District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

HOBBS OCD
OCT 09 2015
RECEIVED

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Nabors Completion and Production Service Co. (Nabors)	Contact Les Teague
Address 5 miles West of Hobbs on Highway 180, Hobbs NM	Telephone No.281 775-4201
Facility Name Hobbs Former Reclamation Plant	Facility Type: O&G Waste Management Facility permit No.NM-01-0022

Surface Owner State of New Mexico	Mineral Owner NA	API No. NA

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	3	19S	37E	1775	to the West	750	to the North	Lea

Latitude 32.694748 degrees_____ Longitude 103.242135 degrees_____

NATURE OF RELEASE

Type of Release Hydrocarbon	Volume of Release Unknown	Volume Recovered Unknown
Source of Release Unknown	Date and Hour of Occurrence Unknown	Date and Hour of Discovery Unknown
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? SEE Describe Cause Below.	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

1RP-3380

If a Watercourse was Impacted, Describe Fully.*

REVIEWED
By Kellie Jones at 2:30 pm, Oct 28, 2015

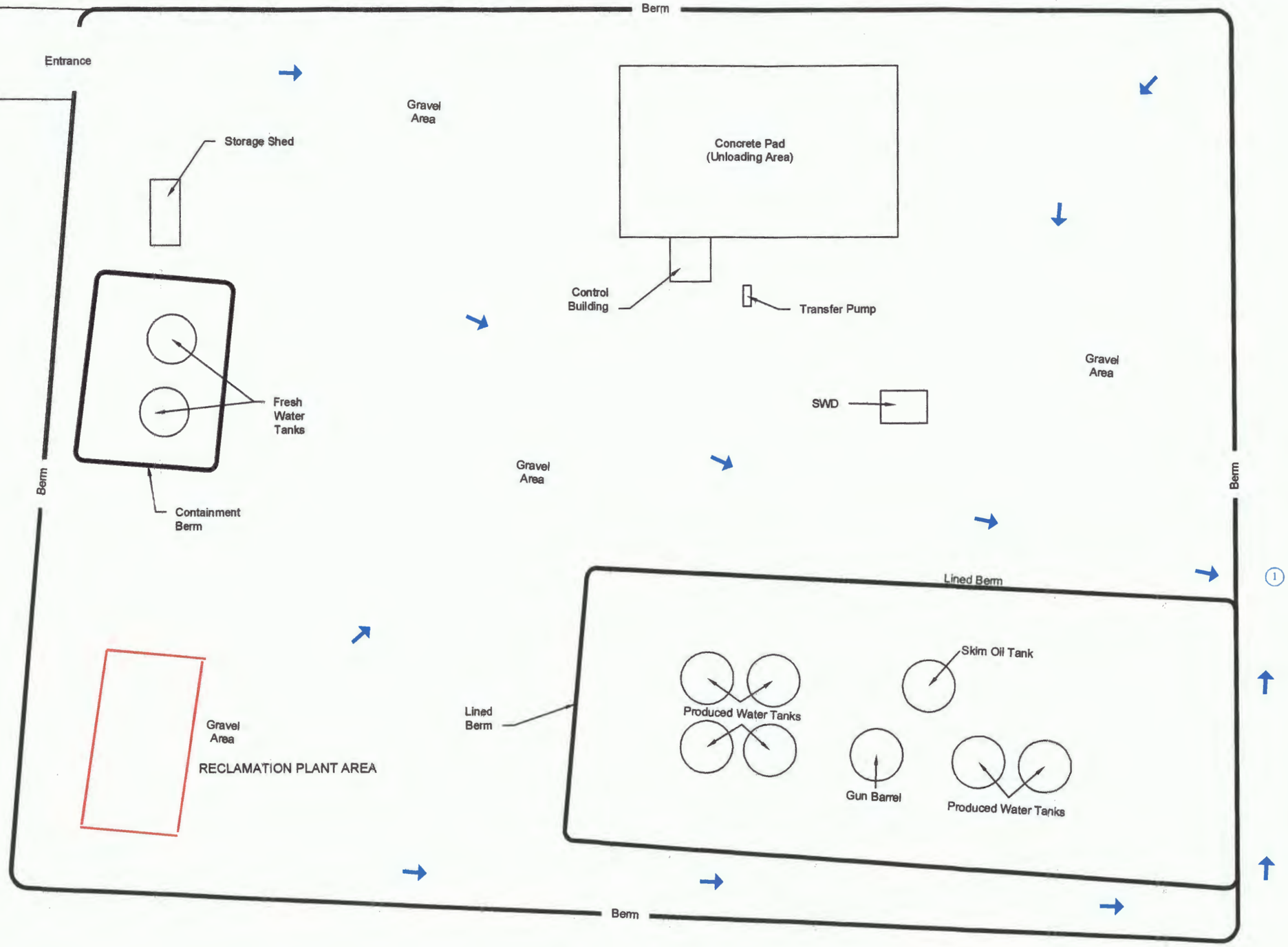
Describe Cause of Problem and Remedial Action Taken.*
Cause Unknown. During decommissioning of the tanks associated with the former reclamation plant area, stained soils were observed. Notification was provided to NMOCD. Mr. Leking was the NMOCD representative assigned to the case. Work plans and reports were presented to Mr. Leking. Affected soils have been excavated and disposed.

Describe Area Affected and Cleanup Action Taken.*
The affected area is approximately 50 feet by 60 feet and approximately one foot deep to the top of the cap rock.
Soil sampling to delineate the affected soils has been completed. Analytical results and reports with path forward have been submitted to the NMOCD (Mr. Leking). Affected soil been excavated and been disposed off-site at a NMOCD permitted facility (R360 Permian basin, LLC). Confirmation samples collected show two areas above 100 mg/kg DRO). These areas have been treated with hydrocarbon degrading microbial solution.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Les Teague	Approved by Environmental Specialist:	
Title: Senior Environmental Manager	Approval Date:	Expiration Date:
E-mail Address: les.teague@Nabors.com	Conditions of Approval:	Attached ☐
Date: 2014 10 13 Phone: 281 775 4201		

* Attach Additional Sheets If Necessary



Legend:

