

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

Form C-141  
Revised August 8, 2011

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

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 Enterprise Field Services, LLC	Contact Thomas Long	
Address 614 Reilly Avenue, Farmington NM 87401	Telephone No. (505)599-2286	
Facility Name Otero #5 Well Location	Facility Type Natural Gas Meter Run Location	
Surface Owner Jicarilla Tribal	Mineral Owner Jicarilla Tribal	API No.

**LOCATION OF RELEASE**

Unit Letter F	Section 28	Township 24N	Range 5W	Feet from the	North/South Line	Feet from the	East/West Line	County Rio Arriba
------------------	---------------	-----------------	-------------	---------------	------------------	---------------	----------------	----------------------

Latitude \_N 36.2885\_ Longitude \_W107.3691 (Decimal Degrees)\_

**NATURE OF RELEASE**

Type of Release Natural gas condensate and water release	Volume of Release Unknown— estimated 3-4 barrels	Volume Recovered: Approximately 95 yards contaminated soil
Source of Release Meter Tube Location	Date and Hour of Occurrence Unknown—appears to be aged	Date and Hour of Discovery 8/12/2013 @ 11:42 hours by Enterprise measurement technician.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes* <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Bryce Hammond and Hobson Sandoval *Immediate notification for any quantity of unauthorized release required by Jicarilla Oil and Gas Administration	
By Whom? Aaron Dailey	Date and Hour 8/13/2013 @ 07:30 hours	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. <b>RCVD DEC 19 '13 OIL CONS. DIV.</b>	
If a Watercourse was Impacted, Describe Fully.* <b>DIST. 3</b>		

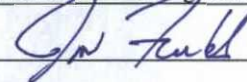
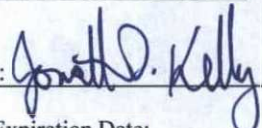
**Describe Cause of Problem and Remedial Action Taken.\***

Two technicians found a minor release of crude oil, which appeared to be aged, on the Otero 5 well location meter run. There were no footprints or tire tracks upon discovery. Line was isolated, notifications to Jicarilla tribal contacts were made, and cleanup was scheduled.

**Describe Area Affected and Cleanup Action Taken.\***

Third party environmental contractor initiated cleanup on 8/16/2013 after one call became effective. Approximately 95 yards of contaminated soil was removed and hauled to an OCD permitted facility. As per Jicarilla Environmental Protection Office, Potassium permanganate was sprayed on the contaminated soil directly beneath the meter run to remediate subsurface contaminants and the excavation was backfilled. Third party corrective action report is attached to this "final" c-141 report.

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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon Fields	Approved by Environmental Specialist: 	
Title: Sr. Director, Environmental	Approval Date: 11/6/2015	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 10/9/2013	Phone: (713)381-6684	

\* Attach Additional Sheets If Necessary

nJK1531026250



## SPILL CLEANUP REPORT

LOCATED AT:  
**JICARILLA OTERO #5**  
**SECTION 28, TOWNSHIP 24 NORTH, RANGE 5 WEST**  
**RIO ARRIBA COUNTY, NEW MEXICO**

RCVD DEC 19'13  
OIL CONS. DIV.  
DIST. 3

PREPARED FOR:  
**ENTERPRISE PRODUCTS**  
**MS. RUNELL SEALE**  
**614 REILLY AVENUE**  
**FARMINGTON, NEW MEXICO 87401**



**PROJECT NUMBER 97057-0580**  
**AUGUST 2013**



November 18, 2013

Project Number 97057-0580

Ms. Runell Seale  
Enterprise Products  
614 Reilly Avenue  
Farmington, New Mexico 87401

Phone: (505) 599-2124

**RE: SPILL CLEANUP REPORT JICARILLA OTERO #5 WELL SITE, RIO ARRIBA  
COUNTY, NEW MEXICO**

Dear Ms. Seale:

Enclosed please find the *Spill Cleanup Report* detailing spill cleanup activities conducted on the Jicarilla Otero #5 well site located in Section 28, Township 24 North, Range 5 West, Rio Arriba County, New Mexico.

We appreciate the opportunity to be of service. If you have any questions or require additional information, please contact our office at (505) 632-0615.

Respectfully submitted,  
**ENVIROTECH, INC.**

A handwritten signature in blue ink, appearing to read "Isaac Garcia", is written over a horizontal line.

Isaac Garcia  
Environmental Field Technician  
[igarcia@envirotech-inc.com](mailto:igarcia@envirotech-inc.com)

Enclosures: *Spill Cleanup Report*

Cc: Client File Number 97057

ENTERPRISE PRODUCTS  
SPILL CLEANUP REPORT  
JICARILLA OTERO #5  
SECTION 28, TOWNSHIP 24 NORTH, RANGE 5 WEST  
RIO ARRIBA COUNTY, NEW MEXICO

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## INTRODUCTION

Envirotech, Inc. of Farmington, New Mexico, was contracted by Enterprise Products to provide spill cleanup and confirmation sampling activities for a historic release near the meter run on the Jicarilla Otero #5 well site located in Section 28, Township 24 North, Range 5 West, Rio Arriba County, New Mexico; see enclosed *Figure 1, Vicinity Map*. Activities included excavation, sample collection and analysis, contaminated soil disposal, documentation and reporting.

## ACTIVITIES PERFORMED

Envirotech, Inc. was contacted with a request to respond to a release that occurred near the meter run at the above referenced location. On August 16, 2013, Envirotech personnel arrived on site to perform spill cleanup activities. Due to the site being located on the Jicarilla Apache Indian Reservation, the cleanup standards were determined to be 100 ppm Total Petroleum Hydrocarbons (TPH) and 100 ppm organic vapors.

On August 16, 2013, one (1) five (5)-point composite sample was collected from the surface of the hydrocarbon impacted area near the meter run. The sample was analyzed in the field for TPH using USEPA Method 418.1. The sample returned a result above the regulatory standard for TPH; see enclosed *Table 1, Summary of Analytical Results* and *Appendix A, Analytical Results*.

