Western Refining Southwest LLC
I-40 Exit 39
Jamestown, NM 87347
A subsidiary of Marathon Petroleum Corporation

July 8, 2021

Mr. Kevin Pierard, Chief
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505

RE: Borrow Pit Interceptor Sumps Installation Summary Letter
Marathon Petroleum Company LP, Gallup Refinery
(dba Western Refining Southwest LLC)
EPA ID# NMD000333211

Dear Mr. Pierard,

In accordance with Interim Measure (IM) provisions of our Final RCRA Permit No. NM000333211, Marathon Petroleum Company (MPC) is submitting this letter to summarize the IM installation and initial operation of the Borrow Pit interceptor sumps. Section IV.H.4.a.iii Interim Measures Reports requires the submittal of an IM report within 90 days of completion of an interim measure. Work was completed at the Refinery on April 16, 2021, thus the need for this summary by July 15, 2021. Although the IM is ongoing, we have interpreted this requirement to entail preparation of a summary of the installation and the results to date of the IM. This report is organized according to the IM reporting requirements, as stated in the permit.

Background
Groundwater and separate-phase hydrocarbon (SPH) were first observed on the surface of the Borrow Pit area in 2020. Following a conversation with New Mexico Environment Department (NMED) (March 16, 2021), a plan was developed to intercept the groundwater and SPH. During the week of April 12, 2021, five recovery sumps and two piezometers were installed to intercept fluids within the Borrow Pit area. The location of the sumps and piezometers is shown on Figure 1.

Description of Interim Measures Implemented
The five sumps (S-1 through S-5) were spaced approximately 40 feet (ft) apart and arranged in a line, as shown on Figure 1. A truck-mounted drill rig using 10.25-inch (in) inner-diameter (14-in flight outside-diameter) hollow-stem auger was used to access the site and advance the borings to 8 ft below ground surface (bgs). The sumps were constructed with 4-in diameter polyvinyl chloride (PVC) casing and 0.010-in slot PVC screen installed from 2 to 8 ft bgs, with a 10/20 sand filter pack installed around the well screen. Due to the unavailability of 6-inch PVC (due to supply chain issues), 4-inch PVC was used. The piezometers were constructed with 2-in diameter PVC casing and 0.010-in slot PVC screen from 2 to 8 ft bgs, with a 10/20 sand filter pack installed around the well screen.

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All of the borings showed intermittent silty-sand/clay layers from approximately 2 to 5 ft bgs, with fat clay below approximately 5 ft to a total depth of 8 ft bgs. The upper 2-5 ft bgs zone comprise the primary permeability (silty-sand) for the observed separate-phase hydrocarbon (SPH) and groundwater. Strong gasoline odors were detected in the borings for sumps S-1, S-2, and S-3. Due to prior historical excavation in the Borrow Pit area, the ground surface within the Borrow Pit is lower than the surrounding undisturbed topography. Although wet conditions were observed in the past, the seep area was observed to be dry during drilling activities. Boring logs are presented in Attachment 1. The borings corroborated what was observed in the field during the nearby laser-induced fluorescence (LIF) investigation borings MKTF-72 and MKTF-74, which included conductivity logs (see Attachment 1).

Soil cuttings were drummed and sampled for disposal characterization. The analytical results are presented in Attachment 2. The soils were characterized hazardous for benzene and were disposed of in accordance with state and federal regulations.

Summary of Results
Table 1 summarizes the sump and piezometer gauging data, including depth to water, depth to SPH, and SPH thickness. Sumps S-1, S-2, and S-3 contain measurable SPH. Sumps S-4 and S-5 and piezometers PZ-1 and PZ-2 have been dry and have had no SPH detected since installation. Starting the week of May 10, 2021, total fluids (SPH and groundwater) were removed from the sumps using a vac truck. Evacuation will be continued 3-4 times per week. Approximately 25-35 gallons per visit have been evacuated from these sumps. Figure 2 presents graphs of SPH thickness and SPH recovered versus time. As of the date of this report, approximately 540 gallons of SPH have been recovered. Groundwater and SPH are stored in a frac tank equipped with carbon filters. SPH will be recycled, and groundwater will be treated in the refinery's wastewater treatment plant.

Summary of Problems Encountered
No problems were encountered during implementation of the IM.

Summary of Interim Measure Effectiveness
To date, the IM appears to be effective at recovering SPH in the Borrow Pit area. Drawdowns have been observed in the piezometers and sumps. Approximately 540 gallons of SPH have been recovered. Drawdown in piezometers to date is approximately 0.3 ft, and to date SPH has not been observed in the piezometers. SPH appears to be limited to three sumps (S-1, S-2, and S-3). SPH thickness in these sumps has been decreasing, as shown on Table 1 and in Figure 2. Marathon will continue operation of the IM and will evaluate data for effectiveness in a quarterly report for this IM.

Copies of Other Relevant Information
Additional information included in the attachment includes sump boring logs and neighboring LIF logs (Attachment 1) and drill cuttings soil characterization analytical data (Attachment 2).

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I-40 Exit 39
Jamestown, NM 87347
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If you have any questions or comments regarding the information contained herein, please do not hesitate to contact Mr. John Moore of my staff at 505-879-7643.

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,
Marathon Petroleum Company LP, Gallup Refinery

Robert S. Hanks
Refinery General Manager

Attachment

cc: D. Cobrain, NMED HWB
M. Suzuki, NMED HWB
T. McDill, OCD
G. McCartney, Marathon Petroleum Company
K. Luka, Marathon Petroleum Company
J. Moore, Marathon Gallup Refinery
H. Jones, Trihydro Corporation

Table

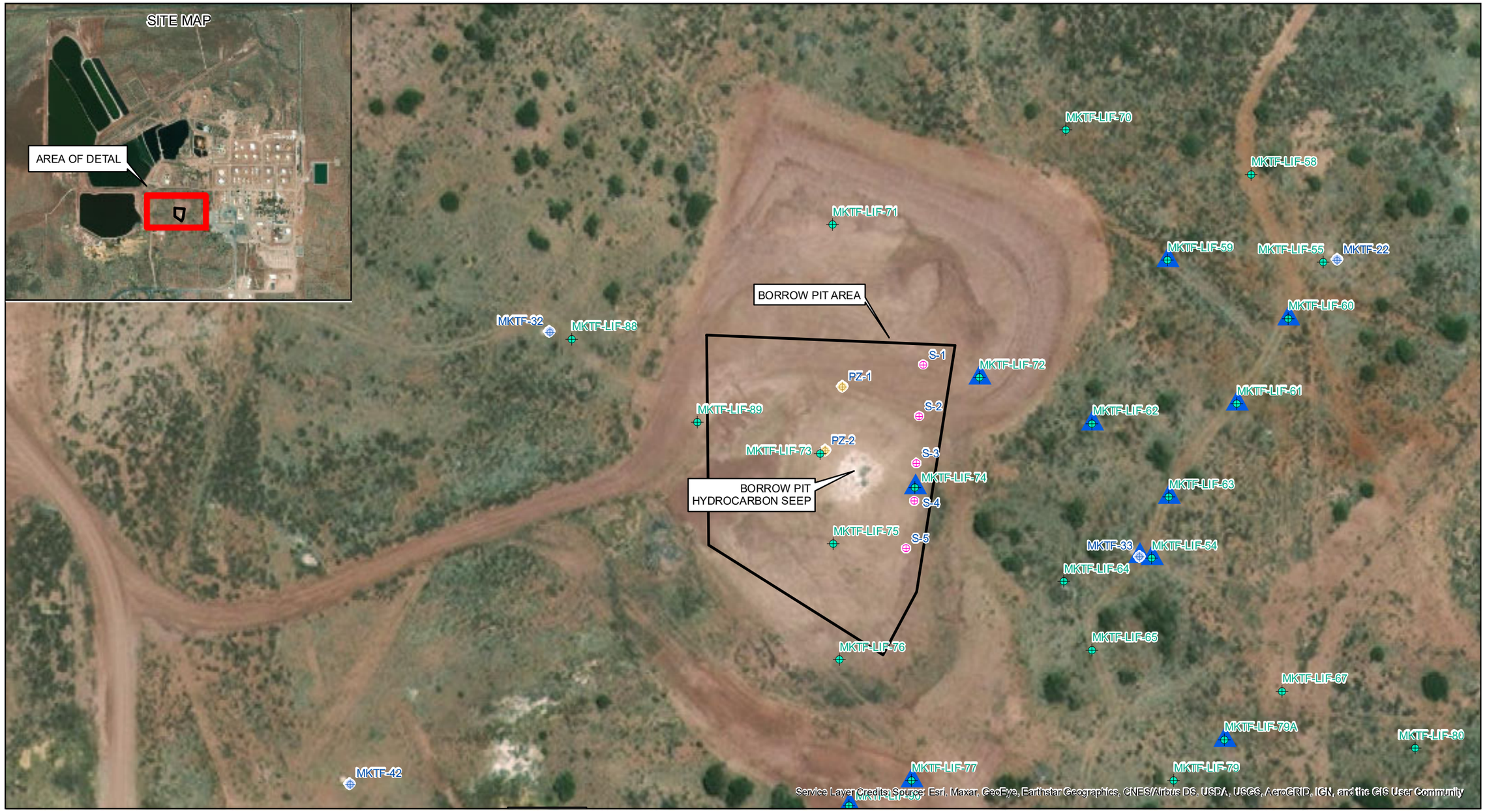
TABLE 1. SUMMARY OF BORROW PIT INTERIM MEASURE DATA
MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Date	Depth to SPH, ft							Depth to Water, ft							SPH Thickness, ft			gal/d/well, SPH			gal/d, SPH	Total Gal, SPH
	S-1	S-2	S-3	S-4	S-5	PZ-1	PZ-2	S-1	S-2	S-3	S-4	S-5	PZ-1	PZ-2	S-1	S-2	S-3	S-1	S-2	S-3		
5/10/2021	3.56	3.41	4.5	ND	ND	ND	ND	8.93	7.71	7.94	6.36	5.84	2.81	3.99	5.37	4.3	3.44	15.3	12.3	9.8	37.4	37.4
5/11/2021	3.63	3.46	4.68	ND	ND	ND	ND	8.83	7.57	7.6	6.39	5.08	2.82	3.98	5.2	4.11	2.92	14.9	11.7	8.3	34.9	72.4
5/12/2021	3.65	3.45	4.68	ND	ND	ND	ND	8.84	7.65	7.59	6.42	5.1	2.85	4	5.19	4.2	2.91	14.8	12.0	8.3	35.1	107.5
5/17/2021	3.62	3.5	4.56	ND	ND	ND	ND	8.91	7.76	7.91	6.39	5.11	2.89	4.04	5.29	4.26	3.35	15.1	12.2	9.6	36.8	144.3
5/18/2021	3.69	3.51	4.73	ND	ND	ND	ND	8.79	7.76	7.53	6.46	5.14	2.91	4.1	5.1	4.25	2.8	14.6	12.1	8.0	34.7	179.0
5/20/2021	3.71	3.53	4.72	ND	ND	ND	ND	8.86	7.82	7.67	6.48	5.21	2.98	4.18	5.15	4.29	2.95	14.7	12.3	8.4	35.4	214.4
5/24/2021	3.76	3.56	4.71	ND	ND	ND	ND	8.96	7.91	7.91	6.51	5.2	3.06	4.24	5.2	4.35	3.2	14.9	12.4	9.1	36.4	250.8
5/25/2021	3.88	3.59	4.86	ND	ND	ND	ND	8.55	7.84	7.42	6.52	5.21	3.08	4.26	4.67	4.25	2.56	13.3	12.1	7.3	32.8	283.6
5/26/2021	3.91	3.6	4.88	ND	ND	ND	ND	8.49	7.82	7.4	6.53	5.22	3.08	4.26	4.58	4.22	2.52	13.1	12.1	7.2	32.3	316.0
5/27/2021	3.88	3.63	4.9	ND	ND	ND	ND	8.52	7.76	7.42	6.54	5.24	3.08	4.29	4.64	4.13	2.52	13.3	11.8	7.2	32.2	348.2
6/1/2021	3.79	3.61	4.79	ND	ND	ND	ND	8.95	7.97	7.98	6.58	5.26	3.1	4.33	5.16	4.36	3.19	14.7	12.5	9.1	36.3	384.5
6/2/2021	3.97	3.65	4.89	ND	ND	ND	ND	8.32	7.72	7.52	6.58	5.26	3.11	4.33	4.35	4.07	2.63	12.4	11.6	7.5	31.6	416.1
6/3/2021	4.06	3.7	4.96	ND	ND	ND	ND	8.05	7.63	7.47	6.59	5.28	3.12	4.35	3.99	3.93	2.51	11.4	11.2	7.2	29.8	445.9
6/7/2021	3.82	3.63	4.79	ND	ND	ND	ND	8.89	7.97	7.98	6.6	5.29	3.13	4.38	5.07	4.34	3.19	14.5	12.4	9.1	36.0	481.8
6/8/2021	4.09	3.7	4.94	ND	ND	ND	ND	8.08	7.82	7.65	6.63	5.33	3.13	4.4	3.99	4.12	2.71	11.4	11.8	7.7	30.9	512.7
6/9/2021	4.24	3.81	5.08	ND	ND	ND	ND	7.67	7.52	7.35	6.66	5.34	3.15	4.41	3.43	3.71	2.27	9.8	10.6	6.5	26.9	539.6
Change	0.32	0.22	0.4	NA	NA	NA	NA	-0.41	0.05	-0.52	0.18	-0.6	0.27	0.3	-0.73	-0.17	-0.92	-2.0849	-0.4855	-2.6276	-5.20	NA
(6/9-5/10)																						