- Stormwater Flow
- (1) - Outfall

0 30 60

SCALE IN FEET

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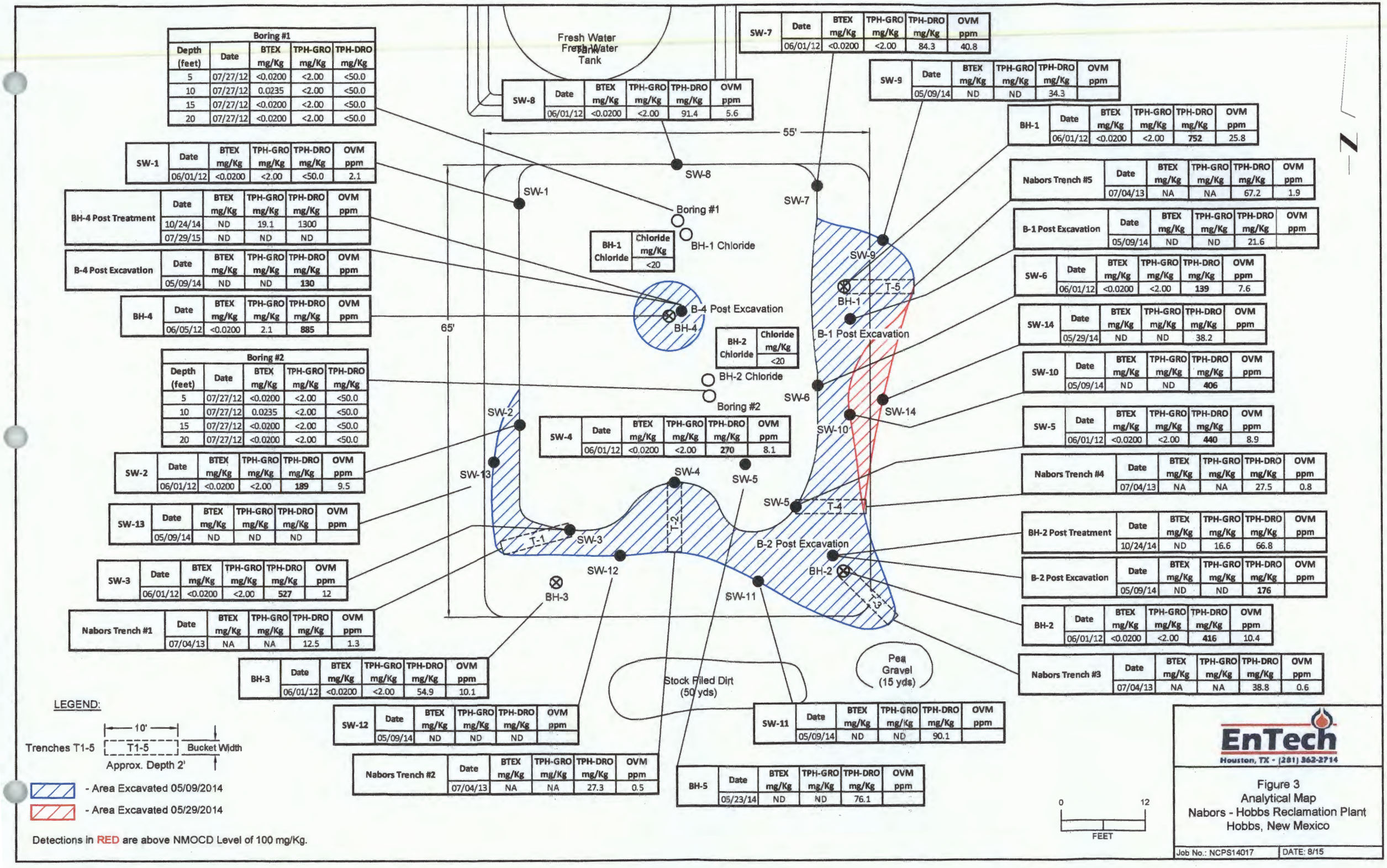
Figure 2
Site Layout Map
Nabors - SWD Hobbs NM Yard
Hobbs, New Mexico

Job No.: NCPS14017 | DATE: 7/12



Boring #1				
Depth (feet)	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg
5	07/27/12	<0.0200	<2.00	<50.0
10	07/27/12	0.0235	<2.00	<50.0
15	07/27/12	<0.0200	<2.00	<50.0
20	07/27/12	<0.0200	<2.00	<50.0

SW-1	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	06/01/12	<0.0200	<2.00	<50.0	2.1

BH-4 Post Treatment	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	10/24/14	ND	19.1	1300	
	07/29/15	ND	ND	ND	

B-4 Post Excavation	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	05/09/14	ND	ND	130	

BH-4	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	06/05/12	<0.0200	2.1	885	

Boring #2				
Depth (feet)	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg
5	07/27/12	<0.0200	<2.00	<50.0
10	07/27/12	0.0235	<2.00	<50.0
15	07/27/12	<0.0200	<2.00	<50.0
20	07/27/12	<0.0200	<2.00	<50.0

SW-2	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	06/01/12	<0.0200	<2.00	189	9.5

SW-13	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	05/09/14	ND	ND	ND	

SW-3	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	06/01/12	<0.0200	<2.00	527	12

Nabors Trench #1	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	07/04/13	NA	NA	12.5	1.3

BH-3	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	06/01/12	<0.0200	<2.00	54.9	10.1

SW-12	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	05/09/14	ND	ND	ND	

Nabors Trench #2	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	07/04/13	NA	NA	27.3	0.5

SW-4	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	06/01/12	<0.0200	<2.00	270	8.1

SW-8	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	06/01/12	<0.0200	<2.00	91.4	5.6

BH-1 Chloride	Chloride mg/Kg
	<20

BH-2 Chloride	Chloride mg/Kg
	<20

SW-7	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	06/01/12	<0.0200	<2.00	84.3	40.8

SW-9	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	05/09/14	ND	ND	34.3	

SW-11	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	05/09/14	ND	ND	90.1	

BH-5	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	05/23/14	ND	ND	76.1	

BH-1	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	06/01/12	<0.0200	<2.00	752	25.8

Nabors Trench #5	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	07/04/13	NA	NA	67.2	1.9

B-1 Post Excavation	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	05/09/14	ND	ND	21.6	

SW-6	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	06/01/12	<0.0200	<2.00	139	7.6

SW-14	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	05/29/14	ND	ND	38.2	

SW-10	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	05/09/14	ND	ND	406	

SW-5	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	06/01/12	<0.0200	<2.00	440	8.9

Nabors Trench #4	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	07/04/13	NA	NA	27.5	0.8

BH-2 Post Treatment	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	10/24/14	ND	16.6	66.8	

B-2 Post Excavation	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	05/09/14	ND	ND	176	

BH-2	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	06/01/12	<0.0200	<2.00	416	10.4

Nabors Trench #3	Date	BTEX mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
	07/04/13	NA	NA	38.8	0.6

LEGEND:

Trenches T1-5: T1-5 (10' × Bucket Width), Approx. Depth 2'

- Area Excavated 05/09/2014
- Area Excavated 05/29/2014

Detections in RED are above NMOCD Level of 100 mg/Kg.