The hydrocarbon impacted area was then excavated to the approximate dimensions of 20 feet by 16 feet by seven (7) feet below ground surface (BGS); see enclosed *Appendix B, Site Photography*. Two (2) additional five (5)-point composite samples were then collected. One (1) sample was collected from the north wall and one (1) sample was collected from the west wall; see enclosed *Figure 2, Site Map* for sample locations. The samples were analyzed in the field for TPH using USEPA Method 418.1 and for organic vapor using a photoionization detector (PID). Both samples returned results above the regulatory standard for TPH, but below the regulatory standard for organic vapor; see enclosed *Table 1, Summary of Analytical Results* and *Appendix A, Analytical Results*. Additionally, the two (2) samples were placed into four (4)-ounce glass jars, capped head space free, and transported on ice, under chain of custody, to Envirotech's Analytical Laboratory to be analyzed for TPH using USEPA Method 8015 and for Benzene and total BTEX using USEPA Method 8021. Both samples returned results below the regulatory standard for all constituents analyzed; see enclosed *Table 1, Summary of Analytical Results* and *Appendix A, Analytical Results*.

Envirotech personnel returned to the site on August 19, 2013, to finish spill cleanup activities. The excavation was extended to 20 feet by 20 feet with a varying depth between four (4) feet to seven (7) feet; see enclosed *Figure 2, Site Map*. Three (3) five (5)-point composite samples were collected from the final excavation. One (1) sample was collected from the south wall, one (1) sample was collected from the east wall and one (1) sample was collected from the bottom of the excavation. The bottom composite sample was collected from seven (7) feet BGS. All three (3) samples were analyzed in the field for TPH using USEPA Method 418.1 and for organic

vapors using a PID. The south wall composite sample returned a result below the regulatory standard for TPH and organic vapor. The east wall and bottom composite samples returned results above the regulatory standard for TPH, but below the regulatory standard for organic vapors; see enclosed *Table 1, Summary of Analytical Results* and *Appendix A, Analytical Results*. Additionally, the east wall and bottom composite samples were placed into four (4)-ounce glass jars, capped head space free, and transported on ice, under chain of custody, to Envirotech's Analytical Laboratory to be analyzed for TPH using USEPA Method 8015. Both samples returned results below the regulatory standard for all constituents analyzed; see enclosed *Table 1, Summary of Analytical Results* and *Appendix A, Analytical Results*.

Mr. Hobson Sandoval, representative of the Jicarilla Apache Nation Oil and Gas Administration, requested that Envirotech treat the excavation with potassium permanganate, an oxidizer which degrades hydrocarbons.

On August 19, 2013, Envirotech Inc. personnel proceeded to apply the potassium permanganate solution. Upon completion of the application of the potassium permanganate to the excavation, the area was backfilled using soil collected from near the Enterprise plant, as directed by Mr. Hobson Sandoval. The site near the meter run at the above referenced well site was re-contoured and returned to pre-incident surface conditions; see enclosed *Appendix B, Site Photography*.

Approximately 95 cubic yards of contaminated soil were transported to Envirotech's New Mexico Oil Conservation Division (NMOCD) permitted soil remediation facility, Landfarm 2, located near Hilltop, New Mexico; see enclosed *Appendix C, Bills of Lading*.

#### SUMMARY AND CONCLUSIONS

Spill cleanup activities were performed for a historic release near the meter run at the Jicarilla Otero #5 well site located in Section 28, Township 24 North, Range 5 West, Rio Arriba County, New Mexico. Approximately 95 cubic yards of contaminated soil were transported to Envirotech's NMOCD permitted soil remediation facility, Landfarm 2. The excavation was treated with potassium permanganate, backfilled, and re-contoured per the request of Mr. Hobson Sandoval, Jicarilla Apache Oil and Gas Administration representative. Envirotech, Inc. recommends no further action in regards to this incident.

#### STATEMENT OF LIMITATIONS

Envirotech, Inc. has completed spill cleanup activities for a historic release near the meter run at the Jicarilla Otero #5 well site located in Section 28, Township 24 North, Range 5 West, Rio Arriba County, New Mexico. The work and services provided by Envirotech, Inc. were in accordance with the Jicarilla Apache Tribe standards. All observations and conclusions provided here are based on the information and current site conditions found at the site of the incident.

The undersigned has conducted this service at the above referenced site; this work has been conducted and reported in accordance with generally accepted professional practices in geology, engineering, environmental chemistry and hydrogeology.

We appreciate the opportunity to be of service. If you have any questions or require additional information, please contact our office at (505) 632-0615.

