INFORMATION ONLY

MAY
2018

State of New Mexico Energy, Minerals, and Natural Resources Oil Conservation Division (OCD) Stage II Remediation Plan

Prepared For
Venable's Construction
West Texas / New Mexico Division
1315 West County Road 114
Midland, TX 79706

Case Number: 1RP-4935

Subject Property
North Hobbs Satellite 31 East CO2
32.71476°, -103.17909°

Prepared By:

Civil · Environmental · Safety
Texas Registered Engineering Firm F-9992
Texas Licensed Survey Firm 10193863
Texas Licensed Asbestos Consultant Agency 100535

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www.R2Meng.com

Table of Contents

1.0 Summary

A release of produced water and hydrocarbon mix occurred on the North Hobbs Satellite 31 East CO2 facility located in Unit J, Section 29, Township 18 South, Range 38 East, in Lea County, Hobbs, New Mexico on January 9, 2018, with the latitude of 32.714805° and Longitude of -103.178939°. The release was caused by a 3rd-party line strike that resulted in the release of 150 barrels (bbls) of produced water and 10 bbls of oil. A volume of 150 bbls was recovered by vacuum truck shortly after the release occurred, to remedy the situation. The release's surficial flow was contained by the excavated trench. Overspray from the release was directed by strong winds to the northwest during the release. This is evident by light topsoil staining shown in appendices photo log. Stockpiles of material that had been excavated during construction of the trench had covered the ground next to the trench. The stockpiles prevented overspray from impacting the grounds natural surface near the opening of the trench. A natural depression located where overspray had contacted the ground surface allowed liquids to collect and be contained. Pooled liquids in the depression were then removed by vacuum truck shortly after the release had occurred. Staining is present where overspray had contacted the surface. This area is shown in appendix D. The Sites surficial runoff gradient is to the east and southeast, with a gentle slope of approximately 10-15 ft. to the mile. Site elevation indicates a gentle drop of elevation from 3,650 ft. to the northwest to an elevation of 3,639 ft. to the southwest.

On Wednesday March 28, 2018, the first round of sampling was conducted. Four samples were collected (SB01--SB04, Lab Id 580850-001, 580850-002, 580850-003, and 580850-004) from accessible sampling points inside the approximate 380 linear foot excavation trench. Samples were collected from 0-6 in. below ground surface (bgs) from the bottom of the excavation. The first figure in the appendices indicates the locations of the sampling locations. Samples were collected and sent to Xenco Laboratories, a certified testing lab located in Lubbock, Texas. Xenco conducted all analytical testing for this case. When preliminary results were made available from the week prior, it was determined that an additional sample was needed from inside the trench due to elevated TPH levels where sample SB03 580850-003 had been taken. After further visual and olfactory investigation inside the trench, an additional grab sample labeled SB-3C (Lab Id 581204-055) was collected April 3, 2018 from a depth of 14-16 ft. bgs by use of excavator. Soil from excavation was placed in lined roll-off containers left on-site to await approval for disposal. These test results are found on the first page of the Testing Summary in the appendices.

On April 2, 2018, the second round of sampling was conducted. Additional samples were taken from seven soil borings (SB01-SB07) to be analyzed. The second figure in appendix B depicts the area of additional sample locations. These test results are found beginning on the second page of the Testing Summary in the appendices.

On April 3, 2018, the third round of sampling was conducted. Additional samples were taken from nine soil borings (SB08-SB09, SB11-17,) and on grab sample from inside the trench (SB-3C) to be analyzed. The second figure in appendix B depicts the area of additional sample locations. These test results are found on the second page of the Testing Summary in the appendices.

Sample SB-3 taken March 28, 2018 indicated elevated levels of TPH in the trench bottom. A second grab sample SB-3C taken April 3, 2018 was sampled 14-16 ft. bgs measured from the opening or top of the excavation. Sample SB-3C analytical results showed TPH concentration to be under regulatory limits. Analytical results for SB-3C are found in appendix A.