0 12 FEET

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Figure 3
Analytical Map
Nabors - Hobbs Reclamation Plant
Hobbs, New Mexico

Job No.: NCPS14017 | DATE: 8/15

HOBBS RECLAMATION PLANT LETTER REPORT

C&J ENERGY SERVICES, INC.
RECLAMATION PLANT FACILITY
HOBBS, NEW MEXICO

PREPARED FOR

C & J ENERGY SERVICES, INC.
3990 ROGERDALE
HOUSTON, TEXAS 77042

PREPARED BY

ENTECH CONSULTING CORPORATION
21 WATERWAY AVE., SUITE 300
THE WOODLANDS, TEXAS 77380
281.362.2714

OCTOBER 2015

EnTech
Houston, TX • (281) 362-2714

October 7, 2015

Kellie Jones
Environmental Specialist, District 1
Oil Conservation Division, EMNRD
1625 N. French Drive
Hobbs, New Mexico 88240

INTRODUCTION

EnTech Consulting Corp. (EnTech) on behalf of Nabors Completion and Production Services (NCPS) delineated soil contamination at Nabors Reclamation Plant Facility (facility) located west of Hobbs, NM (**Figure 1**). The Reclamation Plant is located adjacent to their Salt Water Disposal (SWD) facility (**Figure 2**). NCPS has merged with C&J Energy Services, Inc. (C&JES) in 2014 and C&JES serves as the managing company. The Reclamation plant was comprised of four tanks in the southwest corner of the facility, when removed stained soil was observed adjacent to one of the tanks. A sampling plan (**Attachment A**) was proposed and submitted to New Mexico Oil Conservation Division (NMOCD) to delineate affected soils adjacent to the former tanks. The sampling plan utilized NMOCD site ranking matrix, proposed excavation of affected soil and collection of confirmation samples. The plan was approved by the NMOCD.

OBJECTIVE

The objective of this letter report is to summarize the excavation and sampling activities completed at the site since June 1, 2012 that has resulted in the removal of affected soil to meet NMOCD cleanup standards.

PAST WORK

On June 1, 2012, hydrocarbon affected soils at the Hobbs Reclamation Plant were excavated under EnTech's supervision. Approximately 220 cubic yards of contaminated top soil and gravel were removed from area under the former reclamation tanks. An Organic Vapor Monitor (OVM) was used to screen for contaminants. Any contamination with OVM readings above the NMOCD limit of 100 parts per million (ppm) was excavated. Confirmation samples were collected at sidewalls (SW) and in the base of the excavation as bottom hole (BH) samples, and were collected and submitted to TRACEAnalysis, Inc. laboratory. The Total Petroleum Hydrocarbon (TPH)-Diesel Range Organics (DRO) (heavy fractions) concentrations were detected above the NMOCD stated limit of 100 milligrams per kilogram (mg/kg) for 7 out of 11 samples (SW-2 to SW-6, BH-1 and BH-2 presented in **Table 1**).

On July 25, 2012, Straub Corporation applied a drilling rig to advance two borings beneath the base of the C&JES Reclamation Plant excavation area to 20 feet below ground surface (bgs) under EnTech's supervision to vertically delineate affected soil. Samples were collected at 5 foot intervals (5', 10', 15' and 20'), and a total of four samples were collected per boring (Boring #1 and #2). Readings were taken using a photoionization detector (PID). All PID readings were below 2 ppm, and the analytical results were below the lab detection limits for TPH-DRO, TPH-Gasoline Range Organics (GRO) and Benzene, Toluene, Ethylbenzene and Xylenes (BTEX), except the Boring #1 10' sample which reported a toluene concentration of 0.0235 mg/kg (**Table 1**).

After many conversations with the NMOCD concerning the above work and sample data, it was agreed that five 10-feet-long trenches would be dug in areas of highest contamination associated with SW-3 to SW-5, BH-1 and BH-2 sample locations to determine vertical and horizontal delineation. On June 30, 2013, Lighthouse Environmental (Lighthouse) excavated these five trenches under EnTech's supervision (**Figure 3**). All PID readings were below 2 ppm for the soil confirmation samples collected at the end of each trench. The lab analysis reported all soil

samples (Nabors Trench #1 to #5) below the NMOCD's stated limit of 100 mg/kg (**Table 1**), indicating that the delineation of affected soil was completed.

RECENT WORK

On May 9, 2014, Lighthouse excavated and removed contaminated soils out to the limit of the delineation trenches. A total of 48 cubic yards of contaminated soils were disposed off-site at a NMOCD permitted facility (R360 Permain basin, LLC). Confirmation samples (SW-9 to SW-13, B-1, B-2 and B-4 Post Excavation) were collected and submitted to the laboratory. The results indicated that one sidewall sample (SW-10) exhibited a TPH-DRO concentration above the NMOCD stated limit of 100 mg/kg (**Table 1**). The area associated with this sample was further excavated and resampled on May 29, 2014 (**Figure 3**). The confirmation sample collected at this excavated area (SW-14) reported TPH-DRO concentration below the NMOCD limit (**Table 1**).

The results also showed that TPH-DRO concentrations were detected above the NMOCD limit of 100 mg/kg at two bottom hole samples collected in the southeast and central of the excavated area (B-2 and B-4 Post Excavation presented in **Figure 3** and **Table 1**). Dense-hard well cemented caliche rock is encountered directly underlying the excavated areas associated with these two samples, which limited the remedial approach to excavate the affected areas.

Due to this rock type of the areas, on Oct 24, 2014, EnTech applied hydrocarbon degrading microbial solution to the affected areas that would allow bacteria to degrade hydrocarbons in the hard rock zone. Confirmation samples (BH-2 and BH-4 Post Treatment) indicated that the BTEX, TPH-GRO and TPH-DRO were all below the NMOCD stated limits at BH-2 sample location. However, a TPH-DRO concentration of 1300 mg/kg was detected at BH-4 sample location (**Table 1**). On March 23, 2015, another bio-treatment was implemented at BH-4 sample location, and confirmation sample collected on July 29, 2015 reported TPH-DRO concentration below laboratory detection limit (**Table 1**). The analytical results for areas with bio-treatment are shown in the following table.

Sample ID	Date sampled	BTEX				TPH	
		Benzene	Toluene	Ethylbenzene	Xylene	TPH-GRO	TPH-DRO
BH-2 Post Treatment	10/24/14	<0.00104	<0.00209	<0.00104	<0.00104	16.6	66.8
BH-4 Post Treatment	10/24/14	<0.00102	<0.00204	<0.00102	<0.00102	19.1	1300
BH-4 Post Microb Treat	7/29/15	<0.00158	<0.00158	<0.00158	<0.00158	<47	<47

Unit: mg/kg

The analytical results including historical data are presented in **Table 1**. A chronology of events is presented in **Table 2**. Analytical reports are presented in **Attachment B**, and a C-141 form is presented in **Attachment C**.

PROJECT CONCLUSIONS

The analytical results for the soil samples collected from the excavated and/or bio-treated areas show that there are no affected soils above the NMOCD limits within the area of investigation and remediation. Based on these results, EnTech is requesting "closure" or a "no further action required" letter from the NMOCD.

Upon your review of this letter report, should you have any questions or concerns please do not hesitate to contact us.

