

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
defined
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: Amoco Production Company Telephone _____

Address: 30-045-25154

Facility Or: Riddle Com #7, Meter 94113

Well Name _____

Location: Unit or Qtr/Qtr Sec K Sec 8 T 28 R 8 County San Juan

Pit Type: Separator _____ Dehydrator X Other _____

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

Pit Location: Pit dimensions: length 22', width 22', depth 5'

(Attach diagram)

Reference: wellhead X, other _____

Footage from reference: 76'

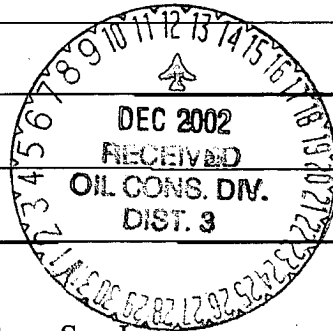
Direction from reference: 157 Degrees X East North _____
of
_____ West South _____

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>0</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>10</u>
irrigation canals and ditches.)		

RANKING SCORE (TOTAL POINTS): 10



Date Remediation Started: 07/27/94 Date completed: 07/27/94

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: EPNG lines not marked. Soil gray, strong hydrocarbon odor. Hit
sandstone 6'.

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 6'

Sample Date 07/27/94 Sample time 15:38

Sample Results

Benzene(ppm) Not reported.

Total BTEX(ppm) Not reported

Field headspace(ppm) 49

TPH 1690

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. Pomeroy

Printed Name
and Title

Scott T. Pomeroy
Senior ENV. Scientist



PIT CLOSURE REQUEST

Riddle Com #7
Meter/Line ID 94113

SITE DETAILS

Legals - Twn: 28N

Rng: 8W

Sec: 8

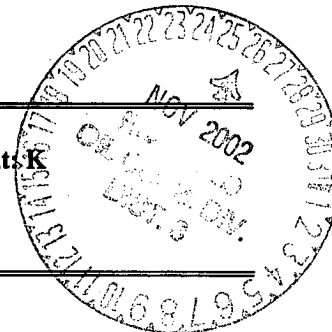
Units: K

NMOCD Hazard Ranking: 10

Land Type: BLM

Operator: Amoco Production Company

Pit Closure Date: 7/27/94



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 6 feet (ft) below ground surface (bgs) where sandstone 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 49 ppm; laboratory analysis indicated a TPH concentration 1,690 mg/kg. The TPH measurement exceeded recommended remediation levels for the Hazard Ranking Score of 10.

No soil was disposed of offsite. The pit was backfilled with site soil, topped with clean soil from the surrounding berms, and graded in a manner to direct surface runoff away from the pit area. The NAPI irrigation canal is approximately 800 ft from the site.

A Phase II boring was completed at the edge of the pit to refusal at 12 ft bgs. No groundwater was encountered in the soil boring. One laboratory sample was collected at 10-11 ft bgs. Headspace analysis indicated an organic vapor content of 256 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.
- 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 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 at 12 ft bgs; local geologic features indicate the depth to groundwater is greater than 100 ft bgs.



PIT CLOSURE REQUEST

- Benzene, total BTEX, and TPH concentrations in the soil sample collected at the base of the Phase II soil boring at 12 ft bgs were non-detect, indicating that no significant downward constituent migration is occurring.
- Bedrock was encountered at 6 ft bgs making further excavation impractical and further downward migration of residual hydrocarbons unlikely. .

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>94113</u> Location: <u>RIDDLE Com #7</u></p> <p>Operator #: _____ Operator Name: <u>Amoco Prod.</u> P/L District: _____</p> <p>Coordinates: Letter: <u>K</u> Section <u>B</u> Township: <u>28</u> Range: <u>8</u></p> <p>Or Latitude _____ Longitude _____</p> <p>Pit Type: Dehydrator <u>X</u> Location Drip: _____ Line Drip: _____ Other: _____</p> <p>Site Assessment Date: <u>5.1.98</u> Area: <u>13</u> Run: <u>62</u></p>
SITE ASSESSMENT	<p>NMOCD Zone: (From NMOCD Maps)</p> <p style="margin-left: 100px;">Inside <input type="checkbox"/> (1)</p> <p style="margin-left: 100px;">Outside <input checked="" type="checkbox"/> (2)</p> <p>Land Type:</p> <p style="margin-left: 100px;">BLM <input checked="" type="checkbox"/> (1)</p> <p style="margin-left: 100px;">State <input type="checkbox"/> (2)</p> <p style="margin-left: 100px;">Fee <input type="checkbox"/> (3)</p> <p style="margin-left: 100px;">Indian _____</p> <p>Depth to Groundwater</p> <p>Less Than 50 Feet (20 points) <input type="checkbox"/> (1)</p> <p>50 Ft to 99 Ft (10 points) <input type="checkbox"/> (2)</p> <p>Greater Than 100 Ft (0 points) <input checked="" 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)</p> <p>200 Ft to 1000 Ft (10 points) <input checked="" type="checkbox"/> (2)</p> <p>Greater Than 1000 Ft (0 points) <input type="checkbox"/> (3)</p> <p>Name of Surface Water Body <u>NAPI CANAL</u></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)</p> <p style="margin-left: 350px;"><input type="checkbox"/> (2) > 100'</p> <p>TOTAL HAZARD RANKING SCORE: <u>10</u> POINTS</p>
REMARKS	<p>Remarks : <u>Site has been re-assessed, due to initial assessment including washes as a Surface Water Body. LOCATION IS IN A REMOTE AREA UP ON A HILL AND IS APPROXIMATELY 800' FROM THE NAPI CANAL.</u></p>