Additionally, the Site is to be scrapped, contoured and reseeded as part of the pipe line right-of way agreement. As such soils in 0-2 ft. bgs were not sampled. Visual inspection and analytical data received from samples in the 2-4 ft. bgs interval are used to determine areas impacted by overspray and are to be addressed accordingly in the remediation plan. All material removed was stockpiled on heavy mil plastic inside roll off containers left on-site awaiting approval for disposal.

2.0 Abatement

2.1 Proposed Soil Remediation

Based on the results of this assessment the following work is proposed. Venable's Construction will remove soils from the trench around the area of sample location SB-3-C shown in appendix B. R2M will collect total of 8 conformation samples. 4 samples from the bottom of the excavation and 4 sidewall samples from the excavated area to have analyzed for TPH extended (GRO, MRO, and DRO), BTEX EPA Method 8260 and Chloride EPA Method 300 analysis. Venable's Construction will additionally remove any visual surface staining from the affected area caused by windblown overspray during the release observed around SB -08 and SB-09 shown in appendix B. Excavated soils will be placed into roll-off containers located on-site. Venable's and R2M will conduct testing of roll-off containers, as required by 19.15.35.8 NMAC for division approval to dispose of waste in an approved site. A backfill request is discussed later in this document with the understanding that stockpiled soil for backfilling will be laboratory tested every 50 cubic yards for verification. Venable's Construction will restore property vegetation by addressing the affected area during the reseeding phase of the pipeline project right-of-way, later discussed. A map of the proposed seeding area is provided in appendix B. A follow up report will be submitted that includes map of GPS coordinates for sample locations, copies of laboratory results and chain of custodies for samples taken, and digital photo documentation of remediation activities.

2.2 Regulatory Requirements

New Mexico Oil Conservation Division evaluates each release of produced water or oil according to the Recommended Remediation Action Levels (RRAL). NMOCD uses RRALs as a ranking system when evaluating each spill in terms of Depth to Groundwater, Distance to Surface Water, and Distance to Wellhead Protection Area.

The ranking score for this site is 1**0** based on the following:

Depth to ground water: (50'-100')	**10**
Wellhead Protection Area: > 1000'	**0**
Distance to Surface Water Body: > 1000'	**0**

2.3 Reseeding

Seeding of the location is recommended for June or July 2018. Seed will be planted a quarter to half- inch deep using a disc type or similar rangeland drill sufficient to accommodate variations in seed sizes. If the broadcast method is exacted, seeding rates should be doubled. Seeding can be accomplished as early as late May 2018 given all dirt work for the location is stabilized. Soil in this area will be tilled to reduce compaction. Seed-bed preparation will be performed to provide a hospitable environment for germinating seed by breaking up impermeable soil layers that have formed and increasing void spaces for air and water. Ground shall be roughed-up prior to planting, by raking, harrowing or other methods. The seed mixture used will be approved by the New Mexico State Land office.

2.4 Backfill Request

Based on laboratory analytical results and field activities conducted to date, R2M requests permission on behalf of Venable's Construction to backfill the excavated area with locally-sourced and non-impacted material. Excavation backfill will be compacted and contoured to meet the needs of the facility.

3.0 Signature

This report has been prepared for the sole benefit of Venable's Construction. The report may not be relied upon by any other person or entity without the express written consent of R2M and Venable's Construction.

Environmental Professional

John E. Rantz, P.E.
Printed Name of Professional Engineer

Signature

59533 5/11/2018
License No. Date

Professional Engineer Seal

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CIVIL • ENVIRONMENTAL • SAFETY

4.0 Appendices

Appendix A
Tables

Summary of Release Analytical Results

Project Site: North Hobbs Satellite 31 East CO2
Date Reported: April 2, 2018 & April 10, 2018
Testing By: Xenco Labratory, Lubbock, TX

Chloride

Lab Sample I.D.	Sample Description	Date Sampled	Matrix	RL Results	Unit	Field Screen Results (ppm)
580850-003	SB-03	3/28/2018	SOIL	381	mg/Kg	---
581204-055	SB- 3 C	4/3/2018	SOIL	8.08	mg/Kg	---

1) Note: Results proceeded by "<" indicate a negative result below the indicated detection limit.

