AE Order Number Banner

Report Description

This report shows an AE Order Number in Barcode format for purposes of scanning. The Barcode format is Code 39.

App Number: pJXK1621129202

1RP - 4372

CHEVRON U S A INC

7/29/2016

David Pagano
MCA Health & Environmental Specialist (Oil Area – Vacuum/Buckeye, Dollarhide & Sundown)
56 Texas Camp Rd.,
Lovington, NM 88260

Mid Continent Business Unit
HES Department
Chevron USA, Inc

December 18, 2012

Mr. Geoffrey R. Leking
Environmental Specialist
NMOCD
1625 N. French Drive
Hobbs, New Mexico 88240

RE: Chevron North America
Dollarhide FMT – WDDU #4 Release Area
UL-J (NW1/4 of the SE1/4) of Section 19, T 24S, R 38 E
Lea County, New Mexico
Latitude: 32º 11' 59.46"; Longitude: 103º 05' 55.23"
EPI Ref. #200187

Dear Mr. Leking:

Enclosed you will find for your consideration and approval the Remediation Closure Proposal prepared by Environmental Plus Inc. on behalf of Chevron for the above referenced site/location.

Sincerely,

David Pagano

Enclosures

10 September 2012

Mr. Geoffrey Leking
Environmental Engineer
New Mexico Oil Conservation Division
1265 North French Drive
Hobbs, New Mexico 88240

RE: Remediation Closure Proposal
Chevron North America
Dollarhide FMT – WDDU #4 Release Area
UL-J (NW1/4 of the SE1/4) of Section 19, T 24S, R 38 E
Lea County, New Mexico
Latitude: 32° 11' 59.46"; Longitude: 103° 05' 55.23"
EPI Ref. #200187

Dear Mr. Leking:

The below *Remediation Proposal* (*Proposal*) is designed to bring the above referenced Release Area into conformance with New Mexico Oil Conservation Division (NMOCD) Guidelines. References will be included to update NMOCD representatives of previous remedial activities. For clarity and cross references elimination purposes, the *Proposal* includes *Release History, Site Background, Preliminary Field Work, Analytical Data and Procedures* and *Field Remediation Proposals.*

Release History

Release of production fluids from the flow line occurred on 3 January 2012 when a coupling/collar separated due to tension stress. Approximately 11.14 barrels of water and 0.74 barrels of oil were recovered and disposed at a State approved facility.

Site Background

The site is located in UL-J (NW1/4 of the SE1/4) of Section 19, T24S, R38E at an approximate elevation of 3,175-feet above mean sea level (amsl). The property is privately owned by Mr. Bill Grobe. A search for water wells was completed utilizing the *New Mexico Office of the State Engineers* website and a database maintained by the United States Geological Survey (USGS). No water wells or surface water exists within a 1000-feet radius of the release area. Based on available information and Chevron's water contour map, average groundwater depth is approximately sixty-five (65) feet below ground surface (bgs). Based on depth of excavation at sixteen (16) feet bgs, depth between impacted material and groundwater is conservatively estimated at less than forty-nine (49) vertical feet. Utilizing this information, NMOCD Remedial Threshold Goals (NMOCD Goals) were determined as follows:

ENVIRONMENTAL PLUS, INC.

Parameter	Remedial Goal
Benzene	10 mg/Kg
BTEX	50 mg/Kg
TPH	100 mg/Kg
Chlorides	250 mg/Kg

Preliminary Field Work

Environmental Plus, Inc., (EPI) mobilized to the project site on 7-February 2011 and completed surficial work around the well head. Approximately 56-cubic yards of impacted material were excavated and transported to Sundance Services for disposal. Impacted material was replaced by 28-cubic yards of topsoil from a private pit located on Bill Grobe's property.

On 4 January 2012 EPI re-mobilized in response to a flowline leak. Initial intent was to excavate and remediate the surface area. However, over zealous remedial activities between 5-17 January 2012 created an excavation with a surface area of ±2,450-square feet and 16-vertical feet depth (reference *Figure 3*). Approximately 704-cubic yards of impacted material were excavated and transported to Sundance Services for disposal.

Analytical Data and Procedures

Soil samples were collected on 13 January 2012 and remitted to XENCO Laboratory for analyses of chloride and TPH concentrations. In reviewing Table 2, *Summary of Excavation Soil Sample Field Analyses and Laboratory Analytical Results*, serious chloride concentration elevated above NMOCD Goals exists in BH-1 (4,350 mg/Kg) and BH-3 (3,780 mg/Kg). Similarly, moderately elevated chloride concentrations exist in sidewall soil samples in SW-2 through SW-7. TPH concentrations above NMOCD Goals were non-existent in most soil samples with the exception of BH-1 (10,182 mg/Kg) (reference *Figure 4* for locations). As soil samples were laboratory bound, no field analyses were conducted for chloride or TPH concentrations.

Soil samples designated for laboratory analyses were immediately inserted into laboratory provided glass containers, labeled and packaged in self sealing polyethylene bags, placed in coolers, iced down and transported to an independent laboratory for quantification of TPH [Gasoline Range Organics (C6-C12), Diesel Range Organics (>C12-C28) and Oil Range Organics (>C28-C35)] and chloride concentrations under Chain-of-Custody protocol.

Site Remedial Proposal

An overall view of the existing excavation impacted areas indicate some heavy chloride and TPH concentrations in the bottom area with moderate chloride concentrations in sidewalls. As the

depth of the excavation is already at 16-vertical feet, EPI recommends future remedial activities be directed at cleaning sidewalls until chloride concentrations are below NMOCD Goals. As chloride concentrations are not significantly higher than NMOCD Goals, sidewalls should cleanup quickly. However, no additional excavation of the bottom is recommended due to existing depth. Once sidewalls are void of chloride concentrations above NMOCD Goals, the bottom of the excavation will be covered with a minimum two (2) feet thick compacted clay barrier. As excavation depth and near vertical sidewalls prevents workers and equipment entry, the clay will be deposited via trackhoe, watered and compacted with the trackhoe bucket. No density tests will be conducted. Caliche will be placed over the top of the compacted clay barrier to within three (3) feet of original ground surface. Remainder of backfill will consist of clean native topsoil to original ground surface.

Once backfill operations are completed, disturbed surface areas will be contoured to meet natural drainage patterns and prevent wind/water erosion. Disturbed surface areas will be disced and deep drill seeded with a mixture approved by the land owner. However, due to near drought climate, EPI recommends undertaking this activity when weather and ground conditions are conducive to vegetative growth.