FIELD PIT SITE ASSESSMENT FORM

GENERAL

Meter: 94113 Location: RIDDLE CDM 7
 Operator #: 0203 Operator Name: AMOC P/L District: BLANCO
 Coordinates: Letter: C Section 8 Township: 28 Range: 8
 Or Latitude _____ Longitude _____
 Pit Type: Dehydrator ☒ Location Drip: _____ Line Drip: _____ Other: _____
 Site Assessment Date: 5/23/94 Area: 13 Run: 62

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 Cutter 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: 20 POINTS

REMARKS

Remarks : Redline Inside, 1/2 in - Outside
3 pits. Close 1. Oil-stained soil. No standing liquid.

PUSH-IN

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL

Meter: 94113 Location: Riddle com #7
 Coordinates: Letter: C Section 8 Township: 28 Range: 8
 Or Latitude _____ Longitude _____
 Date Started : 7-27-94 Run: 13 62

FIELD OBSERVATIONS

Sample Number(s): mK191
 Sample Depth: 6' Feet
 Final PID Reading 49 PID Reading Depth 6' Feet
 Groundwater Encountered ☐ Yes ☒ No
 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: 7-27-94 Pit Closed By: BEI

REMARKS

Remarks : EPNG lines not marked soil Gray strong
HydroCarbon odor Hit Sandstone 6'

Signature of Specialist: Morgan Killian



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil

SAMPLE IDENTIFICATION

SAMPLE NUMBER:

Field ID

Lab ID

MTR CODE | SITE NAME:

SAMPLE DATE | TIME (Hrs):

SAMPLED BY:

DATE OF TPH EXT. | ANAL.:

DATE OF BTEX EXT. | ANAL.:

TYPE | DESCRIPTION:

mk 191	945780
94113	N/A
7-27-94	1538
N/A	N/A
7/28/94	7/28/94
N/A	N/A
VG	Fine Grey/Brown Sand/sandstone

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE		MG/KG				
TOLUENE		MG/KG				
ETHYL BENZENE		MG/KG				
TOTAL XYLENES		MG/KG				
TOTAL BTEX		MG/KG				
TPH (418.1)	1690	MG/KG			2.16	28
HEADSPACE PID	49	PPM				
PERCENT SOLIDS	91.3	%				

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

Recovery was at

N/A

% for this sample All QA/QC was acceptable.

F = Dilution Factor Used

Approved By:

A.P.

Date:

8/8/94

CHAIN OF CUSTODY RECORD

PROJECT NUMBER		PROJECT NAME		PROJECT ANALYSIS		REQUESTED ANALYSIS		CONTACT LABORATORY P. O. NUMBER	
SAMPLERS: (Signature)		DATE		SAMPLE NUMBER		TOTAL NUMBERS OF CONTAINERS		REMARKS	
LAB ID	DATE	TIME	MATRIX	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	REMARKS	RECEIVED BY: (Signature)	DATE/TIME
94/ 6773	7-27-94	08:56	Soil	UG	X		165 Gray soil Strong Hydrocarbon odor		
94/ 5774	7-27-94	10:02	Soil	UG	X		166 Brown soil Slight Hydrocarbon odor		
94/ 5775	7-27-94	10:47	Soil	UG	X		167 Gray soil Slight Hydrocarbon odor		
94/ 5776	7-27-94	11:42	Soil	UG	X		168 Gray soil Strong Hydrocarbon odor		
94/ 5777	7-27-94	12:33	Soil	UG	X		169 Gray soil Slight Hydrocarbon odor		
94/ 5778	7-27-94	13:24	Soil	UG	X		170 Black soil Strong Hydrocarbon odor		
94/ 5779	7-27-94	14:17	Soil	UG	X		171 Black soil Slight Hydrocarbon odor		
94/ 5780	7-27-94	15:38	Soil	UG	X		172 Gray soil Strong Hydrocarbon odor		
Morgan Killian		7-27-94 17:31		Brenda Liss		7/28/94 10:55		7/28/94 10:55	
RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)	
Morgan Killian		7-27-94 17:31		Brenda Liss		7/28/94 10:55		7/28/94 10:55	
RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)	
								Jim Lij	

REQUESTED TURNAROUND TIME:

☐ ROUTINE ☐ RUSH

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

FIELD SERVICES LABORATORY
EL PASO NATURAL GAS COMPANY
P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

505-599-2144
 FAX: 505-599-2261

CORD OF SUBSURFACE EXPLORATION

P SERVICES CORP.