Yours very truly,

Chan Patel
Sr. Project Manager

Attachments:

Figure 1. Site Location Map

Figure 2. Site Layout Map

Figure 3. Analytical Map

Table 1. Analytical Results

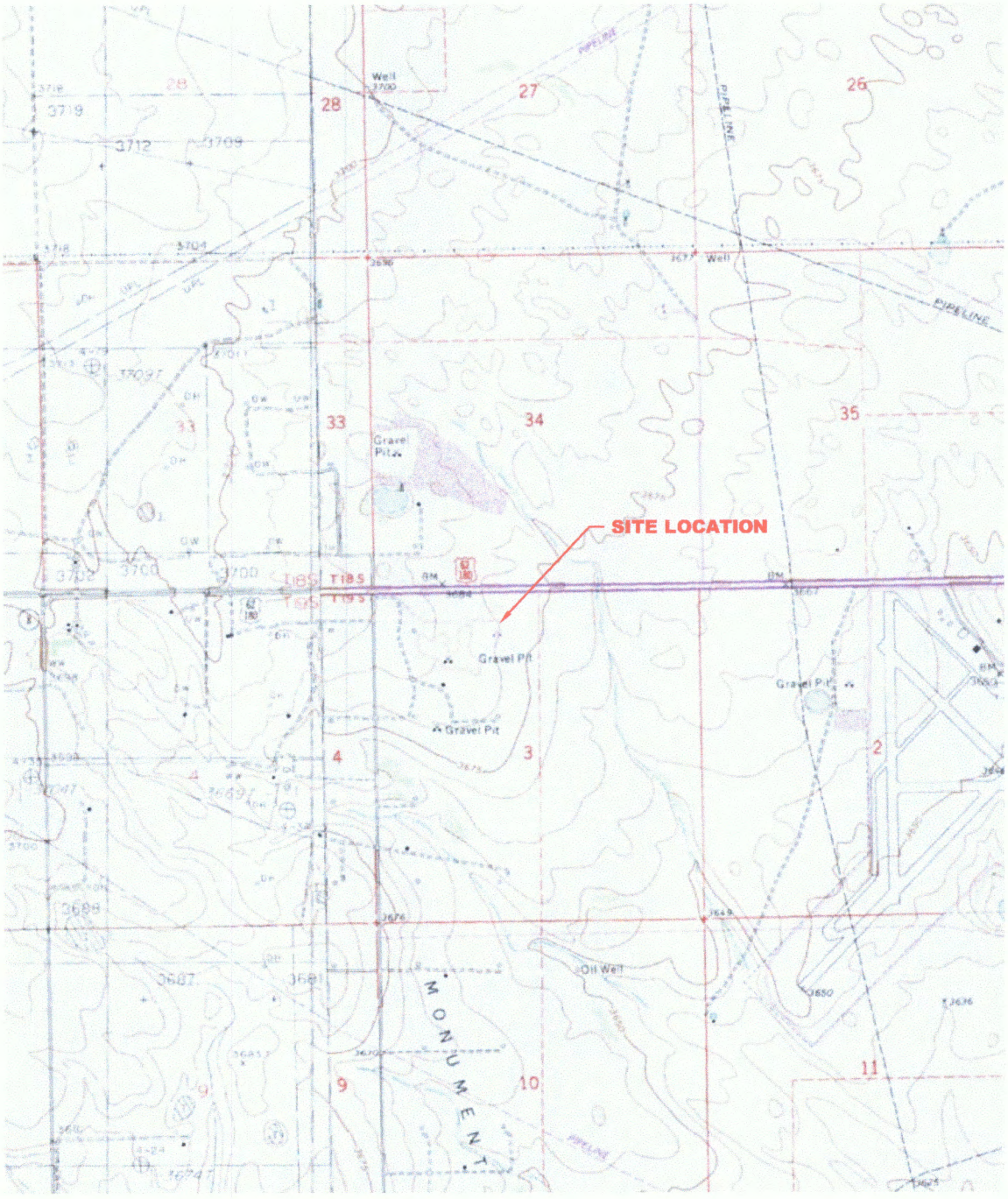
Table 2. Chronology of Events

Attachment A. Sampling Plan

Attachment B. Analytical Reports

Attachment C. Form C-141

FIGURES



0 1/2

Miles

EnTech

Houston, TX · (281) 362-2714

Figure 1
Site Location Map
Nabors - SWD Hobbs NM Yard
Hobbs, New Mexico

Job No.: NWS12023	DATE: 7/12

TABLES

Table 1. Analytical Results

Sample Information			BTEX				Total Petroleum Hydrocarbons		FIELD
Sample ID	Date Sampled	Lab ID	Benzene mg/Kg	Toluene mg/Kg	Ethylbenzene mg/Kg	Xylene mg/Kg	TPH-GRO mg/Kg	TPH-DRO mg/Kg	OVM ppm
BH-4 Post Microb Treat	7/29/2015	512607-001	<0.00158	<0.00158	<0.00158	<0.00158	<47	<47	0
BH-2 Post Treatment	10/24/2014	495885-001	<0.00104	<0.00209	<0.00104	<0.00104	16.6	66.8	0
BH-4 Post Treatment	10/24/2014	495885-002	<0.00102	<0.00204	<0.00102	<0.00102	19.1	1300	0
SW-14	5/29/2014	486347-001	<0.00101	<0.00202	<0.00101	<0.00101	<15.2	38.2	0
BH-5	5/23/2014	486084-001	<0.00101	<0.00203	<0.00101	<0.00101	<15.3	76.1	0
B-4 Post Excavation	5/9/2014	485137-001	<0.00108	<0.00217	<0.00108	<0.00108	<16.3	**130**	0
B-1 Post Excavation	5/9/2014	485137-002	<0.00102	<0.00204	<0.00102	<0.00102	<15.4	21.6	0
SW-9	5/9/2014	485137-003	<0.00104	<0.00208	<0.00104	<0.00104	<15.7	34.3	0
SW-10	5/9/2014	485137-004	<0.00102	<0.00204	<0.00102	<0.00102	<15.4	**406**	0
SW-11	5/9/2014	485137-005	<0.00101	<0.00202	<0.00101	<0.00101	<15.3	90.1	0
SW-12	5/9/2014	485137-006	<0.00104	<0.00208	<0.00104	<0.00104	<15.7	<15.7	0
SW-13	5/9/2014	485137-007	<0.00101	<0.00203	<0.00101	<0.00101	<15.3	<15.3	0
B-2 Post Excavation	5/9/2014	485137-008	<0.00102	<0.00205	<0.00102	<0.00102	<15.4	**176**	0
Nabors Trench #1	7/4/2013	TC33398-1	NA	NA	NA	NA	NA	12.5	1.3
Nabors Trench #2	7/4/2013	TC33398-2	NA	NA	NA	NA	NA	27.3	0.5
Nabors Trench #4	7/4/2013	TC33398-4	NA	NA	NA	NA	NA	27.5	0.8
Nabors Trench #5	7/4/2013	TC33398-5	NA	NA	NA	NA	NA	67.2	1.9
Nabors Trench #3	7/4/2013	TC33398-3	NA	NA	NA	NA	NA	38.8	0.6
BH1 5'	7/27/2012	304750	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	<50	0
BH1 10'	7/27/2012	304751	<0.0200	0.0235	<0.0200	<0.0200	<2.00	<50	0
BH1 15'	7/27/2012	304752	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	<50	0
BH1 20'	7/27/2012	304753	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	<50	0
BH2 5'	7/27/2012	304754	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	<50	0
BH2 10'	7/27/2012	304755	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	<50	0
BH2 15'	7/27/2012	304756	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	<50	0
BH2 20'	7/27/2012	304757	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	<50	0
BH1 5'	7/25/2012	12072601	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	<50.0	0
BH1 10'	7/25/2012	12072601	<0.0200	0.0235	<0.0200	<0.0200	<2.00	<50.0	0
BH1 15'	7/25/2012	12072601	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	<50.0	0
BH1 20'	7/25/2012	12072601	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	<50.0	0
BH2 5'	7/25/2012	12072601	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	<50.0	0
BH2 10'	7/25/2012	12072601	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	<50.0	0
BH3 15'	7/25/2012	12072601	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	<50.0	0
BH4 20'	7/25/2012	12072601	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	<50.0	0
BH-4	6/5/2012	300156	<0.0200	<0.0200	<0.0200	<0.0200	2.1	**885**	20.5
SW-1	6/1/2012	299756	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	<50.0	2.1
SW-2	6/1/2012	299757	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	189	9.5
SW-3	6/1/2012	299758	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	**527**	12
SW-4	6/1/2012	299759	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	**270**	8.1
SW-5	6/1/2012	299760	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	**440**	8.9
SW-6	6/1/2012	299761	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	**139**	7.6
SW-7	6/1/2012	299762	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	84.3	40.8
SW-8	6/1/2012	299763	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	91.4	5.6
BH-1	6/1/2012	299764	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	**752**	25.8
BH-2	6/1/2012	299765	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	**416**	10.4
BH-3	6/1/2012	299766	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	54.9	10.1
Stockpiled Dirt #1	6/1/2012	299767	<0.0200	<0.0200	0.0784	0.0971	<2.00	**1110***	NA
Stockpiled Dirt #2	6/1/2012	299768	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	**540***	NA
Pea Gravel	6/1/2012	299769	<0.0200	<0.0200	<0.0200	<0.0200	<2.00	**465***	NA