Following closure and acceptance of the area by land owner and NMOCD representatives, EPI will submit a *Final Closure Report* to NMOCD, land owner and Chevron personnel.

Should you have questions, concerns or need additional technical information, please contact me at (575) 394-3481 (office), (575) 441-7802 (cellular) or via e-mail at dduncanepi@gmail.com.

Official communications should be directed to Mr. David Pagano at (575) 396-4414 x 275 (office), (575) 787-9816 (cellular) or via e-mail at dpgn@chevron.com. with correspondence addressed to:

Mr. David Pagano
Chevron North America
MCA Health & Environmental Specialist
56 Texas Camp Road
Lovington, New Mexico 88260

Sincerely,

ENVIRONMENTAL PLUS, INC.,

David P. Duncan
Civil Engineer
EPI Project Manager

Cc: David Pagano – MCA Health & Environmental Specialist – Chevron North America
Bill Grobe – Property Owner
Jesse Miller, Vice President – EPI
Roger Boone, Operations Manager – EPI

Encl: Figure 1 – Area Map
Figure 2 – Site Location Map
Figure 3 – Release Area Site Map
Figure 4 – Soil Sample Site Map
Table 1 – Well Data
Table 2 – Summary of Excavation Soil Sample Field Analyses and Laboratory Analytical Results
Attachment I – Site Photographs
Attachment II – Laboratory Analytical Results and Chain-of-Custody Forms (1-13-12)
Attachment III – Initial NMOCD Forms C-141

FIGURES

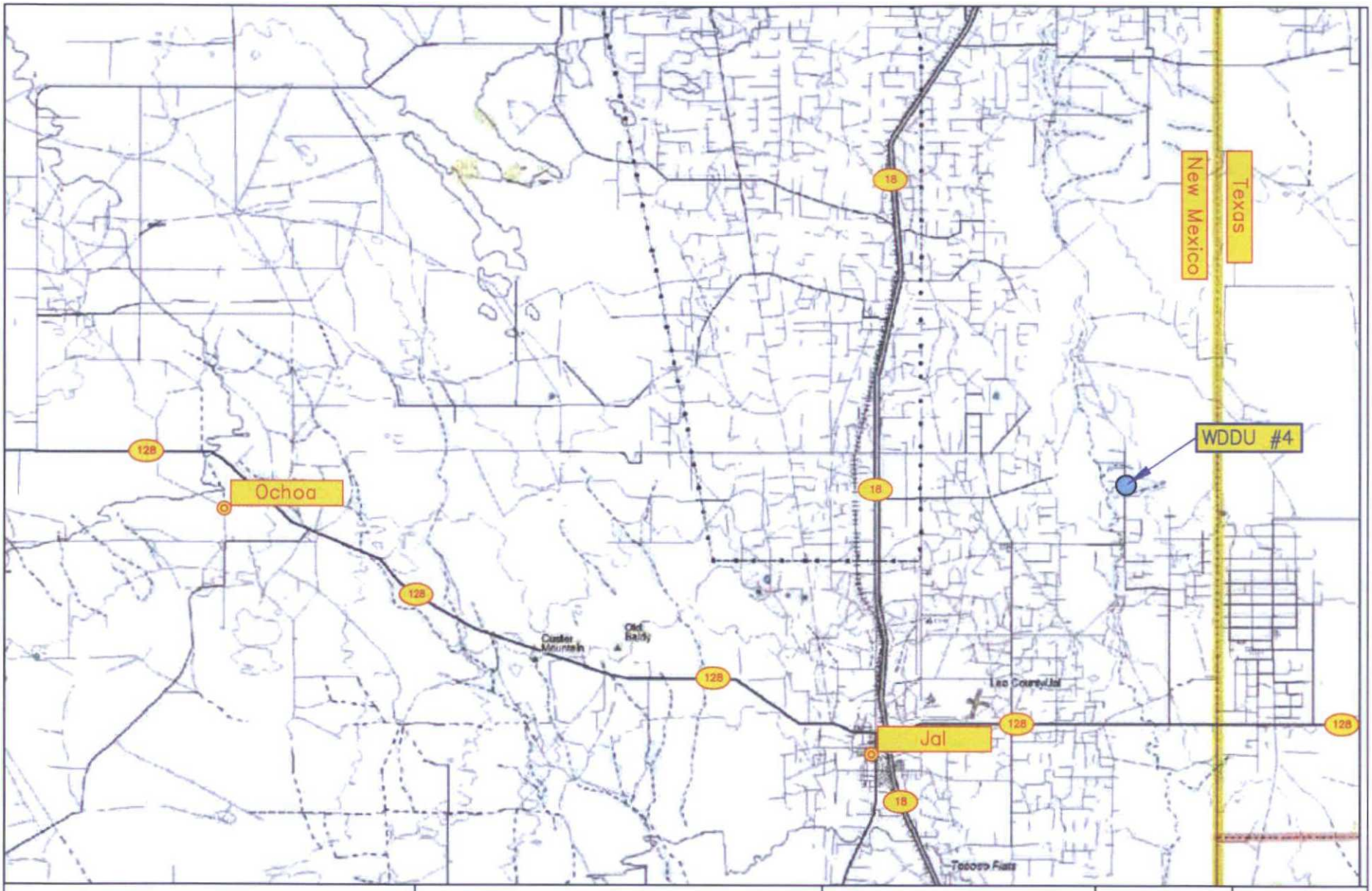

Figure 1
Area Map
Chevron Corporation
WDDU #4

Lea County, New Mexico
NW 1/4 of the SE 1/4, Sec. 19, T24S, R38E
N 32°11' 59.96" W 103°05' 55.23"
Elevation: 3,175 feet amsl

DWG By: D Dominguez
July 2012

REVISED:

0 3 6
Miles

SHEET
1 of 1

N

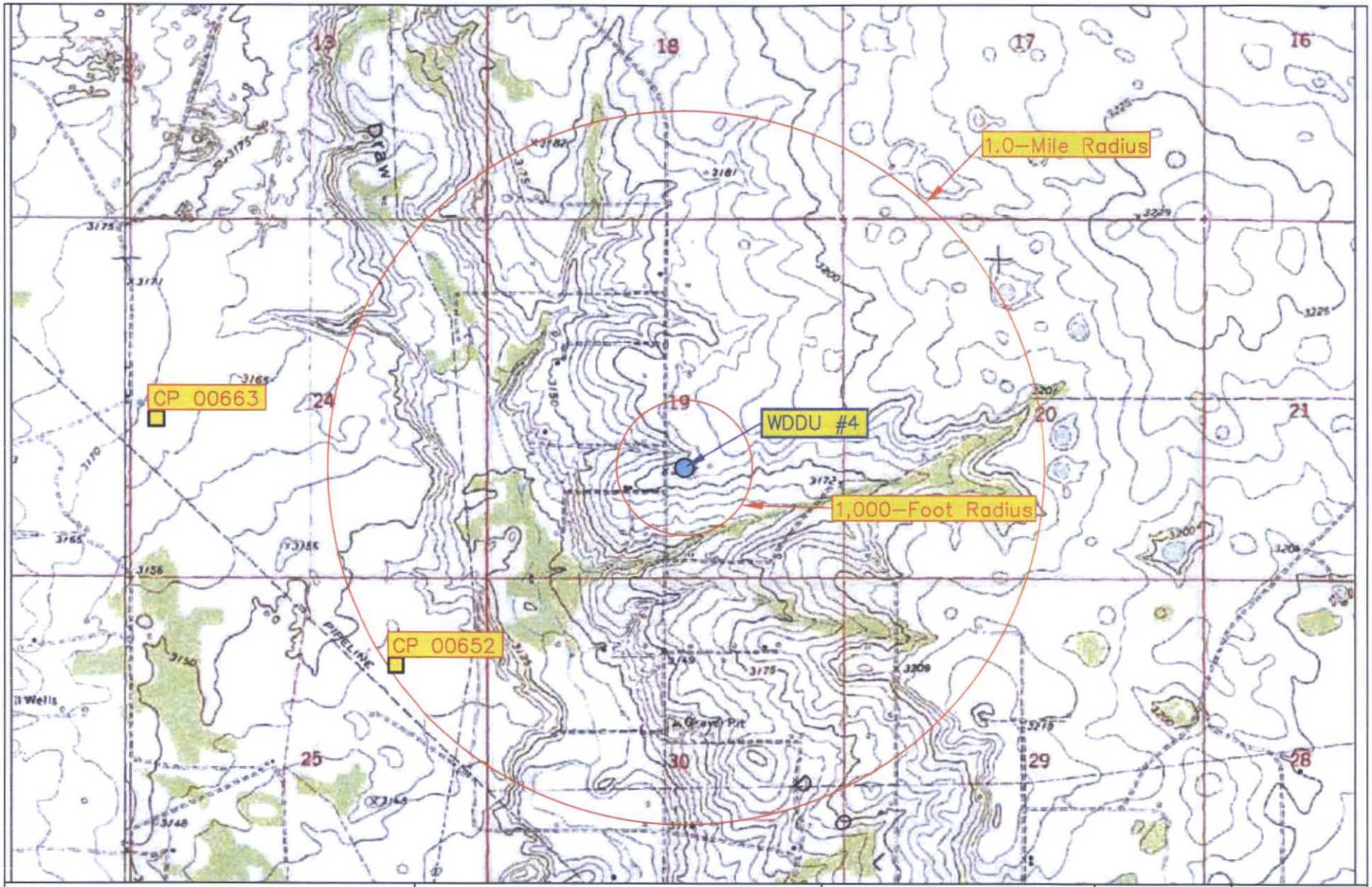

Figure 2 Site Location Map Chevron Corporation WDDU #4	Lea County, New Mexico NW 1/4 of the SE 1/4, Sec. 19, T24S, R38E N 32°11' 59.96" W 103°05' 55.23" Elevation: 3,175 feet amsl	DWG By: D Dominguez July 2012	REVISED:
		0 2,000 4,000 Feet	SHEET 1 of 1
			N

