (b) commencement of Construction Work, the Unions and Prime Contractor (on behalf of itself and all its subcontractors of whatever tier) shall confer and jointly designate a slate of three (3) permanent arbitrators (each a "Permanent Amitrator") for the purpose of hearing disputes pursuant to Articles V and VII of this PLA. The slate of Permanent Arbitrators shall be selected from among the following individuals: Thomas F. Gibbons, Robert Ferkovich, Byron Yaffee, and Glenn A. Zipp. In the event that the Unions and Prime Contractor are not able to agree on a full slate of three Permanent Arbitrators, the Department, after consultation with the Unions and Prime Contractor, shall designate such additional Permanent Arbitrators as may be necessary to establish the full state. A single Permanent Arbitrator shall be selected from the slate of three on a rotating basis to adjudicate each arbitrable matter as it arises. In the event a Permanent Arbitrator is not available to adjudicate a particular metter in the order of rotation, the arbitration assignment shall pase to the next available Permanent Arbitrator.

ARTICLE IV - HOURS OF WORK AND GENERAL CONDITIONS

4.1 The standard work day for Construction Work on the Project shall be an established consecutive eight (8) hour period between the hours of 7:00 a.m. and 5:00 p.m. with one-half hour designated as unpaid period for lunch. The standard work week shall be five (5) consecutive days of work commencing on Monday. Starting time shall be established at the pre-job conference, and shall be applicable to all craft employees on the Project unless otherwise expressly agreed in writing. In the event Project site or other job conditions dictate a change in the established starting time and/or a staggered lunch period for portions of the Project or for specific orafts, the Prime Contractor, relevant Subcontractors and business managers of the specific crafts involved shall confer and mutually agree to such changes as appropriate.

If proposed work schedule changes cannot be mutually agreed upon between the parties, the hours fixed at the time of the pre-job meeting shall prevail.

- 4.2 Shift work may be established and directed by the Prime Contractor or relevant Subcontractor as reasonably necessary or appropriate to fulfill the terms of its contract with the Department. If used, shift hours, rates and conditions shall be as provided in the applicable collective bargaining agreement.
- 4.3 The parties agree that chronic and/or unexcused absenteelsm is undestrable and must be controlled in accordance with procedures established by the applicable collective bargaining agreement. Any employee disciplined for absenteelsm in accordance with such procedures shall be suspended from all work on the Project for not less than the maximum period permitted under the applicable collective bargaining agreement.

FAP Route 729(US 136) Project ACF-0729(014) Section 36(W,RS-1) & 34Z-2(W,RS) Vermillon County Contract No. 90939

- 5.2.B. Step 2. In the event that the Steward and the contractors' representatives at the job-site cannot reach agreement within two (2) working days after a meeting is arranged and held, the matter shall be referred to the Union Business Manager and to executive representatives of the Prime Contractor and relevant Subcontractor.
- 5.2.C. Step 3. In the event the dispute is not resolved within five (5) working days after completion of Step 2, the relevant parties shall request a Permanent Arbitrator as determined in accordance with paragraph 3.4 of this PLA, who shall, within ten (10) working days, hear the grievance and make a written decision. Such decisions shall be final and binding on all parties. The parties shall each pay the expense of their own representative. The expense of the Permanent Arbitrator shall be divided equally between (1) the Prime Contractor and/or relevant Subcontractor, and (2) the involved Union.
- 6.3 Any failure of a party to comply fully with such final and binding decision of the Permanent Arbitrator may result in removal of the non-complying party from the afte, in a holdback from the Prime Contractor or Subcontractor of any amounts awarded, or in such other relief as the Department may reasonably determine is necessary to promote final resolution of the dispute.
- 5.4 In the event any dispute or grievance should arise, the parties expressly agree that it shall be resolved without occurrence of any strike, work stoppage, slow-down or other prohibited activities as provided in Article VII of this PLA. Individuals or parties violating this section shall be subject to immediate discharge or other discipline.

ARTICLE VI - JURISDICTIONAL DISPUTES

- 6.1 As used in this Agreement, the term "jurisdictional dispute" shall be defined as any dispute, difference or disagreement involving the assignment of particular work to one class or craft of employees rather than to a different class or craft of employees, regardless of that Contractor's contractual relationship to any other employer, contractor, or organization on the site.
- 6.2 It is agreed by and between the parties to this Agreement that any and all jurisdictional disputes shall be resolved in the following manner; each of the steps hereinafter listed shall be initiated by the parties in sequence as set forth:
 - (a) Negotiation by and between the Local Business Representative of the disputing Union and Employer shall take place within two (2) business days. Business days are defined as Monday through Friday excluding contract holidays. Such negotiations shall be pursued until it is apparent that the dispute cannot be resolved at the local level.

FAP Route 729(US 186)
Project ACF-0729(014)
Section 36(W,RS-1) & 34Z-2(W,RS)
Vermillon County
Contract No. 90939

(3) If the Arbitrator finds that a previous decision of record governs the case, the Arbitrator shall apply the decision of record in rendering his decision except under the following circumstances. After notice to the other parties to the dispute prior to the hearing that it intends to challenge the decision of record, if a trade challenging the decision of record is able to demonstrate that the recognized and established prevailing practice in the locality of the work has been contrary to the applicable decision of record, and that historically in that locality the work in dispute has not been performed by the other craft or crafts, the Arbitrator may rely on such prevailing practice rather than the decision of record.

If the craft relying on the decision of record demonstrates that it has performed the work in dispute in the locality of the job, then the Arbitrator shall apply the decision of record in rendering his decision. If the Arbitrator finds that a craft has improperly obtained the prevailing practice in the locality through raiding, the undercutting of wagers or by the use of vertical agreements, the Arbitrator shall rely on the decision of record rather than the prevailing practice in the locality.

- (4) If no decision of record is applicable, the Arbitrator shall then consider the established trade practice in the industry and prevailing practice in the locality; and
- (6) Only if none of the above criteria is found to exist, the Arbitrator shall then consider that because efficiency, cost or continuity and good management are essential to the well being of the industry, the interest of the consumer or the past practice of the employer shall not be ignored.

The Arbitrator shall set forth the basis for his decision and shall explain his findings regarding the applicability of the above criteria. If lower-ranked criteria are relied upon, the Arbitrator shall explain why the higher-ranked criteria were not deemed applicable. The Arbitrator's decision shall only apply to the job in dispute.

- (6) Agreements of record are applicable only to the party's signatory to such agreements. Decisions of record are applicable to all trades.
- (7) The Arbitrator is not authorized to award back pay or any other damages for a mis-assignment of work. Nor may any party bring an independent action for back pay or any other damages, based upon a decision of an Arbitrator.

FAP Route 729(US 136) Project ACF-0729(014) Section 36(W,RS-1) & 342-2(W,RS) Vermillon County Contract No. 90939

- 7.4 Upon notification of violations of this Article, the principal officer or officers of the local area Building and Construction Trades Council, and the Illinois AFL-CIO Statewide Project Labor Agreement Committee as appropriate, will immediately Instruct, order and use their best efforts to cause the affiliated union or unions to cease any violations of this Article. A Trades Council and the Committee otherwise in compliance with the obligations under this paragraph shall not be liable for unauthorized acts of its affiliates.
- 7.5 In the event that activities in violation of this Article are not immediately halted through the efforts of the parties, any aggrieved party may invoke the special arbitration provisions set forth in paragraph 7,8 of this Article.
- 7.6 Upon written notice to the other involved parties by the most expeditious means available, any aggrieved party may institute the following special arbitration procedure when a breach of this Article is alleged:
 - 7.6.A The party invoking this procedure shall notify the individual designated as the Permanent Arbitrator pursuant to Article III of the nature of the alleged violation; such notice shall be by the most expeditious means possible. The initiating party may also furnish such additional factual information as may be reasonably necessary for the Permanent Arbitrator to understand the relevant dircumstances. Copies of any written materials provided to the arbitrator shall also be contemporaneously provided by the most expeditious means possible to the party alleged to be in violation and to all other involved parties.
 - 7.6.8 Upon receipt of said notice the Permanent Arbitrator shall set and hold a hearing within twenty-four (24) hours if it is contended the violation is ongoing, but not before twenty-four (24) hours after the written notice to all parties involved as required above.
 - 7.8.C The Permanent Arbitrator shall notify the parties by facsimile or any other effective written means, of the place and time chosen by the Permanent Arbitrator for this hearing. Said hearing shall be completed in one session. A failure of any party or parties to attend said hearing shall not delay the hearing of evidence or issuance of an Award by the Permanent Arbitrator.
 - 7.6.D The sole issue at the hearing shall be whether a violation of this Article has, in fact, occurred. An Award shall be issued in writing within three (3) hours after the close of the hearing, and may be issued without a written opinion. If any party desires a written opinion, one shall be issued within lifteen (15) days, but its issuance shall not dalay compliance with, or enforcement of, the Award. The Permanent Arbitrator may order cessation of the violation of this Article, and such Award shall be served on all parties by hand or registered mail upon issuance.

FAP Route 729(US 138) Project ACF-0729(014) Section 36(W,RS-1) & 34Z-2(W,RS) Vermilion County Contract No. 90939

8.5 The fallure or refusal of a party to exercise its rights hereunder in one or more instances shall not be deemed a waiver of any such rights in respect of a separate instance of the same or similar nature.

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(217) 524-3300

CERTIFIED MAIL

7022 2410 0001 5388 1059

AUG 0 1 2023

Trust Department Marine Bank Trust #53-0051 3050 West Wabash Springfield, IL 62707

Re:

1670255005 -- Sangamon County Cantrall/Marine Bank Trust #53-0051 9520 State Rour 29

Leaking UST Incident 20030135 Leaking UST Technical File

Dear Sir/Madam:

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed the Corrective Action Plan (plan) submitted for the above-referenced incident. This plan, dated April 7, 2023, was received by the Illinois EPA on April 11, 2023. Citations in this letter are from the Environmental Protection Act (415 ILCS 5) (Act) and Title 35 of the Illinois Administrative Code (35 Ill. Adm. Code).

Pursuant to Sections 57.7(b)(2) and 57.7(c) of the Act and 35 Ill. Adm. Code 734.505(b) and 734.510(a), the plan is approved. The activities proposed in the plan are appropriate to demonstrate compliance with Title XVI of the Act. Please note that all activities associated with the remediation of this release proposed in the plan must be executed in accordance with all applicable regulatory and statutory requirements, including compliance with the proper permits. Please note that all activities associated with the remediation of this release proposed in the plan must be executed in accordance with all applicable regulatory and statutory requirements, including compliance with the proper permits.

In addition, the budget is modified pursuant to Sections 57.7(b)(3) and 57.7(c) of the Act and 35 Ill. Adm. Code 734.505(b) and 734.510(b). Based on the modifications listed in Section 2 of Attachment A, the amounts listed in Section 1 of Attachment A have been approved. Please note that the costs must be incurred in accordance with the approved plan. Be aware that the amount of payment from the Fund may be limited by Sections 57.7(c), 57.8(d), 57.8(e), and 57.8(g) of the Act, as well as 35 Ill. Adm. Code 734.630 and 734.655.

Page 2

Further, pursuant to 35 Ill. Adm. Code 734.145, it is required that the Illinois EPA be notified of field activities prior to the date the field activities take place. This notice must include a description of the field activities to be conducted; the name of the person conducting the activities; and the date, time, and place the activities will be conducted and shall be made to EPA.FieldNotifications@illinois.gov. This notification of field activities must be provided at least two weeks prior to the scheduled field activities.

Pursuant to Sections 57.7(b)(4) and 35 III. Adm. Code 734.305 and 734.335(c), the Illinois EPA requires that an amended Corrective Plan which includes the results of this plan be submitted on or before February 9, 2024 to:

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

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

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

If you have any questions or need further assistance, please contact the undersigned at (217) 785-1858 or at Scott.Rothering@illinois.gov.

Sincerely,

Scott Rothering

Project Manager

Special Projects and Financial Unit

Sout It

Leaking Underground Storage Tank Section

Bureau of Land

Attachment:

Attachment A Appeal Rights

Carol Rowe, CWM Company Environmental Consulting Services (electronic copy) C: BOL File

Attachment A

Re: 1670255005 -- Sangamon County Cantrall/Marine Bank Trust #53-0051 9520 Illinois State Route 29 Leaking UST Incident 20030135 Leaking UST Technical File

SECTION 1

As a result of Illinois EPA's modification(s) in Section 2 of this Attachment A, the following amounts are approved:

\$1,717.63	Drilling and Monitoring Well Costs
\$3,706.61	Analytical Costs
\$704.51	Remediation and Disposal Costs
\$0.00	UST Removal and Abandonment Costs
\$0.00	Paving, Demolition, and Well Abandonment Costs
\$8,453.86	Consulting Personnel Costs
\$171.82	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 Section 57.1(a) of the Environmental Protection Act and 35 Illinois Administrative Code 734.635.

SECTION 2

\$428.36 for costs for PNA analytical costs, which lack supporting documentation. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(cc). Since there is no supporting documentation of costs, the Illinois EPA cannot determine that costs will not be used for activities 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.

Additionally, the costs 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).

PNA Analysis is not reimbursable for soil samples evaluating vertical extent of soil saturation.

This results in a deduction of \$428.36 from the Analytical Costs Form.

\$4,508.80 has been deducted from the Consulting Personnel Costs Form.

This includes the following deductions:

\$2,254.40 for 16 hours of the 32 requested hours at \$140.90 per hour for amended corrective action plan development. An itemized account of the requested hours was requested via email on July 6, 2023. In a response from John Kveton of CWM Company, 16 of the 32 hours were requested for drafting the corrective action plan.

\$563.60 for 4 hours for Senior Project Manager at \$140,90 per hour for TACO Tier 2 calculations/development of CUOs/GW modeling. These costs must be submitted in the next corrective action plan budget.

\$1,409.00 for 10 hours at \$140.90 per hour for amended corrective action plan budget development. An itemized account of the requested hours was requested via email on July 6, 2023. In a response from John Kveton of CWM Company, the costs for the amended corrective action budget development were not itemized.

\$845.40 for 6 hours for Senior Project Manager at \$140,90 per hour for review analytical results, bore logs, tabulation of analytical. These costs must be submitted in the next corrective action plan budget.

3. \$24.00 has been deducted from the Consultant's Material Costs Form.

This includes the flowing deductions:

\$24.00 for one day of use for a water level indicator. This is not needed for work proposed in the corrective action plan.

- 4. \$402.00 has been added to the Analytical Costs Form to analyze one soil gas sample in the vicinity of MW-1.
- 5. \$26.80 has been added to the Drilling Costs (drilling and monitoring well costs form) to drill for a second soil gas sample. This amount includes 5 feet of push-driven drilling at a rate of \$25.36 per foot and is the amount for drilling which exceeds the minimum charge.

701 W. South Grand Avenue Springfield, IL 62704

> Phone: (217) 522-8001 Fax: (217) 522-8009

February 2, 2024

Mr. Scott Rothering, Project Manager LUST Section, Bureau of Land Illinois Environmental Protection Agency 1021 North Grand Avenue East Springfield, Illinois 62794-9276

RE: LPC #1670255005—Sangamon County

Cantrall/Marine Bank Trust #53-0051

9520 Illinois State Route 29 Incident Number: 2003-0135

LUST Technical Reports—Corrective Action Plan and Budget Amendment

Dear Mr. Rothering:

On behalf of Marine Bank Trust #53-0051, the owner of the former underground storage tanks at the above-referenced site, we are submitting this proposed Corrective Action Plan (CAP) and Budget Amendment.

If you have any questions or require additional information, please contact Mr. Matthew Saladino or me at (217) 522-8001.

Sincerely,

Carol L. Rowe, P.G.

Senior Environmental Geologist

Enclosure

xc: Trust Officer, Marine Bank Trust #53-0051

FOR CLR

CORRECTIVE ACTION PLAN & BUDGET AMENDMENT

MARINE BANK TRUST # 53-0051

CANTRALL, ILLINOIS LPC # 1670255005— Sangamon County Incident Number 2003-0135

Submitted to:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

Leaking Underground Storage Tank Section, Bureau of Land 1021 North Grand Avenue East Springfield, Illinois 62794-9276

Prepared by:

CW3M COMPANY, INC.

701 South Grand Avenue West Springfield, Illinois (217) 522-8001

400 West Jackson, Suite C Marion, Illinois (618) 997-2238

February 2024

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

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CW³M Company. Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

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ACRONYMS AND ABBREVIATIONS

BETX	Benzene, Ethylbenzene, Toluene, Total Xylenes
CAP	Corrective Action Plan
CACR	Corrective Action Completion Report
CUO	Clean-up Objective
CW ³ M	CW ³ M Company, Inc.
Csat	Soil Saturation
ELUC	Environmental Land Use Controls
ITAA	Highway Authority Agreement
IEMA	Illinois Emergency Management Agency
IEPA	Illinois Environmental Protection Agency
Ill. Adm. Code	Illinois Administrative Code
ISGS	Illinois State Geological Survey
ISWS	Illinois State Water Survey
LUST	Leaking Underground Storage Tank
mg/kg	Milligrams/kilograms
mg/L	Milligrams/Liter
MTBE	Methyl Tert-Butyl Ether
OSFM	Illinois Office of the State Fire Marshal
PNA	Polynuclear Aromatic Hydrocarbon
PVC	Polyvinyl Chloride
ROW	Right-of-Way
SICR	Site Investigation Completion Report
SIP	Site Investigation Plan
SISR	Site Investigation Status Report
TACO	Tiered Approach to Corrective Action Objectives
USTs	Underground Storage Tanks
WCR	Well Completion Report

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

1. SITE HISTORY/EXECUTIVE SUMMARY

1.1 GENERAL

This proposed Corrective Action Plan (CAP) and Budget Amendment has been prepared in accordance with the requirements of the 35 Illinois Administrative Code (Ill. Adm. Code) 734. The Illinois Environmental Protection Agency (IEPA) Corrective Action Plan Form is included in this document as Appendix A.

Marine Bank Trust #53-0051, owner of the underground storage tanks (USTs) at 9520 Illinois State Route 29, Cantrall, Illinois, reported a release to the Illinois Emergency Management Agency (IEMA) and Incident Number 2003-0135 was assigned on February 4, 2003. The Marine Bank Trust Officer then requested that CW³M Company, Inc. (CW³M) proceed with the reporting and early action requirements of 415 ILCS 5/57-57.17.

The 20-Day Certification was submitted to the IEPA on February 5, 2003 (CW³M, 2003a). A 45-Day Report was submitted March 20, 2003 (CW³M, 2003b). An extension of the early action period through August 1, 2003 was approved by the IEPA on February 13, 2003 (IEPA, 2003a). A 45-Day Addendum Report was submitted to the IEPA on August 20, 2003 (CW³M, 2003c). The Site Investigation Plan (SIP) and Budget were prepared in accordance with the requirements of 415 ILCS 5/57-57.17 and submitted to the Agency on October 31, 2003 (CW³M, 2003d). The Agency approved the SIP with modifications on December 23, 2003 (IEPA, 2003b). On May 18, 2004, CW³M submitted a SIP Budget Amendment to the IEPA (CW³M, 2004a) and was approved by the Agency on June 7, 2004 (IEPA, 2004a). A Site Investigation Status Report (SISR) and budget was submitted to the IEPA on May 18, 2004 (CW³M, 2004b) and was approved by the Agency on June 7, 2004 (IEPA, 2004b).

A Site Investigation Completion Report (SICR) was submitted to the IEPA on April 8, 2005 (CW3M, 2005a) with additional information submitted on June 27, 2005 (CW3M, 2005b), which was denied by the Agency on August 29, 2005 (IEPA, 2005a). A revised SICR was submitted on September 14, 2005 (CW3M, 2005c) and was approved by the Agency on October 17, 2005 (IEPA, 2005b). A CAP and Budget was submitted on October 25, 2005 (CW3M, 2005d) and was denied by the Agency on February 21, 2006 (IEPA, 2006a). An Amended SIP Budget was submitted on November 2, 2005 (CW3M, 2005e) and was Approved by the Agency on December 2, 2005 (IEPA, 2005c). An amended SIP was submitted to the agency on February 28, 2006 (CW3M, 2006a) and was approved by the Agency on April 5, 2006 (IEPA, 2006b). A CAP and Budget was submitted on August 28, 2006 (CW3M, 2006b), which was rejected on October 23, 2006 (IEPA, 2006c). A response was submitted on November 17, 2006 (CW3M, 2006c) which was rejected on March 15, 2007 (IEPA, 2007). A CAP was submitted on November 14, 2008 (CW3M, 2008) and was approved by the Agency on March 10, 2009 (IEPA, 2009). A CAP and Budget Amendment was then submitted January 26, 2021 (CW3M, 2021) and was approved by the Agency on May 19, 2021 (IEPA, 2021). A CAP and Budget Amendment was submitted on April 11,

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-005 t LPC # 1670255005/ Incident Number 2003-0135

2023 (CW³M, 2023) and was approved with modifications by the Agency on August 1, 2023 (IEPA, 2023).

The investigation was performed under the direction of an Illinois Licensed Professional Geologist and completed in accordance with the Professional Geologist Licensing Act and its Rules for Administration.

1.2 SITE LOCATION

The Marine Bank Trust #53-0051 property is located at 9520 Illinois State Route 29, Cantrall, Sangamon County, Illinois. The site is located in the SW ¼ of the SW ¼ of the NW ¼ of Section 9, Township 17 North of the Centralia Baseline, Range 5 West of the Third Principal Meridian. Site location maps are provided in Appendix B.

1.3 UNDERGROUND STORAGE TANK INFORMATION

A release was reported to the IEMA and Incident Number 2003-0135 was assigned to the notification. The Marine Bank Trust Officer then requested that CW³M proceed with the early action and reporting requirements of 415 ILCS 5/57-57.17.

On March 31, 2003, CW³M personnel were on site to initiate Early Action activities. Illinois Office of the State Fire Marshall (OSFM) Tank Specialist William Hurrelbrink was on site to supervise the removal of the USTs. The tanks were ventilated and the tanks and piping removed. A narrative of the tank removals and other Early Action activities was provided in the 45-Day Report Addendum (CW³M, 2003c).

Table 1-1. Underground Storage Tank Summary

Tank Number	Tank Volume (gallons)	Tank Contents	Incident Number	Release Information	Current Status
1	500	Gasoline	03-0135	Tank & Lines	Removed 3/31/03
2	1,000	Gasoline	03-0135	Tank & Lines	Removed 3/31/03
3	500	Diesel	03-0135	Tank & Lines	Removed 3/31/03
4	500	Used Oil	03-0135	Tank & Lines	Removed 3/31/03
5	150	Used Oil	03-0135	None	Removed 3/31/05

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1.4 EARLY ACTION SUMMARY

During and following completion of the tank removal activities, transportation and disposal of contaminated backfill materials were conducted. CW³M personnel were on site through May 16, 2003 to complete early action activities.

Approximately 251.49 tons (128.27 cubic yards) of contaminated backfill materials was removed from the UST excavation and disposed of at Five Oaks Landfill in Taylorville, Illinois. Upon completion of the backfill removal, samples were collected along the walls of the excavation. The locations of the excavation samples are depicted in the April 8, 2005 SICR (CW³M, 2005a).

1.5 ADDITIONAL DRILLING

CW³M Company personnel were on site March 10, 2006 to complete the soil borings requested by the IEPA in its February 21, 2006 CAP and Budget rejection letter (IEPA 2006a). The five soil borings were advanced to further define and minimize the soil contamination plume. A table summarizing the results are included in Appendix G. The boring logs are included in Appendix F.

1.6 SITE INVESTIGATION SUMMARY

Gasoline, diesel fuel, and heating oil were released at this site; therefore, soil samples were analyzed for the indicator contaminants benzene, ethylbenzene, toluene and total xylenes (BETX), methyl tert-butyl ether (MTBE) and polynuclear aromatic hydrocarbons (PNAs). Soil analytical results indicate that the Tiered Approach to Corrective Action Objectives (TACO) Tier I Residential Clean-Up Objectives (CUOs) were exceeded at the western property boundary for benzene, ethylbenzene, and naphthalene. It was determined the contamination did not exist on the adjacent property. As a result, the soil contamination plume was defined.

Groundwater analytical results indicate that groundwater contamination at the south, east, and west property boundaries have exceeded the Class I Groundwater CUOs. Groundwater analytical results depict the groundwater contamination plume not migrating onto the Cantrall Elementary School property to the west, the Village Park to the southwest, nor past the wells installed on the Lawson property to the south. As a result, the groundwater contamination plume was considered defined.

CWM Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

1.7 CORRECTIVE ACTION EXECUTIVE SUMMARY

Previously, soil contamination was shown to migrate west into the Right-of-Way (ROW) of IL Route 29, but did not migrate onto off-site properties. Due to the length of time since site investigation took place, additional sampling was completed on August 12, 2021 to see if natural attenuation occurred from the release. The results confirmed that contamination along the site's property boundaries was below CUOs, therefore removing the need for a Highway Authority Agreement (IIAA). A map depicting the soil contamination plume is included in Appendix B as Drawing 0003B.

CW³M personnel returned to the site on September 7, 2021 to resample and survey the groundwater from several monitoring wells. The results indicate that groundwater contamination remains on- and off-site. The groundwater contamination plume is currently defined to remain onsite to the north. The groundwater contamination plume is also defined off-site to the south into the ROW of Claypool Street, west into the ROW of IL Route 29, and east on into a neighboring property. The plume is depicted as remaining within the ROW to the west and to the south, but does not extend onto the neighboring properties in those directions. A map depicting the groundwater contamination plume is included in Appendix B as Drawing 0004B. Well completion reports (WCRs) and soil boring logs are included in Appendix F for the Corrective Action activities. Tables summarizing the analytical results are included in Appendix G.

On September 5, 2023, CW³M personnel continued with Corrective Action activities. A total of seven soil borings were advanced as part of further soil contamination investigation. Three of the soil borings (SB-18, SB-19, and SB-20) were advanced to fully define the area requiring an engineered barrier encompassing SB-7. One boring (SB-21) was advanced to vertically define TACO Tier 1 Soil Saturation (Csat) exceedances from SB-15. One soil boring (PTACO) was collected for site-specific geotechnical physical parameters per request of the IEPA. The two remaining soil borings (SVG-1 and SVG-2) had soil-gas vapor samples collected from each. Soil borings logs are included in Appendix F. Laboratory analytical results and tables summarizing the results are included in Appendix G. Drawing of the locations are included in Appendix B.

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2. REMEDIATION OBJECTIVES

2.1 DETERMINATION OF CLEAN-UP OBJECTIVES

In accordance with 35 III. Adm. Code 734.410 and requested by the IEPA, remediation objectives were revised and determined in accordance with 35 III. Adm. Code § 742. The updated site-specific physical parameters were determined as the following:

Hydraulic Conductivity (K): $1.17 * 10^{-4}$ cm/sec Soil bulk density (ρ_b): 1.640 g/cm³ Soil particle density (ρ_s): 2.657 g/cm³ Moisture content (w): 0.20 Organic carbon content (f_{oc}): 0.0108

In order to determine the hydraulic conductivity, a slug test was performed. The test was performed by lowering a "slug" constructed of polyvinyl chloride (PVC) into a monitoring well. When the slug is lowered into the well, the groundwater is displaced by the volume of the slug. As the water within the well equilibrates, water depth changes are recorded in relation to the time interval that has passed since the test was initiated.

The hydraulic conductivity calculations are based on the total well depth, screen length and radius, initial water depth, and the water depth change over time. The depth-to-water changes over time were plotted on a semi-logarithmic graph and the curve was evaluated. The slope of the straight-line portion of the curve, along with the other slug test data, is used to calculate the hydraulic conductivity.

The remaining four parameters were determined by laboratory analysis of a soil sample, which was collected on September 5, 2023. Samples were collected in accordance with 35 Ill. Adm. Code 742.

In addition, two monitoring wells/groundwater elevations had been used for the hydraulic gradient within previous TACO calculations. The Calculations have been revised to include multiple points for the calculations. The hydraulic gradient of 0.06188 was found by using the IEPA provided calculator found at https://www3.epa.gov/ceampubl/learn2model/part-two/onsite/gradient4plus-ns.html, accessed on January 18, 2023. This calculation for the hydraulic gradient is referenced in Appendix E of this report.

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2.2 SOIL AND GROUNDWATER OBJECTIVES

Soil analytical results were compared to the TACO Residential Tier I and current TACO Industrial/Commercial Tier 2 CUOs with the soil to groundwater pathway removed in milligrams per kilogram (parts per million) (mg/kg). The calculations of the Tier 2 CUOs are included in Appendix E of this CAP.

Table 2-1. Soil Remediation Objectives

Parameter	TACO Residential Tier 1 CUOs (mg/kg)	TACO Industrial/Commercial Tier 2 CUOs (mg/kg)
Benzene	0.03	5.42
Ethylbenzene	13.0	58.0
Toluene	12.0	736.66
Total Xylenes	5.6	98.87
MTBE	0.32	418.35
Acenaphthene	570	710,00
Acenaphytylene	30	
Anthracene	12,000	
Benzo(a)anthracene	0.9	
Benzo(a)pyrene	0.09	
Benzo(b)fluoranthene	0.9	
Benzo(g,h,i)perylene	160	
Benzo(k)fluoranthene	9.0	
Chrysene	88.0	
Dibenz(a,h)anthracene	0.09	
Fluoranthene	3,100	
Fluorene	560	
Indeno(1,2,3-cd)pyrene	0.9	
Naphthalene	1.8	3.34
Phenanthrene	280	0.04
Pyrene	2,300	

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CW³M will consider the groundwater at this site to be Class I unless demonstrated otherwise pursuant to 35 III. Adm, Code § 620.210. According to the Illinois Pollution Control Board, three Class III Groundwater contributing areas exist; however, they are located in McHenry, Monroe and St. Clair Counties in northern and western Illinois. Groundwater investigation sample results would be compared to the TACO Tier 1 CUOs in milligrams per liter (mg/L).

Table 2-2. Groundwater Remediation Objectives

Parameter	TACO Tier 1 CUOs (mg/L)
Benzene	0.005
Ethylbenzene	0.7
Toluene	1.0
Total Xylenes	10.0
MTBE	0.07
Acenaphthene	0.42
Acenaphtylene	0.01
Anthracene	2.1
Benzo(a)anthracene	0.00013
Benzo(a)pyrene	0.0002
Benzo(b)fluoranthene	0.00018
Benzo(g,h,i)perylene	0.00076
Benzo(k)fluoranthene	0.00017
Chrysene	0.0015
Dibenz(a,h)anthracene	0.0003
Fluoranthene	0.28
Fluorene	0.28
Indeno(1,2,3-cd)pyrene	0.00043
Naphthalene	0.14
Phenanthrene	0.0064
Pyrene	0.210

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3. CORRECTIVE ACTION PLAN

Based upon the analytical data from the soil and groundwater samples collected to date, it is apparent that soil contamination exceeding various CUOs for multiple indicator contaminants remains from the release. Additionally, groundwater contamination for multiple indicator contaminants remains from the release. Site investigation details were presented in the SICR (CW³M, 2005c) and CAP and Budget Amendment (CW³M, 2021).

The following CAP and Budget has been prepared by CW³M Company, Inc., as their recommendation for the most appropriate approach to the remediation of the contamination at the Marine Bank Trust #53-0051 site in Cantrall, Illinois.

At the conclusion of the most recent Corrective Action activities, SB-21 vertically defined TACO Tier 1 C_{sal} exceedances from SB-15. No additional soil investigation is required to vertically define TACO C_{sat} Tier 1 exceedances.

As requested by the Agency, an additional site-specific geotechnical soil sample (PTACO) was collected during the September 2, 2023 Corrective Action activities. These new site-specific geotechnical parameters revised the previous geotechnical data, therefore new TACO Tier 2 CUOs were required to be calculated.

Upon the calculation of the new TACO Tier 2 CUOs, it was determined that multiple soil samples remain which exceed various TACO Tier 2 CUOs. The table below dictates these exceedances:

Table 3-1. TACO Tier 2 Soil Exceedances

TACO Tier 2 CUO (value in mg/kg)	Exceeded Locations (Sample Depth)
Benzene Industrial-Commercial Inhalation (5.42)	SB-7 (6')
Total Xylenes Construction Worker Inhalation (98.87)	SB-15 (6')
Naphthalene Construction Worker Inhalation (3.34)	SB-7 (6'), SB-15 (6'), SB-19A (2.5'), SB-19B (7.5')
Benzene Construction Worker Inhalation (7.62)	SB-7 (6')

It was noted with previous TACO Tier 2 calculations that soil samples collected had exceeded TACO C_{sat} Tier 2 CUOs. With the new calculations, no such exceedances remain from the incident.

The contamination exceeding the TACO Industrial-Commercial Inhalation Tier 2 CUO is proposed to be addressed through the implementation of an engineered barrier. The area requiring an engineered barrier has been fully defined through Corrective Action activities and is depicted in Drawing 0008 in Appendix B. This area is currently overlain with

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dilapidated concrete, especially surrounding the pump island. The concrete adjacent to the pump island is either nonexistent or heavily damaged and would not be suitable as an engineered barrier. The total area requiring an engineered barrier is 508 ft².

The contamination exceeding TACO Construction Worker Inhalation Tier 2 will be addressed with the use of Construction Worker Caution Areas. The Construction Worker Caution Areas are depicted on Drawing 0007 In Appendix B.

Following IEPA's Leaking Underground Storage Tank (LUST) flowchart for vapor intrusion assessment and at the Agency's request, two soil-gas vapor intrusion samples (SVG-1 and SVG-2) were collected during the September 5, 2023 sampling event. SVG-1 returned below applicable CUOs and does not require further remediation, however, SVG-2 depicts contamination exceeding indoor Industrial/Commercial inhalation CUOs and will need to be addressed. The contamination from SVG-2 is proposed to be addressed through the restriction that all future buildings will need to be constructed on a concrete base with no sumps. Currently, no above ground structures remain on site.

The remaining contamination required to be addressed is from soil-to-groundwater and groundwater contamination. All groundwater contamination remaining on site will be addressed with the use of a groundwater use restriction in the form a groundwater ordinance. It was determined by Ted Stead, Cantrall village president, that any of the properties east of Route 29 are not considered within the jurisdiction of the Village of Cantrall. Fancy Creek Township maintains jurisdiction of the properties surrounding the site. Therefore, the groundwater contamination migrating off-site to the east will be addressed with an Environmental Land Use Controls (ELUCs) and a groundwater ordinance. Based on the current modeling distances, it is expected that only one ELUC will be required for the adjacent farmland. Costs associated with securing the ELUC are included in Appendix D. A proposed groundwater ordinance will cover the area extending to the west and southeast of the site along West Barber Road/Claypool Street and IL 29.

At the current moment, the bank is leaving the site in the Marine Bank trust name even though the bank has been acquired. Their position is that if the site can be closed fairly soon, the trust does not need to be changed. We've spent a significant amount of time trying to sort this out.

In summary, this plan proposes:

- Replacement of concrete as an engineered barrier for contamination exceeding TACO Industrial/Commercial Inhalation Tier 2 of benzene.
 - The total area requiring an engineered barrier is 508 ft².
- A Construction Worker Caution area will be implemented on site to address all TACO Construction Worker Inhalation Tier 2 areas.
- The site will also implement restrictions for future buildings to be built on a concrete base with no sumps,

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

- An ELUC will be sought for the off-site property for the soil-to-groundwater and groundwater contamination modeling.
- A Groundwater Ordinance will be implemented to address the groundwater contamination extending to the west and southeast of the property.

3.1 CURRENT AND PROJECTED USES OF THE SITE

The site is surrounded by an elementary school, residential, light commercial and agricultural properties. No detailed future plans exist for the property following its remediation.

3.2 INSTITUTIONAL CONTROLS PROPOSED

Several institutional controls are being proposed. An engineered barrier will cover the area exceeding TACO Industrial/Commercial Inhalation Tier 2 contamination. A Construction Worker Caution Area as depicted in Drawing 0007 in Appendix B will be implemented. The engineered barrier and the construction worker caution area will address the Benzene exceedance at SB-7. A restriction on the property will require all buildings to be constructed on a concrete base with no sumps. A groundwater use restriction in the form of a groundwater ordinance will be implemented on site to address all soil-to-groundwater and groundwater contamination. An ELUC for an off-site property will address any remaining modeling of groundwater contamination.

3.3 WATER SUPPLY WELL SURVEY

A survey of water supply wells for the purpose of identifying and locating all community water supply wells within 2,500 feet of the UST systems and all potable water supply wells within 200 feet of the UST systems was conducted. The Illinois State Geological Survey (ISGS), Illinois State Water Survey (ISWS) and the IEPA Division of Public Water Supplies data was accessed online on January 23, 2024 to update the original well survey based on the full extents of the plume.

The review indicated that twelve potable wells are located within 2,500 feet of the site. However, they are not located within the setback zone. Also, the review revealed that there are no community water supply wells located within 2,500 feet of the site. The IEPA was accessed online on July 20, 2006, to determine if there is a local ordinance or policy regulating the usage of potable water supply wells for the Village of Cantrall. There is no ordinance in effect. All wells found within 2,500 feet of the contaminant plume are listed in Table 3-2 below.

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Table 3-2. Water Supply Well Information

Well ID	Туре	Distance From Site (feet)	Setback Zone (feet)
*00210	ISGS	362	200
00565	ISGS	1,024	200
24621	ISGS	1,135	200
22982	ISGS	2,420	200
24639	ISGS	2,016	200
25029	ISGS	2,016	200
22498	ISGS	1,056	200
22472	ISGS	2,358	200
22983	ISGS	427	200
22430	ISGS	2,358	200
22984	ISGS	1,697	200
24431	ISGS	378	200

^{*}The well ISGS has identified as 00210 belongs to the Athens Community Unit School District, Cantrall Elementary School. Cantrall Elementary School was contacted on June 10, 2003, and the school stated that they no longer use this well and currently obtain the village's water.

3.4 CLOSURE

At the conclusion of the proposed activities in this CAP and Budget Amendment, a Corrective Action Completion Report (CACR) will be submitted to the IEPA requesting a No Further Remediation letter. The closure report will be accompanied by a certification from an Illinois Registered Professional Engineer.

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4. REFERENCES

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CW³M, 2021. CW³M Company, Inc., Corrective Action Plan and Budget Amendment, Marine Bank Trust #53-0051, Cantrall, Illinois, January 26, 2021.

CW³M, 2023. CW³M Company, Inc., Corrective Action Plan and Budget Amendment, Marine Bank Trust #53-0051, Cantrall, Illinois, April 11, 2023.

CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

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IEPA, 2003b. Illinois Environmental Protection Agency, Site Investigation Plan and Budget Correspondence, Marine Bank Trust #53-0051, Cantrall, Illinois, December 23, 2003.

IEPA, 2004a. Illinois Environmental Protection Agency, Site Investigation Plan and Budget Correspondence, Marine Bank Trust #53, Cantrall, Illinois, June 7, 2004.

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IEPA, 2005a. Illinois Environmental Protection Agency, Site Investigation Completion Report and Budget Correspondence, Marine Bank Trust #53-0051, Cantrall, Illinois, August 29, 2005.

IEPA, 2005b. Illinois Environmental Protection Agency, Site Investigation Completion Report and Budget Correspondence, Marine Bank Trust #53-0051, Cantrall, Illinois, October 17, 2005.

IEPA, 2005c. Illinois Environmental Protection Agency, Amended Site Investigation Plan Budget Correspondence, Marine Bank Trust #53-0051, Cantrall, Illinois, December 2, 2005.

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IEPA, 2006c. Illinois Environmental Protection Agency, Corrective Action Plan and Budget Correspondence, Marine Bank Trust #53-0051, Cantrall, Illinois, October 23, 2006.

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IEPA, 2009. Illinois Environmental Protection Agency, Corrective Action Plan Correspondence, Marine Bank Trust #53-0051, Cantrall, Illinois, March 10, 2009.

IEPA, 2021. Illinois Environmental Protection Agency, Corrective Action Plan and Budget Amendment Correspondence, Marine Bank Trust #53-0051, Cantrall, Illinois, May 19, 2021.

IEPA, 2023. Illinois Environmental Protection Agency, Corrective Action Plan and Budget Amendment Correspondence, Marine Bank Trust #53-0051. Cantrall, Illinois, August 1, 2023.

APPENDIX A

CORRECTIVE ACTION PLAN FORM

CORRECTIVE ACTION PLAN AND BUDGET AMENDMENT

MARINE BANK TRUST # 53-0051 CANTRALL, ILLINOIS



Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 - 57.19), Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false, fictitious, or fraudulent material statement or representation, orally or in writing, to the Agency, or to a unit of local government to which the Agency has delegated authority under subsection (f) of Section 4 of this Act, related to or required by this Act, a regulation adopted under this Act, any federal law or regulation for which the Agency has responsibility, or any permit, term, or condition thereof, commits a Class 4 felony, and each such statement or writing shall be considered a separate Class 4 felony. A person who, after being convicted under paragraph 415 ILCS 5/44 (h)(8) a second or subsequent time, commits a Class 3 felony. (415 ILCS 5/44). This form

Leaking Underground Storage Tank Program Corrective Action Plan

		001	IOCE	ive Action Plan					
A. Site Identification				A Court Depay Double					
IEMA Incident # (6- or 8-digit): 200	30135			IEPA I	_PC# (10-dig	it): 16	702550	ne	
Site Name: Marine Bank Trust #53	3-0051				o. (15 dig	n.). 10	102000	00	
Site Address (Not a P.O. Box): 95	20 Illinois :	State F	Route	29				-	_
City: Cantrall			-	ounty: Sangamon	ZIP	Code	62625		_
D 00-1-6						oouo.	02020		
B. Site Information									
 Will the owner or operator seek r 	eimburser	ment fr	om ti	ne Underground Storage Ta	ank Fund?	0	Yes	0	No
2. If yes, is the budget attached?		Yes	0	No		-			110
3. Is this an amended plan?	Ø 1	Yes	0	No					
4. Identify the material(s) released:	Gasoli	ine, Die	esel,	and Used Oil					
5. This Corrective Action Plan is sub	mitted pu	irsuant	to:					-	-
○ a. 35 III. Adm. Code 731.16	6								
O b. 35 III. Adm. Code 732,40	14								
	5								
C. Proposed Methods of Remed	diation								
Soil Engineered Barrier		tion W	orka	r Caution Area					
2. Groundwater Groundwater Ordin			OING	Caution Area		_			
	Alloo, EEE	-	-			_	_		
D. Soil and Groundwater Invest	igation l	Resu	Its						
(for incidents subject to 35 III. Adm. provided)				2 that were classified using	Method One	or Tv	vo, if no	t prev	iously
Provide the following:									
Description of investigation activities	ities perfor	rmed to	o def	ine the extents of soil and/o	or aroundwat	or con	to make a	de.	
2. Analytical results, chain-of-custo	dy forms.	and lal	borat	ory certifications:	or groundwar	ei 601	ildi)iii)ai	uon;	
3. Tables comparing analytical resu									
	200	Halleria.	101116	ישופיוים וויסון סטופינועפס,					

IL 532 2287 LPC 513 Rev, 8/2019

Corrective Action Plan

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

E. Technical Information - Corrective Action Plan

Provide the following:

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

IL 532 2287 LPC 513 Rev. 8/2019

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

F. Exposure Pathway Exclusion

Provide the following:

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

G. Signatures

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

Consultant

Name M	er or Operator flarine Bank Trust #53-0051
Contact _	Jeffery M. Ulrich
Address	201 Clock Tower Dr.
City	East Peoria
State III	linois
Zip Code _	61611
Phone	309 681 3865
Email	Jeffery.Ulrich@mcbtrust.com
	- 1 11 / Souche

Consult	
	CVVM Company, Inc.
Contact	Garol Rowe MATTHEW SALADINO
Address	701 South Grand Avenue West
City	Springfield
State	Illinois
Zip Code	62704
Phone	217-522-8001
Email	cwm@cwmcompany.com
Signature	MINTER
Date	1 4 /2 /24

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

	d Professional Engineer or Geologist Vince E, Smith
Company	CWM Company, Inc.
Address	701 South Grand Ave, West
City	Springfield
State	Illinols
Zip Code	62704
Phone	217-522-8001

III. Registration No. 062-046118
License Expiration Date 11/3 u/2.5

Signature £

Date 1/12/24



IL 532 2287 LPC 513 Rev. 8/2019

Corrective Action Plan

APPENDIX B

SITE MAPS AND ILLUSTRATIONS

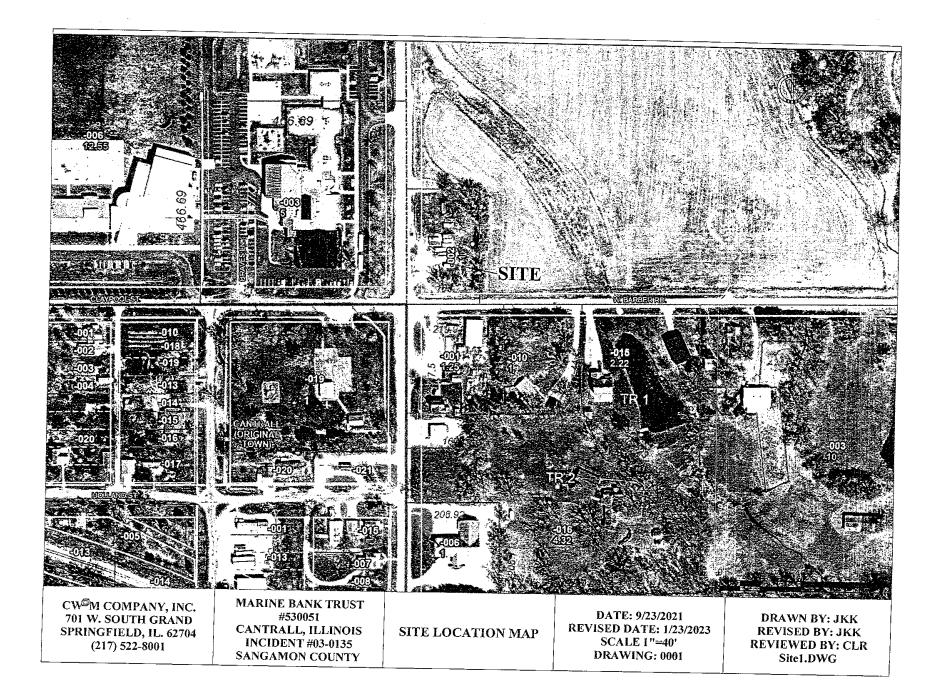
CORRECTIVE ACTION PLAN AND BUDGET AMENDMENT

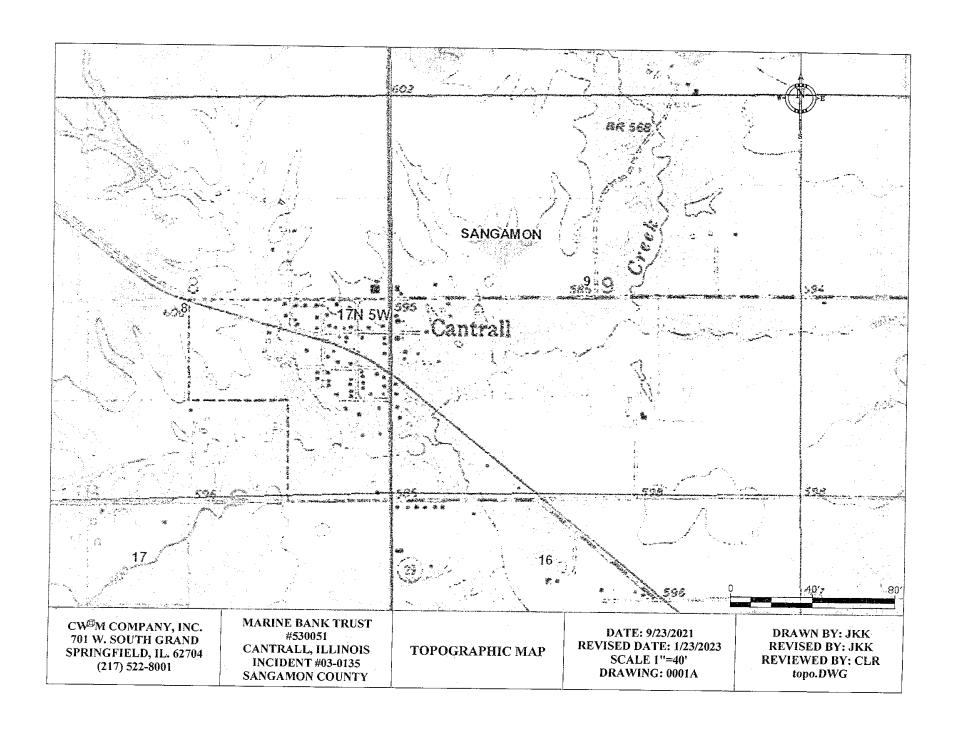
MARINE BANK TRUST # 53-0051 CANTRALL, ILLINOIS

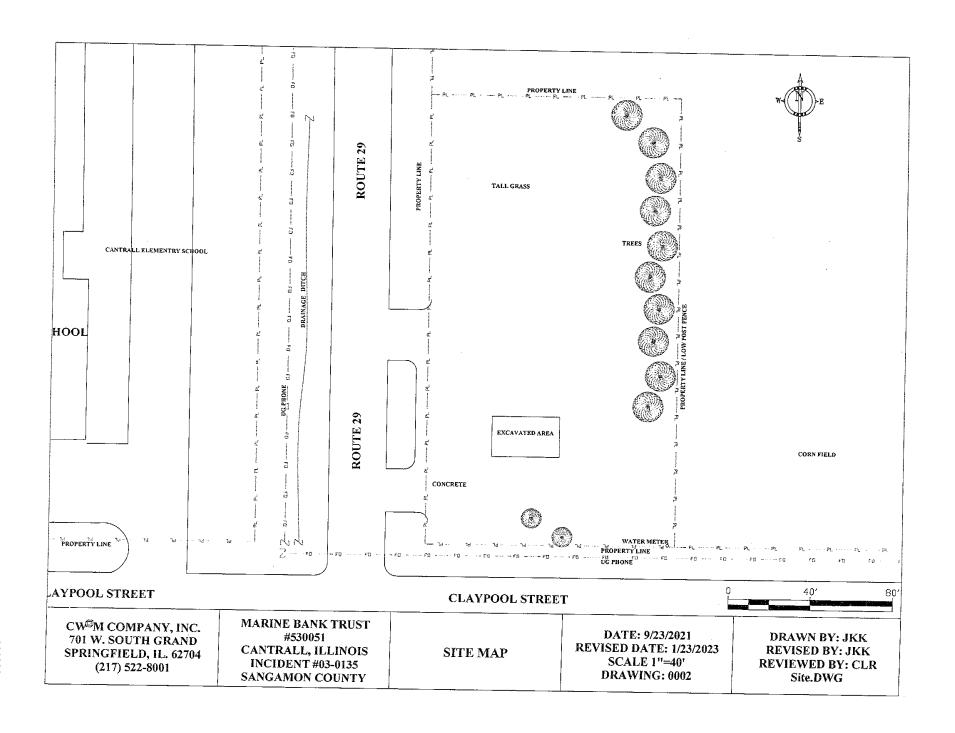
CW³M Company, Inc. Corrective Action Plan & Budget Amendment Marine Bank Trust # 53-0051 LPC # 1670255005/ Incident Number 2003-0135

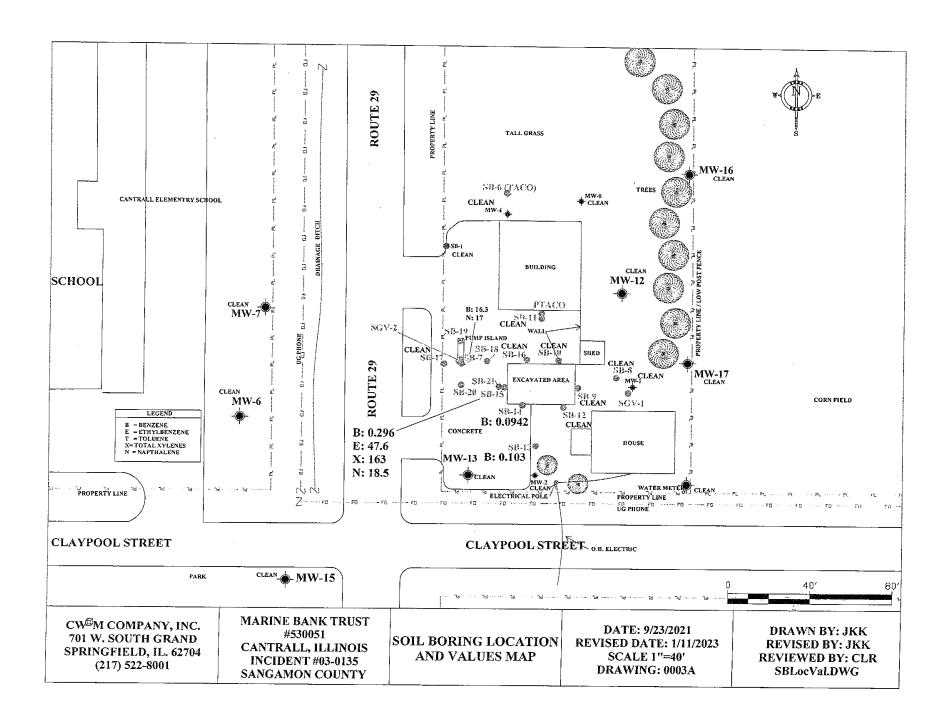
INDEX OF DRAWINGS

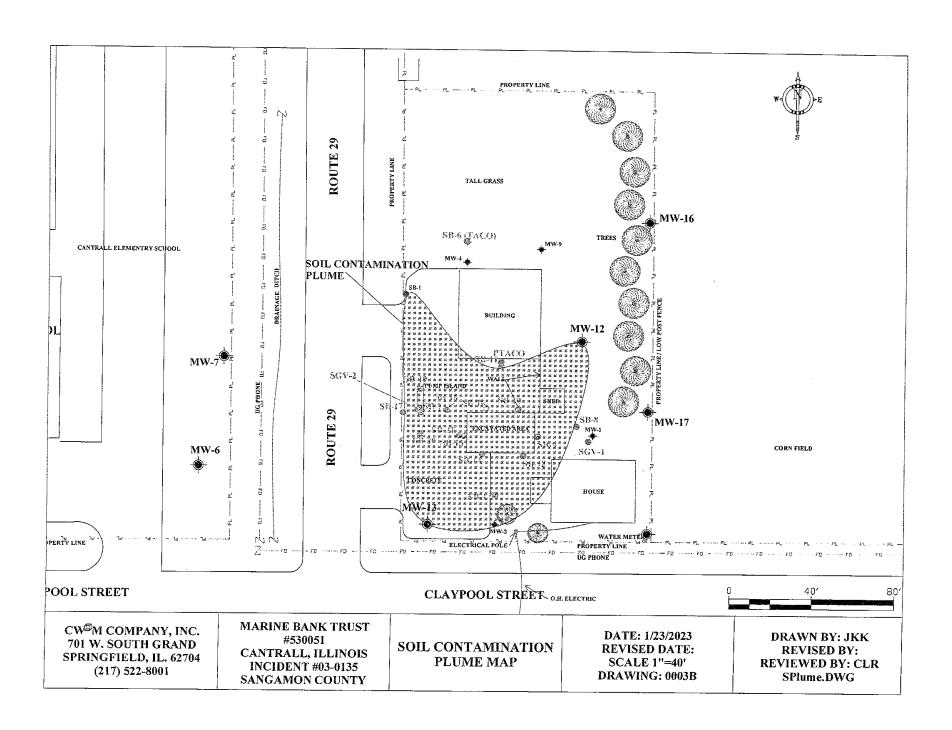
Drawing Number	Description	File Name
0001	Site Location Map	Site1.dwg
0001A	Topographic Map	topo.dwg
0002	Site Map	Site.dwg
0003A	Soil Boring Location and Values Map	SBLocVal.dwg
0003B	Soil Contamination Plume Map	SPlume.dwg
0004A	Monitoring Well Locations and GW Values Map	MWLoc-GWVal.dws
0004B	Groundwater Contamination Plume Map	GWPlume.dwg
0005a	Groundwater Flow Map (February 27, 2004)	GWFlow02-04.dwg
0005Ъ	Groundwater Flow Map (August 11, 2004)	GWFlow08-04.dwg
0005c	Groundwater Flow Map (September 1, 2004)	GWFlow09-04.dwg
0005d	Groundwater Flow Map (September 7, 2021)	GWFlow09-04.dwg
0006A	R-26 Modeling Map	
0006B	R-26 Modeling Map (close)	R-26.dwg
0007	Construction Worker Caution Area Map	R-26close.dwg
0008	Proposed Engineered Barrier Location Map	CWCat,dwg
0009	Proposed Groundwater Ordinance Map	EngBar.dwg GWOrd.dwg

