



August 1, 2017

Wisconsin Department of Natural Resources

Attn: Mr. Chris Saari  
2501 Golf Course Road  
Ashland, WI 54806



**Subject:**

Construction Documentation  
Kwik Trip #163 – Former Quearm Oil Parcel  
105 6<sup>th</sup> Street West  
Ashland, WI 54806

**Dear Chris:**

This letter and enclosed information will serve to summarize the results of construction oversight at the Kwik Trip #163 site in Ashland. The site location is shown on Figure 1.

The Kwik Trip #163 (store) site consists of two (2) parcels totaling 1.31 acres. The documentation in this report is specific to the former Quearm Oil parcel. Documentation of sampling, soil disposal, and investigation on the former Midland Townmart (Kwik Trip #163 car wash) parcel at 109 6<sup>th</sup> Street will be provided by Metco, consultant for Midland Services. The site layout is shown on Figure 2.

**Background**

Former use of the property was by Quearm Oil Company for retail petroleum sales and as a petroleum bulk plant. A Leaking Underground Storage Tank (LUST) (BRRTS #03-02-000975) and Environmental Repair Program (ERP) (BRRTS #02-02-000105) investigation were conducted at each of the source areas. A large-scale excavation of the sources was conducted, which resulted in the majority of soil contamination being removed. Both sites were closed by the WDNR without restriction. Although no formal restrictions were placed on the property, the sites were closed with residual soil contamination. Closure documents specified that any impacted soil removed from the property required treatment as a solid waste. Site mapping from closure of the sites is included in Attachment A.

On December 17, 2015, REI Engineering, Inc. (REI) was on site to oversee the installation of six (6) hollow stem auger soil borings at the locations shown on Figure 2. Borings were installed within areas of known contamination as identified on the GIS registry, areas of previous excavation to document backfill compaction, and on areas not previously investigated.

Surficial soil deposits consisted of sand and gravel or silty clay, underlain by native red clay to the maximum boring depth of twenty-one (21) feet below land surface (bls). Groundwater was not encountered, although based on investigations in the area, groundwater is present at approximately thirty (30) feet bls.



**RESPONSIVE. EFFICIENT. INNOVATIVE.**

4080 N. 20th Avenue Wausau, WI 54401  
715-675-9784 REIengineering.com

P:\7100-7199\7172 - Kwik Trip #163 Ashland (site 3)\reports\CDR\7172CDRall.docx

WDNR  
Attn: Mr. Chris Saari  
August 1, 2017

Sample B1, 4.5-6 contained exceedances of the NR 720 Groundwater Protection Residual Contaminant Level (RCL) for benzene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, and dibenzo (a, h)anthracene. The remaining samples were low-level or non-detect. This sample was collected from a layer of silty clay which was present from depths of approximately three (3) to seven (7) feet bls. The soil boring log for B1 is included in Attachment B. The results of soil sampling are summarized on Tables 1a and 1b. Photographs of the split-spoon and soil cuttings are included in Attachment C.

Based on the residual soil contamination identified by MSA during investigation and remediation of the Quearm Oil sites, and contamination identified in boring B1, REI profiled the soil contamination for disposal at the Vonco Landfill in Duluth, MN. REI was on site during excavation of the building foundation to field screen soils being removed as overburden. No contaminated soil was identified in the building foundation area during construction to the excavation depth of approximately four (4) feet bls.

The new Underground Storage Tank (UST) basin was excavated in the vicinity of boring B1. REI was on site to screen soils, and manifest the soil from 3-7 feet bls for disposal at Vonco Landfill. Soils encountered at this depth consisted of black, silty clay, cinders, and debris including tires, wood, and bricks. A two-inch galvanized pipe was exposed in the area, which may have been associated with a former UST system. Photos are included in Attachment C. A total of 125.77 tons of contaminated was transported for treatment. Documentation is included in Attachment D.

A small area of residual contamination was identified on the Kwik Trip #163 store parcel, which was transported to the Vonco Landfill for treatment. No further action appears necessary on this parcel. Thank you for your assistance with this project. Please contact me at (715) 675-9784 or Adelforge@REIengineering.com if you would like to discuss this further.

Sincerely,  
REI Engineering, Inc.