Note:

NMOCD Clean up goals, Benzene 10 mg/kg, BTEX 50 mg/kg and TPH 100 mg/kg

Concentrations in bold considered above NMOCD acceptable level for the site

* Affected soil excavated and transported to a disposal facility (Sundance Disposal)

NA - Not analyzed for

Table 2. Chronology of Events

Date	Events	Analytical results
6/1/12	Approximately 220 cubic yards of hydrocarbon-affected soils at the Hobbs Reclamation Plant were excavated.	7 out of 11 confirmation samples (SW-2 to SW-6, BH-1 and BH-2) reported TPH-DRO above the NMOCD limit of 100 mg/kg.
7/25/12	Straub Corporation advanced two borings beneath the base of the C&JES Reclamation Plant excavation area to 20 feet below ground surface.	Confirmation samples (Boring #1 and #2) reported no hydrocarbons above the laboratory detection limit from 5' to 20' below the ground surface.
6/30/13	Lighthouse Environmental (Lighthouse) excavated five trenches.	
7/4/13		Confirmation samples (Nabors Trench #1 to #5) collected from the delineation trenches reported no affected soils above the NMOCD limits.
5/9/14	Lighthouse excavated and removed contaminated soils out to the limit of the delineation trenches.	Confirmation samples (SW-9 to SW-13, B-1, B-2 and B-4 Post Excavation) reported the TPH-DRO concentrations above 100 mg/kg at SW-10, B-2 and B-4 sample locations.
5/29/14	A small part of additional area associated with sample SW-10 was further excavated.	Confirmation sample (SW-14) reported both BTEX and TPH below NMOCD limits.
10/24/14	BH-2 and BH-4 sample locations were treated with hydrocarbon degrading microbial solution.	Confirmation samples reported both BTEX and TPH below NMOCD limits at BH-2 sample location, while the TPH-DRO at BH-4 sample location was above 100 mg/kg.
3/23/15	Bio-treatment was implemented at BH-4 sample location.	
7/29/15		Confirmation sample collected at BH-4 sample location (BH-4 Post Microb Treat) reported both BTEX and TPH below laboratory detection limits.

SAMPLING PLAN
NABORS RECLAMATION PLANT
HOBBS, NM

INTRODUCTION

This field sampling plan is being developed by EnTech Consulting Corp. (EnTech) to delineate soil contamination at Nabors Well Services Co. Reclamation Plant Facility (facility) west of Hobbs, NM. The facility is a Salt Water Disposal facility with numerous tanks and truck unloading. Four tanks in the southwest corner of the facility have been removed and this sampling plan will be used to delineate affected soils to New Mexico Oil Conservation Division (OCD) standards for the soil under and adjacent to the former tanks.

In New Mexico, the OCD oversees and regulates oil, gas and geothermal activities, including enforcement and compliance with environmental regulations. Guidance for cleanup of crude oil releases is provided in the OCD Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993) document. Primary contaminants, or chemicals of concern (COCs), associated with releases from this facility include TPH and BTEX. Guidelines for these COCs in soil are evaluated based on a Site ranking system. The ranking system estimates the likelihood of exposures to the COCs and is based on the following three parameters to protect groundwater and surface water resources:

- Depth to groundwater.
- Wellhead protection area.
- Distance to surface water body.

OCD SITE RANKING

Based on the proximity of the Site to area water wells, surface water bodies, and depth to groundwater, the Site has an OCD ranking score of 20 points, with the soil remedial goals specified below in the Site Ranking Matrix.

Site Ranking Matrix

1. Groundwater	2. Wellhead Protection Area	3. Distance to Surface Water Body
If Depth to GW <50 feet: 20 points	If <1000' from water source, or, <200' from private domestic water source: 20 points	<200 horizontal feet: 20 points
If Depth to GW 50 to 99 feet: 10 points		200-100 horizontal feet: 10 points
If Depth to GW >100 feet: 0 points	If >1000' from water source, or, >200' from private domestic water source: 0 points	>1000 horizontal feet: 0 points
Groundwater Score:20	Wellhead Protection Area Score: 0	Surface Water Score: 0
Site Rank (1+2+3) =20+0+0=20		

Total Site Ranking Score and Initial Guidance Cleanup Concentrations			
Parameter	20 or >	10	0
Benzene	10 ppm	10 ppm	10 ppm
BTEX	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm

Based on typical OCD remediation standards, the analytical goals of the May 2012 excavation for sidewall and excavation bottom confirmation samples are: TPH target concentration of 100 mg/kg, benzene target concentration of 10 mg/kg and total BTEX target concentration of 50 mg/kg. A field soil vapor headspace measurement of 100 ppm may be substituted for a laboratory analysis of the Benzene and BTEX concentration limits as per OCD Guidelines.