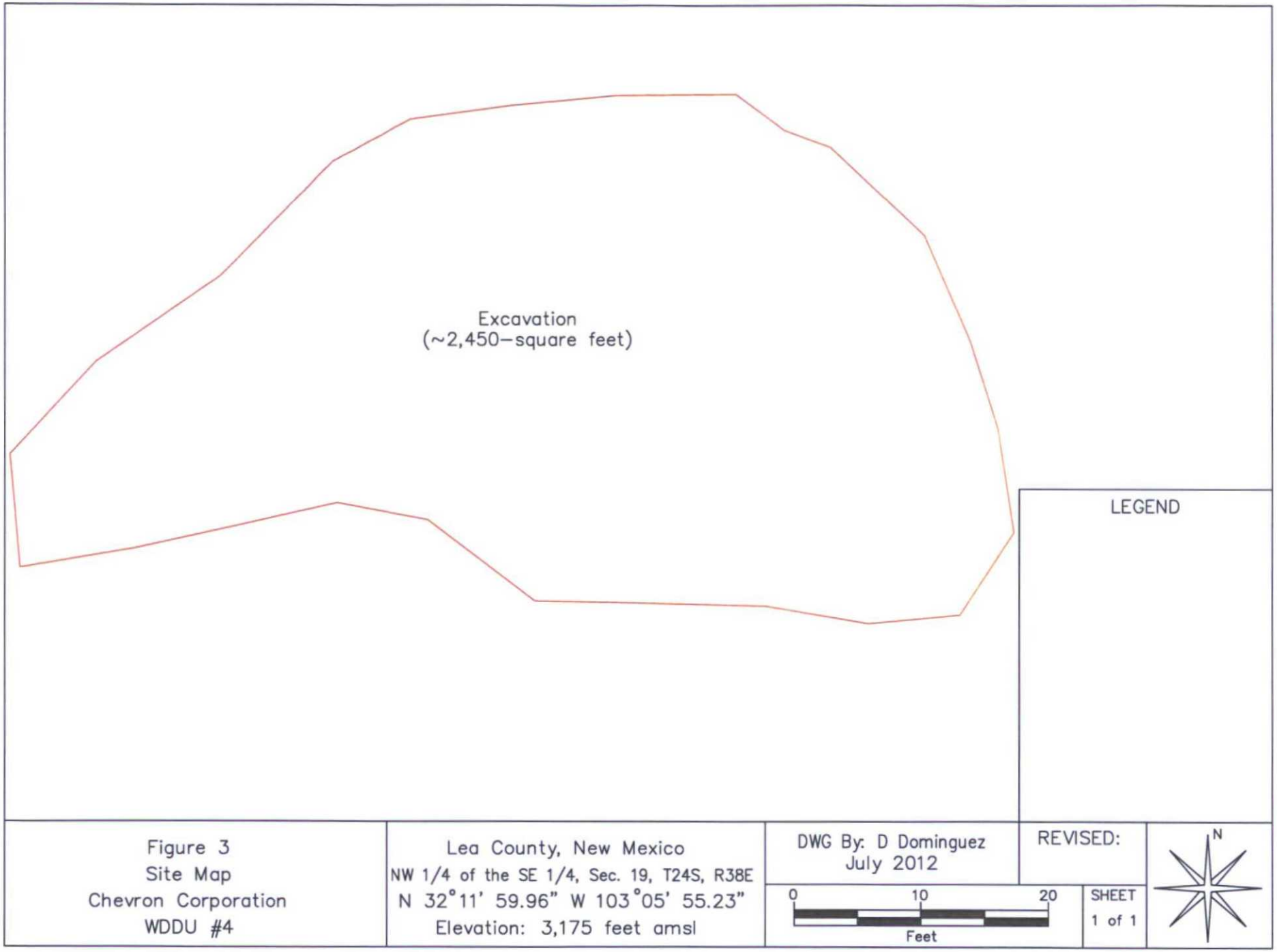

Figure 3 Site Map Chevron Corporation WDDU #4	Lea County, New Mexico NW 1/4 of the SE 1/4, Sec. 19, T24S, R38E N 32°11' 59.96" W 103°05' 55.23" Elevation: 3,175 feet amsl	DWG By: D Dominguez July 2012	REVISED:	SHEET 1 of 1

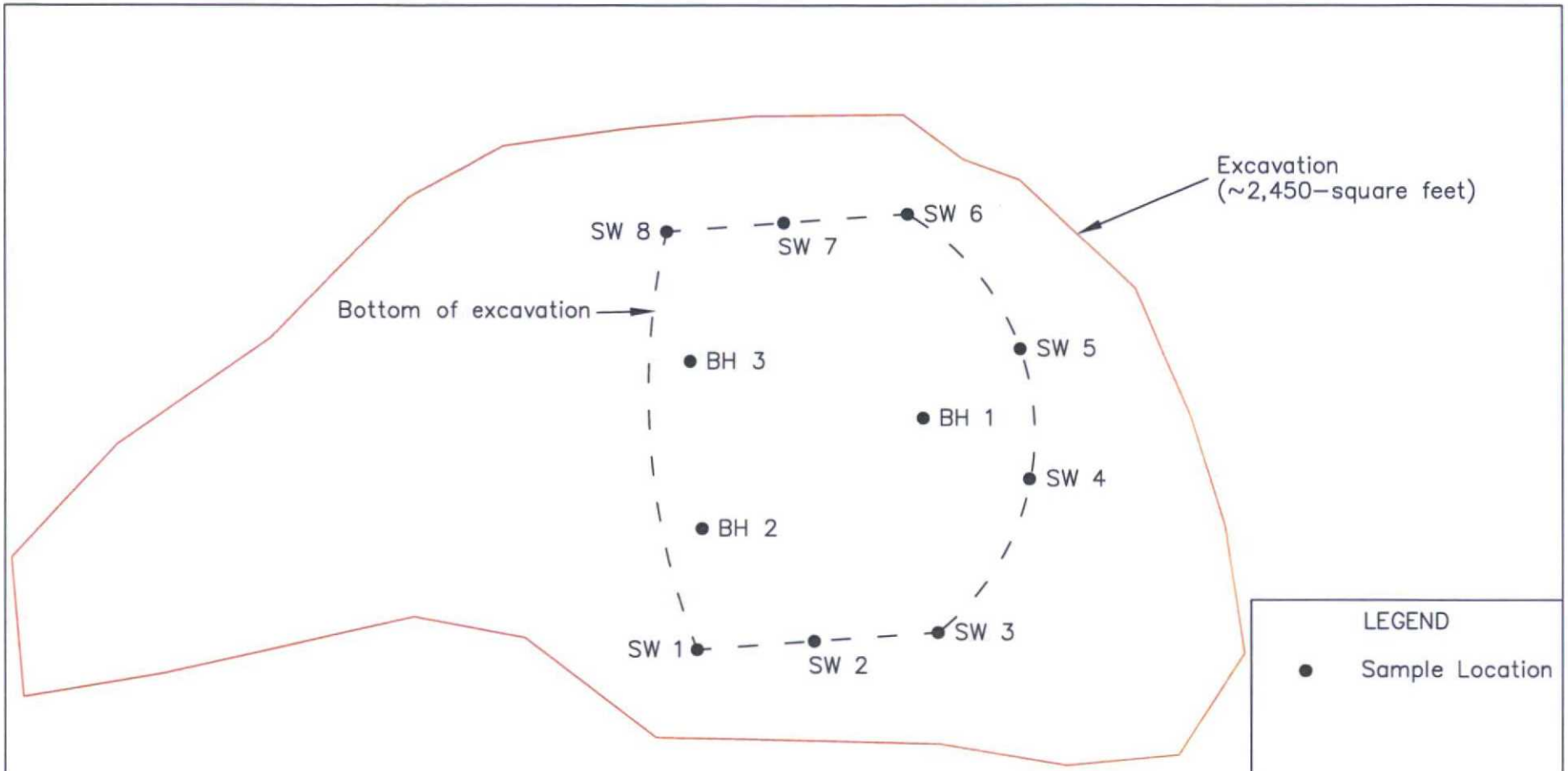

Figure 4 Sample Location Map Chevron Corporation WDDU #4	Lea County, New Mexico NW 1/4 of the SE 1/4, Sec. 19, T24S, R38E N 32°11' 59.96" W 103°05' 55.23" Elevation: 3,175 feet amsl	DWG By: D Dominguez July 2012 0 10 20 Feet	REVISED: SHEET 1 of 1	N

TABLES

TABLE 1

Well Data

Chevron Corporation - WDDU #4 (Ref. #200188)

Well Number	Diversion[A]	Owner	Use	q64	q16	q4	Sec	Twsp	Rng	Latitude	Longitude	Date Measured	Surface Elevation[B]	Depth to Water (ft bgs)
CP 00652	3	EL PASO NATURAL GAS COMPANY	DOM			2	25	24S	37E	N32° 11' 30.88"	W103° 06' 44.47"	07/27/1982	3,144	90
CP 00663	3	SARAH REBECCA SMITH	DOM	1	1	3	24	24S	37E	N32° 22' 41.75"	W103° 07' 26.88"	10/07/1983	3,169	100

Data obtained from the New Mexico Office of the State Engineer Website (http://nmwrrs.ose.state.nm.us/nmwrrs/wellSurfaceDiversion.html) and USGS Database (http://nwis.waterdata.usgs.gov/nwis/gwlevels)

[A] = In acre feet per annum

[B] = Elevation interpolated from USGS topographical map based on referenced location.