Andrew R. Delforge P.G.  
Hydrogeologist/Project Manager



**TABLE 1b**  
**PAH SOIL ANALYTICAL RESULTS**  
**KWIK TRIP #163 - FORMER QUEARM OIL PARCEL**  
**105 6TH STREET WEST**  
**ASHLAND, WI 54806**

			Date-->	12/17/15	12/17/15	12/17/15	12/17/15	12/17/15	12/17/15	12/17/15	12/17/15	
			Sample-->	B1	B1	B2	B3	B3	B4	B4	B5	
			Depth-->	4.5-6	9.5-11	2-3.5	2-3.5	4.5-6	2-3.5	9.5-11	4.5-6	
PAH's (ug/kg)	DC RCL	GW RCL										
Acenaphthene	3,440,000	NS	<58.4	<10.0	<9.8	<9.7	<9.8	<10.0	<10	<9.2	<9.8	
Acenaphthylene	NS	NS	<52.3	<9.0	<8.8	<8.7	<8.7	<9.0	<8.9	<8.3	<8.8	
Anthracene	17,200,000	197,727.3	700	<10.4	<10.2	<10.0	<10.1	<10.4	<10.3	<9.6	<10.2	
Benzo (a) Anthracene	148	NS	1,660	<7.0	<6.8	<6.7	<6.8	<6.9	<6.9	<6.4	<6.8	
Benzo (a) Pyrene	15	470	1,680	<7.2	<7.0	<6.9	<7.0	<7.2	<7.1	<6.6	<7.0	
Benzo (b) Fluoranthene	148	479.3	1,520	<10.0	<9.8	<9.7	<9.8	<10.0	<10	<9.2	<9.8	
Benzo (g,h,i)perylene	NS	NS	857	<7.7	<7.5	<7.4	<7.4	<7.6	<7.6	<7.0	<7.5	
Benzo (k) Fluoranthene	1,480	NS	1,360	<11.1	<10.9	<10.7	<10.8	<11.1	<11.0	<10.2	<10.8	
Chrysene	14,800	144.6	1,780	<9.3	<9.1	<9.0	<9.0	<9.3	<9.2	<8.5	<9.1	
Dibenzo (a,h) Anthracene	15	NS	365	<7.4	<7.2	<7.1	<7.2	<7.3	<7.3	<6.8	<7.2	
Fluoranthene	2,290,000	88,877.8	1,900	<10.0	<9.8	<9.7	<9.8	<10.0	<10	<9.2	<9.8	
Fluorene	2,290,000	14,802.7	<58.4	<10.0	<9.8	<9.7	<9.8	<10.0	<10	<9.2	<9.8	
Ideno (1,2,3-cd) Pyrene	148	NS	810	<7.6	<7.5	<7.4	<7.4	<7.6	<7.6	<7.0	<7.4	
1-Methylnaphthalene	15,600	NS	67.0j	<10.0	<9.8	<9.7	<9.8	<10.0	<10	<9.2	<9.8	
2-Methylnaphthalene	229,000	NS	94.8j	<10.0	<9.8	<9.7	<9.8	<10.0	<10	<9.2	<9.8	
Naphthalene	5,150	658.2	95.6j	<10.0	<9.8	<9.7	<9.8	<10.0	<10	<9.2	<9.8	
Phenanthrene	NS	NS	281	<10.0	<9.8	<9.7	<9.8	<10.0	<10	<9.2	<9.8	
Pyrene	1,720,000	54,132.2	2,820	<10.0	<9.8	<9.7	<9.8	<10.0	<10	<9.2	<9.8	

**Notes:**

DC RCL - Direct Contact Non-Industrial Sites, Soil Residual Contaminant Level Determinations Using The US EPA Regional Screening Level Web Calculator

GW RCL - Groundwater RCL Soil Residual Contaminant Level Determinations Using The US EPA Regional Screening Level Web Calculator