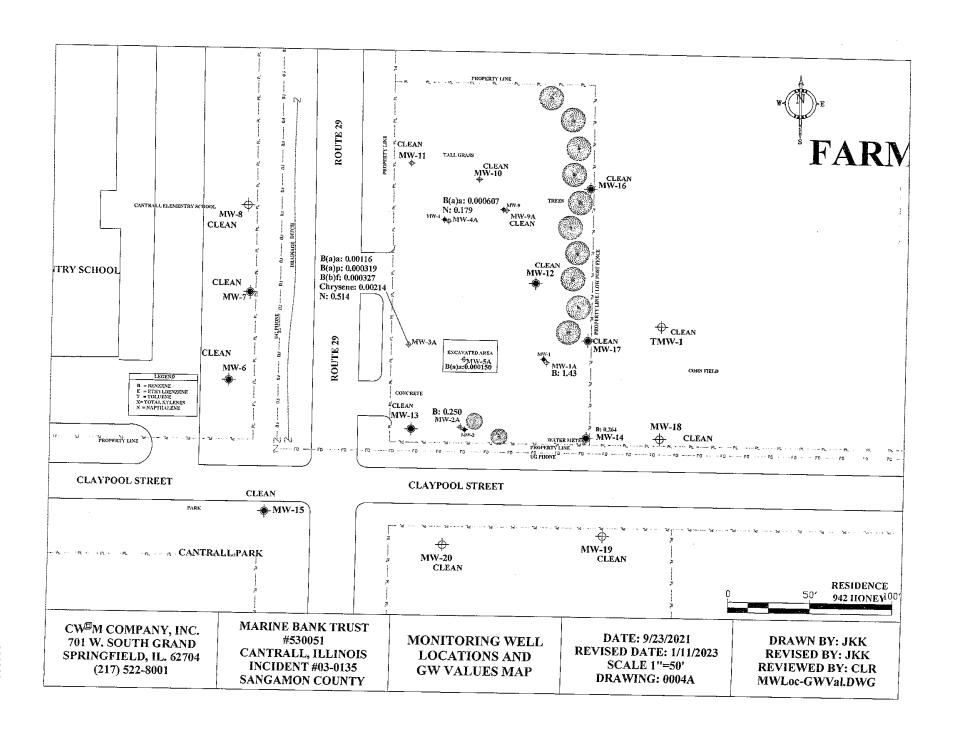


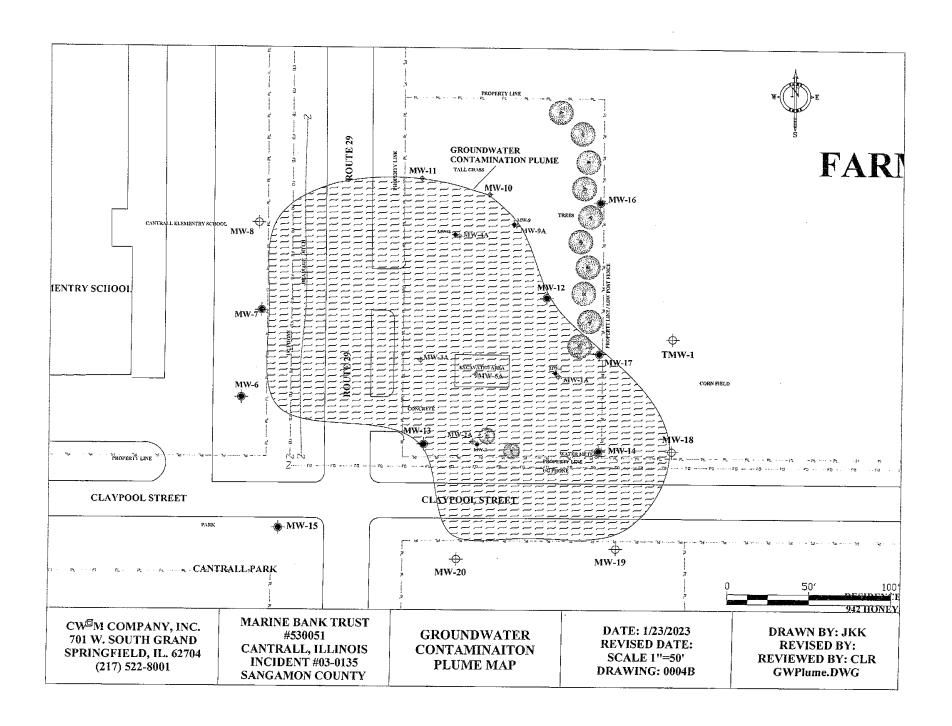


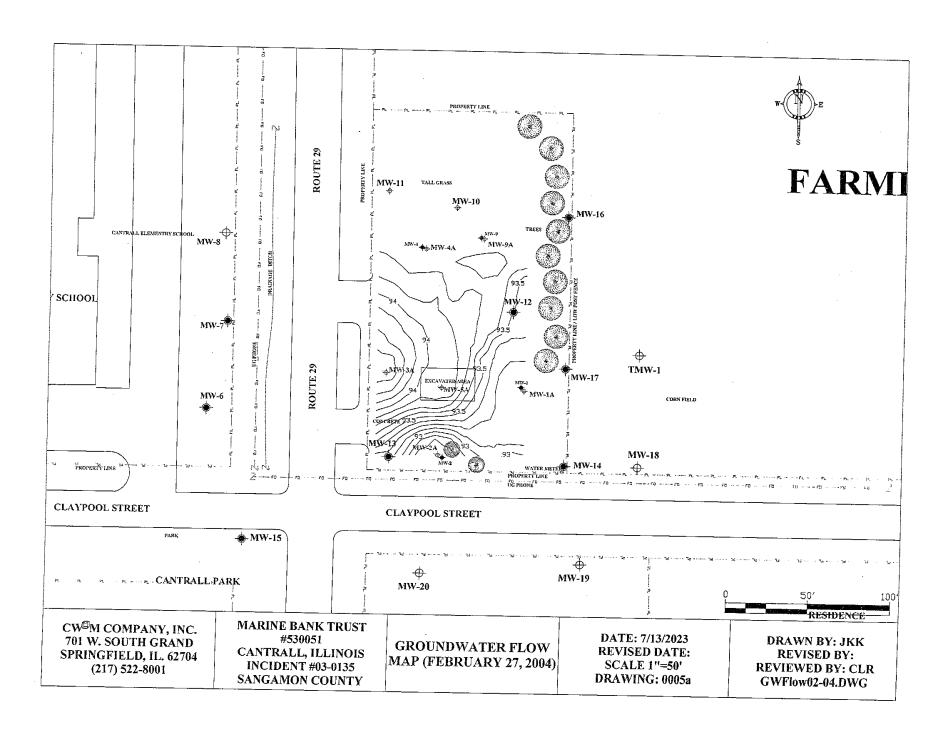


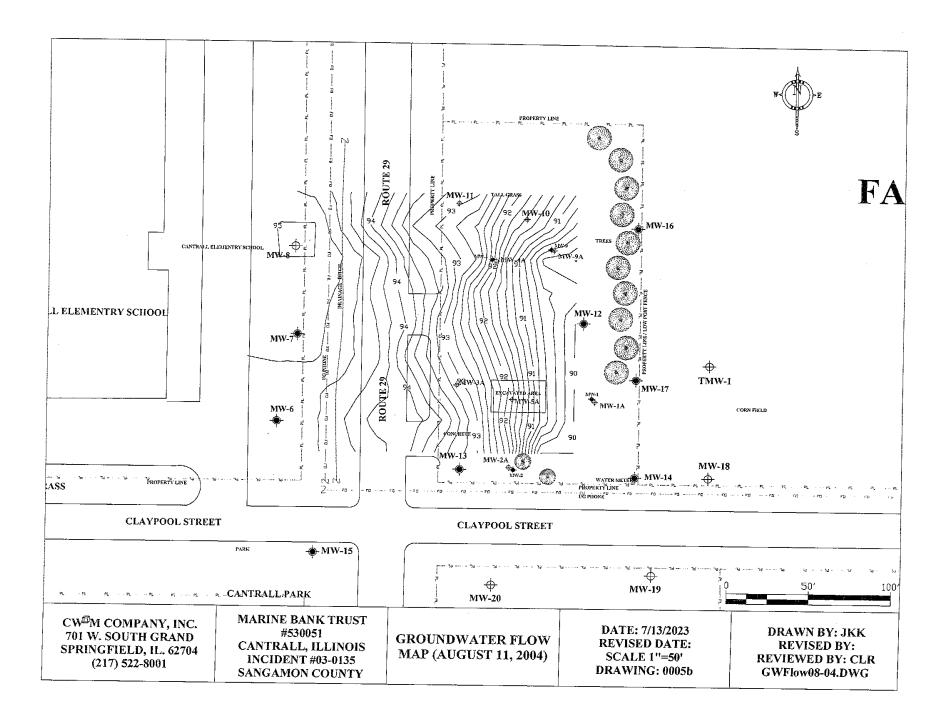


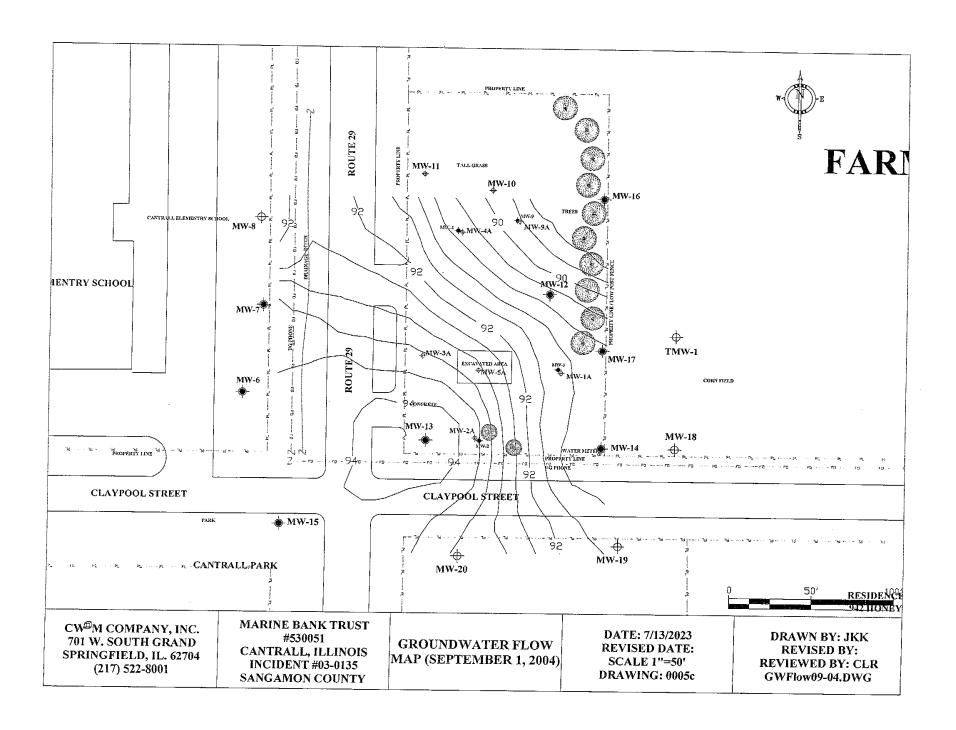


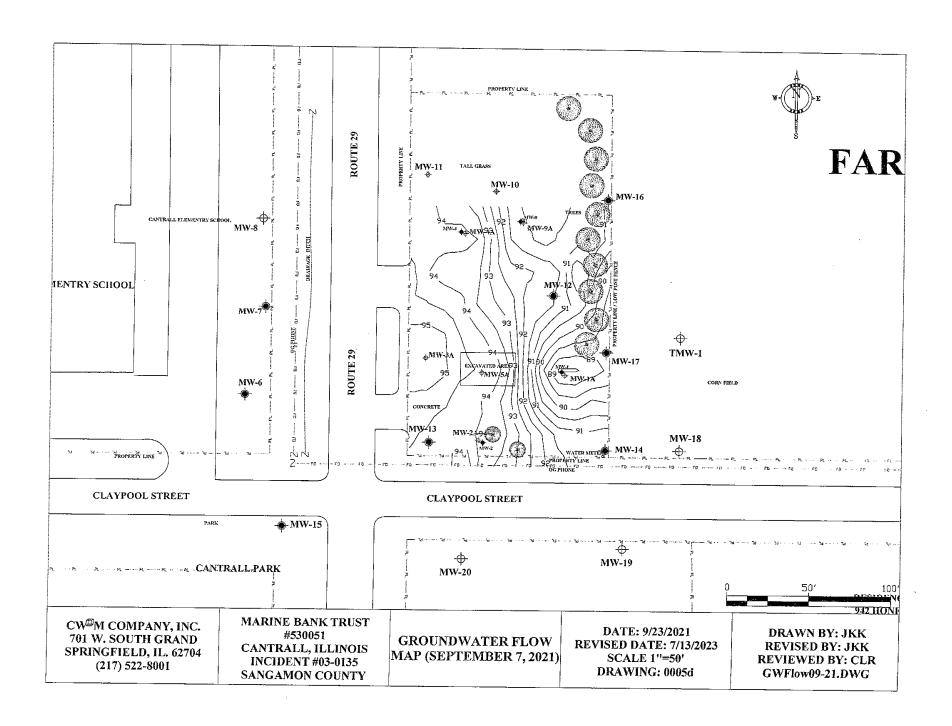


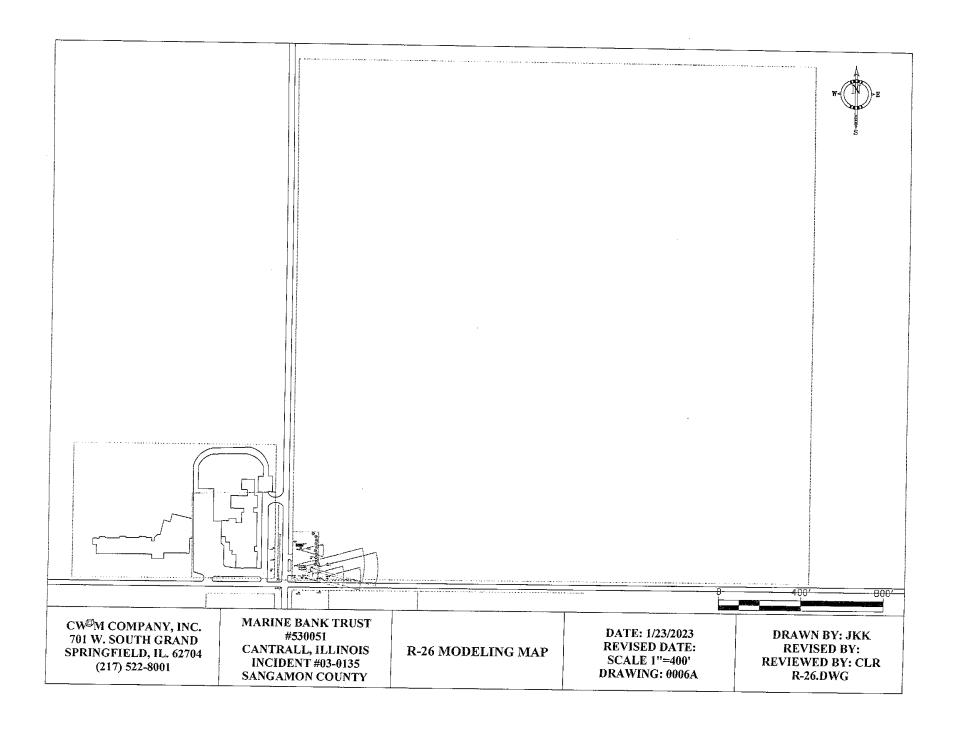


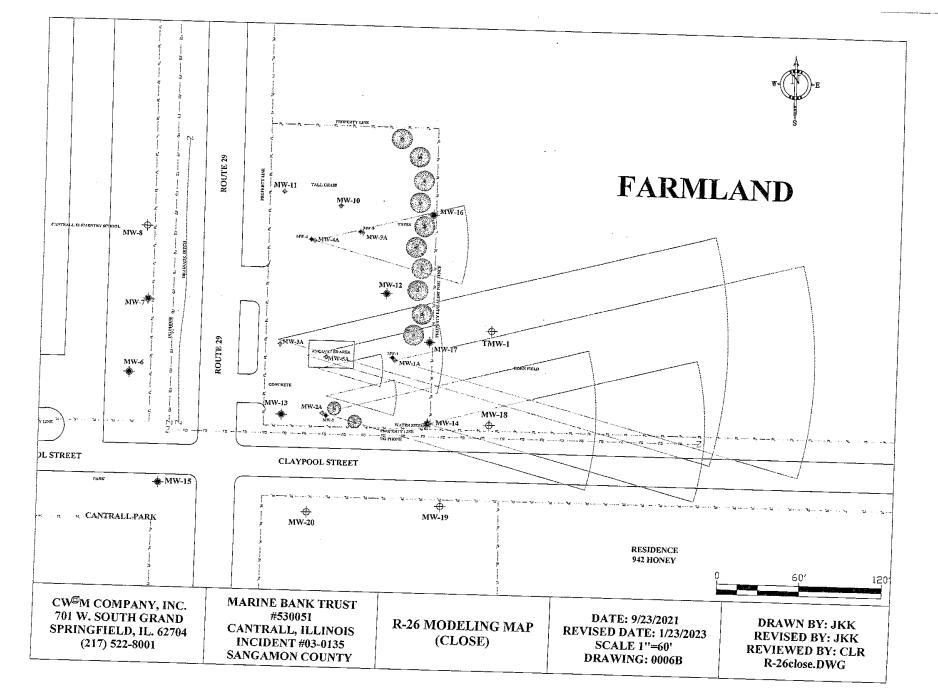


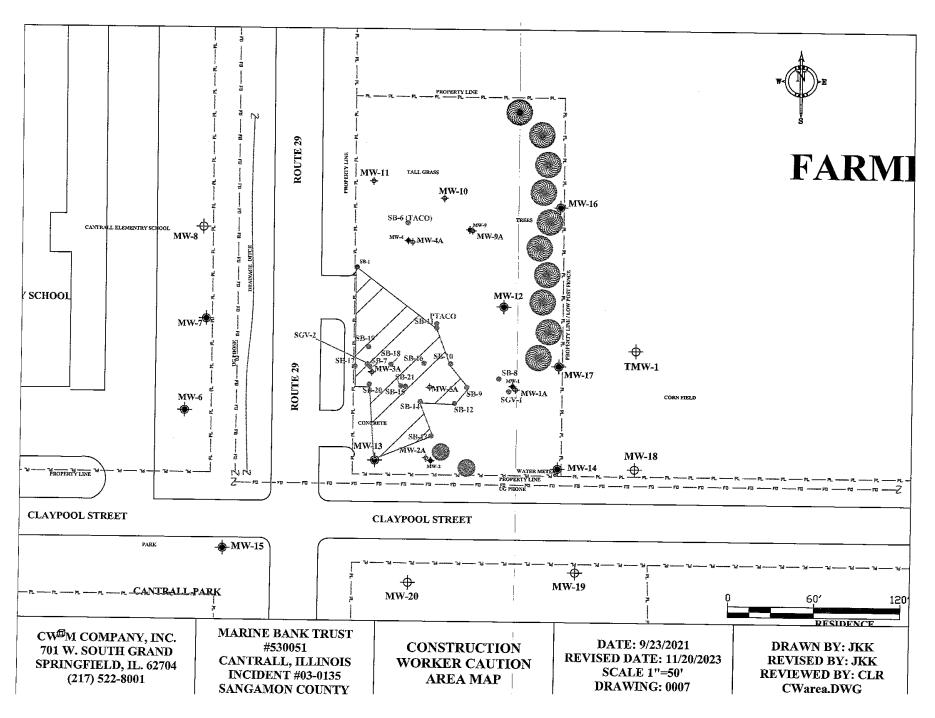


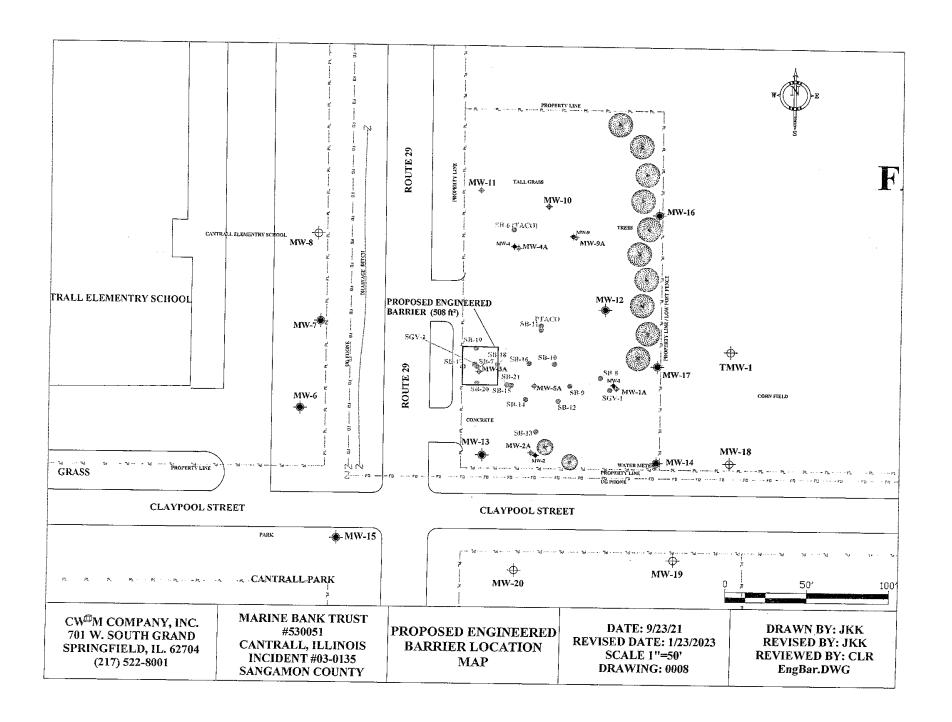


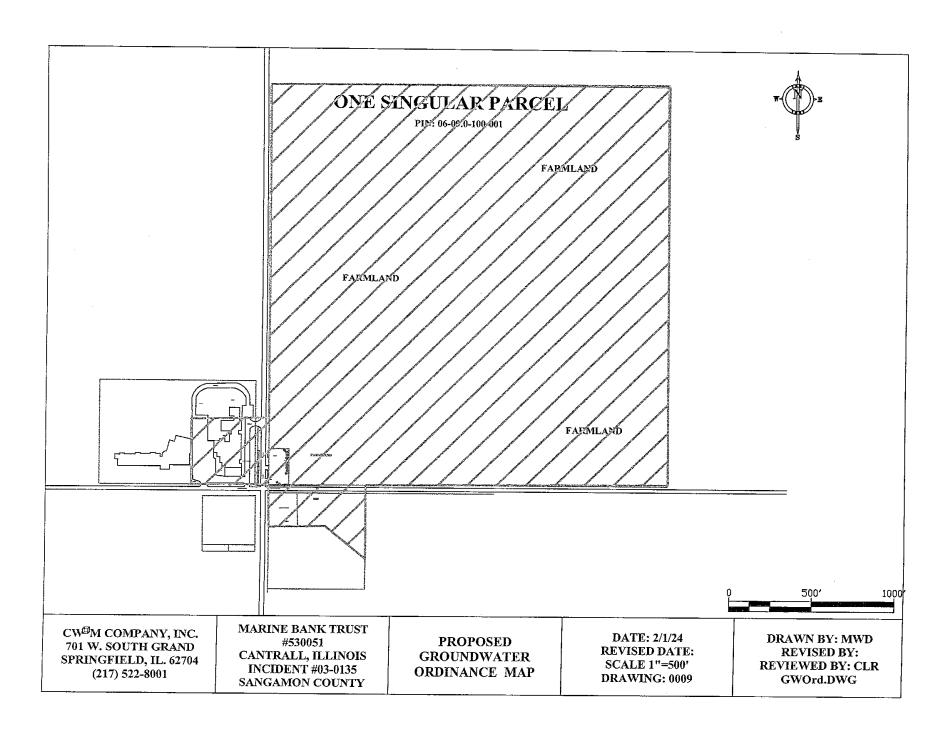












APPENDIX C

OSFM ELIGIBILITY DETERMINATION

CORRECTIVE ACTION PLAN AND BUDGET AMENDMENT

MARINE BANK TRUST # 53-0051 CANTRALL, ILLINOIS



Office of the Illinois State Fire Marshal

CERTIFIED MAIL - RECEIPT REQUESTED #7001 2510 0002 3296 7267

217-785-0960 FAX

217-782-1062 Divisions ARSON INVESTIGATION

217-782-9116 BOILER and PRESSURE VESSEL SAFETY 217-782-2696 FIRE PREVENTION

217-785-4714 MANAGEMENT SERVICES

217-782-9869 INFIRS 217-785-5826

HUMAN RESOURCES 217-785-1028

PERSONNEL STANDARDS and EDUCATION 217-762-4542 PETROLEUM and CHEMICAL SAFETY 217-785-6876

PUBLIC INFORMATION 217-785-1021 WEB SITE www.state.il.us/oofm REVISED

June 16, 2003

Marine Bank Springfield Trust #53-0051 c/o CW3M Company P.O. Box 571 Carlinville, IL 62626

In Re:

Facility No. 5-040470 IEMA Incident No. 03-0135 Ray & Lillian Ford Property 9520 State Route 29 Cantrall, Sangamon Co., IL

Dear Applicant:

The Reimbursement Eligibility and Deductible Application received on May 13, 2003 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 \$15,000. The costs must be in response to the occurrence referenced above and associated with the following tanks:

Eligible Tanks

Tank 1 500 gallon Gasoline

Tank 2 500 gallon Used Oil

Tank 3 500 gallon Diesel

Tank 4 1,000 gallon Gasoline

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:

- 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:

1035 Stevenson Drive • Springfield, Illinois 62703-4259

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

This constitutes the final decision as it relates to your eligibility and deductibility. We reserve the right to change the deductible determination should additional information that would change the determination become available. An underground storage tank owner or operator may appeal the decision to the Illinois Pollution Control Board (Board), pursuant to Section 57.9 (c) (2). An owner or operator who seeks to appeal the decision shall file a petition for a hearing before the Board within 35 days of the date of mailing of the final decision, (35 Illinois Administrative Code 105.102(a) (2)).

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

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

The following tanks are also listed for this site:

Tank 5 150 gallon Used Oil

Your application indicates that there has not been a release from these tanks under this incident number. You may be eligible to seek payment of corrective action costs associated with these tanks if it is determined that there has been a release from one or more of these tanks. Once it is determined that there has been a release from one or more of these tanks you may submit a separate application for an eligibility determination to seek corrective action costs associated with this/these tanks.

If you have any questions, please contact our Office at (217) 785-1020 or (217) 785-5878.

Sincerely,

JUN 1 & 2003

Deanne Lock

Administrative Assistant

Division of Petroleum and Chemical Safety

CC:

IEPA

Facility File

APPENDIX D

CORRECTIVE ACTION PLAN BUDGET AND CERTIFICATION

CORRECTIVE ACTION PLAN AND BUDGET AMENDMENT

MARINE BANK TRUST # 53-0051 CANTRALL, ILLINOIS



Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

General Information for the Budget and Billing Forms

LPC #: 1670255005	County:	Sangamo
City: Cantrall	Site Name:	Marine Bank Trust #05-005
Site Address: 9520 State Rt 29		11201 1100 000
Date this form was prepared: Feb 2, 2024		
List all IEMA Incident numbers associated with	this nackage	
2003-0135	runo pachage.	Sur-sure Sate of
List all other incidents associated with this site	that are not associate	ed with this package:
	The state of the s	
This form is being submitted as a (check one,	f applicable):	
○ Billing Package		
⊗ Budget Amendment (Budget amendments r	nust include only the co	sts over the previous budget.)
○ Budget Proposal		
Please provide the name(s) and date(s) of r	eport(s) documenting the	e costs requested
Name(s): CAP Budget Amendment		
Date(s): Feb 2, 2024		
This package is being submitted for the site act	tivities indicated below	r:
35 III. Adm. Code 734:		
☐ Early Action		
Free Product Removal after Early Action		
Site Investigation Stage	e 1: Stage 2:	Stage 3:
✓ Corrective Action		
35 III. Adm. Code 732:		
☐ Early Action		
Free Product Removal after Early Action		
Site Classification		
Low Priority Corrective Action		
High Priority Corrective Action		
35 III. Adm. Code 731:		
Site Investigation		
Corrective Action		

General Information for the Budget and Billing Forms

The following address will be used as the mailing address for checks and any final determination letters regarding payment from the Fund for this package.

Pay to the order of:	Marine Bank Tr	ust #53-0051				
Send in care of:	CWM Company	, Inc.				
Address:	701 South Gran	d Avenue West				
City:	Springfield			S	ate: IL	Zip: 62704
The payee is the:	Owner V	Operator 🗆	(Chec	k one or b	oth,)	
Signature of	he owner or ope	rator of the UST	(s) (require	d)	Date	
Jef:	fery M. Ul f the owner or op	rich	* /- \ /		W-9 must I	pe submitted. to print off a W-9 Form.
	ry.Ulrich(red)		The second of th
Number of petroleun parent or joint stock	company of the	owner or operat	ed or opera	ated by the	owner or opera	tor; any subsidlary, parent, subsidlary or
joint stock company Please list all tanks to		Fewe	er than 10°		01 or more;	icated at the site
Product Store		Size (gallons)	Did US a rele	Thave	Incident No.	Type of Release Tank Leak / Overfill / Piping Leak
Gasoline		500	Yes 🕢	No O	2003-0135	Overfill
Gasoline		1,000	Yes 🕢	No O	2003-0135	Overfill
Diesel		500	Yes ②	No O	2003-0135	Overfill
Used Oil		500	Yes ②	No O	2003-0135	Overfill
Used Oil		150	Yes ()	No Ø	None	
			Yes ()	No.C		

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 2003-0135. 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: WARTNIE BANK TRUST #53-0051
Authorized Representative: Jeffy WILL Title: Thest & Walter Wagner &
Signature: Joffy Wille TRUSTER Date: 1-8-2024
Subscribed and sworn to before me the 8 day of Lanuary 2024
and little
(Notary Public) Seal: "OFFICIAL SEAL"
(\ WENDY K SMITH }
In addition, I certify under penalty of law that all activities that are the subject of his plan, business of tenor were conducted under the supervision of the plan of the pl
and the standard of the standa
or report has been completed in accordance with the Environmental Protection Act 1415 U.C. 51, 25 U.A.
The state of the second st
accurate and complete. I am aware there are significant penalties for submitting false statements or representations to the Illinois EPA, including but not limited to fines, imprisonment, or both as provided in Sections 44 and 57.17 of the
Environmental Protection Act [415 ILCS 5/44 and 57.17]
L.P.E./L.P.G. Vince E Smith L.P.E./L.P.G. Seal:
LEEVER Signature Of - 1-40
L.P.E./L.P.G. Signature: Date: 1/2/2/2/2007
L.P.E./L.P.G. Signature: L.P.E./L.P.G. Signature: Date: 1/2/2/2/2007 Subscribed and sworn to before me the 12th day of January 2024
Jm J. 3
Notary Public) Seal: OFFICIAL SEAL ROSE MARIE HAAS Notary Public State of Illinois
The Illinois EPA is authorized to require this information under 415 ILCS 51. Diagrosure Ohins (Illinois My Commission No. 980043
The Illinois EPA is authorized to require this information under 415 ILCS 51. Discosure Oblight English required. Failure to do so may result in the delay or denial of any budget or payment requested never the control of the contro

Budget Summary

Choose the applicable regulation: © 734 C 732

734	Free Product	Stage 1 Site Investigation	Stage 2 Site Investigation	Stage 3 Site Investigation	Corrective Action
					Proposed
Drilling and Monitoring Well Costs Form	\$	\$	\$	\$	\$
Analytical Costs Form	\$	5	s	\$	s
Remediation and Disposal Costs Form	\$	\$	\$	\$	\$
UST Removal and Abandonment Costs Form	\$ 100 - 400 september late.	\$	\$	\$	\$
Paving, Demolition, and Well Abandonment Costs Form	\$	\$	\$	\$	\$ 5,545.83
Consulting Personnel Costs Form	\$	\$	\$	\$	\$ 17,065.61
Consultant's Materials Costs Form	\$	\$	\$	\$	\$ 113.82
Handling Charges Form	the limois EPA.	s will be determing The amount of all the Handling Ch	owable handling	l billing package is charges will be d	mbidu deser
Total	\$	\$	\$	\$	\$ 22,725.26

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	
508.00	Concrete	8.00	7.86	Placement	\$3,992.88	
				a Percent of Two Action are a site.		

Total Concrete and Asphalt Placement/Replacement Costs:	\$3,992.88

B. Building Destruction or Dismantling and Canopy Removal

Item to Be Destroyed, Dismantled, or Removed	Unit Cost (\$)	Total Cost (\$)

Total Building Destruction or Dismantling and Canopy Removal Costs:	

Paving, Demolition, and Well Abandonment Costs Form

C. Well Abandonment

Monitoring Well ID #	Type of Well (HSA / PUSH / Recovery)	Depth of Well (feet)	Cost (\$) per Foot	Total Cost
MW-1	HSA	15.00	14,79	#004.0=
MW-2	HSA	15.00	14.79	\$221.85 \$221.85
MW-3	HSA	15.00	14.79	
MW-4	HSA	15.00	14.79	\$221.85 \$221.85
MW-5	HSA	15.00	14.79	\$221,85
MW-9	HSA	15.00	14.79	
MW-14	HSA	15.00	14.79	\$221.85 \$221.85
				Ψ221.65
			TATOLOGICA Aleksan kaja telepa	
# 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				

Total Monitoring Well Abandonment Costs:	\$1,552.95
	7 3,002.00

ı		
	Total Paving, Demolition, and Well Abandonment Costs:	i
ı	sylvania wei Abandonment Costs:	#E E4E 00
		\$5,545.83

Consulting Personnel Costs Form

Employee I	Vame	Personnel Title	Hours	Rate* (\$)	Total Cost		
mediation Categor	у	Ţ	Task				
		Senior Project Manager	26.00	447.05			
CCAP		Corrective Action Plan Developme		147.95	\$3,846,7		
1000							
CCAP		Senior Draftperson/CAD	6.00	88.76	\$532.56		
	Drafting/E	diting Maps for Plan Amendment					
uting of the court fill of the	Section 1985 Communication of the section of the se	Senior Prof. Engineer	2.00	192.33	\$384.66		
CCAP	Amended (Corrective Action Plan Review & Co	artification				
		Senior Admin. Assistant	2,00	66,58	\$133.16		
CCAP	Amended (Corrective Action Plan Compilation,			φ133.16		
		Senior Project Manager	6.00	147.95	\$887.70		
TACO 2 or 3	TACO Tier	2 Calculations / Development of Cl			Ψοσητή		
		Senior Prof. Engineer	2.00	192,33			
CCAP-Budget	Amended C	orrective Action Budget Review &		192,33	\$384,66		
	the Landings	43					
		Sentor Project Manager	7.00	147.95	\$1,035.65		
CCAP-Budget	Amended Co	orrective Action Budget Developme	ent				
		Senior Project Manager	6.00	147,95	\$887.70		
CCAP		nalytical results/bore log and and a	-	11/100	\$607.70		
			1				
	7	111					

Employee Nam	е	Personnel Title	Hours	Rate* (\$)	Total Cost
Remediation Category		Tasl	(
		Senior Project Manager	8.00	147,95	\$1,183.6
CCA-Field	Scheduling, Cor	ntractor search/Arrangements/Coo	ordination for Cor		
		Senior Project Manager	10.00	147.95	\$1,479.
ELUC	ELUC Review a	nd Preparation/Property owner Co	orr./Notifications/r	J J.	41,110.0
		Senior Admin. Assistant	3.00	66.58	\$199.7
ELUC	ELUC correspon	dence/Property owner & notificati	ons	1	ψ133.7
		Senior Project Manager	12.00	147.95	\$1,775.4
ELUC	Preparation and	Distribution of groundwater ordina		111.00	ψ1,775.4
		Senior Project Manager	6.00	147.95	0007 7
ELUC	Groundwater Ord	linance Notifications	1 3105	147.33	\$887.7
		Senior Admin, Assistant	2.00	66.58	#122.1
ELUC	Groundwater Ord	iance Notificatons		00.00	\$133.1
		Senior Prof. Engineer	4.00	192,33	#700 O
CA-Pay	Corrective Action	Reimbursement Review & Certifi		192,00	\$769.32
		Senior Acct. Technician	29.00		
CA-Pay		Reimbursement Preparation (2)	28.00	81.36	\$2,278.00
		Senior Admin. Assistant			
CA-Pay		Reimbursement Compilation / As	4.00	66.58	\$266.32

Total of Consulting Personnel Costs

\$17,065.61

Consultant's Materials Costs Form

Materials, Equipment	, or Field Purchase	Time or Amount Used	Rate (\$)	Unit	Total Cost
Remediation Category		Description/.	Justification		
Postage		2.00	14.20	/each	\$28.4
CCAP	Corrective Action Plan and	Budget Amendmer			
Mileage		38,00	.59	/mile	\$22.4
CCA-Field	1 Round Trip. (Set up/Layo	ut/final inspection/E	Documentation)		
Postage		2.00	10.50	/each	\$21.0
CA-Pay	Distribution of Corrective A	ction Reimburseme	nt Packages / Dr	afts / Forms	
Postage	and the second s	2.00	9.00	/each	\$18.00
ELUC	Distribution of ELUC forms/	agreement/owner o	orrespondence		
Postage		4.00	6.00	/each	\$24.00
ELUC	Groundwater Ordinance No	tifications			
ang kang mengang berangan di pengangan pang mengangkan da	the second section is a second to the second second second second second				
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	Tot	al of Consultant (Materials Costs		\$113.82

APPENDIX E

TACO VARIABLES AND EQUATIONS & HYDRAULIC CONDUCTIVITY CALCULATIONS

CORRECTIVE ACTION PLAN AND BUDGET AMENDMENT

MARINE BANK TRUST # 53-0051 CANTRALL, ILLINOIS

EMA Incident #	fersion: 3/26/2018 (6 or 8 digit)	20030136				
IEPA LPC # (10	dig/t)	1670255008				
Site Name:		Marine Bank Trust 53-005	4			
Site Address:		9520 State Roule 29	1			
City:		Cantrall				
County:		Sangamon				
Zip Code:		62626				
SSL Equations	Used:	\$5,6,7,8,9,10,17,18,19,20,2	4 00 04			
RBCA Equation	s Used:	R-1, R-2, R3	1,22,24			
Contact Information	for Individual who Performed Colcu	Int CWM				
Land Use:		Residential & Construc	tlem Mindon			
	517 used in R26;	No.	non Avouse.			
Groundwater:		Class 1	_			
Standard or Mas	s Limit Equations:	Slandard Equations		WIE 14 0 0 2		
Square Feet of P	lume for Mass Limit Eq.:	0.00		If Mass Limit, then Spocifiy Acres:		
Date Data Is Ent		October 5, 2023			< use this # ab	pove
Entry	Description	-				-
	Holcomb Bulk Density (pcf)	or	Shallor T. 4	of Constitution		
1.64	Dry Soil Bulk Density (g/cm	or kg/L): 1.5, or Gravel =2.0.	Shelby Tub Send = 1.8. Sitt :	e Location; 1.5, Clay • 1.7, or site specific		
2.867	ps - Soli Particle Density			to, oray - 1.1, or site specific		
0,383	Total Soil Porosity		Reference		· ·	
0.246			0.383	0.383		
0.137	Water Filled Porosity		0.246	0.246		
0.430	Air Filled Porosity	40	0,137	0.137		
	67 - Total Soil Porosity (RBC		0,43 or, Gravet - 1	0.25; Sand = 0.32; Sift = 0.40; Clay = 0.58		_
20,000 Silt Loam	w - Average Soll Moisture C	onlent	0.1, or: Bubsulface	Soll (lop 1m) = 0.1; Subscribe Soil (below 1 m)	0 2 av 0 av 0 av	_
Olit Loam	USDA Soil Classification (P	ck from List)			Entry	ld_
0.04000	Property was a first of a	- 64	v	Organic Marter (%):	EIILIY	
0,01080	Fractional Organic Carbon	(foc) in g/g		Organic Matter (mg/kg):		
		25 9 6 9 4 4 4 4		Total Organic Carbon (g/g):	0.0108	
1.17E-04	Average Hydraulic Conductivity	(cm/sec) Wall Name		range or grante consort (g/g).	0.0100	
1.17E-04	Falling Hyuraulic Conductivity (e	m/sec) MW-4				
and the	Rising Hydraulic Conductivity (c	m/sec)		Llydraulic Gradient Calculation		
0.06188	Hydraulic Gradient (0.02 for sit	os willi no groundwater)	Meters	MW-1		
10	d _a - Aquifer Thickness (ff)		. 3.048 m	MW-2	93.70	
10	d, - Depth of Source (II) (Vertical Th	ickness of Contamination)	3.048 m	10.000	92.66	
	X - Distance along the centerline of	the repulsional and address of the second	270HQ [I]	Distance:	127	
	setback zone or surface water from proundwater flow (f) (RBCA)	the source in the direction of	0 cm		-	
262	L - Source Length Parallel to	Groundheatac Flour //th	76 0540		c	
216	Sw: Source Width -horizontal	niane (f) (PDCA)	79.8678 m		100	
		Pane (Id (RDCA)	6583.68 cm			
C _m - Concentra	tion of Contaminant in groundy	ratios at effectaves V.S.		- Automore		
The second state	Bertzene		irce (mg/L)	Surface Water		
	Toluene	MTBE	decision at			
	Ethylbenzene			19		
	Total Xylenes					
Serivane Ve	Chemicals of Concer					_
Toluene						
Ethylbenzene		Chrysene				
Total Xylenes		Benzo(k)fluoranthene				
	and the second of the second o	Indeno(1,2,3-cd)pyrene				
	and the second s					
MTBE Mass Limit Equa						

F Fugitive Dust Equations

Text discussion for "!", L, d_a, d_b, S_w, S_e The Hydraulie Gradient (I) was determined from an onsite survey of each of the groundwater monitoring wells. The riser elevations were determined and the depth to groundwater was noted in each well. This data was used to generate a potentiometric flow map with contour lines which show potentiometric head. A corresponding flow line, perpendicular to the contour lines, was determined between two known points of groundwater elevation. The hydraulic gradient was determined by the difference in elevation divided by the length of flow between the points. The Source Length Parallel to Groundwater Flow (L) was determined from the site map and analytical results. A value of Source Length 45.1104 m was used to encompass the length of contamination parallel to groundwater flow. This value is the distance between soil borings BH-I and BH-2. fer Thickness The Aquifer Thickness (d_n) is a site specific value determined by the length of the monitoring well screen. The Aquifer Thickness value used in the modeling equations was 3,048 meters, The Depth of Source (d_s) was determined from the analytical results and soil boring logs. A value of 3.048 m was used to Depth of Source encompass the vertical thickness of contamination based upon a clean soil sample at BH-1A, "nor" samples at BH-2B and BH-2C, and a clean soil sample at BH-2D. Thus the vertical thickness of soil contamination has been determined to be 3.048 in. The source width perpendicular to groundwater flow direction in the Horizontal Plane (S_{μ}) was determined from the site map and analytical results. A value of 3566,16 cm was used to encompass the width of contamination in the horizontal plane. Source Width This value is the distance between clean wells MW-4 and and MW-6. The source width perpendicular to groundwater flow direction in the Vertical Plane (S_d) was determined from the soil Source Death boring logs and analytical results. A value of 304.8 cm was used to encompass the width of contamination in the vertical plane based on the depths of contamination present and the PID readings from the bore logs.

Distance (X)

	0.0.5		BEN	ZENE				_
_	Soil Exceed					Groundwater Exceed	ances	
Location	Soil Concentration (mg/kg)	X (ft)	Gw _{sbj} (mg/L) R26 Csource	C(x) (mg/L)	Location	Groundwater	X (ft)	C(x)
SB-7	15.3	292	1.149	0.0050	MW-1	1.430		(mg/l
SB-13	0.103	20	0.007	0.0050	MW-2	0.250	307	0.005
SB-14	0.0942	15	0.007	0.0050	MW-14	0.264	200	0.005
SB-15	0.296	74	0.021	0.0050	1013-12	0.204	203	0.008
SB-20A	0.0941	15	0.007	0.0050				-
SB-20B	0.0994	18	0.007	0.0050	1			
SB-21C	0.0675	1	0,005	0.0047				_
SB-21D	0.0702	1	0.005	0.0049				-
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			Tolu	ene				
	Soil Exceed				1	Groundwater Exceed	ances	
	Soil	Х	Gw _{obj} (mg/L)	C(x)		Groundwater	Х	C(x)
Location	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L)	Location	Concentration (mg/L)	(ft)	(mg/L
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	Sall Formal		Ethylbe	enzene				
	Soll Exceed	ances	· · · · · · · · · · · · · · · · · · ·			Groundwater Exceed	ances	
	Soil	X	Gw _{obj} (mg/L)	C(x)	1 1	Groundwater	Х	C(x
Location	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L)	Location	Concentration (mg/L)	(ft)	(mg/
SB-15	47.6	1	0.65509410	0.6154		, , , , , , ,		1. 11.19/
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	G. 11 F		Total X	ylenes				
	Soil Exceed					Groundwater Exceed	ances	
	Soil	Х	Gw _{abj} (mg/L)	C(x)		Groundwater	Х	C(x)
Location	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L)	Location	Concentration (mg/L)	(ft)	(mg/L
SB-15	163	1	1.822842759	1.7520				(jitg/
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			MT	BE				
	Soil Exceed					Groundwater Exceed	ances	
Location	Soil Concentration (mg/kg)	Х	Gw _{abj} (mg/L)	C(x)		Groundwater	X	C(x)
LOCATION	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L)	Location	Concentration (mg/L)	(ft)	(mg/L
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			Naphti	nalene				
	Soil Exceed					Groundwater Exceed	ances	
	Soil	X	Gw _{obj} (mg/L)	C(x)		Groundwater	Х	C(x)
Location	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L)	Location		(ft)	(mg/L
SB-7	17	2	0.153107524	0.1369	MW-2A	0.178	5	0.135
SB-15	18.5	4	0.167	0.1335	MW-3A	0.514	26	0.139
SB-19A	89.3	37	0.804	0.1351	MW-4A	0.179	5	0.135
SB-19B	116	43	1.045	0.1354		5,115		0.135
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	0.11.5		Benzo(a	ругеле			····	
	Soil Exceed	ances				Groundwater Exceed	ances	
	Soil	Х	Gw _{obj} (mg/L)	C(x)	1 1	Groundwater	X	C(x)
Location	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L)	Location	Concentration (mg/L)	(ft)	(mg/L
					MW-3A	0.000319	36	0.0001
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			Benz[a]ar	thracene				
	Soil Exceed		·			Groundwater Exceed	lances	
	Soil	X	Gw _{obj} (mg/L)	C(x)	1 1	Groundwater	X	C(x)
Location	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L)	Location		(fl)	(mg/L)
					MW-3A	0.00116	156	0.000128
	- 				MW-4A	0.000607	112	0.00012
····	_	•			MW-5A	0.00015	14	0.00012
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			Acenap	nthene				
	Soil Exceed				T***	Groundwater Exceed	ances	
	Soil	Х	Gw _{obj} (mg/L)	C(x)		Groundwater	X	C(x)
Location	Concentration (mg/kg)	(ft)	R26 Csource	(mg/L)	Location	Concentration (mg/L)	(ft)	
		1: 7		(1118/12)	Location	Concentration (mg/c)	(11)	(mg/L)
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	OWATER CLEAN- (mg/L)	0202011172		
	Most Stringent	Class I	Class II	151
Parameter	CUO	GW	GW	ADLs
Benzene	0.005	0.005	0.025	(U)
Ethylbenzene	0.7	0.7	1	<0.002
MTBE	0.07	0.07	0:07	<0.002
Toluene	1.0	1.0	2.5	<0.005
Total Xylenes	10.0	10.0	10.0	<0.002
Acenaphthene	0.42	0.42	2.1	< 0.005
Acenaphthylene^	0.21	0.21		<0.018
Anthracene	2.1	2.1	1.05	<0.010
Benzo(a)anthracene	0.00013	0.00013	10.5	<0.0066
Benzo(a)pyrene	0.0002	0.00013	0.00065	<0.00013
Benzo(b)fluoranthene	0.0002	0.0002	0.002	<0.0002
Benzo(g,h,i)perylene^	0.21	0.00018	0.0009	<0.00018
Benzo(k)fluoranthene	0.00017		1.05	<0.00076
Chrysene	0.00017	0.00017	0.00085	<0.00017
Dibenz(a,h)anthracene	0.0003	0.0015	0.0075	<0.0015
-luoranthene		0.0003	0.0015	<0.0003
-luorene	0.28	0.28	1.4	<0.0021
	0.28	0.28	1.4	< 0.0021
ndeno(1,2,3-cd)pyrene	0.00043	0.00043	0.00215	<0.00043
Naphthalene	0.14	0.14	0.22	<0.010
Phenanthrene^ Pyrene	0.21	0.21	1.05	< 0.0064
viene i	0.21	0.21	1.05	< 0.0027

Summary of Tier 2 Calculations Marine Bank Trust 53-0051 20030135 10/05/23

Table 3

Tie	er	1	Obi	ectives
-----	----	---	-----	---------

	Benzene		Toluene	Hei i Obje								
Residential Indestion					Ethylbenzen	e	Total Xylenes		Naphthalene		MTBE	
miguation.		mg/kg	16,000	mg/kg	7,800	mg/kg	16,000	mg/kg	1,600	Lance Bloom		
Inhalation	0.8	mg/kg	650	mg/kg	400					mg/kg	780	mg/kg
Migration Class 1	0.03	mg/kg	12		10	mg/kg	320	mg/kg	170	mg/kg	8,800	mg/kg
Migration Class 2				mg/kg	13	mg/kg	150	mg/kg	12	mg/kg	0.32	mg/kg
		mg/kg	29	[mg/kg	19	mg/kg	150	mg/kg	18	mg/kg	0.32	
		mg/kg	410,000	mg/kg	200,000	mg/kg	410,000					mg/kg
Inhalation	1.60	mg/kg	650	mg/kg	400			mg/kg	41,000	mg/kg	20,000	mg/kg
onstruction Worker Ingestion	2,300					mg/kg	320	mg/kg	270	mg/kg	8,800	mg/kg
Inhalation		mg/kg	410,000	mg/kg	20,000	mg/kg	41,000	mg/kg	4,100	mg/kg	2,000	
	2.20	mg/kg	42	/mg/kg	58	mg/kg	5.6	mg/kg	1.80			mg/kg
Soil Saturation	580	mg/kg	290	mg/kg	150					mg/kg	140	mg/kg
		1:00		mignity	130	mg/kg	110	mg/kg	172.10	mg/kg	8,400	ma/ka

Tier 2 SSL Objectives

					1000103							
Residential Ingestion	Benzene	Equation	Toluene	Equation	Ethylbenzene	Equation	Total Xvienes	Equation	Naphthalene	Equation	MTBE	
		\$-2	6,257.14	S-1	7,821	S-1	15,643		1.564			
Inhalation		\$-6	71,523.39	S-4		S-6	2,399,83			S-1	782.1	S-1
Migration Mass-Limit Class	0.25	S-28	50.41	S-28	35.29			S-4	324,57	S-4	48.741.75	S-4
Migration Class		S-17	37.58	S-17			504:13	S-28	7.06	S-28	3,53	S-28
Industrial-Commercial Ingestion					50.86		894.21	S-17	15.54	S-17	0.36	S-17
		S-2	1,635,200	S-1	204,400	S-1	408.800	S-1	40,880	S-1	20.440	S-1
Inhalation		S-6	113,871.29	S-4	34.94	S-6	3,820.73	S-4	516.74	S-4	77,600.99 %	
Migration Mass-Limit Class		S-28	50.41	S-28	35.29		504.13	S-28	7.06			S-4
Migration Class 1	0.071	S-17	37.58	S-17	50.86	S-17	894.21	S-17		S-28	3.53	S-28
Construction Worker Ingestion	2.258.21	S-3	163,236	S-1	10,202.26				15.54	S-17	0.36	\$-17
Inhalation		S-7				S-1	81,618	S-1 ,	122,427	S-1	61,214	\$ - 1
Soil Saturation			736.66		49.14	S-7	98,87	S-5	3.34	S-5	418.35	\$-5
SON SERVICION	1,276.58	S-29	995.89	S-29	617.62	S-29	491.81	S-29	172.10	S-29	13,260,67	S-29
										1 22	10,200.07	3-29

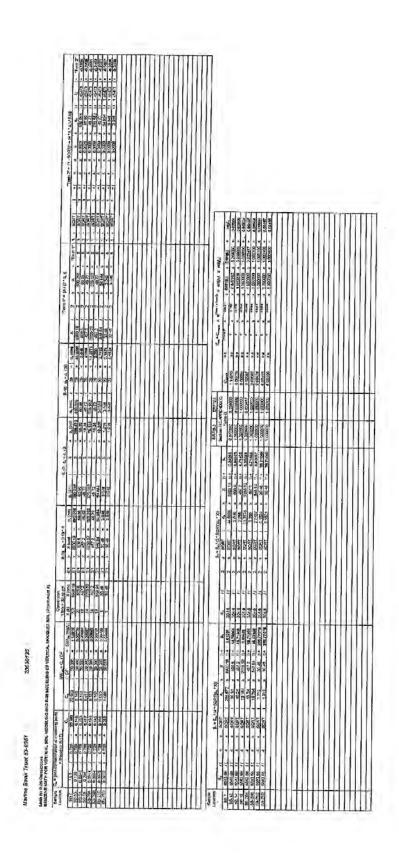
all values are in mg/kg

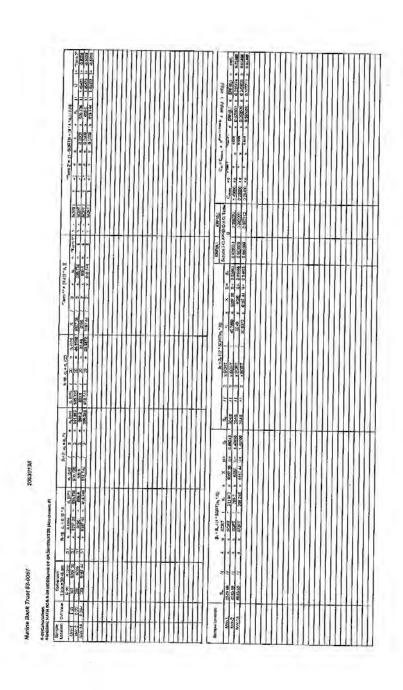
Site Specific Value cannot exceed Soil Saturation Limit, otherwise Tier 2 Inhalation or Tier 2 Migration objectives are the Soil Saturation objective Calculated value is less than Tier 1 Objective

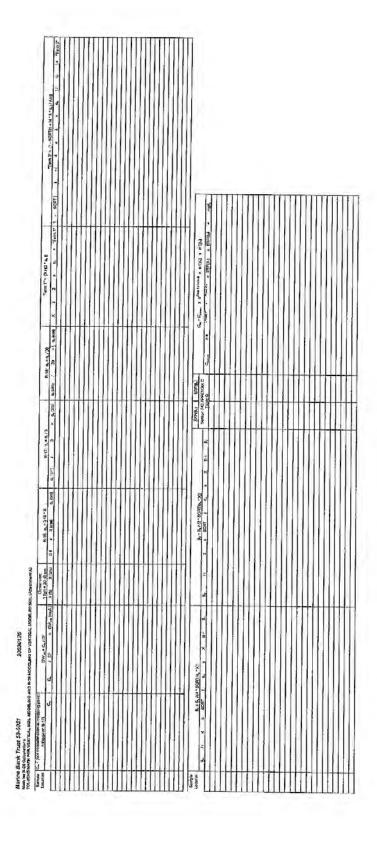
Groundwater Contaminate Concentration Exceedances at Surface Water or Set Back Zone (mg/L)

Result #DIV/0! R-26 #DIV/0! R-26 #DIV/0! R-26 #DIV/0! R-26 #DIV/0! R-26 #DIV/0! R-26	<u> </u>		Benzene	Equation	Toluene	Equation	Ethylbenzene		Total Xvienes	Equation	Naphthalene	Equation	MTBE	
	-			R-26	#DIV/0!			R-26	#DIV/0!			- Lquation		D 26
0.014		Surface Water Objective	0.86		0.6		0.014		0.36			 	#51170:	10-20