EXCAVATION AND SAMPLING

During the excavation process, EnTech personnel will use an Organic Vapor Meter (OVM) to assist in verifying removal of affected soil. Soil screening will be completed by placing soil samples in a zip-lock bag and after 10 minutes collect a headspace reading using the OVM. Readings below 100 ppm can be used for field screening residual soil to determine if they are below cleanup level. Once field screening has determined that affected contaminated soil has been removed, confirmation samples will be collected from the base and sidewalls of the excavation using the following protocol:

- Sidewall samples - one sample approximately every 50 linear feet.
- Bottom samples – one sample approximately every 2500 square feet.
- Confirmation samples will be analyzed for TPH C6-C12, TPH C12-C28 and TPH C28-C35 by method SW 846 8015M and BTEX by EPA Method SW 846 8021B.
- Confirmation sidewall and excavation bottom samples analytical results will be compared to OCD remediation cleanup standards.

EnTech's confirmation soil sampling program will consist of the following:

During the course of the excavation activities it is estimated that up to fourteen (14) discrete soil samples could be collected from the excavation sidewalls and floors based on the results of field screening the excavation utilizing a photo-ionization detector (PID) capable of detecting volatile organic compounds (VOCs). Sidewall samples will be collected at an approximate rate of one per 50 linear feet of sidewall. Samples collected from the base of the excavation will be collected at a rate of one per 2,500 square feet. Based on the estimated size of the excavation the estimated number for the complete excavation is seventeen (14) samples. If delineation is occurring during excavation, the estimated number can increase. Additionally, as sample results will be required to prevent the unnecessary stand-by time or demobilization of equipment, the sample results will be requested at an expedited turnaround time of twenty-four hours.

The soil samples will be collected in laboratory prepared glassware and placed in a cooler on ice, following chain of custody protocols. The samples will be transported to a selected analytical laboratory along with a completed chain-of-custody form and submitted for analysis for the parameters specified above.

BACKFILL

Once confirmation sampling has determined that residual concentrations of the COC are below regulatory limits, the excavation can be backfilled with clean surface soil and/or caliche.

PROJECT ASSUMPTIONS

Based on preliminary discussions with Nabors and a lack of specific data from on-site soil borings, the following assumptions are presented regarding the excavation process:

1. The excavation is estimated at 90 feet long and 65 feet wide.
2. The excavation is estimated to have a minimum depth of 5 feet.
3. If initial soil screening samples show COC concentrations are above regulatory limits at 10 feet below ground surface, a risk based approach will be evaluated to control the depth of the excavation.
4. Excavation contractor will make the one call 48 hours in advance of excavation activities.
5. Excavation will be completed by RWI under their health and safety plan.

6. Samples will be collected at the end of the first day to evaluate the maximum depth of the excavation. These samples will be submitted for immediate turnaround (24 hours).
7. Excavation activities can continue under RWI supervision until samples analysis data is reviewed. Final confirmation samples will be collected once field sample screening levels are below 100 ppm.
8. Once analytical results from the Laboratory confirm COC are below regulatory levels the excavation will be back filled by RWI.
9. A letter report will be prepared to document the excavation activities and the analytical results.

Attachment B: Analytical Reports

Analytical Report No. 495885

Sample ID	Date Collected	Lab ID
BH-2 Post Treatment	10/24/2014	495885-001
BH-4 Post Treatment	10/24/2014	495885-002

Analytical Report No. 512607

Sample ID	Date Collected	Lab ID
BH-4 MICROB TREAT	7/29/2015	512607-001

Analytical Report 495885

for

Entech Consulting

Project Manager: Chan Patel

Hobbs Reclamation Plant

12032

28-OCT-14

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-14-18), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

28-OCT-14

Project Manager: **Chan Patel**
Entech Consulting
21 Waterway Ave, Suite 300
The Woodlands, TX 77380

Reference: XENCO Report No(s): **495885**
Hobbs Reclamation Plant
Project Address: Hobbs,NM

Chan Patel:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 495885. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 495885 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks
Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America

Sample Cross Reference 495885

Entech Consulting, The Woodlands, TX

Hobbs Reclamation Plant

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH2-POST TREATMENT	S	10-24-14 13:10		495885-001
BH4-POST TREATMENT	S	10-24-14 13:00		495885-002

CASE NARRATIVE

Client Name: Entech Consulting

Project Name: Hobbs Reclamation Plant

Project ID: *12032*
Work Order Number(s): *495885*

Report Date: *28-OCT-14*
Date Received: *10/24/2014*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 495885

Entech Consulting, The Woodlands, TX

Project Name: Hobbs Reclamation Plant

Project Id: 12032
Contact: Chan Patel
Project Location: Hobbs,NM

Date Received in Lab: Fri Oct-24-14 03:25 pm
Report Date: 28-OCT-14
Project Manager: Kelsey Brooks

Analysis Requested									
	Lab Id:	495885-001		495885-002					
	Field Id:	BH2-POST TREATMENT		BH4-POST TREATMENT					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	Oct-24-14 13:10		Oct-24-14 13:00					
BTEX by EPA 8021B	*Extracted:*	Oct-24-14 16:00		Oct-24-14 16:00					
	Analyzed:	Oct-25-14 03:35		Oct-25-14 03:52					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		ND	0.00104	ND	0.00102				
Toluene		ND	0.00209	ND	0.00204				
Ethylbenzene		ND	0.00104	ND	0.00102				
m_p-Xylenes		ND	0.00209	ND	0.00204				
o-Xylene		ND	0.00104	ND	0.00102				
Total Xylenes		ND	0.00104	ND	0.00102				
Total BTEX		ND	0.00104	ND	0.00102				
Percent Moisture	*Extracted:*								
	Analyzed:	Oct-27-14 16:40		Oct-27-14 16:40					
	Units/RL:	%	RL	%	RL				
Percent Moisture		4.49	1.00	2.05	1.00				
TPH By SW8015 Mod	*Extracted:*	Oct-24-14 17:00		Oct-24-14 17:00					
	Analyzed:	Oct-25-14 23:07		Oct-25-14 23:30					
	Units/RL:	mg/kg	RL	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		16.6	15.7	19.1	15.3				
C12-C28 Diesel Range Hydrocarbons		66.8	15.7	1300	15.3				
C28-C35 Oil Range Hydrocarbons		ND	15.7	179	15.3				
Total TPH		83.4	15.7	1500	15.3				

Kelsey Brooks
Project Manager

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: Hobbs Reclamation Plant

Work Orders : 495885, **Project ID:** 12032

Lab Batch #: 953877 **Sample:** 495885-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/25/14 03:35

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0322	0.0300	107	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 953877 **Sample:** 495885-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/25/14 03:52

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0334	0.0300	111	80-120	
4-Bromofluorobenzene	0.0349	0.0300	116	80-120	

Lab Batch #: 953918 **Sample:** 495885-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/25/14 23:07

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	99.8	115	70-135	
o-Terphenyl	63.7	49.9	128	70-135	

Lab Batch #: 953918 **Sample:** 495885-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/25/14 23:30

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.6	101	70-135	
o-Terphenyl	52.0	49.8	104	70-135	

Lab Batch #: 953877 **Sample:** 663502-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/24/14 19:30

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	0.0272	0.0300	91	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Hobbs Reclamation Plant