ug/kg - parts per billion

**Outlined in Bold** - Exceeding DC RCL

**Bold** - Exceeding GW path RCL

< - Concentration below listed laboratory detection limit

PAHs - Polynuclear Aromatic Compounds

PVOCS - Petroleum Volatile Organic Compounds

NS - No Standard

NA - Not Analyzed

j - Estimated value between Limit of Detection and Limit of Quantification



Boundaries are approximate



**REI**

**CIVIL & ENVIRONMENTAL  
ENGINEERING, SURVEYING**

**FIGURE 1 - SITE LOCATION**

**KWIK TRIP #163-3**

**105 6th Street West**

**Ashland, Wisconsin 54806**

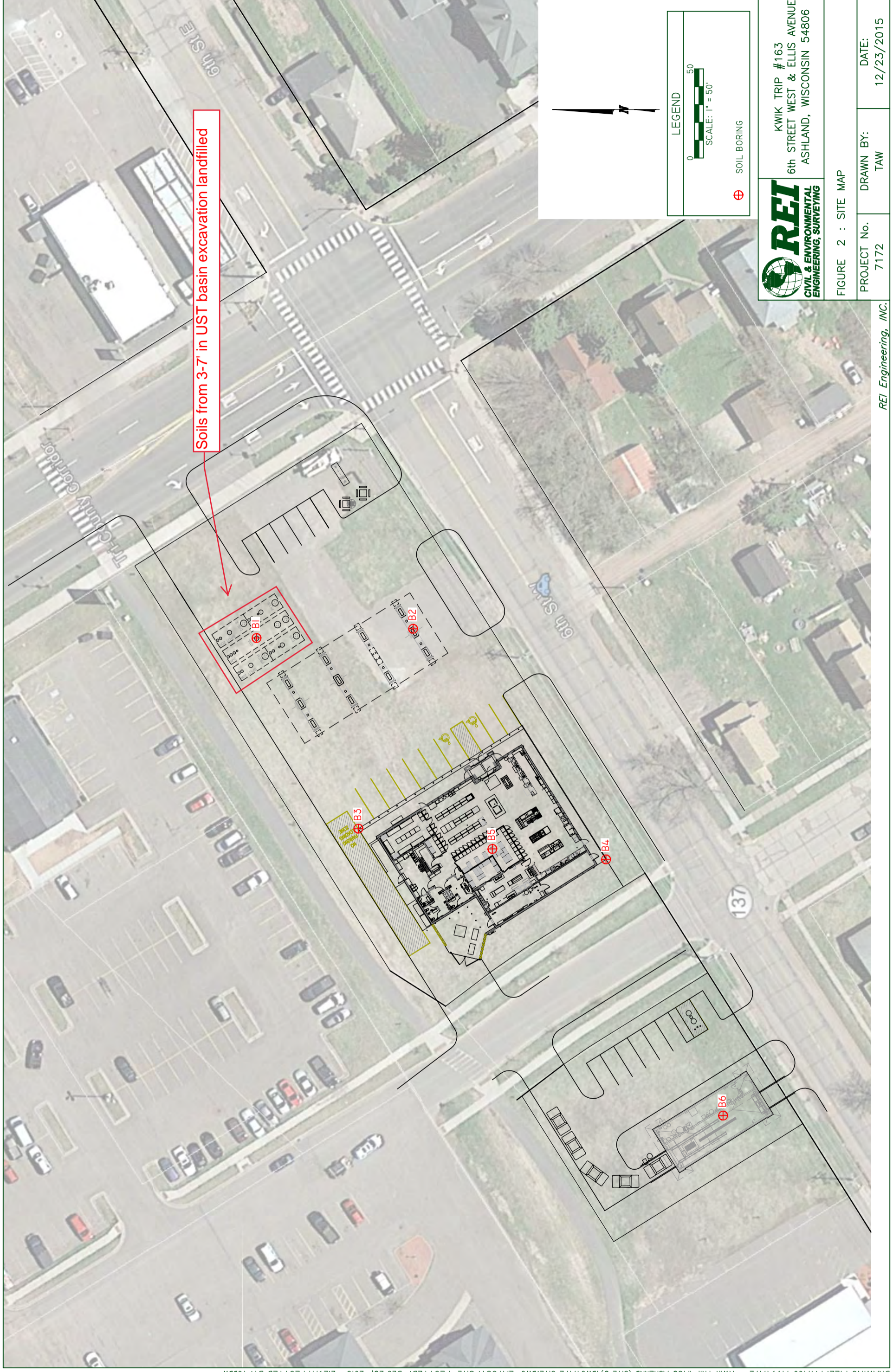