DOM = 72-12-1 Domestic One Household

quarters are 1=NW, 2=NE, 3=SW, 4=SE; quarters are biggest to smallest

Shaded area indicates wells not shown in Figure 2

TABLE 2

Summary of Excavation Soil Sample Field Analyses and Laboratory Analytical Results

Chevron U.S.A. Inc.

WDDU #4; Lea County, New Mexico

Sample I.D.	Depth (feet)	Soil Status	Sample Date	PID Field Analysis (ppm)	Field Chloride Analyses (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	GRH (C6-C12) (mg/Kg)	DRH (>C12-C28) (mg/Kg)	ORH (>C28-C35) (mg?Kg)	Total Hydrocarbons (C6-C35) (mg/Kg)	Chloride (mg/Kg)
BH-1	16	In Situ	13-Jan-12	--	--	--	--	--	--	--	2,810	6,670	702	10,182	**4,350**
BH-2	15	In Situ	13-Jan-12	--	--	--	--	--	--	--	ND	ND	ND	ND	242
BH-3	15	In Situ	13-Jan-12	--	--	--	--	--	--	--	ND	ND	ND	ND	**2,780**
SW-1	13	In Situ	13-Jan-12	--	--	--	--	--	--	--	ND	ND	ND	ND	65.9
SW-2	13	In Situ	13-Jan-12	--	--	--	--	--	--	--	ND	ND	ND	ND	**632**
SW-3	13	In Situ	13-Jan-12	--	--	--	--	--	--	--	ND	ND	ND	ND	**784**
SW-4	13	In Situ	13-Jan-12	--	--	--	--	--	--	--	ND	ND	ND	ND	**508**
SW-5	13	In Situ	13-Jan-12	--	--	--	--	--	--	--	ND	ND	ND	ND	**825**
SW-6	13	In Situ	13-Jan-12	--	--	--	--	--	--	--	ND	ND	ND	ND	**406**
SW-7	13	In Situ	13-Jan-12	--	--	--	--	--	--	--	ND	ND	ND	ND	**512**
SW-8	13	In Situ	13-Jan-12	--	--	--	--	--	--	--	ND	ND	ND	ND	195
Remedial Threshold Goals				100		0.026	8.2	7.6	120	135.8				100	250

Bolded values are in excess of NMOCD Remediation Threshold Goals
-- = Not Analyzed
BH = Soil samples collected from bottom of excavation; SW = Soil samples collected from side walls of excavation (E=East, W=West, N=North and S=South); SP = Spoil Pille

ATTACHMENTS

ATTACHMENT I

SITE PHOTOGRAPHS

Photograph No. 1 – Looking southwesterly at former ingress/egress ramp and benched sidewalls of excavation

Photograph No. 2 – Looking northerly at near vertical sidewalls of excavation and inactive steel pipeline

ATTACHMENT II

LABORATORY ANALYTICAL RESULTS AND CHAIN-OF CUSTODY FORM (1-13-12)

Analytical Report 435097

for

Environmental Plus, Incorporated

Project Manager: David P. Duncan

WDDU # 4

200188

23-JAN-12

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
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

23-JAN-12

Project Manager: **David P. Duncan**
Environmental Plus, Incorporated
P.O. Box 1558
Eunice, NM 88231

Reference: XENCO Report No: **435097**
WDDU # 4
Project Address: Lea County, New Mexico

David P. Duncan:

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 435097. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 435097 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,

Brent Barron II
Odessa Laboratory Manager

XENCO Laboratories

Sample Cross Reference 435097

Environmental Plus, Incorporated, Eunice, NM

WDDU # 4

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-1 (16')	S	01-13-12 09:55		435097-001
BH-2 (15')	S	01-13-12 10:00		435097-002
BH-3 (15')	S	01-13-12 10:02		435097-003
SW-1 (13')	S	01-13-12 10:05		435097-004
SW-2 (13')	S	01-13-12 10:10		435097-005
SW-3 (13')	S	01-13-12 10:15		435097-006
SW-4 (13')	S	01-13-12 10:25		435097-007
SW-5 (13')	S	01-13-12 10:30		435097-008
SW-6 (13')	S	01-13-12 10:35		435097-009
SW-7 (13')	S	01-13-12 10:40		435097-010
SW-8 (13')	S	01-13-12 10:45		435097-011

CASE NARRATIVE

XENCO Laboratories

Client Name: Environmental Plus, Incorporated
Project Name: WDDU # 4

Project ID:	*200188*	*Report Date:*	*23-JAN-12*
Work Order Number:	*435097*	*Date Received:*	*01/16/2012*

Sample receipt non conformances and comments:
None

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-879247 TPH By SW8015 Mod
SW8015MOD_NM

Batch 879247, o-Terphenyl recovered below QC limits Data not confirmed by re-analysis.
Samples affected are: 616657-1-BKS,616657-1-BLK,616657-1-BSD.
1-Chlorooctane recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis
Samples affected are: 435097-001.

Certificate of Analysis Summary 435097

Environmental Plus, Incorporated, Eunice, NM

Project Name: WDDU # 4

Project Id: 200188
Contact: David P. Duncan
Project Location: Lea County, New Mexico

Date Received in Lab: Mon Jan-16-12 01:20 pm
Report Date: 23-JAN-12
Project Manager: Brent Barron II

Analysis Requested													
	Lab Id:	435097-001		435097-002		435097-003		435097-004		435097-005		435097-006	
	Field Id:	BH-1 (16')		BH-2 (15')		BH-3 (15')		SW-1 (13')		SW-2 (13')		SW-3 (13')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-13-12 09:55		Jan-13-12 10:00		Jan-13-12 10:02		Jan-13-12 10:05		Jan-13-12 10:10		Jan-13-12 10:15	
Anions by E300	*Extracted:*												
	Analyzed:	Jan-23-12 09:57		Jan-23-12 09:57		Jan-23-12 09:57		Jan-23-12 09:57		Jan-23-12 09:57		Jan-23-12 09:57	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		4350	92.3	242	8.99	2780	43.5	65.9	4.48	632	8.81	784	8.67
Percent Moisture	*Extracted:*												
	Analyzed:	Jan-16-12 14:50		Jan-16-12 14:50		Jan-16-12 14:50		Jan-16-12 14:50		Jan-16-12 14:50		Jan-16-12 14:50	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		9.01	1.00	6.61	1.00	3.42	1.00	6.16	1.00	4.63	1.00	3.08	1.00
TPH By SW8015 Mod	*Extracted:*	Jan-17-12 15:05		Jan-17-12 15:05		Jan-17-12 15:05		Jan-18-12 15:30		Jan-18-12 15:30		Jan-18-12 15:30	
	Analyzed:	Jan-18-12 03:16		Jan-18-12 03:40		Jan-18-12 04:04		Jan-18-12 22:54		Jan-18-12 23:20		Jan-18-12 23:45	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		2810	164	ND	16.0	ND	15.5	ND	16.0	ND	15.7	ND	15.4
C12-C28 Diesel Range Hydrocarbons		6670	164	ND	16.0	ND	15.5	ND	16.0	ND	15.7	ND	15.4
C28-C35 Oil Range Hydrocarbons		702	164	ND	16.0	ND	15.5	ND	16.0	ND	15.7	ND	15.4
Total TPH		10200	164	ND	16.0	ND	15.5	ND	16.0	ND	15.7	ND	15.4