BTEX

Lab Sample I.D.	Sample Description	Date Sampled	Matrix	RL Results	Unit	Field Screen Results (ppm)
580850-003	SB-03	3/28/2018	SOIL	118	mg/Kg	---
581204-055	SB- 3 C	4/3/2018	SOIL	<0.00100	mg/Kg	---

						---

1) Note: Results proceeded by "<" indicate a negative result below the indicated detection limit.

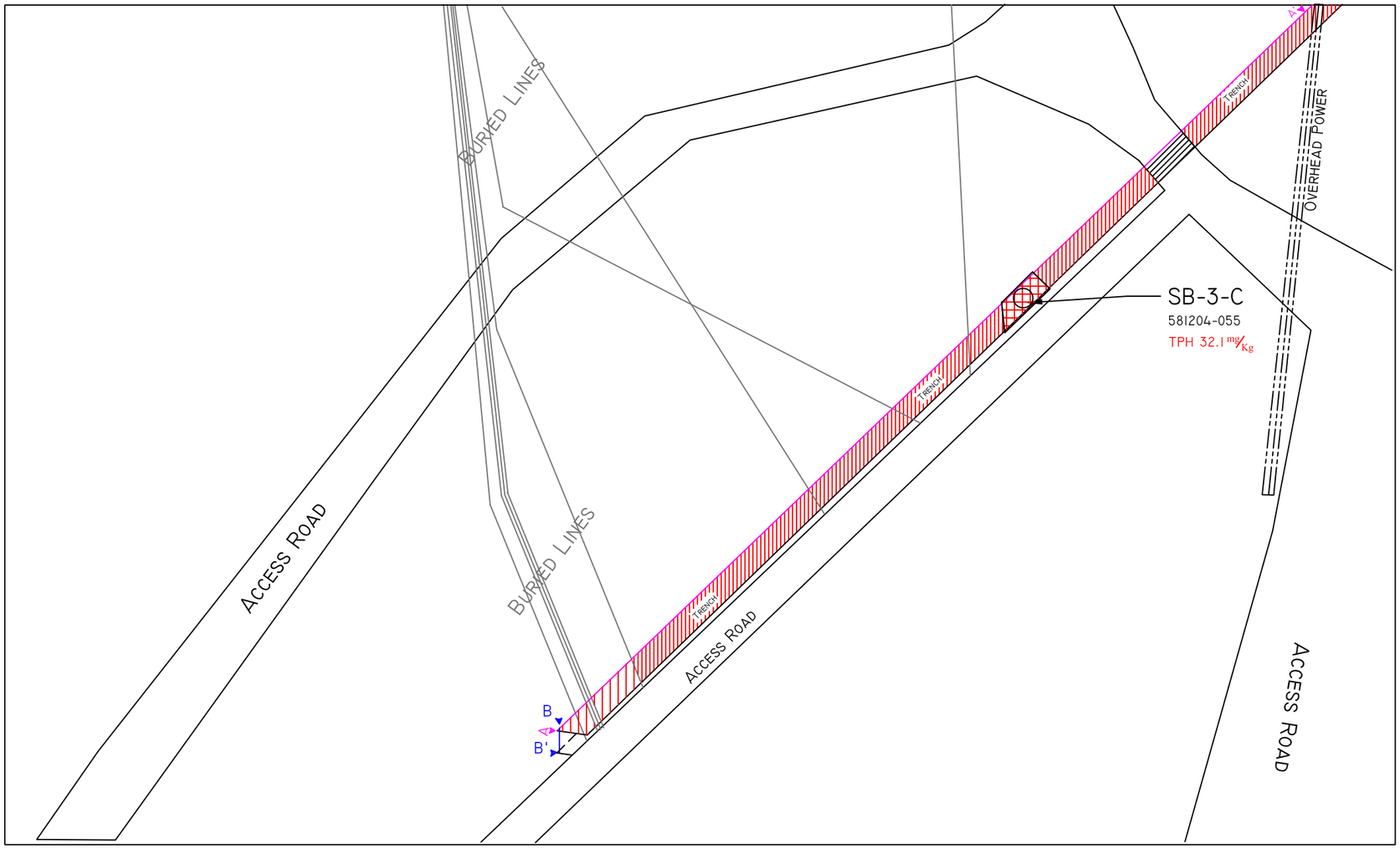
Total TPH

Lab Sample I.D.	Sample Description	Date Sampled	Matrix	RL Results	Unit	Field Screen Results (ppm)
580850-003	SB-03	3/28/2018	SOIL	11000	mg/Kg	---