Work Orders : 495885, **Project ID:** 12032

Lab Batch #: 953918 **Sample:** 663509-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/25/14 15:35

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	56.4	50.0	113	70-135	

Lab Batch #: 953877 **Sample:** 663502-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/24/14 19:46

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 953918 **Sample:** 663509-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/25/14 02:56

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	59.4	50.0	119	70-135	

Lab Batch #: 953877 **Sample:** 663502-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/24/14 20:02

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0305	0.0300	102	80-120	
4-Bromofluorobenzene	0.0291	0.0300	97	80-120	

Lab Batch #: 953918 **Sample:** 663509-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/25/14 03:35

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	64.5	50.0	129	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Hobbs Reclamation Plant

Work Orders : 495885, **Project ID:** 12032

Lab Batch #: 953877 **Sample:** 495800-003 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/24/14 20:19

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0331	0.0300	110	80-120	
4-Bromofluorobenzene	0.0328	0.0300	109	80-120	

Lab Batch #: 953918 **Sample:** 495874-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/25/14 16:31

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	99.8	113	70-135	
o-Terphenyl	64.7	49.9	130	70-135	

Lab Batch #: 953877 **Sample:** 495800-003 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/24/14 20:35

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0337	0.0300	112	80-120	
4-Bromofluorobenzene	0.0341	0.0300	114	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Hobbs Reclamation Plant

Work Order #: 495885 **Project ID:** 12032

Analyst: ARM **Date Prepared:** 10/24/2014 **Date Analyzed:** 10/24/2014

Lab Batch ID: 953877 **Sample:** 663502-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0934	93	0.100	0.0903	90	3	70-130	35	
Toluene	<0.00200	0.100	0.100	100	0.100	0.0960	96	4	70-130	35	
Ethylbenzene	<0.00100	0.100	0.105	105	0.100	0.100	100	5	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.215	108	0.200	0.205	103	5	70-135	35	
o-Xylene	<0.00100	0.100	0.0995	100	0.100	0.0956	96	4	71-133	35	

Analyst: ARM **Date Prepared:** 10/24/2014 **Date Analyzed:** 10/25/2014

Lab Batch ID: 953918 **Sample:** 663509-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	849	85	1000	854	85	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	977	98	1000	970	97	1	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS Recoveries

Project Name: Hobbs Reclamation Plant

Work Order #: 495885

Lab Batch #: 953918

Project ID: 12032

Date Analyzed: 10/25/2014

Date Prepared: 10/24/2014

Analyst: ARM

QC- Sample ID: 495874-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

TPH by SW8015 Mod Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	998	870	87	70-135	
C12-C28 Diesel Range Hydrocarbons	135	998	986	85	70-135	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference [E] = 200*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Form 3 - M / MSD Recoveries

Project Name: Hobbs Reclamation Plant

Work Order # : 495885 **Project ID:** 12032

Lab Batch ID: 953877 **QC- Sample ID:** 495800-003 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/24/2014 **Date Prepared:** 10/24/2014 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00113	0.113	0.0917	81	0.113	0.0908	80	1	70-130	35	
Toluene	<0.00225	0.113	0.0980	87	0.113	0.0961	85	2	70-130	35	
Ethylbenzene	<0.00113	0.113	0.101	89	0.113	0.0977	86	3	71-129	35	
m_p-Xylenes	<0.00225	0.225	0.206	92	0.225	0.201	89	2	70-135	35	
o-Xylene	<0.00113	0.113	0.0971	86	0.113	0.0952	84	2	71-133	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

XENCO Laboratories

Sample Duplicate Recovery

Project Name: Hobbs Reclamation Plant

Work Order #: 495885

Lab Batch #: 953972 **Project ID:** 12032

Date Analyzed: 10/27/2014 16:40 **Date Prepared:** 10/27/2014 **Analyst:** WRU

QC- Sample ID: 495800-028 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Percent Moisture **Analyte**	**Parent Sample Result [A]**	**Sample Duplicate Result [B]**	**RPD**	**Control Limits %RPD**	**Flag**
Percent Moisture	28.5	29.9	5	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Entech Consulting

Date/ Time Received: 10/24/2014 03:25:00 PM

Work Order #: 495885

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	No
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A
#21 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	N/A
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 10/24/2014

Checklist reviewed by: Kelsey Brooks Date: 10/24/2014

Analytical Report 512607

for

Entech Consulting

Project Manager: Chan Patel

Hobbs Reclamation Plant

NCPS 14017

11-AUG-15

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-15-19), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

11-AUG-15

Project Manager: **Chan Patel**
Entech Consulting
21 Waterway Ave, Suite 300
The Woodlands, TX 77380

Reference: XENCO Report No(s): **512607**
Hobbs Reclamation Plant
Project Address: Hobbs,NM

Chan Patel:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 512607. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 512607 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks
Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America

Sample Cross Reference 512607

Entech Consulting, The Woodlands, TX

Hobbs Reclamation Plant

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-4-POST MICROB TREAT	S	07-29-15 14:00		512607-001

Version: 1.%

CASE NARRATIVE

Client Name: Entech Consulting

Project Name: Hobbs Reclamation Plant

Project ID: *NCPS 14017*
Work Order Number(s): *512607*

Report Date: *11-AUG-15*
Date Received: *07/31/2015*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-973790 BTEX by SW 8260B

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; This surrogate is not associated with target compounds.

Samples affected are: 512607-001.

Internal standard,1,4-Dichlorobenzene-d4 was outside method acceptance criteria for 512607-001. This internal standard is not associated with target compounds.

Certificate of Analysis Summary 512607

Entech Consulting, The Woodlands, TX

Project Name: Hobbs Reclamation Plant

Project Id: NCPS 14017
Contact: Chan Patel
Project Location: Hobbs,NM

Date Received in Lab: Fri Jul-31-15 12:25 pm
Report Date: 11-AUG-15
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	512607-001					
	Field Id:	BH-4-POST MICROB TREA					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Jul-29-15 14:00					
BTEX by SW 8260B SUB: TX104704215	***Extracted:***	Aug-04-15 11:49					
	Analyzed:	Aug-04-15 15:23					
	Units/RL:	mg/kg	RL				
Benzene		ND	0.00158				
Toluene		ND	0.00158				
Ethylbenzene		ND	0.00158				
m,p-Xylenes		ND	0.00315				
o-Xylene		ND	0.00158				
Total Xylenes		ND	0.00158				
Total BTEX		ND	0.00158				
Percent Moisture SUB: TX104704215	***Extracted:***						
	Analyzed:	Aug-07-15 14:26					
	Units/RL:	%	RL				
Percent Moisture		36.9	1.00				
TPH By SW8015 Mod SUB: TX104704215	***Extracted:***	Aug-10-15 13:53					
	Analyzed:	Aug-11-15 10:33					
	Units/RL:	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		ND	47.0				
C12-C28 Diesel Range Hydrocarbons		ND	47.0				
C28-C35 Oil Range Hydrocarbons		ND	47.0				
Total TPH		ND	47.0				

