

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

*Risk
bedrock
detrital
extent of
plume*

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

(Revised 3/9/94)

PIT REMEDIATION AND CLOSURE REPORT

Operator: Dugan Production Company Telephone _____

Address: 30-039-20189

Facility Or: Nordhaus #3, Meter 87045
Well Name _____

Location: Unit or Qtr/Qtr Sec C Sec 17 T 25 R 7 County Rio Arriba

Pit Type: Separator _____ Dehydrator _____ Other Drip

Land Type: BLM X, State _____, Fee _____ Other _____

Pit Location: Pit dimensions: length 24', width 18', depth 2'

(Attach diagram)

Reference: wellhead X, other _____

Footage from reference: 79'

Direction from reference: 180 Degrees X East North _____
of
_____ West South _____

Depth To Ground Water	Less than 50 feet	(20 points)
(Vertical distance from	50 feet to 99 feet	(10 points)
contaminants to seasonal	Greater than 100 feet	(0 points) <u>20</u>

high water elevation of
ground water.)

Wellhead Protection Area:	Yes (20 points)
(Less than 200 feet from a private	No (0 points) <u>0</u>
domestic water source, or; less than	
1000 feet from all other water sources.)	

Distance To Surface Water:	Less than 200 feet	(20 points)
(Horizontal distance to perennial	200 feet to 1000 feet	(10 points)
lakes, ponds, rivers, streams, creeks,	Greater than 1000 feet	(0 points) <u>0</u>

irrigation canals and ditches.)

RANKING SCORE (TOTAL POINTS): 20

Date Remediation Started: 09/22/94 Date completed: 09/22/94

Remediation Method: Excavation _____ Approx. cubic yards _____
(Check all appropriate sections.) Landfarmed _____ Insitu Bioremediation _____

Other Backfill pit without excavation

Remediation Location: Onsite N/A Offsite N/A
(i.e. landfarmed onsite,
name and location of
offsite facility)

General Description of Remedial Action: 5' rock, 10 yds fill

Ground Water Encountered: No X Yes _____ Depth _____

Final Pit: Sample location Four walls and center of pit composite

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

Sample depth 5'

Sample Date 09/22/94 Sample time 10:50

Sample Results

Benzene(ppm) Not reported

Total BTEX(ppm) Not reported

Field headspace(ppm) 240

TPH 588

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

1/8/03

Signature

Scott T. Pope

Printed Name

SCOTT T. POPE

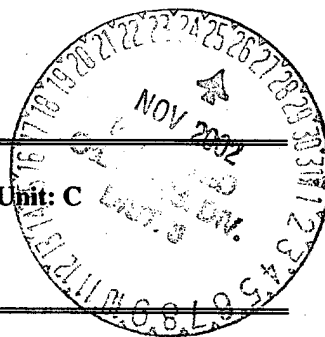
and Title

Senior ENV. Scientist



PIT CLOSURE REQUEST

Nordhaus #3
Meter/Line ID 87045



SITE DETAILS

Legals - Twn: 25N

Rng: 7W

Sec: 17

Unit: C

NMOCD Hazard Ranking: 20

Land Type: BLM

Operator: Dugan Production Corp

Pit Closure Date: 9/22/94

RATIONALE FOR RISK-BASED CLOSURE

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 5 feet (ft) below ground surface (bgs) where bedrock was encountered and a soil sample was collected for field headspace analysis and laboratory analysis for TPH. Groundwater was not encountered in the test pit. Headspace analysis indicated an organic vapor content of 240 ppm; laboratory analysis indicated a TPH concentration of 588 mg/kg. The field headspace analysis and TPH measurement exceeded recommended remediation levels for the Hazard Ranking Score of 20.

No soil was disposed of offsite. The pit was backfilled with site soil, topped with clean soil from the surrounding berms as well as 10 cubic yards of imported clean fill, and graded in a manner to direct surface runoff away from the pit area.