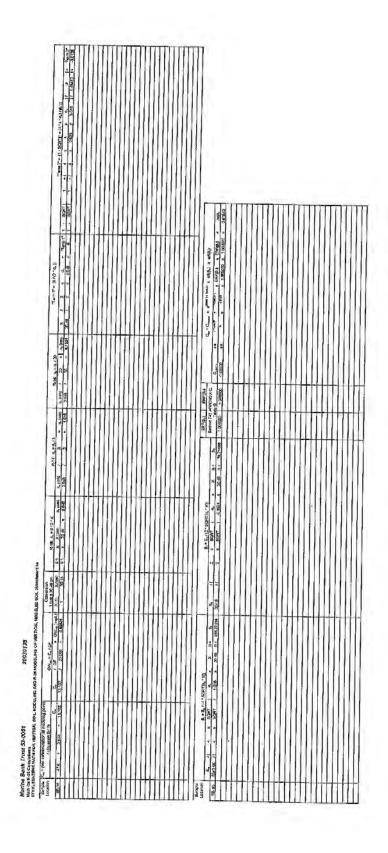
Section 3/2000/18



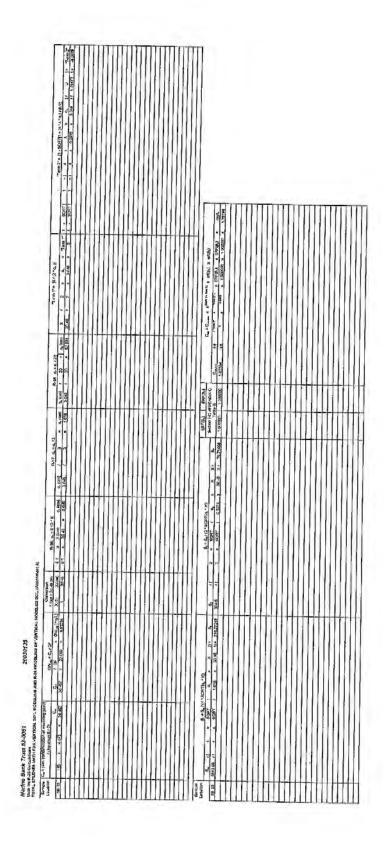




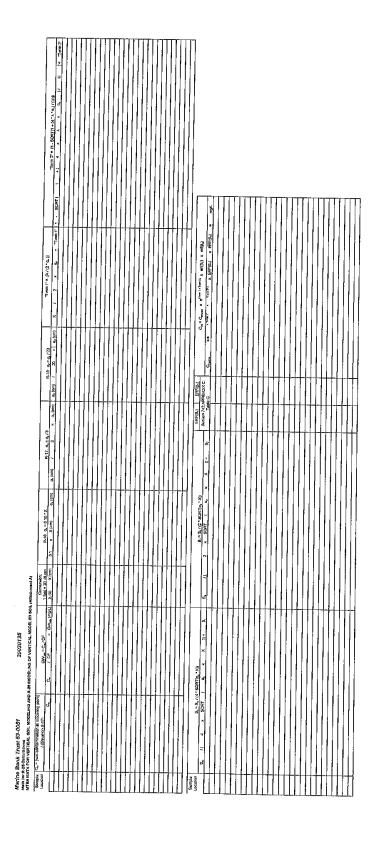
	Muritine Bank Vincester Bank Vincester Courses Annual Control of Courses Annual Control of Courses Annual Control of Courses Annual Courses Courses Courses Courses Courses Courses Courses Courses Courses Courses Courses	Martine State Prust 53-0065 Addressesses From State Port State Port State Port State Port State Port State Port State Port State Port State Port State Port State Port State Port State Port State Port State Port State Por	Multine Ray Treat S2-0051 You'dide Korn From As under the or recursows truck statement of the control of the c	20030135 6. Empl	A (2007) 0, (2007) 1	Territ * P. 1.2.	2 March 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
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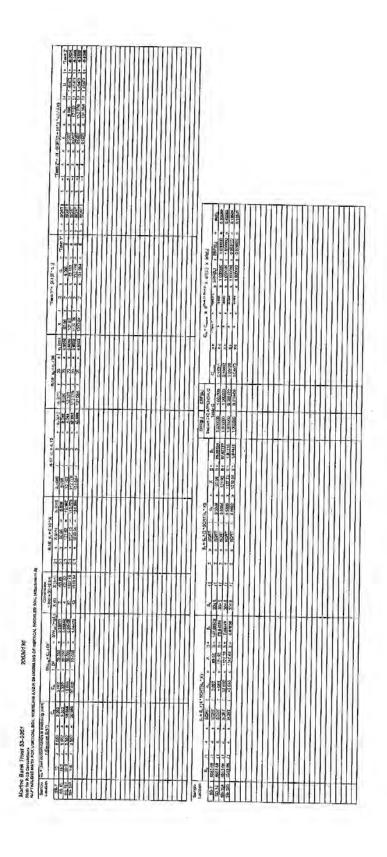


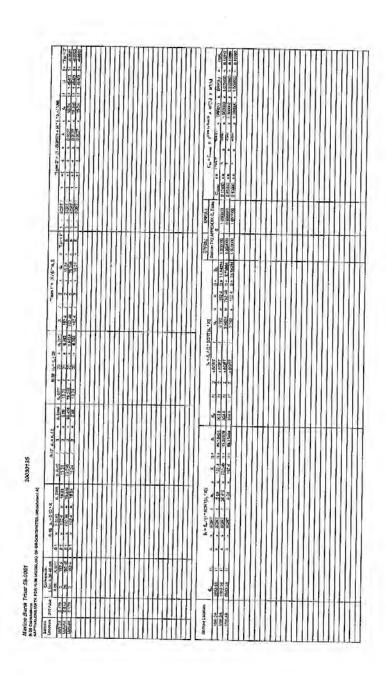
R-26 Calculation		R-26 Galcutations	20030135				
CONT. BENZEW	MATH FOR RES MODE	A ING OF GROUNDWATER (Attachment A	a				
Louden Gwyele	Very 15-ol = 30 -35 cm X (t) X (cm)	R-16 a,=0.10+X	R-57: u,= a, i	3 R-18; 0,=0,120 = 0,(cm) / 20 = 0,(cm)	Turm t" = [X/(2-a, j]		"Tam2" (1-808T)+(4-1/4)
					*	INDS SOKI	-
	+						
1							
L							
-							
1							
	-						
1							
Somple Labston	8	A = 5./(4 SORT[a, x])	I			ERF(B,) ERF(B,)	Count County × to Territoria × artificial × artificial
			ia -	Se 16 2 xBONT	x X)).c 9;	9	Charge XB
	 -						

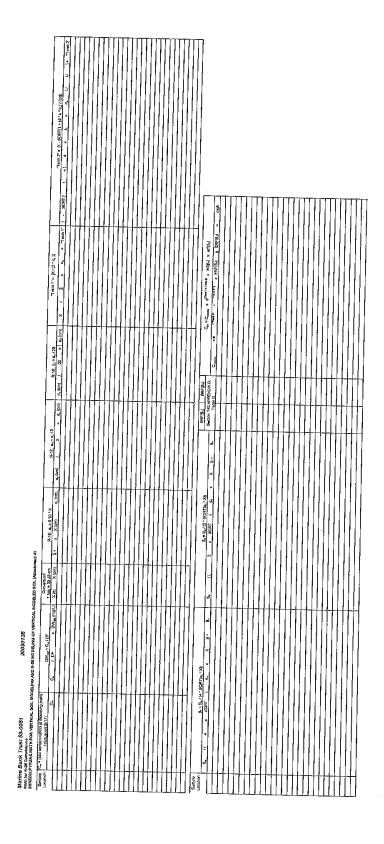


Berryst tackern S ₂ : (1 & 3 × 8.500 (1 2 × × 3 × 3 × 3 × 3 × 600 (1 2 × 600	8, (2' - 90 m) e. xy X X X X X X X X X X X X X X X X X X	Second Appropriate (Control of Control of William of Wi
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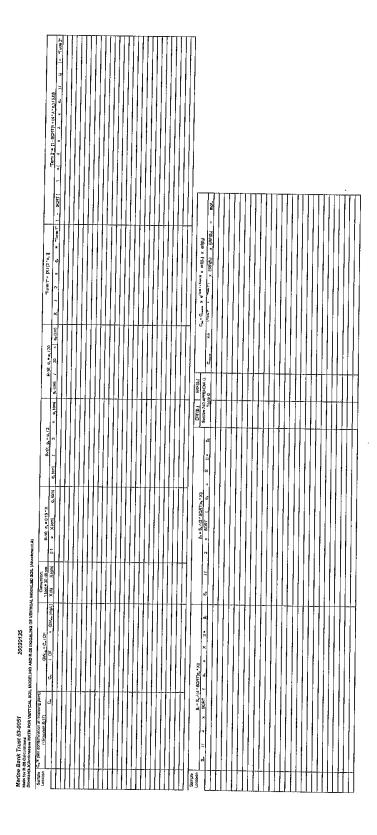


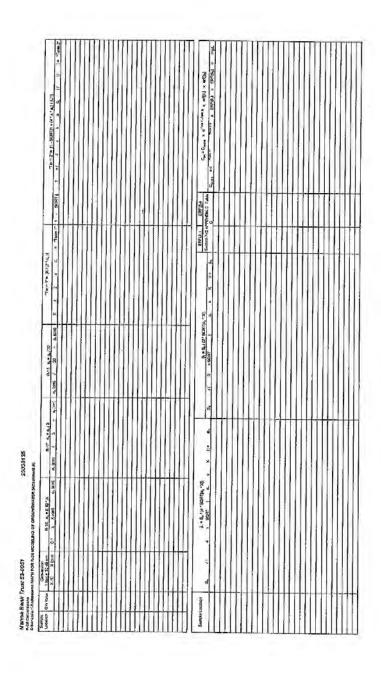


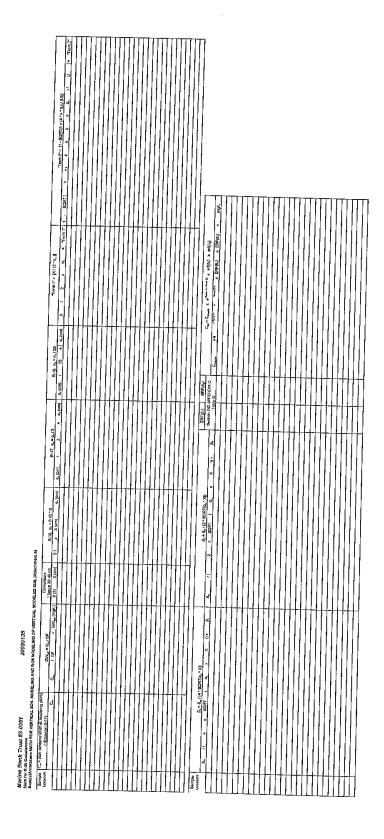


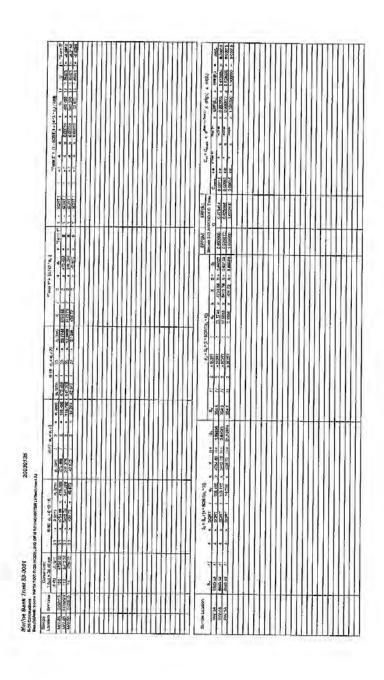


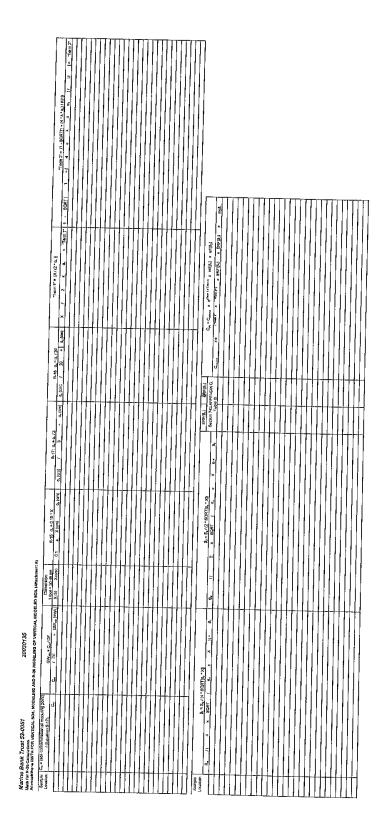
Serve Common S. 1 2 2 2007 1 2 3 1 2 3 1 2 2 1 2 2 2007 1 3 3 1 3 3 1 3 2 2 1 3 2 2 2 2 2 2 2 2	(1985) (1989)	
	x x x x x x x x x x x x x x x x x x x	250 Co., Co., Co., Co., Co., Co., Co., Co.,











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

IEMA Incident # (6- or 8-digit):	20030	0135	IEPA LPC # (10-digit):	1670255005
Site Name: Marine Bank Trust	53-0051			
Site Address (not a P.O. Box);	9520 State Ro	ule 29		
City; Cantrall	County:	Sangamon	Zip Code	: 62625
Leaking UST Technical File				
Tier 2 Calculation Information				
Equation(s) Used (ex: S12,S17,S	328): S5,6,7,8	3.9.10.17.18.19.2	0 21 22 24	
Equation(s) Used (ex: S12,S17,S	-	3,9,10,17,18,19,2	0,21,22,24	
Equation(s) Used (ex: S12,S17,S Contact Information for Individua CWM	-		0,21,22,24	
Contact Information for Individua	-	d Calculations:		
Contact Information for Individua	Who Performed		0,21,22,24 Silt Loam	
Contact Information for Individua CWM Land Use: Residential Groundwater: X Class	I Who Performed	d Calculations:	Silt Loam	
Contact Information for Individua CWM Land Use: Residential Groundwater: X Class	Who Performed C No If	Soil Type lass II Yes, then Specificates be rounded	Silt Loam y Acreage:	

AT (inges	stion)	=	Residential = 6	yr
			Con. Worker = 0.115	уг
AT (inhala	ation)	=	Residential = 30	yr
			Con: Worker = 0.115	yr
AT _c		=	70	yr
BW		=	Res. (NonCarcinogen) = 15	kg
			Res. (Carcinogen) = 70	kg
			Con. Worker = 70	kg
Ceal	=		Benzene = 1276,584	mg/kg
			Toluene = 995.89	mg/kg
			Ethylbenzene = 817.621	mg/kg
			Total Xylenes = 491.814	mg/kg
			MTBE = 13260.674	mg/kg
			Naphthalene = 172,101	mg/kg
				mg/kg
				mg/kg
				mg/kg
				mg/kg

da		=	3.048	m
da		=	3.048	m
DA	=	Banzene =	0.000158856894258487	cm ² /s
		Tolue	ne = 6,97753887647195E-05	cm²/s
		Ethylbenze	ne = 3.71833957760776E-05	cm ² /s
		Xylan	96 = 2.4791192/815517E-05	cm ² /s
		MT	BE = 5.40877064477589E-05	cm ² /s
		Naphthal	ene = 1,2197940898355E-06	cm²/s
				cm²/s
				cm²/s
				cm ² /s
				cm ² /s

Cw	=	Benzene = 0,1	mg/L
		Toluene = 20	mg/L
		Ethylbenzene = 50.862	mg/L
		Total Xylenes = 894.207	-
		MTBE = 0,364	
		Naphihalane = 15,544	
			mg/L
			mg/L
			mg/L
			mg/L
ď	=	11.401	m
ED (inhalation of	52	Residential = 30	yr
carcinogens)		Con. Worker = 1	
ED (ingestion of	=	Residential = 6	yr
noncarcinogens)	17	· Con. Worker = 1	yr
	_	Residential = 30	yr
ED (inhalation of	Ξ	77.00	yr
noncarcinogens)		Con. Worker = 1	yr
ED (ingestion of	=	Residential = 30	AL.
groundwater)	_	Con. Worker = 1	yr
ED _{M-L}	=	7.4	yr
EF	=	Residential = 350	d/yr
		Con. Worker = 30	d/yr
F(x)	=	0.194	unitles
foc	· E	0.0108	g/g
GW _{obj}	12	Benzene = 0.005	mg/L
		Toluene = 1	mg/L
		Ethylbenzene = 0.7	mg/L
		Total Xylenes = 10	mg/L
		MTBE = 0.07	mg/L
		Naphthalene = 0.14	mg/L
			mg/L
			mg/L
			mg/L
			mg/L
H'	=	Benzene = 0.23	Unitions
		Toluene = 0.271	unitiess
		Ethylbenzene = 0.324	unitless
		Total Xylenes = 0.271	onitiess
		MTBE = 0.0241	unilless
		Naphthalene = 0.0198	unitless
		The Trust of a strengt.	unitiess
			unitiess
			unitleas
			imilless
1	=	0.06188	m/m
- D	=	0.3	m/yr
lm-L	3	0.18	m/yr
IF _{soli-adj}	=	114 (mg-yr)/(kg-
[R _{soil}	=	Residential = 200	mg/d
ar sackl			
		Con Worker = 480	mg/c

D,	-	Benzene = 0,088	cm²/s
190		Toluene = 0.087	cm²/s
		Ethylbenzene = 0.075	
		Total Xylenes = 0.0735	
		MTBE = 0.102	
		Naphthalene = 0.0000075	
		Tabilities - alandon's	cm²/s
			cm²/s
			cm²/s
			cm²/s
D _w		Benzene = 0.0000102	
		Toluene = 0,0000086	4446364
		Ethylbenzene ≈ 0.0000078	CA LINCON, TO.
		Total Xylenes = 0.000000923	2017.11
		MTBE = 0,000011	1.04.1
		Naphthelene = 0.0000075	1270
			cm²/s
			cm ² /s
			cm²/s
55	_		cm²/s
DF ED (ingestion of	=	2.08662718	unitiess
carcinogens	=	Con. Worker = 1	yr
	=	Benzene = 50	yr cm³/g or L/kg
Koc	6		
		Toluene = 158	
		Ethylbenzene ≃ 320 Total Xylenes = 398	cm³/g or L/kg
		MTBE = 10	
		Naphthalene = 500	4 - 4
		Mapridialette - 300	cm³/g or L/kg
			cm³/g or L/kg
			cm³/g or L/kg
			cm³/g or L/kg
K,	÷	120	m/yr
L	-	79.8576	m
PEF	=	10.0070	m³/kg
PEF			m³/kg
Q/C (VF equations)	=	Residential = 68.81	(g/m²-s)/(kg/m
		Con. Worker = 85.81	(g/m ² -s)/(kg/m ²
UC (PEF equations)	0		(g/m²-s)/(kg/m²)
RfC (mg/m²)		Chronic Sub	chronic
Benzene	#		80.0
Toluene	=	5	5
Etnylbenzene	=	4	9
Total Xylenes	3		0.4
MTBE	3	3	2.5
Naphthalene	2	0.003	.003
	=		NA
	5		NA
	=		NA.
	=		NA

	=	Residential = 2	L/d
IR _w	=	36.89712	m/yr
K _d (non-ionizin	9 3	Benzene = 0.54	
organcis)	4	Toluene = 1.7064	
		Ethylbenzene = 3.456	am ² /g or L/kg
		Total Xylenes = 4,2984	
		MTBE = 0.108	cm /g or Like
		Naphthalene = 5.4	cm ³ /g or L/kg
			cm²/g ar L/kg
			cm ² /g or L/kg
			cm ²)g or Ling
G (Tonizing organ	ics) =		cm ² /g or L/kg
	_		cm ² /g or L/kg
K _d (inorganic	5/ -		
Vr. =		Benzene = 697.874	m³/kg
		uene = 1053,001	m³/kg
	11.77.7	benzene = 1442.466	m³/kg
		Xylenes = 1766.572	m³/kg
		TBE = 1195,999	m³/kg
N	laphthai	ene = 7964.103	m³/kg
			m³/kg
			m³/kg
			m³/kg
			m³/kg
VM _{M-L} =		#VALUE	m³/kg
		#VALUE!	m³/kg
		#VALUE!	m³/kg
		#VALUEI	m³/kg
		#VALUE!	m³/kg
		#VALUE!	m³/kg
		W V GOES	m³/kg
			m³/kg
			m ³ /kg
			m³/kg
VF' _{M-L} =	_	WWW.1151	m /kg m³/kg
VF M-L		#VALUEI	
		#VALUE!	m³/kg
		#VALUE!	m ³ /kg
		#VALUE!	m³/kg
		#VALUE	m³/kg
		#VALUE!	m³/kg
			m³/kg
			m³/kg
			m³/kg
			m³/kg
η	=	0.383	Lpore/Lsoll

RfD _o mg/(kg-d)		Chronic	Subchronic
Benzene	=	0.004	0.012
Toluene	=	0.08	0.8
Ethylbenzene	=	0.1	0.05
Total Xylenes	=	0.2	0.4
MTBE	=	0.01	0.3
Naphthalene	=	0.02	0.6
	=		0.2
	5		NA NA
	=		NA NA
S	-	Benzene ≃ 1	
		Toluene =	11131-
		Ethylbenzene =	
		Total Xylenes =	
		MTBE = 51	
		Naphthalene :	3.2
		- Private - 10	mg/L
			mg/L
			mg/L
			mg/L
SF,	=	Benzene = 0	055 (mg/kg-d)
		Toluene =	
		Ethylbenzene = 0.	1
		Total Xylenes =	
			NA (mg/kg-d)
			and the second
		Naphthalene =	
			(mg/kg-d)*
			(mg/kg-d)
			(mg/kg-d)
Ť	-	Residential = 9.5E	(mg/kg-d)
4	-	Con. Worker = 3.6 x 1	
TM-L	=	30	
THQ	_		yr
TR	=	1.00E-06	unitless
			unitiess
U _m	9	4.69	m/s
	=	Benzene = 7.8 x 1	
U	_	11.32	m/s
V	Ħ	0.5	unitless
VF =		Benzene = 9090	
		Tolueno = 13716	
		Ethylbenzene = 18790	
		Total Xylenes = 23012	
		MTBE = 15579	
		Naphthalene = 103743	
			m ³ /kg
			m³/kg m³/kg

Incident # 20030135

θ _w	=	0.246	L _{water} /L _{soil}
Ρ _b	=	1.64	kg/l or g/cm ³
ρ _s	=	2.657	g/cm ³
ρ_{w}	=	1	g/cm ³
1/(2b+3)	=	0.074	unitless

Illinols Environental Protection Agency Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations

Site Name: Manne Bunk Trust 53-0061 Site Address (not a P.O. Box): 9529 State Route 29 City: Centrall County: Sangamon Zip Code: 63625 Leaking UST Technical File B. Tier 2 Calculation Information Equation(s) Used (ex: R12,R14,R26): R16, R17, R18,R19, R21, R22, R23, R24,R26 Contact Information for Incividual Who Performed Calculations: GWM Long Use: Residential Soil Type: Sill Learn Groundwater: X Class Class Class Mass Limit Yes X No	red cm²/s and cm²/s ted cm²/s = 30 yr = 1 yr = 350 d/yr = 30 unitless unitless d µg/m³ ed µg/m³
Site Name: Marino Bunk Trust 53-0051 Site Address (not a P.O. Box): 9529 State Routo 29 City: Cuntrall County: Sengamon Zip Code: 63825 Lasking UST Technical File 8. Tier 2 Calculation Information Equation(s) Used (ex: R12,R14,R26): R16, R17, R18,R19, R21, R22, R23, R24,R26 Contact Information for Incividual Who Performed Calculations: GWM Lond Use: Residential Soil Type; Sill Loam Groundwater: X Class Class Class Mass Limit: Yes X No If Yes, then Specify Acroage: Objective from S17 used in R257 Yes X No If Yes, then Specify Course from S17 Mass Limit Acroage other from defaults must always be rounded up. Fallure to use alte-specific parameters where allowed could affect payment from the UST Fund Maps depicting source width, plume dimensions, distance, etc. must also be submitted. Inputs must be submitted in the designated unit. ATc = 70 Vr Date See Attached Tyle BW × 70 Yr Casso See Attached Mg/L Cby = See Attached Mg/L Cby = See Attached Mg/L GW Server = See Attached Mg/L GW Server = See Attached Mg/L GW Server = See Attached Mg/L H* See Attached Mg/L RAFs = 1 RAFs (incrpanics) = See Attached RG/L RRAFs = 1 RRO = See Attached RG/L	62625 feed cm²/s and cm²/s and cm²/s and cm²/s and cm²/s and dyr and dyr unitiess uniti
Site Address (not a P. O. Box): 9529 State Route 29 City: Centrall County. Sengemen Zip Code: 63625 Lasking UST Technical File 8. Tier 2 Calculation Information Equation(s) Used (ex: R12,R14,R28): R16, R17, R18,R19, R21, R22, R23, R24,R26 Contact Information for Individual Who Performed Calculations: GWM Long Use: Residential Soil Typo: Sill Loam Groundwater: X Class Class Class Mass Limit Yes X No If Yes, then Specify Acroage: Objective from S17 used in R287 Yes X No If Yes, then Specify Casse from S17 See Altached ingt. - Mass Limit Acroage other than defaults must always be rounded up Fallure to use alte-specific parameters where allowed could affect payment from the UST Fund - Maps depicting source width, plume dimensions, distance, atc. must also be submitted. - Inputs must be submitted in the designated unit. ATe = 70 Vr Description	need cm²/s and cm²/s ted cm²/s ted cm²/s = 30 yr r = 1 yr = 350 d/yr = 30 d/yr unitiess unitiess unitiess unitiess unitiess unitiess unitiess unitiess unitiess unitiess
City: Centrall County: Sengemon Zip Code: 63625 Leaking UST Technical File 8. Tier 2 Calculation Information Equation(s) Used (ex: R12,R14,R26): R16, R17, R18,R19, R21, R22, R23, R24,R26 Contact Information for Individual Who Performed Calculations: GWM Long Use: Residential Soil Typo: Sill Loam Groundwater: X Class Class Class Mass Limit Yes X No If Yes, then Specify Acroage: Objective from S17 used in R287 Yes X No If Yes, then Specify Casses from S17 See Attached Ingrt. - Mass Limit Acroage other than defaults must always be rounded up. - Fallure to use site-apocific parameters where atloyed could affect payment from the UST Fund - Maps depicting source width, plume dimensions, distance, atc. must also be submitted. - Inputs must be submitted in the designated unit. - ATe	need cm²/s and cm²/s ted cm²/s ted cm²/s = 30 yr r = 1 yr = 350 d/yr = 30 d/yr unitiess unitiess unitiess unitiess unitiess unitiess unitiess unitiess unitiess unitiess
Equation(s) Used (ex: R12,R14,R26): R16,R17,R18,R19,R21,R22,R23,R24,R26 Contact Information for incividual Who Performed Calcutations: CWM Long Use: Residential Soil Typo: Sill Loam Groundwater: X Class I Class II Mass Limit: Yes X No If Yes, then Specify Acroage: Objective from S17 used in R287 Yes X No If Yes, then Specify Course from S17 Sea Attached Alaps depicting source width, plume dimensions, distance, etc. must also be submitted. Inputs must be submitted in the designated unit. AT = 70 Vf AT = 70 Vf BW × 70 Vf Con. Worker = 0.115 Vf BW × 70 Vf Con. Worker = 0.115 Vf Con. Worker = 0.115 Vf BW × 70 Vf Con. Worker = 0.115 Vf BW × 70 Vf Con. Worker = 0.115 Vf BW × 70 Vf Con. Worker = 0.115 Vf BW × 70 Vf Con. Worker = 0.115 Vf BW × 70 Vf Con. Worker = 0.115 Vf BW × 70 Vf Con. Worker = 0.115 Vf BW × 70 Vf Con. Worker = 0.115 Vf BW × 70 Vf Con. Worker = 0.115 Vf BW × 70 Vf Con. Worker = 0.115 Vf BW × 70 Vf Con. Worker = 360 Attached To Con. Worker = 1 Con. Worker = 30 Con. Worker = 30 RAF (PNAs) = 0.05 RAF (PNAs) = 0.05 RAF (PNAs) = 0.05 RAF (PNAs) = 0.05 RAF (PNAs) = 0.05 RAF (PNAs) = 0.05 RAF (PNAs) = 0.05 RAF (PNAs) = 0.05 RAF (PNAs) = 0.05 RAF (PNAs) = 0.05 RAF (PNAs) = 0.05 RAF (PNAs) = 0.05 RAF (PNAs) = 0.05 RAF (PNAs) = 0.06 RAF (PNAs) = 0.05 RAF (PNAs) = 0.05 RAF (PNAs) = 0.06 RAF (PNAs) = 0.0	need cm²/s and cm²/s ted cm²/s ted cm²/s = 30 yr r = 1 yr = 350 d/yr = 30 d/yr unitiess unitiess unitiess unitiess unitiess unitiess unitiess unitiess unitiess unitiess
Equation(s) Used (ex: R12,R14,R26): R16, R17, R18,R19, R21, R22, R23, R24,R26 Contact information for incividual Who Performed Calcutations; CWM Lond Use: Residential Soil Typo; Sill Loam Groundwater: X Class I Class II Mass Limit Yes X No If Yes, then Specify Acroage: Objective from S17 used in R257 Yes X No If Yes, then Specify Course from S17 - Mass Limit Acroage other than defaults must always be rounded up Failure to use site-apecific parameters where allowed could affect payment from the UST Fund - Maps depicting source width, plume dimensions, distance, etc. must also be submitted. - Inputs must be submitted in the designated unit. ATc = 70 yr ATn = Residential - 30 yr Con. Worker = 0.115 yr BW × 70 yr Con. Worker = 0.115 yr BW × 70 yr Con. Worker = 0.115 yr Con. Worker = 1 Con. Worker = 1 Con. Worker = 30 Con. Worker = 30 Groundwater: See Attached mg/L Groundwater: See Attached mg/L GW - See Attached mg/L H' = See Attached mg/L RSSL (caracognic) - See Attached	med cm²/s sec
Equation(a) Used (ex: R12,R14,R26): R16, R17, R18,R19, R21, R22, R23, R24,R26 Contact information for incividual Who Performed Calcutations: CWM Lond Use: Residential Soil Typo: Sill Loam Groundwater: X Class I Class II Mass Limit Yes X No If Yes, then Specify Acroage: Objective from S17 used in R257 Yes X No If Yes, then Specify Cosses from S17 Sea Attached with a designated unit. - Mass Limit Acroage other than defaults must always be rounded up Failure to use site-specific parameters where aboved could affect payment from the UST Fund Maps depicting source width, plume dimensions, distance, etc. must also be submitted Inputs must be submitted in the designated unit. ATc = 70 yr ATn = Residential - 30 yr Con. Worker = 0.115 yr BW × 70 yr Con. Worker = 0.115 yr BW × 70 yr Con. Worker = 0.115 yr Con. Worker = 1 Con. Worker = 30 Con. Worker = 30 Groundwater: X Class II Dail = See Attached Dail = See Attached ED = Residential = 30 Con. Worker = 30 Con. Worker = 30 RAFa (PNAs) = 0.05 RAFa (PNAs) = 0.05 RAFa (PNAs) = 0.05 RAFa (PNAs) = 0.05 RAFa (PNAs) = 0.05 RAFa (PNAs) = 0.05 RAFa (PNAs) = 0.05 RAFa = 1 RSSL _{an} (caracognic) = See Attached RSSL _{an} (caracognic) = See Attached RSSL _{an} (caracognic) = See Attached RSSL _{an} (caracognic) = See Attached RSSL _{an} (caracognic) = See Attached RSSL _{an} (caracognic) = See Attached RSSL _{an} (caracognic) = See Attached RSSL _{an} (caracognic) = See Attached RSSL _{an} (caracognic) = See Attached RSSL _{an} (caracognic) = See Attached RSSL _{an} (caracognic) = See Attached RSSL _{an} (caracognic) = See Attached	med cm²/s sec
Contact information for incividual Who Performed Calcustations; CWM Land Use: Residential Soil Typo; Silt Loam Groundwater: X Class I Class II Mass Limit: Yes X No If Yes, then Specify Acroage! Objective from S17 used in R2S7 Yes X No If Yes, then Specify Course from S17 See Attached Maps depicting source width, plume dimensions, distance, etc. must also be submitted. Inputs must be submitted in the designated unit. ATc = 70 Vf ATa Residential = 30 Vf ATa Residential = 30 Vf Con. Worker = 0.115 Vf BW × 70 Vf Con. Worker = 0.115 Vf Con. Worker = 0.115 Vf BW × 70 Vf Con. Worker = 0.115 Vf Con. Worker = 1 See Attached mg/L Chy = See Attached mg/L Chy = See Attached unitiess for = 0.0108 9/9 GW_assone = See Attached mg/L If = See Attached mg/L RSSL_in (caracognic) = See Attached RSSL_in (carac	med cm²/s sec
Contact information for incividual Who Performed Calcutations; CWM Land Use: Residential Soil Typo; Silt Loam Groundwater: X Class I Class II Mass Limit: Yes X No If Yes, then Specify Acroage: Objective from S17 used in R2S7 Yes X No If Yes, then Specify Course from S17 See Attached Mass Limit Acroage other than defaults must always be rounded up. Fallure to use site-specific parameters where allowed could affect payment from the UST Fund Maps depicting source width, plume dimensions, distance, etc. must also be submitted. Inputs must be submitted in the designated unit. ATc = 70 Vr ATa Residential 30 Vr Con. Worker = 0.115 Vr BW × 70 Vr Con. Worker = 0.115 Vr BW × 70 Vr Con. Worker = 0.115 Vr Con. Worker = 1 Con. Worker = 1 Con. Worker = 1 Con. Worker = 360 Attached mg/L Group = See Attached mg/L GW autone = See Attached mg/L GW autone = See Attached mg/L RSSL _{av} (caracognic) = See Attached RSSL _{av} (caracognic) = See Attached RSSL _{av} (caracognic) = See Attached RSSL _{av} (caracognic) = See Attached RSSL _{av} (caracognic) = See Attached RSSL _{av} (caracognic) = See Attached RSSL _{av} (caracognic) = See Attached RSSL _{av} (caracognic) = See Attached RSSL _{av} (caracognic) = See Attached RSSL _{av} (caracognic) = See Attached RSSL _{av} (caracognic) = See Attached	med cm²/s sec
Lang Use: Residential Soil Typo; Silt Loam Groundwater: X Class I Class II Mass Limit: Yes X No If Yes, then Specify Acroage: Objective from S17 used in R2S7 Yes X No If Yes, then Specify Course from S17 See Attached in the designated unit. ATc = 70 Vf ATc = 70 Vf ATc = 70 Vf BW = 70 Vf Con. Worker = 0.115 Vf BW = 70 Vf Con. Worker = 0.115 Vf Con. Worker = 0.0108 Pf GW_assone = See Attached mg/L GW_assone = See Attached mg/L GW_assone = See Attached mg/L If See Attached mg/L GW_assone = See Attached mg/L If = See Attached mg/L If = See Attached mg/L RSSL_m(enriceptic) = See Attached RSSL_m(caraceptic) = See Attached	med cm²/s sec
Lang Use: Residential Soil Typo; Sit Loam Groundwater: X Class I Class II Mass Limit: Yes X No If Yes, then Specify Acroage: Objective from S17 used in R2S7 Yes X No If Yes, then Specify Course from S17 Sea Attached in the designated unit. - Mass Limit Acroage other than defaults must always be rounded up Failure to use site-specific parameters where allowed could affect payment from the UST Fund - Maps depicting source width, plume dimensions, distance, etc. must also be submitted Inputs must be submitted in the designated unit. ATc = 70 Vr ATn	med cm²/s sec
Groundwater: X Class I Class II Mass Limit Yes X No If Yes, then Specify Acroage: Objective from S17 used in R297 Yes X No If Yes, then Specify Cosses from S17 See Altached in the designated unit. ATc = 70 Yr ATc = 70 Yr ATc = 70 Yr ATc = 70 Yr ATc = 70 Yr ATc = 70 Yr BW × 70 Yr Con. Worker = 0.115 Yr BW × 70 Yr Con. Worker = 0.115 Yr Con. Worker = 0.000 gr Con. Worker = 0.000 gr Con. Worker = 0.000 gr Con. Worker = 0.000 gr Con. Worker = 0.000 gr Con. Worker = 0.000 gr Con. Worker = 0.000 gr Con. Worker = 0.000 gr Con. Worker = 300 gr Con. W	med cm²/s sec
Groundwater: X Class Class Mass Limit: Yes X No If Yes, then Specify Acroage: Objective from S17 used in R297 Yes X No If Yes, then Specify Course from S17 Sen Attached ingrt. - Mass Limit Acroage other than defaults must always be rounded up Fallure to use alte-specific parameters where allowed could affect payment from the UST Fund - Maps depicting source width, plume dimensions, distance, etc. must also be submitted Inputs must be submitted in the designated unit. AT _c = 70 yr AT _a	med cm²/s sec
Mass Limit: Yes X No If Yes, then Specify Acroage: Objective from S17 used in R297 Yes X No If Yes, then Specify C _{source} from S17 Sen Attached ingrt. - Mass Limit Acroage other than defaults must always be rounded up Fallure to use site-specific parameters where allowed could affect payment from the UST Fund - Maps depicting source width, plume dimensions, distance, etc. must also be submitted Inputs must be submitted in the designated unit. AT _c = 70 yr AT _a	med cm²/s sec
Objective from S17 used in R297 Yes X No If Yes, then Specify Cocces from S17 See Attached ingrt. - Mass Limit Acroage other than defaults must always be rounded up Fallure to use site-specific parameters where allowed could affect payment from the UST Fund - Maps depicting source width, plume dimensions, distance, etc. must also be submitted. - Inputs must be submitted in the designated unit. AT _c = 70 Vr AT _n = Residential = 30 yr Con. Worker = 0.115 Vr BW × 70 Yr Con. Worker = 0.115 Vr Con. Worker = 0.115 Vr Con. Worker = 30 Vr Con. Worker = 30 Vr Con. Worker = 30 Vr Con. Worker = 30 Vr Con. Worker = 1 Con. Worker = 1 Con. Worker = 30 Vr	med cm²/s sec
If Yes, then Specify Course from S17 Mass Linit Acroage other than defaults must always be rounded up. Fallure to use alterapeoidic parameters where allowed could affect payment from the UST Fund Maps depicting source width, plume dimensions, distance, etc. must also be submitted. Inputs must be submitted in the designated unit. ATc = 70 Vr ATc = 70 Vr ATc = 70 Vr ATc = 70 Vr ATc = 70 Vr ATc = 70 Vr ATc = 70 Vr Dair = See Attached Driver = See Attached Driver = See Attached Driver = See Attached Driver = See Attached Driver = See Attached ED = Residential = 30 Con. Worker = 1 Con. Worker = 1 EF = Residential = 360 Con. Worker = 360 Attached Unitiess for = 0.0108 9/9 GW_assers = See Attached mg/L RSSLav (characquist) = See Attached RSSLav (characquist) = See Attached RSSLav (characquist) = See Attached RSSLav (characquist) = See Attached RSSLav (characquist) = See Attached RSSLav (characquist) = See Attached RSSLav (characquist) = See Attached RSSLav (characquist) = See Attached RSSLav (characquist) = See Attached RSSLav (characquist) = See Attached RSSLav (characquist) = See Attached RSSLav (characquist) = See Attached RSSLav (characquist) = See Attached RSSLav (characquist) = See Attached	med cm²/s sec
- Mass Linit Acroage other than defaults must always be rounded up Fallure to use alle-specific parameters where allowed could affect payment from the UST Fund - Maps depicting source width, plume dimensions, distance, etc. must also be submitted Inputs must be submitted in the designated unit. AT _c = 70	med cm²/s sec
- Mass Linit Acroage other than defaults must always be rounded up Fallure to use site-specific parameters where allowed could affect payment from the UST Fund - Maps depicting source width, plume dimensions, distance, etc. must also be submitted Inputs must be submitted in the designated unit. AT _c = 70	med cm²/s sec
Failure to use site-specific parameters where allowed could affect payment from the UST Fund - Maps depicting source width, plume dimensions, distance, etc. must also be submitted. - Inputs must be submitted in the designated unit. AT _c = 70 yr AT _n Residential = 30 yr Con. Worker = 0.115 yr BW = 70 yr Con. Worker = 0.115 yr Con. Worker = 0.115 yr Con. Worker = 300 Attached BW = 70 yr Con. Worker = 1 Con. Worker = 1 Con. Worker = 1 Con. Worker = 30 Con. Worker = 30 Con. Worker = 30 Con. Worker = 30 Con. Worker = 30 RAF _d (PNAs) = 0.05 RAF _d (inorganics) = 0 RAF _d (inorganics) = 0 RAF _d (inorganics) = 5ee Attached BY = 5ee Attached mg/L RAF _d (caracognic) = 5ee Attached RAF _d (anorganics) = 5ee Attached RAF _d (inorganics) = 5ee Attached	med cm²/s sec
AT _R	med cm²/s sec
AT _R	med cm²/s sec
BW 70 Yr D _e iff = Sep Attached	196
BW 100 Yr ED Rosidential = 30 Con. Worker = 1 Con. Worker = 30 Con. Worke	= 30 yr r = 1 yr 350 d/yr = 30 d/yr unitless
Con. Worker = 1 Con. Worker = 1	r = 1 yr 350 dyr = 30 dyr unitless unitless unitless unitless ed pg/m² ed pg/m² ed mg/kg-d
d	= 30 d/yr unitless unitless unitless unitless unitless unitless ed µg/m³ ed µg/m³ ed mg/kg-d
orf = See Attached Unitiess RAF _d (PNAs) = 0.05 f _{cot} = 0.0108 9/9 RAF _c (morganics) = 0 GW _{comb} = See Attached mg/L RSSL _{or} (caracognic) = 1 H' = See Attached mg/L RBSL _{or} (caracognic) = See Attached I - 0.06188 cm/cm RRG RRG = See Attached	unitless unitless unitless unitless unitless d µg/m³ ed µg/m³ ed µg/m³
Fox = 0.0108 0/9 RAF_s (norganics) = 0.05 GW_{comp} = See Attached mg/L RAF_s = 1 GW_{comp} = See Attached mg/L RBSL _{at} (normorphic) See Attached H' = See Attached mg/L RBSL _{at} (normorphic) See Attached H' = See Attached mg/L RBSL _{at} (normorphic) See Attached H' = See Attached RBSL _{at} (normorphic) See Attached RBSL _{at} (normorphic) See Attached RBSL _{at} (normorphic) See Attached RBSL _{at} (normorphic) See Attached	unitless unitless ed µg/m³ ed µg/m³ ed µg/m³
GW _{comp} = See Attached mg/L RAF _a = 1 GW _{astroc} a See Attached mg/L RBSL _a (caraloganic) = See Attached H' = See Attached ama_a_ricm' RBSL _a (caraloganic) = See Attached RBSL _a (caraloganic) = See Attached RBSL _a (caraloganic) = See Attached RBSL _a (caraloganic) = See Attached RBSL _a (caraloganic) = See Attached	unilibss ed µg/m³ ed µg/m³ ed mg/kg-d
GW _{assure} a See Attached mg/L RBSL _{of} (caracognic) = See Attached H' = See Attached mm3_us-/em3_ RBSL_of (caracognic) = See Attached 1 = 0.06188 can/cm RfO _f = See Attached	ed µg/m³ ed µg/m³ ed mg/kg-d
H' = See Attached em3_em/cm' RISL_(neroscateging) = See Attached em1cm RfQ = See Attached	ed µg/m³ ed mg/kg-d
- 0.0618A cin/cm RfO; = See Atlached	ed mg/kg-d
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= 30	cm²/d
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Sco Atteched	Congress of
See Attached	ed (mg/kg-d)
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Approximately and the second s	crn/d
- 100 984 Uan 225	cm/s
V Browners - Next Receives 3	cm/y
г _а инидина) — Not Applicable сти мин/быт VF _p = 3.97133E-12	2 kg/m³
VF seek = See Attached	
VF ₃₆ = See Attached VF ₃₆	1
M = 0.5 mg/cm ² W =	nd impinity ymphymis
Pe = 6.9 10 ⁻¹⁴ g/cm ² -s W = 20	d kg/m3
RAF _d = 0.5 unitless 8 _d = 200	nd (mann', ymphres and kg/m3
α _x = See Attached cm δ _m = 200	rd (mann's)-mptges or rd (kg/m3 Cft) Ghanto/Geoff
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σ _γ Sue Allached cm 9 = 22.52	nd imam", ymptesia id kg/m3 Crtt Gusts/Good Crts
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a See Attached on 8 = 32,8 cm	in imam", youpepe or in imam", youpepe or in imam", youpepe or in imam", youpepe or in imam", you imam imam imam imam imam imam imam ima
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$a_{\rm g}$ = See Attached cm $\theta_{\rm rec}$ = 32.8 cm λ = See Attached $d^{\rm f}$ $\theta_{\rm f}$ = 0.43 cm	id imam", ymptejas ar id kg/m3 Crii Gauta / Ocoli Crii Crii Crii Crii Crii Crii Crii Cr

	H'	, A	Koo
Benzene	0.23	0.0009	50
Toluena	0.271	0.011	158
Ethylbenzene	0.324	0.003	320
Total Xylenes	0.271	0.0019	398
MTBE	0.0241	0	10
Naphthalone	0.0198	0.0027	500
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	17 100	Benzene R26	Modeled G	roundwater f	rom Vertical I	Modeled Soll	s	
Location	317 (mg/L)	O(x) (mg/L)	X (cm)	a _r (cm)	a _v (cm)	a _r (cm)	erf: 5./(4:	erf: 8,/(2 v[a, X])
SB-7	1.149	0.005	8900.16	890.016	296,672	44,5008	0.84/99158	0.2679995
SB-13	0.007	0.005	609.6	60,96	20.32	3.048	1	
SB-14	0.007	0.005	457.2	45.72	15.24	2.286	1	0.9999954
SB-15	0.021	0.005	2255.52	225.552	75.184	11.2778	0.99999998	
SB-20A	0,007	0.005	457.2	45.72	15.24	2.288	0.99999996	0.8234170
\$8-208	0.007	0.005	548,64	54,864	18.288	2.7432	1	7
SB-21C	0.005	0.005	30.48	3.048	1.016	0.1524		0.9999999
SB-21D	0,005	0.005	30.48	3.048	1.016	0.1524		1
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			Benzena R	26 Modeled	Groundwater		
Location	C(x) (mg/L)	X (cm)	α _κ (cm)	ay (cm)	a _e (cm)	8/1: 8 ₄ /(4 V[c ₁ ·X])	erf: 8,7(2-
MW-1	1.430	9357.36	935,736	311.912	48.7868	0.82695441	0.2553/355
MW-2	0,250	6096	609.6	203.2	30,48	0.96350876	0.38292492
MVV-14	0.264	6187.44	618,744	206.248	30.9372	0.96064956	0.36292492
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Toluene R26 Modeled Groundwater from Vertical Modeled Soils											
Location	C _{source} from S17 (mg/L)	C(x) (mg/L)	X (cm)	a _x (cm)	α _y (cm)	α _z (cm)	erf: S _a /(4· √[α,·X])	orf: S _w / (2 √[α ₂ · X])			
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			Toluene R	26 Modeled C	roundwater			
Location	C(x) (mg/L)	X (cm)	a _x (cm)	a _y (cm)	a _z (cm)	erf: S _w / (4 · √[α _y · X])	erf; S _a /(2· √[α _t ·X]].	
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	E	hylbenzene	R26 Modeled	Groundwate	r from Vertica	al Modeled S	oils	
Location	C _{source} from S17 (mg/L)	C(x) (mg/L)		α _x (cm)	α _y (cm)	a _z (cm)	erf; S _w / (4 ·	erf: S,/(2
SB-15	0.6551	0,6154	30.48	3.048	1.016	0.4504	ν[α _γ · X])	√[a _z ·X])
00-13	0.0001	0,0104	30.46	3,046	1.016	0.1524	1	1
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Ethylbenzene R26 Modeled Groundwater											
Location	C(x) (mg/L)	X (cm)	α _κ (cm)	a _y (cm)	a _z (cm)	√[a, · X])	√[a₂ · X])				
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Total Xylenes R26 Modeled Groundwater from Vertical Modeled Soils											
Lagartica	C _{source} from						erf: S,/(4-	erf: 8, / (2			
Location	S17 (mg/L)	C(x) (mg/L)	X (cm)	a _x (cm)	α _y (cm)	a _z (cm)	√[a _y · X]}	√[a,·X])			
SB-15	1.8228	1.7520	30.48	3.048	1.016	0.1524	1	1			
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			Total Xylene	s R26 Modele	d Groundwa	ter	
Location	C(x) (mg/L)	X (cm)	α _x (cm)	α _y (cm)	α _z (cm)	erf: S _a /(4 √[α _y ·X])	erf: 8 _w / (2 · √[a₂ · X))
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MTBE R26 Modeled Groundwater from Vertical Modeled Soils											
Location	C _{source} from S17 (mg/L)	C(x) (mg/L)	X (cm)	α _x (cm)	a _y (cm)	α _z (cm)	erf; 8,/(4· √[a,·X])	erf: 8,,/(2 √[a, X]]			
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MTBE R26 Modeled Groundwater											
Location	C(x) (mg/L)	X (cm)	a _x (cm)	α _y (cm)	a _z (cm)	erf: S _w / (4 · √[α _γ · X])	erf: S _w / (2· √[α _z · X])				
											
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	<u>N</u>	aphthalene F	26 Modeled	Groundwate	r from Vertica	Modeled Se	oils	
Location	C _{source} from S17 (mg/L)	C(x) (mg/L)	X (cm)	a _x (cm)	a _v (cm)	α _z (cm)	erf; s _w /(4- v[a, · X])	erf: S _w /(2 · √[a, X])
SB-7	0.1531	0.1369	60.96	6.096	2.032	0.3048	1 1	*(u, . x))
SB-15	0.1666	0.1335	121.92	12,192	4.064	0.6096	1	
SB-19A	0.8043	0.1351	1127.76	112,776	37.592	5.6368	1 1	0.00040044
SB-19B	1.0447	0.1354	1310,64	131.064	43,688	6.5532	 	0.99312218
				101.001	70,000	0.0002	 	0.9799591
								
							 	
							 	
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Naphthalene R26 Modeled Groundwater											
Location	C(x) (mg/L)	X (cm)	α _x (cm)	a _v (cm)	a _z (cm)	erf; s,,/(4 · √[a _y · X])	erf: S _x /(2· √[a _t ·X])				
MW-2A	0.178	152.4	15.24	5.08	0.762	iquy Ay	1				
MW-3A	0.514	792.48	79.248	26,416	3.9624	 	0.99988001				
MW-4A	0,179	152.4	15.24	5.08	0.762	1	0.9990000				
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Location	C _{source} from S17 (mg/L)	C(x) (mg/L)	X (cm)	α _x (cm)	α _y (cm)	a _z (cm)	erf; s,, / (4 · · · · /(a, · X))	erf; s _w / (2 √[a₂ · X))
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Location	C(x) (mg/L)	X (cm)	α _x (cm)	α _y (cm)	α _z (cm)	erf: S _w /(4· √[a _y ·X])	erf: S _w / (2 · √[a _z · X])
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Location	C _{source} from S17 (mg/L)	C(x) (mg/L)	X (cm)	α _x (cm)	a _y (cm)	az (cm)	erf: S.,/(4 √[a, X])	erf: S _w /(2 √[a ₁ ·X])
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						erf: S _w / (4 ·	erf: 8 _w /(2·
Location	C(x) (mg/L)	X (cm)	a _x (cm)	α _y (cm)	α _z (cm)	√[a, X])	√[a, X])
MW-3A	0.001	4754.88	475,488	158,496	23.7744	0.99266624	0.47849398
MW-4A	0.001	3413.76	341.376	113.792	17.0688	0.99981203	0.62806632
MW-5A	0.000	426.72	42,672	14.224	2.1336	1	1
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	C _{source} from						erf: S _w /(4	erf: 5,/(2
Location	S17 (mg/L)	C(x) (rng/L)	X (cm)	a _x (cm)	a _y (cm)	αz (cm)	ν[α _ν · X])	√[a, X])
								
							 	
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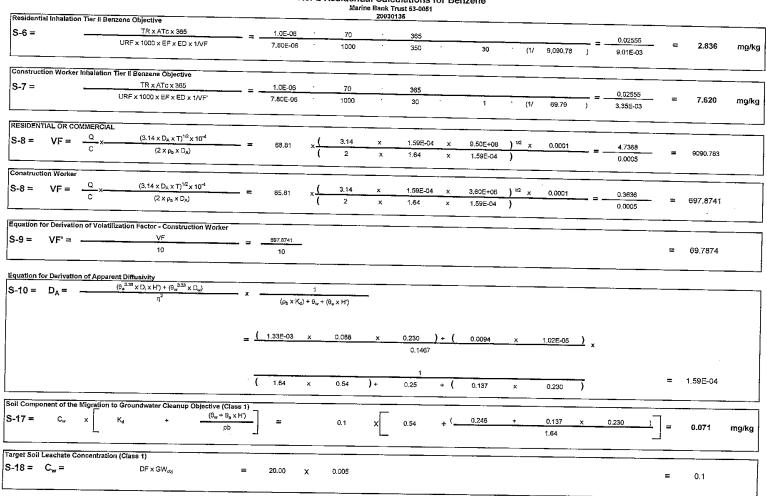
Location	C(x) (mg/L)	X (cm)	a _x (cm)	α _y (cm)	α _z (cm)	erf: S _w /(4 · √(α _y · X))	erf: S _w / (2 ⋅ √(α _z ⋅ X))
MW-3A	0.000	1097.28	109.728	36,576	5.4864	1	0.9945268
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Location	S17 (mg/L)	C(x) (mg/L)	X (cm)	α _x (cm)	α _γ (cm)	az (cm)	erf: S _w r(4 · v[a _v · X])	erf; s _# / (2 √[a _z X])
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ocation	C(x) (mg/L)	X (cm)	α _χ (cm)	α _γ (cm)	a _z (cm)	erf: 8,,/{4 · · · · · · · · · · · · · · · · · · ·	erf; 8,,/(2 ⋅ √[σ₂ ⋅ X])
	 						
	 						
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SSL & RBCA Date Compiled: 10/05/23 Section 1984 + 1986 Input Values Holcomb's Bulk Density --> Converted Value to be used in calculation sheet -> USDA Soil Classification: ISilt Loam FOC % (0.58 conversion) -> 0.000 Organic Matter (mg/kg) Organic Matter (%) -> FOC mg/kg (0.58 conversion) 0.000 # foc conversion to g/g; 0.000 Pb - Dry Soil Bulk Density : 1.5 or; Gravel = 2.0; Sand = 1.8; Silt = 1.6; Clay = 1.7; or Site Specific 2.657 ps - Soil Particle Density 2.65 or, Site Specific 0.137 | Oa - Air Filled Soil Porosity 0.137 Value from S-21 Top 1 meter = 0.28; below 1 meter = 0.13; Gravel = 0.05; Sand = 0.14; Sit = 0.24; Clay = 0.19; or Calculated Value (S21) 0.246 Ow - Water Filled Soil Porosity 0.246 Value from S-20 Top 1 meter = 0.15; below 1 meter = 0.30; Gravel = 0.20; Sand = 0.18; Silt = 0.16; Clay = 0.17; or Calculated Value (\$20) 0.383 η - SSL: Total Soil Porosity 0.0619 i - Hydraulic Gradient 0.43 or; Gravel - 0.25; Sand = 0.32; Silt = 0.40; Clay = 0.36; or Calculated Value (S24 or R23) 0.383 Value from S-24 Site Specific 0.011 foc - Total Organic Carbon (g/g)
20.000 DF - Dilution Factor Surface Soil = 0.006; Subsurface Soil = 0.002; or Site Specific 2.087 Value from \$-22 if calculated value for DF is less than 20, then 20 default is used, else calculated value is used 11.402 d - Mixing Zone (m) 11.402 Value from S-25 2; or calculated value 3.048 d_s - Depth of source (m) feet = 10 Depth of Source (Vertical thickness of contamination) 36.90 K - Hydraulic Conductivity (m/yr) 1.17E-04 Site Specific 3689.71 cm/yr Use cm/d for R15, R19, & R28, cm/yr for R24,... 79.858 L - Source Length Parallel to Groundwater Flow (m) feet = 262 Site Specific (m) 3 048 d_e - Aquifer Thickness (m) feet = 10 Site Specific (m) I - Infiltration Rate (m/yr) 0.3 for Illinois 120 Ks - Saturated Hydraulic Conductivity See Table K for Input Values 0.005 GW_{obj} - Groundwater Remediation Objective Class 1 GW_{obj} - Groundwater Remediation Objective Class 2 0.074 1/(2b+3) - Exponent for S20 See Table K for Input Values BW - Body Weight Residential = 70 (carcinogenic); 15 (non-carcinogenic); Industrial/Commercial = 70; Construction Worker = 70; RBCA = 70 IF_{sol-adj} -Age Adjusted Soil Ingestion Factor for Carcinogens 114 IR_{sol} -Soil Ingestion Rate Residential = 200; Industrial/Commercial = 50; Construction Worker = 480 0.055 SF, -Oral Slope Factor Benzene = 0.055 2 IR_w -Daily Water Ingestion Rate Residential = 2; Industrial/Commercial = 1 S - Solubility in Water Benzene = 1750 1.0E-06 TR - Target Cancer Risk Residential = 10°6; Industrial/Commercial = 10°6; Construction Worker = 10°6 at point of human exposure 70 AT_c -Average Time for Carcinogens70 7.80E-06 URF - Inhalation Unit Risk Factor Benzene 78 x 00 350 EF - Exposure Frequency
30 ED - Exposure Duration for Inhalation to Carcinogens Residential = 350; Industrial/Commercial = 250; Construction Worker = 30 Residential = 30; Industrial/Commercial = 25; Construction Worker = 1 68,81 Q/C - Inverse of the mean concentration at the center of a square source Residential = 68.81; Industrial/Commercial = 85.81; Construction Worker = 85.81; or Table H 9.50E+08 T - Exposure Interval Residential = 9.5×10^8 ; Industrial/Commercial = 7.9×10^8 ; Construction Worker = 3.6×10^6 T_{M-L} - Exposure Interval for Mall Limit Volatifization Factor Equation S26 ED_{M-L} - Exposure Duration for Migration to Groundwater Mass-Limit Equation S28 0.18 I_{M-L} - Infiltration Rate for Migration to Groundwater Mass-Limit Equation S28 0.18 0.088 D, & Dar Diffusivity in Air Benzene = 0.088 0.230 H' - Henry's Law Constant Benzene = 0.228 1.02E-05 D. & D. Diffusivity in Water Benzene = 9.8 x 10⁻⁴ 50.00 K_{oc} - Organic Carbon Partition Coefficient Benzene = 58,9 Residential Ingestion Tier II Benzene Objective 1.0F-06 S-2 = 2.6E-02 11.643 mg/kg Sfc · 10 8 · EF · IFsoil-adi 0.055 1,00E-06 350 2.19E-03 Construction Worker Ingestion Tier II Benzene Objective TR x BW x AT_c x 365 1.0E-06 70 S-3 = 70 1.8E+00 2258.21 mg/kg Sf_o x 10⁻⁶ x EF x IRsoil 0.055 1.00E-06 7.92E-04