Notes:

d- days	NA - not applicable	SPH - separate phase hydrocarbon
gal - gallons	ND - not detected	

Figures



EXPLANATION

- 02/2021 LIF BORING LOCATION
- LOCATION OF SUMP
- PIEZOMETER LOCATION
- MONITORING WELL
- LIF INDICATES GASOLINE SPH OCCURRENCE
- SITE FEATURE

N

0 80 '

NOTES:

-LIF - LASER-INDUCED FLORESCENCE
-SPH - SEPARATE PHASE HYDROCARBON
-PLUME DEFINITION IS BASED ON A COMBINATION ON THE PRESENCE OF SPH IN WELLS AND LIF SIGNATURES.

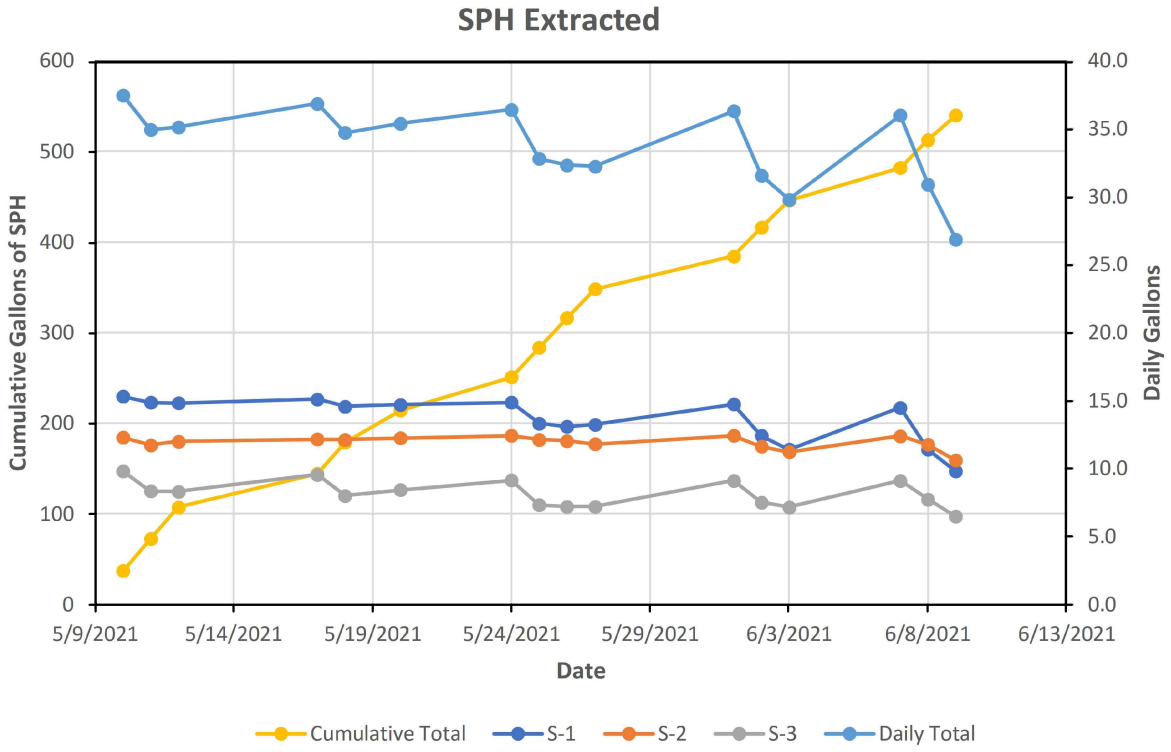
Trihydro CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

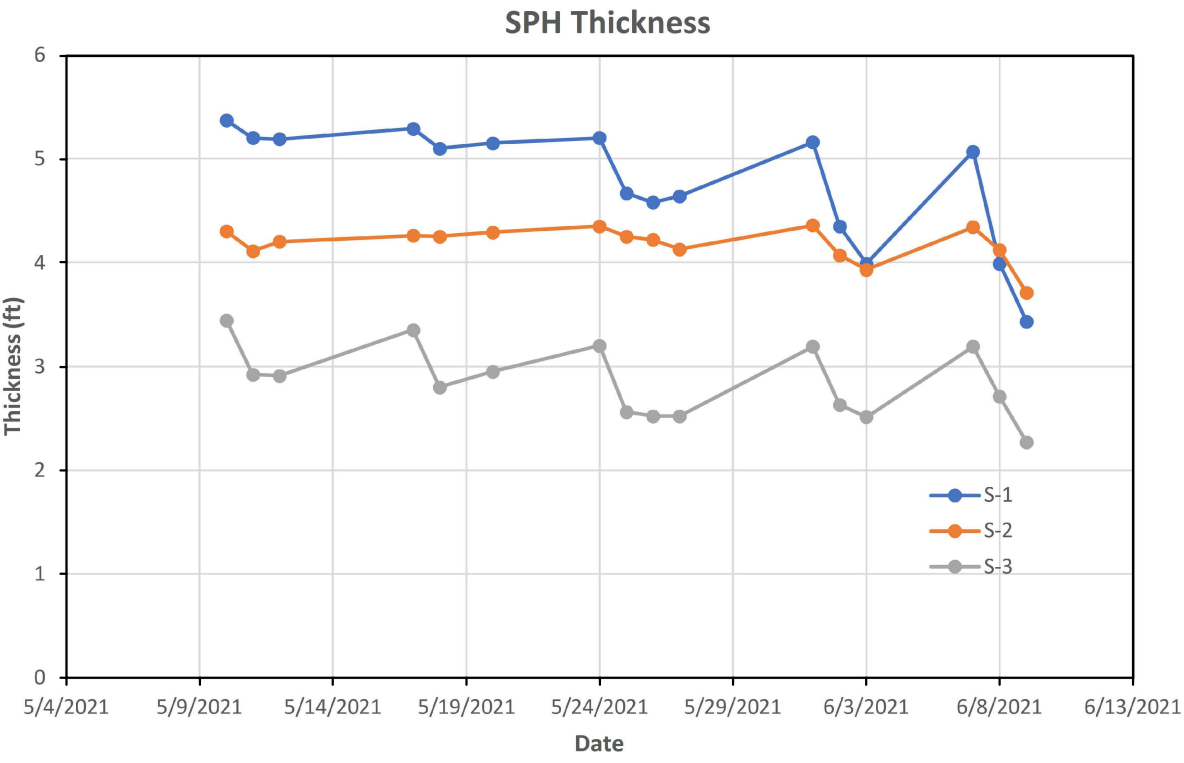
FIGURE 1

SUMP AND PIEZOMETER LOCATIONS
BORROW PIT SEEP AREA

MARATHON PETROLEUM COMPANY
GALLUP REFINING DIVISION
GALLUP, NEW MEXICO

Drawn By: KEJ	Checked By: MS	Scale: 1 " = 80 '	Date: 6/29/21	File: 1_SumpPiez_BorrowPit_Fig1.mxd





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Trihydro CORPORATION
1252 Commerce Drive
Laramie, Wyoming 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