Brent Barron II
Odessa Laboratory Manager

Certificate of Analysis Summary 435097

Environmental Plus, Incorporated, Eunice, NM

Project Name: WDDU # 4

Project Id: 200188
Contact: David P. Duncan
Project Location: Lea County, New Mexico

Date Received in Lab: Mon Jan-16-12 01:20 pm
Report Date: 23-JAN-12
Project Manager: Brent Barron II

Analysis Requested											
	Lab Id:	435097-007		435097-008		435097-009		435097-010		435097-011	
	Field Id:	SW-4 (13')		SW-5 (13')		SW-6 (13')		SW-7 (13')		SW-8 (13')	
	Depth:										
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-13-12 10:25		Jan-13-12 10:30		Jan-13-12 10:35		Jan-13-12 10:40		Jan-13-12 10:45	
Anions by E300	*Extracted:*										
	Analyzed:	Jan-23-12 09:57		Jan-23-12 09:57		Jan-23-12 09:57		Jan-23-12 09:57		Jan-23-12 09:57	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		508	8.74	825	8.71	406	17.3	512	21.9	195	8.73
Percent Moisture	*Extracted:*										
	Analyzed:	Jan-16-12 14:50		Jan-16-12 14:50		Jan-16-12 14:50		Jan-16-12 15:20		Jan-16-12 15:20	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		3.84	1.00	3.55	1.00	2.62	1.00	4.08	1.00	3.76	1.00
TPH By SW8015 Mod	*Extracted:*	Jan-18-12 15:30		Jan-18-12 15:30		Jan-18-12 15:30		Jan-18-12 15:30		Jan-19-12 13:30	
	Analyzed:	Jan-19-12 00:11		Jan-19-12 00:36		Jan-19-12 01:01		Jan-19-12 01:27		Jan-19-12 18:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	15.6	ND	15.6	ND	15.3	ND	15.6	ND	15.6
C12-C28 Diesel Range Hydrocarbons		ND	15.6	ND	15.6	ND	15.3	ND	15.6	ND	15.6
C28-C35 Oil Range Hydrocarbons		ND	15.6	ND	15.6	ND	15.3	ND	15.6	ND	15.6
Total TPH		ND	15.6	ND	15.6	ND	15.3	ND	15.6	ND	15.6

Brent Barron II
Odessa Laboratory Manager

XENCO Laboratories

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 quantiation 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

+ Outside XENCO's scope of NELAC Accreditation. ^ NELAC or State program does not offer Accreditation at this time.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: WDDU # 4

Work Orders : 435097,

Project ID: 200188

Lab Batch #: 879247 **Sample:** 435097-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/18/12 03:16

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	153	99.7	153	70-135	*
o-Terphenyl	63.4	49.9	127	70-135	

Lab Batch #: 879247 **Sample:** 435097-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/18/12 03:40

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.7	99.8	82	70-135	
o-Terphenyl	35.7	49.9	72	70-135	

Lab Batch #: 879247 **Sample:** 435097-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/18/12 04:04

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.4	99.8	82	70-135	
o-Terphenyl	35.3	49.9	71	70-135	

Lab Batch #: 879350 **Sample:** 435097-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/18/12 22:54

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.2	99.8	76	70-135	
o-Terphenyl	41.5	49.9	83	70-135	

Lab Batch #: 879350 **Sample:** 435097-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/18/12 23:20

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.4	100	96	70-135	
o-Terphenyl	54.4	50.0	109	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: WDDU # 4

Work Orders : 435097, **Project ID:** 200188

Lab Batch #: 879350 **Sample:** 435097-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/18/12 23:45

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.5	99.7	98	70-135	
o-Terphenyl	56.4	49.9	113	70-135	

Lab Batch #: 879350 **Sample:** 435097-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/19/12 00:11

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.7	99.8	98	70-135	
o-Terphenyl	53.8	49.9	108	70-135	

Lab Batch #: 879350 **Sample:** 435097-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/19/12 00:36

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	57.3	50.1	114	70-135	

Lab Batch #: 879350 **Sample:** 435097-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/19/12 01:01

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.1	99.5	95	70-135	
o-Terphenyl	53.9	49.8	108	70-135	

Lab Batch #: 879350 **Sample:** 435097-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/19/12 01:27

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	99.7	100	70-135	
o-Terphenyl	56.9	49.9	114	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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: WDDU # 4

Work Orders : 435097, **Project ID:** 200188

Lab Batch #: 879451 **Sample:** 435097-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/19/12 18:52

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.1	99.9	80	70-135	
o-Terphenyl	41.4	50.0	83	70-135	

Lab Batch #: 879247 **Sample:** 616657-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/17/12 19:06

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.6	100	80	70-135	
o-Terphenyl	34.3	50.0	69	70-135	*

Lab Batch #: 879350 **Sample:** 616711-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/18/12 16:01

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.5	100	81	70-135	
o-Terphenyl	45.2	50.0	90	70-135	

Lab Batch #: 879451 **Sample:** 616752-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/19/12 18:26

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.0	100	78	70-135	
o-Terphenyl	42.9	50.0	86	70-135	

Lab Batch #: 879247 **Sample:** 616657-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/17/12 18:16

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.3	100	95	70-135	
o-Terphenyl	34.2	50.0	68	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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: WDDU # 4

Work Orders : 435097, **Project ID:** 200188

Lab Batch #: 879350 **Sample:** 616711-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/18/12 15:09

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.8	100	100	70-135	
o-Terphenyl	45.4	50.0	91	70-135	

Lab Batch #: 879451 **Sample:** 616752-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/19/12 17:37

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.7	100	99	70-135	
o-Terphenyl	44.7	50.0	89	70-135	

Lab Batch #: 879247 **Sample:** 616657-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/17/12 18:41

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.1	100	90	70-135	
o-Terphenyl	33.2	50.0	66	70-135	*