Respectfully Submitted,  
**ENVIROTECH, INC.**

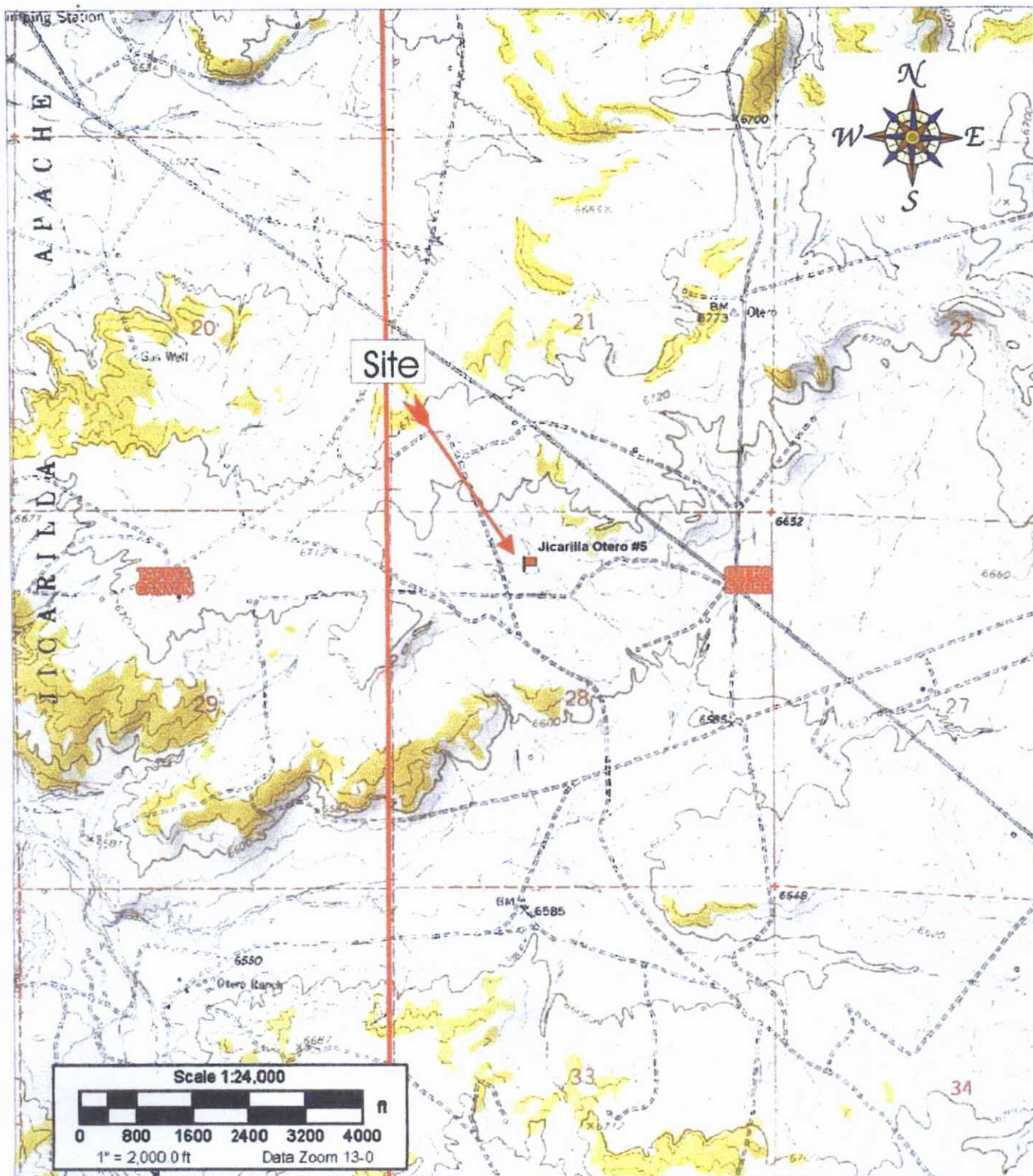
Reviewed by:



Isaac Garcia  
Environmental Field Technician  
[igarcia@envirotech-inc.com](mailto:igarcia@envirotech-inc.com)



Greg Crabtree, PE  
Environmental Manager  
[gcrabtree@envirotech-inc.com](mailto:gcrabtree@envirotech-inc.com)



Source: 7.5 Minute, Otero Store, New Mexico U.S.G.S. Topographic Quadrangle Map  
 Scale: 1:24,000 1" = 2000'

Enterprise Products  
 Jicarilla Otero #5  
 Section 28, Township 24N, Range 5W  
 Rio Arriba County, New Mexico

**envirotech**  
 ENVIRONMENTAL SCIENTISTS & ENGINEERS

5796 U.S. HIGHWAY 64  
 Farmington, New Mexico 87401  
 505.632.0615

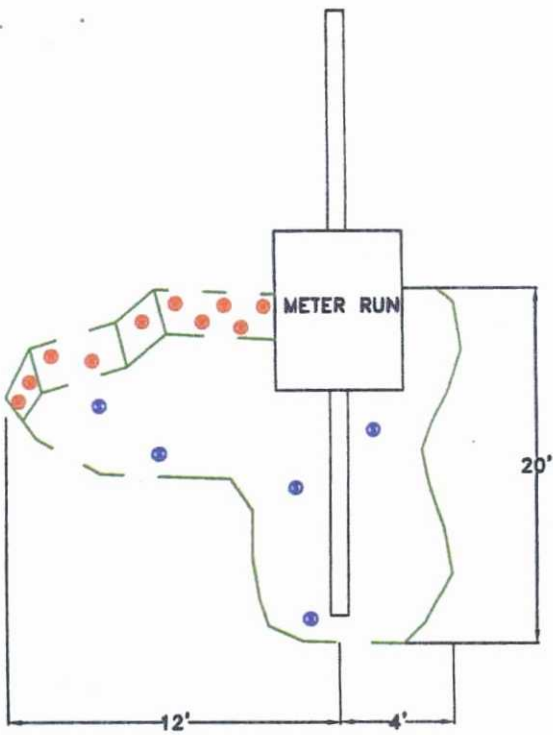
Vicinity Map

Figure #1

PROJECT Number: 97057-0580 Date Drawn: 10/4/13

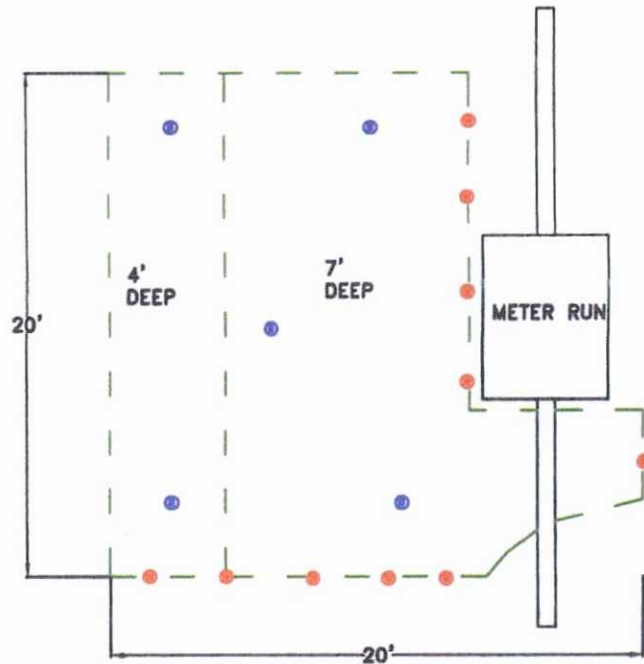
DRAWN BY:  
 Tiffany McIntosh

PROJECT MANAGER:  
 Greg Crabtree



**NOTE:**  
EXCAVATION COMPLETED AND SAMPLES  
COLLECTED ON AUGUST 16, 2013

**NOTE:**  
EXCAVATION COMPLETED AND SAMPLES  
COLLECTED ON AUGUST 19, 2013



**KEY:**

- SURFACE SAMPLE LOCATION
- WALL SAMPLE LOCATION
- BOTTOM SAMPLE LOCATION
- EXCAVATION DELINEATION

**Site Map**

Enterprise Product  
Jicarilla Otero #5  
Rio Arriba County, New Mexico

SCALE: NTS		FIGURE NO. 2		REV	
PROJECT NO97057-0580					
REVISIONS					
NO.	DATE	BY	DESCRIPTION		
MAP DRWN	JA		DATE	8/30/2013	