581204-055	SB- 3 C	4/3/2018	SOIL	32.1	mg/Kg	---

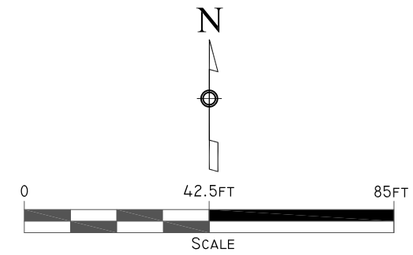
						---

1) Note: Results proceeded by "<" indicate a negative result below the indicated detection limit.

Appendix B
Figures



SITE MAP



TRENCH DEPTH 4'

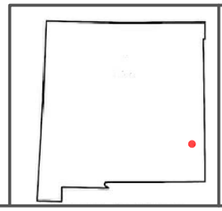
TRENCH DEPTH 6'

TRENCH DEPTH 16'

SAMPLE LOCTION

A A' LENGTH 290'

B B' DEPTH 6'



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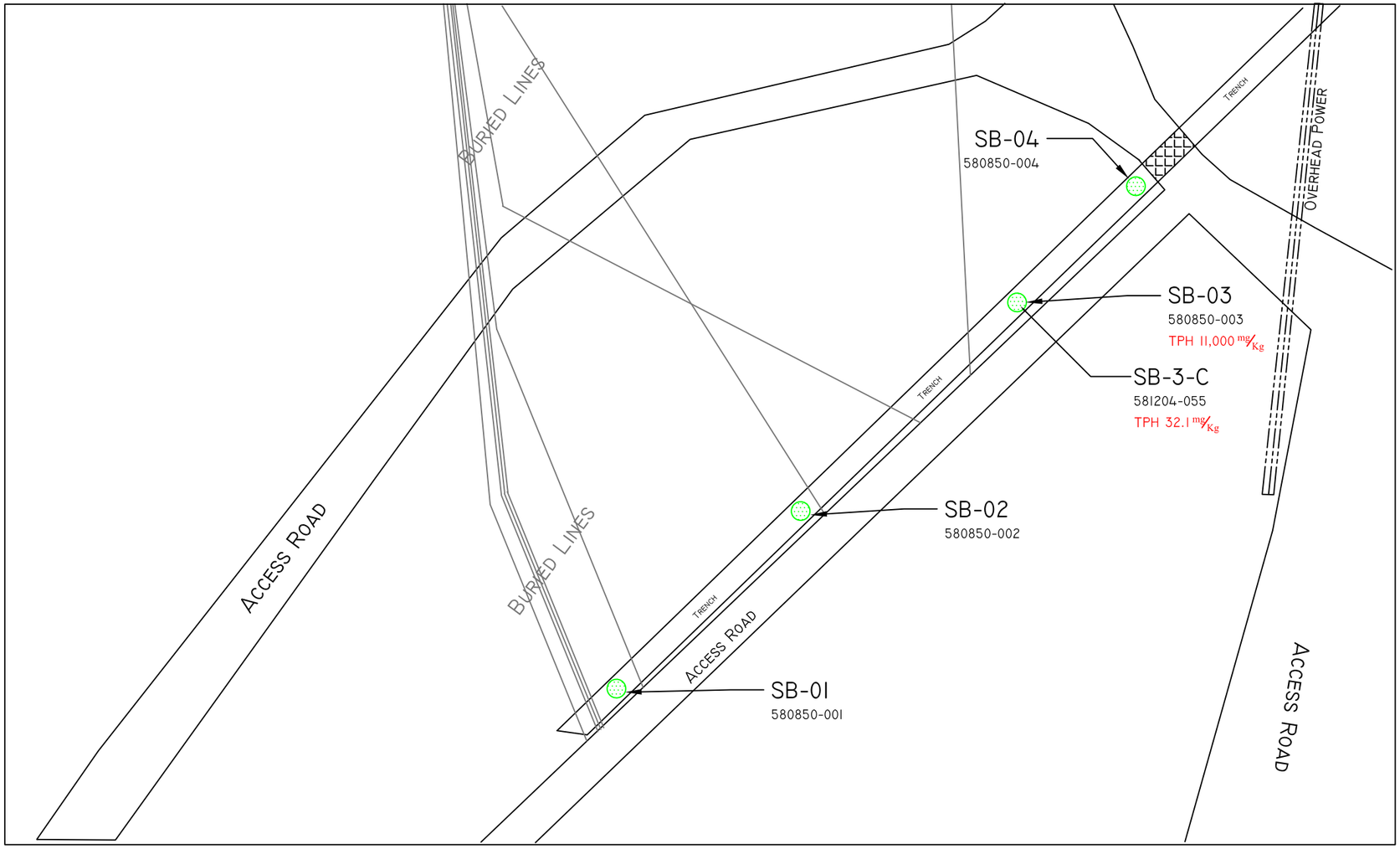
COMPANY: VENABLE'S CONSTRUCTION