A Phase II boring was completed to refusal at 16 ft bgs. No groundwater was encountered in the soil boring. One laboratory sample was collected at 15-16 ft bgs. Headspace analysis indicated an organic vapor content of 5 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 <20 mg/kg. The benzene, TPH and 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 production pit location for the following reasons:

- The primary source, discharge to the pit, has been removed for over eight years.
- Bedrock refusal was encountered at 5 feet bgs in the test pit and 16 feet bgs
- The test pit was backfilled and the former pit area graded to direct surface runoff away from the former pit.
- The clean soil from the berms in combination with the imported clean fill placed on top of the excavation would limit the potential for direct contact with hazardous constituents by livestock or the public; i.e., current direct contact exposure pathways are unlikely to be completed.
- Groundwater was not encountered in the soil boring to 16 ft bgs
- There are no water supply wells or other sources of fresh water extraction within 1,000 feet of the site.



PIT CLOSURE REQUEST

- Benzene, total BTEX, and TPH concentrations in the soil sample collected at the base of the Phase II soil boring at 15 ft bgs were non-detect, indicating that no significant downward constituent migration is occurring.
- Residual hydrocarbons in the soil will likely degrade by natural attenuation with minimal risk to human health and 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	<p>Meter: <u>87045</u> Location: <u>Nordhaus #3</u></p> <p>Operator #: _____ Operator Name: _____ P/L District: _____</p> <p>Coordinates: Letter: <u>C</u> Section <u>17</u> Township: <u>25</u> Range: <u>7</u></p> <p>Or Latitude _____ Longitude _____</p> <p>Pit Type: Dehydrator _____ Location Drip: _____ Line Drip: _____ Other: _____</p> <p>Site Assessment Date: <u>4/14/98</u> Area: _____ Run: _____</p>
SITE ASSESSMENT	<p>NMOCD Zone: (From NMOCD Maps)</p> <p style="margin-left: 100px;">Inside <input type="checkbox"/> (1) Outside <input checked="" type="checkbox"/> (2)</p> <p>Land Type: BLM <input checked="" type="checkbox"/> (1) State <input type="checkbox"/> (2) Fee <input type="checkbox"/> (3) Indian _____</p> <p>Depth to Groundwater</p> <p>Less Than 50 Feet (20 points) <input checked="" type="checkbox"/> (1) 50 Ft to 99 Ft (10 points) <input type="checkbox"/> (2) Greater Than 100 Ft (0 points) <input type="checkbox"/> (3)</p> <p>Wellhead Protection Area</p> <p>Is it less than 1000 ft from wells, springs or other sources of fresh water extraction?, or; Is it less than 200 ft from a private domestic water source?</p> <p style="text-align: center;"><input type="checkbox"/> (1) YES (20 points) <input checked="" type="checkbox"/> (2) NO (0 points)</p> <p>Horizontal Distance to Surface Water Body</p> <p>Less Than 200 Ft (20 points) <input type="checkbox"/> (1) 200 Ft to 1000 Ft (10 points) <input type="checkbox"/> (2) Greater Than 1000 Ft (0 points) <input checked="" type="checkbox"/> (3)</p> <p>Name of Surface Water Body _____</p> <p>(Surface Water Body: Perennial Rivers, Streams, Creeks, Irrigation Canals, Ditches, Lakes, Ponds)</p> <p>Distance to Nearest Ephemeral Stream <input type="checkbox"/> (1) < 100' (Navajo Pits Only) <input type="checkbox"/> (2) > 100'</p> <p>TOTAL HAZARD RANKING SCORE: <u>20</u> POINTS</p>
REMARKS	<p>Remarks : <u>Site has been re-assessed, due to initial assessment including washes as a Surface Water Body. Site is < 50' vertical from center of Paluche Canyon</u></p>

FIELD PIT SITE ASSESSMENT FORM

GENERAL

Meter: 87-045 Location: Norhaus 3
 Operator #: 1862 Operator Name: Dugan P/L District: Ballard
 Coordinates: Letter: C Section 17 Township: 25 Range: 7
 Or Latitude _____ Longitude _____
 Pit Type: Dehydrator _____ Location Drip: X Line Drip: _____ Other: _____
 Site Assessment Date: 06/30/94 Area: 07 Run: 41

SITE ASSESSMENT

NMOCD Zone:

(From NMOCD
Maps)

Inside

Outside

Land Type:

BLM ☒ (1)

State ☐ (2)

Fee ☐ (3)