**envirotech**

5796 U.S. HIGHWAY 64, FARMINGTON, NM 87401 505-632-0615

**TABLES**

Table 1, Summary of Analytical Results

**Table 1, Summary of Analytical Results**

Enterprise Product  
Jicarilla Otero #5  
Spill Cleanup Report  
Project Number 97057-0580

Date	Sample Description	Sample Number	PID OV (ppm)	USEPA Method 418.1 TPH (ppm)	USEPA Method 8015 TPH (ppm)	USEPA Method 8021	
						Benzene (ppm)	BTEX (ppm)
<b>NA</b>	<b>New Mexico Oil Conservation Division Standards/ Jicarilla Apache</b>	<b>NA</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>10</b>	<b>50</b>
8/16/2013	Surface Composite	1	NS	<b>27400</b>	NS	NS	NS
8/16/2013	North Wall Composite (NW)	2	4.6	<b>192</b>	ND	ND	ND
8/16/2013	West Wall Composite (WW)	3	2.6	<b>192</b>	12.6	ND	ND
8/19/2013	South Wall Composite	1	31	100	NS	NS	NS
8/19/2013	East Wall Composite (EW)	2	67	<b>172</b>	7.45	NS	NS
8/19/2013	Bottom Composite (BC)	3	86	<b>320</b>	20.2	NS	NS

\*Values in **BOLD** above regulatory limits

\*NS - Parameter not sampled \*ND - Parameter not detected

## **APPENDIX A**

### **Analytical Results**

Client: Enterprise Products  
Sample No.: 1  
Sample ID: Surface Composite  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

Project #: 97057-0580  
Date Reported: 10/4/2013  
Date Sampled: 8/16/2013  
Date Analyzed: 8/16/2013  
Analysis Needed: TPH-418.1


Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	27,400	5.0


ND = Parameter not detected at the stated detection limit.

References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Jicarilla Otero #5**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

  
\_\_\_\_\_  
Analyst  
  
Isaac Garcia  
\_\_\_\_\_  
Printed

  
\_\_\_\_\_  
Review  
  
Toni McKnight, EIT  
\_\_\_\_\_  
Printed

Client:	Enterprise Products	Project #:	97057-0580
Sample No.:	2	Date Reported:	10/4/2013
Sample ID:	North Wall Composite	Date Sampled:	8/16/2013
Sample Matrix:	Soil	Date Analyzed:	8/16/2013
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	192	5.0

ND = Parameter not detected at the stated detection limit.

References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Jicarilla Otero #5**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

  
\_\_\_\_\_  
Analyst

Isaac Garcia  
\_\_\_\_\_  
Printed

  
\_\_\_\_\_  
Review  
  
Toni McKnight, EIT  
\_\_\_\_\_  
Printed

Client:	Enterprise Products	Project #:	97057-0580
Sample No.:	3	Date Reported:	10/4/2013
Sample ID:	West Wall Composite	Date Sampled:	8/16/2013
Sample Matrix:	Soil	Date Analyzed:	8/16/2013
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	192	5.0

ND = Parameter not detected at the stated detection limit.

References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Jicarilla Otero #5**

Instrument calibrated to 200 ppm standard and zeroed before each sample.



Analyst

Isaac Garcia

Printed



Review

Toni McKnight, EIT

Printed



CONTINUOUS CALIBRATION  
EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Cal. Date: 16-Aug-13

Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	204
	200	
	500	
	1000	
	5000	

The accepted percent relative deviation (%RSD) of the calibration factor is less than 20% over the working range.

  
Analyst

10/4/2013  
Date

Isaac Garcia  
Print Name

  
Review

10/4/2013  
Date

Toni McKnight, EIT  
Print Name

## Analytical Report

### Report Summary

Client: Enterprise Products  
Chain Of Custody Number: 15978  
Samples Received: 8/16/2013 4:42:00PM  
Job Number: 97057-0580  
Work Order: P308050  
Project Name/Location: Jicarilla Otero #5

Entire Report Reviewed By:



Date: 8/20/13

Tim Cain, Laboratory Manager

Supplement to analytical report generated on: 8/20/13 8:40 am

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.



# envirotech

Analytical Laboratory

Enterprise Products  
614 Reilly Ave  
Farmington NM, 87401

Project Name: Jicarilla Otero #5  
Project Number: 97057-0580  
Project Manager: Isaac Garcia

Reported:  
20-Aug-13 09:24

## Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
NW	P308050-01A	Soil	08/16/13	08/16/13	Glass Jar, 4 oz.
WW	P308050-02A	Soil	08/16/13	08/16/13	Glass Jar, 4 oz.