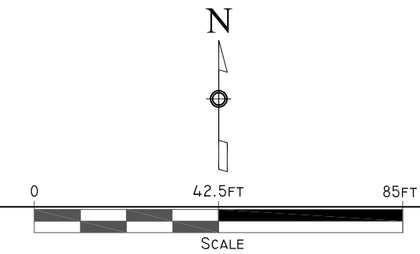
PROJECT: IRP-4935

TITLE: TRENCH DEPTH

LOCATION: HOBBS, NM

DATE: 5-2018





Summary of Release Analytical Results

Project Site: North Hobbs SubSite 31 East CO2
Date Reported: April 2, 2018 & April 18, 2018
Testing By: Xenco Laboratory, Lubbock, TX

Chloride

Lab Sample I.D.	Sample Description	Date Sampled	Matrix	RL Results	Unit	Field Screen Results (ppm)
580850-003	SB-03	3/28/2018	SOIL	381	mg/Kg	—
581204-055	SB-3 C	4/3/2018	SOIL	8.86	mg/Kg	—

If Note: Results preceded by "<" indicate a negative result below the indicated detection limit.

BTEX

Lab Sample I.D.	Sample Description	Date Sampled	Matrix	RL Results	Unit	Field Screen Results (ppm)
580850-003	SB-03	3/28/2018	SOIL	1.18	mg/Kg	—
581204-055	SB-3 C	4/3/2018	SOIL	<0.00106	mg/Kg	—
						—
						—

If Note: Results preceded by "<" indicate a negative result below the indicated detection limit.

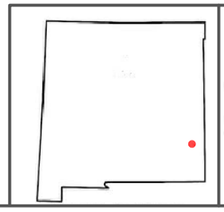
Total TPH

Lab Sample I.D.	Sample Description	Date Sampled	Matrix	RL Results	Unit	Field Screen Results (ppm)
580850-003	SB-03	3/28/2018	SOIL	11000	mg/Kg	—
581204-055	SB-3 C	4/3/2018	SOIL	32.1	mg/Kg	—
						—
						—

If Note: Results preceded by "<" indicate a negative result below the indicated detection limit.