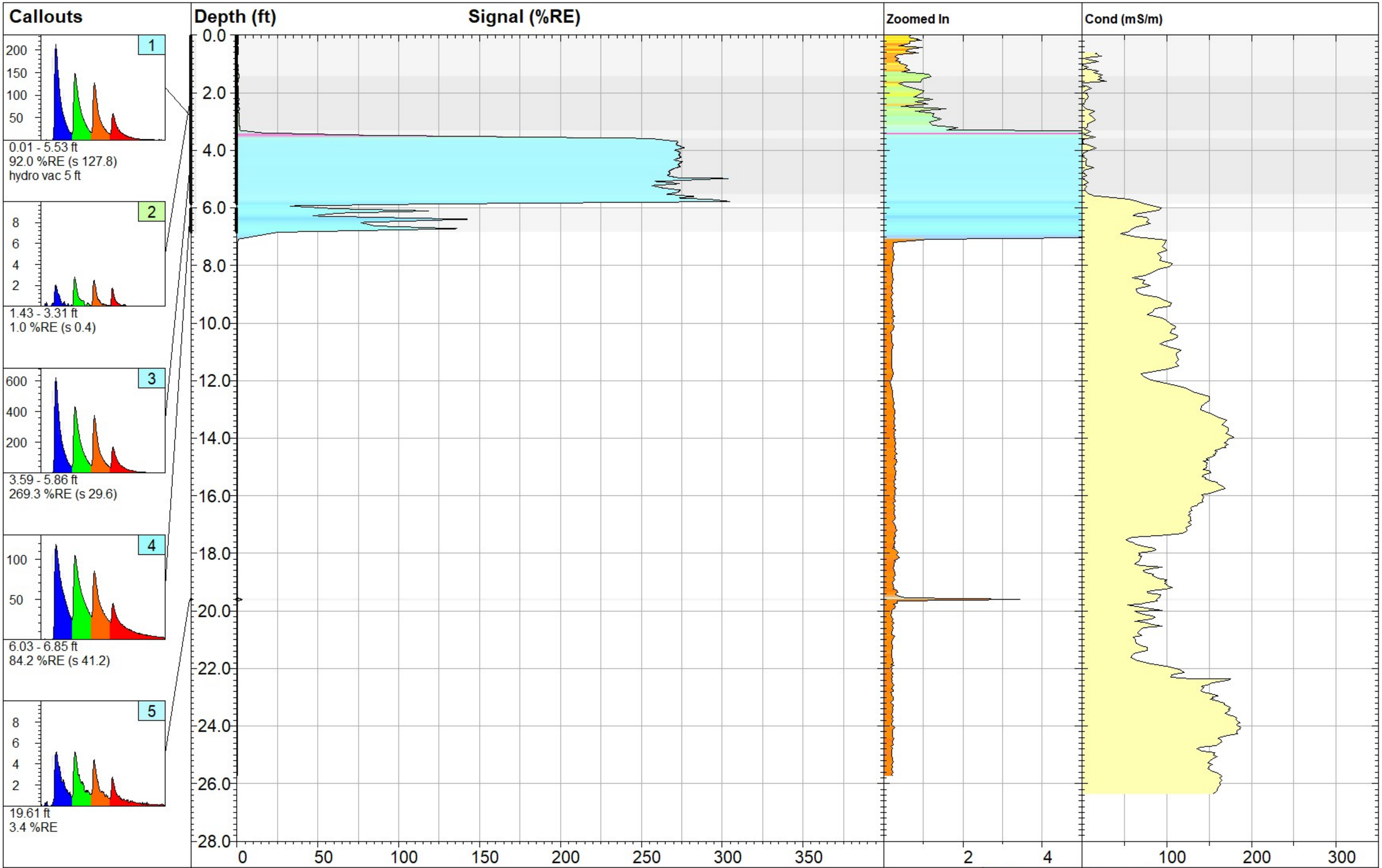
FIGURE 2

BORROW PIT
INTERIM MEASURE SEPARATE PHASE
HYDROCARBON SUMP DATA

MARATHON PETROLEUM CORP.
GALLUP REFINING DIVISION
GALLUP, NEW MEXICO

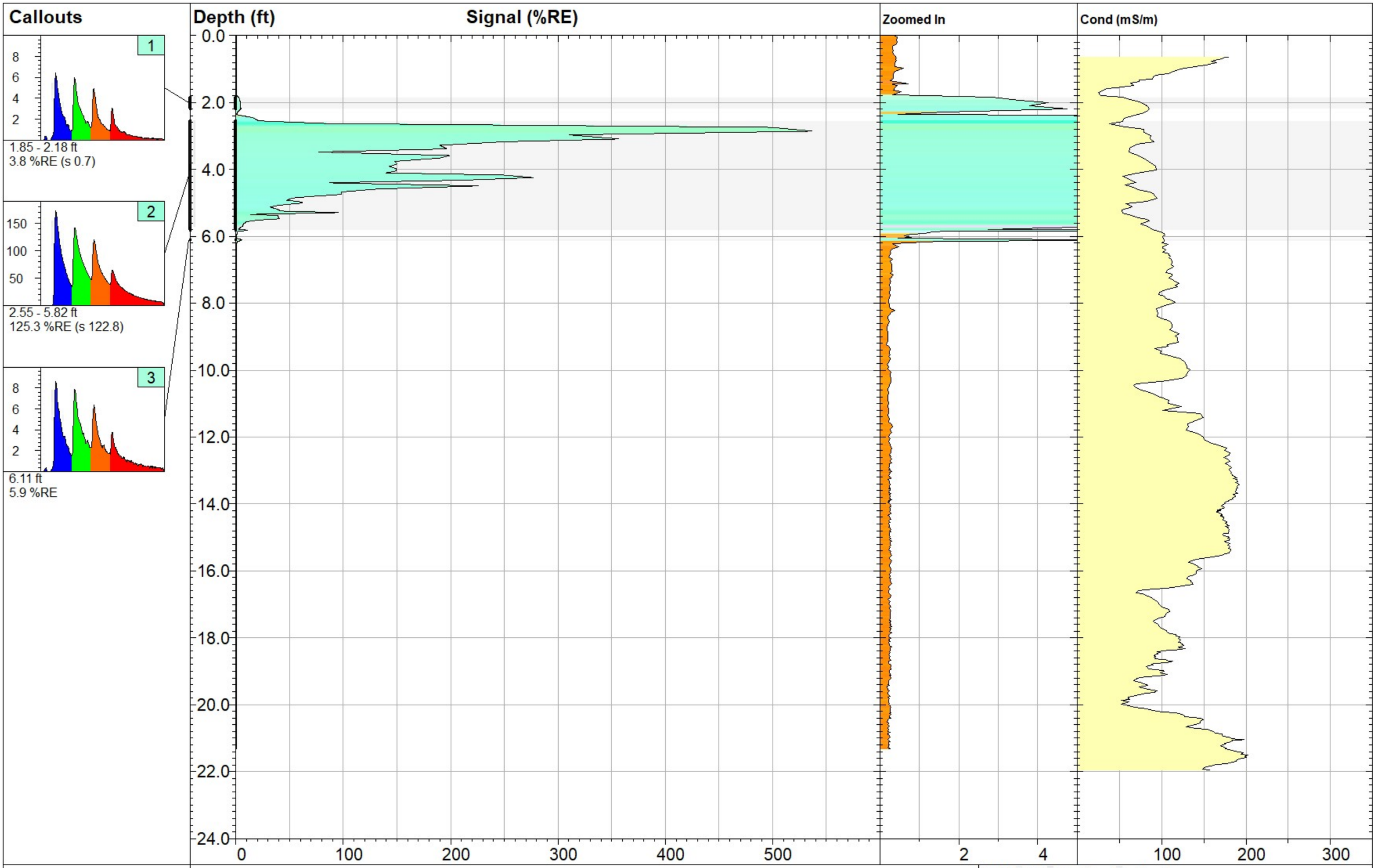
Drawn By: REP	Checked By: JP	Scale: NONE	Date: 6/14/21	File: 697-SPH-SUMPDATA

Attachment 1



MKTF-LIF-72		**UVOST® By Dakota** www.DakotaTechnologies.com
Site: **Marathon Marketing Tank Farm**	Y Coord.(Lat/North): **Unavailable**	Final Depth: **25.72 ft**
Client / Job: **TriHydro / 0049.21**	X Coord.(Long/East): **Unavailable**	Max Signal: **305.1 %RE @ 5.78 ft**
Operator / Unit: **A. Nagle / UVOST1613**	Elevation: **Unavailable**	Date & Time: **2021-02-04 08:37 MST**

DAKOTA TECHNOLOGIES
WWW.DAKOTATECHNOLOGIES.COM



DAKOTA TECHNOLOGIES
WWW.DAKOTATECHNOLOGIES.COM

MKTF-LIF-74

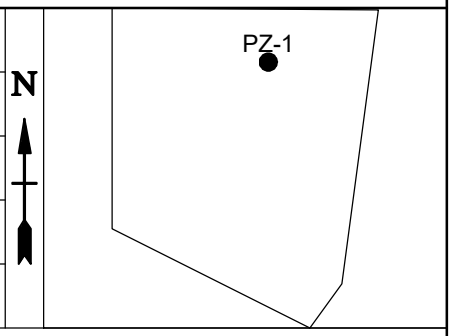
UVOST® By Dakota
www.DakotaTechnologies.com

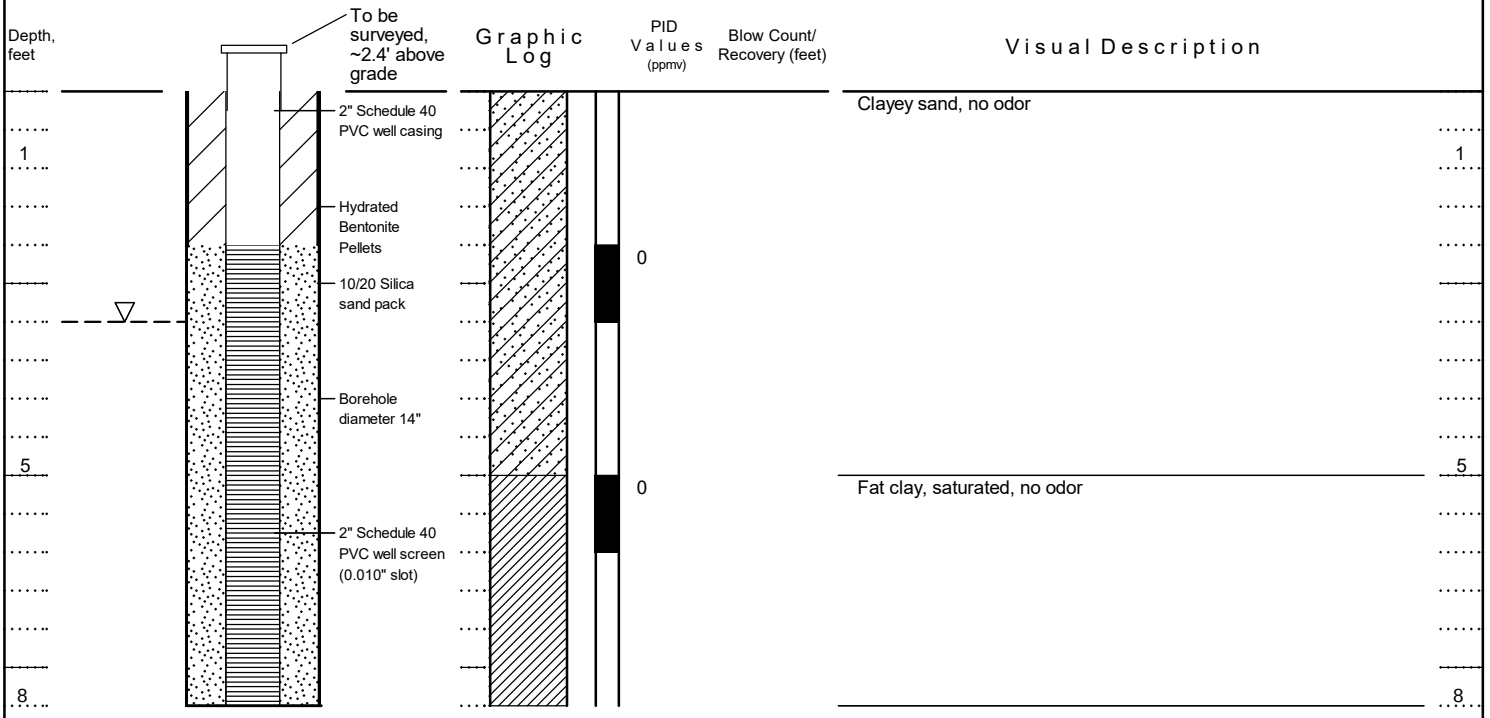
Site: **Marathon Marketing Tank Farm**	Y Coord.(Lat/North): **Unavailable**	Final Depth: **21.33 ft**
Client / Job: **TriHydro / 0049.21**	X Coord.(Long/East): **Unavailable**	Max Signal: **537.6 %RE @ 2.86 ft**
Operator / Unit: **A. Nagle / UVOST1613**	Elevation: **Unavailable**	Date & Time: **2021-02-04 09:16 MST**