Monroe Road

New Mexico 87401

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 RIDDLE COM 7 94113

ation
hole Location LTR: C S: 8 T: 28 R: 8
Depth NA
ed By K. PADILLA
Logged By H. BRADBURY
Started 11/25/98
Completed 11/25/98

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			Drilling Conditions & Blow Counts
							BZ	BH	S/HS	
0										BZ=Breathing Zone BH=Borehole S/HS=Sample/Headspace
5				EXCAVATION SAMPLE COLLECTED AT 6'						
10	1	10-11	12	LTBR SANDSTONE FINE SAND, MOD CEMENTATION DRY			1	274	606 256	1530 hrs HARD DRILLING
20	2			TOB 12'						hrs
25										
30										
35										
40										

HAB 10-11' SENT to lab for TPH BTEX GW NOT
ENCOUNTERED BH GROUDED TO SURFACE
PIT VERY SOFT. DIFFICULTIES UNBACKING RIG INTO IT WITHOUT GETTING STUCK
DRILLED AT ASSUMED DOWNGRADIENT
at Edge of pit
AUGER REFUSA at 12'

Geologist Signature

Holly Bradbury



CHAIN OF CUSTODY RECORD

12-28-88 Anal.

17.99.98 Chm.

Page.

10.

White - Testing Laboratory Canary - EPNG Lab Pink - Field Sampler



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	HAB80	980831
MTR CODE SITE NAME:	94113	Riddle Corn 7
SAMPLE DATE TIME (Hrs):	11/25/98	1530
PROJECT:	Phase II Drilling	
DATE OF TPH EXT. ANAL.:	12/2/98	12/2/98
DATE OF BTEX EXT. ANAL.:	11/30/98	12/2/98
TYPE DESCRIPTION:	VG	SOIL

Field Remarks: 10-11'

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	256	PPM				
PERCENT SOLIDS	96.1	%				

-- TPH is by EPA Method 8015 and BTEX is by EPA Method 8020 --

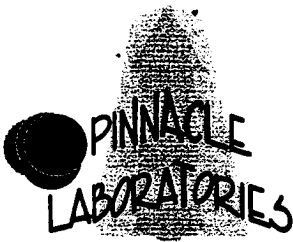
The Surrogate Recovery was at 96.7 % for this sample All QA/QC was acceptable.
ative:

DF = Dilution Factor Used

Approved By:

Date:

12/4/98



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

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

PINNACLE I.D.: 812003

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	980826	NON-AQ	11/20/98	12/2/98	12/2/98	1
02	980827	NON-AQ	11/20/98	12/2/98	12/2/98	1
03	980828	NON-AQ	11/20/98	12/2/98	12/2/98	1

PARAMETER	DET. LIMIT	UNITS	01	02	03
FUEL HYDROCARBONS, C6-C10	10	MG/KG	34	< 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:			34.0		

SURROGATE:
O-TERPHENYL (%)
SURROGATE LIMITS (66 - 151)

88 87 85

CHEMIST NOTES:
N/A



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

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

PINNACLE I.D.: 812003

SAMPLE		MATRIX	DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.		SAMPLED	EXTRACTED	ANALYZED	
04	980829	NON-AQ	11/25/98	12/2/98	12/2/98	1
05	980830	NON-AQ	11/25/98	12/2/98	12/3/98	10
06	980831	NON-AQ	11/25/98	12/2/98	12/2/98	1

PARAMETER	DET. LIMIT	UNITS	04	05	06
FUEL HYDROCARBONS, C6-C10	10	MG/KG	< 10	2300	< 10
FUEL HYDROCARBONS, C10-C22	5.0	MG/KG	< 5.0	1500	< 5.0
FUEL HYDROCARBONS, C22-C36	5.0	MG/KG	< 5.0	< 50	< 5.0
CALCULATED SUM:				3800	

SURROGATE:
O-TERPHENYL (%) 87 84 90
SURROGATE LIMITS (66 - 151)

CHEMIST NOTES:
N/A

BTEX SOIL SAMPLE WORKSHEET

File	:	980831	Date Printed	:	12/3/98
Soil Mass (g)	:	5.03	Multiplier (L/g)	:	0.00099
Extraction vol. (mL)	:	10	CAL FACTOR (Analytical):	:	200
Shot Volume (uL)	:	50	CAL FACTOR (Report):	:	0.19881

		DILUTION FACTOR:	1	Det. Limit
Benzene (ug/L)	:	<0.5	Benzene (mg/Kg): #VALUE!	0.497
Toluene (ug/L)	:	<0.5	Toluene (mg/Kg): #VALUE!	0.497
Ethylbenzene (ug/L)	:	<0.5	Ethylbenzene (mg/Kg): #VALUE!	0.497
p & m-xylene (ug/L)	:	<1.0	p & m-xylene (mg/Kg): #VALUE!	0.994
o-xylene (ug/L)	:	<0.5	o-xylene (mg/Kg): #VALUE!	0.497
			Total xylenes (mg/Kg): #VALUE!	1.491
			Total BTEX (mg/Kg): #VALUE!	