Tier 2 Residential Calculations for Benzene



	-	H'X	Эа + Өw + Kd X рb		0.230	х	0.137	+	0.246	* ·	0.540	X	1.640	_			=	919.73	mg/m
30 = 1			bil X H X pb X 1000 Эа + Өw + Kd X pb	= _	2.836	x	0.230	x	1.640		1000								
	door Inhala	·	(A PD) TOW T [H X 84)]	= -	1.64	× [{	0,54	<u> </u>	1.64) +	0.246	+ {	0.230	x	0.137)]	= ·	1,276.58	mg/k
il Saturatio		5 , mc	₁ x pb) + ⊙w + (H' x 8a)]	-	1800														_
							3.048	×	1 - exp	{	<u>-79.858</u> 36.897	x	0.3 0.0619) ×	3.048		=	11.402	m
				= (0.0112	x	79.858	²) ^{0.5} +											
-25 =	d =	(0.0112 x L ²) ⁰⁵ + 6	1 -exp (K	(-L x I) x i x d _a)															
	f Mixing Z	one Depth	F									_ _ _							
i-24 =		1 - <u>ρ_b</u> ρ _s	_	=	1	_	1.64 2.657	_									=	0.3828	
otal Soil Pe	prosity	s	F _o x IR _w x EF x ED		0.055	x	2.000	×	350	×	30			=	1.8E+00 1155	_	=	0.0015	mg
647 Ingestio 6-23 =	oπ		R x BW x At _c x 365		1.0E-06	×	70		70	x	365								
W Ingestic			1XF		0.300		79.858			- +	1	_					2	2.0866	
		1 +	Kxixd lxL		36.90	×	0.0619	x	11,402										
ilution Fa																	=	0.1370	
	-	η - Θ _w		=	0.38	-	0.25												
Air-Filled P	lorocit.						120.000	_ 				_					=	0.2458	
		η x——1——————————————————————————————————	1/(2b+3)	=	0.38	×[-	0.300	0.074											
Votes - FUL	d Porosity																=	0.54	
	$K_d =$		K _{oe} x f _{oe}	=	50.00	х	0.011												

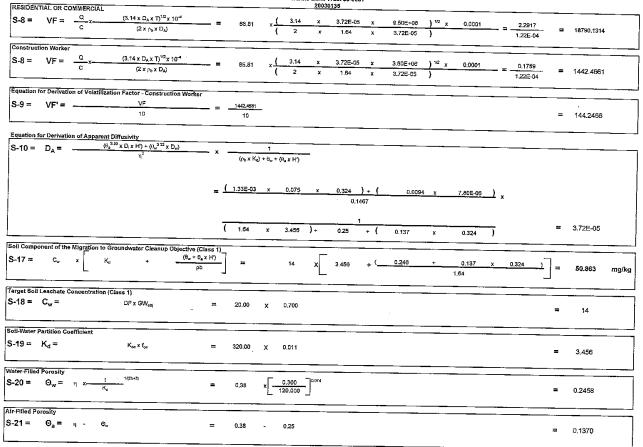
SSL SSL & RBCA RBCA RIS/HEAST Date Compiled: 10/05/23

Org	b's Bulk Density -> 0													
		Converted	Value to be used in	calculation sheet ->			JSDA Soil Clas	sification: Si	It Loam					- P. P.
	ganic Matter (%) -> 0	FOC % (0.58 conversion	0.000	Organic Matter (mg/kg)	. 0		OC mg/kg (0.58 r		0.000	for c	nversion:	to o/or I	0.000	****
	ρ _b - Dry Soil Bulk Density			1.5 or, Gravel = 2.0; Sa		= 1.5: Clar	- 1 7: or Site	Cassifin		100 0	ALL BURGER	w grg. 1	0.000	
2.657	ps - Soil Particle Density	and the second second	100000000000000000000000000000000000000	2.65 or, Site Specific	- 1.0, Out	1.u, Dia	_ i.v. or oice.	Specific						
0.137	⊕ _a - Air Filled Soil Porosity	0.137	Value from S-21	T 1 D.CC										
0.246				Top 1 meter = 0.28; bei	W 1 meter =	0.13; Grav	ref = 0.05; Sand	d = 0.14; Silt	=0.24; Clay =	0.19; or Cali	ulated Va	lue (S2)	1)	
	Ow - Water Filled Soil Porosity	0.246	Value from S-20	100 1 meter = 0.15; beli	w1 meter=	0.30; Grav	rel = 0.20; Sand	d = 0.18; Silt	=0.16; Clay =	0.17: or Cali	ulated Va	fue (S2)	m	
0.383	n - SSL: Total Soil Porosity	0.383	Value from S-24	0.43 or; Gravet - 0.25; S	and = 0.32: S	ilt = 0.40:	Clay = 0.36; or	Calculated \	Jelue (\$24)			us (SE		
		garia Karanggal an ili	UNIX HARVE BUT	Site Specific	<u> </u>		Jidy - 0.00, 01	Oulculated .	4106 (324)					
0.011	foc - Total Organic Carbon (g/g)			Surface Soil = 0.006; Si	heurfaca Sni	(= 0.003·	or Site Sporific							
20.000	DF - Dilution Factor	2.087	Value from S-22	If calculated value for D	Fie loce than	20 then	or one opean	- 4 - 1 1 -						
11.402	d - Mixing Zone (m)	11,402	Value from S-25	2; or calculated value	is iggs ritali	20, (1191)	zo delanit is da	eq, else calc	ulated value is	sused				
3,048	d, - Depth of source (m)	111	feet = 10											
36.90				Depth of Source (Vertical										
	K - Hydraulic Conductivity (m/yr)	cm/sec =	1.17E-04		.01E+01	·· am/d	3,69E+0	3 cm/vr tu	se cm/d for R1	5. R19. 8 P	6 cm/m	for R24	N. Inchilation	register.
79.858	L - Source Length Parallel to Ground	Iwater Flow (m)	feet = 262	Site Specific (m)						37776474				*****
3.048	d _a - Aquifer Thickness (m)		feet = 10	Site Specific (m)										_
0.3	1 - Infiltration Rate (m/vr)			0.3 for illinois										
120	Ks - Saturated Hydraulic Conductivity													
				See Table K for Input V	ilues									
0.700	GW _{obi} - Groundwater Remediation O	bjective Class 1		1 GW.,	- Groundwat	ter Ramer	iation Objective	e Class 2						
0.074	1/(2b+3) - Exponent for S20			See Table K for Input V	lives			,aaa z						
15	BW - Body Weight	1. M. S. S. S. S. S. S. S. S. S. S.	5905-1227 . TO 12	: Pacidential = 70 /	uues									
114	F _{solked} -Age Adjusted Soil Ingestion	Easter for Carrianas		Residential = 70 (carcin	genic); 15 (n	on-carcin	ogenic); Industi	nai/Commerc	tat = 70; Cons	truction Wor	ķer = 70; i	RBCA =	70	
		racioi for Carcinogens		114				_						
200	IR _{sol} -Soil Ingestion Rate			Residential = 200; Indus	trial/Commer	dal = 50.	Construction W	orker = 480						
2 .	IR _w -Daily Water Ingestion Rate	· "我们的是一个一个一个一个一个		Residential = 2; Industri										
	S - Solubility in Water	1 14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	manager in the second second		u-commercia	a = 1								
		1 1 6 7 1 1 1 X 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Ethylbenzene = 169						-				
1,0E-06	TR - Target Cancer Risk		A Transfer	Residential = 10 ⁻⁶ ; Indus	trial/Commer	cial = 10 ⁻⁵	Construction \	Norker = 10"	at point of hu	man exons	re			
350	EF - Exposure Frequency	od Stelling and the Court	CART CARRY	Residential = 350; Indus	trial/Commer	cial = 250	Construction V	Norker = 30		man bapace				
30	ED - Exposure Duration for inhalation	n for Non-Carcinogens	化120%公司	Residential = 30; Industr	al/Commerci	al = 25 C	onstruction We	rker = 1						
68,81	Q/C - Inverse of the mean concentral	tion at the center of a soua	re source	Residential = 68.81; Inde	striel/Comm	ercial = 85	81- Constructi	on Morker =	85 81: oc Tobi	- U				
9.50E+08	T - Exposure Interval			Residential = 9.5 x10°; I	- Julian	DIOIGI - OL	7.00130000	OIL ANOTHER -	93.01, 01 180	вл.				
30		31 1 mm m = 1 = 1		Residential = 9.5 K Tur; II	idusma/Com	imerciai =	7.9 x 10"; Cons	struction Wo	$ker = 3.5 \times 10$					
	T _{M-L} - Exposure Interval for Mall Limit			30										
70	ED _{u.1} - Exposure Duration for Migration to			70										
0.18	1 _{M-L} - Infiltration Rate for Migration to	Groundwater Mass-Limit E	quation S28	0.18										
	D Diffusivity in Air			Ethylbanzene = 0,075.										
	H' - Henry's Law Constent			Ethylbenzene = 0.323										
7.80E-06	D _w - Diffusivity in Water			Ethylbenzene = 7.8 x 10	6									
6 .	AT - Average Time for Non-Carcinoge	ens to ingestion Equation		Residential = 6; Industria	i/Commercia	1 = 25 · Ca	netruction Mice	40c = 0 11E						
30	AT - Average Time for Non-Carcinog	one in inhelation Equation		Residential = 30; Industr	al/Camanana	-1-25.00	Suucaon vvon	NO 0,113						
1	THQ - Target Hazard Quotient	OTTO THE PROPERTY EQUATION		1	at/Continuerci	al - 45. C	unstruction avo	rker = 0.115						
				1										
		-v				Excellent rest, terrally	and the second second	TOCOMON BUT THE PROPERTY OF THE	**************************************					
324 250	RfC - Inhalation Reference Concentra	ation		Chronio = 4. Subcritonio	#Srykstor	MATERIAL PROPERTY.		estate Par	(West-		100	ger year.		18************************************
01	RfC - Inhalation Reference Concentra RfD _o - Oral Reference Dose			Chronic = 0.4 Subchronic	= S	erak sen		Secretary			201			28 86 82 20 20 Alia
01	RfC - Inhalation Reference Concentra RfD _o - Oral Reference Dose			Chronic = 0.1 Subchronic Ethylbenzene = 363	= 5 c = 0.05 m,√				ine series	i de grad	ista sa			
0.1 320.00	RfC - Inhalation Reference Concentra RfD _o - Oral Reference Dose K _{oo} - Organic Carbon Partition Coeffic	cient		Chronic = 0.4; Subchron	o≠0.05 % (жж. те		es e n Pa			SP SALE		0.000	18 -46 22.01 1
0.1 320.00	RfC - Inhalation Reference Concentra RfD _o - Oral Reference Dose K _{oo} - Organic Carbon Partition Coeffic	cient	taminants	Chronic = 0.4; Subchron	0.05 v. r	- 100 a 12					95 (S			18-46 3-2-WI
0 1 320.00 tesidential	RfC - Inhalation Reference Concentra RfD _o - Oral Reference Dose K _{ea} - Organic Carbon Partition Coeffic Ingestion Remediation Objectives for	cient or Non-Carcinogenic Con	taminants	Chronic = 0/1; Subchron Ethylbenzene = 363	c = 0.05 %			September 1			uras (c.)			::
0 1 320.00 esidential	RfC - Inhalation Reference Concentra RfD _o - Oral Reference Dose K _{oo} - Organic Carbon Partition Coeffic Ingestion Remediation Objectives for THQ x BW	cient or Non-Carcinogenic Con x AT x 368	1	Chronic 3/1 Subchron Ethylbenzene = 363 x 15 x	c = 0.05	x	365	Salesta.			850		Carried by	e Wila
0 1 320.00 esidential	RfC - Inhalation Reference Concentra RfD _o - Oral Reference Dose K _{oo} - Organic Carbon Partition Coeffic Ingestion Remediation Objectives for THQ x BW	cient or Non-Carcinogenic Con	taminants 1 0.000001	Chronic = 0/1; Subchron Ethylbenzene = 363	c = 0.05 %			x	200		uras (c.)	=	7821	
0 1 320.00 esidential	RfC - Inhalation Reference Concentra RfD _o - Oral Reference Dose K _{oo} - Organic Carbon Partition Coeffic Ingestion Remediation Objectives for THQ x BW	cient or Non-Carcinogenic Con x AT x 368	1	Chronic 3/1 Subchron Ethylbenzene = 363 x 15 x	c = 0.05	x	365	Salesta.			uras (c.)	=	Carried by	
320.00 Residential S-1 =	RIC - Inhalation Reference Concentra RID _o Oral Reference Dose K _{so} - Organic Carbon Partition Coeffic Ingestion Remediation Objectives In THO x BW 10° x (1/RID _o) x	cient or Non-Carcinogenic Con x AT x 365 t EF x ED x IR _{soli} .	0.000001	Chronic = 0.4 Subchron	c = 0.05	x	365	Salesta.			uras (c.)	=	Carrier Esq. b	
320.00 Residential S-1 =	RIC - Inhalation Reference Concentra RID _o - Oral Reference Dose K _{so} - Organic Carnor Partition Coeffic Ingestion Remediation Objectives to THQ x BW 10° x (1/RID _o) x on Worker Ingestion Remediation Ob	cient or Non-Carcinogenic Con x AT x 365 t EF x ED x IR _{soli} cectives for Non-Carcino	0.000001	Chronic = 0.1 Subchron	6 350	x	365 6	Salesta.		= 32	850 12	=	Carrier Esq. b	mg/k
320.00 tesidential 3-1 =	RIC - Inhalation Reference Concentra RID _o - Oral Reference Dose K _{so} - Organic Carnor Partition Coeffic Ingestion Remediation Objectives to THQ x BW 10° x (1/RID _o) x on Worker Ingestion Remediation Ob	cient or Non-Carcinogenic Con x AT x 365 t EF x ED x IR _{soli} .	0.000001	Chronic = 0.4 Subchron	c = 0.05	x	365 6	Salesta.		= 32	850 12	=	7821	mg/k
320.00 tesidential 3-1 =	RIC - Inhalation Reference Concentral RICs - Oral Reference Dose K _{sa} - Organic Carbon Partition Coefficient Remediation Objectives in THO x BW 10° x (1/RIQs) x on Worker Ingestion Remediation Objectives in THO x BW THO	cient or Non-Carcinogenic Con x AT x 365 EF x ED x IR _{sol} jectives for Non-Carcino x AT x 385	0.000001 genic Contaminant	Chronic	6 350	x x	365 6	x	200	32	850 .2 8.25	=	Carrier Esq. b	SEX.VIII
320.00 tesidential 3-1 =	RIC - Inhalation Reference Concentral RICs - Oral Reference Dose K _{sa} - Organic Carbon Partition Coefficient Remediation Objectives in THO x BW 10° x (1/RIQs) x on Worker Ingestion Remediation Objectives in THO x BW THO	cient or Non-Carcinogenic Con x AT x 365 t EF x ED x IR _{soli} cectives for Non-Carcino	0.000001	Chronic = 0.1 Subchron	6 350	x	365 6	Salesta.		32	850 12	=	7821	mg/k
320.00 esidential 3-1 =	RIC - Inhalation Reference Concentral RICs - Oral Reference Dose K _{sa} - Organic Carbon Partition Coefficient Remediation Objectives in THO x BW 10° x (1/RIQs) x on Worker Ingestion Remediation Objectives in THO x BW THO	cient or Non-Carcinogenic Con x AT x 365 EF x ED x IR _{sol} jectives for Non-Carcino x AT x 385	0.000001 genic Contaminant	Chronic	6 350	x x	365 6	x	200	32	850 .2 8.25	=	7821	mg/k
320.00 Residential S-1 = Construction	RIC - Inhalation Reference Concentral RID _o - Oral Reference Dose K _{so} - Organic Carbon Partition Coeffic Ingestion Remediation Objectives in THO x BW 10° x (1/RID _o) x on Worker Ingestion Remediation Ob THO x BW 10° x (1/RID _o) x 10° x (1/RID _o)	cient or Non-Carcinogenic Con x AT x 365 EF x ED x IR _{xol} jectives for Non-Carcino x AT x 385 EF x ED x IR _{xol}	0.000001 genic Contaminant	Chronic	6 350	x x	365 6	x	200	32	850 .2 8.25	=	7821	mg/k
320.00 esidential -1 = onstructio -1 = esidential	RIC - Inhalation Reference Concentral RICs - Oral Reference Dose IK ₀₂ - Organic Carbon Partition Coefficient Remediation Objectives in THO x BW 10° x (1/RIQ ₂) xon Worker Ingestion Remediation Ob THO x BW 10° x (1/RIQ ₂) xon Worker Ingestion Remediation Ob THO x BW 10° x (1/RIQ ₂) x Inhalation Tier II Ethylbenzene Objective RICs - Objectiv	cient or Non-Carcinogenic Con x AT x 385 cEF x ED x IR _{vol} plectives for Non-Carcino x AT x 385 EF x ED x IR _{vol} cetive	0.000001 genic Contaminant	\$\text{Chronic \(\text{SQ} \), \(\text{SQ} \), \(\text{Chronic \(\text{SQ} \)} \) O.1 \(\text{SQ} \) \[\text{x 15} \text{ x 17} \(0.1 \text{ x} \) \[\text{x 70} \text{ x 17} \(0.05 \text{ x} \) \[\text{x 17} \(0.05 \text{ x} \)	6: 350 0.115 30	x x	365 6	x	200	= 32/2	850 1,2 8.25 288	=	7821	mg/k
320.00 Residential S-1 = Constructio S-1 = Residential	RIC - Inhalation Reference Concentre RICo - Oral Reference Dose K _{so} - Organic Carbon Partition Coefficient Remediation Objectives In THO x BW 10° x (1/RIO _o) x on Worker Ingestion Remediation Objectives In THO x BW 10° x (1/RIO _o) x In Worker Ingestion Remediation Objective In THO x BW 10° x (1/RIO _o) x Inhalation Tier II Ethylbenzene Objective Inhalation Tier II Ethylbenzene Objective Inhalation Tier II Ethylbenzene Objective Inhalation Tier II Ethylbenzene Objective Inhalation Tier II Ethylbenzene Objective Inhalation Tier II Ethylbenzene Objective II II II II II II II II II II II II II	clent or Non-Cardinogenic Con xAT x 365 EF x ED x IR _{sell} electivns for Non-Cardino x AT x 385 EF x ED x IR _{sell} elective x X x 385	= 1 0.000001 genic Conteminant = 1 0.000001	\$\frac{\congress_0}{\congress_0} \frac{\congress_0}{\congress_0} 6 350 0.115 30	x x	365 6 365 1	×	200	= 32 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	850 .2 8.25 288	=	7821	mg/k	
320.00 desidential S-1 = onstructio S-1 = desidential	RIC - Inhalation Reference Concentral RICs - Oral Reference Dose IK ₀₂ - Organic Carbon Partition Coefficient Remediation Objectives in THO x BW 10° x (1/RIQ ₂) xon Worker Ingestion Remediation Ob THO x BW 10° x (1/RIQ ₂) xon Worker Ingestion Remediation Ob THO x BW 10° x (1/RIQ ₂) x Inhalation Tier II Ethylbenzene Objective RICs - Objectiv	clent or Non-Cardinogenic Con xAT x 365 EF x ED x IR _{sell} electivns for Non-Cardino x AT x 385 EF x ED x IR _{sell} elective x X x 385	0.000001 genic Contaminant	\$\text{Chronic \(\text{SQ} \), \(\text{SQ} \), \(\text{Chronic \(\text{SQ} \)} \) O.1 \(\text{SQ} \) \[\text{x 15} \text{ x 17} \(0.1 \text{ x} \) \[\text{x 70} \text{ x 17} \(0.05 \text{ x} \) \[\text{x 17} \(0.05 \text{ x} \)	6: 350 0.115 30	x x	365 6 365 1	x x	200	= 32 = 293 0.	850 .2 .2 8.25 288	= =	7821 10202 19595.423	mg/k mg/k mg/k
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320.00 Residential S-1 = Constructio S-1 = Residential S-4 = Residential S-6 = Residential	RIC - Inhalation Reference Concentral RICs - Oral Reference Dose IK ₀₂ - Organic Carbon Partition Coefficient Remediation Objectives in THO x BW 10 ⁻⁶ x (1/RID ₂) x on Worker Ingestion Remediation Objective (1/RID ₂) x inhalation Tier II Ethylbenzene Objective (1/RID ₂) x Inhalation Objective (Carcinogen) TR x AT URF x 1000 x E in Worker Inhalation Objective (Carcinogen) in Worker Inhalation Objective (Carcino	clent or Non-Carcinogenic Con x AT x 363 EF x ED x IR _{sel} specifies for Non-Carcino x AT x 365 EF x ED x IR _{sel} settive AT x 365 FX 285 FX 2	genic Contaminan 1 0.000001 genic Tontaminan 1 0.000001 2 1 350	\$\text{Spnsnle} \text	6 350 0.115 30 365	x x x	385 6 385 1 18790,13136 Tier	x x 2 Inhalatio Tier 2 Inha	200 480 n Objective lation Object	= 32/4 = 293/0. = 10/0.5 cannot e: ve does not converted to the doe	850 22 8.25 288 950 55804 cceed Sc 2555 21397	= = oil Satu	7821 10202 19595.423 uration Limit bjective 18.289	mg/k
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(Ethylbenzene)

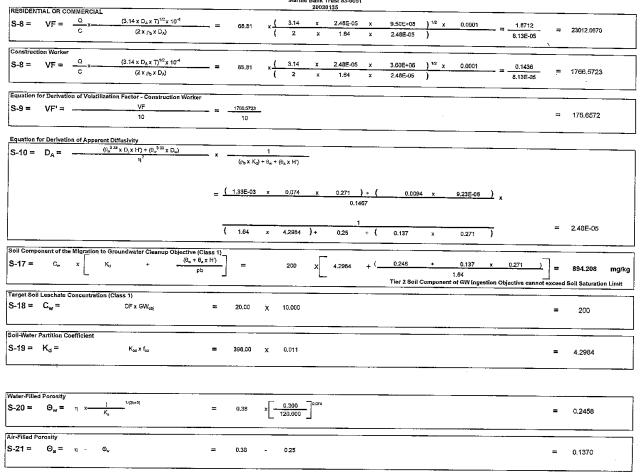
Input Values

	onstruction Worker Inhalation Objective	
	S-5 THQ x AT x 365 1 x 0.115 x 365	1
ł	EF x ED x (1/RTC x 1/VF) 30 x 1 x 1/ 9 x 1 / 144.2466076 = 41.975 = 1816.425 mg/kg	l
	Tier 2 Inhalation Objective cannot exceed Soil Saturation Limit	į



Dilution Factor																	
S-22 = DF ≃		xixd	 =	35.90 0.300	x	0.0619 79.858	x	11.402	+	1					-	2.0866	
GW Ingestion																	
S-23 =	TR x BW,x; SF ₀ x IR _w x		_ =	1.0E-06 0.000	x	15 2.000	x	0 360	×	365 30	_		= -	0.0E+00 0		#DIV/0!	mg/
otal Soil Porosity												·					
S-24 = η = 1	1 - Ρυ		=	1		1.64 2.857	-								=	0.3828	
Stimation of Mixing Zon	- D#																
		1 -exp <u>(-I</u> (K x	x!) ixd _a)	0.0112	×	79 858	2,05.	-									
S-25≔ d = ∢o		1-exp <u>(-l</u> (K.x		0.0112	x	79.858 3.048	—	1 - exp	{	-79.858 36.897	<u>x</u> _ x	0.3 0.0619) x 3	.048		11,402	m
S-25 = d = (0 S-25 = d = (0 S-25 = Csat = S S-29 = Csat = S Pu	.0112 x L ²) ⁰³ + d ₀	1 -exp (-1 (K x (K x + (H' x 8a))	= (0.0112 170 1.64		3.048	×			-79,658 36,897	* * * * * * * * * * * * * * * * * * *	0.3 0.0619 0.324		0.137)		11.402	

200	nput Values								Cats Compiled:	- 1	10/05/23
ľ	Converted Value to be used in calculation sheet—	be to be used	n calculati	an sheet-	1	100	USDA Soli Classed control	Shiftedon-Sill Loan		2.00.2	ł
979	p Dry Soil Bulk Danalty	0.000	1500	- Organic Matter (regna)	(C Sanda 1	0 8	Organic Matter (reging) 0 - FOC matter (0.36 convention)		fon conversion to g/g:	Ш	0.000
0 237	DS - Soil Particle Density		12.85 ar.	2.55 ar, Sita Specific	II.	100	Ciay - 1.1. of Sile	1 S COROLLO			
0.246	SwWater Filed Soil Porcety	Value from S-21	Top 1 m	late. = 0.2	8. below 1 m	Rier E.13	Grave = 0.05; Sa	Too 1 male; = 0.28; bullow 1 malar = 0.13; Grave = 0.05; Sand = 0.14; 6th =0.24; Glay = 0.19; or Calculated Value (92)	= 0.19; or Calculated V	Blue (521)	
0.383	n - SSL Total Sol Peresity 0.383	0.383 Value from S.24	0.43 0.	Gravet - 0	25: Sand=	3.72. Site	0.40 Cleve 0.36	0.43 of, Gravet - 0.25; Sand = 0.32; Sittle 0.40; Cleve = 0.30; Sittle 0.45 of, Gravet - 0.25; Sand = 0.32; Sittle 0.40; Cleve = 0.35; One description of the control of th	■ 0.17" or Calculated V	alve (B20)	
0.041	foc - Total Organic Carbon (QQ)		Sile Sp	Solingo	Mr. Europe	0.0	100	(Fact)			
1,402	101 - Digition Facing	Velue from S.22	Totalou	etler velse	fo: DF is le	sa 'ban 20.	Nen 20 defau"t te u	If chicule(be value for DF) is less than 20, then 20 default used, size calculated value is used	7s resed		
3.548	d _a - Depth of source (m)	foot = 10	Death of	Scarce (County of States Aveding the page of States	Andre Advance	Contraction of Contraction				l
36.90	K - Hydraute Conductivity (m/yr)	1.75.04	Site Specific	office	1.018401	Of Combi	G T ROPE	Control Parcel State			V
3048	d Soulier Thismess Inc.	ther = 262	Site Specific (m	edfle (m)		П		AND THE PARTY OF MAIN WAS IN THE PARTY OF MAIN THE MAIN T	13, N18, E N20, CINY	TE 724	-
0.3	- inflication Rate (m/y)	78et + 10	Site Specific	Site Specific (m)							
120	T		See Tat	de X far la	See Table X far Input Values	l					
0.074	7			01	GW. Str	and water R	GWes - Strandwaler Rangdiston Objective Class 2	A Class 2			
15	HV-Back Welcht		See 3ab	de IC for In	But Values			See Table If for Input Values			1
145	IF Lang - Age Adjusted Ball Ingestion Factor for Carcingges		114	M = 70 (c	archopenic	c 15 from-a	inclinagenta); Ind.in	bis//Commercial = 70; Con	Struction Works: = 70;	RBCA = 70	
200	IR.se -Soil Ingression Rate		Residen	figi w 200-	Industrialia	Stratternial =	Residential a 2001 Industrial/Congrammal - 801 Construction Made and	No. John			
01	IR, Daly Water ingestion Rate	10000	Raiden	lal = 2; fix	- Residential = 2; Industrial Construction = 1	mercial a 1	av. Constrainen	valker = 460			
9	\neg		Total Xy	Total Xylones = 186	10						
5 55	THE PROPERTY OF THE PARTY OF TH	2000	r:Res den	Jul = 104	Industria Inc.	- loisusumum	10. Construction	in Real dentat = 10 % Industrie (Commercial = 10 % Construction Worker = 10 % enjoy of large exponents	Marian above une		
8			Residen	ist = 350;	rdustriaVC	mmeccial =	256; Construction	Worker = 30	A PRODUCTION OF THE PARTY OF TH		
5	QVC - inverse of the mean concentration at the center of a square source		Residen	lal = 55.6	Industrial/	Contraction .	A 65.81 Construct	Residential = 50, including a Commercial = 23, Construction Wester = 1 Residential = 56,61; Industrial/Commercial = 55,81; Construction Windows & Street Table in	II old		
30	30 IT Exposure Integral for Mont they Decided a		Residen	ial = 9,5 x	10°; Industri	AVC STATISFE	ala 75 t 10. Dor	Residential - 9,5 x10°, Industria/Commercial a 7.5 x 10°, Donshucton Worker - 3,6 x 10°	96		1
P	ED Edgeste Dust on the Mission to Persect and Mass 14th Country Pres	3,45	8								
0.18	May - Infiltration Rata for Migration to Groundwater Monthly rife Equation 8:26	and 0n 826	6.18	İ	l						
0,074	D, - Diffusivity to Air	1	Total XvI	Total Xvlenes = 0.072	72		8				
0271	븨		Total Xyl	fotal Xylenes = 0.25	5						
8.Z3E-06			Total Xyl	Total Xylenus = 9,34 x 10*	4 x 10 a						
30	81 - Average Unite for Non-Cardinogens in managing Equation [81 - Average Tribe for the Cardinogens In which the Equation		Resident	2) = 0; Inc	Residential - 6, Incustrat/Commercial	Tercial = 25	Residential = 6, Industrial/Commercial = 25, Construction Worker = 0.119	ker = 0.119			1
			1	21 m AU: 10	out the Month	Tuescas = 5	S. Constantion We	rker = 0,115			
22	Stric - Inhalazon Reference Concentration		Chronos	利用した	Efficience of Galberhando = 0.475	100 A	を記念される。 という	となる のの のの のの のの のの のの のの のの のの のの のの のの のの	Service State of the	The second second	TO THE PERSON NAMED IN
398.00			Total Xut	Total Xylenes = 260	hone = D	Service Control	Authorities of Subschools = D.4 (a) Authorities (a) Authorities (a) Authorities = 260	· · · · · · · · · · · · · · · · · · ·	· 1 1000 1000 1000 1000 1000 1000 1000	語の語を	是我被其事
entra	Residential Ingestion Remediation Objectives for Non-Carcinogenia Condaminents	naoris									
11	10° × (1/AID) × EF× ED × IP.	0.000001	× 1/2	2 2	× ×	8 × 350 ×	308	s 200	32850	n 16643	53 mg/kg
100	Construction Worker Insestian Remediation Objections for Non-Carcinopadic Conteminants	Confaminate		I					4.		- 1
(1	THO X BWX AT X 395		*	70	x 0.148	48	296				
	10°x (1RO ₄)x EFx EUx IR	4,300001	/-	5.0	DE 30	4	-	184	0.038.25	= 81618	18 mg/kg
tion	Inhalation Non-Carcinogenic Rusidential, IndiCommercial				li						
11 45	THO × AT #366 EF # ED # (THIC # 1A/F) ==	- 990	× #	H 8	x 1/2	305			10850	= 2399,830	330 mg/kg
							Tier	Tier 2 Inhalation Objective cannot exceed Soil Saturation Limit	carried exceed So	Saturation	Limit
S-5 =	Inhalistics Non-Carcinogenic Construction Worker S-5 = THO x AT # 385	- 90	*	0.116	v 355				ave as		
	EFXEDX (I/RICX I/AT)	g	ı	И		16.00	178.6572325		91.870	= 98.869	S maker



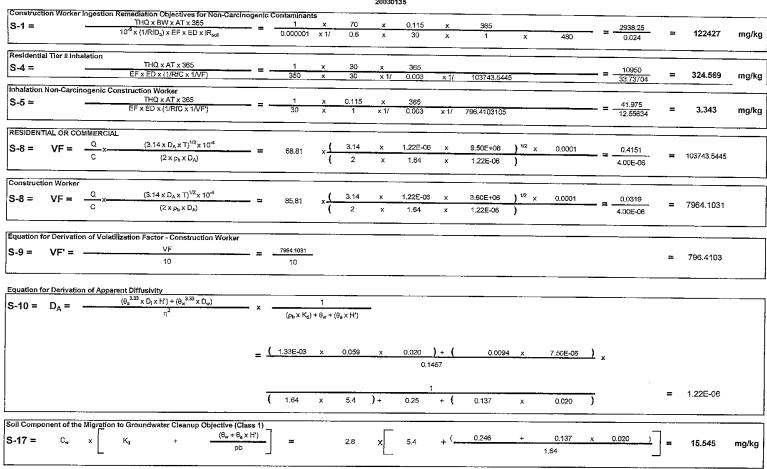
Tier 2 Residential Calculations for Total Xylenes Marine Bank Trust \$3-0051 20030135

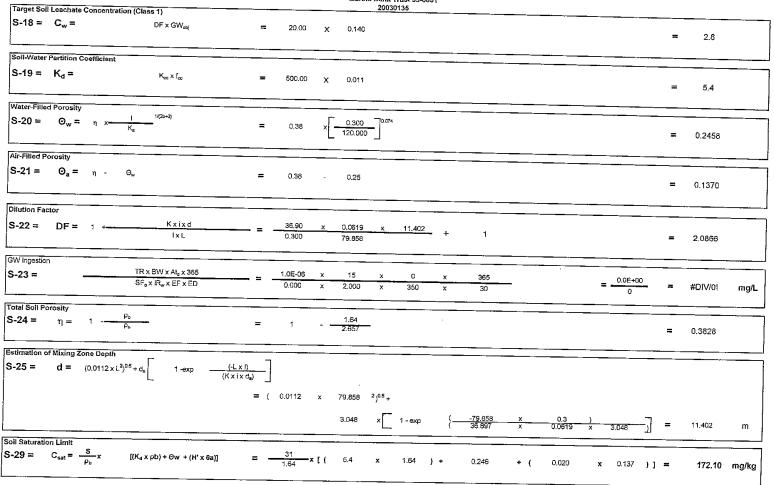
Dilution Fact	tor																					
3-22 =	DF ≃	1 +-		Kxix			=	36,90	X		X	11,402	. +	1						=	2,0866	
				İ×L				0.300		79,858				,						_	2,0000	
W Ingestion	n						_															
5-23 =				BW x At _c x			= .	1.0E-06	x	15	×	0	×	365			_	0.0E+	00	_		_
			SF.	IR _w x EF:	x ED			0.000	x	2.000	×	350	x	30	_		-	0	_	=	#DIV/0!	mg/L
otal Soil Po																						
-24 ≃	η=	1	ρ ₆				=	1		1.64 2.657	_									=	0.3828	
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stimation o	of Mixing Z	one Der (0.0112	th x L ²) ^{0.5} + d ₆	- 1-	exp _	(-Lxl) (Kxixd	<u> </u>		-			-						-				
istimation o	of Mixing Z	Zone Dep (0.0112	th x L ²) ⁰⁵ + d ₆	- 1-	exp	(-Lxl) (Kxixd		0.0112	x	79.858	²) ⁰⁵ +		· .				-					
stimation o	of Mixing 2 d =	Zone Deg (0.0112	th x L ²) ⁰⁵ + d _a	- 1-	exp	(Lxl) (Kxixd		0.0112	x		•	1 - exp	{-	-79.858 36.897	x x	0,3 0.0619) x	3.048	_]	=	11,402	m
6-25 =	d =	(0.0112	x L ²) ⁰⁵ + d _b				= (3.048	×					0.3 0.0619) x	3.048		=	11.402	m
3-25 = 	d =	(0.0112	x L ²) ⁰⁵ + d _b				= (3.048	×			-79.858 36.897		0.3) X				11.402	
i-25 =	d = on Limit C _{sat} =	(0.0112	x L ²) ⁰⁵ + d _a		+ (H' x 9a)		= (3.048 4.2984	×											

Date Compiled: 10/05/23

Input Values	·	HKIS/HEASTI					Date Compiled:	10/05/23
	's Bulk Density -> 0	Converted Value	to be used in	calculation sheet>	T	USDA Soil Classification: Silt Loam		
	artic Matter (%)> 0	FOC % (0.58 conversion)>	0.000	Organic Matter (mg/kg)				
	рь - Dry Soil Bulk Density			1.5 or Gravel = 2 0: Sar	rd = 1 8: Silt :	FOC mg/kg (0.58 conversion) 0,000 = 1.6; Clay = 1.7; or Site Specific	fac conversion to g/g:	0.000
2.657	ρs - Soil Particle Density	FIRE TO WATER AND A STORY	1402 Feb 2003	2.65 or, Site Specific	id - 1.0, Sit.	- 1.0, Clay = 1.7; or Site Specific		
	Θ _a - Air Filled Soll Porosity		e from S-21	Ton 1 mater = 0.39; bold	1	240.0		
0.246	Ow - Water Filled Soil Porosity		from S-20	Top 1 meter = 0.25, beld	w i meter =	0.13; Gravel = 0.05; Sand = 0.14; Silt =0.24; Clay = 0.19;	or Calculated Value (S21)	
0.383	η - SSL: Total Soil Porosity	0.383 Value		0.43 or Gravel - 0.26: S	ond in 0.30. C	0.30; Gravel = 0.20; Sand = 0.18; Silt = 0.16; Clay = 0.17; Silt = 0.40; Clay = 0.36; or Calculated Value (S24)	or Calculated Value (S20)	
0.06188	i - Hydraulic Gradient	or the the state of the second	grade Problems	Site Specific	and = 0.32; S	sit = 0.40; Clay = 0.36; or Calculated Value (S24)		
0.011 f	foc - Total Organic Carbon (g/g)			Surface Soil = 0.006: St	bsurface Soi	I = 0,002; or Site Specific		
	DF - Dilution Factor	2.087 Value	from S-22	If calculated value for Di	is less than	20, then 20 default is used, else calculated value is used		
11.402 c	d - Mixing Zone (m)	11.402 Value	from S-25	2; or calculated value	in ione in ion i	25, VIGH 25 detailed to doed, else calculated value is used		
	d _a - Depth of source (m)	feet	= 10	Depth of Source (Vertical	l thickness of	f contamination)		
36.90 H	K - Hydraulic Conductivity (m/yr)	cm/sec = 1.17E	-04					
79.858 L	L - Source Length Parallel to Grou	indwater Flow (m) feet:	= 262	Site Specific (m)	.012.01	cm/d 3.69E+03 cm/yr Use cm/d for R15, R	9.3 R26 cm/yr for R24	
	d _s - Aquifer Thickness (m)	feet :	= 10	Site Specific (m)				
	l - Infiltration Rate (m/yr)			0.3 for Illinois				
120	K _s - Saturated Hydraulic Conductiv	vity		See Table K for Input Va				
0.140	GW _{obj} - Groundwater Remediation	Objective Class 1						
0.074 1	1/(2b+3) - Exponent for S20		·	0.22 GVV _{ab}	- Groundwa	ter Remediation Objective Class 2	-	
15 E	BW - Body Weight		and the baseline	See Table K for input Va	ues			
114 II	F _{soil-adj} -Age Adjusted Soil Ingestio	n Factor for Carringgeos	or a serie grandage	114	genic); 15 (no	on-carcinogenic); Industrial/Commercial = 70; Construction	Worker = 70; RBCA = 70	
	IR _{soil} -Soil Ingestion Rate	- Total Carallegalia		114		sial = 50; Construction Worker = 480		
2 if	R _w -Daily Water Ingestion Rate		WEST STATES	Residential = 2; Industria	nai/Commerc	cial = 50; Construction Worker = 480		
31 . 15	5 - Solubility in Water			Napthalene = 31	/Commercial	= 1		
1.0E-06 T	TR - Target Cancer Risk		LINE TOWN MOTOR	Projection = 51				
350 JE	EF - EXPOSURE Frequency	of Selected all Artists are filtered as the classic filters.	Circ. Section State Co.	Residential = 10 ; Indust	nal/Commerc	cial = 10 ⁻⁶ ; Construction Worker = 10 ⁻⁶ at point of human ex cial = 250; Construction Worker = 30	posure	
3U }E	<u> Exposure Duration for Inhalati</u>	ion for Non-Carcinogens	Broken Broken	Residential = 30; Industri	12/Commerc	al = 25; Construction Worker = 30 al = 25; Construction Worker = 1		
68.81 [Q	Q/C - Inverse of the mean concentr	ration at the center of a square source	e	Residential = 68 81: Industri	al/Commo	rcial = 85.81; Construction Worker = 1		
9.50E+08 T	- Exposure Interval			Residential = 9.5 v10 ⁸ - In	duetrie!/Com	mercial = 7.9 x 10 ⁸ ; Construction Worker = 85.81; or Table H		
30 T	TM-L - Exposure Interval for Mall Lin	nit Volatilization Factor Equation S26		30	acisti iar Colli	Hercial = 7.9 x 10°; Construction Worker = 3.6 x 10°		
70 E	D _{ML} - Exposure Duration for Migration	n to Groundwater Mass-Limit Equation S	28	70				
0.18 l _M	M-L - Infiltration Rate for Migration to	o Groundwater Mass-Limit Equation 5	S28	0.18				·
	D _i - Diffusivity in Air			Naphthalene = 0.059				
0.0198 H	d' - Henry's Law Constant			Naphthalene = 0.0198				
7.50E-06 D	D _w - Diffusivity in Water	· · · · · · · · · · · · · · · · · · ·		Naphthalene = 7.5 x 10 ⁻⁶				
6 A	AT - Average Time for Non-Carcino	ogens in Ingestion Equation			Commercial	= 25; Construction Worker = 0.115		
- 30 A	\I - Average Time for Non-Carcino	ogens in Inhalation Equation		Residential = 30: Industrial	Commercial	= 25; Construction Worker = 0.115	-	
1 (T)	HQ - Target Hazard Quotient			1	in Commercia	1 – 20, Construction worker = 0.115		
0.003% R	RfC - Inhalation Reference Concern	tration	-	Caronic = 0.003; Subchre	nic = 0.003			
	VD 0 5 5				The second of the second			STATE OF THE PARTY
	RfD₀ - Oral Reference Dose √∞ - Organic Carbon Partition Coef		ğ	Chronic = 0.02. Subchron	c = 0.6 m			There I salved a taken all the following of the con-

Residential Ingestion Remediation Objectives for Non-Carcinogenic	Contamir	ants												
5-1 = THQ x BW x AT x 365 10° x (1/RfD.) x EF x FD x IR	=	1	×	15	х	6	х	365			32850		4=0.4	_
10 ⁻⁶ x (1/RfD _a) x EF x ED x IR _{soll}		0.000001	x 1/	0.02	×	350	x	6	×	200	21	=	1564	mg/kg





Tier 2 Residential Calculations for Naphthalene Marine Bank Trust 53-0051 20030135

Soil Gas O	utdoor Inhalation												 		
S-30 =	ROs g =	ROsofi X H X pb X 1000	. =	3.343	×	0.020	×	1.640	x	1000					٦
		H'X 9a + 9w + Kd X pb		0.020	×	0.137	+	0.246	+	5.400	Х	1.640	=	12 mg/m	3
L															

Tier 2 Residential Calculations for Benzo[a]pyrene

Marine Bank Trust 53-0051 20030135

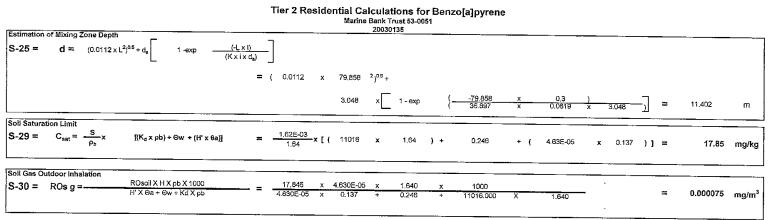
SSL & RBCA IRIS/HEAST Date Compiled: 10/05/23 Input Values Marcare Diam. 2018 Holcomb's Bulk Density -> Converted Value to be used in calculation sheet -> ... USDA Soil Classification, Silt Loam Organic Matter (%) -> FOC % (0.58 conversion) ->, 35 0,000 ... Organic Matter (mg/kg) FQC mg/kg (0.58 conversion 1.64 | Pb - Dry Soil Bulk Density foc conversion to g/g: 1.5 or; Gravel = 2.0; Sand = 1.8; Silt = 1.6; Clay = 1.7; or Site Specific ρs - Soil Particle Density «2,65 or, Site Specific 0.137 Oa - Air Filled Soil Porosity 0.137 Value from S-21 Top 1 meter = 0.28; below 1 meter = 0.13; Gravel = 0.05; Sand = 0.14; Silt = 0.24; Clay = 0.19; or Calculated Value (S21) 0.246 Ow - Water Filled Soil Porosity 0.246 Value from S-20 Top 1 meter = 0.15; below 1 meter = 0.30; Gravel = 0.20; Sand = 0.18; Slit = 0.16; Clay = 0.17; or Calculated Value (S20) η - SSL: Total Soil Porosity 0.383 0.43 or, Gravel - 0.25; Sand = 0.32; Silt = 0.40; Clay = 0.36; or Calculated Value (S24) Value from S-24 0.05188 I - Hydraulic Gradient 0.011 foc - Total Organic Carbon (g/g) Surface Soil = 0.006; Subsurface Soil = 0.002; or Site Specific 20.000 DF - Dilution Factor 2.087 Value from S-22 If calculated value for DF is less than 20, then 20 default is used, else calculated value is used 11.402 d - Mixing Zone (m) 11.402 Value from S-25 2; or calculated value K - Hydraulic Conductivity (m/yr) cm/sec = 1.17E-04 Site Specific 3.69E+03 cm/yr Use cm/d for R15, R19, & R26, cm/yr for R24 79.858 L - Source Length Parallel to Groundwater Flow (m) feet = 262 Site Specific (m) 3.048 d₈ - Aquifer Thickness (m) feet = 10 Site Specific (m) J - Infiltration Rate (m/yr) 0.3 0.3 for Illinois 120 K_s - Saturated Hydraulic Conductivity See Table K for Input Values 0.005 GW_{obj} - Groundwater Remediation Objective Class 1 0.025 GW_{obj} - Groundwater Remediation Objective Class 2 1/(2b+3) - Exponent for S20 See Table K for Input Values BW - Body Weight Residential = 70 (carcinogenic); 15 (non-carcinogenic); Industrial/Commercial = 70; Construction Worker = 70; RBCA = 70 IF_{sol-adj} -Age Adjusted Soil Ingestion Factor for Carcinogens IR_{sall} -Soil Ingestion Rate Residential = 200; industrial/Commercial = 50; Construction Worker = 480 SF, -Oral Slop Factor 2 !R_w -Daily Water Ingestion Rate Residential = 2; Industrial/Commercial = 1 0.00162 S - Solubility in Water Benzo[a]pyrene = 0.00162 1.0E-06 TR - Target Cancer Risk Residential = 10⁻⁶; Industrial/Commercial = 10⁻⁶; Construction Worker = 10⁻⁶ at point of human exposure 70 AT_c-Average Time for Carcinogens 470 6.00E-04 URF - Inhalation Unit Risk Factor EF - Exposure Frequency Residential = 350; Industrial/Commercial = 250; Construction Worker = 30 ED - Exposure Duration for inhalation fo Carcinogens Residential = 30; Industrial/Commercial = 25; Construction Worker = 1 68.81 Q/C - Inverse of the mean concentration at the center of a square source Residential = 68.81; Industrial/Commercial = 85.81; Construction Worker = 85.81 9.50E+08 T - Exposure Interval Residential = 9.5×10^8 ; Industrial/Commercial = 7.9×10^6 ; Construction Worker = 3.6×10^6 0.043 D; - Diffusivity in Air Benzo[a]pyrene = 0.043 4.63E-05 H' - Henry's Law Constant Benzo[a]pyrene = 4.63 x 10 9.00E-06 D_w - Diffusivity in Water Benzo[a]pyrene = 9.00×10^{-6} 1020000 K_{oa} - Organic Carbon Partition Coefficient Benzo[a]pyrene = 1,020,000 Residential Ingestion Tier II Objective TR x AT_a x 365 1.0E-06 S-2 = 70 _____2.6E-02 Sf_o x 10⁻⁶ x EF x IF_{soil-adi} 0.640 mg/kg 1.000 1.00E-06 350 114 3.99E-02 Construction Worker Ingestion Tier II Objective TR x BW x AT_c x 365 1.0E-06 S-3 =70 70 365 ____1.8E+00 Sf, x 10⁻⁵ x EF x IRsoil 124.20 mg/kg 1.000 1.00E-06 480 1.44E-02

Tier 2 Residential Calculations for Benzo[a]pyrene

	·				Marine	Bank	Trust 53-00	51	-1-267								
al Inhalation	•					200.	10100				_						
	TR x ATc x 365	= -	1.0E-06	_x	70	х	365							0.00555			
	URF x 1000 x EF x ED x 1/VF		6.00E-04	×	1000	×	350	x	30	х	(1/	2.00E+07	}	3.15E-04	=	8.11E+01	mg/kg
ion Worker	Inhalation Tier II Objective																
	TR x ATc x 365		1.0E-06	x	70	×	365										
	URF x 1000 x EF x ED x 1/VF		6.00E-04	×	1000	х	30	x	1	х	(1/	1.54E+05	 =	0.02555 1.17E-04	=	2.18E+02	mg/kg
IAL OR CO	MMERCIAL			_													
VF =	Q (3.14 x D _A x T) ^{1/2} x 10 ⁻⁴		CO 04	(3.14	×	3.28E-11	×	9.50E+08	1/2	Ų.	0.0004		0.0000	-		
	C $(2 \times \rho_b \times D_A)$		00,01	× (2	×	1.64	х		1	<u>^</u> _	0.0001	=		=	19997592.5688	
														1.00E-10			
on Worker																	
VF =		_ =	85.81	х <u>(</u>	3.14	х	3.28E-11	x	3.60E+06) 1/2	×	0.0001		0.0002			
	C (2 × p _b × D _A)			(2	×	1.64	х	3.28E-11)			_=	1.08E-10	=	1.54E+06	
or Derivation	n of Volatilization Factor - Construction Worker																
	VF		1535159.5113														
	10	_ = .	10												=	153515,9511	
or Derivation	n of Apparent Diffusivity													 -			
D ₀ = -	$(\theta_u^{333} \times D_i \times H') + (\theta_w^{333} \times D_w)$			1				· · · · · ·					<u> </u>				
-4	η^2	- x -	(ρ _b x K _d) +	θ _w + (θ) _a x H')												
		= (1.33E-03	<u> </u>	0.043	х			0.0094	4 x	9	.00E-06	<u>)</u> *				
		_	1.64	×	11016	· ·	0.25	1 + (0.137	×	•••	630E-05	.		=	3.28E-11	
	IAL OR CO VF = On Worker VF = Or Derivation VF' =	$URF \times 1000 \times EF \times ED \times 1/VF$ on Worker Inhalation Tier II Objective $TR \times ATc \times 365$ $URF \times 1000 \times EF \times ED \times 1/VF$ IIAL OR COMMERCIAL $VF = \frac{Q}{C} \times \frac{(3.14 \times D_A \times T)^{1/2} \times 10^4}{(2 \times \rho_b \times D_A)}$ on Worker $VF = \frac{Q}{C} \times \frac{(3.14 \times D_A \times T)^{1/2} \times 10^4}{(2 \times \rho_b \times D_A)}$ or Derivation of Volatilization Factor - Construction Worker $VF' = \frac{VF}{10}$ The Derivation of Apparent Diffusivity	$\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF}$ $\frac{Q}{C} \times \frac{(3.14 \times D_A \times T)^{1/2} \times 10^4}{(2 \times \rho_b \times D_A)} = \frac{Q}{C} \times \frac{(3.14 \times D_A \times T)^{1/2} \times 10^4}{(2 \times \rho_b \times D_A)}$ $\frac{Q}{C} \times \frac{(3.14 \times D_A \times T)^{1/2} \times 10^4}{(2 \times \rho_b \times D_A)} = \frac{Q}{C} \times \frac{(3.14 \times D_A \times T)^{1/2} \times 10^4}{(2 \times \rho_b \times D_A)} = \frac{Q}{C} \times$	$ \frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E-06}{6.00E-04} $ $ \frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E-06}{6.00E-04} $ $ \frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E-06}{6.00E-04} $ $ \frac{TAL OR COMMERCIAL}{VF = \frac{Q}{C} \times \frac{(3.14 \times D_A \times T)^{1/2} \times 10^4}{(2 \times \rho_b \times D_A)} = 68.81 $ $ \frac{Q}{C} \times \frac{(3.14 \times D_A \times T)^{1/2} \times 10^4}{(2 \times \rho_b \times D_A)} = 85.81 $ $ \frac{Q}{C} \times \frac{(3.14 \times D_A \times T)^{1/2} \times 10^4}{(2 \times \rho_b \times D_A)} = 85.81 $ $ \frac{Q}{C} \times \frac{(3.14 \times D_A \times T)^{1/2} \times 10^4}{(2 \times \rho_b \times D_A)} = \frac{1535169.5113}{10} $ $ \frac{Q}{C} \times Q$	$\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06 \times 8}{6.00E \cdot 04 \times 8}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06}{0.00E \cdot 04}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06}{0.00E \cdot 04}$ $\frac{TR \times ATc \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = \frac{1.0E \cdot 06}{0.00E \cdot 04}$ $\frac{TR \times 365}{URF \times 1000 \times EF \times ED \times 1/VF} = 1.0E \cdot $	$ \frac{\text{TR x ATc x 365}}{\text{URF x 1000 x EF x ED x 1/VF}} = \frac{1.0E-06}{6.00E-04} \times \frac{70}{1000} $ $ \frac{\text{TR x ATc x 365}}{\text{URF x 1000 x EF x ED x 1/VF}} = \frac{1.0E-06}{6.00E-04} \times \frac{70}{1000} $ $ \frac{\text{TR x ATc x 365}}{\text{URF x 1000 x EF x ED x 1/VF}} = \frac{1.0E-06}{6.00E-04} \times \frac{70}{1000} $ $ \frac{\text{IAL OR COMMERCIAL}}{\text{URF x 1000 x EF x ED x 1/VF}} = \frac{0}{6.00E-04} \times \frac{1000}{1000} $ $ \frac{\text{VF}}{\text{C}} = \frac{0}{\text{C}} \times \frac{(3.14 \times D_A \times T)^{1/2} \times 10^4}{(2 \times \rho_0 \times D_A)} = \frac{68.81}{4} \times \frac{1.0E-06}{4} \times \frac{3.14}{4} \times \frac{1.0E-06}{4} \times \frac{3.14}{4} \times \frac{1.0E-06}$	$ \frac{1 \text{ Inhalation Tier II Objective}}{\text{URF} \times 1000 \times \text{EF} \times \text{ED} \times 1/\text{VF}} = \frac{1.0E \cdot 06}{6.00E \cdot 04} \times \frac{70}{1000} \times \frac{x}{1000} $ $ \frac{1 \text{ Inhalation Tier II Objective}}{\text{URF} \times 1000 \times \text{EF} \times \text{ED} \times 1/\text{VF}} = \frac{1.0E \cdot 06}{6.00E \cdot 04} \times \frac{70}{1000} \times \frac{x}{1000} $ $ \frac{1 \text{ Inhalation Tier II Objective}}{\text{URF} \times 10000 \times \text{EF} \times \text{ED} \times 1/\text{VF}} = \frac{1.0E \cdot 06}{6.00E \cdot 04} \times \frac{70}{1000} \times \frac{x}{1000} $ $ \frac{1 \text{ Inhalation Tier II Objective}}{\text{URF} \times 10000 \times \text{EF} \times \text{ED} \times 1/\text{VF}} = \frac{1.0E \cdot 06}{6.00E \cdot 04} \times \frac{70}{1000} \times \frac{x}{1000} $ $ \frac{1 \text{ Inhalation Tier II Objective}}{\text{URF} \times 10000 \times \text{EF} \times \text{ED} \times 1/\text{VF}} = \frac{1.0E \cdot 06}{6.00E \cdot 04} \times \frac{70}{1000} \times \frac{x}{1000} $ $ \frac{1 \text{ Inhalation Tier II Objective}}{\text{URF} \times 10000 \times \text{EF} \times \text{ED} \times 1/\text{VF}} = \frac{1.0E \cdot 06}{6.00E \cdot 04} \times \frac{70}{1000} \times \frac{x}{1000} \times \frac{x}{1000} \times \frac{x}{1000} \times \frac{x}{1000} \times \frac{x}{1000} \times \frac{x}{1000} \times \frac{x}{1000} \times \frac{x}{1000} \times \frac{x}{1000} \times \frac{x}{1000} \times \frac{x}{1000} \times \frac{x}{10000} \times \frac{x}{10000} \times \frac{x}{10000} \times \frac{x}{10000} \times \frac{x}{100000} \times \frac{x}{10000} \times \frac{x}{10000} \times \frac{x}{100000} \times \frac{x}{1000000} \times \frac{x}{10000000} \times \frac{x}{100000000000000000000000000000000000$	$ \begin{array}{c} \text{Inhalation Tier II Objective} \\ \hline & & & & & & & & & & & & & & & & & &$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \frac{1}{10000000000000000000000000000000000$	$\frac{10000135}{1000000000000000000000000000000000000$	1000000000000000000000000000000000000	$\frac{10000135}{1000000000000000000000000000000000000$	1000000000000000000000000000000000000	1000000000000000000000000000000000000	1000000000000000000000000000000000000	Inhabition Ter II Objective TR xATcx 365 CURF x 1000 x EF x ED x 1/VF E 0.00E-04 x 1000 x 350 x 350 x 30 x (1/ 2.00E+07) 3.15E-04 = 8.11E+01