Well Log

Well: **PZ-1**

Client: **Marathon Gallup Refinery**		
Date Started: **4/14/21**	Date Completed: **4/14/21**	Permit Number:
Logged By: **Mackenzie Swift**	Driller: **Jeff Cothron**	1/4, 1/4, S, T, R:
Drilling Co.: **Terracon**	Drilling Rig: **Truck Rig**	Borehole Diameter: **14"**
Method: **Hollow Stem Auger**	Measuring Point Elev. (ft.-msl):	Sample Type: **Grab**
Total Depth (ft): **8**	Ground Surface Elev. (ft.-msl): **6844.88**	Location: **Borrow Pit**



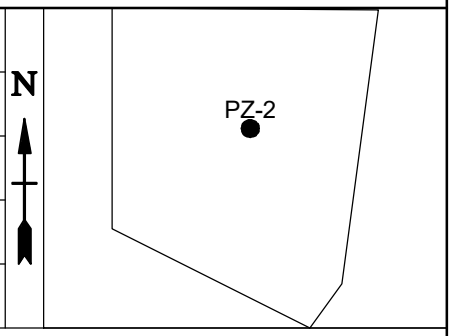


Well Log

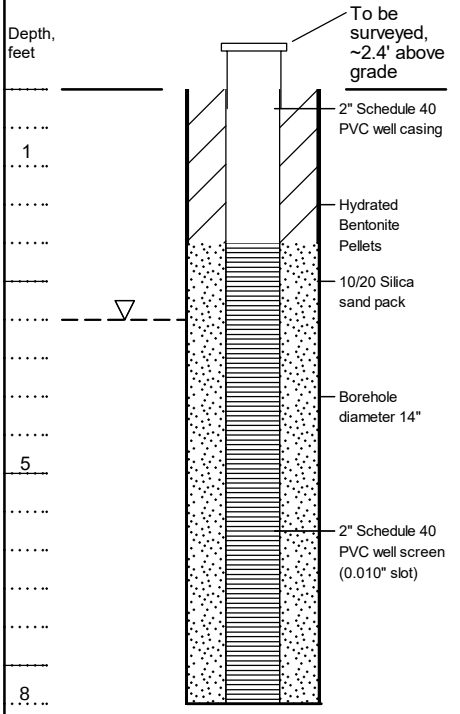
Well: **PZ-2**

Trihydro Corporation

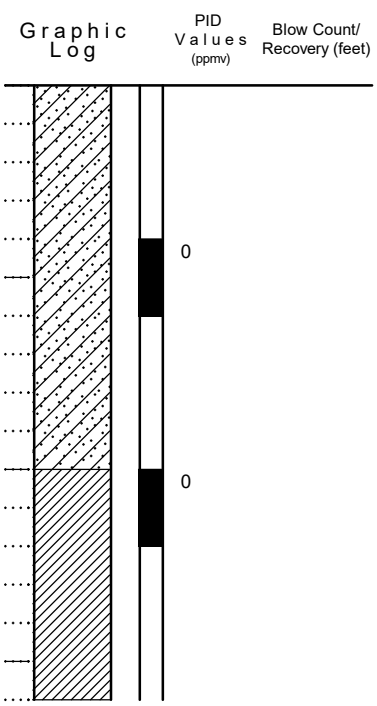
Client: **Marathon Gallup Refinery**		
Date Started: **4/14/21**	Date Completed: **4/14/21**	Permit Number:
Logged By: **Mackenzie Swift**	Driller: **Jeff Cothron**	1/4, 1/4, S, T, R:
Drilling Co.: **Terracon**	Drilling Rig: **Truck Rig**	Borehole Diameter: **14"**
Method: **Hollow Stem Auger**	Measuring Point Elev. (ft.-msl):	Sample Type: **Grab**
Total Depth (ft): **8**	Ground Surface Elev. (ft.-msl): **6845.68**	Location: **Borrow Pit**



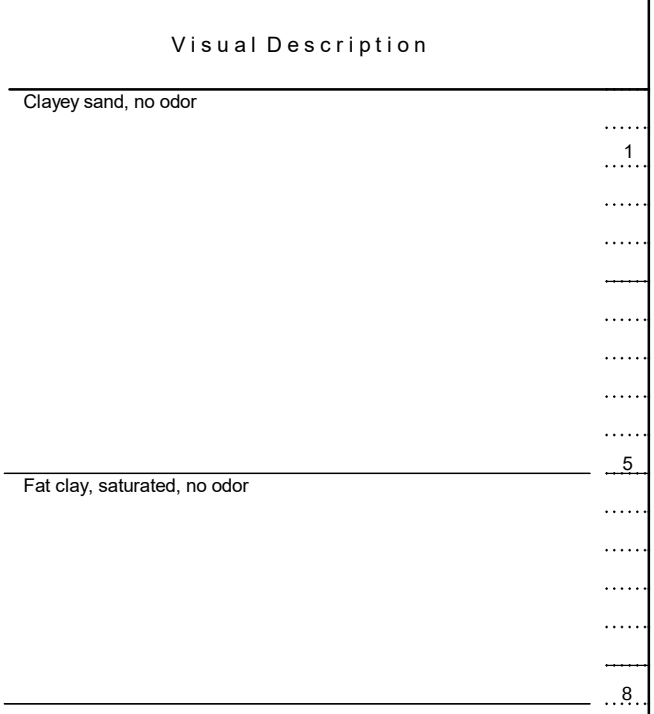
CONSTRUCTION



SAMPLING DATA



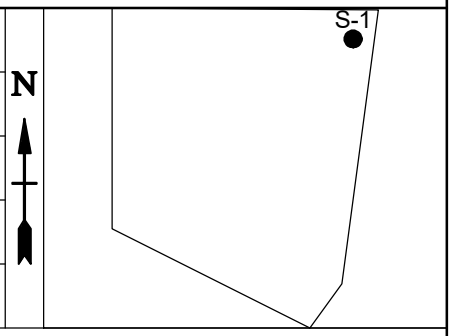
LITHOLOGY



Well Log

Well: **S-1**

Client: **Marathon Gallup Refinery**		
Date Started: **4/14/21**	Date Completed: **4/14/21**	Permit Number:
Logged By: **Mackenzie Swift**	Driller: **Jeff Cothron**	1/4, 1/4, S, T, R:
Drilling Co.: **Terracon**	Drilling Rig: **Truck Rig**	Borehole Diameter: **14"**
Method: **Hollow Stem Auger**	Measuring Point Elev. (ft.-msl):	Sample Type: **Grab**
Total Depth (ft): **8**	Ground Surface Elev. (ft.-msl): **6848.94**	Location: **Borrow Pit**

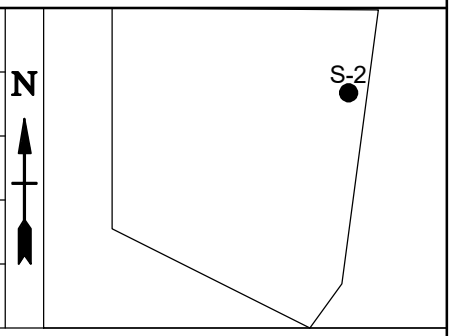


CONSTRUCTION	SAMPLING DATA			LITHOLOGY
Depth, feet	Graphic Log	PID Values (ppmv)	Blow Count/ Recovery (feet)	Visual Description
To be surveyed, ~2.4' above grade				
4" Schedule 40 PVC well casing		17		Clayey sand, strong hydrocarbon odor, saturated with gasoline below ~3 ft bg
1				1
Hydrated Bentonite Pellets				
10/20 Silica sand pack				
Borehole diameter 14"				
5		200		5
				Fat clay, saturated, strong hydrocarbon odor, gasoline/water mix
4" Schedule 40 PVC well screen (0.010" slot)				
8				8

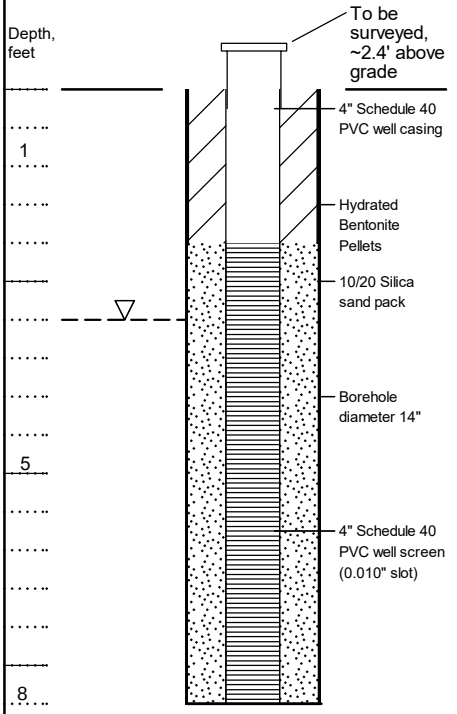
Well Log

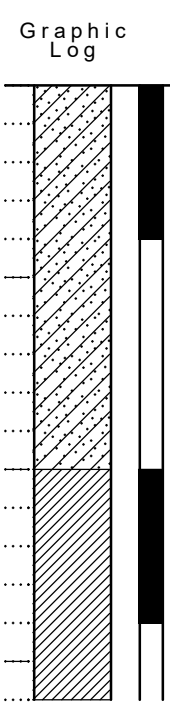
Well: **S-2**

Client: **Marathon Gallup Refinery**		
Date Started: **4/14/21**	Date Completed: **4/14/21**	Permit Number:
Logged By: **Mackenzie Swift**	Driller: **Jeff Cothron**	1/4, 1/4, S, T, R:
Drilling Co.: **Terracon**	Drilling Rig: **Truck Rig**	Borehole Diameter: **14"**
Method: **Hollow Stem Auger**	Measuring Point Elev. (ft.-msl):	Sample Type: **Grab**
Total Depth (ft): **8**	Ground Surface Elev. (ft.-msl): **6849.10**	Location: **Borrow Pit**



CONSTRUCTION / SAMPLING DATA / LITHOLOGY



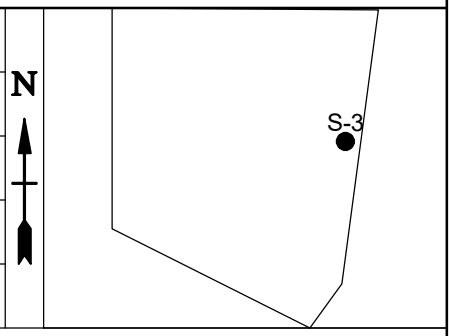


PID Values (ppmv)	Blow Count/ Recovery (feet)	Visual Description
200		Clayey sand, strong hydrocarbon odor, saturated with gasoline below ~3 ft bg
200		Fat clay, saturated, strong hydrocarbon odor, gasoline/water mix