Lab Batch #: 879350 **Sample:** 616711-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/18/12 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	89.7	100	90	70-135	
o-Terphenyl	41.0	50.0	82	70-135	

Lab Batch #: 879451 **Sample:** 616752-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/19/12 18:02

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.9	100	90	70-135	
o-Terphenyl	39.7	50.0	79	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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: WDDU # 4

Work Orders : 435097, **Project ID:** 200188

Lab Batch #: 879247 **Sample:** 435097-003 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/18/12 04:28

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	100	120	70-135	
o-Terphenyl	47.0	50.0	94	70-135	

Lab Batch #: 879350 **Sample:** 435097-010 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/19/12 01:53

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.4	99.9	96	70-135	
o-Terphenyl	41.2	50.0	82	70-135	

Lab Batch #: 879451 **Sample:** 435097-011 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/20/12 04:17

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.6	100	99	70-135	
o-Terphenyl	42.6	50.2	85	70-135	

Lab Batch #: 879247 **Sample:** 435097-003 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/18/12 04:52

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.3	99.9	96	70-135	
o-Terphenyl	37.2	50.0	74	70-135	

Lab Batch #: 879350 **Sample:** 435097-010 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/19/12 02:18

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.8	99.9	90	70-135	
o-Terphenyl	38.3	50.0	77	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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: WDDU # 4

Work Orders : 435097,

Project ID: 200188

Lab Batch #: 879451 **Sample:** 435097-011 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/20/12 04:43

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.0	100	92	70-135	
o-Terphenyl	39.6	50.1	79	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.

XENCO Laboratories

Blank Spike Recovery

Project Name: WDDU # 4

Work Order #: 435097 **Project ID:** 200188

Lab Batch #: 879571 **Sample:** 879571-1-BKS **Matrix:** Solid

Date Analyzed: 01/23/2012 **Date Prepared:** 01/23/2012 **Analyst:** BRB

Reporting Units: mg/kg **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

Anions by E300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	<0.840	20.0	22.4	112	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

XENCO Laboratories

BS / BSD Recoveries

Project Name: WDDU # 4

Work Order #: 435097 **Project ID:** 200188

Analyst: ASA **Date Prepared:** 01/17/2012 **Date Analyzed:** 01/17/2012

Lab Batch ID: 879247 **Sample:** 616657-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod 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	896	90	1000	846	85	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1120	112	1000	1050	105	6	70-135	35	

Analyst: ASA **Date Prepared:** 01/18/2012 **Date Analyzed:** 01/18/2012

Lab Batch ID: 879350 **Sample:** 616711-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod 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	982	98	1000	916	92	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1070	107	1000	981	98	9	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

XENCO Laboratories

BS / BSD Recoveries

Project Name: WDDU # 4

Work Order #: 435097
Analyst: ASA
Lab Batch ID: 879451
Sample: 616752-1-BKS
Units: mg/kg

Date Prepared: 01/19/2012
Batch #: 1

Project ID: 200188
Date Analyzed: 01/19/2012
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod 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	1010	101	1000	953	95	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1150	115	1000	1030	103	11	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

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: WDDU # 4

Work Order #: 435097

Lab Batch #: 879571 **Project ID:** 200188

Date Analyzed: 01/23/2012 **Date Prepared:** 01/23/2012 **Analyst:** BRB

QC- Sample ID: 435097-002 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	242	214	450	97	75-125	

Lab Batch #: 879571

Date Analyzed: 01/23/2012 **Date Prepared:** 01/23/2012 **Analyst:** BRB

QC- Sample ID: 435097-011 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	195	208	385	91	75-125	

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

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: WDDU # 4

Work Order # : 435097 **Project ID:** 200188

Lab Batch ID: 879247 **QC- Sample ID:** 435097-003 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/18/2012 **Date Prepared:** 01/17/2012 **Analyst:** ASA

Reporting Units: mg/kg

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
C6-C12 Gasoline Range Hydrocarbons	<15.5	1040	1170	113	1030	940	91	22	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.5	1040	1340	129	1030	958	93	33	70-135	35	

Lab Batch ID: 879350 **QC- Sample ID:** 435097-010 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/19/2012 **Date Prepared:** 01/18/2012 **Analyst:** ASA

Reporting Units: mg/kg

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
C6-C12 Gasoline Range Hydrocarbons	<15.6	1040	974	94	1040	931	90	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.6	1040	1010	97	1040	976	94	3	70-135	35	

Lab Batch ID: 879451 **QC- Sample ID:** 435097-011 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/20/2012 **Date Prepared:** 01/19/2012 **Analyst:** ASA

Reporting Units: mg/kg

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
C6-C12 Gasoline Range Hydrocarbons	<15.6	1040	1000	96	1040	912	88	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.6	1040	983	95	1040	909	87	8	70-135	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 ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

XENCO Laboratories

Sample Duplicate Recovery

Project Name: WDDU # 4

Work Order #: 435097

Lab Batch #: 879571 **Project ID:** 200188

Date Analyzed: 01/23/2012 09:57 **Date Prepared:** 01/23/2012 **Analyst:** BRB

QC- Sample ID: 435097-002 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Anions by E300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	242	247	2	20	

Lab Batch #: 879164

Date Analyzed: 01/16/2012 09:15 **Date Prepared:** 01/16/2012 **Analyst:** BRB

QC- Sample ID: 435046-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	7.43	7.54	1	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

Environmental Plus, Inc.

Chain of Custody Form

LAB: XENCO

P.O. Box 1558, 2100 Avenue "O", Eunice, NM 88231
(575) 394-3481 FAX: (575) 394-2601

Company Name	Environmental Plus, Inc.
EPI Project Manager	David P. Duncan
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	575-394-3481 / 575-394-2601
Client Company	Chevron USA
Facility Name	WDDU #4
Location	Lea County, New Mexico
Project Reference	200188
EPI Sampler Name	Heriberto A. Gaytan, Jr.