Tier 2 Residential Calculations for Benzo[a]pyrene

5-20				· · · · · · · · · · · · · · · · · · ·					Marin	e Bank	Trust 53-00 0135	51	-[u] -j.o.							
S-17 =	C _w		n to Groi	undwater Cleanup +	Objective (Class ($\theta_w + \theta_a \times b$	s 1) _ 	=		0.1	×	11016	+ (_	0.246	+	0.137 1.64	x	4.63E-05	=	1101.615	mg/kg
Target Soil	Leachate	Concentra	tion (Cla	pg 11																
S-18 =			alon (ota	DF x GW _{obj}		=	20.00	×	0.005					_				=	0.1	
Soil-Water	Partition C	oefficient																		
S-19 =	K _d =			K _∞ x f _∞		=	1.02E+06	x	0,011									=	11016	
Water-Filled	d Porosity																			
S-20 =	Θ _w =	η X	K _s	1/(2b+3) —		=	0.38	×[·	0.300 120.000	0.074								=	0.2458	
Air-Filled Po	orosity																			,
S-21 =	Θ _a =	η -	Θ"		:	=	0.38	-	0.25									=	0.1370	
Dilution Fac	tor																			
S-22 =	DF =	1 +		Kxixd		= -	36.90	×	0.0619	x	11.402	+	1					=	2.0866	
				IxL			0.300		79.858									_	2.0000	
GW Ingestion	n -				 -															
S-23 =				x BW x At _e x 365 x IR _w x EF x ED	 :	= -	1.0E-06 1.000	x	2.000	x	70 350	x	365 30	_		=	1.8E+00 21000	=	0.0001	mg/L
otal Soil Po	orosity																			
3-24 =	η =	1	ρ _s	<u> </u>	•	=	1		1.64 2.657									=	0.3828	



Tier 2 Residential Calculations for Benz[a]anthracene Marine Bank Trust 53-0051 20030135

Date Compiled: 10/05/23 Input Values Science 3 Model of Holcomb's Bulk Density → Organic Matter (%) → Converted Value to be used in calculation sheet -> USDA Soil Classification: Silt Loam FOC mg/kg (0.58 conversion) Pb - Dry Soil Bulk Density foc conversion to q/q; 1.5 or, Gravel = 2.0; Sand = 1.8; Silt = 1.6; Clay = 1.7; or Site Specific 2.557 ps - Soil Particle Density 2.65 or: Site Specific 0.137 ⊝_a - Air Filled Soil Porosity 0.137 Value from S-21 Top 1 meter = 0.28; below 1 meter = 0.13; Gravel = 0.05; Sand = 0.14; Silt = 0.24; Clay = 0.19; or Calculated Value (S21) 0.246 Gw - Water Filled Soil Porosity 0.246 Value from S-20 Top 1 meter = 0.15; below 1 meter = 0.30; Gravel = 0.20; Sand = 0.18; Slit = 0.16; Clay = 0.17; or Calculated Value (S20) 0.383 n - SSL: Total Soil Porosity 0.06188 i - Hydraulic Gradient 0.383 Value from S-24 0.43 or, Gravel - 0.25; Sand = 0.32; Sit = 0.40; Clay = 0.35; or Calculated Value (S24) 0.011 foc Total Organic Carbon (g/g)
20.000 DF - Dilution Factor
11.402 d - Mixing Zone (m)
36.90 K - Hydraulic Conductivity (myr) Site Specific
Surface Soil = 0.008; Subsurface Soil = 0.002; or Site Specific
If calculated value for DF is less than 20, then 20 default is used, else calculated value for DF is less than 20, then 20 default is used, else calculated value. 2.087 Value from S-22 11.402 Value from S-25 cm/sec = 11.17E-04 2; or calculated value Site Specific 1.01E+01 3.69E+03 = cm/yr | Use cm/d for R15, R19, 3, R26, cm/yr for R24 cm/d 79.858 L - Source Length Parallel to Groundwater Flow (m) feet = 262 Site Specific (m) 3.048 d_a - Aquifer Thickness (m) Site Specific (m) I - Infiltration Rate (m/yr) 0.3 for Illinois 120 K_s - Saturated Hydraulic Conductivity See Table K for Input Values 0.005 GW_{obj} - Groundwater Remediation Objective Class 1 0.074 1/(2b+3) - Exponent for S20 0.025 GW_{obj} - Groundwater Remediation Objective Class 2 See Table K for Input Values BW - Body Weight ... Residential = 70 (carcinogenic): 15 (non-carcinogenic); industrial/Commercial = 70; Construction Worker = 70; RBCA = 70 114 IF solves Age Adjusted Soil Ingestion Factor for Carcinogens 200 IR_{sot} Soil Ingestion Rate 0.10 SF_o -Oral Slop Factor Residential = 200; Industrial/Commercial = 50; Construction Worker = 480 IR, -Daily Water Ingestion Rate
 O.0094 S - Solubility in Water Residential = 2; Industrial/Commercial = 1 Benz[a]anthracene = 0.0094 1.0E-06 TR - Target Cancer Risk Residential = 10⁻⁶; Industrial/Commercial = 10⁻⁶; Construction Worker = 10⁻⁶ at point of human exposure 70 AT_c -Average Time for Carcinogens 8:00E-05 URF - Inhalation Unit Risk Factor 350 EF - Exposure Frequency
30 ED - Exposure Duration for Inhalation to Carcinogens Residential = 350: Industrial/Commercial = 250: Construction Worker = 30
Residential = 30: Industrial/Commercial = 25: Construction Worker = 1
Residential = 68.61; Industrial/Commercial = 85.81; Construction Worker = 85.81 68.81 Q/C - Inverse of the mean concentration at the center of a square source 9.50E+08 T - Exposure Interval Residential = 9.5×10^8 ; industrial/Commercial = 7.9×10^8 ; Construction Worker = 3.6×10^8 0.051 D. - Diffusivity in Air 1.37E-04 H' - Henry's Law Constant 9.00E-06 D_w - Diffusivity in Water Benz[a]anthracene = 1,37 x 10 Benz[a]anthracene = 9.00 x 10⁻⁵ 398000 : K_∞ - Organic Carbon Partition Coafficient Benz[a]anthracene = 398,000 Residential Ingestion Tier Il Objective TR x AT. x 365 S-2 = 1.0E-06 70 _____2.6E-02 Sf_o x 10⁻⁶ x EF x IF_{sof-adj} 0,100 6.404 ma/ka x 1,00E-05 x 350 114 3.99E-03 Construction Worker Ingestion Tier II Objective TR x BW x AT_c x 365 S-3 = 1.0E-06 70 355 1.8E+00 Sf_a x 10 ⁶ x EF x IRsoil 1242.01 mg/kg 0.100 X 1.00E-06 x 30 480 Residential Inhalation Tier II Objective TR x ATc x 365 S-6 = 1.0E-06 x 70 365 0.02555 4.88E+02 mg/kg URF x 1000 x FF x FD x 1A/F 6.00E-05 x 1000 × 350 x x (1/ 1.20E+07) 5.23E-05 Construction Worker Inhalation Tier II Objective TR x ATc x 365 S-7 = 1.0E-06 0.02555 URF x 1000 x EF x ED x 1/VF 1.31E+03 mg/kg 6.00E-05 x 1000 x (1/ 9.24E+04) 1.95E-05

Tier 2 Residential Calculations for Benz[a]anthracene Marine Bank Trust 53-0051 20030135

S-9 = VF' = VF) ^{1/2} x 0.0001) 1/8 x 0.0001)	2.97E-10	- =	9.24E+05
Construction Worker S-8 = VF = $\frac{Q}{C} \times \frac{(3.14 \times D_A \times T)^{1/2} \times 10^{-4}}{(2 \times 2.5 \times D_A)}$ = 85.81 $\times \frac{(3.14 \times 9.06E-11 \times 3.80E+06)}{(2 \times 1.64 \times 9.06E-11 \times 3.80E+06)}$ Equation for Derivation of Volatilization Factor - Construction Worker S-9 = VF' = $\frac{VF}{10}$ $= \frac{95.491.7625}{10}$ Equation for Derivation of Apparent Diffusivity S-10 = D_A = $\frac{(0.332 \times D_1 \times H) + (0.233 \times D_w)}{11^2} \times \frac{1}{(1.54 \times 4298.4) + (0.251 \times H)}$ = $\frac{(1.33E-03 \times 0.051 \times 1.37E-04) + (0.009-0.1467)}{(1.64 \times 4298.4) + (0.251 \times H)}$ oil Component of the Migration to Groundwater Cleanup Objective (Class 1) oil Component of the Migration to Groundwater Cleanup Objective (Class 1) oil Component of the Migration to Groundwater Cleanup Objective (Class 1) oil Component of Class 1))	2.97E-10	- =	9.24E+05
Construction Worker S-8 = VF = $\frac{C_1}{C} \times \frac{(3.14 \times D_A \times T)^{1/2} \times 10^4}{(22 \times p_X \times D_A)}$ = $85.81 \times \frac{\left(\frac{3.14}{C} \times \frac{9.06E-11}{C} \times \frac{3.80E+06}{C} \times \frac{9.06E-11}{C} \times \frac{3.80E+06}{C} \times \frac{9.06E-11}{C} \times \frac{9.06E-11}{C} \times \frac{9.06E-11}{C}$ Equation for Derivation of Volatilization Factor - Construction Worker S-9 = VF' = $\frac{VF}{10}$ $\frac{VF}{10}$ $\frac{9.06E-11}{C}$ Equation for Derivation of Apparent Diffusivity S-10 = $\frac{(0.333 \times D_1 \times H') + (0.333 \times D_w)}{T^2} \times \frac{1}{(0.5 \times K_o) + 0.a + (0.34 \times H')}$ $= \frac{\left(\frac{1.33E-03}{C} \times \frac{0.051}{C} \times \frac{1.37E-04}{C} \right) + \left(\frac{0.009}{C} \times \frac{1.64}{C} \times 1$) 1/2 x 0.0001		- =	
S-8 = VF = $\frac{Q}{C} \times \frac{(3.14 \times D_A \times T)^{1/2} \times 10^4}{(2 \times r_D \times D_A)}$ = 85.81 $\times \frac{(3.14 \times 9.06E-11 \times 3.80E+06)}{(2 \times 1.64 \times 9.06E-11 \times 9.06E-11)}$ Equation for Derivation of Volatilization Factor - Construction Worker S-9 = VF' = $\frac{VF}{10}$ = $\frac{0.0491,7259}{10}$ = $\frac{0.0491,7259}{10}$ S-10 = $\frac{Q_a^{3.23} \times Q_a \times H' + (Q_a^{3.23} \times D_w)}{10} \times \frac{1}{(r_b \times K_o) + Q_a \times H')}$ = $\frac{(1.33E-03)}{(1.64)} \times \frac{(0.051)}{(1.64)} \times \frac{(0.039)}{(1.67)}$ OII Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groundwater Cleanup Objective (Class 1) Component of the Migration to Groun) 1/2 x 0.0001	0.0003 2.97E-10		
Equation for Derivation of Volatilization Factor - Construction Worker S-9 = $VF' = VF$ 10 Equation for Derivation of Apparent Diffusivity S-10 = $D_A = \frac{(0_a^{3.23} \times D_a \times H) + (0_a^{2.23} \times D_w)}{\pi^2} \times \frac{1}{(r_0 \times K_w) + 0_w + (\theta_a \times H)}$ $= \frac{(1.33E-03 \times 0.051 \times 1.37E-04) + (0.009 \times 1.407}{(1.54 \times 4298.4) + 0.25 + (0.137)}$ coll Component of the Migration to Groundwater Cleanup Objective (Class 1) 6-17 = $C_w \times K_d + \frac{(\theta_w + \theta_a \times H)}{pb} = 0.1 \times 4298.4 + (0.246)$ arget Soli Leachate Concentration (Class 1)) 12 x 0.0001	0.0003 2.97E-10		
Equation for Derivation of Volatilization Factor - Construction Worker S-9 = $VF' = VF$ $10 = \frac{924301.7829}{10}$ Equation for Derivation of Apparent Diffusivity $S-10 = D_A = \frac{(0_a^{3.23} \times C_b \times H') + (0_a^{3.23} \times C_b)}{\pi^2} \times \frac{1}{(r_b \times K_o)^2 + 0_a + (\theta_a \times H')}$ $= \frac{\left(1.33E-03 \times 0.051 \times 1.37E-04\right) + \left(0.009-0.1467\right)}{\left(1.64 \times 4.298.4\right) + 0.25 + \left(0.137\right)}$ From Component of the Migration to Groundwater Cleanup Objective (Class 1) $S-17 = C_a \times K_d + \frac{(\theta_a + \theta_a \times H')}{pb} = 0.1 \times 4298.4 + \left(0.246\right)$ arget Soli Leachate Concentration (Class 1)		2.97E-10		
Equation for Derivation of Apparent Diffusivity S-10 = D _A = (0.1332 CD, x H) + (0.1333 x Dw) x 1 (0.6 x K) + (0.46 x H) = (1.33E-03 x 0.051 x 1.37E-04) + (0.009 0.1467) = (1.64 x 4298.4) + 0.25 + (0.137) Soil Component of the Migration to Groundwater Cleanup Objective (Class 1) S-17 = C _w x K _d + (0.246) Grapt Soil Leachate Concentration (Class 1)			= :	92420.1763
S-9 = VF = VF = VF			= :	92420.1763
Equation for Derivation of Apparent Diffusivity S-10 = D _A = (0.1 3.38 × D.x Hr) + (0.1 3.33 × D.x) × 1 (n.6 × K.x) + 0 + (0.4 × Hr) = (1.33E-0.3 × 0.051 × 1.37E-0.4) + (0.009-0.1467) = (1.54 × 4298.4) + 0.25 + (0.137) Soil Component of the Migration to Groundwater Cleanup Objective (Class 1) S-17 = C _v × X X _d + (0.246) Gays 9.56 Leachate Concentration (Class 1)			 -	92420.1763
S-10 = D _A = (0.4 333 x D ₁ x H) + (0.2 33 x D ₂) x 1 ((n ₂ x K ₂) + 0. ₂ + (0.4 x H)) = (1.33E-03 x 0.951 x 1.37E-04) + (0.009 0.1467 1 (1.64 x 4298.4) + 0.25 + (0.137) Soil Component of the Migration to Groundwater Cleanup Objective (Class 1) 5-17 = C _w x K ₃ + (0.4 x 4298.4) = 0.1 x 4298.4 + (0.246)				
S-10 = D _A = (0.4 333 x D ₁ x H) + (0.2 33 x D ₂) x 1 ((n ₂ x K ₂) + 0. ₂ + (0.4 x H)) = (1.33E-03 x 0.951 x 1.37E-04) + (0.009 0.1467 1 (1.64 x 4298.4) + 0.25 + (0.137) Soil Component of the Migration to Groundwater Cleanup Objective (Class 1) 5-17 = C _w x K ₃ + (0.4 x 4298.4) = 0.1 x 4298.4 + (0.246)			_	
Component of the Migration to Groundwater Cleanup Objective (Class 1) Soil Component of the Migration to Groundwater Cleanup Objective (Class 1) Soil Component of the Migration to Groundwater Cleanup Objective (Class 1) Soil Component of the Migration to Groundwater Cleanup Objective (Class 1) Soil Component of the Migration to Groundwater Cleanup Objective (Class 1) Soil Component of the Migration to Groundwater Cleanup Objective (Class 1) Soil Component of the Migration to Groundwater Cleanup Objective (Class 1)				
(% X K ₂) + 0 _v + (0 _x X H) = \begin{pmatrix} 1.33E-U3 & \times 0.051 & \times 1.37E-04 \end{pmatrix} + \begin{pmatrix} 0.009 \\ 0.1497 \end{pmatrix} = \begin{pmatrix} 1.33E-U3 & \times 0.051 & \times 1.37E-04 \end{pmatrix} + \begin{pmatrix} 0.019 \\ 0.1497 \end{pmatrix} = \begin{pmatrix} 1.54 & \times 4298.4 \end{pmatrix} + \begin{pmatrix} 0.25 & \times \begin{pmatrix} 0.137 \\ 0.17 & \times \begin{pmatrix} (6_v + 6_x \ H') \\ pb \end{pmatrix} \] = \begin{pmatrix} 0.1 & \times 4298.4 & \times \begin{pmatrix} 4298.4 & \times \begin{pmatrix} 0.246 \\ 0.246 \end{pmatrix} = \times 0.1 & \times 4298.4 \\ 0.137 \\ 0.246 \\				
= \(\begin{pmatrix} 1.33E-03 & \times 0.051 & \times 1.37E-04 \\) + \(\begin{pmatrix} 0.009 \\ 0.1487 \\ \end{pmatrix} \] (1.64 & \times 428.4 \\) + 0.25 & + \(\begin{pmatrix} 0.137 \\ 0.137 \end{pmatrix} \] oil Component of the Migration to Groundwater Cleanup Objective (Class 1) \\ i-17 & C_w & \times \(\begin{pmatrix} K_g & + \\ (\begin{pmatrix} (\beta_w + \beta_w \times k) + \\ pb \end{pmatrix} \] = 0.1 \(\times \) 4288.4 \(+ \left(\beta 0.246 \) arget Soli Leachate Concentration (Class 1)				
oil Component of the Migration to Groundwater Cleanup Objective (Class 1) 6-17 = C _w ×				
icoll Component of the Migration to Groundwater Cleanup Objective (Class 1) 6-17 = C _w ×			_	9.06E-11
G-17 = C _v x	x 1.370E-04)	E-04)		9.00E-11
S-17 = C _w x				
arget Soli Leachate Concentration (Class 1)			7	
	. 0127	27 4076.04		429.855 mg/
	+ 0.137 x	37 x 1.37E-04)	4 =	my
		37 x 1.37E-04)	=	uu
$S-18 = C_w = Df \times GW_{adj} = 20.00 \times 0.005$		37 x 1.37E-04)	- 	
		37 x 1.37E-04)		
oil-Water Partition Coefficient		37 x 1.37E-04)	= =	0.1
210 - K		37 x 1.37E-04)		
$r_{cd} - r_{cd} - r_{cd} = 3.98E + 05 \times 0.011$		37 x 1.37E-04		

Tier 2 Residential Calculations for Benz[a]anthracene Marine Bank Trust 53-0051 20030135

Water-Filled			1/(20+3)						Toma											
S-20 =	Θ _w =	η x—	1/(2b+3)		=	82,0	×	0.300 120.000										=	0.2458	
Air-Filled Po	orosity																_			
S-21 =	Θ _a =	η -	Θ.,,		=	0.38	-	0.25										=	0.1370	
Dilution Fac	tor																		- <u> </u>	
S-22 =	DF =	1 +	Kx	ixd xL	=	36.90	X	0.0619 79.858	x	11.402	- +	1						=	2.0866	
GW Ingestio	n																			
S-23 = 			TR x BW x A SF ₀ x IR _w x E	t, x 365 F x ED	=	1.0E-06 0.100	x x	70 2.000	×	70 350	x	365 30	_	:	=	1.8E+0 2100	0	æ	0.0009	mg/
otal Soil Po																				
S-24 =	η =	1	P _b		=	1	٠.	1.64 2,657	-									=	0.3828	
stimation o	of Mixing Z d =	Опе Depti (0.0112 x	h x L ²) ^{0.5} + d ₉	t -exp(K	-	•		70.050	2.05											
stimation o	of Mixing Z d =	one Depti (0.0112 x	h (L ²) ^{0.5} + d ₉	1-exp (K	-	(0.0112	x		•											
stimation o	of Mixing Z ct =	One Depti (0.0112 x	h (L ²) ⁰⁵ + d ₉	1 -exp (K	-	•	x		•	1 - exp		-79,858 36.897	×	0.3 0.0519) x	3,048			11.402	m
S-25 =	d =	(0.0112 x	h (L ²) ⁰⁵ + d ₉	1 -exp (K	-	•	x		•	1 - exp		-79.858 36.897	×	0.3) x	3,048		=		m
S-25 =	d =	(0.0112 x	h , L ²) ^{0.5} + d ₉ [[K _d × pb) + ⊖		= ((0.0112		3.048	x_					0.3 0.0619 1.37E-04		3.048 0.137				m mg/k
S-25 = oil Saturatio S-29 =	d = on Limit C _{sat} = .	(0.0112 x	(L ²)05 + d ₈		= ((0.0112		3.048	x_										11.402	
estimation of S-25 = oil Saturation of S-29 = oil Gas Oute	d = on Limit C _{sat} = .	(0.0112 x S x Pb x	[(K _d x pb) + ⊖	w + (H' x 9a)]	= (9.40E-03 1.64	•×[(3.048 4298.4	*										11.402	

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Appendix C - Table K Parameter Estimates for Calculating Water - Filled Soil Porosity (Ow)

Soil Texture	Saturated Hydraulic Conductivity (Ks) (m/yr)	1/ (2b+3)	
Sand	1830	0.09	
Loamy Sand	540	0.085	
Sandy Loam	230	0.08	
Silt Loam	120	0.074	
Loam	60	0.073	
Sandy Clay Loam	40	0.058	
Silt Clay Loam	13	0.054	
Clay Loam	20	0.05	
Sandy Clay	10	0.042	
Silt Clay	8	0.042	
Clay	5	0.039	

Valsion: 3/26/2018

Bouwer & Rice Method for Calculating Hydraulic Conductivity Project Name: Marine Trust - Cantrall Project No.: 03-0135 Client Name: Marine Bank Trust #530051 Identification: MW-4 Analysis By: VES/BAR Run Date: 8/11/2004 Riser Pipe Diameter: 0.1667 feet Intake Diameter: 0.604 feet Drawdown/up Intake Length: 10 feet Saturated Column Length: 6.72 feet 0.1 Water Table Depth: 8.28 feet Aquifer Thickness: 10 feet Line Fit Starting No.; Min 1 to Line Fit Ending No.: 22 Max 22 0.01 7 200 400 600 Specify Output Units: 1 to 9 Hyd. Cond., K(h): 1.17E-04 cm./sec. Time Error of Fit: 0.474 Meas. Time Field Meas. Drawdown/up Line Fit To Regression On seconds feet fect LN(Yt) LN(YI) 1) 20.00 7.15 1.13 0.122 -0.3842) 40.00 7.68 0.60 -0.511 -0.485 3) 50.00 7.75 0.53 -0.635 -0.536 4) 60.00 7.77 0.51 -0.673 -0.586 5) 70.00 7.80 0.48 -0.734 -0.6376) 80.00 7.82 0.46 -0.777 -0.688 7) 90.00 7.85 0.43 -0.844 -0.7398) 105.00 7.87 0.41 -0.892 -0.815 9) 120.00 7.89 0.39 -0.942 -0.891 10) 135.00 7.93 0.35 -1.050 -0.96711) 150.00 7.94 0.34 -1.079-1.04312) 165.00 7.96 0.32 -1.139-1.119 13) 180.00 7.97 0.31 -1.171-1.195 14) 210.00 8.00 0.28 -1.273-1.348 15) 240.00 8.06 0.22 -1.514 -1.50016) 270.00 8.10 0.18 -1.715 -1.652 17) 300,00 8.11 0.17 -1.772 -1.804 18) 330.00 8.11 0.17 -1.772 -1.957 19) 360.00 8.13 0.15 -1.897 -2.10920) 390.00 8.17 0.11 -2.207-2.261420.00 21) 8.19 0.09 -2.408-2,413 22) 450.00 8.22 0.06 -2.813 -2.566

APPENDIX F

BORE LOGS AND WELL COMPLETION REPORTS

CORRECTIVE ACTION PLAN AND BUDGET AMENDMENT

MARINE BANK TRUST # 53-0051 CANTRALL, ILLINOIS

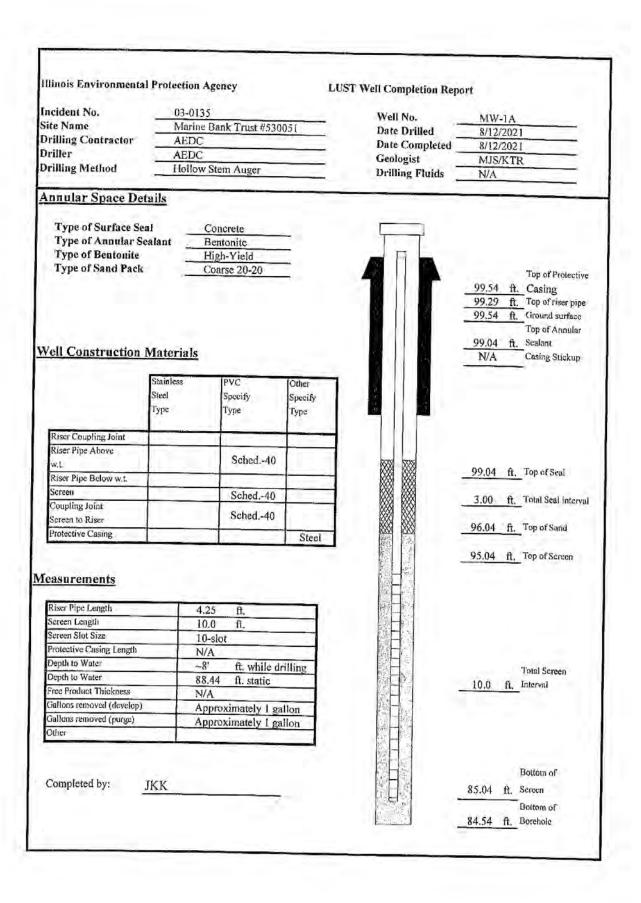
	Illinois Environmental Protection Ag	ency				CW [□] M DRILLI	I COMPANY, INC. ING BOREHOLE LOG Page 1 of 1
	INCIDENT #: 03-0135		BOREHO	LE NUAD	RFR.	SB-18	Trage 1 of 1
TEA	NAME: Marine Bank Trust #530051		BORING	LOCATIO	ON:		W of SW Tree
TEA	ADDRESS: 9520 State Route 29						MANUAL TIME
1 ===	Cantrall, Illinois		RIG TYPE	: Truck N	founted Dr	ill Rig	
ATE	TIME STARTED: 9/5/2023 15:30		DRILLING	SAMPLE	METHOD:	Push	
EPT	TIME FINISHED: 9/5/2023 15:40		BACKFIL				
FEET	7 7 20 17 10 10 10 00	USCS	Sample	PID	Sample	SAMPLE	REMARKS: (Odor, Color,
0	DESCRIPTION	CLASS	Recovery	(ppm)	Туре	NUMBER	Moisture, Penetrometer, etc.)
-	by Decree and a			11- 11		-	
123	Black/Brown Silty Clay	CL	90%	50,0 115.0 46,0	Grab	SB-18A	BETX, MTBE, PNA's
6 7 8 7 9 7 0			90%	119.0 136.0	Grab	SB-18B	BETX, MTBE, PNA's
2 -	EOB-10'						
1 5 #	Stratification lines are approximate, in-situ transition berw	een soil types ma	y be gradual.				
TES:	Sampled at highest PID reading per 5' interval. Manway / Surface Elevation:						
V	Groundwater Depth While Drilling:	N/A A	uger Dept	h: 1	0' 1	riller;	APING
_	Groundwater Depth After Drilling:	. 911	- Per Debi		v 1	mer;	AEDC

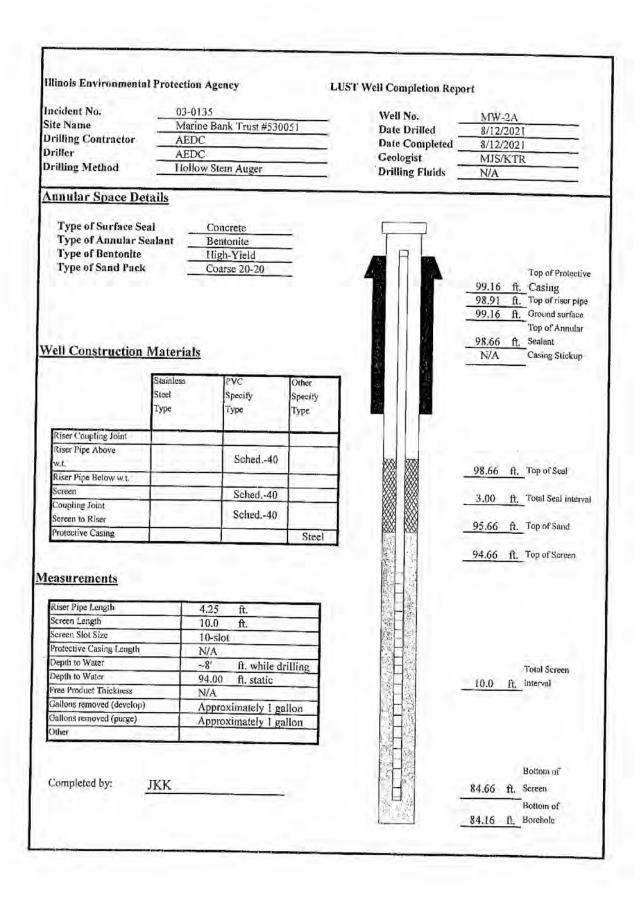
BORING RIG TYI	S/SAMPLE	ON: Mounted Dr	\$B-19 61'N & 43"	Page 1 of 1
RIG TYI DRILLING BACKFI S Sample	E: Truck N	ON: Mounted Dr	61'N & 43"	
RIG TYI DRILLING BACKFI S Sample	E: Truck N	ON: Mounted Dr	61'N & 43"	V of SW Tree
RIG TYI DRILLING BACKFI	E: Truck N	Nounted Dr	rill Rig	w of Sw. Tree
BACKFI S Sample	S/SAMPLE	METHOD	rill Rig	
BACKFI S Sample		METHOD		
S Sample	I . Comutt		Push	
		-		
and Mecover		Sample Type		REMARKS: (Odor, Color,
, secorer	(ppm)	Хурс	HUMBER	Moisture, Penetrometer, etc.)
	-	-	-	
	160		-	
	16.0			
	1000	1	1	
		1,5 1	4 -	
90%	124.0	Grab	SB-19A	BETX, MTBE, PNA's
	13.1			
	116.0			
	140.0			
	1			
	17.4			
	118.0			
	00.6		7	
90%	144.0	Grab	SB-19B	BETX, MTBE, PNA's
2		(0.00)		
4				
	1 1 1			
	1000			
	1.20.0			
1		7		
1				
		L I		
		24.1		
	90%	116.0 118.0 90% 144.0	90% 124.0 Grab 116.0 118.0 90% 144.0 Grab	90% 124.0 Grab SB-19A 116.0 118.0 90% 144.0 Grab SB-19B

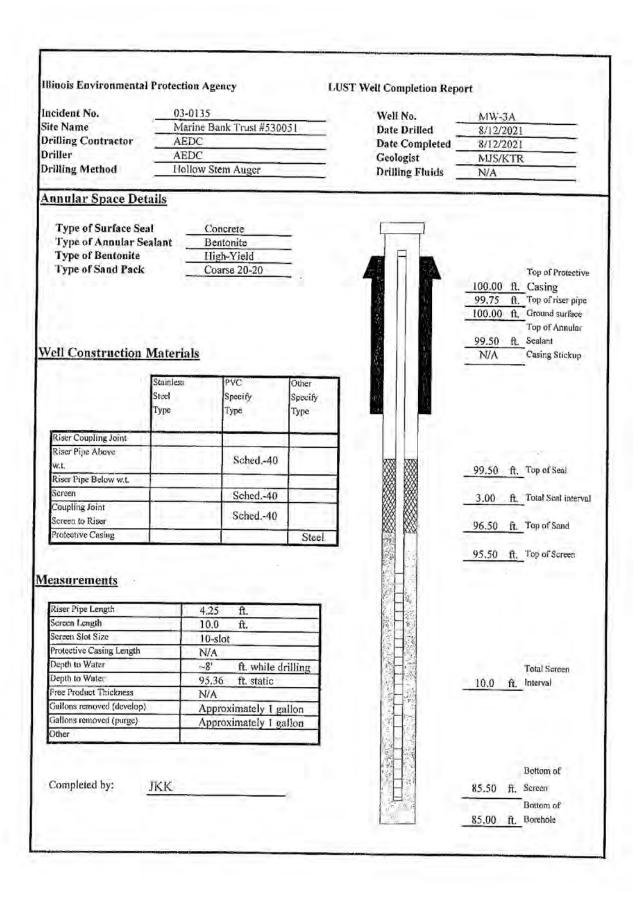
	Illinois Environmental Protection Age	ncy				CW ^I I DRILL	M COMPANY, INC. ING BOREHOLE LOG
	NCIDENT #: 03-0135		BOREHO	LE NUA	BED.	en 20	Page 1 of 1
ITE NA	AME: Marine Bank Trust #530051		BORING	LOCATI	ON:	SB-20	'W of SW Tree
I LE AL	DDRESS: 9520 State Route 29						or SW Tree
ATEM	Cantrall, Illinois IME STARTED: 9/5/2023 15:55		RIG TYP	E: Truck i	vounted Dr	ill Rig	
ATE/T	IME STARTED: 9/3/2023 15:55 IME FINISHED: 9/5/2023 16:05	_	DRILLING	SAMPLE	METHOD:	Pusit	
EPTH	SOIL AND ROCK	USCS	BACKFIL				
FEET)	DESCRIPTION	CLASS	Sample Recovery	PID (ppm)	Sample	SAMPLE	REMARKS: (Odor, Color,
0			According	(ppin)	Турс	NUMBER	Moisture, Penetrometer, etc.)
1_	Black/Brown Silty Clay	CL		10.0			
3_			90%	96.0	Grab	SB-20A	BETX, MTBE, PNA's
4 -				82.0			
6				86.0			
			90%	110.0	Grab	SB-20B	BETX, MTBE, PNA's
	OB-10'			98.0			
] -	OD-IV				1		
#							
E9: 58i	atification lines are approximate, in-situ transition between implied at highest PID reading per 5° interval.	soil types may	be gradual.				
	anway / Surface Elevation:						
Gr	oundwater Depth While Drilling:	N/A Au	ger Depth	: 10) De	iller:	AFDO
/ Cr	oundwater Depth After Drilling:		tary Depti		DI	HICE.	AEDC

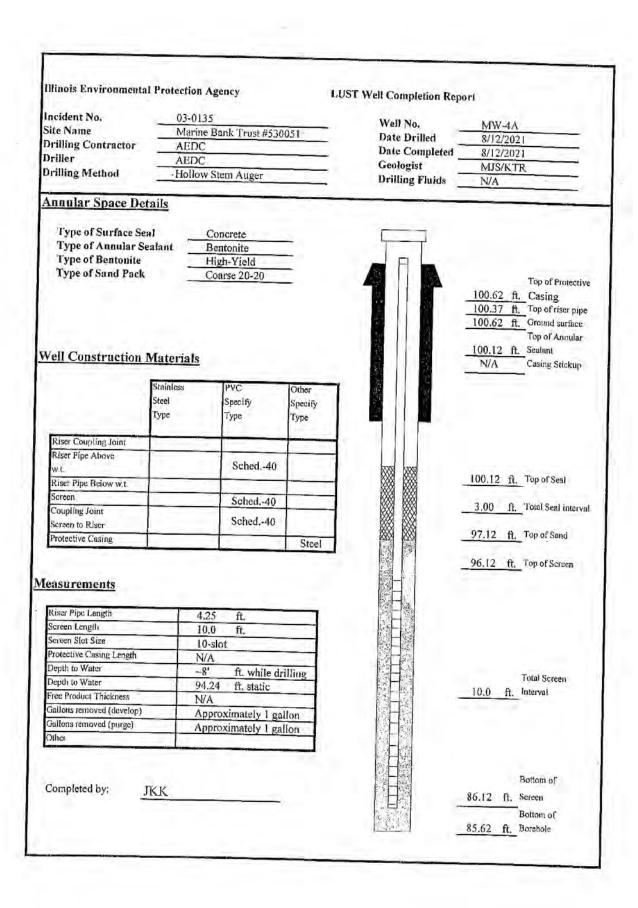
	Environmental Protection Ag	ency				DRILL	M COMPANY, INC. ING BOREHOLE LOC
						1000	Page 1 of 1
ST INCIDENT	#: 03-0135		BOREHO	LE NUM	BER:	SB-21	ruge r or r
	ine Bank Trust #530051		BORING	LOCATIO	ON:		'W of SW Tree
	9520 State Route 29			-		1 22 1	W. 67 (1.6) (1.7)
TEATINE COLV	Cantrall, Illinois RTED: 9/5/2023 16:50		RIG TYP				
FATIME SIM	SHED: 9/5/2023 17:00		DRILLING			: Push	
PTH	SOIL AND ROCK	USCS	BACKFIL			Latin	
ET)	DESCRIPTION	CLASS	Sample Recovery	PID (ppm)	Sample		
		Chass	Accovery	(bbm)	Type	NUMBER	Moisture, Penetrometer, etc.)
_				-			
-		19 17					
_							
-		*					
_						1	
		14/10				1	
911							
							1
No Sampl	e e						1
in Carry	2						la constant and a con
-				71 b l			
1							
		- 1 1					
				M			
-					1		
7							
1							
Green Silh	y Clay	CI.					Mainum
Green Silty	y Clay	CL		110.0			Moisture
Green Silty	y Clay	CL		110.0			Moisture
Green Silty	y Clay	CL		110.0			Moisture
Green Silty	y Clay	CL		110.0			Moisture
Green Silty	y Clay	CL		110.0			Moisture
Green Silty	y Clay	CL	100%	110.0	Grab	SB-21C	
Green Silty	y Clay	CL	100%		Grab	SB-21C	Moisture BETX, MTBE
Green Silty	y Clay	CL	100%.		Grab	SB-21C	
Green Silty	y Clay	CL	100%.	143.0	Grab	SB-21C	
	y Clay	CL	100%		Grab	SB-21C	
				143.0 134.0	Grab	SB-21C	
Stratification	lines are approximate, in-situ transition betw	voca soil types ma		143.0 134.0	Grab	SB-21C	
Stratification		voca soil types ma		143.0 134.0	Grab	SB-21C	
Stratification	lines are approximate, in-situ transition betw	voca soil types ma		143.0 134.0	Grab	SB-21C	
Stratification IS: Sampled at	lines are approximate, in-situ transition betw highest PID reading per 5' interval	voca soil types ma		143.0 134.0	Grab	SB-21C	
Stratification I S: Sampled at	lines are approximate, in-situ transition betw highest PID reading per 5' interval Surface Elevation:	veen soil types ma	y be gradual.	143.0 134.0			ветх, мтве
Statification Is: Sampled at Manway / Groundwa	lines are approximate, in-situ transition betw highest PID reading per 5' interval	veen soil types ma		143.0 134.0 th:		SB-21C Driller:	

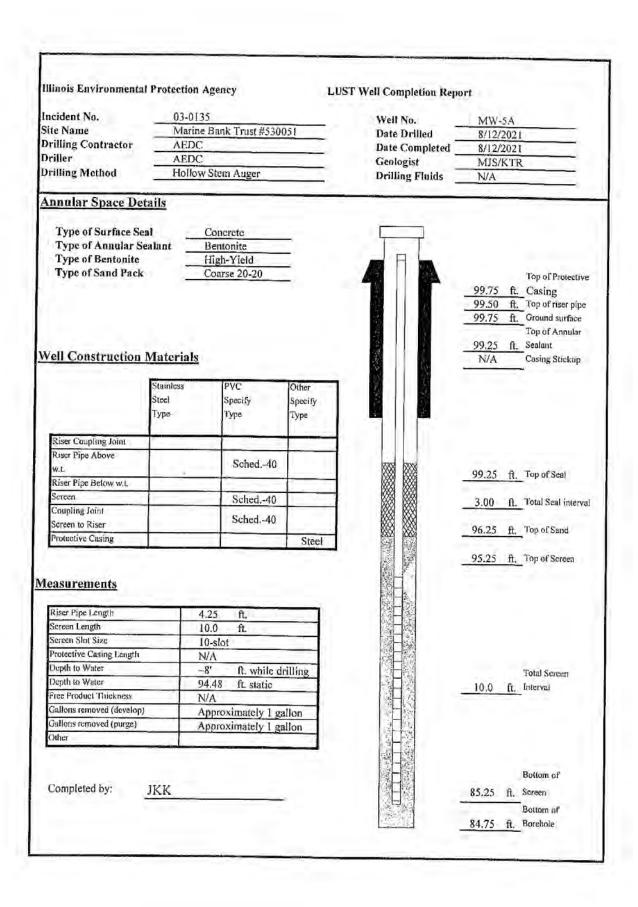
E NUMIOCATIO Truck M AMPLE: Grout/C PID (ppm) 172	ON: founted Dr METHOD:	SB-21 37'N & 41" till Rig Push	Page 2 of 2 W of SW Tree REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
Truck M AMPLE: Grout/C PID (ppm)	ON: founted Dr METHOD: Cuttings Sample	37'N & 41" rill Rig Push	W of SW Tree
Truck M AMPLE: Grout/C PID (ppm)	ON: founted Dr METHOD: Cuttings Sample	37'N & 41" rill Rig Push	REMARKS; (Odor, Cofor,
Truck MAMPLE: Grout/C PID (ppm)	founted Dr METHOD: Cuttings Sample	ill Rig Push	REMARKS; (Odor, Cofor,
AMPLE: Grout/C PID (ppm)	METHOD: Cuttings Sample	SAMPLE	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
AMPLE: Grout/C PID (ppm)	METHOD: Cuttings Sample	SAMPLE	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
PID (ppm)	Sample	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penctrometer, etc.)
(ppm) 172		SAMPLE NUMBER	REMARKS: (Odor, Cofor, Moisture, Penetrometer, etc.)
172	Туре	NUMBER	Moisture, Penctrometer, etc.)
		n .	
184	, .] []		
184	7 4 7		
184		-	
	Grab	SB-21D	
	1 Y		
700			
164			
- 1			
- 1			
	1		
- 1			
- 1			
		1	
1			
	1		
	1.0		
	1 1		

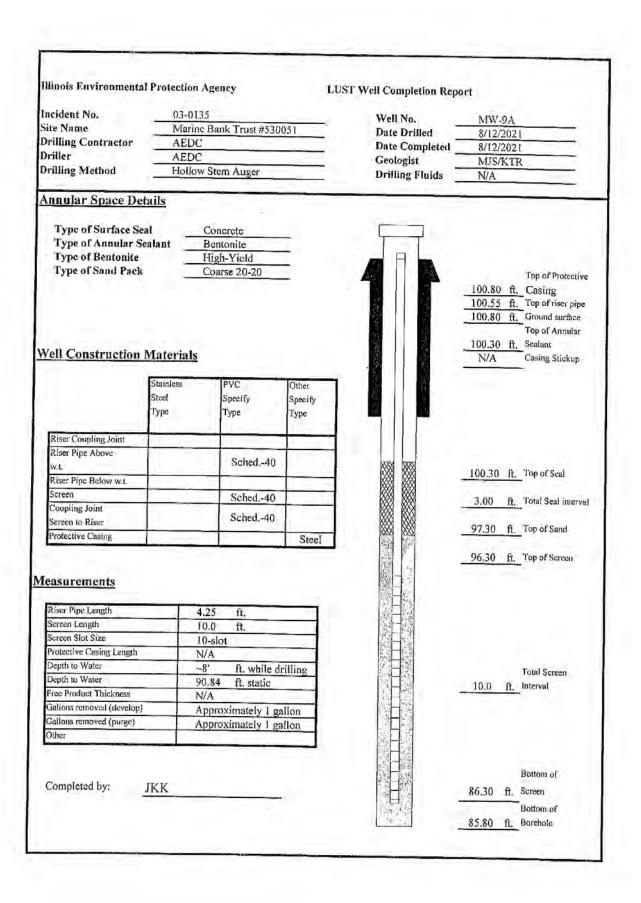


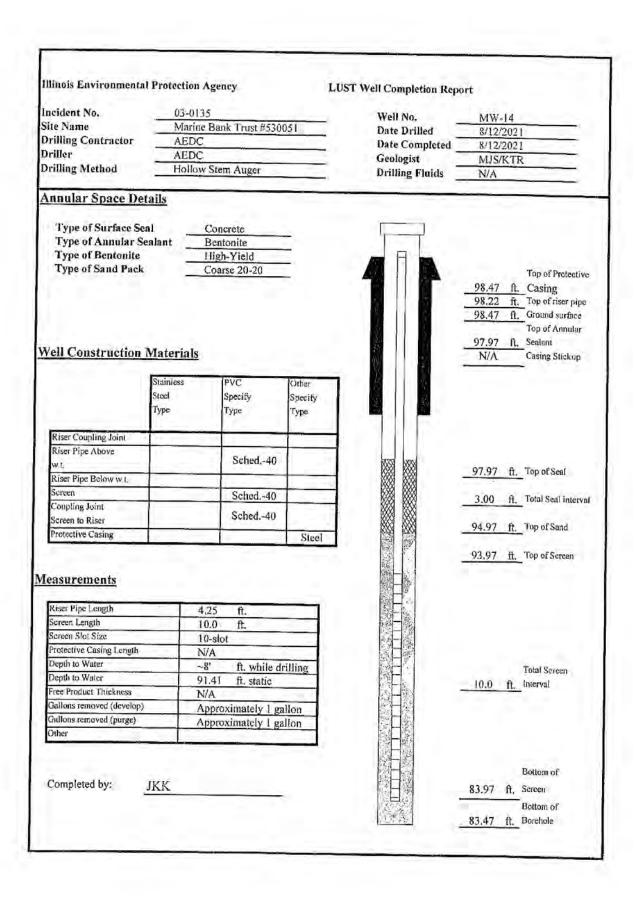












APPENDIX G

ANALYTICAL RESULTS

CORRECTIVE ACTION PLAN AND BUDGET AMENDMENT

MARINE BANK TRUST # 53-0051 CANTRALL, ILLINOIS

EA Lust App. B

	Location		N-1
	Date		5/15/2003
Parameter	Tier I CUO	PH Specific CUO	4
Arsenic	5.2	30	13.2
Barium	122.0	1800.0	76.1
Cadmium	0.5	59.0	0.826
Chromium	13.0	32.0	13.1
Lead	20.9	20.9*	13.9
Mercury	0.05	6.4	<0.111
Selenium	0.37	3.3	< 0.555
PH Specific values from	742 Appendix A. Ta	able G	-0.000
* - Value from 742 Apper	ndix B. Table C		
BOLD & SHADING Ex	ceeds the TACO Tie	r 1 Most Stringent Soil Cl	ean-up Object
Results are in mg/Kg	 		r vojava

EA Soil

	Location	E	S-1	S-2	W	N-1	N-2
	Depth	6'	6'	6'	6'	6'	6'
	Date	5/15/2003	5/15/2003	5/15/2003	5/15/2003		5/15/2003
Parameter	Tier I CUO	*	*	*	*	*	*
Benzene	0.03	0.035	0.711	0.17	3.4	0.983	0.971
Ethylbenzene	13.0	0.139	11.1	14.	47.8	112.	75.4
Toluene	12.0	0.009	0.023	0.02	89.7	30.3	43.6
Total Xylenes	5.6	0.23	25.4	32.6	186.	418.	291.
MTBE	0.32	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Acenaphthene	570.0	<1.200	<1.200	<1.200	<1.200	<1.200	<1.200
Acenaphtylene	15.0	<0.660	<0.660	< 0.660	<0.660	<0.660	<0.660
Anthracene	12,000.0	<0.660	<0.660	< 0.660	<0.660	<0.660	<0.660
Benzo(a)anthracene	0.9	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087
Benzo(a)pyrene	0.09	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Benzo(b)fluoranthene	0.9	<0.011	<0.011	<0.011	< 0.011	<0.011	<0.011
Benzo(g,h,i)perylene	2,300.0	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051
Benzo(k)fluoranthene	9.0	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011
Chrysene	88.0	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Dibenz(a,h)anthracene	0.09	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Fluoranthene	4,300.0	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660
Fluorene	560.0	<0.140	<0.140	<0.140	<0.140	<0.140	<0.140
Indeno(1,2,3-cd)pyrene	0.9	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029
Naphthalene	1.8	<0.660	1.57	0.666	< 0.660	<0.660	6.59
Phenanthrene	140.0	<0.660	<0.660	< 0.660	<0.660	<0.660	<0.660
Pyrene	2,300.0	<0.180	<0.180	<0.180	<0.180	<0.180	<0.180
Numbers not bold indicate	actual quantities, bu	t are below th	e TACO Tie	r 1 Most Stri	ngent Soil C	lean-up Obie	ctive.
BOLD & SHADING Ex	ceeds the TACO Ti	er 1 Most Str	ingent Soil C	lean-up Obje	ective.	, ,,,,	
Results are in mg/Kg							
*Resampled							

Soil 1-15-04

	Location	MW-1	MW-2	MW-3	MW-4	Τ	
	Date	1/15/2004	1/15/2004	1/15/2004	1/15/2004	 	+
	Depth	9'	9'	6'	9'	 	
Parameter	Tier I CUO			*		 -	
Benzene	0.03	0.005	0.016	11.2	0.00492	 	
Ethylbenzene	13.0	0.013	0.037	3.19	0.00391	 	+
Toluene	12.0	0.012	0.009	0.419	0.0103	 -	
Total Xylenes	5.6	0.043	0.02	9.49	0.0093		
MTBE	0.32	<0.005	<0.005	< 0.005	<0.005		+-
Acenaphthene	570.0	<1.200	<1.200	<1.200	<1.060		
Acenaphtylene	15.0	<0.660	<0.660	<0.660	<0.582		+
Anthracene	12,000.0	<0.660	<0.660	<0.660	<0.582	 -	
Benzo(a)anthracene	0.9	0.063	<0.0087	<0.000	<0.00767	L	
Benzo(a)pyrene	0.09	<0.015	<0.015	<0.0007	<0.00787		
Benzo(b)fluoranthene	0.9	<0.011	<0.011	<0.011	<0.0132		
Benzo(g,h,i)perylene	2,300.0	<0.051	<0.051	<0.051	<0.00970		
Benzo(k)fluoranthene	9.0	<0.011	<0.011	<0.031	<0.0450		
Chrysene	88.0	<0.100	<0.100	<0.100	<0.00970		
Dibenz(a,h)anthracene	0.09	<0.020	<0.020	<0.020	<0.0882		
luoranthene	4,300.0	<0.660	<0.660	<0.660	<0.582		
luorene	560.0	<0.140	<0.140	1.25	<0.123		+
ndeno(1,2,3-cd)pyrene	0.9	<0.029	<0.029	<0.029			
Naphthalene	1.8	<0.660	< 0.660	3.08	<0.0256 <0.582		
Phenanthrene	140.0	<0.660	<0.660	2.03	<0.582		
Pyrene	2,300.0	<0.180	<0.180	0.452	<0.582		
Numbers not bold indicate a	ctual quantities but	t are below th	TACO Tion	1 Most Start	~0.109	1. 01	
BOLD & SHADING - Exc	ceeds the TACO Ti	er I Most Stri	ngent Soil C	lean up Obia	ngent Son C	iean-up Ob	jective.
Results are in mg/Kg	1.1.00 11		ngont SUII C	can-up Obje	cuve.		
Resampled							

Marine Bank-Cantrall Site Assessment Data

Soil August 2004

	Location	MW-6	MW-7	MVV-9	SB-1	MW-12	MW-13	MW-14	MW-15	BASS 40	
	Depth	6'	6'	9'	9'	6'	6'	6'	6'	MW-16	MW-17
Date		8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/6/2004	8/30/2004			9'	6'
Parameter	Tier I CUO					0.0/2004	0/30/2004	0/30/2004	8/30/2004	8/30/2004	8/30/200
Benzene	0.03	0.002	0.0092	0.00426	0.002	<0.002	0.004	-0.000			<u> </u>
Ethylbenzene	13.0	0.011	0.0057	0.00307	0.002	0.003	0.004	<0.002	0.003	0.006	0.003
Toluene	12.0	0.00218	0.0307	0.00814	0.004	<0.002	0.003	<0.002	0.003	0.013	0.003
Total Xylenes	5.6	<0.00338	0.0221	0.00670	<0.005	0.002	0.007	0.004	0.006	0.033	0.006
MTBE	0.32	< 0.00338	< 0.00351	< 0.00384	<0.005	<0.005		<0.005	0.006	0.059	0.006
Acenaphthene	570.0	<1.200	<1.200	<1.200	<1.200	<1.200	<0.005	<0.005	<0.005	<0.005	<0.005
Acenaphtylene	15.0	< 0.660	<0.660	<0.660	<0.660	<0.660	<1.200	<1.200	<1.200	<1.200	<1.200
Anthracene	12,000.0	< 0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660
Benzo(a)anthracene	0.9	<0.0087	<0.0087	<0.0087	<0.000	<0.0087	<0.660	<0.660	<0.660	<0.660	<0.660
Benzo(a)pyrene	0.09	<0.015	<0.015	<0.0007	<0.0067	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087
Benzo(b)fluoranthene	0.9	<0.011	<0.011	<0.011	<0.011	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Benzo(g,h,i)perylene	2,300.0	<0.051	<0.051	<0.011	<0.051	<0.051	<0.011	<0.011	<0.011	<0.011	<0.011
Benzo(k)fluoranthene	9.0	<0.011	<0.011	<0.011	<0.011		<0.051	<0.051	<0.051	<0.051	< 0.051
Chrysene	88.0	<0.100	<0.100	<0.100	<0.100	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011
Dibenz(a,h)anthracene	0.09	<0.020	<0.020	<0.020	<0.000	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
luoranthene	4,300.0	<0.660	<0.660	<0.660	<0.660	<0.020	<0.020	<0.020	<0.020	<0.020	< 0.020
luorene	560.0	<0.140	<0.140	<0.140	<0.140	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660
ndeno(1,2,3-cd)pyrene	0.9	<0.029	<0.029	<0.029	<0.029	<0.140	<0.140	<0.140	<0.140	<0.140	<0.140
Vaphthalene	1.8	<0.660	<0.660	<0.660		<0.029	<0.029	<0.029	<0.029	<0.029	<0.029
Phenanthrene	140.0	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	< 0.660
yrene	2,300.0	<0.180	<0.180	<0.180	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660
Numbers not bold indicate a	ectual quantities but	t are below th	TACO (1):	-U. 10U	SU.180	<0.180	<0.180	<0.180	<0.180	<0.180	<0.180
OLD & SHADING - Exc	ceeds the TACO Tie	r I Most Stri	cant Soil Cl	1 IVIOSI STITI	igent Soil Cl	ean-up Objec	tive.				
Results are in mg/Kg	TO THE TACO HE	1 1 1 1 1 1 2 1 3 1 1 1 1 1 1 1 1 1 1 1	igoni Son Cl	carr-up Objec	zive.						
					<u>.</u>						