**PREPARED FOR: Kwik Trip, Inc.**

**PROJ. MGR: Andrew Delforge**

**DRAWN BY: Andrew Delforge**

**DATE: 12/15/2015**

**PROJ. #: 7172**



Soils from 3-7' in UST basin excavation landfilled



KWIK TRIP #163  
6th STREET WEST & ELLIS AVENUE  
ASHLAND, WISCONSIN 54806

FIGURE 2 : SITE MAP

PROJECT No. 7172	DRAWN BY: TAW	DATE: 12/23/2015
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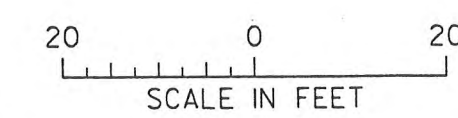
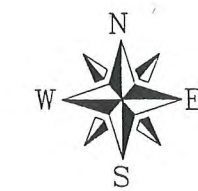
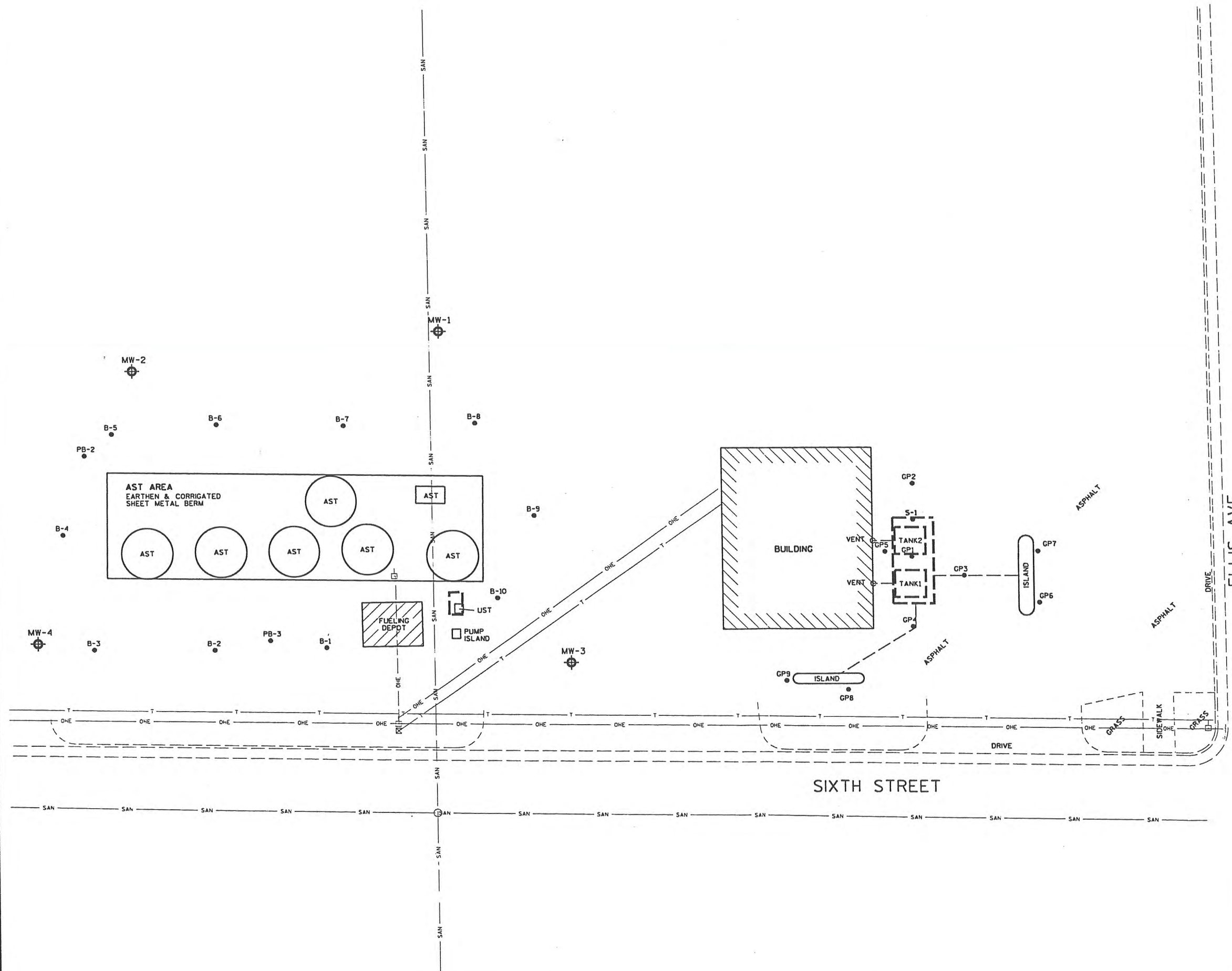
**ATTACHMENT A**

