

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  
220 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

Submit 1 copy to  
appropriate  
District Office  
and 1 copy to  
the Santa Fe Office

(Revised 3/9/94)

Risk  
bedrock

PIT REMEDIATION AND CLOSURE REPORT

Operator: Dugan by EPFS 30-045-24797 Telephone \_\_\_\_\_

Address: \_\_\_\_\_

Facility Or Redfern #7, Meter 93974

Well Name \_\_\_\_\_

Location: Unit or Qtr/Qtr Sec H Sec 9 T 28 R 11 County San Juan

Pit Type: Separator \_\_\_\_\_ Dehydrator \_\_\_\_\_ Other Drip

Land Type: BLM X, State \_\_\_\_\_, Fee \_\_\_\_\_ Other \_\_\_\_\_

Pit Location: Pit dimensions: length 18', width 18', depth 3'  
(Attach diagram)

Reference: wellhead X, other \_\_\_\_\_

Footage from reference: 38'

Direction from reference: 120 Degrees X East North \_\_\_\_\_  
of \_\_\_\_\_ West South \_\_\_\_\_

Depth To Ground Water  
(Vertical distance from  
contaminants to seasonal  
high water elevation of  
ground water.)

Less than 50 feet	(20 points)
50 feet to 99 feet	(10 points)
Greater than 100 feet	( 0 points) <u>20</u>

Wellhead Protection Area:  
(Less than 200 feet from a private  
domestic water source, or; less than  
1000 feet from all other water sources.)

Yes	(20 points)
No	( 0 points) <u>0</u>

Distance To Surface Water:  
(Horizontal distance to perennial  
lakes, ponds, rivers, streams, creeks,  
irrigation canals and ditches.)

Less than 200 feet	(20 points)
200 feet to 1000 feet	(10 points)
Greater than 1000 feet	( 0 points) <u>0</u>

RANKING SCORE (TOTAL POINTS): 20

Date Remediation Started: 02/10/95 Date completed: 02/10/95

Remediation Method: Excavation X Approx. cubic yards 20

(Check all appropriate sections.)

Landfarmed \_\_\_\_\_ Insitu Bioremediation \_\_\_\_\_

Other \_\_\_\_\_

Remediation Location: Onsite \_\_\_\_\_ Offsite Envirotech

(i.e. landfarmed onsite, name and location of offsite facility)

General Description of Remedial Action: Arrived, dug sample hole. Hit sandstone. Excavated soil was grayish tan.

Strong hydrocarbon odor.

Ground Water Encountered: No X Yes \_\_\_\_\_ Depth \_\_\_\_\_

Final Pit:

Closure Sampling:  
(if multiple samples,  
attach sample results  
and diagram of sample  
locations and depths)

Sample location Four walls and center of pit composite

Sample depth 4'

Sample Date 02/10/95 Sample time 08:10

Sample Results

Benzene(ppm) 2.2

Total BTEX(ppm) 43.3

Field headspace(ppm) 446

TPH 3900

Ground Water Sample: Yes \_\_\_\_\_ No X (If yes, attach sample results)

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Date

1/8/93

Signature

Scott T. Pope

Printed Name  
and Title

Scott T. Pope  
Senior ENV. Scientist



## PIT CLOSURE REQUEST

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Redfern #7  
Meter/Line ID 93974

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### SITE DETAILS

Legals - Twn: 28N	Rng: 11W	Sec: 9	Unit: H
NMOCD Hazard Ranking: 20		Land Type: BLM	
Operator: Dugan Production Company		Pit Closure Date: 2/10/95	

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### RATIONALE FOR RISK-BASED CLOSURE

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The pit noted above was assessed and ranked according to the criteria in the New Mexico Oil Conservation Division's (NMOCD) Unlined Surface Impoundment Closure Guidelines.

A test pit was excavated to 4 feet (ft) below ground surface (bgs) where sandstone was encountered and a soil sample was collected at 4 ft bgs for field headspace, BTEX analysis, and laboratory analysis for TPH. Groundwater was not encountered in the test pit. Headspace analysis indicated an organic vapor content of 446 ppm, benzene concentration of 2.2 mg/kg, total BTEX concentration of 43.3 mg/kg, and a TPH concentration of 3,900 mg/kg. The TPH measurement exceeded recommended remediation levels for the Hazard Ranking Score of 20.