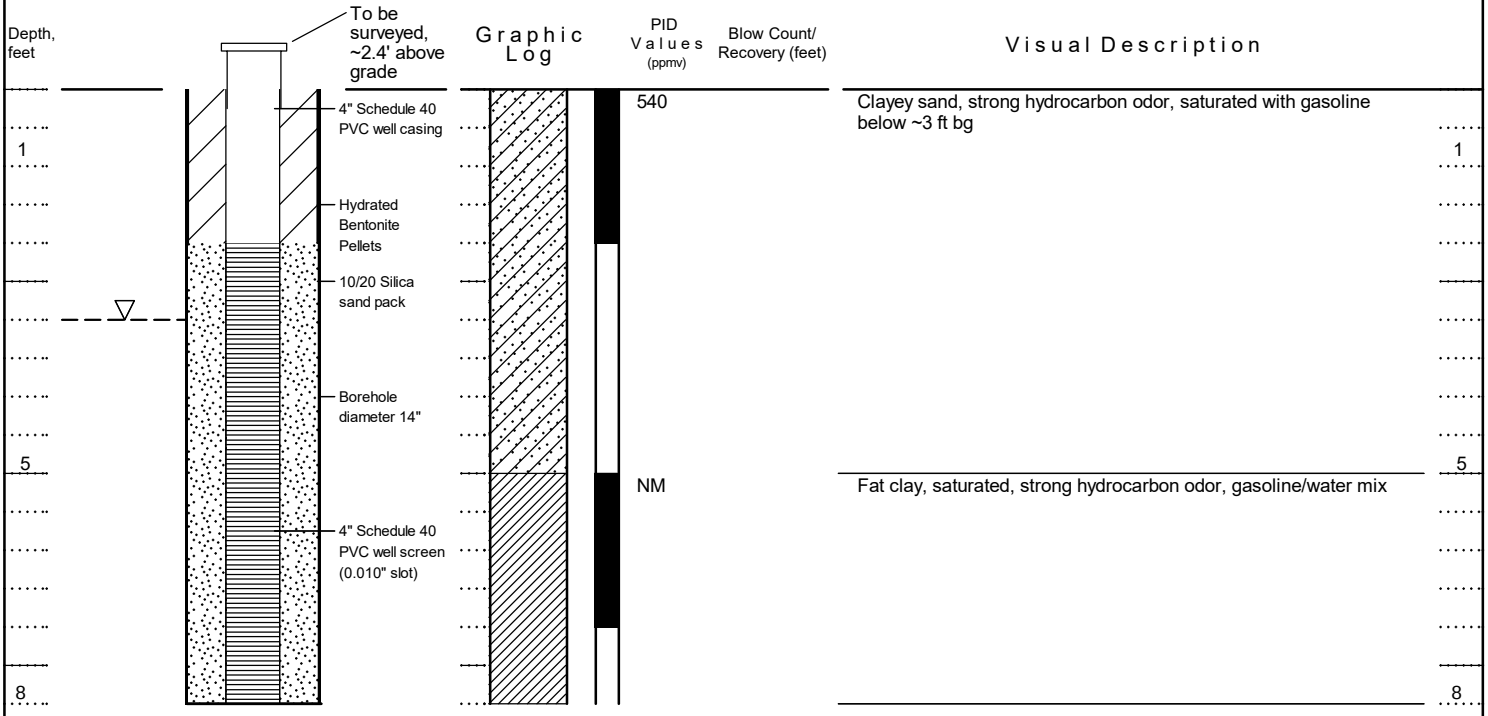
Well Log

Well: **S-3**

Client: **Marathon Gallup Refinery**		
Date Started: **4/14/21**	Date Completed: **4/14/21**	Permit Number:
Logged By: **Mackenzie Swift**	Driller: **Jeff Cothron**	1/4, 1/4, S, T, R:
Drilling Co.: **Terracon**	Drilling Rig: **Truck Rig**	Borehole Diameter: **14"**
Method: **Hollow Stem Auger**	Measuring Point Elev. (ft.-msl):	Sample Type: **Grab**
Total Depth (ft): **8**	Ground Surface Elev. (ft.-msl): **6849.86**	Location: **Borrow Pit**



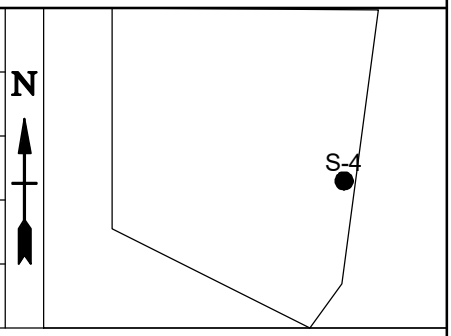
CONSTRUCTION / SAMPLING DATA / LITHOLOGY



Well Log

Well: **S-4**

Client: **Marathon Gallup Refinery**		
Date Started: **4/14/21**	Date Completed: **4/14/21**	Permit Number:
Logged By: **Mackenzie Swift**	Driller: **Jeff Cothron**	1/4, 1/4, S, T, R:
Drilling Co.: **Terracon**	Drilling Rig: **Truck Rig**	Borehole Diameter: **14"**
Method: **Hollow Stem Auger**	Measuring Point Elev. (ft.-msl):	Sample Type: **Grab**
Total Depth (ft): **8**	Ground Surface Elev. (ft.-msl): **6850.35**	Location: **Borrow Pit**

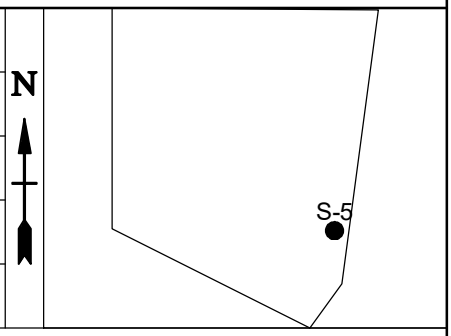


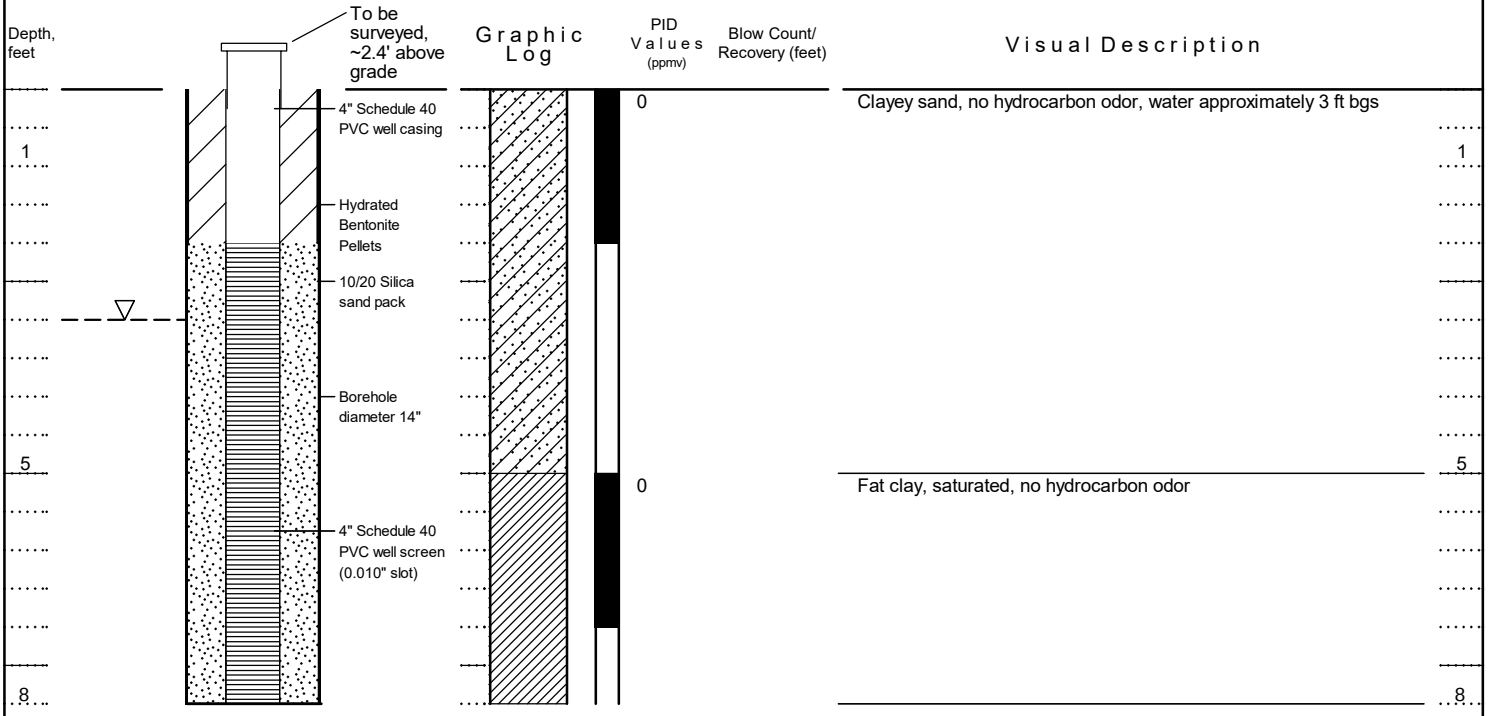
CONSTRUCTION	SAMPLING DATA		LITHOLOGY
Depth, feet	Graphic Log	PID Values (ppmv)	Blow Count/ Recovery (feet)	Visual Description
To be surveyed, ~2.4' above grade				
4" Schedule 40 PVC well casing		0		Clayey sand, no hydrocarbon odor, water approximately 3 ft bgs
1				1
Hydrated Bentonite Pellets				
10/20 Silica sand pack				
Borehole diameter 14"				
5		0		5
				Fat clay, saturated, no hydrocarbon odor
4" Schedule 40 PVC well screen (0.010" slot)				
8				8

Well Log

Well: **S-5**

Client: **Marathon Gallup Refinery**		
Date Started: **4/15/21**	Date Completed: **4/14/21**	Permit Number:
Logged By: **Mackenzie Swift**	Driller: **Jeff Cothron**	1/4, 1/4, S, T, R:
Drilling Co.: **Terracon**	Drilling Rig: **Truck Rig**	Borehole Diameter: **14"**
Method: **Hollow Stem Auger**	Measuring Point Elev. (ft.-msl):	Sample Type: **Grab**
Total Depth (ft): **8**	Ground Surface Elev. (ft.-msl): **6848.92**	Location: **Borrow Pit**





Attachment 2

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

May 03, 2021

John Pietz

Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL: (505) 722-3833
FAX:

RE: SWMU 1 Test Pits Borrow Pit Sump OrderNo.: 2104821

Dear John Pietz:

Hall Environmental Analysis Laboratory received 2 sample(s) on 4/16/2021 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2104821**
Date Reported: **5/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SWMV 1 Composite
Project: SWMU 1 Test Pits Borrow Pit Sump
Collection Date: 4/14/2021 12:00:00 PM
Lab ID: 2104821-001 **Matrix:** SOIL
Received Date: 4/16/2021 4:17:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
MERCURY, TCLP						Analyst: **ags**	
Mercury	ND	0.020		mg/L	1	4/23/2021 11:11:07 AM	59582
EPA METHOD 6010B: TCLP METALS						Analyst: **JLF**	
Arsenic	ND	5.0		mg/L	1	4/23/2021 11:04:16 AM	59584
Barium	ND	100		mg/L	1	4/23/2021 11:04:16 AM	59584
Cadmium	ND	1.0		mg/L	1	4/23/2021 11:04:16 AM	59584
Chromium	ND	5.0		mg/L	1	4/23/2021 11:04:16 AM	59584
Lead	ND	5.0		mg/L	1	4/23/2021 1:08:02 PM	59584
Selenium	ND	1.0		mg/L	1	4/23/2021 11:04:16 AM	59584
Silver	ND	5.0		mg/L	1	4/23/2021 11:04:16 AM	59584
EPA METHOD 8270C TCLP						Analyst: **DAM**	
2-Methylphenol	ND	200		mg/L	1	4/27/2021 6:30:35 PM	59621
3+4-Methylphenol	ND	200		mg/L	1	4/27/2021 6:30:35 PM	59621
2,4-Dinitrotoluene	ND	0.13		mg/L	1	4/27/2021 6:30:35 PM	59621
Hexachlorobenzene	ND	0.13		mg/L	1	4/27/2021 6:30:35 PM	59621
Hexachlorobutadiene	ND	0.50		mg/L	1	4/27/2021 6:30:35 PM	59621
Hexachloroethane	ND	3.0		mg/L	1	4/27/2021 6:30:35 PM	59621
Nitrobenzene	ND	2.0		mg/L	1	4/27/2021 6:30:35 PM	59621
Pentachlorophenol	ND	100		mg/L	1	4/27/2021 6:30:35 PM	59621
Pyridine	ND	5.0		mg/L	1	4/27/2021 6:30:35 PM	59621
2,4,5-Trichlorophenol	ND	400		mg/L	1	4/27/2021 6:30:35 PM	59621
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	4/27/2021 6:30:35 PM	59621
Cresols, Total	ND	200		mg/L	1	4/27/2021 6:30:35 PM	59621
Surr: 2-Fluorophenol	63.9	15-97.5		%Rec	1	4/27/2021 6:30:35 PM	59621
Surr: Phenol-d5	49.5	15-77.3		%Rec	1	4/27/2021 6:30:35 PM	59621
Surr: 2,4,6-Tribromophenol	73.8	15-112		%Rec	1	4/27/2021 6:30:35 PM	59621
Surr: Nitrobenzene-d5	75.6	15-119		%Rec	1	4/27/2021 6:30:35 PM	59621
Surr: 2-Fluorobiphenyl	71.6	15-89.2		%Rec	1	4/27/2021 6:30:35 PM	59621
Surr: 4-Terphenyl-d14	74.8	15-137		%Rec	1	4/27/2021 6:30:35 PM	59621
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **JMR**	
Benzene	ND	0.50		ppm	10	4/20/2021 2:18:15 PM	59501
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	4/20/2021 2:18:15 PM	59501
2-Butanone	ND	200		ppm	10	4/20/2021 2:18:15 PM	59501
Carbon tetrachloride	ND	0.50		ppm	10	4/20/2021 2:18:15 PM	59501
Chlorobenzene	ND	100		ppm	10	4/20/2021 2:18:15 PM	59501
Chloroform	ND	6.0		ppm	10	4/20/2021 2:18:15 PM	59501
1,4-Dichlorobenzene	ND	7.5		ppm	10	4/20/2021 2:18:15 PM	59501
1,1-Dichloroethene	ND	0.70		ppm	10	4/20/2021 2:18:15 PM	59501
Tetrachloroethene (PCE)	ND	0.70		ppm	10	4/20/2021 2:18:15 PM	59501

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2104821**
Date Reported: **5/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SWMV 1 Composite
Project: SWMU 1 Test Pits Borrow Pit Sump
Collection Date: 4/14/2021 12:00:00 PM
Lab ID: 2104821-001 **Matrix:** SOIL
Received Date: 4/16/2021 4:17:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **JMR**	
Trichloroethene (TCE)	ND	0.50		ppm	10	4/20/2021 2:18:15 PM	59501
Vinyl chloride	ND	0.20		ppm	10	4/20/2021 2:18:15 PM	59501
Surr: 1,2-Dichloroethane-d4	95.8	70-130		%Rec	10	4/20/2021 2:18:15 PM	59501
Surr: 4-Bromofluorobenzene	82.8	70-130		%Rec	10	4/20/2021 2:18:15 PM	59501
Surr: Dibromofluoromethane	100	70-130		%Rec	10	4/20/2021 2:18:15 PM	59501
Surr: Toluene-d8	95.8	70-130		%Rec	10	4/20/2021 2:18:15 PM	59501

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2104821**
Date Reported: **5/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: Borrow Pit Composite
Project: SWMU 1 Test Pits Borrow Pit Sump
Collection Date: 4/15/2021 12:00:00 PM
Lab ID: 2104821-002 **Matrix:** SOIL
Received Date: 4/16/2021 4:17:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
MERCURY, TCLP						Analyst: **ags**	
Mercury	ND	0.020		mg/L	1	4/23/2021 11:17:57 AM	59582
EPA METHOD 6010B: TCLP METALS						Analyst: **JLF**	
Arsenic	ND	5.0		mg/L	1	4/23/2021 11:06:49 AM	59584
Barium	ND	100		mg/L	1	4/23/2021 11:06:49 AM	59584
Cadmium	ND	1.0		mg/L	1	4/23/2021 11:06:49 AM	59584
Chromium	ND	5.0		mg/L	1	4/23/2021 11:06:49 AM	59584
Lead	ND	5.0		mg/L	1	4/23/2021 1:09:32 PM	59584
Selenium	ND	1.0		mg/L	1	4/23/2021 11:06:49 AM	59584
Silver	ND	5.0		mg/L	1	4/23/2021 11:06:49 AM	59584
EPA METHOD 8270C TCLP						Analyst: **DAM**	
2-Methylphenol	ND	200		mg/L	1	4/27/2021 7:13:04 PM	59621
3+4-Methylphenol	ND	200		mg/L	1	4/27/2021 7:13:04 PM	59621
2,4-Dinitrotoluene	ND	0.13		mg/L	1	4/27/2021 7:13:04 PM	59621
Hexachlorobenzene	ND	0.13		mg/L	1	4/27/2021 7:13:04 PM	59621
Hexachlorobutadiene	ND	0.50		mg/L	1	4/27/2021 7:13:04 PM	59621
Hexachloroethane	ND	3.0		mg/L	1	4/27/2021 7:13:04 PM	59621
Nitrobenzene	ND	2.0		mg/L	1	4/27/2021 7:13:04 PM	59621
Pentachlorophenol	ND	100		mg/L	1	4/27/2021 7:13:04 PM	59621
Pyridine	ND	5.0		mg/L	1	4/27/2021 7:13:04 PM	59621
2,4,5-Trichlorophenol	ND	400		mg/L	1	4/27/2021 7:13:04 PM	59621
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	4/27/2021 7:13:04 PM	59621
Cresols, Total	ND	200		mg/L	1	4/27/2021 7:13:04 PM	59621
Surr: 2-Fluorophenol	50.9	15-97.5		%Rec	1	4/27/2021 7:13:04 PM	59621
Surr: Phenol-d5	40.1	15-77.3		%Rec	1	4/27/2021 7:13:04 PM	59621
Surr: 2,4,6-Tribromophenol	63.7	15-112		%Rec	1	4/27/2021 7:13:04 PM	59621
Surr: Nitrobenzene-d5	62.6	15-119		%Rec	1	4/27/2021 7:13:04 PM	59621
Surr: 2-Fluorobiphenyl	60.9	15-89.2		%Rec	1	4/27/2021 7:13:04 PM	59621
Surr: 4-Terphenyl-d14	77.7	15-137		%Rec	1	4/27/2021 7:13:04 PM	59621
VOLATILES BY 8260B/1311						Analyst: **BRM**	
Benzene	0.84	0.50		mg/L	1	4/27/2021 3:09:57 AM	59588
2-Butanone	ND	200		mg/L	1	4/27/2021 3:09:57 AM	59588
Carbon Tetrachloride	ND	0.50		mg/L	1	4/27/2021 3:09:57 AM	59588
Chlorobenzene	ND	100		mg/L	1	4/27/2021 3:09:57 AM	59588
Chloroform	ND	6.0		mg/L	1	4/27/2021 3:09:57 AM	59588
1,4-Dichlorobenzene	ND	7.5		mg/L	1	4/27/2021 3:09:57 AM	59588
1,2-Dichloroethane (EDC)	ND	0.50		mg/L	1	4/27/2021 3:09:57 AM	59588
1,1-Dichloroethene	ND	0.70		mg/L	1	4/27/2021 3:09:57 AM	59588
Tetrachloroethene (PCE)	ND	0.70		mg/L	1	4/27/2021 3:09:57 AM	59588

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2104821**
Date Reported: **5/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** Borrow Pit Composite
Project: SWMU 1 Test Pits Borrow Pit Sump **Collection Date:** 4/15/2021 12:00:00 PM
Lab ID: 2104821-002 **Matrix:** SOIL **Received Date:** 4/16/2021 4:17:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
VOLATILES BY 8260B/1311						Analyst: **BRM**	
Trichloroethene (TCE)	ND	0.50		mg/L	1	4/27/2021 3:09:57 AM	59588
Vinyl chloride	ND	0.20		mg/L	1	4/27/2021 3:09:57 AM	59588
Surr: 1,2-Dichloroethane-d4	112	70-130		%Rec	1	4/27/2021 3:09:57 AM	59588
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	4/27/2021 3:09:57 AM	59588
Surr: Dibromofluoromethane	114	70-130		%Rec	1	4/27/2021 3:09:57 AM	59588
Surr: Toluene-d8	99.2	70-130		%Rec	1	4/27/2021 3:09:57 AM	59588