Groundwater

Location	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MM/-7	NAIA/ O	BASA/ O	1 8086 40	1 2000		
Date	2/27/04	2/27/04	2/27/04	2/27/04									MW-13
Class I CUO	*	*	*	*	*	0/11/04	0/11/04	0/11/04	8/11/04	8/11/04	8/11/04	9/30/04	9/1/04
0.005	0.067	0.069	3.51	0.008	1.66	<0.002	=0.000	-0.000	0.044			<u></u>	
0.7	0.139	0.008											0.002
1.0	0.014										-		<0.002
10.0	0.539	0.01											<0.002
0.07	< 0.005	< 0.005										<0.005	<0.005
0.42	<0.010											<0.005	<0.005
0.210	<0.010												<0.010
2.1													<0.010
0.00013													<0.0066
0.0002												<0.00013	<0.00013
0.00018												<0.0002	<0.0002
0.21										0.000.0			
0.00017													
0.0015													<0.00017
0.0003	< 0.0003												<0.0015
0.28													<0.0003
0.28													0.0003
0.00043													<0.0021
0.14	0.026												<0.00043
0.21				-									<0.010
0.21													<0.0064
ctual quantities, but			ier I Most S	tringent Soil	Clean-up C	hiective	~0.0027	~0.0027	NU.0027	<0.0027	<0.0027	<0.0027	<0.0027
ceeds the TACO Tie	er 1 Most St	ringent Soil	Clean-up O	biective.	_ Croun-up C	ojecnyc.							
				ojeenre.									
	Date Class I CUO 0.005 0.7 1.0 10.0 0.07 0.42 0.210 2.1 0.00013 0.0002 0.00018 0.21 0.00015 0.00015 0.0003 0.28 0.28 0.28 0.00043 0.14 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21	Date 2/27/04 Class I CUO * 0.005 0.067 0.7 0.139 1.0 0.014 10.0 0.539 0.07 <0.005	Date 2/27/04 2/27/04 2/27/04 Class I CUO * * * 0.005 0.067 0.069 0.008 0.7 0.139 0.008 1.0 0.014 <0.002	Date 2/27/04 2/27/04 2/27/04 2/27/04 Class I CUO * * * * 0.005 0.067 0.069 3.51 0.7 0.139 0.008 2.82 1.0 0.014 <0.002	Date 2/27/04	Date 2/27/04	Date 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 8/11/04 Class I CUO * <td>Date 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 8/11/04 8/11/04 8/11/04 Class I CUO *</td> <td>Date 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 8/11/04</td> <td> Date 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 8/11/04 8/11/04 8/11/04 8/11/04 8/11/04 Class I CUO *</td> <td> Date 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 8/11/04</td> <td> Date 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 8/11/04</td> <td> Date 2/27/104 2/27/104 2/27/104 2/27/104 8/11/104 8/</td>	Date 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 8/11/04 8/11/04 8/11/04 Class I CUO *	Date 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 8/11/04	Date 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 8/11/04 8/11/04 8/11/04 8/11/04 8/11/04 Class I CUO *	Date 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 8/11/04	Date 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 2/27/04 8/11/04	Date 2/27/104 2/27/104 2/27/104 2/27/104 8/11/104 8/

Groundwater

	Location	MW-14	MW-15	MW-16	MW-17	MW-18	TMW-1	MW-19	2011/ 00
	Date	9/1/04	9/1/04	9/1/04	9/30/04	1/24/05	1/24/05		MW-20
Parameter	Class I CUO	*			3730704	1/24/05	1/24/05	8/9/05	8/9/05
Benzene	0.005	0.822	<0.002	<0.002	<0.002	0.002		ļ	
Ethylbenzene	0.7	1.08	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Toluene	1.0	0.023	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Total Xylenes	10.0	2,47	<0.005	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002
MTBE	0.07	0.016	< 0.005	<0.005	<0.005		<0.005	<0.005	<0.005
Acenaphthene	0.42	<0.010	<0.010	<0.003	<0.003	<0.005 <0.010	<0.005	<0.005	<0.005
Acenaphtylene	0.210	<0.010	<0.010	<0.010	<0.010		<0.010	<0.0164	<0.0164
Anthracene	2.1	<0.0066	<0.0066	<0.0066	<0.0066	<0.010	<0.010	<0.00909	<0.00909
Benzo(a)anthracene	0.00013	< 0.00013				<0.0066	<0.0066	<0.000600	
Benzo(a)pyrene	0.0002	<0.0002	<0.0002	<0.00013	<0.00013				<0.000118
Benzo(b)fluoranthene	0.00018		<0.00018			<0.0002	<0.0002	<0.000182	
Benzo(g,h,i)perylene	0.21	<0.00076	0.003	< 0.00076					
Benzo(k)fluoranthene	0.00017	<0.00017	<0.00017	<0.00017	< 0.00076				
Chrysene	0.0015	<0.0015	<0.0017	< 0.00017	<0.00017	<0.00017	<0.00017	<0.000155	
Dibenz(a,h)anthracene	0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0015	<0.0015	<0.00136	<0.00136
Fluoranthene	0.28	<0.0021	<0.0003	<0.0003		<0.0003	<0.0003	<0.000273	<0.000273
Fluorene	0.28	<0.0021	<0.0021	<0.0021	<0.0021 <0.0021	<0.0021	<0.0021	<0.00191	<0.00191
ndeno(1,2,3-cd)pyrene	0.00043	< 0.00043		<0.0021	<0.0021	<0.0021	<0.0021	<0.00191	<0.00191
Naphthalene	0.14	0.16	<0.010	<0.00043	<0.00043		<0.00043	<0.000391	<0.000391
Phenanthrene	0.21	<0.0064	<0.0064	<0.0064	<0.0064	<0.010	<0.010	<0.00909	<0.00909
Pyrene	0.21	<0.0027	<0.0004	<0.0004		<0.0064	<0.0064	<0.00582	<0.00582
Numbers not bold indicate a		3.0027	-0.0021	-0.0027	<0.0027	<0.0027	<0.0027	<0.00245	<0.00245
BOLD & SHADING Exc	ceeds the TACO Ti								
Results are in mg/L	The sale little in								
Resampled									

Soil 3-10-06

	Location	SB-2	SB-3	SB-4	SB-5	Γ	 -
	Depth	9'	6'	9'	9'	<u> </u>	 _
Date		3/10/2006	3/10/2006	3/10/2006	3/10/2006		 -
Parameter	Tier I CUO	*	*	*	*		
Benzene	0.03	0.871	9.55	0.082	0.612		
Ethylbenzene	13.0	0.055	119.	0.358	0.106		
Toluene	12.0	0.013	0.58	0.019	0.03		
Total Xylenes	150.0	0.026	105.	0.289	0.178		
MTBE	0.32	<0.005	< 0.005	<0.005	<0.005		
Acenaphthene	570.0	<1.200	<1.200	<1.200	<1.200		<u> </u>
Acenaphtylene	15.0	<0.660	<0.660	<0.660	<0.660		
Anthracene	12,000.0	< 0.660	<0.660	<0.660	<0.660		
Benzo(a)anthracene	0.9	<0.0087	<0.0087	<0.0087	<0.0087		
Benzo(a)pyrene	0.09	<0.015	<0.015	<0.015	<0.015		
Benzo(b)fluoranthene	0.9	<0.011	<0.011	<0.011	<0.011		
Benzo(g,h,i)perylene	2,300.0	<0.051	< 0.051	<0.051	<0.051		
Benzo(k)fluoranthene	9.0	<0.011	<0.011	<0.011	<0.011	<u> </u>	
Chrysene	88.0	<0.100	<0.100	<0.100	<0.100		
Dibenz(a,h)anthracene	0.09	<0.020	< 0.020	<0.020	<0.020		
Fluoranthene	4,300.0	<0.660	<0.660	<0.660	<0.660		
Fluorene	560.0	<0.140	0.483	<0.140	<0.140		
Indeno(1,2,3-cd)pyrene	0.9	<0.029	<0.029	0.046	<0.029		
Naphthalene	1.8	<0.660	1.91	<0.660	<0.660		
Phenanthrene	140.0	< 0.660	1.09	<0.660	<0.660		
^O yrene	2,300.0	<0.180	0.164	<0.180	<0.180		
Numbers not bold indicate a	ctual quantities, bu	t are below th	e TACO Tie	r 1 Most Stri	ngent Soil C	lean-un Ohi	ective
SOLD & SHADING Ex	ceeds the TACO Ti	er 1 Most Stri	ingent Soil C	lean-up Obje	ective.	ap Obj	
Results are in mg/Kg							
Resampled				-			

Soil 8-12-2021 Analytical Results

	Location	SB-7	SB-8	SB-9	SB-10	SB-11	SB-12	SB-13	SB-14	SB-15	60.40	
	Date	8/12/2021	8/12/2021	8/12/2021	8/12/2021	8/12/2021	8/12/2021	8/12/2021			SB-16	SB-17
	Resampled @:	MW-3	SB-5	E	N2	SB-4	S1	SB-2	S2	8/12/2021 W		8/12/202
	Depth	6'	9'	6'	6'	6'	6'	9'	6'		N1	SB-3
Parameter	Tier I CUO									6'	6'	6'
Benzene	0.03	16.3	<0.0452	<0.0121	<0.0133	<0.0162	<0.0134	0.103	0.0942			
Ethylbenzene	13.0	7.41	< 0.0514	< 0.0484	<0.0532	< 0.0649	<0.0534	0.103		0.296	<0.0138	<0.0131
Toluene	12.0	0.613	< 0.0514	< 0.0514	<0.0532	< 0.0649	<0.0534	<0.0493	<0.0572	47.6	<0.0551	<0.0523
Total Xylenes	150.0	7.24	<0.103	< 0.0967	<0.106	<0.130	<0.0034	<0.109	<0.0572	0.277	<0.0551	<0.0523
MTBE	0.32	<0.0463	<0.0514	<0.0514	<0.0532	<0.0649	<0.0534		<0.114	163.	<0.110	<0.105
Acenaphthene	570.0	1.34	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507	<0.0493	<0.0572	<0.0519	<0.0551	<0.0523
Acenaphtylene	15.0	0.548	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507	<0.0493	<0.0519	0.0674	<0.0503	<0.0529
Anthracene	12,000.0	1.23	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507	<0.0493	<0.0519	<0.0516	<0.0503	<0.0529
Benzo(a)anthracene	0.9	<0.0493	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507		<0.0519	<0.0516	<0.0503	<0.0529
Benzo(a)pyrene	0.09	<0.0493	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507	<0.0493	<0.0519	<0.0516	<0.0503	<0.0529
Benzo(b)fluoranthene	0.9	< 0.0493	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507	<0.0493	<0.0519	<0.0516	<0.0503	<0.0529
Benzo(g,h,i)perylene	2,300.0	< 0.0493	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507	<0.0493	<0.0519	<0.0516	<0.0503	<0.0529
Benzo(k)fluoranthene	9.0	<0.0493	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507	<0.0493	<0.0519	<0.0516	<0.0503	<0.0529
Chrysene	88.0	0.153	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507	<0.0493	<0.0519	<0.0516	<0.0503	<0.0529
Dibenz(a,h)anthracene	0.09	<0.0493	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507	<0.0493	<0.0519	<0.0516	<0.0503	<0.0529
Fluoranthene	4,300.0	0.298	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507	<0.0493	<0.0519	<0.0516	<0.0503	<0.0529
Fluorene	560.0	3,13	<0.0490	<0.0489	<0.0503	<0.0497		<0.0493	<0.0519	<0.0516	<0.0503	<0.0529
Indeno(1,2,3-cd)pyrene	0.9	<0.0493	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507	<0.0493	<0.0519	0.109	<0.0503	<0.0529
Naphthalene	1.8	17.	<0.0490	<0.0489	<0.0503		<0.0507	<0.0493	<0.0519	<0.0516	<0.0503	<0.0529
Phenanthrene	140.0	10.6	<0.0490	<0.0489	<0.0503	<0.0497	<0.0507	0.0990	0.0937	18.5	<0.0503	0.0584
Pyrene	2.300.0	1.5	<0.0490	<0.0489		<0.0497	<0.0507	<0.0493	<0.0519	0.195	<0.0503	<0.0529
Numbers not bold indicate	actual quantities but	ara below th	4 TACO Tie	-U.U409	<0.0503	<0.0497	<0.0507	<0.0493	<0.0519	<0.0516	<0.0503	<0.0529
BOLD & SHADING - Ex	ceeds the TACO Tie	r 1 Most Stri	ngent Soil Cl	1 1 IVIOST STI	ngent Son C	iean-up Obje	ctive.					
Results are in mg/Kg	occas me TACO He	1 1 141081 13111	iligent 3011 CI	ean-up Obje	cuve.							

Groundwater 2021 Analytical Results

<u> </u>	Location	MW-1A	MW-2A	MW-3A	MW-4A	MW-5A	MW-9A	MW-14A
	Date	9/7/2021	9/7/2021	9/7/2021	9/7/2021	9/7/2021	9/7/2021	9/7/2021
Parameter	Class I CUO						3/1/2021	3///2021
Benzene	0.005	1.43	0.250	<0.00100	<0.00100	<0.00100	0.00291	0.264
Ethylbenzene	0.7	0.2	0.0400	< 0.00100	0.471	0.0122	0.00231	0.00912
Toluene	1.0	0.0176	0.00608	< 0.00100	<0.00100	<0.00100	0.00604	
Total Xylenes	10.0	0.331	0.0148	<0.00200	0.0582	0.0569	0.00004	0.00374
MTBE	0.07	0.0136	< 0.00100	<0.00100	<0.00100	<0.00100	<0.00100	0.00592
Acenaphthene	0.42	0.000216	0.00258	0.0194	0.00451	0.00104	0.000994	0.0167
Acenaphtylene	0.210	< 0.000100		0.00720	0.00208	0.000589	0.000368	<0.000100
Anthracene	2.1	<0.000100	0.00294	0.0141	0.00337	0.000718	<0.000368	<0.000100
Benzo(a)anthracene	0.00013	<0.000100	< 0.000100		0.000607	0.000718	< 0.000152	
Benzo(a)pyrene	0.0002	< 0.000100	<0.000100		0.000132	<0.000100		21000100
Benzo(b)fluoranthene	0.00018	< 0.000100		0.000327	0.000104	<0.000100		
Benzo(g,h,i)perylene	0.21	< 0.000100		0.000268	0.000104	<0.000100		
Benzo(k)fluoranthene	0.00017	< 0.000100	<0.000100		<0.000127	<0.000100		
Chrysene	0.0015	< 0.000100	<0.000100	0.00214	0.000879	0.000100		
Dibenz(a,h)anthracene	0.0003	< 0.000100	<0.000100	< 0.000100	<0.00010	<0.000100	<0.000152	<0.000100
Fluoranthene	0.28	<0.000100	0.000206	0.00464	0.00158	0.000337		
Fluorene	0.28	0.000194	0.00258	0.0447	0.00138	0.000337	<0.000152	<0.000100
Indeno(1,2,3-cd)pyrene	0.00043	<0.000100	<0.000100	0.000141	<0.000100	<0.00202	0.00159	<0.000100
Naphthalene	0.14	0.00621	0.178	0.514	0.179	0.0382	<0.000152 0.0935	<0.000100
Phenanthrene	0.21	<0.000100		0.131	0.0314	0.00385		0.00167
Pyrene	0.21	<0.000100	0.000202	0.0178	0.00514	0.00385	0.00156	<0.000100
Numbers not bold indicate a	ectual quantities, but	are below the	e TACO Tier	1 Most String	rent Soil Class	n un Obissti	0.000168	<0.000100
BOLD & SHADING Ex	ceeds the TACO Tie	er I Most Stri	ngent Soil Cle	an-un Object	ive	n-up Objectiv	/c.	
Results are in mg/L		7	agoni Bon Cit	an-up Object	.1vc.			
Numbers not bold indicate a BOLD & SHADING Ex Results are in mg/L	ceeds the TACO Tie	are below the I Most Strip	e TACO Tier ngent Soil Cle	1 Most String ean-up Object	gent Soil Clea ive.	n-up Objecti	ve.	

Soil 9-5-2023 Analytical Results

	Location	SB-18A	\$B-18B	SB-19A	SB-19B	SB-20A	SB-20B	SB-21C	CD OVE
	Date	9/5/2023	9/5/2023	9/5/2023	9/5/2023	9/5/2023	9/5/2023	9/5/2023	SB-21D
	Depth	2.5'	7.5'	2.5'	7.5'	2.5'	7.5'		9/5/2023
Parameter	Tier I CUO			 	 		7.5	12.5	17.5
Benzene	0.03	<0.0103	< 0.0142	<0.0135	<0.0133	0.0941	0.0994		
Ethylbenzene	13.0	<0.0412	< 0.0568	<0.0539	<0.0533	0.0568		0.0675	0.0702
Toluene	12.0	< 0.0412	<0.0568	<0.0539	<0.0533	<0.0533	0.0632	<0.120	<0.120
Total Xylenes	150.0	< 0.0824	< 0.114	<0.108	<0.107	0.186	<0.0520	<0.120	<0.120
MTBE	0.32	< 0.0412	<0.0568	<0.0539	<0.0533	<0.0533	<0.104	<0.120	<0.120
Acenaphthene	570.0	<0.00699	< 0.00746	0.898	1.33		<0.0520	<0.120	<0.120
Acenaphtylene	15.0	<0.0112	<0.120	0.0297	0.0269	0.0157	<0.00687		
Anthracene	12,000.0	<0.0100	<0.0107	0.249	0.0269	<0.0110	<0.0110		
Benzo(a)anthracene	0.9	<0.00967	<0.0103	0.114	0.241	0.0107	<0.00985		
Benzo(a)pyrene	0.09	<0.0704	<0.00751	0.0662		0.0219	<0.00950		
Benzo(b)fluoranthene	0.9	<0.00877	<0.00731	0.0052	0.0781	0.0303	<0.00691		
Benzo(g,h,i)perylene	2,300.0	< 0.00604	< 0.00644	0.0233	0.0286	0.0105	<0.00862		
Benzo(k)fluoranthene	9.0	<0.00924	<0.00987	0.0128	0.058	0.0457	0.00815		
Chrysene	88.0	<0.00958	<0.00307	0.0698	0.0144	<0.00901	<0.00908		
Dibenz(a,h)anthracene	0.09	<0.00639	<0.00682	<0.00625	0.0794	0.0172	<0.00942		
luoranthene	4,300.0	<0.0161	<0.00002	0.148	<0.00665	<0.00623	<0.00628		
luorene	560.0	<0.0107	<0.0172		0.146	<0.0157	<0.0158		
ndeno(1,2,3-cd)pyrene	0.9	<0.00826	<0.00881	0.448	0.462	0.0248	<0.0115		
Naphthalene	1.8	0.163		0.0164	0.0174	0.0122	<0.00811		
Phenanthrene	140.0	<0.0191	0.168	89.3	116.	0.733	1.50		
Pyrene	2.300.0	<0.0191	<0.0204	0.822	0.939	0.0555	<0.0188		
	ctual quantities, but	t are below 1	<0.0260	0.259	0.284	0.205	<0.0240		
lumbers not bold indicate a	reeds the TACAT	are below it	ic raco Tie	r i Most Stri	ngent Soil Cl	ean-up Obje	ctive.		
Results are in mg/Kg	secus and TACO 11	er i iviost Str	ingent Soil C	tean-up Obje	ctive.				
isourio are in mg/rkg			<u> </u>						

TACO Analytical Results

Marine Ba	ink Trust							
9/5/2	023							
Sample ID	: PTACO							
Parameter	Result							
FOC	1.08%							
Gravel	0%							
Sand	14.50%							
Silt	74.1%							
Clay	11.4%							
Soil Bulk Density	1.640 gm/cm ³							
Soil Specifc Gravity	2.657							
Percent Moisture	20.00%							

Electronic Filing: Received, Clerk's Office 07/24/2024

SUBURBAN LABORATORIES, Inc.



1950 S. Batavia Ave.. Suite 150 Geneva. Illinois 60134 Tet. (708) 544-3260 • Toll Free (800) 783-LABS Fax (708) 544-8587 www.suburbanlabs.com

Workorder: 2309516

September 15, 2023

Carol Rowe GWM Company, Inc 701 West South Grand Springfield, IL 62704

TEL: (217) 522-8001 FAX: (217) 522-8009 RE: Marine Bank Trust

Dear Carol Rowe:

Suburban Laboratories, Inc. received 9 sample(s) on 9/8/2023 for the analyses presented in the following report.

All data for the associated quality control (QC) met EPA, method, or internal laboratory specifications except where noted in the case narrative. If you are comparing these results to external QC specifications or compliance limits and have any questions, please contact us.

This final report of laboratory analysis consists of this cover letter, case narrative, analytical report, dates report, and any accompanying documentation including, but not limited to, chain of custody records, raw data, and letters of explanation or reliance. This report may not be reproduced, except in full, without the prior written approval of Suburban Laboratories, Inc.

If you have any questions regarding these test results, please call me at (708) 544-3260.

Sincerely.

Dan Galeher Project Manager

708-544-3260 ext 216 dan@SuburbanLabs.com

DOC DER

Illinois Department of Public Health Accredited #17585 Created: 9/15/2023 1:20;16 PM



filinois EPA #100225 Wisconsin FID#:3000893504



Suburban Laboratories, Inc.

1959 S. Batavia Ave., Soite 150, Geneva, IL 60134 (708) 544-3260

Case Narrative

Client: CWM Company, Inc. Project: Marine Bank Trust

Date: September 15, 2023 PO #:

WorkOrder: 2309516

QC Level:

Temperature of samples upon receipt at SLI: 4.3 C.

Chain of Custody #:

General Comments:

- All results reported in wet weight unless otherwise indicated. (dry = Dry Weight)

- Sample results relate only to the analytes of interest tested and to sample as received by the laboratory.

- Environmental compliance sample results meet the requirements of 35 IAC Part 186 unless otherwise indicated.

- Waste water analysis follows the rules set forth in 40 CFR part 136 except where otherwise noted.

- Accreditation by the State of Illinois is not an endorsement or a guarantee of the validity of data generated.

- For more information about the laboratories' scope of accreditation, please contact us at (708) 544-3260 or the Agency at (217) 782-6455.

All radiological results are reported to the 95% confidence level.

Abbreviations:

- Reporting Limit: The concentration at which an analyte can be routinely detected on a day to day basis, and which also meets regulatory and client needs.
- Quantitation Limit: The lowest concentration at which results can be accurately quantitated.
- J: The analyte was positively identified above our Method Detection Limit and is considered detectable and usable; however, the associated numerical value is the approximate concentration of the analyte in the sample.
- ATC: Automatic Temperature Correction. - TNTC: Too Numerous To Count
- TIC: Tentatively Identified Compound (GCMS library search identification, concentration estimated to nearest internal standard).
- SS: (Surrogate Standard): Quality control compound added to the sample by the lab.
- -LA; Lab Accident No valid data to report.
- -VO: Insufficient Volume provided
- -BR: Received broken
- -IP: Invalid Sampling

Method References:

For a complete list of method references please contact us.

- E: USEPA Reference methods
- SW: USEPA, Test Methods for Evaluating Solid Waste (SW-846)
- M: Standard Methods for the Examination of Water and Wastewater
- USP: Latest version of United States Pharmacopeia

Workorder Specific Comments:

Mequon WI Lab: WI DATCP Certified #500380, WI DNR Certified #248179890

Page 2 of 14

Created: 9/15/2023 1 20 18 PM

Geneva IL Corporate Headquarters: WI DATCP Certified #10510122. WI DNR Certified #399089350



Suburban Laboratories, Inc.

1950 S. Balavia Ave., State 150, Geneva, 4, 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company. Inc Project Name: Marine Bank Trust

Report Date: September 15, 2023

Workorder: 2309516

Client Sample ID: SB18A

Lab ID: 2309516-001

Date Received: 09/08/2023 9:52 AM

Matrix: SOIL

Collection Date: 09/05/2023 3:40 PM

		Report		-11	Dilution		
Parameter	Result	Limit	Qual	Units		Date Analyzed	Batch II
VOLATILE ORGANIC COMPOUNDS		Method	EPA-82608-R	ev 2: Dec De		4.4	
	-		EL TUELDOU-T	4, 2, 000-00		Analyst: RWM	
Benzene	ND	0.0103		mg/Kg-dry	32.6	00/00/0000	
Ethylbenzene	ND	0.0412		mg/Kg-dry	32.6	09/08/2023 8:06 PM	R167131
m.p-Xylene	ND	0.0824		mg/Kg-dry	32.6	09/08/2023 8:06 PM	R167131
Methyl tert-butyl ether	ND	0.0412		mg/Kg-dry		09/08/2023 8:06 PM	R167131
o-Xylene	ND	0.0412		mg/Kg-dry	32.6 32.6	09/08/2023 8:06 PM	R167131
Total Xylenes	ND	0.0824				09/08/2023 8:06 PM	R167131
Foluene	ND	0.0412		mg/Kg-dry	32.6	09/08/2023 8:06 PM	R167131
Internal Quality Control Compounds	1475	W3/412		mg/Kg-dry	32,6	09/08/2023 8:06 PM	R167131
SS: 4-Bromofluorobenzene	112	79-122		WE		4841.07. 7.4.07	
SS: Dibromofluoromethane	83.6	63-129		%Rec	32.6	09/08/2023 8:06 PM	R167131
SS: Toluene-d8	99.7	79-119		%Rec	32.6	09/08/2023 8:06 PM	R167131
	99.1			%Rec .	32,6	09/08/2023 8:06 PM	R167131
SEMIVOLATILE ORGANICS, BY GCMS SIM		Method	EPA-8270C-Re	ev 3, Dec-96		Analyst: BM.	
Acenaphthene	ND	2 25222		13.2			
Acenaphthylene	ND	0.00699		mg/Kg-dry	1	09/12/2023 9:28 AM	92222
Anthracene		0.0112		mg/Kg dry	1	09/12/2023 9:28 AM	92222
Benzo(a)anthracene	ND	0.0100		mg/Kg-dry	1	09/12/2023 9:28 AM	92222
Benzo(a)pyrena	ND	0.00967		mg/kg-dry	1	09/12/2023 9:28 AM	92222
Benzo(b)fluoranthene	ND	0.00704		mg/Kg-dry	1	09/12/2023 9:28 AM	92222
[13] 120 F F GO GO GO GO GO GO GO GO GO GO GO GO GO	ND	0.00877		mg/Kg-dry	1	09/12/2023 9:28 AM	92222
Benzo(g,h,i)perylene	ND	0.00604		mg/Kg-dry	1	09/12/2023 9:28 AM	92222
Benzo(k)fluoranthene	ND	0.00924		mg/Kg-dry	1	09/12/2023 9:28 AM	92222
Chrysene	ND	0.00958		mg/Kg-dry	1	09/12/2023 9:28 AM	92222
D/benzo(a,h)anthracene	ND	0.00639		mg/Kg-ary	1	09/12/2023 9:28 AM	
Fluoranthene	ND	0.0161		mg/Kg-dry	1	09/12/2023 9:28 AM	92222
Fluorena	ND	0.0117		mg/Kg-dry	1	09/12/2023 9:28 AM	92222
Indeno(1,2,3-cd)pyrene	NO	0.00826		mg/Kg-dry	1	09/12/2023 9:28 AM	92222
Naphthalene	0.163	0.0216		mg/Kg dry	1	09/12/2023 9:28 AM	92222
Phenanthrene	NO	0.0191		mg/Kg-dry	4	09/12/2023 9:28 AM	92222
Pyrane	ND.	0.0244		mg/Kg-dry	9	09/12/2023 9:28 AM	92222
Internal Quality Control Compounds						0911212053 9:58 AM	92222
SS: 2-Fluorobiphenyl	81.2	56-123		%Rec	1	On Haynaga a backs	
SS: 4-Terphenyl-d14	101 -	44-136		%Rec		09/12/2023 9:28 AM	92222
SS: Nitrobenzene-d5	82.4	62 129		%Rec	1	09/12/2023 9:28 AM 09/12/2023 9:28 AM	92222
PERCENT MOISTURE		Method: /	ASTM-D2216-R		0	Analyst KC	92222
Percent Moisture						- The for ho	
religion multiture	21	1.0	C	wt%	1	09/11/2023 9:41 AM	R167127



Suburban Laboratories, Inc.

1980 S. Bannya Ave., State 150, Geneya, II, 60131 7308; 544-3260

Laboratory Results

Client ID: CWM Company, Inc.

Project Name: Marine Bank Trust

Report Date: September 15, 2023

Workorder: 2309516

Client Sample ID: SB18B

Lab 1D: 2309516-002

Date Received: 09/08/2023 9:52 AM

Matrix: SOIL

Collection Date: 09/05/2023 3:40 PM

Parameter	70 S. W	Report			Dilution		
rarameter	Result	Limit	Qual.	Units		Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method	EPA-8250B-R	v 2, Dec-98		Analyst: RWM	
Benzene	ND	N 412 15		- 4			
Elhylbenzene	ND	0.0142		mg/Kg-dry	43.34	09/08/2023 8:31 PM	R167131
m.p.Xylene		0.0568		mg/Kg-dry	43.34	09/08/2023 8:31 PM	R167131
Mothyl tert-butyl ether	ND	0.114		mg/Kg dry	43.34	09/08/2023 8:3+ PM	R167131
o-Xylene	ND.	0.0568		mg/Kg-dry	43.34	09/08/2023 8:31 PM	R167131
Total Xylenes	ND	0.0568		mg/Kg-dry	43.34	09/08/2023 8:31 PM	R187131
Toluene	ND	0.114		mg/Kg-dry	43,34	09/08/2023 8:31 PM	R167131
Internal Quality Control Compounds	ND	0.0568		mg/Kg-dry	43:34	09/08/2023 8:31 PM	R167131
SS: 4-Bromofluorobenzone	45.5					200,000	14107131
	111	79-122		%Rec	43,34	09/08/2023 8:31 PM	R167131
SS: Dibromofluoromethane	82.3	63-129		%Rec	43.34	09/08/2023 8:31 PM	R167131
SS: Toluene-d8	99.4	79-119		%Rec	43.34	09/08/2023 8:31 PM	
SEMIVOLATILE ORGANICS, BY GCMS :	SIM	. Method:	EPA-8270C-Re	v 3, Dec-96	75.2	Analyst BM	R167131
According to						and the same	
Acenaphthene	ND	0.00746		mg/Kg-dry	1	09/12/2023 10:01 AM	nonna
Acenaphthylene	ND	0.0120		mg/Kg-dry	1	D9/12/2023 10:01 AM	92222
Anthracene	ND	0.0107		mg/Kg-dry	1	09/12/2023 10:01 AM	92222
Benzo(a)anthracene	ND	0.0103		mg/Kg-dry	1	09/12/2023 10:01 AM	92222
Benzo(a)pyrene	ND	0.00751		mg/Kg-dry	3	09/12/2023 10:01 AM	92222
Benzo(b)fluoranthene	ND	0.00936		mg/Kg-dry	1	09/12/2023 10:01 AM	92222
Benzo(g,h,i)perylena	ND	0.00644		mg/Kg-dry	1	09/12/2023 10:01 AM	92222
Benzo(k)fluoranthene	ND	0.00987		mg/Kg-dry	1	09/12/2023 10:01 AM	92222
Chrysene	NO	0.0102		mg/Kg-dry	1	09/12/2023 10:01 AM	92222
Dibenzo(a,h)anthracene	ND	0.00682		mg/Kg-dry	4	09/12/2023 10:01 AM	92222
Fluoranthene	ND	0.0172		mg/Kg-dry	1	09/12/2023 10:01 AM	92222
Fluorene	ND	0.0125		~ ~ .		09/12/2023 10:01 AM	92222
Indeno(1,2,3-cd)pyrene	ND	0.00881		mg/Kg-dry	1	09/12/2023 10:01 AM	92222
Naphthalene	0.165	0.0230		mg/Kg-dry	1	09/12/2023 10:01 AM	92222
Phenanthrene	ND	0.0204		mg/Kg-dry	1	09/12/2023 10:01 AM	92222
Pyrene	ND	0.0260		mg/Kg-dry	1	09/12/2023 10:01 AM	92222
Internal Quality Control Compounds	1115	0.0200		mg/Kg-dry	1	09/12/2023 10:01 AM	92222
SS: 2 Fluorobiphenyl	83.6	56-123		and a second			
SS: 4-Terphenyl-d14	107	44-136		%Rec	1	09/12/2023 10:01 AM	92222
SS: Nitrobenzene-d5	84.8	62-129		%Rec	1	09/12/2023 10:01 AM	92222
	04,0	02-129		%Rec	1	09/12/2023 10:01 AM	92222
PERCENT MOISTURE		Method: /	STM-D2216-Re	v 2005		Analyst: KC	
Percent Moisture	24	1.0	c	wt%	. 1	09/11/2023 9:41 AM	R167127

Page # of 14



Suburban Laboratories, Inc.

1950 S. Batayia Ave., Suite 159, Geneva B, 66134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank Trust

Report Date: September 15, 2023

Workorder: 2309516

Client Sample ID: SB19A

Lab ID: 23095 [6-003

Date Received: 09/08/2023 9:52 AM

Matrix: SOIL

Collection Date: 09/05/2023 3:50 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch 10
VOLATILE ORGANIC COMPOUNDS		Method	EPA-8280B-R	ev 2, Dec-96	-	Analyst: RVVM	
Benzene	NO	2					
Elhylbenzene	ND	0.0135		mg/Kg-dry	42.51	09/08/2023 10:38 PM	R187131
m,p-Xylene	ND	0.0539		mg/Kg-dry	42.51	09/08/2023 10:38 PM	R167131
Methyl lert bulyl ether	ND	0.108		mg/Kg-dry	42,51	09/08/2023 10:38 PM	R167131
o-Xylene	ND	0.0539		mg/Kg-dry	42.51	09/08/2023 10:38 PM	R167131
Total Xylenes	ND	0.0539		mg/Kg-dry	42:51	09/08/2023 10:38 PM	R167131
Toluene	NO	0.108		mg/Kg-dry	42.51	09/08/2023 10:38 PM	R167131
Internal Quality Control Compounds	ND	0.0539		mg/Kg-dry	42.51	09/08/2023 10:38 PM	R167131
SS: 4-Bromofluorobenzene	106	Q. 17					11.01.121
SS: Dibromofluoromethane	81.7	79-122		%Rec	42.51	09/08/2023 10:38 PM	R167131
SS: Toluene-d8	92.3	63-129		%Rec	42.51	09/08/2023 10:38 PM	R167131
		79-119		%Rec	42.51	09/08/2023 10:38 PM	R167131
SEMIVOLATILE ORGANICS, BY GCN	IS SIM	Mothod:	EPA 8270C-Re	v 3, Dec-98		Analyst: BM	(101101
Acenaphthene	0.898	0.00684		Exemple (15)			
Acenaphthylene	0.0297	0.00064		mg/Kg-dry	1	09/12/2023 11:39 AM	92222
Anthracene	0.249	0.00981		mg/Kg-dry	1	09/12/2023 11:39 AM	92222
Benzo(a)anthracene	0.114	0.00946		mg/Kg-dry	1	09/12/2023 11:39 AM	92222
Benzo(a)pyrene	0.0662			rng/kg-dry	1	09/12/2023 11:39 AM	92222
Benzo(b)fluoranthene	0.0255	0.00688		mg/Kg-dry	1	09/12/2023 11:39 AM	92222
Benzo(g.h,i)perylene	0.0492	0.00591		mg/Kg-dry	1	09/12/2023 11:39 AM	92222
Benzo(k)fluoranthene	0.0128			mg/Kg-dry	1	09/12/2023 11:39 AM	92222
Chrysene	0.0898	0,00904		mg/Kg-dry	1	09/12/2023 11:39 AM	92222
Dibenzo(e,h)anthracene	ND	0.00938		mg/Kg-dry	1	09/12/2023 11:39 AM	92222
Fluoranthene	0.148	0.00625		ing/Kg-dry	1	09/12/2023 11:39 AM	92222
Fluorene	0.448	0.0157		mg/Kg-dry	1	09/12/2023 11:39 AM	92222
Indeno(1,2.3-cd)pyrene	0.0164	0.0115		mg/Kg-dry	1	09/12/2023 11:39 AM	92222
Naphthalene	89.3	0.00808		mg/Kg-dry	1	09/12/2023 11:39 AM	92222
Phenanthrene		2.11	- 3	mg/Kg-dry	100	09/13/2023 12:12 AM	92222
Pyrene	0.822	0.0187		mg/Kg-dry	1	09/12/2023 11:39 AM	92222
Internal Quality Control Compounds	0.259	0.0239		mg/Kg-dry	1	09/12/2023 11:39 AM	92222
SS 2-Fluorobiphenyi	77.0	CD1-37					Vacas
SS: 4-Terphenyl-d14	77.9	56-123		%Rec	61	09/12/2023 11:39 AM	92222
SS; Nitrobenzene-d5	105	44-136		%Rec	0.1	09/12/2023 11:39 AM	92222
	85.8	62-129		%Rec	1	09/12/2023 11:39 AM	92222
ERCENT MOISTURE		Method: A	STM-D2216-Re	v 2005		Analyst KC	25556
Percent Moisture	21	1.0	c	wt%	1	09/11/2023 9:41 AM	R167127.



Suburban Laboratories, Inc.

1980 S. Banavia Ave., Sane 180. Geneva, R. 50134 17081 544-326c.

Laboratory Results

Client ID: CWM Company, Inc.

Project Name: Marine Bank Trust

Report Date: September 15, 2023

Workorder: 2309516

Client Sample ID: SB19B

Lab ID: 2309516-004

Date Received: 09/08/2023 9:52 AM

Matrix: SOIL

Collection Date: 09/05/2023 3:50 PM

Parameter	Result	Report Limit	Qual	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method	EPA-8260B R	ev 2, Dec-96		Analyst: RWM	
	- X					Paristy St. IS VVIII	
Benzene	ND	0.0133		mg/Kg-dry	41.9	09/08/2023 11:03 PM	Starrow
Ethyllienzene	ND	0.0533		mg/Kg-dry	41.9	09/08/2023 11:03 PM	R167131
m.p.Xylene	ND	0.107		mg/Kg-dry	41.5	09/08/2023 11:03 PM	R167131
Methyl tert-butyl ether	NO	0.0533		mg/Kg-dry	41.8	09/08/2023 11:03 PM	R167131
o-Xylene	ND	0.0533		mg/Kg-dry	41.9	09/08/2023 11:03 PM	R167131
Total Xylenes	NO	0,107		mg/Kg-dry	41.9	09/08/2023 11:03 PM	R167131
Toluerie	NO	0.0533		mg/Kg-dry	41.9	09/08/2023 11:03 PM	R167131
Internal Quality Control Compounds				mg/rsg-dry	41.9	09/08/2023 11:03 PM	R167131
SS: 4-Bromofluorobenzene	97.4	79-122		%Rec		water Court Court	
SS: Dibromofluoromethane	81.5	63-129		%Rec	41.9	09/08/2023 11:03 PM	R167131
SS: Toluene-d8	93.9	79-119			41.9	09/08/2023 11:03 PM	R167131
CCMMO ATEL TRANSPORT				%Rec	41.9	09/08/2023 11:03 PM	R167131
SEMIVOLATILE ORGANICS, BY GCMS S	SIM	Method:	EPA-8270C-R	9V 3. Dec-98		Analyst BM	
Acenaphthene	1.33	0.00727		mg/Kg-dry	1	menikulasi oo oo o	
Acenaphlinylene	0.0269	0.0117				09/12/2023 12:12 PM	92222
Anthracene	0.241	0.0104		mg/Kg-dry	1	09/12/2023 12:12 PM	92222
Benzo(a)anthracene	0.136	0.0101		mg/Kg-dry	1	09/12/2023 12:12 PM	92222
Benzo(a)pyrene	0.0781	0.00732		mg/Kg dry	1	09/12/2023 12:12 PM	92222
Benzo(b)fluoranthene	0.0286	0.00912		mg/Kg-dry	1	09/12/2023 12:12 PM	92222
Banzo(g,h,i)perylene	0.0580	0.00628		mg/Kg-dry	1	09/12/2023 12:12 PM	92222
Benzo(k)fluoranthene	0.0144			mg/Kg-dry	1	09/12/2023 12:12 PM	92222
Chrysene	0.0794	0 00962		mg/Kg-dry	1	09/12/2023 12:12 PM	92222
Dihenzo(a,h)anthracene	ND	0.00997		mg/Kg-dry	1	09/12/2023 12:12 PM	92222
Fluoranthene	0.148	0.00665		mg/Kg-dry	1	09/12/2023 12:12 PM	92222
Fluorene	0.462	0.0167		mg/Kg dry	1	09/12/2023 12:12 PM	92222
Indeno(1,2.3-cd)pyrene	0.0174	0.0122		rng/Kg-dry	1	09/12/2023 12:12 PM	92222
Naphthalene		0.00859		mg/Kg-dry	1	09/12/2023 12:12 PM	92222
Phenanthrene	116	2,25		mg/Kg-dry	100	09/13/2023 12:44 AM	92222
Pyrene	0.939	0.0199		mg/Kg-dry	91	09/12/2023 12:12 PM	92222
Internal Quality Control Compounds	0.284	0.0264		mg/Kg-dry	1	09/12/2023 12:12 PM	92222
SS: 2-Fluorobiphenyl	22.2					See See See See See See	SEEE
SS: 4-Terphenyl-d14	77.0	56-123		%Rec	1	09/12/2023 12:12 PM	92222
The state of the s	107	44-136		%Rec	1	09/12/2023 12:12 PM	92222
SS: Nilrobenzene-d5	82.9	62-129		%Rec	-1	09/12/2023 12:12 PM	92222
PERCENT MOISTURE		Method: A	ASTM D2216-R	ev 2005		Analyst: KC	36666
Percent Moisture	21	1.0	131	cub.			
The state of the s		110	C	wt%	1	09/11/2023 9:41 AM	R167127

Created: 9/15/2023 1:20:21 PM

Page 6 of 14



Suburban Laboratories, Inc.

1750 S. Baiavia Ave., State 150. Geneva, R. 60134 (708) 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank Trust

Report Date: September 15, 2023

Workorder: 2309516

Client Sample ID: SB20A

Lab (D: 2309516-005

Date Received; 09/08/2023 9:52 AM

Matrix: SOIL

Collection Date: 09/05/2023 4:05 PM

Parameter	Result	Report	0	1000	Dilution		
And the second s			Qual,	Units	ractor	Date Analyzed	Batch II
VOLATILE ORGANIC COMPOUNDS		Method	EPA-8260B-R	v 2, Dec-96		Analyst: RWM	
d and the second	100 -					WINNE KAM	
Benzene	0.0941	0.0133		mg/Kg-dry	42	00/00/0000	
Ethylbenzene	0.0568	0.0533		mg/Kg-dry	42	09/08/2023 8:57 PM	R167131
m.p-Xylene	0.186	0.107		mg/Kg-dry	42	09/08/2023 8:57 PM	R167131
Methyl tert-butyl ether	ND	0.0533		mg/Kg-dry		09/08/2023 8:57 PM	R187131
o-Xylene	ND	0.0533		mg/Kg-dry	42	09/06/2023 8:57 PM	R167131
Total Xylenes	0.186	0.107			42	09/08/2023 8:57 PM	R167131
Toluene	ND	0.0533		mg/Kg-dry	42	09/08/2023 8.57 PM	R167131
Internal Quality Control Compounds		0.0000		mg/Kg-dry	42	09/08/2023 8:57 PM	R167131
SS: 4-Bromofluorobenzene	3.13	79-122		%Rec	40	SERVICE SALES	
SS: Dibromolfuoromethane	83.1	63-129		%Rec	42	09/08/2023 8:57 PM	R167131
SS: Toluene-d8	101	79-119			42	09/08/2023 8:57 PM	R167131
SEMBOO ATU E ORBANIOS DI ATTO				%Rec	42	09/08/2023 8:57 PM	R167131
SEMIVOLATILE ORGANICS, BY GCMS S	IIM.	Method:	EPA-8270C-Re	√ 3Dec-9€		Analyst. BM	
Acenaphthene	0.0157	0.00681		8			
Acenaphthylene	ND	0.0110		mg/Kg-dry	1	09/12/2023 12:46 PM	92222
Anthracene	0.0107			mg/Kg-dry	1	09/12/2023 12:46 PM	92222
Benzo(a)anthracene	0.0219	0.00977		mg/Kg-dry	1	09/12/2023 12:46 PM	92222
Benzo(a)pyrene	0.0303	0.00943		mg/Kg-dry	1	09/12/2023 12:45 PM	92222
Benzo(b)fluoraninene	0.0105	0.00686		mg/Kg-dry	1	09/12/2023 12:48 PM	92222
Benzo(g,h,i)perylene	0.0457	0.00855		mg/Kg-dry	1	09/12/2023 12:46 PM	92222
Benzo(k)fluoranthene	ND	0.00589		mg/Kg-dry	1	09/12/2023 12:46 PM	92222
Chrysene		0.00901		mg/Kg-dry	1	09/12/2023 12:46 PM	92222
Dibenzo(a,h)anthracene	0.0172	0.00936		mg/Kg-dry	1	09/12/2023 12:46 PM	92222
Fluoranthene	ND	0.00623	4,0	mg/Kg-dry	1	09/12/2023 12:46 PM	92222
Fluorene	ND	0.0157		mg/Kg-dry	t- 1	09/12/2023 12:46 PM	92222
Indeno(1,2,3-crl)pyrene	0.0248	0.0114		mg/Kg-dry	1	09/12/2023 12:46 PM	92222
Naphthalene	0.0122	0.00805	- 1	mg/Kg-dry	Y	09/12/2023 12:46 PM	92222
Phenanthrene	0,733	0.0210	- 3	ng/Kg-dry	1	09/12/2023 12:46 PM	
The second secon	0.0555	0.0187		ng/Kg-dry	1	09/12/2023 12:48 PM	92222
Pyrene	0.205	0.0238		ng/Kg-dry	1	09/12/2023 12:46 PM	92222
Internal Quality Control Compounds						1	92222
SS: 2-Fluorobiphenyl	81.2	56-123		%Rec	. 1	09/12/2023 12:46 PM	books
SS 4-Terphenyl-d14	103	44-136		%Rec	1	09/12/2023 12:46 PM	92222
SS: Nitrobenzene-d5	87.6	62-129		%Rec	i	09/12/2023 12:46 PM	92222
PERCENT MOISTURE		Method: A	STM-02216-Re	v 2005		Analysi, Ko	92222
Percent Moisture	21	4.0					
THE STATE OF THE S	21	1.0	Ć	W!%	1	09/11/2023 9:41 AM	R187127



Suburban Laboratories, Inc.

1970 S. Batayia Ave. Suite 150, Concent IL 00124 (708) 514-3160

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank Trust

Report Date: September 15, 2023

Workorder; 2309516

Client Sample ID: SB20B

Lab ID: 2309516-006

Date Received: 09/08/2023 9:52 AM

Matrix: SOIL

Collection Date: 09/05/2023 4:05 PM

22.7777.2777.4344.5		Jan San Market	712-71111	Collection	n Date: 09	7/05/2023 4:05 PM	
Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch 11
VOLATILE ORGANIC COMPOUNDS		Method	: EPA-8260B-R	ev 2. Dec-96	1100-00	Analyst: RWM	
Benzene	0.0994	0.0130		mg/Kg-dry	42.74	00/00/0000 - 12/5	
Ethylbenzene	0.0632	0.0520		mg/Kg-dry	42.74	09/08/2023 9:22 PM	R167131
m.p-Xylene	ND	0.104		mg/Kg-dry	42.74	09/08/2023 9:22 PM	R167131
Methyl tert-butyl ether	ND:	0.0520		mg/Kg-dry	42.74	09/08/2023 9:22 PM	R167131
o-Xylene	ND	0.0520		mg/Kg-diy	42.74	09/08/2023 9:22 PM	R167131
Total Xylenes	ND	0.104		mg/Kg-dry	42.74	09/08/2023 9:22 PM	R167131
Toluene	ND	0.0520		mg/Kg-dry	42.74	09/08/2023 9:22 PM	R167131
Internal Quality Control Compounds		Village		mg/mg-my	42.74	09/08/2023 9:22 PM	R167131
SS: 4-Bromofluorobenzene	112	79-122		%Rec	10.41	on long hand	
SS: Oibremofluoromethane	81.4	63-129		%Rec	42,74	09/08/2023 9/22 PM	R167131
SS: Toluene-d8	99.8	79-119			42.74	09/08/2023 9:22 PM	R167131
		78-118		%Rec	42.74	09/08/2023 9:22 PM	R167131
SEMIVOLATILE ORGANICS, BY GCMS S	SIM	Methods	EPA-8270C-Re	y 3, Dec-96		Analyst: BM	
Acenaphthena	ND	0.00687		mg/Kg-dry	1	09/12/2023 1:19 PM	GEWY
Acenaphthylene	ND	0.0110		mg/Kg-dry	1		92222
Anthracene	ND	0.00985		mg/Kg-dry	1	09/12/2023 1:19 PM	92222
Benzo(a)anthracono	ND	0.00950		mg/Kg-dry	1	09/12/2023 1:19 PM	92222
Benzo(a)pyřene	NO	0.00691		mg/Kg-dry	1	09/12/2023 1:19 PM	92222
Benzo(b)fluoranthene	ND	0.00862		mg/Kg-dry		09/12/2023 1:19 PM	92222
Berizo(g,h,i)perylene	0.00815	0.00593		mg/Kg-dry	1	09/12/2023 1:19 PM	92222
Benzo(k)fluoranthene	ND	0.00908		mg/Kg-dry	1	09/12/2023 1:19 PM	92222
Chrysene	NO	0.00942				09/12/2023 1 19 PM	92222
Dibenzo(a,h)anthracene	ND	0.00628		mg/Kg-dry	,	09/12/2023 1:19 PM	92222
Fluoranthene	ND	0.0158		mg/Kg-dry	1	09/12/2023 1:19 PM	92222
Fluorene	ND	0.0115		mg/Kg-dry	1	09/12/2023 1:19 PM	82222
Indeno(1,2,3-cd)pyrene	ND	0.00811		mg/Kg-dry		09/12/2023 1:19 PM	92222
Naphthalene	1.50	0.0212		mg/Kg-dry	31.1	09/12/2023 1:19 PM	92222
Phenanthrene	ND	0.0272		mg/Kg-dry	1	09/12/2023 1:19 PM	92222
Pyrene	ND	0.0240		rng/Kg-dry	1	09/12/2023 1:19 PM	92222
Internal Quality Control Compounds	110	0.0240		mg/Kg-dry	1	09/12/2023 1:19 PM	92222
SS: 2-Fluorobiphenyl	84.7	56-123		%Rec	4.1	TANKE STORY	
SS: 4-Terphenyl-d14	109	44-136		1,000	1	09/12/2023 1:19 PM	92222
SS: Nitrobenzene-d5	87.9	62-129		%Rec	1	09/12/2023 1:19 PM	92222
	01.12			%Rec	1	09/12/2023 1:19 PM	92222
PERCENT MOISTURE		Method:	ASTM-D2216-R	ev 2005		Analyst: KC	
Percent Moisture	18	1.0	C	wt%	1	09/11/2023 9:41 AM	R167127



Suburban Laboratories, Inc.

1950 S. Batavia Ave., Sinte 150, Geneva, Jl. 60 (34-1793) 544432nd.

Laboratory Results

Client ID:	CWM Company, Inc.
Project Name:	Marine Bank Trust

Report Date: September 15, 2023

Workorder: 2309516

Client Sample ID: SB21C

Lab ID: 2309516-007

Date Received: 09/08/2023 9:52 AM

Matrix: SOIL

Collection Date: 09/05/2023 12:00 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method	EPA-8260B-R	ev 2. Dec-95		Analysi, RWM	/W-344-212
Benzene Ellylbenzene m.p-Xylene Methyl tert-butyl ethor o-Xylene Total Xylenes Toluene Internal Quality Control Compounds SS: 4-Bromofluorobenzene SS: Dibromofluoromethane SS: Toluene-d8	D.0875 ND ND ND ND ND ND ND 112 81.1	0.0127 0.0507 0.101 0.0507 0.0507 0.10† 0.0507 79-122 63-129 79-119		mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry %Rec %Rec %Rec	40.24 40.24 40.24 40.24 40.24 40.24 40.24	09/08/2023 9:47 PM 09/08/2023 9:47 PM 09/08/2023 9:47 PM 09/08/2023 9:47 PM 09/08/2023 9:47 PM 09/08/2023 9:47 PM 09/08/2023 9:47 PM 09/08/2023 9:47 PM	R167131 R167131 R167131 R167131 R167131 R167131 R167131 R167131
PERCENT MOISTURE		Method:	ASTM-D2216-F		40.24	09/08/2023 9:47 PM Analyst: KC	R167131
Percent Moisture Client Sample ID: SB21D	-21	1,0	c	wt%	latrix: SC	09/11/2023 9:41 AM	R167127

Lab ID: 2309516-008

Date Received: 09/08/2023 9:52 AM

Collection Date: 09/05/2023 12:00 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch II
VOLATILE ORGANIC COMPOUNDS		Method	: EPA-82608-Re	v 2, Dec-96		Analyst: RWM	
Benzene Elhylbenzene m.p-Xylene Methyl tert-butyl ether o Xylene Total Xylenes Toluene	0.0702 ND ND ND ND	0.0124 0.0494 0.0989 0.0494 0.0494 0.0989		mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry	39.89 39.89 39.89 39.89 39.89 39.89	09/08/2023 10:12 PM 09/08/2023 10:12 PM 09/08/2023 10:12 PM 09/08/2023 10:12 PM 09/08/2023 10:12 PM 09/08/2023 10:12 PM 09/08/2023 10:12 PM	R167131 R167131 R167131 R167131 R167131 R167131
Internal Quality Control Compounds SS: 4-Bromofluorobenzene SS: Dibromofluoromethane SS: Toluene-d8 PERCENT MOISTURE	82.0 101	79-122 63-129 79-119 Method:	ASTM-D2216-R	%Rec %Rec %Rec ev 2005	39.89 39.89 39.89	09/08/2023 10:12 PM 09/08/2023 10:12 PM 09/08/2023 10:12 PM Analyst: KC	R167131 R167131 R167131
Percent Moisture	19	1.0	Ċ	wt%	1	09/11/2023 9:41 AM	R167127



Suburban Laboratories, Inc.

1950 S. Bantwid Ave . Suite 150, Geneva, 12 60124 17081 544-3260

Laboratory Results

Client ID: CWM Company, Inc

Project Name: Marine Bank Trust

Report Date: September 15, 2023

Workorder: 2309516

Client Sample ID: PTACO

Lab ID: 2309516-009

Date Received: 09/08/2023 9:52 AM

Matrix: SOIL.

Collection Date: 09/05/2023 3:20 PM

					at the p	1031 EUE 3:20 PIVI	
Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch II
DRY BULK DENSITY		Method	ASTM-D2937-F	Rev 2004		Analysi: KC	LIVE SALVE
Soil Buik Density (Pb)	1.640	n	Ġ.	g/um ^a	1	09/12/2023 8:21 AM	R157169
ORGANIC MATTER & ORGANIC C	ARBON CONTENT	Method	. ASTM-D2974-F	Rev 2000		Analysi: KC	1/10/108
FOM-Organic Matter (@ 440 (0.0186	0.00100	c	g/g	4	09/12/2023 8:21 AM	404-07
FOC-Organic Carbon (0.58 Fa	0.0108	0.00100	Ċ	9/9	i	09/12/2023 8:21 AM	R167167
PARTICLE-SIZE ANALYSIS OF SC	DILS	Method	ASTM-D422-Re	1963		Analysti KC	N IOT IN
% Soil in Suspension	COMPLETED	0	n.		9.	09/11/2023 5:41 PM	weeks in
Diameter of Soil Particles	COMPLETED	0	C		-	09/11/2023 5:41 PM	R167166
Hydrometer	COMPLETED	0	Ô.		1	09/11/2023 5:41 PM	R187166
Particle Density	COMPLETED	0	c		1	09/11/2023 5:41 PM	R167166
Sleve Analysis	COMPLETED	0	c.		1	09/11/2023 5:41 PM	R167168
SOIL PARTICLE DENSITY		Method:	ASTM-D054-Re	v 2000		Analyst: KC	.,,,.
Soil Particle Density (Ps)	2.657	0	c	g/cm²	1	09/12/2023 8:21 AM	R167168
PERCENT MOISTURE		Method:	ASTM-D2216-R	ev 2005		Analyst KC	110/108
Percent Moisture	20	1.0	C	wt%	1	09/12/2023 8:21 AM	R167167



Suburban Laboratories, Inc. 1930 S. Gaussia Ave. Saite 150, Geneva, R. 60134 15081 544-3260

PREP DATES REPORT

Client:

CWM Company, Inc

Project: Marine Bank Trust

Report Date: September 15, 2023

Lab Order: 2309516

Sample ID	Collection Date	Batch ID	Prep Test Name - TCL	P Date Prep Date
2309516-001A	9/5/2023 3:40:00 PM	92353	CLOSED SYSTEM P&T VOC Prep	9/15/2023
309516-001B		92222	SOLID PREP MICROWAVE: BNA	9/11/2023
309516-002A		92353	CLOSED SYSTEM P&T VOC	9/15/2023
309516-0028		92222	SOLID PREP MICROWAVE: BNA	9/11/2023
309516-003A	9/5/2023 3:50:00 PM	92353	CLOSED SYSTEM P&T VOC Prep	9/15/2023
309516-003B		92222	SOLID PREP MICROWAVE: BNA	9/11/2023
309516-004A		92353	CLOSED SYSTEM P&T VOC Prep	9/15/2023
309516-0048		92222	SOLID PREP MICROWAVE: BNA	9/11/2023
309515-005A	9/5/2023 4:05:00 PM	92353	CLOSED SYSTEM P&T VOC Prep	9/15/2023
309516-005B		92222	SOLID PREP MICROWAVE.	9/11/2023
309516-006A		92353	CLOSED SYSTEM P&T VOC Prep	9/15/2023
309516-0068		92222	SOLID PREP MICROWAVE: BNA	9/11/2023
09516-007A	9/5/2023	92353	CLOSED SYSTEM P&T VOC Prep	9/15/2023
309516-008A		92353	CLOSED SYSTEM P&T VOC Prep.	9/15/2023



Suburban Laboratories, Inc.

