

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: <u>Amoco Production Company</u> Telephone _____		
Address: <u>30 - 045 - 07186</u>		
Facility Or: <u>45</u> <u>Riddle F4 PC, Meter 72064</u>		
Well Name <u>A</u>		
Location: Unit or Qtr/Qtr Sec <u>B</u> Sec <u>29</u> T <u>28</u> R <u>8</u> County <u>San Juan</u>		
Pit Type: Separator _____ Dehydrator _____ Other <u>Drip</u>		
Land Type: BLM <u>X</u> , State _____, Fee _____ Other _____		
Pit Location: Pit dimensions: length <u>16'</u> , width <u>15'</u> , depth <u>2'</u> (Attach diagram)		
Reference: wellhead <u>X</u> , other _____		
Footage from reference: <u>96'</u>		
Direction from reference: <u>75</u> Degrees <u>X</u> 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 50 feet to 99 feet Greater than 100 feet	(20 points) (10 points) (0 points) <u>10</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 200 feet to 1000 feet Greater than 1000 feet	(20 points) (10 points) (0 points) <u>0</u>
RANKING SCORE (TOTAL POINTS): <u>10</u>		

Date Remediation Started: 08/10/94 Date completed: 08/10/94

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 marked. Soil black, strong hydrocarbon odor. Hit sandstone 4'.

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 4'

Sample Date 08/10/94 Sample time 09:00

Sample Results

Benzene(ppm) Not reported.

Total BTEX(ppm) Not reported

Field headspace(ppm) 1141

TPH 2190

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

Riddle F4 (PC)
Meter/Line ID 72064

SITE DETAILS

Legals - Twn: 28N

Rng: 8W

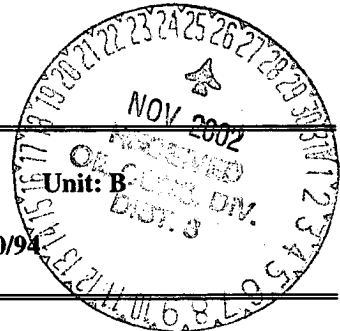
Sec: 29

NMOCD Hazard Ranking: 10

Land Type: BLM

Operator: Amoco Production Company

Pit Closure Date: 8/10/94



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 4 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 1,141 ppm; laboratory analysis indicated a TPH concentration 2,190 mg/kg. The headspace analysis and 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.

A Phase II boring was completed to refusal at 23 ft bgs. No groundwater was encountered in the soil boring. One laboratory sample was collected at 23-24 ft bgs. Headspace analysis indicated an organic vapor content of 37 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 23 ft bgs; local geologic features indicate the depth to groundwater is greater than 50 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 23 ft bgs were non-detect, indicating that no significant downward constituent migration is occurring.
- Bedrock refusal was encountered at 4 feet bgs in the test pit and 23 feet bgs in the soil boring making additional 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

Meter: 72064 Location: Riddle F4 PC
 Operator #: _____ Operator Name: _____ P/L District: _____
 Coordinates: Letter: B Section 29 Township: 28 Range: 8
 Or Latitude _____ Longitude _____
 Pit Type: Dehydrator _____ Location Drip: _____ Line Drip: _____ Other: _____
 Site Assessment Date: 12/18/97 Area: _____ Run: _____

SITE ASSESSMENT

NMOCD Zone:

(From NMOCD
Maps)

Inside

Outside

Land Type:

☐ (1)

☒ (2)

BLM

State

Fee

Indian

☐ (1)

☐ (2)

☒ (3)

Depth to Groundwater

Less Than 50 Feet (20 points)

50 Ft to 99 Ft (10 points)

Greater Than 100 Ft (0 points)

☐ (1)

☒ (2)

☐ (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)

200 Ft to 1000 Ft (10 points)

Greater Than 1000 Ft (0 points)

☐ (1)

☐ (2)

☒ (3)

Name of Surface Water Body _____

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

Distance to Nearest Ephemeral Stream

☐ (1) < 100' (Navajo Pits Only)

☐ (2) > 100'

TOTAL HAZARD RANKING SCORE: 10 POINTS

REMARKS

Remarks : Site has been re-assessed, due to initial assessment including washes as a Surface Water Body. Site is > 1000' From center of Large Canyon Wash