Remit Invoice To:

Attn: David P. Duncan
PO Box 1558
Eunice, NM 88231

LAB I.D. 435097		(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl⁻)	SULFATES ($SO_4^=$)	pH	TCLP	OTHER >>>	PAH			
1	BH-1 (16')	X	1			X					X		13-Jan-12	9:55		X	X								
2	BH-2 (15')	X	1			X					X		13-Jan-12	10:00		X	X								
3	BH-3 (15')	X	1			X					X		13-Jan-12	10:02		X	X								
4	SW-1 (13')	X	1			X					X		13-Jan-12	10:05		X	X								
5	SW-2 (13')	X	1			X					X		13-Jan-12	10:10		X	X								
6	SW-3 (13')	X	1			X					X		13-Jan-12	10:15		X	X								
7	SW-4 (13')	X	1			X					X		13-Jan-12	10:25		X	X								
8	SW-5 (13')	X	1			X					X		13-Jan-12	10:30		X	X								
9	SW-6 (13')	X	1			X					X		13-Jan-12	10:35		X	X								
10	SW-7 (13')	X	1			X					X		13-Jan-12	10:40		X	X								

Sampler Relinquished: Heriberto Gaytan	1/13/12 Time 11:10	Received By: [signature]	E-mail results to: dduncanepi@gmail.com
Relinquished by: [signature]	1/16/12 Time 1:20	Received By: (lab staff) Andrea Elam	
Delivered by:	Sample Cool & Intact 4.0 (Yes) No	Checked By:	40291555

Page 20 of 22

Final 1.000

Environmental Plus, Inc.

P.O. Box 1558, 2100 Avenue "O", Eunice, NM 88231
(575) 394-3481 FAX: (575) 394-2601

Chain of Custody Form

LAB: XENCO

Company Name	Environmental Plus, Inc.	**Remit Invoice To:** Attn: David P. Duncan, PO Box 1558, Eunice, NM 88231
EPI Project Manager	David P. Duncan	
Mailing Address	P.O. BOX 1558	
City, State, Zip	Eunice New Mexico 88231	
EPI Phone#/Fax#	575-394-3481 / 575-394-2601	
Client Company	Chevron USA	
Facility Name	WDDU #4	
Location	Lea County, New Mexico	
Project Reference	200188	
EPI Sampler Name	Heriberto A. Gaytan, Jr.	

LAB I.D. 435097		(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX 8021B	TPH 8015M	CHLORIDES (Cl⁻)	SULFATES ($SO_4^=$)	pH	TCLP	OTHER >>>	PAH			
1	SW-8 (13')	X	1			X					X		13-Jan-12	10:45		X	X								
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									

Sampler Relinquished: Heriberto Gaytan	1/13/12 Time 13:10	Received By: [signature]	E-mail results to: dduncanepi@gmail.com
Relinquished by: [signature]	1/16/12 Time 1:20	Received By: (lab staff) Andrea Ellis	
Delivered by:	Sample Cool & Intact 4.0 Yes No	Checked By:	4 oz glass

XENCO Laboratories

XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: E.P.I
Date/Time: 1.16.12 13:20
Lab ID # : 435097
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	(Water)	No	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	Yes	No	(N/A)	
17. VOC sample have zero head space?	(Yes)	No	N/A	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	4.0 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

ATTACHMENT III

Copy of Initial NMOCD Form C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Chevron	Contact David Pagano
Address PO Drawer 29 Andrews, Texas 79714	Telephone No. 505-787-9816
Facility Name West Dollarhide Drinkard Unit	Facility Type Well #4

Surface Owner George Willis	Mineral Owner Chevron	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	19	24S	38E					

Latitude: 32° 11' 59.46" or 32.199987 **Longitude:** 103° 05' 55.23" or -103.098523

NATURE OF RELEASE

Type of Release Spill to Land	Volume of Release 11.14 bw / 0.74 bo	Volume Recovered
Source of Release Flow Line	Date and Hour of Occurrence 1/3/12 11:00	Date and Hour of Discovery 1/3/2010 11:30
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom :	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.

A flow-line coupling/collar was under strain due to being suspended over a remediation pit for the last year.

Describe Area Affected and Cleanup Action Taken.*

Free liquids were removed from the spill area. Contract Company excavated visibly saturated soil to a depth of 16 vertical The impacted area will be evaluated for depth and quantity of chlorides. If additional remediation is needed a work plan will submitted to the NM OCD describing the proposed actions to be taken.

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: David Pagano	OIL CONSERVATION DIVISION	
Printed Name: David Pagano	Approved by District Supervisor:	
Title: Health & Environmental Specialist	Approval Date:	Expiration Date:
E-mail Address: dpgn@chevron.com	Conditions of Approval:	Attached ☐
Date: 8/20/2012 Phone: 505-787-9816		

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: Chevron North America	**Contact:** David Pagano
Address: 56 Texas Camp Road, Lovington, NM 88260	**Telephone No.:** (575) 396-4414 X 275
Facility Name: West Dollarhide Drinkard Unit #4	**Facility Type:** Production Flow Line

Surface Owner: Bill Grobe	**Mineral Owner:**	**Lease No.:**

LOCATION OF RELEASE

30 025 12219

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	19	24S	38E					Lea

Latitude: 32° 11' 59.96"N **Longitude:** 103° 05' 55.23"W

NATURE OF RELEASE

Type of Release: Production Fluids	**Volume of Release:** 11.14 Bbls. Water; 0.74 Bbls Oil	**Volume Recovered:** Unknown
Source of Release: Ruptured Production Flow Line	**Date and Hour of Occurrence:** 1-03-12 @ 11:00 AM	**Date and Hour of Discovery:** 1-03-12 @ 11:30 AM
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	**If YES, To Whom?**	
By Whom?	**Date and Hour:**	
Was a Watercourse Reached? ☐ Yes ☒ No	**If YES, Volume Impacting the Watercourse:** Not Applicable	

If a Watercourse was Impacted, Describe Fully.* Not Applicable

Depth to Groundwater: ~65-ft bgs

Describe Cause of Problem and Remedial Action Taken.* Ruptured Production Flow Line

Describe Area Affected and Cleanup Action Taken.* Remediation activities on the release area were undertaken from January 5-17, 2012 when ±704-cubic yards of impacted material were excavated and transported to Sundance Services for disposal; resultant excavation was ±2,450-sq. ft. X 16-vertical feet deep; on 1-13-12 eleven (11) soil samples were collected from bottom and sidewalls of the excavation with submittal to an independent laboratory for analyses of TPH and chloride concentrations; laboratory analytical results indicated TPH and chloride impacted material exists in bottom and sidewalls; it is recommended sidewalls be excavated to remove chloride impacted material, place two (2) feet thick compacted clay barrier on excavation bottom; backfill excavation with caliche from top of clay barrier to within three (3) feet of original ground surface and remainder with clean top soil; contour disturbed areas to natural gradient/drainage and prevent water/wind erosion; disc and deep drill seed disturbed areas with a blend approved by property owner

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: David Pagano	**Approved by District Supervisor:**	
Title: MCA Health and Environmental Specialist	**Approval Date:**	**Expiration Date:**
E-mail Address: dpgn@chevron.com	**Conditions of Approval:**	**Attached** ☐
Date: 9-10-12 **Phone** (575) 396-4414 X 275		