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Pace Analytical®

ANALYTICAL REPORT

April 30, 2021

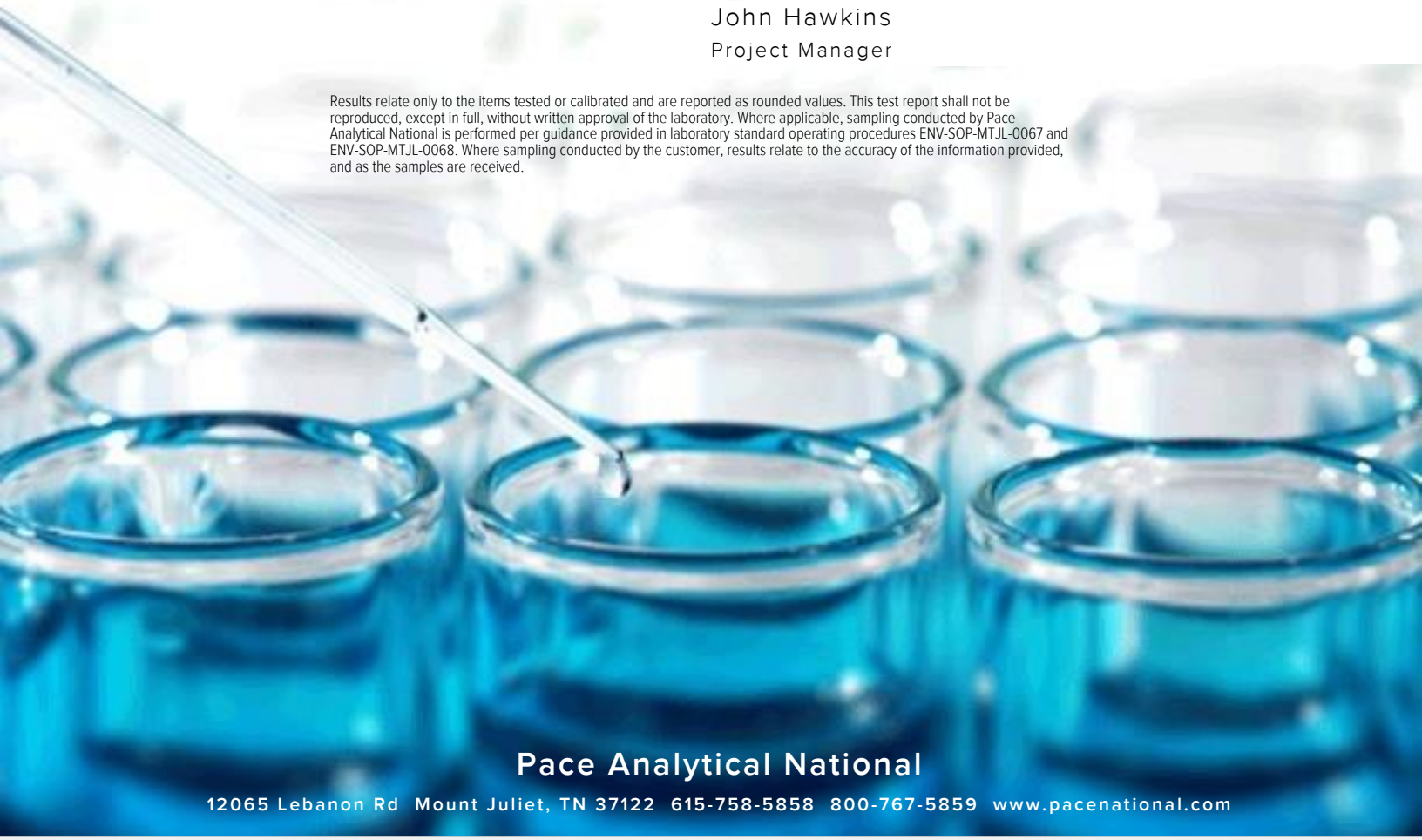
Hall Environmental Analysis Laboratory

Sample Delivery Group:	L1341121
Samples Received:	04/20/2021
Project Number:	
Description:	

Report To: Jackie Bolte
4901 Hawkins NE
Albuquerque, NM 87109

Entire Report Reviewed By:

John Hawkins
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

SAMPLE SUMMARY

2104821-001B SWMU 1 OCMPOSITE L1341121-01 Solid

Collected by	Collected date/time	Received date/time
	04/14/21 12:00	04/20/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9012 B	WG1660441	1	04/29/21 09:55	04/29/21 16:23	KEG	Mt. Juliet, TN
Wet Chemistry by Method 9034-9030B	WG1656056	1	04/21/21 21:00	04/21/21 21:00	LDT	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1658421	1	04/26/21 02:31	04/26/21 08:00	ARD	Mt. Juliet, TN
Wet Chemistry by Method D93/1010A	WG1657481	1	04/23/21 19:00	04/23/21 19:00	LRP	Mt. Juliet, TN

2104821-002B BORROW PIT COMPOSITE L1341121-02 Solid

Collected by	Collected date/time	Received date/time
	04/15/21 12:00	04/20/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9012 B	WG1660441	1	04/29/21 09:55	04/29/21 16:24	KEG	Mt. Juliet, TN
Wet Chemistry by Method 9034-9030B	WG1656056	1	04/21/21 21:00	04/21/21 21:00	LDT	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1658421	1	04/26/21 02:31	04/26/21 08:00	ARD	Mt. Juliet, TN
Wet Chemistry by Method D93/1010A	WG1657481	1	04/23/21 19:00	04/23/21 19:00	LRP	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

John Hawkins
Project Manager

Project Narrative

All Reactive Cyanide results reported in the attached report were determined as totals using method 9012B.
All Reactive Sulfide results reported in the attached report were determined as totals using method 9034/9030B.

SAMPLE RESULTS - 01

Collected date/time: 04/14/21 12:00

L1341121

Wet Chemistry by Method 9012 B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND		0.250	1	04/29/2021 16:23	WG1660441

Wet Chemistry by Method 9034-9030B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Reactive Sulfide	ND		25.0	1	04/21/2021 21:00	WG1656056

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
Corrosivity by pH	9.01	T8	1	04/26/2021 08:00	WG1658421

Sample Narrative:

L1341121-01 WG1658421: 9.01 at 21.6C

Wet Chemistry by Method D93/1010A

Analyte	Result Deg. F	Qualifier	Dilution	Analysis date / time	Batch
Ignitability	DNI at 170		1	04/23/2021 19:00	WG1657481

Wet Chemistry by Method 9012 B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND		0.250	1	04/29/2021 16:24	WG1660441

Wet Chemistry by Method 9034-9030B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Reactive Sulfide	ND		25.0	1	04/21/2021 21:00	WG1656056

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
Corrosivity by pH	9.33	T8	1	04/26/2021 08:00	WG1658421

Sample Narrative:

L1341121-02 WG1658421: 9.33 at 21.5C

Wet Chemistry by Method D93/1010A

Analyte	Result Deg. F	Qualifier	Dilution	Analysis date / time	Batch
Ignitability	IGN < 75		1	04/23/2021 19:00	WG1657481

Method Blank (MB)

(MB) R3648401-1 04/29/21 16:18

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Reactive Cyanide	U		0.0390	0.250

Laboratory Control Sample (LCS)

(LCS) R3648401-2 04/29/21 16:19

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Cyanide	2.50	2.42	96.7	85.0-115	

Method Blank (MB)

(MB) R3644845-1 04/21/21 21:00

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Reactive Sulfide	U		7.63	25.0

Laboratory Control Sample (LCS)

(LCS) R3644845-2 04/21/21 21:00

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Sulfide	100	84.0	84.0	70.0-130	

L1340187-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1340187-03 04/21/21 21:00 • (MS) R3644845-3 04/21/21 21:00 • (MSD) R3644845-4 04/21/21 21:00

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Reactive Sulfide	100	ND	87.6	87.8	87.6	87.8	1	70.0-130			0.209	20

Laboratory Control Sample (LCS)

(LCS) R3646486-1 04/26/21 08:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
Corrosivity by pH	10.0	9.98	99.8	99.0-101	

Sample Narrative:

LCS: 9.98 at 19.9C

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3645953-1 04/23/21 19:00 • (LCSD) R3645953-2 04/23/21 19:00

Analyte	Spike Amount Deg. F	LCS Result Deg. F	LCSD Result Deg. F	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ignitability	126	127	125	101	99.0	95.6-104			1.59	10

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
T8	Sample(s) received past/too close to holding time expiration.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: clients.hallenvironmental.com

SUB CONTRATOR: Pace TN	COMPANY: PACE TN	PHONE: (800) 767-5859	FAX: (615) 758-5859
ADDRESS: 12065 Lebanon Rd		ACCOUNT #:	EMAIL:
CITY, STATE, ZIP: Mt. Juliet, TN 37122			

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS L1341121
1	2104821-001B	SWMU 1 Composite	4OZGU	Soil	4/14/2021 12:00:00 PM	1	RCI -01
2	2104821-002B	Borrow Pit Composite	4OZGU	Soil	4/15/2021 12:00:00 PM	1	RCI -02

B067

Sample Receipt Checklist
COC Seal Present/Intact: Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
RAD Screen <0.5 mR/hr: Y N
If Applicable
VOA Zero Headspace: Y N
Pres.Correct/Check: Y N

A2 1.5-7, 1=1.6
C0C81

SPECIAL INSTRUCTIONS / COMMENTS: 1749 9998 3896

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By	Date	Time	Received By	Date	Time
SGL	4/19/2021	10:24 AM	B. Bauer	4/20/21	0845

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY
Temp of samples ______ °C Attempt to Cool ? ______
Comments: ______

TAT: Standard ☑ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2104821**
03-May-21

Client: Marathon
Project: SWMU 1 Test Pits Borrow Pit Sump

Sample ID: **lcs-59501** SampType: **LCS** TestCode: **EPA Method 8260B: TCLP Compounds**
Client ID: **LCSS** Batch ID: **59501** RunNo: **76828**
Prep Date: **4/19/2021** Analysis Date: **4/20/2021** SeqNo: **2723024** Units: **ppm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.050	1.000	0	98.2	70	130			
Chlorobenzene	ND	10	1.000	0	101	70	130			
1,1-Dichloroethene	1.1	0.070	1.000	0	106	70	130			
Trichloroethene (TCE)	0.91	0.050	1.000	0	91.3	70	130			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.3	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.7	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.48		0.5000		96.7	70	130			

Sample ID: **mb-59501** SampType: **MBLK** TestCode: **EPA Method 8260B: TCLP Compounds**
Client ID: **PBS** Batch ID: **59501** RunNo: **76828**
Prep Date: **4/19/2021** Analysis Date: **4/20/2021** SeqNo: **2723025** Units: **ppm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
2-Butanone	ND	20								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	10								
Chloroform	ND	0.60								
1,4-Dichlorobenzene	ND	0.75								
1,1-Dichloroethene	ND	0.070								
Tetrachloroethene (PCE)	ND	0.070								
Trichloroethene (TCE)	ND	0.050								
Vinyl chloride	ND	0.020								
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		92.0	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.3	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		105	70	130			
Surr: Toluene-d8	0.52		0.5000		103	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2104821**
03-May-21

Client: Marathon
Project: SWMU 1 Test Pits Borrow Pit Sump

Sample ID: **2104821-002ams** SampType: **MS** TestCode: **Volatiles by 8260B/1311**
Client ID: **Borrow Pit Composi** Batch ID: **59588** RunNo: **76961**
Prep Date: **4/22/2021** Analysis Date: **4/27/2021** SeqNo: **2727780** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.3	0.50	0.4000	0.8365	111	60.2	138			
Chlorobenzene	0.37	0.30	0.4000	0	92.6	70	130			
1,1-Dichloroethene	ND	0.70	0.4000	0	93.1	70	130			
Trichloroethene (TCE)	0.40	0.20	0.4000	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	0.21		0.2000		107	70	130			
Surr: 4-Bromofluorobenzene	0.20		0.2000		97.6	70	130			
Surr: Dibromofluoromethane	0.22		0.2000		110	70	130			
Surr: Toluene-d8	0.20		0.2000		102	70	130			

Sample ID: **2104821-002amsd** SampType: **MSD** TestCode: **Volatiles by 8260B/1311**
Client ID: **Borrow Pit Composi** Batch ID: **59588** RunNo: **76961**
Prep Date: **4/22/2021** Analysis Date: **4/27/2021** SeqNo: **2727781** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.50	0.4000	0.8365	94.8	60.2	138	5.18	20	
Chlorobenzene	0.36	0.20	0.4000	0	89.1	70	130	3.81	20	
1,1-Dichloroethene	0.36	0.20	0.4000	0	89.8	70	130	3.63	20	
Trichloroethene (TCE)	0.39	0.20	0.4000	0	97.7	70	130	3.46	20	
Surr: 1,2-Dichloroethane-d4	0.21		0.2000		107	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.20		0.2000		100	70	130	0	0	
Surr: Dibromofluoromethane	0.22		0.2000		108	70	130	0	0	
Surr: Toluene-d8	0.19		0.2000		97.3	70	130	0	0	