**QUEARM OIL CLOSURE MAPPING**



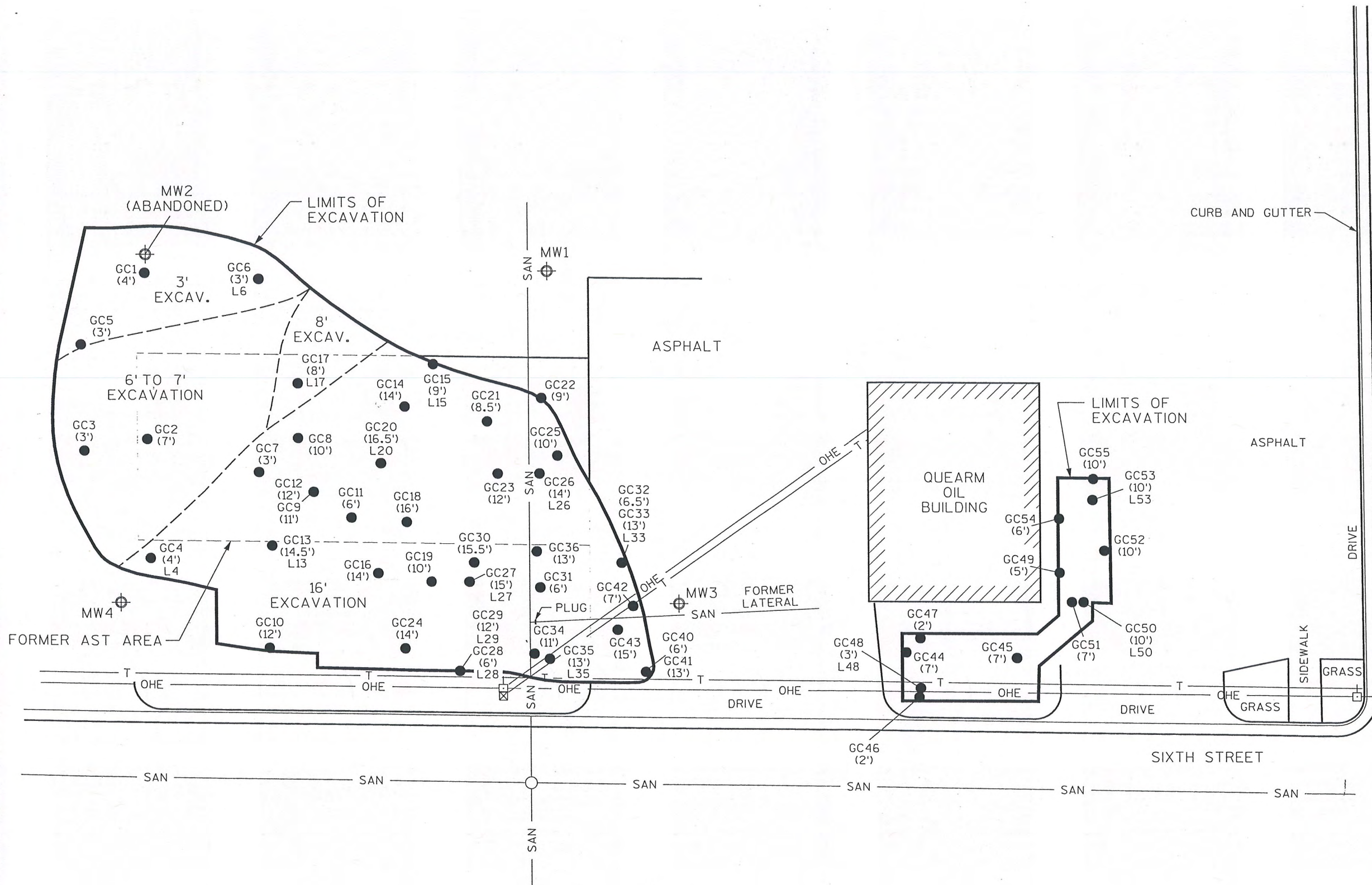
**LEGEND**

- === CURB & GUTTER
- REMOVED UST PIPING
- OHE - OVERHEAD ELECTRIC
- T - UNDERGROUND TELEPHONE
- SAN - SANITARY SEWER
- GP-7 GEOPROBE SOIL BORING
- MW-3 MONITORING WELL
- B-7 SOIL BORING
- POWER POLE
- MANHOLE



**FIGURE 2**  
**SITE LAYOUT**  
QUEARM OIL CO.  
ASLAND, WI





**LEGEND**

- MW1 MONITORING WELL
- GC55 (10') L6 GAS CHROMATOGRAPH SOIL SAMPLE AND DEPTH WITH CORRESPONDING LABORATORY SAMPLE
- POWER POLE
- TELEPHONE PEDESTAL
- MANHOLE
- OHE OVERHEAD ELECTRIC
- T UNDERGROUND TELEPHONE
- SAN SANITARY SEWER