Indian _____

Depth to Groundwater

Less Than 50 Feet (20 points) ☒ (1)

50 Ft to 99 Ft (10 points) ☐ (2)

Greater Than 100 Ft (0 points) ☐ (3)

Wellhead Protection Area :

Is it less than 1000 ft from wells, springs, or other sources of fresh water extraction? , or ; Is it less than 200 ft from a private domestic water source? ☐ (1) YES (20 points) ☒ (2) NO (0 points)

Horizontal Distance to Surface Water Body

Less Than 200 Ft (20 points) ☒ (1)

200 Ft to 1000 Ft (10 points) ☐ (2)

Greater Than 1000 Ft (0 points) ☐ (3)

Name of Surface Water Body Palluche Canyon

(Surface Water Body : Perennial Rivers, Major Wash, Streams, Creeks, Irrigation Canals, Ditches, Lakes, Ponds)

Distance to Nearest Ephemeral Stream ☐ (1) < 100' (Navajo Pits Only)
☐ (2) > 100'

TOTAL HAZARD RANKING SCORE: 40 POINTS

REMARKS

Remarks : Redline Book - Inside Vulnerable Zone Type - Outside
One pit, pit is dry, will close one pit

Push In



FIELD SERVICES LABORATORY
ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Outside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	VW 324	946197
MTR CODE SITE NAME:	87045	N/A
SAMPLE DATE TIME (Hrs):	9-22-94	1050
SAMPLED BY:	N/A	
DATE OF TPH EXT. ANAL.:	9-27-94	
DATE OF BTEX EXT. ANAL.:	N/A	N/A
TYPE DESCRIPTION:	VG	Brown sand & clay

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
TPH (418.1)	588	MG/KG			1.95	28
HEADSPACE PID	240	PPM				
PERCENT SOLIDS	88.6	%				

-- TPH is by EPA Method 418.1 --

Narrative:

DF = Dilution Factor Used

Approved By: JS

Date: 10/6/94

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL

Meter: 87045 Location: Norhams #3
 Coordinates: Letter: C Section 17 Township: 25 Range: 7
 Or Latitude _____ Longitude _____
 Date Started : 9-22-94 Run: 02 41

FIELD OBSERVATIONS

Sample Number(s): VW 324
 Sample Depth: 5' Feet
 Final PID Reading 240 PID Reading Depth 5' Feet
 Yes No
 Groundwater Encountered ☐ ☒ Approximate Depth _____ Feet

CLOSURE

Remediation Method :
 Excavation ☐ Approx. Cubic Yards _____
 Onsite Bioremediation ☐
 Backfill Pit Without Excavation ☒
 Soil Disposition:
 Envirotech ☐ Tierra ☐
 Other Facility ☐ Name: _____
 Pit Closure Date: 9-22-94 Pit Closed By: B.E.T.

REMARKS

Remarks : 5' Rock 10 yds Fill

Signature of Specialist: Vale Wilson



CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER		PROJECT NAME		PROJECT ANALYSIS		REQUESTED ANALYSIS		CONTRACT LABORATORY P. O. NUMBER											
LAB ID		DATE	TIME	MATRIX	SAMPLE NUMBER	TOTAL NUMBERS OF CONTAINERS	SAMPLE TYPE	EPA 418.1	EPA 8020	BTEX	REMARKS								
6195	9-22-94	9:30		Soil	VW322	1	V6	X			288	288	289	290	291	292	293	294	295
6196	9-22-94	10:30		Soil	VW323	1	V6	X											
6197	9-22-94	10:50		Soil	VW324	1	V6	X											
6198	9-22-94	11:15		Soil	VW325	1	V6	X											
6199	9-22-94	11:40		Soil	VW326	1	V6	X											
6200	9-22-94	13:30		Soil	VW327	1	V6	X											
6201	9-22-94	14:15		Soil	VW328	1	V6	X											
6202	9-22-94	14:45		Soil	VW329	1	V6	X											

RELINQUISHED BY: (Signature)	DATE/TIME	30	RECEIVED BY: (Signature)	DATE/TIME	270	RECEIVED BY: (Signature)
<i>Vick Wilson</i>	9/22/94	1720	<i>Frederick C. Liso</i>	9/22/94	0906	
RELINQUISHED BY: (Signature)	DATE/TIME		RELINQUISHED BY: (Signature)	DATE/TIME		RECEIVED OF LABORATORY BY: (Signature)
						<i>Kinky</i>