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5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com  
laboratory@envirotech-inc.com



Enterprise Products  
614 Reilly Ave  
Farmington NM, 87401

Project Name: Jicarilla Otero #5  
Project Number: 97057-0580  
Project Manager: Isaac Garcia

Reported:  
20-Aug-13 09:24

NW  
P308050-01 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Volatile Organics by EPA 8021</b>									
Benzene	ND	0.05	mg/kg	1	1334002	19-Aug-13	19-Aug-13	EPA 8021B	
Toluene	ND	0.05	mg/kg	1	1334002	19-Aug-13	19-Aug-13	EPA 8021B	
Ethylbenzene	ND	0.05	mg/kg	1	1334002	19-Aug-13	19-Aug-13	EPA 8021B	
p,m-Xylene	ND	0.05	mg/kg	1	1334002	19-Aug-13	19-Aug-13	EPA 8021B	
o-Xylene	ND	0.05	mg/kg	1	1334002	19-Aug-13	19-Aug-13	EPA 8021B	
Total Xylenes	ND	0.05	mg/kg	1	1334002	19-Aug-13	19-Aug-13	EPA 8021B	
Total BTEX	ND	0.05	mg/kg	1	1334002	19-Aug-13	19-Aug-13	EPA 8021B	
Surrogate: Bromochlorobenzene		118 %	80-120		1334002	19-Aug-13	19-Aug-13	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		113 %	80-120		1334002	19-Aug-13	19-Aug-13	EPA 8021B	
Surrogate: Fluorobenzene		114 %	80-120		1334002	19-Aug-13	19-Aug-13	EPA 8021B	
<b>Nonhalogenated Organics by 8015</b>									
Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg	1	1334001	19-Aug-13	19-Aug-13	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	5.00	mg/kg	1	1334001	19-Aug-13	19-Aug-13	EPA 8015D	
GRO and DRO Combined Fractions	ND	5.00	mg/kg	1	1334001	19-Aug-13	19-Aug-13	EPA 8015D	

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envirotech-inc.com  
laboratory@envirotech-inc.com

Enterprise Products  
614 Reilly Ave  
Farmington NM, 87401

Project Name: Jicarilla Otero #5  
Project Number: 97057-0580  
Project Manager: Isaac Garcia

Reported:  
20-Aug-13 09:24

**WW**  
**P308050-02 (Solid)**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Volatile Organics by EPA 8021										
Benzene	ND	0.05	mg/kg	1	1334002	19-Aug-13	19-Aug-13	19-Aug-13	EPA 8021B	
Toluene	ND	0.05	mg/kg	1	1334002	19-Aug-13	19-Aug-13	19-Aug-13	EPA 8021B	
Ethylbenzene	ND	0.05	mg/kg	1	1334002	19-Aug-13	19-Aug-13	19-Aug-13	EPA 8021B	
p,m-Xylene	ND	0.05	mg/kg	1	1334002	19-Aug-13	19-Aug-13	19-Aug-13	EPA 8021B	
o-Xylene	ND	0.05	mg/kg	1	1334002	19-Aug-13	19-Aug-13	19-Aug-13	EPA 8021B	
Total Xylenes	ND	0.05	mg/kg	1	1334002	19-Aug-13	19-Aug-13	19-Aug-13	EPA 8021B	
Total BTEX	ND	0.05	mg/kg	1	1334002	19-Aug-13	19-Aug-13	19-Aug-13	EPA 8021B	
Surrogate: Bromochlorobenzene		119 %		80-120	1334002	19-Aug-13	19-Aug-13	19-Aug-13	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		110 %		80-120	1334002	19-Aug-13	19-Aug-13	19-Aug-13	EPA 8021B	
Surrogate: Fluorobenzene		110 %		80-120	1334002	19-Aug-13	19-Aug-13	19-Aug-13	EPA 8021B	
Nonhalogenated Organics by 8015										
Gasoline Range Organics (C6-C10)	ND	4.99	mg/kg	1	1334001	19-Aug-13	19-Aug-13	19-Aug-13	EPA 8015D	
Diesel Range Organics (C10-C28)	12.6	4.99	mg/kg	1	1334001	19-Aug-13	19-Aug-13	19-Aug-13	EPA 8015D	
GRO and DRO Combined Fractions	12.6	4.99	mg/kg	1	1334001	19-Aug-13	19-Aug-13	19-Aug-13	EPA 8015D	

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envirotech-inc.com  
laboratory@envirotech-inc.com



Enterprise Products  
614 Reilly Ave  
Farmington NM, 87401

Project Name: Jicarilla Otero #5  
Project Number: 97057-0580  
Project Manager: Isaac Garcia

Reported:  
20-Aug-13 09:24

### Volatile Organics by EPA 8021 - Quality Control

#### Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

#### Batch 1334002 - Purge and Trap EPA 5030A

##### Blank (1334002-BLK1)

Prepared & Analyzed: 19-Aug-13

Benzene	ND	0.05	mg/kg							
Toluene	ND	0.05	"							
Ethylbenzene	ND	0.05	"							
p,m-Xylene	ND	0.05	"							
o-Xylene	ND	0.05	"							
Total Xylenes	ND	0.05	"							
Total BTEX	ND	0.05	"							
Surrogate: Bromochlorobenzene	58.0		ug/L	50.0		116	80-120			
Surrogate: 1,4-Difluorobenzene	53.4		"	50.0		107	80-120			
Surrogate: Fluorobenzene	53.5		"	50.0		107	80-120			

##### Duplicate (1334002-DUP1)

Source: P308049-01

Prepared & Analyzed: 19-Aug-13

Benzene	ND	0.05	mg/kg		ND				30	
Toluene	ND	0.05	"		ND				30	
Ethylbenzene	ND	0.05	"		ND				30	
p,m-Xylene	ND	0.05	"		0.16				30	
o-Xylene	ND	0.05	"		0.05				30	
Surrogate: Bromochlorobenzene	58.0		ug/L	50.0		116	80-120			
Surrogate: 1,4-Difluorobenzene	54.8		"	50.0		110	80-120			
Surrogate: Fluorobenzene	54.8		"	50.0		110	80-120			

##### Matrix Spike (1334002-MS1)

Source: P308049-01

Prepared & Analyzed: 19-Aug-13

Benzene	56.0		ug/L	50.0	0.57	111	39-150			
Toluene	55.9		"	50.0	0.66	111	46-148			
Ethylbenzene	56.0		"	50.0	0.28	111	32-160			
p,m-Xylene	108		"	100	3.27	104	46-148			
o-Xylene	55.8		"	50.0	1.10	109	46-148			
Surrogate: Bromochlorobenzene	56.0		"	50.0		112	80-120			
Surrogate: 1,4-Difluorobenzene	53.9		"	50.0		108	80-120			
Surrogate: Fluorobenzene	54.3		"	50.0		109	80-120			