SAMPLE LOCATION INSIDE TRENCH

SITE MAP



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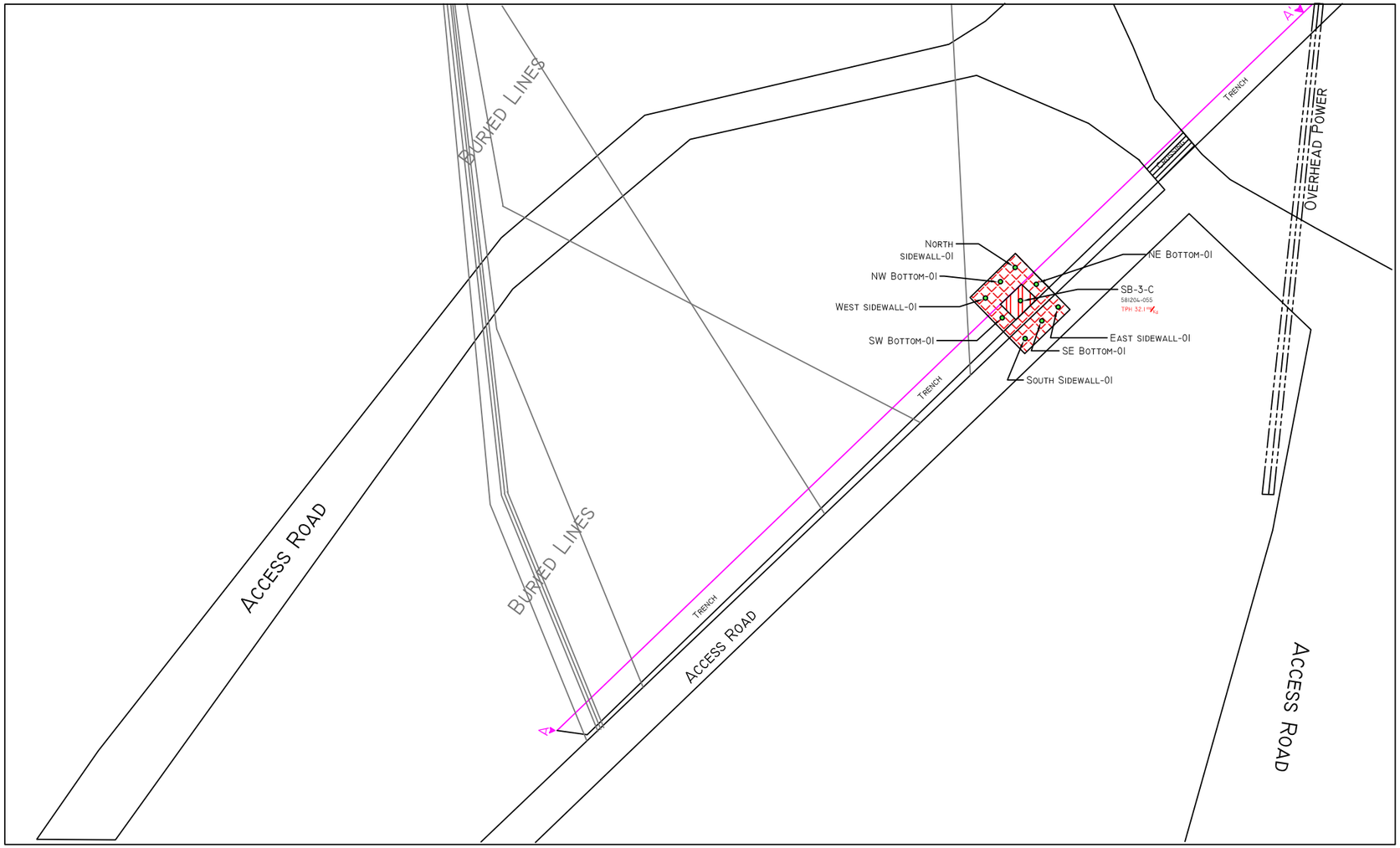
COMPANY: VENABLE'S CONSTRUCTION
PROJECT: IRP-4935
TITLE: SITE MAP
LOCATION: HOBBS, NM
DATE: 4-2018