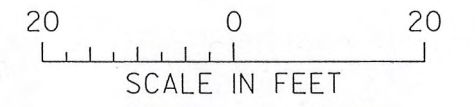


FIGURE 4  
**EXCAVATION AREA AND SOIL SAMPLE LOCATIONS**  
 QUEARM OIL SITE  
 ASHLAND, WISCONSIN

**MSA** PROFESSIONAL SERVICES  
 TRANSPORTATION • MUNICIPAL • REMEDIATION DEVELOPMENT • ENVIRONMENTAL  
 1835 N. Stevens Street, Ashland, WI 54801  
 715-363-3244 1-800-844-7864 Fax: 715-363-4116

F.B. PROJECT 212365KD  
 DRAWN BY RHM DATE 3-31-98 SHEET ..... of .....  
 CHECKED BY *RD* SCALE AS NOTED FILE NO.

**LEGEND**

MW1 MONITORING WELL

L6 (10') GAS CHROMATOGRAPH SOIL SAMPLE AND DEPTH WITH CONFIRMATORY LABORATORY SAMPLE

POWER POLE

TELEPHONE PEDESTAL

MANHOLE

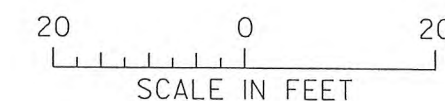
OHE OVERHEAD ELECTRIC

T UNDERGROUND TELEPHONE

SAN SANITARY SEWER

APPROXIMATE EXTENT OF CONTAMINATED SOIL REMAINING WITH CONTAMINANT LEVELS GREATER THAN THE SITE SPECIFIC STANDARDS

DRO = DIESEL RANGE ORGANICS  
GRO = GASOLINE RANGE ORGANICS  
NA = NOT ANALYZED  
ND = NOT DETECTED



SITE SPECIFIC STANDARDS (µg/Kg)	
Benzene	19
Toluene	11180
Ethylbenzene	69100
Total Xylenes	17620
GRO (mg/Kg)	250
DRO (mg/Kg)	250

L6 @ 3'	µg/Kg
Benzene	<b>21</b>
Toluene	ND
Ethylbenzene	ND
Total Xylenes	ND
GRO	ND
DRO	ND

L15 @ 9'	µg/Kg
Benzene 0.019	<b>24</b>
Toluene	ND
Ethylbenzene	ND
Total Xylenes	19
GRO	1.1
DRO	ND

L33 @ 13'	µg/Kg
Benzene 0.019	<b>52</b>
Toluene	ND
Ethylbenzene	35
Total Xylenes	117
GRO	5.0
DRO	ND