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laboratory@envirotech-inc.com

Enterprise Products  
614 Reilly Ave  
Farmington NM, 87401

Project Name: Jicarilla Otero #5  
Project Number: 97057-0580  
Project Manager: Isaac Garcia

Reported:  
20-Aug-13 09:24

## Nonhalogenated Organics by 8015 - Quality Control

### Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

#### Batch 1334001 - GRO/DRO Extraction EPA 3550C

##### Blank (1334001-BLK1)

Prepared & Analyzed: 19-Aug-13

Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg
Diesel Range Organics (C10-C28)	ND	5.00	"
GRO and DRO Combined Fractions	ND	5.00	"

##### Duplicate (1334001-DUP1)

Source: P308049-01

Prepared & Analyzed: 19-Aug-13

Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg	ND					30
Diesel Range Organics (C10-C28)	ND	5.00	"	ND					30

##### Matrix Spike (1334001-MS1)

Source: P308049-01

Prepared & Analyzed: 19-Aug-13

Gasoline Range Organics (C6-C10)	259	5.26	mg/kg	263	ND	98.6	75-125
Diesel Range Organics (C10-C28)	266	5.26	"	263	ND	101	75-125

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Enterprise Products  
614 Reilly Ave  
Farmington NM, 87401

Project Name: Jicarilla Otero #5  
Project Number: 97057-0580  
Project Manager: Isaac Garcia

Reported:  
20-Aug-13 09:24

## Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

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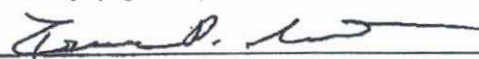

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Rush

## CHAIN OF CUSTODY RECORD

15978

Client: Enterprise			Project Name / Location: Jicarilla Otero #5			ANALYSIS / PARAMETERS																																													
Email results to: Felipe / Isaac			Sampler Name: Isaac			<table border="1"> <tr> <th>TPH (Method 8015)</th> <th>BTEX (Method 8021)</th> <th>VOC (Method 8260)</th> <th>RCRA 8 Metals</th> <th>Cation / Anion</th> <th>RCI</th> <th>TCLP with H/P</th> <th>CO Table 910-1</th> <th>TPH (418.1)</th> <th>CHLORIDE</th> <th></th> <th></th> <th></th> <th></th> <th>Sample Cool</th> <th>Sample Intact</th> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>														TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	CO Table 910-1	TPH (418.1)	CHLORIDE					Sample Cool	Sample Intact																
TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI															TCLP with H/P	CO Table 910-1	TPH (418.1)	CHLORIDE					Sample Cool	Sample Intact																						
Client Phone No.:			Client No.: 97057-0580																																																
Sample No./ Identification	Sample Date	Sample Time	Lab No.	No./Volume of Containers	Preservative			TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	CO Table 910-1	TPH (418.1)	CHLORIDE					Sample Cool	Sample Intact																												
					HNO <sub>3</sub>	HCl	Cool																																												
NW	8/16	2:05	P308050-01	1-4oz			X	X	X													Y	Y																												
WW	8/16	2:10	P308050-02	1-4oz			X	X	X													Y	Y																												
Relinquished by: (Signature) 				Date 8/16	Time 4:40	Received by: (Signature) 														Date 8/16	Time 4:42																														
Relinquished by: (Signature)						Received by: (Signature)																																													
Sample Matrix Soil <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Sludge <input type="checkbox"/> Aqueous <input type="checkbox"/> Other <input type="checkbox"/>																																																			
<input type="checkbox"/> Sample(s) dropped off after hours to secure drop off area.																																																			



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Analytical Laboratory

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san luan reproduction 578-129

Client:	Enterprise Products	Project #:	97057-0580
Sample No.:	1	Date Reported:	10/4/2013
Sample ID:	South Wall Composite	Date Sampled:	8/19/2013
Sample Matrix:	Soil	Date Analyzed:	8/19/2013
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	100	5.0

ND = Parameter not detected at the stated detection limit.

References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Jicarilla Otero #5**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

  
\_\_\_\_\_  
Analyst

Isaac Garcia  
Printed

  
\_\_\_\_\_  
Review

Toni McKnight, EIT  
Printed

Client:	Enterprise Products	Project #:	97057-0580
Sample No.:	2	Date Reported:	10/4/2013
Sample ID:	East Wall Composite	Date Sampled:	8/19/2013
Sample Matrix:	Soil	Date Analyzed:	8/19/2013
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	172	5.0

ND = Parameter not detected at the stated detection limit.

References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Jicarilla Otero #5**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

  
\_\_\_\_\_  
Analyst

Isaac Garcia  
\_\_\_\_\_  
Printed

  
\_\_\_\_\_  
Review

Toni McKnight, EIT  
\_\_\_\_\_  
Printed

Client: Enterprise Products  
Sample No.: 3  
Sample ID: Bottom Composite  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

Project #: 97057-0580  
Date Reported: 10/4/2013  
Date Sampled: 8/19/2013  
Date Analyzed: 8/19/2013  
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	320	5.0

ND = Parameter not detected at the stated detection limit.

References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Jicarilla Otero #5**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

  
\_\_\_\_\_  
Analyst

Isaac Garcia  
\_\_\_\_\_  
Printed

  
\_\_\_\_\_  
Review

Toni McKnight, EIT  
\_\_\_\_\_  
Printed



CONTINUOUS CALIBRATION  
EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Cal. Date: 19-Aug-13

Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	200
	200	
	500	
	1000	
	5000	

The accepted percent relative deviation (%RSD) of the calibration factor is less than 20% over the working range.

Analyst

9/23/2013

Date

Isaac Garcia

Print Name

Review

9/23/2013

Date

Toni McKnight, EIT

Print Name

## Analytical Report

### Report Summary

Client: Enterprise Products  
Chain Of Custody Number: 15981  
Samples Received: 8/20/2013 7:30:00AM  
Job Number: 97057-0580  
Work Order: P308056  
Project Name/Location: Jicarilla Otero #5

Entire Report Reviewed By:



Date: 8/20/13

Tim Cain, Laboratory Manager

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.