N

0 42.5FT 85FT

SCALE

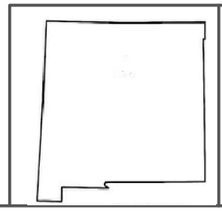
TRENCH DEPTH 16'

SAMPLE LOCTION

AREA OF EXCAVATION

A A' LENGTH 290'

CONFORMATION SAMPLES



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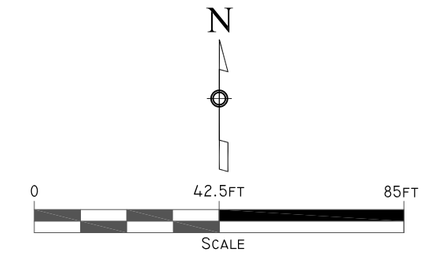
COMPANY: VENABLE'S CONSTRUCTION

PROJECT: IRP-4935

TITLE: CONFORMATION SAMPLES

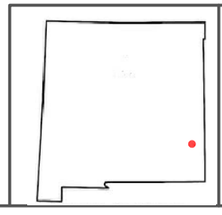
LOCATION: HOBBS, NM

DATE: 5-2018



AREA FOR SEEDING

SEEDING AREA



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COMPANY: VENABLE'S CONSTRUCTION
PROJECT: IRP-4935
TITLE: SEEDING AREA
LOCATION: HOBBS, NM
DATE: 5-2018

Appendix C

Soil Test Data- Xenco Laboratory

Certificate of Analysis Summary 580850

R2M Engineering, Lubbock, TX

Project Name: VC Hobbs

Project Id: 18-3535
Contact: Marissa Mires
Project Location:

Date Received in Lab: Thu Mar-29-18 03:45 pm
Report Date: 02-APR-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	580850-001		580850-002		580850-003		580850-004					
	Field Id:	Sb 01		Sb 02		Sb 03		Sb 04					
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Mar-28-18 14:10		Mar-28-18 14:17		Mar-28-18 14:25		Mar-28-18 14:31					
BTEX by SW 8260B SUB: TX104704215-18-24	***Extracted:***	Apr-01-18 11:50		Apr-01-18 11:50		Apr-01-18 11:50		Apr-01-18 11:50					
	Analyzed:	Apr-01-18 15:31		Apr-01-18 15:47		Apr-01-18 16:46		Apr-01-18 15:06					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.0251	0.0251	<0.0251	0.0251	<0.199	0.199	<0.000996	0.000996				
Toluene		<0.0251	0.0251	<0.0251	0.0251	3.81	0.199	<0.000996	0.000996				
Ethylbenzene		<0.0251	0.0251	0.120	0.0251	7.86	0.199	<0.000996	0.000996				
m,p-Xylenes		0.129	0.0501	0.568	0.0502	51.5	0.398	<0.00199	0.00199				
o-Xylene		0.174	0.0251	0.357	0.0251	54.4	0.199	<0.000996	0.000996				
Total Xylenes		0.303	0.0251	0.925	0.0251	106	0.199	<0.000996	0.000996				
Total BTEX		0.303	0.0251	1.05	0.0251	118	0.199	<0.000996	0.000996				
Chloride by EPA 300 SUB: TX104704215-18-24	***Extracted:***	Mar-31-18 09:00		Mar-31-18 09:00		Mar-31-18 09:00		Mar-31-18 09:00					
	Analyzed:	Mar-31-18 19:06		Mar-31-18 19:16		Mar-31-18 19:27		Mar-31-18 19:38					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		551	9.98	252	9.96	381	9.86	159	9.82				
TPH By SW8015 Mod SUB: TX104704215-18-24	***Extracted:***	Mar-30-18 10:24		Mar-30-18 10:27		Mar-30-18 10:30		Mar-30-18 10:33					
	Analyzed:	Apr-01-18 09:28		Apr-01-18 10:32		Apr-02-18 11:16		Apr-01-18 08:46					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		75.9	49.8	192	49.7	8990 D	248	<49.8	49.8				
Diesel Range Organics (DRO)		57.4	49.8	305	49.7	1830	49.6	<49.8	49.8				
Oil Range Hydrocarbons (ORO)		<49.8	49.8	<49.7	49.7	215	49.6	<49.8	49.8				
Total TPH		133	49.8	497	49.7	11000	49.6	<49.8	49.8				

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 581204

R2M Engineering, Lubbock, TX

Project Name: 18-3453

Project Id:

Contact: Mason Sanders

Project Location: Hobbs, N.M.