Sample ID: **lcs-59588** SampType: **LCS** TestCode: **Volatiles by 8260B/1311**
Client ID: **LCSS** Batch ID: **59588** RunNo: **76961**
Prep Date: **4/22/2021** Analysis Date: **4/26/2021** SeqNo: **2727783** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.50	0.4000	0	115	70	130			
Chlorobenzene	ND	100	0.4000	0	94.0	70	130			
1,1-Dichloroethene	ND	0.70	0.4000	0	98.8	70	130			
Trichloroethene (TCE)	ND	0.50	0.4000	0	106	70	130			
Surr: 1,2-Dichloroethane-d4	0.22		0.2000		112	70	130			
Surr: 4-Bromofluorobenzene	0.21		0.2000		103	70	130			
Surr: Dibromofluoromethane	0.24		0.2000		118	70	130			
Surr: Toluene-d8	0.20		0.2000		99.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2104821**
03-May-21

Client: Marathon
Project: SWMU 1 Test Pits Borrow Pit Sump

Sample ID: **mb-59588** SampType: **MBLK** TestCode: **Volatiles by 8260B/1311**
Client ID: **PBS** Batch ID: **59588** RunNo: **76961**
Prep Date: **4/22/2021** Analysis Date: **4/26/2021** SeqNo: **2727784** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.50								
2-Butanone	ND	200								
Carbon Tetrachloride	ND	0.50								
Chlorobenzene	ND	100								
Chloroform	ND	6.0								
1,4-Dichlorobenzene	ND	7.5								
1,2-Dichloroethane (EDC)	ND	0.50								
1,1-Dichloroethene	ND	0.70								
Tetrachloroethene (PCE)	ND	0.70								
Trichloroethene (TCE)	ND	0.50								
Vinyl chloride	ND	0.20								
Surr: 1,2-Dichloroethane-d4	0.22		0.2000		110	70	130			
Surr: 4-Bromofluorobenzene	0.20		0.2000		101	70	130			
Surr: Dibromofluoromethane	0.23		0.2000		114	70	130			
Surr: Toluene-d8	0.20		0.2000		102	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2104821**
03-May-21

Client: Marathon
Project: SWMU 1 Test Pits Borrow Pit Sump

Sample ID: **mb-59621** SampType: **MBLK** TestCode: **EPA Method 8270C TCLP**
Client ID: **PBS** Batch ID: **59621** RunNo: **76998**
Prep Date: **4/26/2021** Analysis Date: **4/27/2021** SeqNo: **2729143** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	ND	200								
3+4-Methylphenol	ND	200								
2,4-Dinitrotoluene	ND	0.13								
Hexachlorobenzene	ND	0.13								
Hexachlorobutadiene	ND	0.50								
Hexachloroethane	ND	3.0								
Nitrobenzene	ND	2.0								
Pentachlorophenol	ND	100								
Pyridine	ND	5.0								
2,4,5-Trichlorophenol	ND	400								
2,4,6-Trichlorophenol	ND	2.0								
Cresols, Total	ND	200								
Surr: 2-Fluorophenol	0.095		0.2000		47.6	15	97.5			
Surr: Phenol-d5	0.076		0.2000		37.8	15	77.3			
Surr: 2,4,6-Tribromophenol	0.11		0.2000		54.5	15	112			
Surr: Nitrobenzene-d5	0.057		0.1000		57.3	15	119			
Surr: 2-Fluorobiphenyl	0.058		0.1000		58.1	15	89.2			
Surr: 4-Terphenyl-d14	0.069		0.1000		69.1	15	137			

Sample ID: **lcs-59621** SampType: **LCS** TestCode: **EPA Method 8270C TCLP**
Client ID: **LCSS** Batch ID: **59621** RunNo: **76998**
Prep Date: **4/26/2021** Analysis Date: **4/27/2021** SeqNo: **2729144** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	0.053	0.0010	0.1000	0	52.6	18.9	104			
3+4-Methylphenol	0.11	0.0010	0.2000	0	53.1	11.8	115			
2,4-Dinitrotoluene	0.041	0.0010	0.1000	0	41.4	16.6	95.5			
Hexachlorobenzene	0.057	0.0010	0.1000	0	56.7	42.6	112			
Hexachlorobutadiene	0.049	0.0010	0.1000	0	49.3	11.5	87.7			
Hexachloroethane	0.045	0.0010	0.1000	0	45.2	14.3	71.4			
Nitrobenzene	0.054	0.0010	0.1000	0	54.4	23.2	109			
Pentachlorophenol	0.059	0.0010	0.1000	0	59.2	29.4	102			
Pyridine	0.037	0.0010	0.1000	0	37.2	0	62.1			
2,4,5-Trichlorophenol	0.056	0.0010	0.1000	0	55.8	32.7	112			
2,4,6-Trichlorophenol	0.055	0.0010	0.1000	0	55.3	33.9	111			
Cresols, Total	0.16	0.0010	0.3000	0	52.9	5.83	117			
Surr: 2-Fluorophenol	0.072		0.2000		35.9	15	97.5			
Surr: Phenol-d5	0.056		0.2000		28.1	15	77.3			
Surr: 2,4,6-Tribromophenol	0.079		0.2000		39.5	15	112			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2104821**
03-May-21

Client: Marathon
Project: SWMU 1 Test Pits Borrow Pit Sump

Sample ID: **lcs-59621** SampType: **LCS** TestCode: **EPA Method 8270C TCLP**
Client ID: **LCSS** Batch ID: **59621** RunNo: **76998**
Prep Date: **4/26/2021** Analysis Date: **4/27/2021** SeqNo: **2729144** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Nitrobenzene-d5	0.045		0.1000		45.1	15	119			
Surr: 2-Fluorobiphenyl	0.044		0.1000		44.5	15	89.2			
Surr: 4-Terphenyl-d14	0.045		0.1000		45.0	15	137			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2104821**
03-May-21

Client: Marathon
Project: SWMU 1 Test Pits Borrow Pit Sump

Sample ID: **MB-59582** SampType: **MBLK** TestCode: **MERCURY, TCLP**
Client ID: **PBW** Batch ID: **59582** RunNo: **76907**
Prep Date: **4/22/2021** Analysis Date: **4/23/2021** SeqNo: **2725636** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020								

Sample ID: **LLLCS-59582** SampType: **LCSLL** TestCode: **MERCURY, TCLP**
Client ID: **BatchQC** Batch ID: **59582** RunNo: **76907**
Prep Date: **4/22/2021** Analysis Date: **4/23/2021** SeqNo: **2725637** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020	0.0001500	0	111	50	150			

Sample ID: **LCS-59582** SampType: **LCS** TestCode: **MERCURY, TCLP**
Client ID: **LCSW** Batch ID: **59582** RunNo: **76907**
Prep Date: **4/22/2021** Analysis Date: **4/23/2021** SeqNo: **2725638** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020	0.005000	0	104	80	120			

Sample ID: **2104821-001AMS** SampType: **MS** TestCode: **MERCURY, TCLP**
Client ID: **SWMV 1 Composite** Batch ID: **59582** RunNo: **76907**
Prep Date: **4/22/2021** Analysis Date: **4/23/2021** SeqNo: **2725641** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020	0.005000	0	101	75	125			

Sample ID: **2104821-001AMSD** SampType: **MSD** TestCode: **MERCURY, TCLP**
Client ID: **SWMV 1 Composite** Batch ID: **59582** RunNo: **76907**
Prep Date: **4/22/2021** Analysis Date: **4/23/2021** SeqNo: **2725642** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020	0.005000	0	99.9	75	125	0	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2104821**

03-May-21

Client: Marathon

Project: SWMU 1 Test Pits Borrow Pit Sump

Sample ID: **MB-59584**	SampType: **MBLK**	TestCode: **EPA Method 6010B: TCLP Metals**
Client ID: **PBW**	Batch ID: **59584**	RunNo: **76909**
Prep Date: **4/22/2021**	Analysis Date: **4/23/2021**	SeqNo: **2725679** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0								
Barium	ND	100								
Cadmium	ND	1.0								
Chromium	ND	5.0								
Selenium	ND	1.0								
Silver	ND	5.0								

Sample ID: **LCS-59584**	SampType: **LCS**	TestCode: **EPA Method 6010B: TCLP Metals**
Client ID: **LCSW**	Batch ID: **59584**	RunNo: **76909**
Prep Date: **4/22/2021**	Analysis Date: **4/23/2021**	SeqNo: **2725681** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	0.5000	0	112	80	120			
Barium	ND	100	0.5000	0	103	80	120			
Cadmium	ND	1.0	0.5000	0	103	80	120			
Chromium	ND	5.0	0.5000	0	101	80	120			
Selenium	ND	1.0	0.5000	0	113	80	120			
Silver	ND	5.0	0.1000	0	114	80	120			

Sample ID: **MB-59584**	SampType: **MBLK**	TestCode: **EPA Method 6010B: TCLP Metals**
Client ID: **PBW**	Batch ID: **59584**	RunNo: **76909**
Prep Date: **4/22/2021**	Analysis Date: **4/23/2021**	SeqNo: **2725775** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	5.0								

Sample ID: **LCS-59584**	SampType: **LCS**	TestCode: **EPA Method 6010B: TCLP Metals**
Client ID: **LCSW**	Batch ID: **59584**	RunNo: **76909**
Prep Date: **4/22/2021**	Analysis Date: **4/23/2021**	SeqNo: **2725777** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	5.0	0.5000	0	104	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **Marathon** Work Order Number: **2104821** RcptNo: **1**

Received By: **Isaiah Ortiz** **4/16/2021 4:17:00 PM** I-Ox

Completed By: **Sean Livingston** **4/19/2021 10:13:26 AM** S-Lyst

Reviewed By: JR 4/19/21

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: (<2 or >12 unless noted)
Adjusted?
Checked by CM 4/19/21

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.5	Good				

Chain-of-Custody Record

Client: Marathon Petroleum Company, Gallup Refinery

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: SWMU 1 Test Pits / Borrow Pit Sump

Project #:

Project Manager: John Pietz, Trihydro

Sampler: M. Swift, J. Pietz

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp (including CF): 5.6°C - 0.1 CF / 5.5 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2104821	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals TCLP	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA) TCLP	8270 (Semi-VOA) TCLP	Total Coliform (Present/Absent)	RCI
4/14/21	1200	Soil	SWMU 1 Composite	Jar / 3		001						X		X	X		X
4/15/21	1200	Soil	Borrow Pit Composite	↓	|	002						X		X	X		X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
4/16/21	1617			client	4/16/21	1617
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks:
Characterize drill cuttings ~~from~~ for disposal from borrow pit borings, composite

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 36170

CONDITIONS

Operator: Western Refining Southwest LLC 539 South Main Street Findlay, OH 45840	OGRID: 267595
	Action Number: 36170
	Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)

CONDITIONS

Created By	Condition	Condition Date
jburdine	Accepted for Record Retention Purposes-Only	11/22/2022