Enterprise Products  
614 Reilly Ave  
Farmington NM, 87401

Project Name: Jicarilla Otero #5  
Project Number: 97057-0580  
Project Manager: Isaac Garcia

**Reported:**  
20-Aug-13 15:09

### Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BC	P308056-01A	Soil	08/19/13	08/20/13	Glass Jar, 4 oz.
EW	P308056-02A	Soil	08/19/13	08/20/13	Glass Jar, 4 oz.

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Enterprise Products  
614 Reilly Ave  
Farmington NM, 87401

Project Name: Jicarilla Otero #5  
Project Number: 97057-0580  
Project Manager: Isaac Garcia

**Reported:**  
20-Aug-13 15:09

**BC**  
**P308056-01 (Solid)**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Nonhalogenated Organics by 8015										
Gasoline Range Organics (C6-C10)	ND	4.99	mg/kg	1	1334001	20-Aug-13	20-Aug-13	EPA 8015D		
Diesel Range Organics (C10-C28)	20.2	4.99	mg/kg	1	1334001	20-Aug-13	20-Aug-13	EPA 8015D		
GRO and DRO Combined Fractions	20.2	4.99	mg/kg	1	1334001	20-Aug-13	20-Aug-13	EPA 8015D		

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Enterprise Products  
614 Reilly Ave  
Farmington NM, 87401

Project Name: Jicarilla Otero #5  
Project Number: 97057-0580  
Project Manager: Isaac Garcia

**Reported:**  
20-Aug-13 15:09

**EW**  
**P308056-02 (Solid)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Nonhalogenated Organics by 8015</b>									
Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg	1	1334001	20-Aug-13	20-Aug-13	EPA 8015D	
Diesel Range Organics (C10-C28)	7.45	5.00	mg/kg	1	1334001	20-Aug-13	20-Aug-13	EPA 8015D	
GRO and DRO Combined Fractions	7.45	5.00	mg/kg	1	1334001	20-Aug-13	20-Aug-13	EPA 8015D	

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Enterprise Products  
614 Reilly Ave  
Farmington NM, 87401

Project Name: Jicarilla Otero #5  
Project Number: 97057-0580  
Project Manager: Isaac Garcia

Reported:  
20-Aug-13 15:09

## Nonhalogenated Organics by 8015 - Quality Control

### Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

#### Batch 1334001 - GRO/DRO Extraction EPA 3550C

##### Blank (1334001-BLK1)

Prepared & Analyzed: 19-Aug-13

Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg
Diesel Range Organics (C10-C28)	ND	5.00	"
GRO and DRO Combined Fractions	ND	5.00	"

##### Duplicate (1334001-DUP1)

Source: P308049-01

Prepared & Analyzed: 19-Aug-13

Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg	ND	30
Diesel Range Organics (C10-C28)	ND	5.00	"	ND	30

##### Matrix Spike (1334001-MS1)

Source: P308049-01

Prepared & Analyzed: 19-Aug-13

Gasoline Range Organics (C6-C10)	259	5.26	mg/kg	263	ND	98.6	75-125
Diesel Range Organics (C10-C28)	266	5.26	"	263	ND	101	75-125

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Analytical Laboratory

Enterprise Products  
614 Reilly Ave  
Farmington NM, 87401

Project Name: Jicarilla Otero #5  
Project Number: 97057-0580  
Project Manager: Isaac Garcia

**Reported:**  
20-Aug-13 15:09

## Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

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# CHAIN OF CUSTODY RECORD

15981

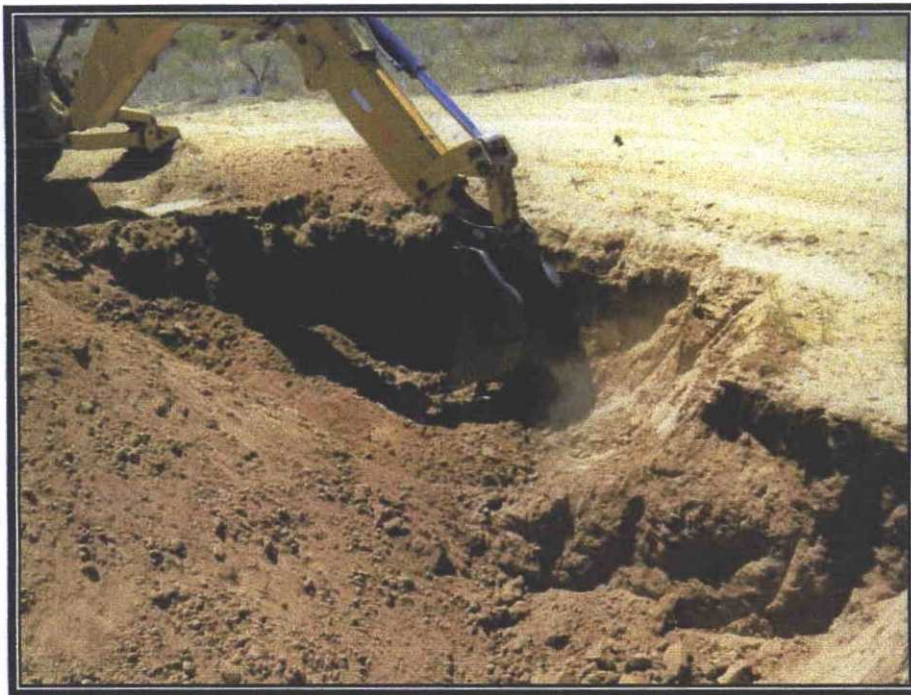
Rush

Client: <u>Enterprise</u>			Project Name / Location: <u>Jicarilla Otero #5</u>			ANALYSIS / PARAMETERS														
Email results to: <u>Isaac / Felipe</u>			Sampler Name: <u>Isaac</u>			TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	CO Table 910-1	TPH (418.1)	CHLORIDE			Sample Cool	Sample Intact	
Client Phone No.:			Client No.: <u>97057-0580</u>																	
Sample No./ Identification	Sample Date	Sample Time	Lab No.	No./Volume of Containers	Preservative															
					HNO <sub>3</sub>	HCl	Co													
BC	8/19	5:46	P308054-01	1-4oz			X	X											Y	Y
EW	8/19	5:49	P308054-02	1-4oz			X	X											L	L
Relinquished by: (Signature) <u>[Signature]</u>				Date 8/20	Time 7:30	Received by: (Signature) <u>[Signature]</u>												Date 8/20	Time 7:30	
Relinquished by: (Signature)						Received by: (Signature)														
Sample Matrix Soil <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Sludge <input type="checkbox"/> Aqueous <input type="checkbox"/> Other <input type="checkbox"/>																				
<input type="checkbox"/> Sample(s) dropped off after hours to secure drop off area.																				