Date Received in Lab: Tue Apr-03-18 02:00 pm

Report Date: 10-APR-18

Project Manager: Holly Taylor

Analysis Requested											
	Lab Id:	581204-051		581204-052		581204-053		581204-054		581204-055	
	Field Id:	SB-16 2-4		SB-16 6-8		SB-17 2-4		SB-17 6-8		SB- 3 C	
	Depth:	2-4		6-8		2-4		6-8			
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-03-18 10:00		Apr-03-18 10:00		Apr-03-18 10:25		Apr-03-18 10:25		Apr-03-18 10:25	
BTEX by SW 8260B	***Extracted:***	Apr-09-18 10:20		Apr-09-18 10:20		Apr-09-18 10:20		Apr-09-18 10:20		Apr-04-18 11:00	
SUB: TX104704295-17-16	***Analyzed:***	Apr-09-18 15:20		Apr-09-18 15:35		Apr-09-18 15:49		Apr-09-18 16:03		Apr-04-18 15:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.000540	0.00108	<0.000416	0.000832	0.000870 J	0.000988	<0.000411	0.000821	<0.00100	0.00200
Toluene		<0.000540	0.00108	<0.000416	0.000832	0.00352	0.000988	0.00243	0.000821	<0.00100	0.00200
Ethylbenzene		<0.000540	0.00108	<0.000416	0.000832	0.000662 J	0.000988	0.000476 J	0.000821	<0.00100	0.00200
m,p-Xylenes		<0.00108	0.00216	<0.000832	0.00166	0.00211	0.00198	0.00187	0.00164	<0.00200	0.00400
o-Xylene		<0.000540	0.00108	<0.000416	0.000832	0.000623 J	0.000988	0.000550 J	0.000821	<0.00100	0.00200
Total Xylenes		<0.000540	0.00108	<0.000416	0.000832	0.00273	0.000988	0.00242	0.000821	<0.00100	0.00200
Total BTEX		<0.000540	0.00108	<0.000416	0.000832	0.00779	0.000988	0.00533	0.000821	<0.00100	0.00200
Chloride by EPA 300	***Extracted:***	Apr-06-18 13:04		Apr-06-18 13:04		Apr-06-18 13:04		Apr-06-18 13:04		Apr-04-18 11:30	
SUB: TX104704215-18-24	***Analyzed:***	Apr-07-18 01:02		Apr-07-18 01:13		Apr-07-18 01:24		Apr-07-18 01:56		Apr-04-18 13:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		105	9.90	192	9.84	106	9.80	43.5	9.78	8.08 J	9.86
TPH By SW8015 Mod	***Extracted:***	Apr-06-18 09:52		Apr-06-18 09:55		Apr-06-18 09:58		Apr-06-18 10:01		Apr-04-18 15:48	
SUB: TX104704215-18-24	***Analyzed:***	Apr-10-18 01:32		Apr-10-18 01:53		Apr-10-18 02:14		Apr-10-18 02:36		Apr-04-18 17:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<9.90	49.5	<9.93	49.7	<9.98	49.9	<9.94	49.7	32.1 J	49.9
Diesel Range Organics (DRO)		15.4 J	49.5	14.4 J	49.7	15.7 J	49.9	17.8 J	49.7	<9.97	49.9
Oil Range Hydrocarbons (ORO)		19.0 J	49.5	16.4 J	49.7	10.2 J	49.9	13.3 J	49.7	<9.97	49.9
Total TPH		34.4 J	49.5	30.8 J	49.7	25.9 J	49.9	31.1 J	49.7	32.1 J	49.9

Holly Taylor
Project Manager