REQUESTED TURNAROUND TIME:	ROUTINE	RUSH	CARRIER CO.	BILL NO.:
	<input type="checkbox"/>	<input type="checkbox"/>		

RESULTS & INVOICES TO:	505-599-2144	505-599-2261
FIELD SERVICES LABORATORY EL PASO NATURAL GAS COMPANY P. O. BOX 4990 FARMINGTON, NEW MEXICO 87499		

CHAIN OF CUSTODY RECORD

10-1-98 Anal.
10-1-98 Chron.
10-1-98 App.

Page

[illegible]

**FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT**

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	HAB6	980577
MTR CODE SITE NAME:	87045	Norhaus 3
SAMPLE DATE TIME (Hrs):	8/20/98	1042
PROJECT:	Phase II Drilling	
DATE OF TPH EXT. ANAL.:	8/28/98	8/28/98
DATE OF BTEX EXT. ANAL.:	8/24/98	8/26/98
TYPE DESCRIPTION:	VG	SOIL

Field Remarks: 15-16'

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	<0.5	MG/KG				
TOLUENE	<0.5	MG/KG				
ETHYL BENZENE	<0.5	MG/KG				
TOTAL XYLENES	<1.5	MG/KG				
TOTAL BTEX	<3	MG/KG				
TPH (MOD.8015)	<20	MG/KG				
HEADSPACE PID	5	PPM				
PERCENT SOLIDS	91.0	%				

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

The Surrogate Recovery was at 96.9 % for this sample All QA/QC was acceptable.
Negative:

DF = Dilution Factor Used

Approved By: John Lardi

Date: 9/14/98

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
 CLIENT : EL PASO FIELD SERVICES
 PROJECT # : (none)
 PROJECT NAME : PHASE II DRILLING

PINNACLE I.D.: 808070

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	980574	NON-AQ	8/17/98	8/28/98	8/28/98	1
02	980575	NON-AQ	8/17/98	8/28/98	8/28/98	1
03	980576	NON-AQ	8/18/98	8/28/98	8/28/98	1

PARAMETER	DET. LIMIT	UNITS	01	02	03
FUEL HYDROCARBONS, C6-C10	10	MG/KG	< 10	< 10	< 10
FUEL HYDROCARBONS, C10-C22	5.0	MG/KG	< 5.0	< 5.0	< 5.0
FUEL HYDROCARBONS, C22-C36	5.0	MG/KG	< 5.0	< 5.0	< 5.0

CALCULATED SUM:

SURROGATE:

O-TERPHENYL (%)
 SURROGATE LIMITS

(66 - 151)

100

151

137

CHEMIST NOTES:

N/A

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
 CLIENT : EL PASO FIELD SERVICES
 PROJECT # : (none)
 PROJECT NAME : PHASE II DRILLING

PINNACLE I.D.: 808070

SAMPLE		MATRIX	DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.		SAMPLED	EXTRACTED	ANALYZED	FACTOR
04	980577	NON-AQ	8/20/98	8/28/98	8/28/98	1
05	980578	NON-AQ	8/20/98	8/28/98	8/28/98	1
PARAMETER		DET. LIMIT	UNITS	04	05	
FUEL HYDROCARBONS, C6-C10		10	MG/KG	< 10	10	
FUEL HYDROCARBONS, C10-C22		5.0	MG/KG	< 5.0	< 5.0	
FUEL HYDROCARBONS, C22-C36		5.0	MG/KG	< 5.0	< 5.0	
CALCULATED SUM:						

PROGATE:
 TERPHENYL (%)
 SURROGATE LIMITS

(66 - 151)

92

145

CHEMIST NOTES:
 N/A

PROJECT MANAGER: John Lambdin
 COMPANY: El Paso Field Services
 ADDRESS: 270 W. Navajo
 Farmington NM 87401
 PHONE: (505) 599-2144
 FAX: (505) 599-2261
 BILL TO: Above
 COMPANY:
 ADDRESS:

NUM. OF CONTAINERS	Metals:	RCRA Metals by TCLP (Method 1311)	RCRA Metals (8)	Target Analyte List Metals (23)	Priority Pollutant Metals (13)	General Chemistry:	Polynuclear Aromatics (610/8310)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Herbicides (615/8151)	Pesticides /PCB (608/8081)	8260 (Landfill) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Full) Volatile Organics	8260 (TCL) Volatile Organics	504.1 EDB □ / DBCP □	8021 (CUST)	8021 (HALO)	8021 (EDX)	8021 (TCL)	8021 (BTX) □ MTBE □ TMB □ PCE	8021 (BTX)/8015 (Gasoline)	(M8015) Gas/Purge & Trap	(MOD.8015) Diesel/Direct Inject	Petroleum Hydrocarbons (418.1) TRPH
980574	8/17/98	1247	Soil																					
980575	8/17/98	1538	Soil																					
980576	8/18/98	1420	Soil																					
980577	8/20/98	1042	Soil																					
980578	8/20/98	1449	Soil																					

PLEASE FILL THIS FORM IN COMPLETELY.

PROJ. NO.:
 PROJ. NAME: Phase II Drilling
 P.O. NO.:
 SHIPPED VIA: Fed Ex

(RUSH) □ 24hr □ 48hr □ 72hr □ 1 WEEK
 CERTIFICATION REQUIRED: □ NM □ SDWA □ OTHER
 METHANOL PRESERVATION □
 COMMENTS: FIXED FEE □
 Please send new COC's when Available.

SIGNATURE: Marlon Hopper
 PRINTED NAME: Marlon Hopper
 COMPANY: EDFS
 TIME: 1300
 DATE: 8/24/98

SIGNATURE: [Blank]
 PRINTED NAME: [Blank]
 COMPANY: [Blank]
 TIME: [Blank]
 DATE: [Blank]

BTEX SOIL SAMPLE WORKSHEET

File	:	980577	Date Printed	:	8/27/98
Soil Mass (g)	:	5.05	Multiplier (L/g)	:	0.00099
Extraction vol. (mL)	:	10	CAL FACTOR (Analytical):	:	200
Shot Volume (uL)	:	50	CAL FACTOR (Report):	:	0.19802

	DILUTION FACTOR:	1	Det. Limit
Benzene (ug/L) : <0.5	Benzene (mg/Kg):	#VALUE!	0.495
Toluene (ug/L) : <0.5	Toluene (mg/Kg):	#VALUE!	0.495
Ethylbenzene (ug/L) : <0.5	Ethylbenzene (mg/Kg):	#VALUE!	0.495
p & m-xylene (ug/L) : <1.0	p & m-xylene (mg/Kg):	#VALUE!	0.990
o-xylene (ug/L) : <0.5	o-xylene (mg/Kg):	#VALUE!	0.495
	Total xylenes (mg/Kg):	#VALUE!	1.485
	Total BTEX (mg/Kg):	#VALUE!	

RECORD OF SUBSURFACE EXPLORATION

PHILIP SERVICES CORP.

1000 Monroe Road
Albuquerque, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # BH- 1
Well # NA
Page 1 of 1

Project Number 19643 Phase 1001.77
Project Name EPFS PITS >10
Project Location NORHAUS 3 87-045

Elevation _____
Borehole Location LTR: C S:17 T:25 R:7
GWL Depth NA
Drilled By K. PADILLA
Well Logged By H. BRADBURY
Date Started 8/20/98
Date Completed 8/20/98

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

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 BZ BH S/HS			Drilling Conditions & Blow Counts
0				EXCAVATION SAMPLE collected at 5'						BZ=Breathing Zone BH=Borehole S/HS=Sample/Headspace
5										hard drilling
10	1	10-11'	6"	LT GR SILTSTONE. MED CEMENTED			0	0	0 0	1231 hrs
15	2	15-16'	12	LT GR SILTSTONE SOFT CEMENTED			0	0	0 5	1042 hrs
20				TOB 16'						
25										
30										
35										
40										

Comments: HAB 15-16' WAS SENT to LAB for TPH, BTEX GW NOT
ENCOUNTERED. OH GRAVEL to SURFACE

Geologist Signature

Holly Bradbury