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: Hobbs Reclamation Plant

Work Orders : 512607, **Project ID:** NCPS 14017

Lab Batch #: 973790 **Sample:** 512607-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/04/15 15:23

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0534	0.0500	107	74-126	
1,2-Dichloroethane-D4	0.0458	0.0500	92	80-120	
Toluene-D8	0.0534	0.0500	107	73-132	
4-Bromofluorobenzene	0.0800	0.0500	160	58-152	**

Lab Batch #: 974219 **Sample:** 512607-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/11/15 10:33

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	188	198	95	70-135	
o-Terphenyl	107	98.8	108	70-135	

Lab Batch #: 973790 **Sample:** 696141-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/04/15 11:08

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0513	0.0500	103	74-126	
1,2-Dichloroethane-D4	0.0445	0.0500	89	80-120	
Toluene-D8	0.0491	0.0500	98	73-132	
4-Bromofluorobenzene	0.0509	0.0500	102	58-152	

Lab Batch #: 974219 **Sample:** 696383-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/11/15 11:11

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	63.8	50.0	128	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Hobbs Reclamation Plant

Work Orders : 512607, **Project ID:** NCPS 14017

Lab Batch #: 973790 **Sample:** 696141-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/04/15 09:58

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0501	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0517	0.0500	103	80-120	
Toluene-D8	0.0484	0.0500	97	73-132	
4-Bromofluorobenzene	0.0521	0.0500	104	58-152	

Lab Batch #: 974219 **Sample:** 696383-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/10/15 17:56

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	58.1	50.0	116	70-135	

Lab Batch #: 973790 **Sample:** 696141-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/04/15 10:12

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0493	0.0500	99	74-126	
1,2-Dichloroethane-D4	0.0529	0.0500	106	80-120	
Toluene-D8	0.0486	0.0500	97	73-132	
4-Bromofluorobenzene	0.0518	0.0500	104	58-152	

Lab Batch #: 974219 **Sample:** 696383-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/10/15 18:15

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	58.7	50.0	117	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Hobbs Reclamation Plant

Work Orders : 512607, **Project ID:** NCPS 14017

Lab Batch #: 973790 **Sample:** 512654-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/04/15 13:50

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0512	0.0500	102	74-126	
1,2-Dichloroethane-D4	0.0542	0.0500	108	80-120	
Toluene-D8	0.0546	0.0500	109	73-132	
4-Bromofluorobenzene	0.0514	0.0500	103	58-152	

Lab Batch #: 973790 **Sample:** 512654-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/04/15 14:09

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0511	0.0500	102	74-126	
1,2-Dichloroethane-D4	0.0531	0.0500	106	80-120	
Toluene-D8	0.0513	0.0500	103	73-132	
4-Bromofluorobenzene	0.0601	0.0500	120	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Version: 1.%

BS / BSD Recoveries

Project Name: Hobbs Reclamation Plant

Work Order #: 512607 **Project ID:** NCPS 14017

Analyst: MCH **Date Prepared:** 08/04/2015 **Date Analyzed:** 08/04/2015

Lab Batch ID: 973790 **Sample:** 696141-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by SW 8260B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0981	98	0.100	0.105	105	7	62-132	25	
Toluene	<0.00100	0.100	0.0917	92	0.100	0.0973	97	6	66-124	25	
Ethylbenzene	<0.00100	0.100	0.0948	95	0.100	0.102	102	7	71-134	25	
m,p-Xylenes	<0.00200	0.200	0.188	94	0.200	0.202	101	7	69-128	25	
o-Xylene	<0.00100	0.100	0.0918	92	0.100	0.100	100	9	72-131	25	

Analyst: JTR **Date Prepared:** 08/10/2015 **Date Analyzed:** 08/10/2015

Lab Batch ID: 974219 **Sample:** 696383-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1230	123	1000	1210	121	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1040	104	1000	942	94	10	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Version: 1.%

Form 3 - M / MSD Recoveries

Project Name: Hobbs Reclamation Plant

Work Order # : 512607 **Project ID:** NCPS 14017

Lab Batch ID: 973790 **QC- Sample ID:** 512654-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/04/2015 **Date Prepared:** 08/04/2015 **Analyst:** MCH

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00115	0.115	0.116	101	0.116	0.118	102	2	62-132	25	
Toluene	<0.00115	0.115	0.119	103	0.116	0.114	98	4	66-124	25	
Ethylbenzene	<0.00115	0.115	0.120	104	0.116	0.116	100	3	71-134	25	
m,p-Xylenes	<0.00231	0.231	0.228	99	0.232	0.225	97	1	69-128	25	
o-Xylene	<0.00115	0.115	0.121	105	0.116	0.108	93	11	72-131	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

XENCO Laboratories

Sample Duplicate Recovery

Project Name: Hobbs Reclamation Plant

Work Order #: 512607

Lab Batch #: 974051 **Project ID:** NCPS 14017

Date Analyzed: 08/07/2015 14:26 **Date Prepared:** 08/07/2015 **Analyst:** YAV

QC- Sample ID: 512607-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Percent Moisture **Analyte**	**Parent Sample Result [A]**	**Sample Duplicate Result [B]**	**RPD**	**Control Limits %RPD**	**Flag**
Percent Moisture	36.9	37.8	2	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

Version: 1.%

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)

Dallas, Texas (214-902-0300)

Service Center - San Antonio, Texas (210-509-3334)

Odessa, Texas (432-563-1800)

Norcross, Georgia (770-449-8800)

Lakeland, Florida (863-646-8526)

Tampa, Florida (813-620-2000)

www.xenco.com

Xenco Quote #

Xenco Job # 512607

Client / Reporting Information

Company Name / Branch: EnTech Consulting

Company Address: 21 WATERWAY BVLD

Email: Phone No:

Project Contact: CHAN PATEL

Samplers's Name: SHAWE DILLER

Project Information

Project Name/Number: HOBBS Reclamation Plant

Project Location: Hobbs NM

Invoice To: EnTech

PO Number: NCPS 14017

Analytical Information

Matrix Codes

A= Air
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
WW= Waste Water
W = Wipe
O = Oil

WW= Waste Water

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH GRO/DRO	BTEX	Field Comments
1	BH-4 Post Microb Treat		7-29	1400	S	2								X	X	X	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Turnaround Time (Business days)

- [ ] Same Day TAT
- [x] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 3:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

CHAN.PATEL@entechservice.com

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Shawe Diller	7-31-1225		2	7-31-15 1225	2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice: X / Cooler Temp.: 4° / Thermo. Corr. Factor

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to XENCO Laboratories and its subcontractors and assigns XENCO's standard terms and conditions of service unless previously negotiated under a fully executed contract.

Final 1.000

Page 13 of 14

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Entech Consulting

Date/ Time Received: 07/31/2015 12:25:00 PM

Work Order #: 512607

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	6
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A
#21 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	No
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	No

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 07/31/2015

Checklist reviewed by: Kelsey Brooks Date: 08/03/2015