Approximately 20 cubic yards of soil were excavated and hauled to Envirotech, a commercial landfarm, for treatment and disposal. The pit was backfilled with clean soil and graded in a manner to direct surface runoff away from the pit area.

A Phase II boring was completed to 15 ft bgs. No groundwater was encountered in the soil boring. One laboratory sample was collected at 13-15 ft bgs. Headspace analysis indicated an organic vapor content of 4 ppm; laboratory analysis indicated a benzene concentration of <0.5 mg/kg, a total BTEX concentration of <3 mg/kg, and a TPH concentration of 121 mg/kg. The benzene and total BTEX concentrations were below recommended remediation levels for the Hazard Ranking Score.

No Phase III activities were conducted.

El Paso Field Services requests closure of the above mentioned pit location for the following reasons:

- The primary source, discharge to the pit, has been removed for over seven years.
- Impacted soils were excavated to the practical extent of the equipment and subsurface conditions. All excavated soils were disposed of at an off-site location.
- Bedrock was encountered at 4 ft bgs making further excavation impractical.
- The test pit was backfilled and the former pit area graded to direct surface runoff away from the former pit.
- Backfilling the pit with clean soil has eliminated the potential for direct-contact with hazardous constituents by livestock or the public; i.e. the current direct contact exposure pathways are unlikely to be completed.
- Groundwater was not encountered in the soil boring to 15 ft bgs.



## **PIT CLOSURE REQUEST**

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- There are no water supply wells or other sources of fresh water extraction within 1,000 feet of the site.
- Benzene and total BTEX concentrations were non-detect at the base of the Phase II soil boring (15 feet bgs).
- TPH concentrations in the soil at 13 ft bgs were approximately 3% of the concentration at 4 ft bgs, and were below the recommended remediation levels for this site. This strong attenuation with depth indicates that residual hydrocarbons will likely degrade by natural attenuation with minimal risk to the environment.

### **ATTACHMENTS**

Field Pit Assessment Form  
Revised Field Pit Assessment Form  
Field Pit Remediation/Closure Form  
Phase II Soil Boring Log  
Laboratory Analytical Results

# REVISED FIELD PIT SITE ASSESSMENT FORM

GENERAL

Meter: 93974 Location: REDERN #7  
 Operator #: 1462 Operator Name: DEAN P/L District: ANGEL PEAK  
 Coordinates: Letter H Section 9 Township: 28 Range: 11  
 or Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Pit Type: Dehydrator \_\_\_\_\_ Location Drip: X Line Drip: \_\_\_\_\_ Other: \_\_\_\_\_  
 Site Assessment Date: 1/20/95 Area: 01 Run: 43  
 Revised Date: 12/11/02

SITE ASSESSMENT

**NMOCD Zone:** (from NMCOD Maps)

**Land Type:**

Inside	<input checked="" type="checkbox"/>	(1)		BLM	<input checked="" type="checkbox"/>	(1)
Outside	<input type="checkbox"/>	(2)		State	<input type="checkbox"/>	(2)
				Fee	<input type="checkbox"/>	(3)
				Indian		

**Depth to Groundwater**

Less than 50 Feet (20 points)	<input checked="" type="checkbox"/>	(1)
50 Feet to 99 Feet (10 Points)	<input type="checkbox"/>	(2)
Greater than 100 Feet (0 Points)	<input type="checkbox"/>	(3)

**Well Protection Area**

Is it less than 1000 feet from well, spring or other source of fresh water extraction?  
 or; Is it less than 200 feet from a private domestic water source?

☐ YES (20 Points)      ☒ NO (0 Points)

**Horizontal Distance to Surface Water Body**

Less than 200 Feet (20 points)	<input type="checkbox"/>	(1)
200 Feet to 1000 Feet (10 Points)	<input type="checkbox"/>	(2)
Greater than 1000 Feet (0 Points)	<input checked="" type="checkbox"/>	(3)

Name of Surface Water Body KUTZ CANYON

(Surface Water Body: Perennial River, Stream, Creek, Irrigation Canal, Ditch, Lake, Pond)

Distance to Nearest Ephemeral Stream

<input type="checkbox"/> (1) < 100 feet	(Navajo Pits Only)
<input type="checkbox"/> (2) > 100 feet	