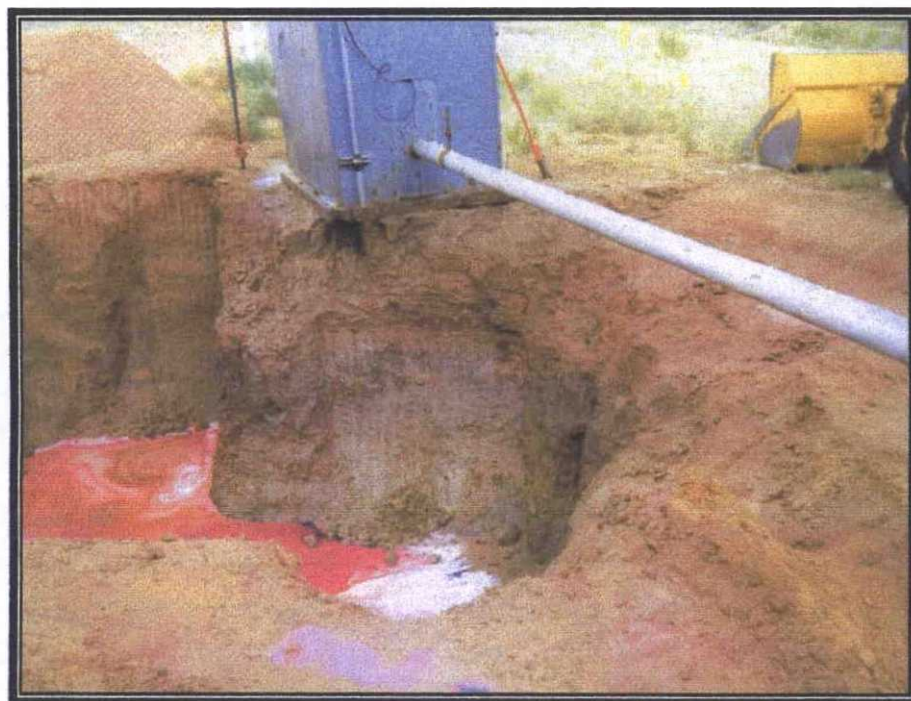


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**SITE PHOTOGRAPHY  
ENTERPRISE PRODUCTS  
SPILL CLEANUP REPORT  
JICARILLA OTERO #5  
PROJECT NUMBER 97057-0580  
AUGUST 2013**



Picture 1: Excavation Activities

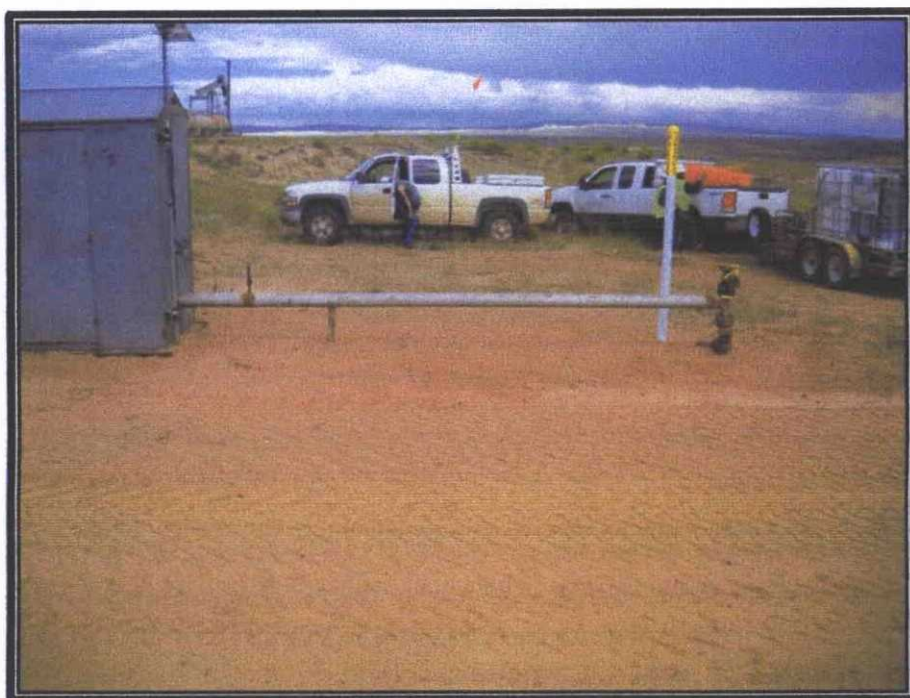


Picture 2: Potassium Permanganate Spraying Activities (View 1)

**SITE PHOTOGRAPHY  
ENTERPRISE PRODUCTS  
SPILL CLEANUP REPORT  
JICARILLA OTERO #5  
PROJECT NUMBER 97057-0580  
AUGUST 2013**



Picture 3: Potassium Permanganate Spraying Activities (View 2)



Picture 4: Post Backfilling and Re-contouring

**APPENDIX C**

**Bills of Lading**



## Bill of Lading

MANIFEST # 44450

DATE 8-16-13 JOB # 22057-0580

**PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401**

[illegible]

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

TRANSPORTER CO. *E-tech*

NAME mike Hoyt

SIGNATURE *[Signature]*

COMPANY CONTACT *Donald C*

PHONE 486 0898

DATE 8-16-13

Signatures [redacted] to distribution [redacted] of the legal document.