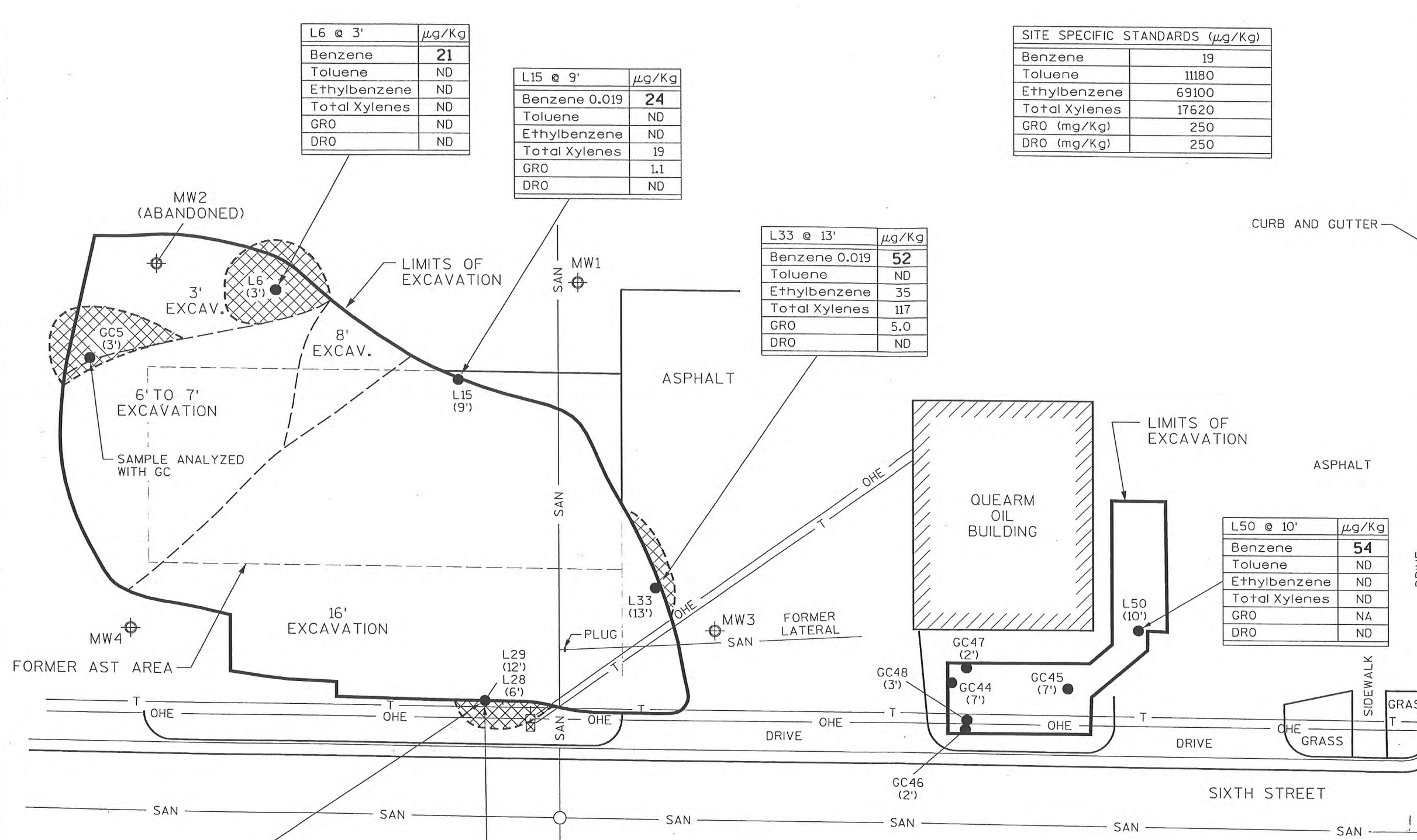
L50 @ 10'	µg/Kg
Benzene	<b>54</b>
Toluene	ND
Ethylbenzene	ND
Total Xylenes	ND
GRO	NA
DRO	ND

L29 @ 12'	µg/Kg
Benzene	<b>550</b>
Toluene	55
Ethylbenzene	240
Total Xylenes	27
GRO	22
DRO	28

L28 @ 6'	µg/Kg
Benzene	<b>510</b>
Toluene	820
Ethylbenzene	980
Total Xylenes	6200
GRO	100
DRO	77

**NOTES:**

1. BOLD NUMBERS INDICATE PARAMETER GREATER THAN SITE SPECIFIC STANDARD.
2. SEE TABLE 4 FOR COMPLETE LABORATORY RESULTS.



**FIGURE 5**

**SAMPLE LOCATIONS EXCEEDING SITE SPECIFIC STANDARDS**

QUEARM OIL SITE  
ASHLAND, WISCONSIN

**MSA** PROFESSIONAL SERVICES  
TRANSPORTATION • MUNICIPAL • REMEDIATION  
DEVELOPMENT • ENVIRONMENTAL  
1835 N. Sherman Street, Ellinwood, WI 54801  
715-303-2344 1-800-944-7654 Fax: 715-303-4135

F.B. PROJECT 212365BE  
DRAWN BY RHM DATE 4-6-98 SHEET ..... of .....  
CHECKED BY SCALE AS NOTED FILE NO.

**ATTACHMENT B**

**SOIL BORING B1 LOG**



Route To:  Watershed/Wastewater  Waste Management   
 Remediation/Redevelopment  Other

Facility/Project Name Kwik Trip #163		License/Permit/Monitoring Number		Boring Number B1	
Boring Drilled By: Name of crew chief (first, last) and Firm Keith - Giles			Date Drilling Started 12/17/15	Date Drilling Completed 12/17/15	Drilling Method 4.25" ID HSA
WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation 680	Borehole Diameter 8
Local Grid Origin <input type="checkbox"/> (estimated) <input type="checkbox"/> or Boring Location <input checked="" type="checkbox"/> State Plane			Lat	Local Grid Location N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W <input type="checkbox"/>	
Facility ID		County Ashland	County Code 02	Civil Town/City/or Village City of Ashland	

Sample				Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Soil Properties					RQD/ Comments	
Number	Type	Length Att. & Recovered (in)	Blow Counts							Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
				1	Grass											
				1	Red Clay	CL										
1	SS	18		2	Sand Brown, fine to medium grained	SP			0							
				3	Clay Black, silty	CL										
			4													
2	SS	10		5					2.3							
				6												
3	SS	18		7												
				8	Red Clay				0							
				9												
4	SS	18		10					0							
				11												
				12												
				13												
				14		CL										
5	SS	18		15					0							
				16												
				17												
				18												
				19												
6	SS	18		20					0							
				21	End of Boring @ 21 Feet											
				22												