**TOTAL HAZARD RANKING SCORE** 20 **POINTS**

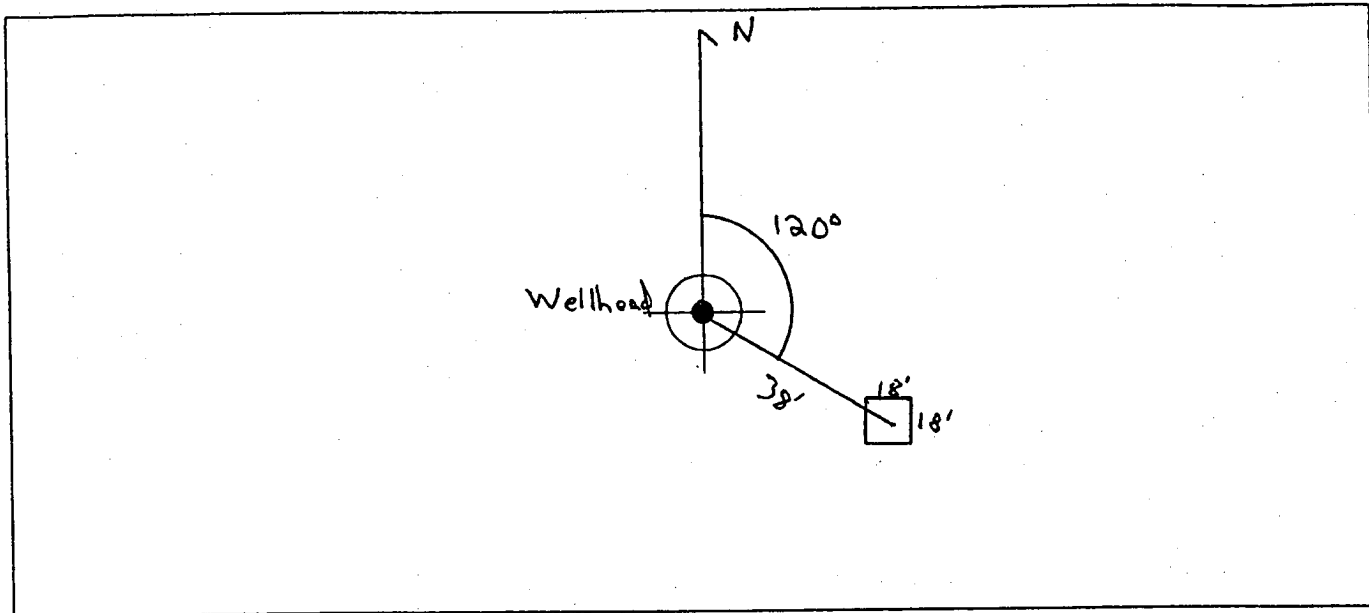
REMARKS

Remarks: REVISION BASED ON RE-ASSESSMENT OF  
DISTANCE TO NEAREST SURFACE WATER BODY.

ORIGINAL PIT LOCATION

## ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 120° Footage from Wellhead 38'  
b) Length : 18' Width : 18' Depth : 3'



REMARKS

Remarks :

Pictures @ 0800 hr 1-3 rd 11 3

Turn left at "Trucks Entering" sign before Thriftway & bridge

Completed By:

Cory Chance  
Signature

1/20/95  
Date



FIELD SERVICES LABORATORY  
ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	mk 373	944663
MTR CODE   SITE NAME:	93974	N/A
SAMPLE DATE   TIME (Hrs):	2-10-95	0810
SAMPLED BY:	N/A	
DATE OF TPH EXT.   ANAL.:	2/17/95	2/17/95
DATE OF BTEX EXT.   ANAL.:	2/21/95	2/21/95
TYPE   DESCRIPTION:	VC	Light Gray-Brown fine sand and clay

REMARKS: Analysis done at ATI

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	2.2	MG/KG	20			
TOLUENE	6.3	MG/KG	20			
ETHYL BENZENE	0.77	MG/KG	20			
TOTAL XYLENES	34.0	MG/KG	20			
TOTAL BTEX	43.3 <del>43.27</del>	MG/KG				
TPH (418.1)	3900 3/1/95	MG/KG				
HEADSPACE PID	446	PPM				
PERCENT SOLIDS	82.4	%				

-- TPH is by EPA Method 418.1 and BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 87 % for this sample All QA/QC was acceptable.  
ative:

ATI Results attached

DF = Dilution Factor Used

Approved By:

Date:

3-20-95



Analytical Technologies, Inc.

## GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)  
CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 502381  
PROJECT # : 24324  
PROJECT NAME : PIT CLOSURE

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
05	946662	NON-AQ	02/09/95	02/21/95	02/21/95	1
06	946663	NON-AQ	02/10/95	02/21/95	02/21/95	20
07	946664	NON-AQ	02/10/95	02/21/95	02/22/95	1
PARAMETER			UNITS	05	06	07
BENZENE			MG/KG	<0.025	2.2	<0.025
TOLUENE			MG/KG	<0.025	6.3	<0.025
ETHYLBENZENE			MG/KG	<0.025	0.77	<0.025
TOTAL XYLENES			MG/KG	<0.025	34	<0.025

### SURROGATE:

TRIFLUOROTOLUENE (%)

91

87

95



# FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL

Meter: 93974 Location: Red Fern #7  
 Coordinates: Letter: H Section 9 Township: 28 Range: 11  
 Or Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Date Started : 2-10-95 Run: 01 43

FIELD OBSERVATIONS

Sample Number(s): MK373  
 Sample Depth: 4' Feet  
 Final PID Reading 446 PID Reading Depth 4' Feet  
 Yes No  
 Groundwater Encountered ☐ ☒ Approximate Depth \_\_\_\_\_ Feet

CLOSURE

Remediation Method :  
 Excavation ☒ Approx. Cubic Yards 20  
 Onsite Bioremediation ☐  
 Backfill Pit Without Excavation ☐  
 Soil Disposition:  
 Envirotech ☒ ☐ Tierra  
 Other Facility ☐ Name: \_\_\_\_\_  
 Pit Closure Date: 2-10-95 Pit Closed By: BET

REMARKS

Remarks : Arrived Dug sample Hole hit sand stone  
EXCAVATED soil was grayish Tan strong HYDRO carbon odor

Signature of Specialist: Morgan Killian

# RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL  
4000 Monroe Road  
Farmington, New Mexico 87401  
(505) 326-2262 FAX (505) 326-2388

Borehole # BH-1  
Well # \_\_\_\_\_  
Page 1 of 1

Project Name EPNG Pits  
Project Number 14509 Phase 6000.77  
Project Location Red team #7 93974

Elevation \_\_\_\_\_  
Borehole Location T28, R11, S9, H  
GWL Depth \_\_\_\_\_  
Logged By Jeff W. Kindley  
Drilled By K Padilla  
Date/Time Started 08/24/95 1045  
Date/Time Completed 08/24/95 1217

Well Logged By Jeff W. Kindley  
Personnel On-Site K Padilla, D. Chenby, F Rivera  
Contractors On-Site \_\_\_\_\_  
Client Personnel On-Site \_\_\_\_\_

Drilling Method 4 1/4 ID HSA  
Air Monitoring Method PID, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM			Drilling Conditions & Blow Counts
							BZ	BH	S/15	
0				Backfill material to 4'						
5										
10	1	8-10'	1.7 2.0	SW, BR SAND, moist, medium grained, very dense, hydrocarbon odor				112 114	1125	84 blows per Foot
15	2	13-15'	1.7 2.0	SW, BR SAND, medium grained, moist, very dense, no odor Boring terminated at 15'				6 4	1149	80 blows per Foot
20										
25										
30										
35										
40										

Comments:

Sample collected from 13 to 15'. Analysis of BTEX/TPH. Sample JWK 44  
BH grouted to the surface

Geologist Signature

Jeff W. Kindley



FIELD SERVICES LABORATORY  
ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JWK 44	94 7330
MTR CODE   SITE NAME:	93974	Redfern #7
SAMPLE DATE   TIME (Hrs):	08-24-95	1149
PROJECT:	Phase II Drilling	
DATE OF TPH EXT.   ANAL.:	8/28/95	
DATE OF BTEX EXT.   ANAL.:	8/28/95	8/30/95
TYPE   DESCRIPTION:	VG	light brown sand & sand stone

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	< .5	MG/KG				
TOLUENE	< .5	MG/KG				
ETHYL BENZENE	< .5	MG/KG				
TOTAL XYLENES	< 1.5	MG/KG				
TOTAL BTEX	< 3	MG/KG				
TPH (418.1)	121	MG/KG			2.05	200
HEADSPACE PID	4	PPM				
PERCENT SOLIDS	90.5	%				

-- TPH is by EPA Method 418.1 and BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 86% for this sample All QA/QC was acceptable.  
Narrative:

DF = Dilution Factor Used