1930 S. Barayta Ave., Sunc 150, Geneva, II, 60134 (708) 544-3260

Qualifier Definitions

WO#: 2309516 Date: 9/15/2023

Qualifiers:

*/x	Value exceeds Maximum Contaminant Level
В	Analyte detected in the associated Method Blank
C	Value is below Minimum Concentration Limit
c	Analyte not in TNI/NELAC scope of accreditation
E)	Estimated, detected above quantitation range
G	Refer to case narrative page for specific comments
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limit (QL)
N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit
P	Present
Q	Accreditation is not available from Wisconsin
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
T	Analyte detected in sample trip blank
V	EPA requires field analysis/filtration. Lab analysis would be considered past hold time.
WJ	This sample was ran at the Wisconsin Laboratory, WI DNR Certified #246179890

SUBURBAN LAB	ORATORIES, Inc.		CUAINI	ΩΕ ΩΠΩΤΩΕ		
1950 S. Batavia Ave. Ste. 150	Geneva, IL 60134	Tel. 708.544.3260	login@suburban	OF CUSTOR		
Company Name CW3M Compan	7	JURNAROUND TIME R			w.suburbanlabs.com HOD REQUESTED	
Curripany Address	1- 10-4	Normal	RUSH*	Enter an "X" in bo	x below for request	Page of
City	re West	Must be pre-approved and surcha		Trans.		PO#
Office Mobile	E 62701	this box indicates your approv.	al of surcharges.	1 12	1, 13	Report Normal Special*
Office 77 - 522 - 900 Mobile 1 - 522 - 900		Date and Time Report Needed:		88 t	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Additional charges apply for QC reports and
	. com	Specify Regulatory Program:	None/Info Only		ALTSI DEN	raw data. Specify in commans section. Shipping Method
Marin Bark Tru	st-Contrall	MLUST SRP	SDWA	1478 8 605,4	7 7	
Project Manager (Report to)		503 Sludge NPDES	MWRDGC			LAB USE ONLY
Sample Collector(s) GTR / JKK		Disposal CCDD	OTHER -	X 20 20 20 20 20 20 20 20 20 20 20 20 20	19 B	Work Order # 2309516
SAMPLE IDENTIFICATION			Specify Below	35 July 2015	32	Temperature of Received Samples C
(Use 1 line per container type)	COLLECTION DATE TIME M	GRABI CONTAINERS		M O M	3 17	Received within 24 No Yes
1 5B18A		C = 7/ 1/0.1/	PRESERVATIVE			Lab Comment LAE #
2 SB/3B	15/63 1540	5 6 1/2 700/402	1	XX		<u></u>
$-\frac{39139}{}$	17 1/270	/ - 		XX		
38197	1/250			XX		
4 SB/9B	1550			XX		
5 SB20A	1605	72270		XX		
6 SB20B	1605			XX		
JL SBZIC				X		
8 5221D				$\frac{1}{\lambda}$		
9 PTACO	1520	13/3 40ML	MeOH/ST.R		7 /	
10		1 1/3 402	/ST-R	+NNN	/ 	
11		-/		<u> </u>		
12	1 2 4	1 Tobe			Y Y I I	
	S & SPECIAL INSTRUCTIONS:	-				
Waste Water (WW), Surface Water(SW),						T DOOR
Ground Water (GW), Solid Waste (WA), Studge (U), Wipe (P) CONTAINER; 20z,				•		
4oz, 6oz, 40m! Vial, 500ml, Liter (L), Tube,			•			14 to 14 to 14 to 14 to 14 to 14 to 14 to 14 to 14 to 14 to 14 to 14 to 14 to 14 to 14 to 14 to 14 to 14 to 14
Glass (G). Plastic (P) PRESERVATIVE: H₂SO₄, HCI, HNO₃, Methanol (M±OH)						
NaOH, Sodium Bisulfate [NaB], NaThio						AC AND ACT OF THE ACT
Relinquished By Date 7/3/7	2 Relinquished By	Date 33. Relinquis	hed By	Date	4. Relinquished By	Date
econed By Time		Time Received By		Time	Received By	Time
HIS FORM MUST BE FILLED OUT COMPLETELY		17.75] Ice		☐ Ice

SUBURBAN LAE	ORATORIES Inc		CUAIN	OF CHOTOF	W DEAADE	
1950 S. Batavia Ave. Ste. 150	Geneva, IL 60134	Tel. 708.544.	3260 login@suburba	OF CUSTOE		
Company Name CW3M Compan			TIME REQUESTED		W.suburbaniabs.com THOD REQUESTED	
Company Address		Nomal	RUSH*	Enter an "X" in bo	ox below for request	Page of
Store Store	tre West			1 1 1 1		PO# 5
Doming Tield II	E 62704	this box Indicates yo	nd surcharges apply. Checking ur approval of surcharges.			Report Type Normal Special
217-566-8001	rax	Date and Time Report Needed:		1 1 1 1 2	575	Additional charges apply for QC reports and
Email Address Coon C Clon Company	, com	Specify Regulatory Progra	nt None/Info Only	178 E 178 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	DEN	raw data. Specify in comments section Shipping Method
Project ID/Location Marin Bark Tru			RP SDWA	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 3	
Project Manager (Report to)		503 Sludge N	PDES MWRDGC	1751000		LAB USE ONLY
Sample Collector(s) GTR / JKK			TOD THER	XT38 PXA PVA PVA PVA PVA PVA PVA PVA PVA PVA PV	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Work Order # 23 // 95 / 6 Temperature of \$55 -
SAMPLE IDENTIFICATION			Specify Below	180 B		Received Samples S
(Use 1 line per container type)	COLLECTION DATE TIME		INERS			Received within 24 No Yes
1 5B18A	9/-/	7/ 1/0-	& TYPE PRESERVATIVE			Lab Comment LAB#
2 S818B	1 /5/0	S 6 1/2 100	1407 NODET -	XX		A Section 1
3 SB184	- - 			XX		LI-OK
28107	/\$50 /550			XX		
<u> </u>	1			XX		
5 5320A	1605			XX		
6 <u>5320B</u>	1/605			XX		
7 SBZIC			7 1.1/	V 1		
8 53ZID				X		
9 PTACO	1570	3/3 40	ML Meoff/STIR	1 1 1 1	74 /	
10	1 1, 1	1 1 1	2	 	\sqrt{N}	
11		11 11 / 1 1 - 1 1		L A A A	AIAI	
12		U I I To	>	N/V/V	- Y - V - I - I	
MATRIX: Drinking Water (DW), Soil (S), COMMENT	S & SPECIAL INSTRUCTIONS	<u> </u>				
Waste Water (WW), Surface Water(SW), Ground Water (GW), Solid Waste (WA),						
Sludge (U), Wipe (P) CONTAINER: 20%						rite de la companya d
40z, 80z, 40ml Vlal, 500ml, Liter (L), Tube, Glass (G), Plastic (P) PRESERVATIVE:						Arcova
H ₂ SO ₄ , HCI, HNO ₅ , Methanol (MeOH)						
NaOH, Sodium Bisulfate (NaB), NaThio	2.2.					
1/2/1/2 9/4/7	2 Relinquished By	9/6/23	3. Relinquished By	Cate .	4. Relinquished By	Date
Time	Received By	Time Fr. 7	Received By	Time	Received By	Time
HIS FORM MUST BE FILLED OUT COMPLETELY	BY THE SAMPLE DOLL ECTO	De de superior and on	Child Copyright	lce -		☐ lce



SUBURBAN LABORATORIES, Inc. 1950 S Batavia Ave Ste. 150 Geneva, Illinois 60134 Tel. (708) 544-3260 · Toll Free (800) 783-LABS · Fax (708) 544-8587 www.suburbanlabs.com



SLI Work Order: 2309516 SLI Sample ID: 2309516-009A

Analysis Date: 9/13/2023

Standard Test Method for Particle-Size Analysis of Soil

		Percent Retained
Sieve (U.S.)	Sieve Opening (mm)	2309516-009A
1-1/2"	38.1	0.00%
! "	25.4	0.00%
0.75"	19.1	0.0%
No. 4	4.75	0.0%
No. 10	2.00	0.1%
No. 20	0.85	0.2%
No. 40	0.420	1.0%
No. 60	0.250	1.7%
No. 140	0.106	6.0%
No. 200	0.075	5.5%

		Percent Present
Particle(s)	Particle Size (mm)	2309516-009A
Gravel	>4.75	0.0%
Sand, Course	4.74-2.0	0.1%
Sand, Medium	1.99-0.420	1.2%
Sand, Fine	0.419-0.075	13.2%
Silt	0.074-0.005	74.1%
Clay	<0.005-0.001	3.5%
Colloids	< 0.001	7.9%

Analyst:	Kara Coffel	62 148	Digitally signed by Kara Collet Date: 2023/09 14 10:33:08 -05'00'	Date:	9/14/2023
Reviewed:	The 744			Date	



SUBURBAN LABORATORIES, Inc. 1950 S Batavia Ave Ste. 150 Geneva, Illinois 60134 Tel. (708) 544-3260 Toll Free (800) 783-LABS · Fax (708) 544-8587 www.suburbanlabs.com



SLI Work Order: 2309516 SLI Sample ID: 2309516-009A

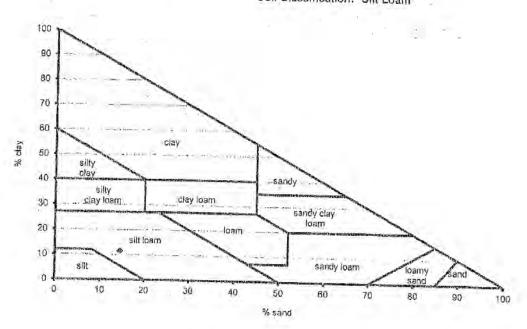
% SAND

14.5

% CLAY

Analysis Date: 9/13/2023

%SILT 11.4 74.10 Soil Classification: Silt Loam



Textural triangle by A. Gerakis and B. Baer, 26 July 2000.



Illinois Environmental Protection Agency

Bureau of Land • 1021 N. Grand Avenue E. • P.O. Box 19276 • Springfield • Illinois • 62794-9278

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 Physical Soil Analysis

A.	Site Identification		
	IEMA Incident # (6- or 8-digit):	The state of the s	IEPA LPC# (10-digit): 1670255005
	Site Name: Marine Bank Trus	Arr	
	Site Address (Not a P.O. Box):	9520 State Rt, 29	
	City: Cantrall	County: Sangamon	ZIP Code: 62625
	Leaking UST Technical File		
В.	Sample Collector		
	I certify that:		
	Samples were collected using	ng ASTM procedures.	GTIE
	2. Chain-of-custody procedure	es were followed in the field,	(Initial) (Initial)
	3. Sample Integrity was mainte	ained by proper preservation.	GTC (Initial)
	4. All samples were properly la	beled.	ETR (Initiat)
C.	Laboratory Representativ	е	(masay
	I certify that:		
	1. Proper chain-of-custody pro	cedures were followed as documer	
	2. Sample integrity was mainta	ined by proper preservation.	(lnitial)
	All samples were properly is	beled,	(Initial)
	4. Quality assurance/quality co	ntrol procedures were established	(Initial) and carried out.
	P. The test and the decision of		(Initial)
	The test methods specified in particle size analysis.	n the ASTM Standard D 422-63 or	
	barrias area arrentante.		(Initial)

IL 532 2437 LPC 542 Rev. March 2006 Laboratory Certification for Physical Soil Analysis
Page 1 of 2

6.	The test methods specified in ASTM Standards E moisture content.	2216-90 or D 4643-87 were used for soil	
	moisture content.		(Initial)
7.	The test methods specified in ASTM Standards D classification.	2487-90 or D 2488-90 were used for soil	
	old Sandallon.		(Initial)
8.	The test methods specified in ASTM Standards D conductivity.	5084-90 or D 4525-90 were used for hydraulic	(Initial)
			1
Sig	natures		
	reby affirm that all information contained in this for a aware that there are significant penalties for subn risonment for knowing violations.	m is true and accurate to the best of my knowledge nitting false information, including the possibility of	and belief. fine and
Sar	nple Collector	Laboratory Representative	
Nan	ne G. Tod Rowe	Name	
Title	Scalar Project Manger	Title	
Con	npany CWM Company, Inc.	Company Suburban Laboratories, Inc.	
Add	ress 701 S. Grand Ave. W.	Address 1950 S. Batavia Ave.	
City	Springfield	City Geneva	
State	e <u>IL</u>	State IL	
Zip (Code 62704	Zip Code 60134	
Phor	ne 217-522-8001	Phone 708-544-3260	
Sign	ature // dl/L	Signature	
Date	9-5-2023	Date	

D.



Illinois Environmental Protection Agency

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

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Leaking Underground Storage Tank Program Laboratory Certification for Chemical Analysis

A.	Site Identification		
	IEMA Incident # (6- or 8-digit):		IEPA LPC# (10-digit): 1670255005
	Site Name: Marine Bank Trust		
	Site Address (Not a P.O. Box):	9520 State Rt. 29	
	City: Cantrall,	County: Sangamon	ZIP Code: 62625
	Leaking UST Technical File		
В.	Sample Collector		
	I certify that:		
	Appropriate sampling equip	ment/methods were utilized to obtain	
	2. Chain-of-custody procedure	s were followed in the field.	(Initial)
	Sample integrity was maintaged	lined by proper preservation.	(Initial)
	4. All samples were properly la	beled,	(Initial)
c.	Laboratory Representative	е	(Initial)
	I certify that:		0.0
	1. Proper chain-of-custody prod	cedures were followed as document	ted on the chain-of-custody forms
	2. Sample integrity was maintain	ined by proper preservation.	(Initial)
	3. All samples were properly lat	beled,	(Military)
	4. Quality assurance/quality cor	ntrol procedures were established a	
	5. Sample holding times were n	ot exceeded.	(Initial)

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

(Initial)

- 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).



D. Signatures

I hereby affirm that all information contained in this form is true and accurate to the best of my knowledge and belief, imprisonment for knowing violations,

Sample Collector	Laboratory Representative
Name 610 dRowce	Name DAN GALFHER
Title Senier Project Manager	Title Strior P.M
Company CVM Company, Inc.	Company Suburban Laboratories, Inc.
Address 701 South Grand Ave. West	Address 1950 S. Batavia Ave., Suite 150
City Springfield	City Geneva
State L	State IL
Zíp Code 62704	Zip Code 60134
Phone 217-522-8001	Phone 708-544-3260
Signature / Cl	Signature DOCSO
Date9-5-23	Date 9-22-23



http://www.teklabinc.com/

100226

E-10374

05002

05003

9978

Illinois

Kansas

Louisiana

Louisiana,

Oklaboma

WorkOrder: 23090750

September 21, 2023

Carol Rowe CW3M Co. Inc. 701 W. South Grand Ave. Springfield, IL 62704 TEL: (217) 522-8001

RE: Marine Bank Trust

FAX: (217) 522-8009

Dear Carol Rowe:

TEKLAB, INC received 2 samples on 9/12/2023 2:10:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Marvin L. Darling Project Manager

(618)344-1004 ex 41

mdarling@teklabine.com

Marin & Darling I



Report Contents

http://www.teklabinc.com/

Client: CW3M Co. Inc. Work Order: 23090750

Client Project: Marine Bank Trust Report Date: 21-Sep-23

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Quality Control Results	9
Receiving Check List	14
Chain of Custody	Appended



Definitions

http://www.teklabinc.com/

Client: CW3M Co. Inc.

Work Order: 23090750

Client Project: Marine Bank Trust

Report Date: 21-Sep-23

Abbr Definition

- Analytes on report marked with an asterisk are not NELAP accredited
- CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL
 - DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
 - DNI Did not ignite
- DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of
- ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
- IDPH II. Dept. of Public Health
- LCS Laboratory control sample is a sample matrix, free from the analytes of interest spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and blas or to assess the performance of all or a portion of the measurement
- LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved last mathod. The acceptable recovery range is listed in the QC Package (provided upon request).
- MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses
- MDL. "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that like measured concentration is distinguishable from method blank results."
- MS. Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package.
- MSD. Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- NC Data is not acceptable for compliance purposes
- ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

- PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine
- The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sampledilution. The reporting limit may not be less than the MDL.
- RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package
- SPK. The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality
- Surr Surrogates are compounds which are similar to the analytes of interest in chamical composition and behavior in the analytical process, but which are
- TIC Tentatively identified compound. Analytes tentatively identified in the sample by using a library scarch. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "F.T"
- TNTC Too numerous to count (> 200 CFU)



Definitions

http://www.teklabinc.com/

Client: CW3M Co. Inc.

Client Project: Marine Bank Trust

- Unknown hydrocarbon

Work Order: 23090750

Report Date: 21-Sep-23

Qualifiers

B - Analyle detected in associated Method Blank

E - Value above quantitation range

I - Associated Internal standard was outside method criteria

M - Manual Integration used to determine area response

R - RPD outside accepted recovery limits

T - TIC(Tentatively identified compound)

H - Holding times exceeded

C'- RL shown is a Client Requested Quantitation Limit

J - Analyte detected below quantitation limits

NO - Not Detected at the Reporting Limit S - Spike Recovery outside recovery limits

X - Value exceeds Maximum Contaminant Level



Case Narrative

http://www.teklabinc.com/

Work Order: 23090750

Report Date: 21-Sep-23

Client: CW3M Co. Inc. Client Project: Marine Bank Trust

Cooler Receipt Temp: N/A °C

TO15 analysis was performed at the North Bluff Road facility in Collinsville Illinois, Agency Interest No. 166578.

Locations

Collinsville		Springlield	
5445 Horseshoe Lake Road Collinsville, IL 62234-7425 (618) 344-1004	Address Phone	3920 Pintail Dr Springfield, IL 62711-9415 (217) 698-1004	
(613) 344-1005 jhriley@teklabinc.com Collinsville Air	Fax Email	(217) 698-1005 KKlostermann@teklubinc.com Chicago	
5445 Horseshoe Lake Road Collinsville, IL 62234-7425	Address	1319 Butterfield Rd. Downers Grove, IL 60515	
(618) 344-1005 (618) 344-1005 EHurley@teklabine.com	Phone Fax Email	(630) 324-6855 arenner@teklabine.com	
	5445 Horseshoe Lake Road Collinsville, IL 62234-7425 (618) 344-1004 (613) 344-1005 jhriley@teklabinc.com Collinsville Air 5445 Horseshoe Lake Road Collinsville, IL 62234-7425 (618) 344-1004 (618) 344-1005	5445 Horseshoe Lake Road Collinsville, IL 62234-7425 (618) 344-1004 Phone (618) 344-1005 Fex Jirriley@teklabine.com Binail Collinsville Air 5445 Horseshoe Lake Road Collinsville, IL 62234-7425 (618) 344-1004 Phone (618) 344-1005 Pax	Springfield

Page 5 of 14



Accreditations

http://www.teklabinc.com/

Client: CW3M Co. Inc.

Work Order: 23090750

Client Project: Marine Bank Trust

Report Date: 21-Sep-23

State	Dept	Cert#	NELAP	Exp Date	Lab	
Illinois	IEPA	100226	NELAP	1/31/2024	Collinsville	
Kunsus	KDHE	E-10374	NELAP	4/30/2024	Collinaville	
Louisiana	LDEQ	05002	NELAP	6/30/2024	Cultinsville	
Louisiana	LDEQ	05003	NELAP	6/30/2024	Collinsville	
Oklahoma	ODEQ	9973	NELAP	8/31/2024	Collinsville	
Arkansas	ADEQ	88-0966		3/14/2024	Collinsville	
Minois	IDPH	17584		5/31/2025	Collinsville	
lowa	IDNR	430		6/1/2024	Collinsville	
Kentucky	UST	0073		1/31/2024	Collinsville	
Missouri	MDNR	00930		5/31/2023	Collinsville	
Missouri	MDNR	930		1/31/2025	Collinsville	



Laboratory Results

http://www.teklabinc.com/

Client: CW3M Co. Inc.

Work Order: 23090750

Client Project: Marine Bank Trust

Report Date: 21-Sep-23

Lab ID: 23090750-001

Client Sample ID: SGV-1

Matrix: AIR CANISTER

Collection Date: 09/05/2023 16:01

Analyses	Certification	RL Qual	Result	Units	DF	Date Analyzed	Batch
O-15, VOLATILE ORGANIC	COMPOUNDS, BY	GC/MS	,		Car at word of the last of the	the state of the s	Selective Consumer language
Benzene	NELAP	1.00	1,72	-ppbv	2	09/19/2023 15:40	212208
MW 78.11184		0.0032	0.0055	mg/m3		141 1914059 10140	212200
Ethylbenzene	NELAP	1.00	1.54	ppbv	· 2 ···	09/19/2023 15:40	212200
MW 106.165		0.0043	0.0067	mg/m3		10.70	212200
Isopropanol	NELAP	5.00	5.19	ppbv	2	09/19/2023 15:40	212208
MW 60.09502		0.0123	0.0128	mg/m3			212200
m,p-Xylene	NELAP	2.00	4.95	ppbv	2	09/19/2023 15:40	212208
MW 106.17		0.0087	0.0215	mg/m3			212200
Methyl tert-butyl ether	NELAP	0.20	0.26	ppbv	2	09/19/2023 15:40	212208
MW 88.14818		0.0007	0.0009	mg/m3			212200
Naphihalene	NELAP	0.90	0.99	ppbv	2	09/19/2023 15:40	212208
MW 128.17052		0.0047	0.0052	mg/m3			212200
o-Xylene	NELAP	1.00	1.90	ррьу	2	09/19/2023 15:40	212208
MW 106.165		0.0043	0.0083	mg/m3			
Toluene	NELAP	1.00	4.72	ppbv	2	09/19/2023 15:40	212208
MW 92.13842		0.0038	0.0178	mg/m3			LIZZOO
Xylenes, Total	NELAP	3.00	6.86	ppbv	2	09/19/2023 15:40	212208
MW 106.165		0.013	0.0298	mg/m3			-12200
Surr: 4-Bromofluorobenzene	*	46.9-145	91.8	%REC	2	09/19/2023 15:40	212208
MW 174.9983632		46.9-145	91.8	%REC			212200



Laboratory Results

http://www.teklabinc.com/

Report Date: 21-Sep-23

Work Order: 23090750

Client: CW3M Co. Inc.

Client Project: Marine Bank Trust

Lab ID: 23090750-002 Matrix: AIR CANISTER

Client Sample ID: SGV-Z

Collection	Date:	09/05	/2023	17:05
Concein	Date.	03/05	12023	17:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	-
TO-15, VOLATILE ORGA	NIC COMPOUNDS, BY	GC/MS	00	Ambier Silve Consumbled		THE PERSON NAMED IN	Date Analyzed	Batch
Benzene ,	NELAP	1250		48100	ppbv	2500	200	
MW 78.11184 .		3.9934		153.6679	25.74	2500	09/18/2023 15:52	212153
Ethylbenzene	NELAP	250	-	521	mg/m3 ppbv	500	8045 (100777)	
MW 108,165		1.0855		2.2622		500	09/14/2023 22:25	212038
Isopropanol	NELAP	1500		ND	mg/m3	500		
MW 60,09502		3.6868		ND	ppby	500	09/14/2023 22:25	212038
m,p-Xylene	NELAP	500	_	633	mg/m3 ppbv	Egg.		
MW 106.17		2.1712		2,7487		500	09/14/2023 22:25	212038
Methyl tert-butyl ether	NELAP	250		ND	mg/m3	roo'		
MW 88.14818		0.9013		ND	ppbv	500	09/14/2023 22:25	212038
Naphthelene	NELAP	250		ND	mg/m3			
MW 128,17062		1.3105			ppbv	500	09/14/2023 22:25	212038
o-Xylone	NELAP	100		ND	mg/m3	700		
MW 106 165		0.4342			ppbv	500	09/14/2023 22:25	212038
Toluene	NELAP	250		ND 638	mg/m3			
MW 92,13842		0.9421			ppbv	500	09/14/2023 22:25	212038
Xylenes, Total	NELAP	600	· · · · · · · · · · · · · · · · · · ·	2.4043	mg/m3		1	
MW 106.165		2.6053		633	ppby	500	09/14/2023 22:25	212038
Surr: 4-Bromofluorobenzer	ne *	48.9-145		2.7486	mg/m3			
MW 174.9983632		46.9-145		92.0	%REC	500	09/14/2023 22:25	212038
levated reporting limit due to	high lovels of target and no	adarrent analylas		92.0	%REC			



Quality Control Results

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COLUMN CO	PROPRIOR CO. BANCO		*************	AND DESCRIPTION OF THE PERSON NAMED IN	Annual bearings and a	COMMUNICATION COMMUNICATION	-	http://w	ww.tekla	binc.com/	
Client: CW3M Co. In								Work Orde	r: 23090	750	
Client Project: Marine Bank	Trust						-	Report Date: 21-Sep-23			
TO-15, VOLATILE ORGANIC	COMPOU	INDS.	BY GC/MS								
Batch 212038 SampType: SampID MBLK-U230914-1	MBLK		Units ppb								
Analyses	Cert	RL.	Oual	Result	Snika	SPK Ref Val	- MARC	Louis Lieuti	H.	Date	
Benzone	Ów.	0.50		ND	Spike	- Contract val	MINES	Low Limit	High Limit	Analyzed	
Ethylbenzene		0.50		ND	171 100					09/14/2023	
Isopropanol		3.00		ND						09/14/2023	
m,p-Xylene		1.00		ND			Ser.			09/14/2023	
Methyl tert-butyl ether		0.50		ND						09/14/2023	
Naphthalene	(3)	2.50		ND						09/14/2023	
o-Xylene		0.50		ND						09/14/2023	
Toluene -	-	0.50		ND						09/14/2023	
Xylenes, Total	. **	1.50		ND						09/14/2023	
Surr: 4-Bromofluorobenzene	-	1124		8,37	10.00		020			09/14/2023	
				0.07	10.00		83.7	46.9	145	09/14/2023	
Batch 212038 SampType: sampID: LCSD-U230914-1	LCSD		Units ppbv				-	RPO Lin	n(t: 30		
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Va	. was	Date Analyzed	
Benzene	1	0,50		10.2	10.00	0	101.7	10.26			
Ethylbenzene	*	0.50		11.3	10.00	D	113.1	11.44	0.83	09/14/2023	
sopropanol		3.00		E.26	10.00	0	82.6	8.246	1.12	09/14/2023	
n,p-Xylene	4	1.00		21.7	20.00	0	108.4	21.97	0.20	09/14/2023	
Methyl tert-butyl ether	•	0.50		10.4	10,00	0	103.8	10.45	1.39	09/14/2023	
laphthalene		2.50		9.43	10.00	0	94.3		0.63	09/14/2023	
-Xylene		0.50		10.5	10.00	o o	105.2	9.348	0.88	09/14/2023	
oluene	4.	0.50		10.8	10.00	0	107.6	10.65	1.27	09/14/2023	
(ylenes, Total		1.50		32.2	30.00	O		10.82	0.58	09/14/2023	
Surr: 4-Bromofluorobenzene				9.19	10,00	U.	107.3	32.63	1.35	-09/14/2023	
				V. 1.3	10,00		91.9			09/14/2023	



Quality Control Results

http://www.teklabinc.com/

Client: CW3M Co. Inc.

Client; CW3M Co. It								Work Orde	r: 230907	750
Client Project: Marine Bank	Trust							Report Dat	e: 21-Sep	-23
TO-15, VOLATILE ORGANIC	COMPOL	JNDS, E	Y GC/MS							
Baich 212038 SampType:	LCS		Units ppby							
SamplD: LCS-U230914-1	- 3		17						-10	Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
Benzene		0.50		10.3	10.00	0	102.6	73.8	122	09/14/2023
Ethylbenzene		0.50		11.4	10.00	0	114.4	76.2	133	09/14/2023
Isopropend	W-	3.00		8.25	10.00	0	82.5	52.3	129	09/14/2023
m,p-Xylene	1.00	1.00		22.0	20.00	0	109.9	74.8	129	09/14/2023
Methyl fert-butyl ether		0.50		10.4	10.00	0	104.5	70,3	128	09/14/2023
Naphthalene		2.50		9.35	10.00	0	93.5	50.8	135	09/14/2023
o-Xylene		0.50		10.7	10.00	0	106.5	74.2	130	09/14/2023
Toluene		0.50		10.8	10.00	0	108,2	76.5	127	09/14/2023
Xylanes, Total		1.50		32.6	30.00	0	9,601	76.1	129	
Sur: 4-Bromofluorobenzene	*			9.12	10.00		91.2	84.2	115	09/14/2023
Batch 212153 SampType: SampID: MBLK-U230918-1	MBLK	- 1/	Units ppbv					-		
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Beizene	*	0.50		ND			THE STATE OF THE S		- mg/r sarrin	09/18/2023
Elhylbenzone		0.50		ND						
scpropanol		3.00		ND						09/18/2023
m.p. Xylene		1.00		ND						09/18/2023
Methyl tert-butyl ether		0,50		NO						09/18/2023
Naphthalene		2.50		ND						09/18/2023
- Xylene .		0.50		ND						09/18/2023
Toluene	20	0.50		ND						09/18/2023
Kylenes, Total		1.50		ND			-5-	8	e4 8 1 6 4	09/18/2023
Surr. 4-Bramofluorobenzene				8.33	10.00		02.1	10.0	42 45-1	09/18/2023
					111.00		83.3	46.9	145	09/18/2023



Quality Control Results

http://www.teklabinc.com/

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Client: CW3M Co. I Client Project: Marine Bank								Work Orde Report Da		
TO-15, VOLATILE ORGANIC	COMPO	JNDS,	BY GC/MS		Min-					
Batch 212153 SampType: SampID: LCSD-U230918-1			Units ppb					RPD Li	mit: 30	
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	COD Date	to aroma	Date
Benzene ·	178.60	0.50		10.1	10.00	0	100.8	RPD Ref V		Analyzed
Ethylbenzene		0.50		11.1	10.00	0	111.3	10.20	1,34	09/18/2023
sopropanol		3.00		8.18	10.00	0	81.8	11.24	0.94	09/18/2023
m,p-Xylene"	161	1.00		21.2	20.00	0		8.153	0.30	09/18/2023
Melhyl tert-butyl ether		0.50		10.3	10.00	0	105.8	21.58	1.88	09/18/2023
Naphthálene	4	2.50		9.08	10.00	o o	103.1	10.30	0.07	09/18/2023
o-Xylene	50	0.50		10.2	10.00	0	90.8	6.966	1.21	09/18/2023
Toluene	4.	0.50		10.6	10.00		102.0	10.36	1.52	09/18/2023
Xylenes, Total	*	1.50		31.4		0	105.9	10,71	1.11	09/18/2023
Surr: 4-Bromofluorobenzene		11.55		9.03	30,00	0	104.5	31.92	1.76	09/18/2023
				9.03	10.00		90.3			09/18/2023
Batch 212153 SampType: SampID: LCS-U230918-1	LCS		Units ppbv				-			
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Senzene		0.50		10.2	10.00	0	102.0	73.8	122	09/18/2023
Ethylbenzene		0.50		11.2	10.00	0	112.4	76.2	133	09/18/2023
Isopropanol		3.00		8,15	10.00	0	81.5	52.3	129	0.27
m,p-Xylene		1.00		21.6	20.00	0	107 B	74.8	129	09/18/2023
Methyl tert-butyl ether	31	0.50		10.3	10.00	0	103.0	70.3		09/18/2023
Naphthalene	*	2.50		8.97	10.00	Ò	89.7	50.6	126	09/18/2023
o-Xylene		0.50		10.4	10.00	0	103.6	74.2	135	09/18/2023
Toluene		0.50		10.7	10,00	0	107.1		130	09/18/2023
Xylenes, Total		1.50		31.9	30.00	0	106.4	76.5	127	09/18/2023
Surr: 4-Bromofluombenzene				9.07	10.00			75.1	129	09/18/2023
					10.00		90.7	84.2	115	09/18/2022



Quality Control Results

http://www.teklabinc.com/

Client: CW3M Co. Inc.

Chent: Cyv3M Co. I	100							Work Orde	r; 230907	50
Client Project: Marine Bank	Trust							Report Dat	e: 21-Sep	-23
TO-15, VOLATILE ORGANIC	COMPOL	JNDS, E	Y GC/MS							-
Batch 212208 SampType: SampIO: MBLK-U230919-1	MBLK		Units ppby							
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzone	4	0.50		ND					- GO LININ	09/19/2023
Ethylbenzene		0.50		ND						09/19/2023
Isopropanol		3.00		ND						09/19/2023
m,p-Xylene		1.00		ND.						09/19/2023
Methyl tert-butyl ether		0.50		ND						09/19/2023
Naphthalene	•	2.50		ND				1.7		09/19/2023
o-Xylene		0.50		ND						
Toluene		0.50		ND						09/19/2023
Xylenes; Total		1.50		ND						09/19/2023
Surr 4-Bromofluorobenzene				8.26	10,00		82.6	46.9	145	09/19/2023
Batch 212208 SampType: SampID: LCSD-U230919-1	LCSD		Units ppby					RPO LIF	nit. 30	
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref V	al %RPD	Date Analyzed
Benzene	*	0.50		10.1	10.00	0	101.2	10.09	0.31	09/19/2023
Ethylbenzene		0.50		11.2	10.00	0	112.3	11.23	0.04	09/19/2023
Isopropanol	4.	3.00		8.09	10.00	0	80.9	7.996	1.17	09/19/2023
rn,p-Xylene	3.	1.00		21.5	20.00	0	107.3	21.39	0.33	09/19/2023
Methyl tert-butyl ether	*	0.50		10.3	10.00	0	103.3	10.16	1.62	
Naphihalens	*	2.50		9.28	10.00	0	92.8	9.170	1.16	09/19/2023
o-Xylene		0.50		10.4	10.00	0	103.9	10.38	0.12	09/19/2023
Toluene	100	0.50		10.7	10.00	0	106.7	10.63	0.38	09/19/2023
Xylenes, Total		1.50		31,9	30.00	0	106.2	31.77	0.26	09/19/2023
Surr: 4-Bromofluorobenzene				8.99	10.00	*	89.9	W. 1. 1.	0.20	09/19/2023
							00.0			09/19/2023



Quality Control Results

http://www.teklabinc.com/

09/19/2023

09/19/2023

Client: CW3M Co. Inc. Client Project: Marine Bank Trust

Xylenes, Total

Surr, 4-Bromoffuorobenzene

Work Order: 23090750

Report Date: 21-Sep-23

TO-15, VOLATILE ORGANIC	COMPOU	NDS. B	Y GC/MS							
Batch 212208 SampType: SampID: LGS-U230919-1			Units ppb							
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.50		10.1	10.00	0	100.9	73.8	122	09/19/2023
Ethylberzene	*	0.50		11.2	10.00	0	112.3	76.2	133	09/19/2023
Isopropano/		3.00		8.00	10.00	C	80.0	52.3	129	09/19/2023
m,p-Xylane	2.60	1.00		21.4	20.00	0	107.0	74.8	129	09/19/2023
Methyl tert-butyl either	4	0.50		10.2	10.00	0	101.6	70.3	126	09/19/2023
Naphthalene		2.50		9.17	10.00	0	91.7	50.6	135	09/19/2023
a-Xylene		0.50		10.4	10.00	0	103.8	74.2	130	09/19/2023
Toluene		0.50		10.6	10.00	0	106.3	76.5	127	09/19/2023
And the control of th									121	09/19/2023

30.00

10.00

105.9

90.4

75.1

84.2

129

115

31.8

9.04

1.50

The state of the s	for promoved the second second	- Ante International	htt	p://www.teklabinc.co
Client: CW3M Co. Inc.			Work	Order: 23090750
lient Project: Marine Bank Trust	AND AND ASSESSMENT OF THE PARTY		Repo	1 Date: 21-Sep-23
Carrier: Paul Reeves		Received By: M8	P	7
Completed by:	,			1 1
on: OMON SIGCIL		Reviewed by: On:	Elizabeth a H	res
12-Sep-23 Amber Dilallo		12-Sen-23 .	V	0
Abloct Dilailo		325.25 36.	Elizabeth A. Hurley	
With the state of			-	The same of the sa
Pages to follow: Chain of custody 1	Extra pages inc	cluded 2		
Shipping container/cooler in good condition?	Yes 🗸	No. 🗀	Mars	
Type of thermal preservation?	None 🔽	tce 🗍	Not Present	Temp °C N/A
Chain of custody present?	Yes 🗸	No 🗆	. Blue ice L_	Dry Ice
Chain of custody signed when relinquished and received?	Yes 🗸	No [7		
Chain of custody agrees with sample labels?	Yes 🔽	No 🖂		
Samples In proper container/bottle?	Yes 🔽	- No []		
Sample containers intact?	Yes 🗹	No 🗍		
Sufficient sample volume for indicated test?	Yes 🔽	No []		
All samples received within holding time?	Yes 🗸	No [7]		
Reported field parameters measured:	Field	Lab 🔲	NA 🗸	
Container/Temp Blank temperature in compliance?	Yes 🗸	No []	146 02	
When thermal preservation is required, samples are complian 0.1°C - 6.0°C, or when samples are received on ice the same	t with a tempera	alure belween		
Vater - at least one vial per sample has zero headspace?	Yes 🗆		av tale to the	
Valer - TOX containers have zero headspace?	-	No L	No VOA vials	
Valer - pH acceptable upon receipt?	Yes 🔲	No [No TOX containers 🗹	
IPDES/CWA TCN interferences checked/treated in the field?	Yes L.	No 🖂	NA 🗹	
below it the meneral cost checked/dealed in the held?	Yes 🗌	No .	NA 🗹	
Any No responses m	holletab ad teu	holow se se de de s	000	

Samples were transferred to Collinsville Air Lab on 9/13/23 at 0947, - etiopkins - 9/18/2023 2:28:04 PM

5445 Horseshoe Lak	,											Lab Work Or	der#		J10	15	<u> </u>
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Sampler:			IKK	<u></u>	-i	Comm				医有感性 新新生物病医结核	onlce/[Blue <u>√</u> No ice	MX)A-	Temp.	C		
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Lab Use Only		Ì								3423			- 8e-c			11 - 2 N	
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			Carnster	Cormones			Vacuum	<u> </u>	· .	Vacuum	S S	S Pleas	8			8	
Laboratory ID	Sample I	dentification	Number	Number	Date	Time	(in. Hġ)	Date	Time	(in Ho)	2	TO-15 sele BTEX MBTE Naphthalene Isopropanol	TO-13	T0.4	PM10/	Metals	Other
230907502	56V	- }	9020	259	9/5/23			9/5/23	<u> </u>	6	X 	1-100/210 F	 -	 -	Δ.	-≥	-의
i noz	56V-	<u>ン</u>	9025	250	9/5/23			9/5/23			X	X					
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Are these samples kn	rown to be	hazardous?	Yes 🔄	X No					our or rang	· ·	1 y	·· 162		f	10		
Special QC Requirem	ents/Speci	ial Instructions/	Comments:	· ili ili ili ili	11.5	100	. * .::	•	;*								
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The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

White & Yellow Copy - Labora bry Pink Copy - Sampler



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 occused 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

Leaking Underground Storage Tank Program Laboratory Certification for Chemical Analysis

	IEMA Incident # (5- or 8-digit): Site Name: Marine Bank Trust		IEPA LPC# (10-digit): 1670255	005
	Site Address (Not a P.O. Box):			
	City: Cantrall.	County: Sangamon	71D C-J- 20005	
	Leaking UST Technical File	- Carry Surgamon	ZIP Code: 62625	
В,	Sample Collector			4.
	certify that:			
	1. Appropriate sampling equip	ment/methods were utilized to obtain	representative samples,	JW.
	2. Chain-of-custody procedure	s were followed in the field.		(Initial)
	3. Sample integrity was mainte	ained by proper preservation.		(Initial) (Initial)
	4. All samples were properly la	beled.		JKK
C.	Laboratory Representativ	e		(Initial)
	certify that: 23090750			
	Proper chain-of-custody pro	cedures were followed as documented	I on the chain-of-custody forms	Multi-
	2. Sample integrity was mainta	ined by proper preservation.		MEDIT
	 All samples were properly la 	baled.		m LPIT
	4. Quality assurance/quality co	ntrol procedures were established and	d carried out.	MLOD-
	5. Sample holding times were r	not exceeded.		MLDIT

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

	6.	SW-846 Analytical Laboratory Procedure (USEPA) methods were seen as 1	
			mupp (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).	_m_n
D.	Sig	matures	
	D.	7.	SW-846 Analytical Laboratory Procedure (USEPA) methods were used for the analyses. An accredited lab performed quantitative analysis using test methods identified in 25 LAC.

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 Marvin L. Darling II Title Project Manager Company Suburban Laboratories, Inc. Tekhol, Inc. Address 1950-8 Batavia Ave., Soite 750 5745 Manachhee City Geneva Lilliquiville Lake Rel State III Zip Code 60134 Ind.34 Phone 708-544-3260 (LIE) 344 1004 Signature Marvin J. Darling 17 Date 9/21/23
Name Tobs Kueton	
Title Preject Mgc	
Company CWM Company, Inc.	
Address 701 South Grand Ave. West	
City Springfield	
State IL	
Zip Code 62704	
Phone 217-522-8001	
Signature Adm Kritim	
Date 1/5/21	

Laboratory Certification for Chemical Analysis
Page 2 of 2

APPENDIX H

PLA DOCUMENTATION

CORRECTIVE ACTION PLAN AND BUDGET AMENDMENT

MARINE BANK TRUST # 53-0051 CANTRALL, ILLINOIS

Project Labor Agreement Form.

The purpose of this form is to provide information with regard to Project Labor Agreement criteria.

Project Labor Agreements potentially apply under the following circumstances: (a) approval is requested of a Corrective Action Plan; (b) the plan involves field work activities; (c) the field work activities would be performed by a subcontractor (as opposed to the consultant); (d) an approval letter would be issued by the Illinois EPA on or after July 25, 2013; and (e) reimbursement would be sought from the Illinois Undorground Storage Tank Fund. Project Labor Agreement determinations are required by Section 57.7(c)(3) of the Illinois Environmental Protection Act.

The field work activities which are proposed in the Corrective Action Plan (Advancement of soil borings and collection of soil samples) may potentially be subject to the use of a Project Labor Agreement.

Please answer the following questions either "yes" or "no", and please discuss the basis for each answer.

Will the use of a Project Labor Agreement advance the state's interest in reducing project costs paid from the illinois. Underground Storage Tank Fund?

☐ Yes 図 No

Discussion:

The original intent of PLAs was for large scale construction projects. These projects would include multiple trades working together or in conjunction with one another and could make disputes between parties a potential liability as the project might last a few years. However, LUST sites differ in that one to two trades are typically necessary to complete the work. The "teams" that work together on hazardous sites, such as LUST sites, train together and develop cohesive relationships. Only a handful of workers are necessary to conduct the work; jurisdictional disputes are non-existent as the parties work in harmony.

Further, the number of trades on this work is minimal as well; the work will be done by separate contractors without a mix of union and non-unionized work force. The site's small project will easily more than double the cost of the project with a PLA regulared, contradicting the idea to minimize site remediation cost.

 Will the use of a Project Labor Agreement advance the state's interest in efficiency, timeliness, and quality of project work, based upon the overall size, scope, complexity, and remediation objectives of the project?

☐ Yes 图 No

Discussion:

PLAs were first used in Illinois for large scale, large cost, and long duration highway development projects. All LUST work, no matter size or scope, is deemed small in comparative size to work normally prescribed a PLA. Collective bargaining agreements are unneeded as the number of facets required for any work does not reach a quantity warranting these agreements.

Specifically, the Marine Bank Trust # 53-0051 site in Cantrall, Illinois requires a minimal amount of work to be completed during the corrective action stage. Concrete placement will comprise the work for the entirety of this proposed plan. This should take no more than a day.

Does the project present safety concerns, including but not limited to the threat to human health and the environment?
 Will the use of a Project Labor Agreement advance the state's Interest in promoting safety?

☐ Yes ☒ No

Discussion:

LUST sites do not typically involve working within roadways unless the Corrective Action is within rights-of-way, on ingress / egress creates roadway issues which is not commonplace. Specifically, the Marine Bank Trust # 53-0051 site in Cantrall, Illinois is located on a moderately traveled road. Drilling activities should take no more than a day and therefore the length of time that safety of the traveling public as an issue is null. As for safety, consultants co-train teams in OSHA HAZWOPER to ensure not only worker safety, but safety for those who may enter or be near the work environment.

	project work in accordance with the plan approved by the Illinois EPA?
	☐ Yes 図 No
	Discussion:
	The timetable for the work to be performed at the Marine Bank Trust # 53-0051 site is no more than a couple days; not exceeding or coming remotely close to 110 days in duration. On a scale of a day, labor force continuity and stability doe not arise as an issue to complete the project as it does not span the duration of collective bargaining agreements. Simple put, the scale of time and scope of work is so small that a labor agreement would not expire, causing workers to walk out of the job.
5.	Will the use of a Project Labor Agreement advance the state's interest in performance of the project work by a skilled labor force, thereby achieving the remediation objectives of the project?
	□ Yes ⊠ No
	Discussion;
	Attracting workers from a union hall for non-sequential days of work puts them at a disadvantage for the bulk of the time, and is not an enticing option to union workers. Simply put, small LUST projects are not going to attract the workforce that would conduct "efficient" and "safe" work. A PLA, then, does not guarantee skilled workers.
	Because of the small scope of work, the bidding process would significantly increase the cost of activities at the Marine Bank Trust # 53-0051 site in Cantrall, Illinois. This would only increase the hardship of the owner and solely be detrimental to the efficiency of the project, which is the opposite of the objective put in place to push the project along towards closure.
6.	Will the use of a Project Labor Agreement provide timely completion of the project work, thereby reducing the threat to human health and the environment that would result from delays in achieving the remediation objectives?
	□ Yes ⊠ No
	Discussion: With only its consultant and local contractors present at the Marine Bank Trust # 53-0051 site during the "construction event", which will last a day, there are not multiple trades with closely or paralleled functions to create a work stoppage. The work will be completed within a day for the placement of concrete,
7.	Will the use of a Project Labor Agreement advance the state's interest of advancing minority owned and women owned businesses and minority and female employment?
	☐ Yes ⊠ No
	Discussion:
	By applying a PLA to a project, the Agency may in fact directly negate one of its primary objectives, as stated to advance disadvantaged businesses. The Agency has provided no basis or discussion as to how the PLA will actually increase WBE participation. We believe that the opposite effect will occur.
	Furthermore, IEPA correspondence approving PLAs for various projects states that a "PLA will advance the State's interest of advancing minority-owned and women-owned business and minority and female employment." A PLA only requires that if a minority or woman employee or business is used for the project, then additional reports are required. In the competitive bidding process, it is unlikely that all bidders are female or minority; or it is far-fetched to think that all one-day construction projects with one to two workers will have either a female or minority represented in the workforce on site. There are no incantives to entice disadvantaged business participation.
	In this instance, the box should not be checked if there are no incentives to hire minority workers, for example, the apprenticeship program offers \$10.00/hour back to prime contractors when minority participation is required. Use of this screening criteria needs understood and not used loosely. If in fact any disadvantaged businesses are utilized under a PLA, their reporting costs are increased, increasing the project costs.

SCREENING CRITERIA

With the lack of detailed screening criteria from the IEPA for deciding which projects require the use of a PLA, CW³M has followed screening criteria that IDOT uses for government funded programs in their department as that State Agency follows the executive orders of Illinois Governors Pritzker, and President Biden. Attached at the end of this appendix is a copy of the IDOT PLA Determination screening criteria and it lists twelve seemingly ubiquitous standards used to determine the applicability of PLA for construction projects. It has been included for your reference but will be used herein as a systematic way to show how each criterion has been evaluated for applicability for 'yes/no' answers and whether or not the use of a PLA should be considered. CW³M recognizes that these standards may not be the same standards IEPA uses to determine the applicability of PLA for LUST sites, but IEPA correspondence issuing PLA for various sites appears to have very closely matched various IDOT screening criterion as determined in LUST Incidents 2002-0851, 2006-0366, 2009-1397, 2009-0202, 2009-0203, 2011-0859, 2012-0382, 2012-0695, 2013-0906, and 2013-1123.

The project is being awarded and administered by a governmentally funded program:

The "project" is privately contracted, a similar means as when a party secures legal counsel and other services. A contract is in place between a private company or citizen and a consultant or contractor who may also serve as a general contractor. That consultant will interface with governmental agencies on their behalf. They will submit claims for reimbursement after the completion of work, budgets and plan approval, and review of claims. The LUST Fund is a motor fuel tax collected by petroleum distributors, for reimbursement of LUST claims managed by the IEPA, so the answer to this question is "no". The IEPA administers the LUST Program to process claims and review technical plans and budgets not to award or administer the actual work done. As indicated on the PLA documents, the prime contractor is to secure the PLA. There is no "award" or "payment guarantee".

The project is being constructed using state or local funds.

The project is constructed using private funds, which ultimately may or may not be reimbursed with state funds. The current rates that the IEPA grants for LUST work have not been modified to reflect the recent changes regarding mandated payment of prevailing wages. That disport is placed on the owner/operator and their contractors. UST owners/operators collect sales tax into the LUST Fund for reimbursement of remediation work; thus, it is no longer a clear "yes" answer and the owner/operator pays

a deductible and is then reimbursed for "eligible" costs. The legislative intent of Public Act was for the IPCB to remedy rates to pay prevailing wages and rectify costs of PLAs and attorney fees.

The overall size, scope, sequencing, logistics, or other aspects of the project make it
particularly challenging to manage, and use of a PLA is expected to help assure that the
construction work is performed properly and efficiently under the circumstances.

As stated, PLAs were first used in Illinois for large scale, large cost, and long duration highway development projects. All LUST work, no matter size or scope, is deemed small in comparative size to work normally prescribed a PLA, therefore disqualifying it from any PLA consideration. Collective bargaining agreements are unneeded as the number of facets required for any work does not reach a quantity warranting these agreements.

Specifically, the Marine Bank Trust # 53-0051 site in Cantrall, Illinois requires a minimal amount of work to be completed during the corrective action stage. Installing an engineered barrier will comprise the entirety of this proposed plan. This can and will be done in a day.

4. The duration of construction activity on the project is expected to exceed one construction season (110 or more working days), or the nature of the project results in a heightened need for labor force continuity and stability over a substantial period of time.

The timetable for the work to be performed at the Marine Bank Trust # 53-0051 site is no more than a couple days; not exceeding or coming remotely close to 110 days in duration. On a scale of a day, labor force continuity and stability does not arise as an issue to complete the project as it does not span the duration of collective bargaining agreements. Simply put, the scale of time and scope of work is so small that a labor agreement would not expire, causing workers to walk out of the job.

 There is a firm construction completion date established for the project thereby increasing the adverse consequences of any work stoppage or other labor disruption.

It is on the discretion of the consultant as to how quickly a plan is implemented once it is approved. With the Agency having 120 days to approve, modify, or deny a plan, consultants cannot pre-plan or schedule the work until approved. Once approved, they

coordinate with owners/operators and any subcontractors necessary with weather contingencies. Therefore, adverse consequences of labor disruptions or work stoppage are non-existent on a job that lasts a few hours to a day for corrective action for actual remediation to complete. Many contractors can perform remediation services in-house or from a pool of reliable subcontractors, with easily adjustable start dates; however, it is fiscally advantageous for the consultant to complete the work as quickly as possible with fewer workers.

The norm on small projects like this is to solicit contractors who provide estimates as to how much the cost to complete each individual task after the contract is awarded. Because this process cannot be completed, prices will ultimately change and push the project into being "stuck" as the costs cannot be met.

6. The time required to complete the project is expected to extend beyond the expiration date of one or more existing collective bargaining agreements covering trades likely to be involved in the project, thereby increasing the likelihood of work stoppages or other labor disruptions during construction of the project.

With only its consultant and local contractors present at the Marine Bank Trust # 53-0051 site during the "construction event", which will last a day, there are not multiple trades with closely or paralleled functions to create a work stoppage. The time required to complete the project will in no way come close to extending beyond the expiration of any existing collective bargaining agreements covering any of the trades.

7. In the absence of a PLA, there is an increased likelihood of jurisdictional disputes among unions or of conflict between unionized and non-unionized workers on the project that could have a potentially material adverse effect on the time, cost, or quality of work performed on the project.

As stated, the original intent of PLAs was for large scale construction projects. These projects would include multiple trades working together or in conjunction with one another and could make disputes between parties a potential liability as the project might last a few years. However, LUST sites differ in that one to two trades are typically necessary to complete the work. The "teams" that work together on hazardous sites, such as LUST sites, train together and develop cohesive relationships. Only a handful of workers are necessary to conduct the work; jurisdictional disputes are non-existent as the parties work in harmony.

Further, the number of trades on this work is minimal as well; the work will be done by separate contractors without a mix of union and non-unionized work force.

The project presents specific safety concerns to the travelling public and a PLA will
ensure labor force continuity and stability, decreasing the length of the safety concern.

LUST sites do not typically involve roads unless the Corrective Action is within rights-of-way, on ingress / egress creates roadway issues which is not commonplace. Specifically, the Marine Bank Trust # 53-0051 site in Cantrall, Illinois is located on a moderately traveled road to one site, but the work will be conducted on the property. As stated, construction activities will take day and therefore the length of time that safety of the traveling public as an issue is null. As for safety, consultants co-train teams in OSHA HAZWOPER to ensure not only worker safety, but safety for those who may enter or be near the work environment.

 Use of the PLA is expected to result in improved access to skilled labor, improved efficiency, or improved safety performance on the project.

Attracting workers from a union hall for only a day to a partial day of work puts them at a disadvantage for the bulk of the time, and is not an enticing option to union workers. Simply put, small LUST projects are not going to attract the workforce that would conduct "efficient" and "safe" work. A PLA, then, does not guarantee skilled workers.

Because of the small scope of work, the bidding process would significantly increase the cost of activities at the Marine Bank Trust # 53-0051 site in Cantrall, Illinois. This would only increase the hardship of the owner and solely be detrimental to the efficiency of the project, which is the opposite of the objective put in place to push the project along towards closure.

 Use of the PLA on the project is not expected to have a material adverse effect on the competitive bidding process.

The use of a PLA on the project does have a material adverse effect on bidding, financing and completion of the project. The contract award process takes place long before the work or construction ever begins. As stated, budgets are approved or modified at the discretion of the IEPA Project Managers and pre-approved IEPA rates. Competitive bidding is an option when work cannot be performed at the Agency's approved rates.

The key factor here is financing. No owner can afford to pay cash for work that is bid on that they would pay double, wait months or even years to get paid for nominal handling charges, no payment guarantee (below what contractors outside of LUST get paid), and be responsible for the extra business costs of the PLA. They are not banks and NATLUST realized very quickly that having an approved budget meant nothing for security of payment, folded its tent, leaving owner/operators no other option than to pay or let contractors carry the burden. The legislative intent was to adjust the rates paid every day to the mandated prevailing wage rate and make the use of PLA's limited in scope.

11. Use of a PLA on the project is not expected to have an adverse material effect on the ability of the Department to achieve other Departmental goals, (e.g. utilization of disadvantaged business, utilization of Illinois domiciled businesses, development of competitive vendor alternatives over time, etc.).

By applying a PLA to a project, the Agency may in fact directly negate one of its primary objectives, as stated to advance disadvantaged businesses. The Agency has provided no basis or discussion as to how the PLA will actually increase WBE participation. We believe that the opposite effect will occur.

Furthermore, IEPA correspondence approving PLAs for various projects states that a "PLA will advance the State's interest of advancing minority-owned and women-owned business and minority and female employment". A PLA only requires that if a minority or woman employee or business is used for the project, then additional reports are required. In the competitive bidding process, it is unlikely that all bidders are female or minority; or it is far-fetched to think that all day construction projects with one to two workers will have either a female or minority represented in the workforce on site. There are no incentives to entice disadvantaged business participation.

In this instance, the box should not be checked if there are no incentives to hire minority workers, for example, the apprenticeship program offers \$10.00/hour back to prime contractors when minority participation is required. Use of this screening criteria needs understood and not used loosely. If in fact any disadvantaged businesses are utilized under a PLA, their reporting costs are increased, increasing the project costs.