I hereby certify that the information on this form is true and the correct to the best of my knowledge

Signature 

Firm **REI Engineering, Inc.**  
4080 North 20th Avenue, Wausau, WI

This form is authorized by Chapters 281,283,289,292,293,295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

# **ATTACHMENT C**

## **PHOTOGRAPHS**





Boring B1 Soil cuttings 3-7'



Soil sample 4.5-6'



Excavating on north property line near B1



Buried debris and organics in new UST basin



Buried pipe approximately 4' below land surface



Completed UST excavation

# **ATTACHMENT D**

## **SOIL DISPOSAL DOCUMENTATION**





# Detail Contract Activity Report

All Ticket Types

July 24, 2016 to July 24, 2017

\* - Confirmed

History and Waiting

Specific Contract(s) : '17-035-I Kwik Trip # 163 M79799715'

Facility: Vonco V Duluth, LLC

Former Quearm  
Oil - 105 6th Street  
West

17-035-I Kwik Trip # 163 M79799715

Ticket Date	Facility & Ticket Number	Customer	Truck	Material	Contract Rate	Billing Quantity	Ordered Quantity	Minimum Quantity
05/02/2017	I 01	285928		001365 - Kwik Trip Inc	SB9928	Contaminated Soil Tons	16.00	F 15.54
05/02/2017	I 01	285929		001365 - Kwik Trip Inc	SB9929	Contaminated Soil Tons	16.00	F 14.54
05/02/2017	I 01	285930		001365 - Kwik Trip Inc	SB12773	Contaminated Soil Tons	16.00	F 16.96
05/02/2017	I 01	285947		001365 - Kwik Trip Inc	SB12773	Contaminated Soil Tons	16.00	F 15.74
05/02/2017	I 01	285948		001365 - Kwik Trip Inc	SB9928	Contaminated Soil Tons	16.00	F 15.26
05/02/2017	I 01	285949		001365 - Kwik Trip Inc	SB9929	Contaminated Soil Tons	16.00	F 16.53
05/03/2017	I 01	285959		001365 - Kwik Trip Inc	SB12773	Contaminated Soil Tons	16.00	F 16.02
05/03/2017	I 01	285986		001365 - Kwik Trip Inc	SB12773	Contaminated Soil Tons	16.00	F 15.18
05/25/2017	I 01	286704		001365 - Kwik Trip Inc	SB12773	Contaminated Soil Tons	16.00	F 15.74
05/25/2017	I 01	286705		001365 - Kwik Trip Inc	SB9929	Contaminated Soil Tons	16.00	F 15.48
05/26/2017	I 01	286737		001365 - Kwik Trip Inc	SB9929	Contaminated Soil Tons	16.00	F 18.29
05/26/2017	I 01	286741		001365 - Kwik Trip Inc	RB26282	Contaminated Soil Tons	16.00	F 16.64
05/26/2017	I 01	286767		001365 - Kwik Trip Inc	SB9929	Contaminated Soil Tons	16.00	F 15.47
05/26/2017	I 01	286768		001365 - Kwik Trip Inc	RB26282	Contaminated Soil Tons	16.00	F 17.86
05/30/2017	I 01	286792		001365 - Kwik Trip Inc	SB9929	Contaminated Soil Tons	16.00	F 12.67
05/30/2017	I 01	286828		001365 - Kwik Trip Inc	SB9929	Contaminated Soil Tons	16.00	F 16.76
05/31/2017	I 01	286856		001365 - Kwik Trip Inc	SB9929	Contaminated Soil Tons	16.00	F 16.78
05/31/2017	I 01	286857		001365 - Kwik Trip Inc	SB12773	Contaminated Soil Tons	16.00	F 15.89
05/31/2017	I 01	286892		001365 - Kwik Trip Inc	SB9929	Contaminated Soil Tons	16.00	F 16.63

Tickets Reported: 19 Items Reported: 19

Material Summary	Weight		Volume		Count		Billing		Material Total
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound	Quantity		
CT - Contaminated Soil Tons	303.98	0.00	TN	304.00	0.00	QT	0.00	0.00	EA

Tickets Reported: 19 Items Reported: 19

Former Midland  
Townmart - 109 6th  
Street East