- 12. There are other material considerations favoring or disfavoring use of a PLA on this project as follows:
 - The total cost for current corrective action field activities involving skilled labor totals an estimated \$3,992.88 for installing an engineered barrier, not warranting a PLA in any program.
 - The site's small project will easily increase the cost of the project with a PLA required, contradicting the idea to minimize site remediation cost.
 - No reason was given by the IEPA for the implementation of a PLA on what may
 and should be the final step to gain closure on site; this will only further delay the
 goal of the Agency: closing the project, which the client is eager to finish.
 - The common goal of the Agency and owner/operators is closure. A PLA on an
 extremely small plan will delay or indefinitely stall closure when closure is within
 the grasp of all parties involved.

Contract Number County

IDOT PROJECT LABOR AGREEMENT DETERMINATION

Re:			-		
Date:					
From:					
Paris i					
To:					

In accordance with Executive Order 2003-13 (Blagojevich), it is recommended that a project labor agreement (PLA) be utilized for the above-captioned Project. This recommendation is based on the considerations indicated below.

- 1) The Project is being awarded and administered by IDOT (i.e., not by another governmental agency).
- 2) The Project is being constructed using state or local funds only (i.e., no federal funds).
- 3) The overall size, scope, sequencing, logistics or other aspects of the Project make it particularly challenging to manage, and use of a PLA is expected to help assure that the construction work is performed properly and efficiently under the circumstances.
- 4) The duration of construction activity on the Project is expected to exceed one construction season (i.e., 110 or more working days), or the nature of the Project results in a heightened need for labor force continuity and stability over a substantial period of time.
- 5) There is a firm construction completion date established for the Project thereby increasing the adverse consequences of any work stoppage or other labor disruption.
- 6) The time required to complete the Project is expected to extend beyond the expiration date of one or more existing collective bargaining agreements covering trades likely to be involved in the Project, thereby increasing the likelihood of work stoppage(s) or other labor disruption(s) during construction of the Project.
- 7) In the absence of a PLA, there is an increased likelihood of jurisdictional disputes among unions or of conflict between unionized and non-unionized workers on the Project that could have a potentially material adverse effect on the time, cost, or quality of work performed on the Project.

County County

- 8) This project presents specific safety concerns to the traveling public and a PLA, will ensure labor force continuity and stability, decreasing the length of the safety concern.
- 9) Use of a PLA is expected to result in improved access to skilled labor, improved efficiency, or improved safety performance on the Project.
- 10) Use of a PLA on the Project is not expected to have a material adverse effect on the competitive bidding process.
- 11) Use of a PLA on the Project is not expected to have a material adverse effect on the ability of the Department to achieve other Departmental goals (e.g., utilization of disadvantaged businesses, utilization of Illinois domiciled businesses, development of competitive vendor alternatives over time, etc.).

12) There are other material cons Project as follows:	iderations favoring or disfavoring use of a PLA on this
	8

Based upon the identified considerations, we recommend that you approve use of a PLA on this Project. Upon your approval, the Department shall undertake to negotiate in good faith a PLA with the relevant labor organization(s), and shall include in all necessary bid specifications and other documents information regarding the actual or form of PLA that is binding upon all contractors and their employees.

Agreed:		
	(Division Chief)	(Date)
Agreed:		
	{Bureau of Design & Environment}	(Date)
Agreed:		
	{Regional Engineer}	(Date)
Approved:		
	Gary Hannig, Secretary	(Date)
FHWA conc	urrence in the PLA for the above mentioned contract,	
	District Advisory States	
200	Division Administrator FHWA	(Date)

OCC Form App. 12/01/03

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

Ann L. Schneider, Secretary

PROJECT LABOR AGREEMENTS





Revised 01/01/13

(1)

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STATE OF ILLINOIS PROJECT LABOR AGREEMENTS

- Definition of (Project Labor Agreement) A Project Labor Agreement is a comprehensive prehire collective bargaining agreement that is negotiated between a project's owner (a state for example) and an appropriate labor organization (an area or state building and construction trades council) which sets out the basic terms and work conditions for that particular project.
- Intent of a Project Labor Agreement A Project Labor Agreement's intent is to ensure the
 efficient, timely and most cost-effective completion of a construction project.
- General Provisions Contained in a Project Labor Agreement
 - A skilled and trained workforce is available through the craft's hiring halls.

Work schedules and general terms for labor are made uniform among the crafts.

- Monthly meetings established throughout the project with the trade unions and contractors to help coordinate manpower and settle disputes.
- Dispute resolution procedures are put into place addressing contractual and jurisdictional disputes.
- Ensures a timely completion of the project with no work stoppages.

Levels the playing field for potential bidders.

- Prevailing wage laws are applied to wage rates and fringe benefits.
- History of the Project Labor Agreement Project Labor Agreements (PLAs) have a long history
 of use in the construction industry dating back before World War II. PLAs have been used on
 federal construction projects since the 1930s. Some examples include the Grand Coulee Dam
 1937-1938, Kennedy Space Center and Nuclear missile sites.

In February of 1993, President Clinton signed Executive Order 12836, which revoked Executive Order 12818 issued in October of 1992 by President Bush that prohibited the use of PLAs on federal construction contracts. In June of 1997, President Clinton issued a presidential memorandum for the Heads of Executive Departments and Agencies expressing his support for the use of PLAs and encouraging their use within the federal government. President Clinton asked department heads to consider their use on a project-by-project basis for use on large scale projects where cost savings, efficiency and quality could be advanced.

On February 6, 2009, President Obama signed Executive Order 13502 allowing the use of PLAs by Executive Agencies on projects where federal funds will be obligated in excess of \$25 million. This order revokes Executive Orders 13202 and 13208, signed by President George W. Bush in 2001, and which prohibited the use of PLAs on federally-funded construction projects. President Obama's Executive Order lists the same advantages and the same requirements for a PLA that IDOT has recognized and required for many years. Importantly, the use of PLAs is not precluded for projects receiving federal financial assistance. Illinois received the first PLA granted on a federal-aid project under the Obama administration. (See Attachments A-E for complete text of Executive Orders referenced herein.)

History of the Project Labor Agreement in Illinois - Project Labor Agreements have been used on a limited basis since 1992. The first agreement was implemented on the Supermax Prison project in Tamms, Illinois. The agreement was negotiated by the Building & Construction Trades Council, the Builder's Association and the Capital Development Board (state of Illinois). The agreements have been used on a project-by-project basis when they meet the criteria for their use.

In May of 2003, the Governor issued an executive order on Project Labor Agreements. The executive order allows a state department, agency, authority, board or instrumentality, which is under the control of the Governor, to include a PLA on a public works project where said department, agency, authority, board or instrumentality has determined that such agreement advances the state's interests of cost, efficiency, quality, safety, timeliness, skilled labor force, labor stability or the state's policy to advance minority- and female-owned businesses and minority and female employment.

After months of experience with Executive Order 2003-13, it became apparent that a statewide PLA committee needed to be established to provide better communication and efficiency between the state of Illinois and Labor. As a result, beginning February 25, 2005 an Illinois AFL-CIO Statewide Project Labor Agreement Committee was created.

On March 31, 2010, Executive Order 2010-03 was issued by Governor Pat Quinn which supersedes Executive Order 2003-13.

The Project Labor Agreements Act (30 ILCS 571) became effective July 27, 2011. Additional diversity language and reporting provisions were included.

Criteria for Use of a Project Labor Agreement

- project size
- complexity
- > length of project
- disruption to the public
- Impact on quality of life
- availability of skilled workforce
- history of workforce harmony
- > cost savings from use of a PLA
- geographical area (benefit to the state for keeping payrolls within the state)
- > request by Using Agencies
- > other factors as determined by the department

Strategy for Use of Project Labor Agreements

- > Continue to meet with the 21 Building and Construction Trades Councils promoting the use of PLAs on projects that meet the criteria for their use.
- Meet with AFL-CIO and other labor organizations at their quarterly meetings.
- > Meet with other Using Agencies Including the Capital Development Board to share language and discuss the benefits of PLAs.

ILLINOIS AFL-CIO BUILDING & CONSTRUCTION TRADES STATEWIDE PROJECT LABOR AGREEMENT COMMITTEE

On May 7, 2003 Executive Order 2003-13 was signed allowing the use of Project Labor Agreements on a project-by-project basis for a state department, an agency, an authority, a board or instrumentality, which is under the control of the Governor. The Governor ordered that Project Labor Agreements should be utilized on a public works project where said department, agency, authority, board or instrumentality had determined that such agreement advances the state's interests.

After months of experience with Executive Order 2003-13, it became apparent that a statewide PLA committee needed to be established to provide better communication and efficiency between the state of Illinois and Labor.

As a result, beginning February 25, 2005 an Illinois AFL-CIO Statewide Project Labor Agreement Committee was created. The PLA committee members will:

- Meet as determined by the Illinois AFL-CIO. The meeting will be chaired by an officer (or their designee) of the Illinois AFL-CIO.
- Be comprised of one authorized representative from each craft from the Illinois Building and Construction Trades.
- Seek input from and work in concert with the twenty-one (21) Illinois Building and Construction Trades councils.
- Will have full authority and responsibility to attend statewide PLA committee meetings and to negotiate PLAs with the state of Illinois; to sign PLAs with the state of Illinois; and, to have decision-making capabilities on any and all matters which may arise regarding Executive Order 2003-13 on behalf of their respective craft.
- Promulgate PLA committee procedures and rules as necessary in order to conduct business in an
 efficient and respectful manner and to bring a unified bargaining team to the PLA negotiating
 process.

On March 31, 2010, Executive Order 2003-13 was superseded by Executive Order 2010-03.

The Project Labor Agreements Act (30 ILCS 571) became effective July 27, 2011. Additional diversity language and reporting provisions were included.

FINANCE

(30 ILCS 571/) Project Labor Agreements Act.

(30 ILCS 571/1)

100

Sec. 1. Short title. This Act may be cited as the Project Labor Agreements Act. (Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/5) Sec. 5. Findings.

(a) The State of Illinois has a compelling Interest in awarding public works contracts so as to ensure the highest standards of quality and efficiency at the lowest responsible cost.

(b) A project labor agreement, which is a form of pre-hire collective bargaining agreement covering all terms and conditions of employment on a specific project, can ensure the highest standards of quality and efficiency at the lowest responsible cost on appropriate public works projects.

(c) The State of Illinois has a compelling interest that a highly skilled workforce be employed on public works projects to ensure lower costs over the lifetime of the completed project for building, repairs, and maintenance.

(d) Project labor agreements provide the State of Illinois with a guarantee that public works projects will be completed with highly skilled workers.

(e) Project labor agreements provide for peaceful, orderly, and mutually binding procedures for resolving labor issues without labor disruption, preventing significant lost-time on construction projects.

(f) Project labor agreements allow public agencies to predict more

accurately the actual cost of the public works project.

(g) The use of project labor agreements can be of particular benefit to complex construction projects. (Source: P.A. 97-199, eff. 7-27-11; 97-813, eff. 7-13-12.)

(30 ILCS 571/10)

Sec. 10. Public works projects. On a project-by-project basis, a State department, agency, authority, board, or instrumentality that is under the control of the Governor shall include a project labor agreement on a public works project when that department, agency, authority, board, or instrumentality has determined that the agreement advances the State's interests of cost, efficiency, quality, safety, timeliness, skilled labor force, labor stability, or the State's policy to advance minority-owned and womenowned businesses and minority and female employment. (Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/15)

Sec. 15. Public works projects funded with federal funds. When it has been determined that a project labor agreement is appropriate, and in furtherance of the President's Executive Order 13502, the State department, agency, authority, board, or instrumentality responsible for awarding the project may include a project labor agreement on a public works project funded in whole or in part with federal funds. (Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/20)

Sec. 20. Negotiation of agreement. When it has been determined that a project labor agreement is appropriate for a particular public works project, the State department, agency, authority, board, or instrumentality responsible for awarding the project shall in good faith negotiate a project

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labor agreement with labor organizations engaged in the construction industry. If the State department, agency, authority, board, or instrumentality and the labor organizations engaged in the construction industry ("the parties") cannot agree to the terms of the project labor agreement, the Governor shall appoint a designee to assist the parties in reaching an agreement.

(Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/25)

Sec. 25. Contents of agreement. Pursuant to this Act, any project labor agreement shall:

(a) Set forth effective, immediate, and mutually binding procedures for resolving jurisdictional labor disputes and grievances arising before the completion of work.

(b) Contain guarantees against strikes, lockouts, or similar actions.

 (c) Ensure a reliable source of skilled and experienced labor.

(d) For minorities and females as defined under the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, set forth goals for apprenticeship hours to be performed by minorities and females and set forth goals for total hours to be performed by underrepresented minorities and females.

(e) Permit the selection of the lowest qualified responsible bidder, without regard to union or non-union status at other construction sites.

(f) Bind all contractors and subcontractors on the public works project through the inclusion of appropriate bid specifications in all relevant bid documents.

(g) Include such other terms as the parties deem appropriate.

(Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/30)

Sec. 30. Publicly disclosed finding. Any decision to use a project labor agreement in connection with a public works project by a State department, agency, authority, board, or instrumentality shall be supported by a written, publicly disclosed finding by the department, agency, authority, board, or instrumentality, setting forth the justification for use of the project labor agreement.

(Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/35)

Sec. 35. Compliance. All State departments, agencies, authorities, boards, and Instrumentalities shall ensure that all public works projects are implemented in a manner consistent with the terms of this Act and are in full compliance with all statutes, regulations, and Executive Orders. (Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/37)

Sec. 37. Quarterly report; annual report. A State department, agency, authority, board, or instrumentality that has a project labor agreement in connection with a public works project shall prepare a quarterly report that includes workforce participation under the agreement by minorities and

females as defined under the Business Enterprise for Minorities, Females, and Persons with Disabilities Act. These reports shall be submitted to the Illinois Department of Labor. The Illinois Department of Labor shall submit to the General Assembly and the Governor an annual report that details the number of minorities and females employed under all public labor agreements within the State.

(Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/40)

Sec. 40. Severability. Nothing in this Act shall be construed to contravene any state or federal law or to jeopardize the State's entitlement to federal funding. If any provision of this Act or its application to any person or circumstance is held invalid by any court of competent jurisdiction, this invalidity does not affect any other provision or application of this Act that can be given effect without the invalid provision or application. To achieve this purpose, the provisions of this Act are declared to be severable. (Source: P.A. 97-199, eff. 7-27-11.)

(30 ILCS 571/45)
Sec. 45. (Amendatory provisions; text omitted).
(Source: P.A. 97-199, eff. 7-27-11; text omitted.)

(30 ILCS 571/99)
Sec. 99. Effective date. This Act takes effect upon becoming law. (Source: P.A. 97-199, eff. 7-27-11.)



EXECUTIVE ORDER ON PROJECT LABOR AGREEMENTS (2010-03)

WHEREAS, the State of Illinois has a compelling interest in awarding public works contracts so as to ensure the highest standards of quality and efficiency at the lowest responsible cost; and

WHEREAS, a project labor agreement, which is a form of pre-hire collective bargaining agreement covering all terms and conditions of employment on a specific project, can ensure the highest standards of quality and efficiency at the lowest responsible cost on appropriate public works projects; and

WHEREAS, the State of Illinois has a compelling interest that a highly skilled workforce be employed on public works projects to ensure lower costs over the lifetime of the completed project for building, repairs and maintenance; and

WHEREAS, project labor agreements provide the State of Illinois with a guarantee that public works projects will be completed with highly skilled workers; and

WHEREAS, project labor agreements provide for peaceful, orderly and mutually binding procedures for resolving labor issues without labor disruption, preventing significant lost-time on construction projects; and

WHEREAS, project labor agreements allow public agencies to predict more accurately the actual cost of the public works project; and

WHEREAS, the use of project labor agreements can be of particular benefit to complex construction projects; and

THEREFORE, 1, Pat Quinn, Governor of the State of Illinois, pursuant to the supreme executive authority of the Governor as set forth in Article V, Section 8 of the Illinois Constitution, do hereby order as follows:

- 1. On a project-by-project basis, a State department, agency, authority, board or instrumentality, which is under the control of the Governor, shall include a project labor agreement on a public works project where said department, agency, authority, board or instrumentality has determined that such agreement advances the State's interests of cost, efficiency, quality, safety, timeliness, skilled labor force, labor stability or the State's policy to advance minority- and women-owned businesses and minority and female employment.
- 2. Where it has been determined that a project labor agreement is appropriate, and in furtherance of the President's Executive Order 13502, the State department, agency, authority, board or instrumentality responsible for awarding the project may include a project labor agreement on a public works project funded in whole or in part with Federal funds.
- 3. Where it has been determined that a project labor agreement is appropriate for a particular public works project, the State department, agency, authority, board or instrumentality responsible for awarding the project shall in good faith negotiate a project labor agreement with labor organizations engaged in the construction industry. In the event that the State department, agency, authority, board or instrumentality and the labor organizations engaged in the construction industry ("the parties") cannot agree to the terms of the project labor agreement, the Governor shall appoint a designee to assist the parties in reaching an agreement.
- 4. Pursuant to this Order, any project labor agreement:
 - a. shall set forth effective, Immediate and mutually binding procedures for resolving jurisdictional tabor disputes and grievances arising before the completion of work;
 - b. shall contain guarantees against strikes, lockouts, or similar actions;
 - c shall ensure a reliable source of skilled and experienced labor:
 - d shall further public policy objectives as to improved employment opportunities for minorities and women in the construction industry to the extent permitted by state and federal law;



- shall permit the selection of the lowest qualified responsible bidder, without regard to union or non-union status at other construction sites;
- f. shall be made binding on all contractors and subcontractors on the public works project through the inclusion of appropriate bid specifications in all relevant bid documents; and
- g. shall include such other terms as the parties deem appropriate.
- 5. Any decision to use a project labor agreement in connection with a public works project by a State department, agency, authority, board or instrumentality shall be supported by a written, publicly disclosed finding by such department, agency, authority, board or instrumentality, setting forth the justification for use of the project labor agreement.
- All State departments, agencies, authorities, boards and instrumentalities are hereby ordered to ensure that all public works projects are implemented in a manner consistent with the terms of this Order and are in full compliance with all statutes, regulations and Executive Orders.
- 7. Nothing in this Executive Order shall be construed to contravene any state or federal law or to jeopardize the State's entitlement to federal funding. If any provision of this Executive Order or its application to any person or Circumstance is held invalid by any court of competent Jurisdiction, this invalidity does not affect any other provision or application of this Executive Order that can be given effect Without the invalid provision or application. To achieve this purpose, the provisions of this Executive Order are declared to be severable.
- This Order supersedes Executive Order 2003-13.

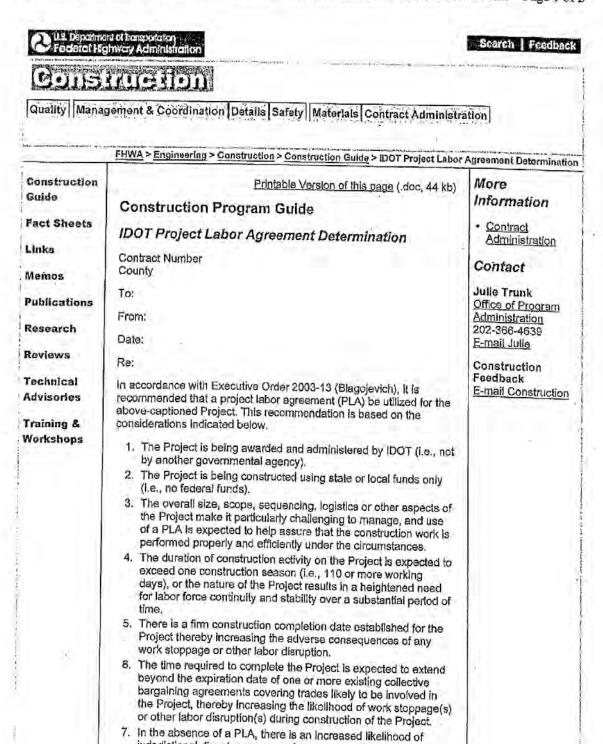
9. This Order shall be in full force and effect upon its filing with the Secretary of State.

Pat Quinn Governor

Issued by the Governor: March 31, 2010

Filed with the Secretary of State: March 31, 2010

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jurisdictional disputes among unions or of conflict between unionized and non-unionized workers on the Project that could have a potentially material adverse effect on the time, cost, or

quality of work performed on the Project,

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	 This project presents specific safety concerns to the traveling public and a PLA, will ensure labor force continuity and stability, decreasing the length of the safety concern. 	
	9. Use of a PLA is expected to result in improved access to skilled labor, improved efficiency, or improved safety performance on the Project.	
	Use of a PLA on the Project is not expected to have a material adverse effect on the competitive bidding process.	
	adverse effect on the Project is not expected to have a material adverse effect on the ability of the Department to achieve other Departmental goals (e.g., utilization of disadvantaged businesses, utilization of Illinois domiciled businesses, development of competitive yendor alternatives over time, etc.)	
	There are other material considerations favoring or disfavoring use of a PLA on this Project as follows:	
	Based upon the identified considerations, we recommend that you approve use of a PLA on this Project. Upon your approval, the Department shall undertake to negotiate in good faith a PLA with the relevant labor organization(s), and shall include in all necessary bid specifications and other documents information regarding the actual or form of PLA that is binding upon all contractors and their employees,	
	Agreed:	1
	Agreed: {Bureau of Design & Environment} (Date)	****
	Agreed: (Regional Engineer) (Date)	1
	Approved: Gary Hannig, Secretary (Date)	
	FHWA concurrence in the PLA for the above mentioned contract.	
	Division Administrator FHWA (Date)	
	Word files can be viewed with the Word Viewer	İ
-	Updated: 04/04/2011	i.

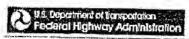
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Project Labor Agreement

A project labor agreement (PLA) is a pre-hire collective bargaining agreement with one or more labor organizations that establishes the terms and conditions of employment for a specific construction project. For highway projects, PLAs are typically negotiated between a State department of transportation, or another relevant contracting agency, and an appropriate labor organization (such as an area or state building and construction trades councils and relevant local unions). As a condition of being awarded a contract, the contractor must sign the negotiated PLA with the relevant union organizations.

On February 6, 2009 President Obama signed an Executive Order 13502 titled "Use of Project Lebor Agreement for Federal Construction Projects." This Executive Order encourages executive agencies to consider requiring the use of PLAs on large-scale direct Federal construction projects (defined as a project with a total cost of \$25 million or more). Specifically, section 3 allows agencies to require the use of a PLA in Federal contracts where such use will: " . . . (I) advance the Federal Government's interest in achieving economy and efficiency in Federal procurement, producing labor-management stability, and ensuring compliance with laws and regulations governing safety and health, equal employment opportunity, labor and employment standards, and other matters, and (ii) be consistent with law." By its terms, section 3 applies only to Federal procurement, not contracts awarded under Federal financial assistance programs. With respect to projects receiving Federal financial assistance, section 5 provides, "This order does not require an agency to use a project labor agreement on any construction project, nor does it preclude the use of a project labor agreement in circumstances not covered by the order, including leasehold arrangements and projects receiving Federal financial assistance."

Executive Order 13502 revokes Executive Order 13202 of February 17, 2001, and Executive Order 13208 of April 6, 2001, and directs agencies, to the extent permitted by law to revoke any orders, rules or regulations implementing the two Executive Orders.

Authority/Legal Basis

- 1. Laws
 - None
- 2. Regulations
 - None

More Information

 Contract Administration

Contact

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Office of Program
Administration
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Construction Feedback E-mail Construction

Project Labor Agreement - Construction Guide - Construction - FHWA Page 2 of 2 3. Orders Executive Order 13502 of February 6, 2009 4. Policy FHWA Interim Guidance - May 7, 2010 (Note: FHWA Division Offices should forward a copy of the State's justification and PLA to Michael Harkins (HCC-30) and Julie Trunk (HIPA-30) for review. A recommendation will then be forwarded to the Deputy Administrator for a final determination.) Guldance 1. General Information Illinois Department of Transportation Project Labor Agreement Master Plan (.pdf) · Illinois Department of Transportation PLA Project Determination Criteria 2. 2. Training None PDF files can be viewed with the Acrobat® Reader®

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United States Department of Transportation - Federal Highway Administration

Updated: 03/15/2012

FAP Route 729(US 196) Project ACF-0729(014) Section 36(W,RS-1) & 34Z-2(W,RS) Vermillon County Contract No. 90939

Illinois Department of Transportation PROJECT LABOR AGREEMENT

ARTICLE 1 - INTENT AND PURPOSES

- 1.1. This PLA is entered into in furtherance of illinois Executive Order No. 2010-03 and P.A. 097-0199. It is mutually understood and agreed that the terms and conditions of this PLA are intended to promete the public interest in obtaining itimely and economical completion of the Project by encouraging productive and efficient construction operations; by establishing a spirit of harmony and cooperation among the parties; and by providing for peaceful and prompt settlement of any and all labor grievances or jurisdictional disputes of any kind without strikes, lockouts, slowdowns, delays or other disruptions to the prosecution of the work.
- 1.2. As a condition of the award of the contract for performance of work on the Project, IDOT's Prime Contractor and each of its Subcontractors shall be required to sign a "Contractor Letter of Assent", in the form attached hereto as Exhibit A, prior to commencing Construction Work on the Project. Each Union affiliate and separate local representing workers engaged in Construction Work on the Project in accordance with this PLA are bound to this agreement by the illinois AFL-CIO Statewide Project Labor Agreement Committee which is the central committee established with full authority to negotiate and sign PLAs with the State on behalf of all respective crafts. Upon their signing the Letter of Assent, the Prime Contractor, each Subcontractor, and the individual Unions shall thereafter be deemed a party to this PLA. No party signatory to this PLA shall, contract or subcontract, nor permit any other person, firm, company or entity to contract or subcontract for the performance of Construction Work for the Project to any person, firm, company or entity that does not agree in writing to become bound by the terms of this PLA prior to commencing such work.
- 1.3. It is understood that the Prime Contractor(s) and each Subcontractor will be considered and accepted by the Unions as separate employers for the purposes of collective bargaining, and it is further agreed that the employees working under this PLA shall constitute a bargaining unit separate and distinct from all eithers. The Parties hereto also agree that this PLA shall be applicable solely with respect to this Project, and shall have no bearing on the interprelation of any other collective bargaining agreement or as to the recognition of any bargaining unit other than for the specific purposes of this Project.

FAP Route 729(US 138) Project ACF-0729(014) Section 36(W,RS-1) & 84Z-2(W,RS) Vermilion County Contract No. 90939

1.8. In the event that the applicable collective bargaining agreement between a Prime Contractor and the Union or between the Subcontractor and the Union expires prior to the completion of this Project, the expired applicable contract's terms will be maintained until a new applicable collective bargaining agreement is ratified. The wages and fringe benefits included in any new applicable collective bargaining agreement will apply on and after the affective date of the newly negotiated collective bargaining agreement, except to the extent wage and fringe benefit retroactivity is specifically agreed upon by the relevant bargaining parties.

ARTICLE II - APPLICABILITY, RECOGNITION, AND COMMITMENTS

- 2.1 The term Construction Work as used herein shall include all "construction, prosecution, completion, or repair" work performed by a "laborer or mechanic" at the "site of the work" for the purpose of "building" the specific structures and improvements that constitute the Project. Terms appearing within quotation marks in the preceding sentence shall have the meaning ascribed to them pursuant to 29 CFR Part 5.
- 2.2 By executing the Letters of Assent, Prime Contractor and each of its Subcontractors recognizes the Unions signatory to this PLA as the sole and exclusive bargaining representatives for their craft employees employed on the jobsite for this Project. Unions who are signatory to this PLA will have recognition on the Project for their craft.
- 2.3 The Prime Contractor and each of its Subcontrautors retains and shall be permitted to exercise full and exclusive authority and responsibility for the management of its operations, except as expressly limited by the terms of this FLA or by the terms and conditions of the applicable collective bargaining agreement.
- 2.4 Except to the extent contrary to an express provision of the relevant collective bargaining agreement, equipment or materials used in the Project may be preassombled or pre-fabricated, and there shall be no refusal by the Union to sandle, transport, Install, or connect such equipment or materials. Equipment or materials delivered to the job-site will be unloaded and handled promptly without regard to potential jurisdictional disputes; any such disputes shall be handled in accordance with the provisions of this PLA.
- 2.5 Unions commit to furnishing qualified and skilled craft persons as required by the Prime Contractor and its Subconfractors in fulfillment of their obligations to complete the Project. In order to promote the long-term development of a skilled and knowledgeable work force, the parties are encouraged to utilize apprentices to the maximum extent permitted by the applicable collective bergaining.

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3.4 Not later than the earlier of (a) five business days following the pre-job Contract No. 90039 conference, or (b) commencement of Construction Work, the Unions and Prime Contractor (on behalf of Itself and all its subcontractors of whatever tier) shall confer and jointly designate a slate of three (3) permanent arbitrators (each a "Permanent Arbitrator") for the purpose of hearing disputes pursuant to Articles V and VII of this PLA. The state of Permanent Arbitrators shall be selected from among the following individuals: Thomas F. Olbbons, Robert Perkeyich, Byron Yaffee, and Gienn A. Zipp. In the event that the Unions and Prime Contractor are not able to agree on a full slate of three Permanent Arbitrators, the Department, after consultation with the Unions and Prime Contractor, shall designate such additional Permanent Arbitrators as may be necessary to establish the full state. A single Permanent Arbitrator shall be selected from the slate of three on a rotating basis to adjudicate each arbitrable matter as it arises. In the event a Permanent Arbitrator is not available to adjudicate a particular matter in the order of rotation, the arbitration assignment shall pass to the next available Permanent Arbitrator.

ARTICLE IV - HOURS OF WORK AND GENERAL CONDITIONS

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4.1 The standard work day for Construction Work on the Project shall be an established consecutive eight (8) hour period between the hours of 7:00 e.m. and 5:00 p.m. with one-half hour designated as unpaid period for lunch. The standard work week shall be five (5) consecutive days of work commencing on Monday. Starting time shall be established at the pre-job conference, and shall be applicable to all craft employees on the Project unless otherwise expressly agreed in writing. In the event Project site or other job conditions diotate a change in the established starting time and/or a staggered jurich period for portions of the Project or for specific crafts, the Prime Contractor, relevant Subcontractors and business managers of the specific crafts involved shall confer and mutually agree to such changes as appropriate.

If proposed work schedule changes cannot be mutually agreed upon between the parties, the hours fixed at the time of the pre-job meeting shall prevail.

- 4.2 Shift work may be established and directed by the Prime Contractor or relevant Subcontractor as reasonably necessary or appropriate to fulfill the terms of its contract with the Department. If used, shift hours, rates and conditions shall be as provided in the applicable collective bargaining agreement.
- 4.3 The parties agree that chronic and/or unexcused absenteelsm is undesirable and must be controlled in accordance with procedures established by the applicable collective bargaining agreement. Any employee disciplined for absenteelem in accordance with such procedures shall be suspended from all work on the Project for not less than the maximum period permitted under the applicable collective bargaining agreement.

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- 6.2.B. Step 2. In the event that the Steward and the contractors' representatives at the job-site cannot reach agreement within two (2) working days after a meeting is arranged and held, the matter shall be referred to the Union Business Manager and to executive representatives of the Prime Contractor and relevant Subcontractor.
- 5.2.C. Step 3. In the event the dispute is not resolved within five (6) working days after completion of Step 2, the relevant parties shall request a Permanent Arbitrator as determined in accordance with paragraph 3.4 of this PLA, who shall, within ten (10) working days, hear the grievance and make a written decision. Such decisions shall be final and binding on all parties. The parties shall each pay the expense of their own representative. The expense of the Permanent Arbitrator shall be divided equally between (1) the Prime Contractor and/or relevant Subcontractor, and (2) the involved Union.
- 6.3 Any fallure of a party to comply fully with such final and binding decision of the Permanent Arbitrator may result in removal of the non-complying party from the site, in a holdback from the Prime Contractor or Subcontractor of any amounts awarded, or in such other relief as the Department may reasonably determine is necessary to promote final resolution of the dispute.
- 5.4 In the event any dispute or grievance should arise, the parties expressly agree that it shall be resolved without occurrence of any strike, work stoppage, slow-down or other prohibited activities as provided in Article VII of this PLA. Individuals or parties violating this section shall be subject to immediate discharge or other discipline.

ARTICLE VI - JURISDICTIONAL DISPUTES

- 6.1 As used in this Agreement, the term "jurisdictional dispute" shall be defined as any dispute, difference or disagreement involving the assignment of particular work to one class or craft of employees rather than to a different class or craft of employees, regardless of that Contractor's contractual relationship to any other employer, contractor, or organization on the site.
- 6.2 It is agreed by and between the parties to this Agreement that any and all jurisdictional disputes shall be resolved in the following manner; each of the steps hereinafter listed shall be infilted by the parties in equience as set forth;
 - (a) Negotiation by and between the Local Business Representative of the disputing Union and Employer shall take place within two (2) business days. Business days are defined as Monday through Friday excluding contract holidays. Such negotiations shall be pursued until it is apparent that the dispute cannot be resolved at the local level.

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(3) If the Arbitrator finds that a previous decision of record governs the case, the Arbitrator shall apply the decision of record in rendering his decision except under the following circumstances. After notice to the other parties to the dispute prior to the hearing that it intends to challenge the decision of record, if a trade challenging the decision of record is able to demonstrate that the recognized and established prevailing practice in the locality of the work has been contrary to the applicable decision of record, and that historically in that locality the work in dispute has not been performed by the other craft or crafts, the Arbitrator may rely on such prevailing practice rather than the decision of record.

If the craft relying on the decision of record demonstrates that it has performed the work in dispute in the locality of the job, then the Arbitrator shall apply the decision of record in rendering his decision. If the Arbitrator finds that a craft has improperly obtained the prevailing practice in the locality through raiding, the undercutting of wagers or by the use of vertical agreements, the Arbitrator shall rely on the decision of record rather than the prevailing practice in the locality.

- (4) If no decision of record is applicable, the Arbitrator shall then consider the established trade practice in the industry and prevailing practice in the locality; and
- (6) Only if none of the above criteria is found to exist, the Arbitrator shall then consider that because efficiency, cost or continuity and good management are essential to the well being of the industry, the interest of the consumer or the past practice of the employer shall not be ignored.

The Arbitrator shall sot forth the basis for his decision and shall explain his findings regarding the applicability of the above criteria. If lower-ranked criteria are railed upon, the Arbitrator shall explain why the higher-ranked criteria were not deemed applicable. The Arbitrator's decision shall only apply to the job in diepute.

- (6) Agreements of record are applicable only to the party's signatory to such agreements. Decisions of record are applicable to all trades.
- (7) The Arbitrator is not authorized to award back pay or any other damages for a mis-essignment of work. Nor may any party bring an independent action for back pay or any other damages, based upon a decision of an Arbitrator.

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- 7.4 Upon notification of violations of this Article, the principal officer or officers of the local area Building and Construction Trades Council, and the Illinois AFL-CIO Statewide Project Labor Agreement Committee as appropriate, will immediately instruct, order and use their best efforts to cause the affillated union or unions to cause any violations of this Article. A Trades Council and the Committee otherwise in compliance with the obligations under this paragraph shall not be liable for unauthorized acts of its affiliates.
- 7.5 In the event that activities in violation of this Article are not immediately halted through the efforts of the parties, any aggrieved party may invoke the special arbitration provisions set forth in paragraph 7.8 of this Article.
- 7.8 Upon written notice to the other involved perties by the most expeditious means available, any aggrieved party may inetitute the following special arbitration procedure when a breach of this Article is alleged:
 - 7.8.A The party invoking this procedure shall notify the individual designated as the Permanent Arbitrator pursuant to Article III of the nature of the alleged violation; such notice shall be by the most expeditious means possible. The initiating party may also furnish such additional factual information as may be reasonably necessary for the Permanent Arbitrator to understand the relevant circumstances, Copies of any written materials provided to the arbitrator shall also be contemporaneously provided by the most expeditious means possible to the party alleged to be in violation and to all other involved parties.
 - 7.6.B Upon receipt of said notice the Permanent Arbitrator shall set and hold a hearing within twenty-four (24) hours if it is contended the violation is ongoing, but not before twenty-four (24) hours after the written notice to all parties involved as required above.
 - 7.6.C The Permanent Arbitrator shall notify the perties by facsimile or any other effective written means, of the place and time chosen by the Permanent Arbitrator for this hearing. Said hearing shall be completed in one session. A failure of any party or parties to attend said hearing shall not delay the hearing of evidence or issuance of an Award by the Permanent Arbitrator.
 - 7.6.D The sole issue at the hearing shall be whether a violetion of this Article has, in fact, occurred. An Award shell be issued in writing within three (3) hours after the close of the hearing, and may be issued without a written opinion. If any party desires a written opinion, one shall be issued within lifteen (15) days, but its issuence shall not delay compliance with, or enforcement of, the Award. The Permanent Arbitrator may order cessation of the violation of this Article, and such Award shall be served on all parties by hand or registered mall upon issuance.

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8.6 The fallure or refusal of a party to exercise its rights hereunder in one or more instances shall not be deemed a walver of any such rights in respect of a separate instance of the same or similar nature.

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LEAKING UST TECHNICAL REVIEW NOTES

Reviewed by: Scott Rothering

Re: 1670255005 -- Sangamon County

Date Reviewed: 5/6/21

Cantrall / Springfield Marine Bank Trust #530051

9520 Illinois State Route 29 Leaking UST Incident 20030135 Leaking UST Technical File

Document(s) Reviewed:

Corrective Action Plan and Budget - dated January 18, 2021 and received January 26, 2021

General Site Information:

Site subject to: 734

	Site subject to. 734
IEMA date(s): 2/4/03	Payment from the Fund? (Y/N/unknown): yes
UST system removed? (Y/N): yes	OSFM Fac. ID #: 5-040470
Encountered groundwater? (Y/N/unknown): yes	SWAP mapping and evaluation completion date: 4/27/21
Free product? (Y/N/unknown): no	Site placement correct in SWAP? (Y/N): yes
Current/past land use: commercial, residential, agricultural	Inspection Required? (Date/Plan):
Size & product of USTs: 1 500-gallon gasoline gallon used oil	e, 1 1000 gasoline, 1 500 gallon diesel, 1 150
Is site located in EJ area? no	Is investigation of indoor inhalation exposure route required? They are performing new sampling to determine, based on old results, it does not appear it would be required
Has enough sampling been completed to perform a Right-to-Know Evaluation? Previously sampling indicates right to know is not required. However, will be reevaluated when new sample results are received	PLA Checklist Complete? yes

The site has had three previous caps. However, all three were for the removal of contaminated soil which exceeds Tier 2 remediation objectives. The method of determining the Tier 2 remediation objective has been debated throughout these caps. Also, there was an issue of off-site access denial which originally wasn't proven. The final CAP in 2009 approved the plan but not the budget. Nothing has been approved since then, and it doesn't appear as though any work has been performed.

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This current submittal is for sampling at the site again, to determine the current level of contamination. They think a lot of the issues which previously arose on the site will be not present anymore because the contamination levels will be down. It has been 12 years since the site was sampled.

They propose to do this sampling at the locations which previously had levels of contamination which exceeded Tier 1 ROs. The locations, method of sampling, appear to be okay. They also

Groundwater investigation is for resampling wells MW 1, 2, 3, 4, 5, 9, 14. However, they are also proposing installation of 7 monitoring wells in case the wells on site have been removed or cannot be found. They will not install the 7 new wells if the wells on site can be found and used.

After performing this sampling, they will develop a CAP to address the contamination if necessary.

Vapor Intrusion: Looking at previous sample results, it doesn't appear they would trigger a vapor intrusion investigation. This will be evaluated again with the new results.

Right to Know: Previous soil and groundwater results off site do not show exceedances to remediation objectives. However, previous modeling does indicate that the contamination (benzene) has the potential to migrate off site to the south (industrial/commercial) and west into Route 29. Based on contamination levels from 2004, RTK may be triggered. However, since they are resampling, we can determine that after getting new results.

PLA: Requested language why it should not be needed. As they are proposing 11 PUSH borings for soil samples and potentially 7 HSA borings for wells it is unlikely one will be required.

Land Trust: This form was received by the previous project manager. I have included it with this submittal.

Budget:

The budget has some cuts.

Field work: Boring logs/tabulate analytical results – I cut this because I found reference that doing this work is part of writing CACR. In writing CACR, they have 40 hours, so I think it should be included in the 40 hours.

Field Work: I cut Engineer III to Senior Technician: This is part of the pairing with a Senior PM.

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Field work: For the same reason as above, I cut groundwater sampling/surveying.

Taco 2 or3; hydraulic conductivity calculation: I cut these costs since they are part of CACR writing and there is 40 hours allowed for it.

CACR – Senior PM – NFR IEPA correspondence: I cut these costs because it is my understanding, they are not reimbursable.

Updated July 3, 2023:

The corrective action plan approved 5/19/21 was performed. The results indicated exceedances of Tier 2 remediation objectives remain on site. Additionally, the soil results at SB-15 exceeded Csat exceedances for total xylenes (163 ppm).

Additionally, the soil results at SB-7 indicate exceedances of the calculated Tier 2 remediation objectives. There is some debate with the previous PM about the validity of the previous Tier 2 RO calculation. This is due to soil bulk density and soil particle density not meeting the requirements of 35 Ill. Adm. Code 742. The information about this is listed in depth in previous PM notes and can be referenced in docuware. The point is that the consultant now wants to recalculate the Tier 2 ROs and then compare the generated remediation objectives to the current soil sample results. However, due to the concentration of benzene (16.3 ppm) at SB-7 – the consultant argues that even with the new objective, the objective will likely be exceeded by this sample result. It should be noted that the previous Tier 2 RO was 3.95 ppm. Due to this, the consultant argues that an engineered barrier will almost certainly be needed for this area of the site. Therefore, they are proposing three soil borings to determine the area of an engineered barrier required for closure of the site. SB-7 is located between the tank bed and the dispensers. (former). Contamination is present at 6 feet bgs. For these three samples, the consultant is proposing sampling at 0-5 feet bgs, and 5-10 feet bgs. This depth of sampling appears to be okay. In the end, these borings were approved.

The consultant is also proposing performing a vapor sample, citing the need for it. Previously I had noted that a vapor sample would likely not be necessary. However, with these new results and the levels of benzene discovered at the depths it was, the vapor sample will be necessary.

Finally, the consultant notes that ELUCs will almost certainly be required for the site. A groundwater ordinance with the Village of Cantrell is likely not attainable and the site is not located within the limits of the village as well. These will be submitted later.

Budget: The budget is cut for two samples analyzed for PNAs which are vertical soil saturation samples and only need to be analyzed for BTEX. Costs are added for drilling for vapor boring (what exceeds the minimum charge) and analysis. A variety of personnel costs were cut after a response.

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Updated May 17, 2024

The previous CAP was performed.

This CAP consisted of basically three areas:

- 1) Determining the extent of an engineered barrier which will need to be installed on site, due to exceedance of Tier 2 remediation objectives for I/C outdoor inhalation
- 2) Determination of vertical extent of groundwater contamination at SB-21
- 3) performing a soil sample for site specific geotechnical parameters because the previous PM rejected the ones which were proposed.
- 4) Collection of a soil gas sample (two were performed)

The new Tier 2 numbers were generated. They have been checked. The new numbers are higher than the original numbers, but not drastically, and not enough to change the scope of work for the site. The new Tier 2 numbers are as follows:

S/C of groundwater

Benzene – 5.42 ppm EB – 58.0 ppm Toluene – 736.66 ppm Xylenes (total) – 98.7 ppm Naphthalene – 3.34

I/C Inhalation

Benzene – 5.42 Ethylbenzene – 34.94 Toluene – 113,871.29 Xylenes – 3,820.73 Naphthalene – 324.57

CW Inhalation

Benzene – 7.62 Ethylbenzene – 49.14 Toluene – 736.66 Xylenes – 98.87 Naphthalene – 3.34 Page 5

There are exceedances of these Tier 2 numbers:

SB-7, SB-15, SB-19 all are at or above 6 feet bgs.

The I/C Inhalation is exceeded at SB-7 and SB-19. These will require an engineered barrier due to exceedance of I/C Inhalation.

CW Caution is exceeded at SB-15 and SB-19, SB-7. This will require a CA caution.

This is all proposed in this plan.

Groundwater contamination is present on site as Class I groundwater. Modeling has determined that groundwater contamination will migrate off site to the east and southeast directions. This will involve three properties which will be affected by this groundwater ordinance. This appears to be fine. I have requested a draft ordinance from the consultant on May 20, 2024. I ran the R26 equations on May 20, 2024.

Finally – the consultant performed soil vapor sampling on site. The results of the sampling indicated that there are exceedances of Tier 1 vapor sample remediation objectives.

Benzene -153.67 mg/m^3

So, they are proposing to accept the on site the concrete base, no sumps restriction.

Groundwater is encountered across the site at 8 feet bgs.

ELUC – They are proposing an ELUC for soil contamination off site.

Csat delineation:

Exceedance of Tier 1 Csat for Xylenes was encountered at SB-21. The previous plan proposed (and was approve) for delineating vertically this exceedance. It previously was 163 ppm at 5-10 feet bgs. It has been delineated at the next interval of 10 -15 feet bgs. Additionally, the Tier 2 number (324ppm) is higher.

I requested a copy of the groundwater ordinance, and it was provided. However, I found out I also have to have proof that the Fancy Prairie Township. I have received a draft ordinance which I also am going to send to legal. They provided email communication which they have had with the township about the groundwater ordinance.

After request, they provided a signed ELUC.

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Prior to approval of Cap it was decided the CAP needed to be amended for 5 different reasons:

- 1) The CAP would need information which indicated the work of installing the concrete barrier could be covered by the Subpart H rate.
- 2) A BCT would be required on site for future buildings.
- 3) Modeling should be required via a half circle instead of a cone to insure the proper notifications are made.
- 4) The well at the school across Route 29 will have to be properly abandoned, not simply stated that it will not be used.
- 5) there is no evidence the groundwater ordinance will be approved, therefore the costs for obtaining the groundwater ordinance are reviewed as part of this budget.

The approved items were worked into the letter and budget prior to final review.

Illinois EPA Decision:

Modification of plan and budget

Response Due:

Amended CAP and budget with the above requirements.

Fw: Fancy Creek Township/ Groundwater Ordinance

Mickey Davis <mickey@cwmcompany.com>

Thu 5/23/2024 9:01 AM

To:matts cwmcompany.com <matts@cwmcompany.com>

Here is the communication.

From: fancycreek township <fancycreektownship@yahoo.com>

Sent: Tuesday, May 21, 2024 4:14 PM

To: Mickey Davis <mickey@cwmcompany.com>

Cc: jmanley37@yahoo.com <jmanley37@yahoo.com>

Subject: Re: Fancy Creek Township/ Groundwater Ordinance

You can email it if you wish or mail to 6409 Reinders Rd Springfield II 62707

Sent from Yahoo Mail for iPhone

On Tuesday, May 21, 2024, 8:32 AM, Mickey Davis <mickey@cwmcompany.com> wrote:

Jill and Jim,

I represent an environment consulting company which works with the Ilinois EPA and clients to remediate contaminated sites through the Leaking Underground Storage Tank (LUST) program. One of our sites is located in Cantrall and within the Fancy Creek Township. When we reach the final stages of closing a site, the IEPA requires us to implement certain corrective actions. One of the most common corrective actions is a groundwater ordinance. I have attached a couple maps of the area which the groundwater ordinance would cover. Since Fancy Creek Township has jurisdiction over this area, where do I send a groundwater ordinance for the Fancy Creek Township officials to review and approve?

Thank you for your time and if you have any questions, feel free to contact me.

-

Mickey Davis

Project Manager CW3M Company, Inc. 701 South Grand Avenue West Springfield, IL 62704 (217) 522-8001



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 · (217) 782-3397

JB PRITZKER, GOVERNOR

JOHN J. KIM, DIRECTOR

(217) 524-3300

CERTIFIED MAIL

9589 0710 5270 0477 0527 90

MAY 2 8 2024

Jeffrey M. Ulrich Marine Bank Trust #53-0051 201 Clock Tower Drive East Peoria, IL 61611

Re.

1670255005 -- Sangamon County Cantrall/Marine Bank Trust #53-0051

9520 Illinois State Route 29 Leaking UST Incident 20030135 Leaking UST Technical File

Dear Mr. Ulrich:

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed the Corrective Action Plan (plan) submitted for the above-referenced incident. This plan, dated February 2, 2024, was received by the Illinois EPA on February 2, 2024. 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 Illinois EPA requires modification of the plan; therefore, the plan is conditionally approved with the Illinois EPA's modifications. The following modifications are necessary, in addition to those provisions already outlined in the plan, to demonstrate compliance with Title XVI of the Act (Sections 57.7(b)(2) and 57.7(c) of the Act and 35 Ill. Adm. Code 734.505(b) and 734.510(a)):

- 1. Pursuant to 35 Ill. Adm. Code 742.312 (B), since remediation objectives are exceeded for benzene in both groundwater and soil gas, a building control technology which meets the requirements of Title 35 Subpart L must be utilized for any future buildings.
- 2. Pursuant to 35 III. Adm. Code 734.355 (a) (3)(A) the Corrective Action Plan must include a description of the remedial technologies selected and how each fit into the overall corrective action plan strategy. The Corrective Action Plan states ISGS Well ID 00210 (Athens Community School District) is not in use. Proof of abandonment of this well must be submitted prior to issuance of an NFR letter.
- 3. Pursuant to 35 Ill. Adm. Code 734.355 (a) (3)(A) the Corrective Action Plan must include a description of the remedial technologies selected and how each fit into the overall corrective action plan strategy. The groundwater plume extends off site in the

2125 S. First Street, Champaign, IL 61820 (217) 278-5800 115 S. LaSalle Street, Suite 2203, Chicago, IL 60603 1101 Eastport Plaza Dr., Suite 100, Collinsville, IL 62234 (618) 346-5120 9511 Harrison Street, Des Plaines, IL 60016 (847) 294-4000 595 S. State Street, Elgin, IL 60123 (847) 608-3131 2309 W. Main Street, Suite 116, Marion, IL 62959 (618) 993-7200 412 SW Washington Street, Suite D, Peoria, IL 61602 (309) 671-3022 4302 N. Main Street, Rockford, IL 61103 (815) 987-7760

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western direction to groundwater wells MW-6, MW-7, and MW-8. Additionally, the groundwater plume extends off site in the southern direction to groundwater wells MW-20 and MW-21. The Corrective Action Plan must demonstrate how groundwater contamination off site in these directions will be addressed.

4. Pursuant to Section 57.7(b)(2) of the Act and 35 III. Adm. Code 742.320(d), the groundwater ingestion exposure route may be excluded from consideration if, as demonstrated in accordance with Section 742.1015, for any area within the measured and modeled extent of groundwater contamination above what would otherwise be the applicable Tier 1 groundwater remediation objectives, an ordinance adopted by a unit of local government is in place that effectively prohibits the installation of potable water supply wells (and the use of such wells).

To ensure that all possibly affected off-site properties are notified of the use of the groundwater ordinance, the Illinois EPA requests that all modeling be done using a semicircle in the direction of groundwater flow.

Please note that all activities associated with the remediation of this release proposed in the plan must be executed in accordance with all applicable regulatory and statutory requirements, including compliance with the proper permits. In addition, the budget is modified pursuant to Sections 57.7(b)(3) and 57.7(c) of the Act and 35 III. Adm. Code 734.505(b) and 734.510(b). Based on the modifications listed in Section 2 of Attachment A, the amounts listed in Section 1 of Attachment A have been approved. Please note that the costs must be incurred in accordance with the approved plan. Be aware that the amount of payment from the Fund may be limited by Sections 57.7(c), 57.8(d), 57.8(e), and 57.8(g) of the Act, as well as 35 III. Adm. Code 734.630 and 734.655.

Further, pursuant to 35 Ill. Adm. Code 734.145, it is required that the Illinois EPA be notified of field activities prior to the date the field activities take place. This notice must include a description of the field activities to be conducted; the name of the person conducting the activities; and the date, time, and place the activities will be conducted and shall be made to EPA. Field Notifications @illinois.gov. This notification of field activities must be provided at least two weeks prior to the scheduled field activities.

Pursuant to Sections 57.7(b)(4) and 35 III. Adm. Code 734.305 and 734.335(c), the Illinois EPA requires that a Corrective Action Completion Report that achieves compliance with applicable remediation objectives be submitted on or before December 1, 2025, to:

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

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

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

If you have any questions or need further assistance, please contact the undersigned at (217) 785-1858 or at Scott.Rothering@illinois.gov.

Sincerely,

Scott Rothering Project Manager

Special Projects and Financial Unit

Leaking Underground Storage Tank Section

Bureau of Land

Attachments: Attachment A

Appeal Rights

c: Carol Rowe, CWM Company (electronic copy)

BOL File

Attachment A

Re: 1670255005 -- Sangamon County Cantrall/Marine Bank Trust #53-0051 9520 Illinois State Route 29 Leaking UST Incident 20030135 Leaking UST Technical File

SECTION 1

Based on the modifications in Section 2 of this Attachment A, the following amounts have been approved:

\$0.00	Drilling and Monitoring Well Costs
\$0.00	Analytical Costs
\$0.00	Remediation and Disposal Costs
\$0.00	UST Removal and Abandonment Costs
\$1,552.95	Paving, Demolition, and Well Abandonment Costs
\$12,198.05	Consulting Personnel Costs
\$89.92	Consultant's Materials Costs

Handling charges will be determined at the time an application for payment is reviewed by the Illinois EPA. The amount of allowable handling charges will be determined in accordance with Section 57.1(a) of the Environmental Protection Act (415 ILCS 5) (Act) and 35 Illinois Administrative Code (35 Ill. Adm. Code) 734.635.

SECTION 2

\$887.70 for costs for Senior Project Manager (Review of analytical results/bore log and analytical tabulation)), which lack supporting documentation. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(cc). Since there is no supporting documentation of costs, the Illinois EPA cannot determine that costs will not be used for activities 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.

Additionally, the costs 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).

This results in a deduction of \$887.70 from the Consulting Personnel Costs Form.

2. \$1,183.60 for costs for Senior Project Manager (Scheduling, Contractor search/arrangements/coordination for corrective action activities), which lack supporting

documentation. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(cc). Since there is no supporting documentation of costs, the Illinois EPA cannot determine that costs will not be used for activities 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.

Additionally, the costs 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 III. Adm. Code 734.630(dd).

This results in a deduction of \$1,183.60 from the Consulting Personnel Costs Form.

3. \$3,992.88 for concrete placement costs which lack supporting documentation. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(cc). Since there is no supporting documentation of costs, the Illinois EPA cannot determine that costs will not be used for activities and associated materials or services exceeding the minimum requirements necessary to comply with the Act. Therefore, such costs are not approved pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(o).

Pursuant to 35 Ill. Adm. Code 870(d)(1), for costs 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 Illinois EPA received the budget in which the costs were proposed. Once the Illinois EPA approves a cost, the applicable maximum payment amount for the cost must not be increased. Please provide documentation that the costs for installing the concrete will be at or below the Subpart H rate of \$7.86 per square foot.

This results in a deduction of \$3,992.88 from Paving, Demolition, and Well Abandonment Costs.

4. \$2,820.23 for costs for obtaining a groundwater ordinance, which lack supporting documentation. The plan must include assurances that the local governmental authority is amenable to the proposed option to address off-site contamination. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(cc). Since there is no supporting documentation of costs, the Illinois EPA cannot determine that costs will not be used for activities in excess of those necessary to meet the minimum requirements of Title XVI of the Act. Therefore, such costs are not approved pursuant to Section 57.7(c)(3) of the Act 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.

Additionally, the costs 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).

These costs can be submitted for reconsideration once the ordinance has been obtained from Fancy Prairie

This includes the following deductions:

\$1,775.40 for Senior Project Manager – 12 hours at \$175.95 per hour (Preparation and Distribution of Groundwater Ordinance). Deducted from Consulting Personnel Costs.

\$887.70 for Senior Project Manager – 6 hours at \$147.97 per hour (groundwater ordinance notifications.). Deducted from Consulting Personnel Costs.

\$133.16 for Senior Administrative Assistant – 2 hours at \$66.58 per hour (groundwater ordinance notifications). Deducted from Consulting Personnel Costs.

\$24.00 for Postage (four notifications at \$6.00 per notification). Deducted from Consultant's Materials Costs.

Appeal Rights

An underground storage tank owner or operator may appeal this final decision to the Illinois Pollution Control Board pursuant to Sections 40 and 57.7(c)(4) of the Act by filing a petition for a hearing within 35 days after the date of issuance of the final decision. However, the 35-day period may be extended for a period not to exceed 90 days by written notice from the owner or operator and the Illinois EPA within the initial 35-day appeal period. If the owner or operator wishes to receive a 90-day extension, a written request that includes a statement of the date the final decision was received, along with a copy of this decision, must be sent to the Illinois EPA as soon as possible.

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

Clerk of the Board Illinois Pollution Control Board 60 East Van Buren Street, Ste. 630 Chicago, IL 60605 (312) 814-3461

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

Illinois Environmental Protection Agency Division of Legal Counsel 1021 North Grand Avenue East Post Office Box 19276 Springfield, IL 62794-9276 (217) 782-5544