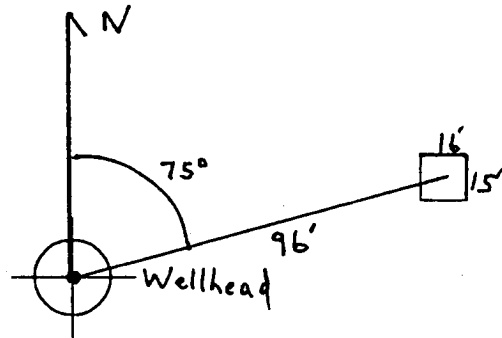
FIELD PIT SITE ASSESSMENT FORM

GENERAL	Meter: <u>72064</u> Location: <u>Riddle F4 (PC)</u> Operator #: <u>0203</u> Operator Name: <u>Amoco</u> P/L District: <u>Blanco</u> Coordinates: Letter: <u>B</u> Section <u>29</u> Township: <u>28</u> Range: <u>8</u> Or Latitude _____ Longitude _____ Pit Type: Dehydrator _____ Location Drip: <input checked="" type="checkbox"/> Line Drip: _____ Other: _____ Site Assessment Date: <u>5/17/94</u> Area: <u>03</u> Run: <u>92</u>		
SITE ASSESSMENT	NMOCD Zone: (From NMOCD Maps)		
	Inside <input type="checkbox"/> (1) Outside <input checked="" type="checkbox"/> (2)	Land Type: BLM <input checked="" type="checkbox"/> (1) State <input type="checkbox"/> (2) Fee <input type="checkbox"/> (3) Indian _____	
	Depth to Groundwater Less Than 50 Feet (20 points) <input type="checkbox"/> (1) 50 Ft to 99 Ft (10 points) <input checked="" type="checkbox"/> (2) Greater Than 100 Ft (0 points) <input type="checkbox"/> (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? <input type="checkbox"/> (1) YES (20 points) <input checked="" type="checkbox"/> (2) NO (0 points)		
REMARKS	Horizontal Distance to Surface Water Body Less Than 200 Ft (20 points) <input type="checkbox"/> (1) 200 Ft to 1000 Ft (10 points) <input checked="" type="checkbox"/> (2) Greater Than 1000 Ft (0 points) <input type="checkbox"/> (3) Name of Surface Water Body <u>Large Canyon</u> (Surface Water Body : Perennial Rivers, Major Wash, Streams, Creeks, Irrigation Canals, Ditches, Lakes, Ponds) Distance to Nearest Ephemeral Stream <input type="checkbox"/> (1) < 100' (Navajo Pits Only) <input type="checkbox"/> (2) > 100' TOTAL HAZARD RANKING SCORE: <u>20</u> POINTS		
	Remarks : <u>Redline - Inside, Vuln. - Outside</u> <u>4 pits. Will close 2 (1-MV + 1 PC)</u> <div style="text-align: right;"><u>PICK-UP</u></div>		

ORIGINAL PIT LOCATION

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 75° Footage from Wellhead 96'
b) Length : 16 Width : 15 Depth : 2



REMARKS

Remarks :

Pictures @ 1332 (23-26)
End Dump

Completed By:

Cory Chaves
Signature

5/17/94
Date

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL

Meter: 72064 Location: Riddle F4 (PC)
 Coordinates: Letter: B Section 29 Township: 28 Range: 8
 Or Latitude _____ Longitude _____
 Date Started : 8-10-94 Run: 03 82

FIELD OBSERVATIONS

Sample Number(s): MK 244
 Sample Depth: 12 ^{mk} 4' Feet
 Final PID Reading 1141 PID Reading Depth 4' 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: 8-10-94 Pit Closed By: BEI

REMARKS

Remarks : EPUE lines marked Soil black strong HYDROCARBON
odor Hit sandstone 4'

Signature of Specialist: Morgan Lillian



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Outside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	mk 244	945888
MTR CODE SITE NAME:	72064	N/A
SAMPLE DATE TIME (Hrs):	8-10-94	0900
SAMPLED BY:	N/A	
DATE OF TPH EXT. ANAL.:	8-11-94	8-11-94
DATE OF BTEX EXT. ANAL.:	N/A	N/A
TYPE DESCRIPTION:	VG	grey sand & clay

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
TPH (418.1)	2190	MG/KG			2.24	28
HEADSPACE PID	1141	PPM				
PERCENT SOLIDS	88.6	%				

-- TPH is by EPA Method 418.1 --

Narrative:

DF = Dilution Factor Used

Approved By:

J.P.

Date:

9/2/94



Page _____ of _____

RECORD OF SUBSURFACE EXPLORATION

SERVICES CORP.

Shore Road
Farmington, 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 RIDDLE F4 PC 72064

Elevation _____
Borehole Location LTR: S: 29 T: 28 R: 8
GWL Depth NA
Drilled By K. PADILLA
Well Logged By H. BRADBURY
Date Started 10/22/98
Date Completed 10/22/98

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				EXCAVATION SAMPLE collected at 4'						BZ=Breathing Zone BH=Borehole S/HS=Sample/Headspace
5										
10	1	10-11	6	DK GR SANDS TONE, MED SAND LOW CEMENTATION, dry			0	40	938 793	1320 hrs
15	2	15-16	6	DK GR SANDSTONE, MED SAND LOW CEMENTATION, dry			0	116	957 1101	1332 hrs
20	3	20-21	12	LT BR SANDSTONE, FINE SAND MOD CEMENTED, dry			0	1018	591 80	1353 hrs
25	4			4 GR SANDSTONE FINE SAND LOW CEMENTATION, dry					427	1408 hrs
30				TOB 24'					37	
35										
40										

Comments:

HAB 49 23-24' SENT TO lab for TPH. BTEX GW NOT
ENCOUNTERED. BH GRATED TO SURFACE
AUGER REFUSAL AT 23'

Geologist Signature

H. Bradbury



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	HAB49	980753
MTR CODE SITE NAME:	72064	Riddle F4 PC
SAMPLE DATE TIME (Hrs):	10/22/98	1408
PROJECT:	Phase II Drilling	
DATE OF TPH EXT. ANAL.:	10/30/98	10/30/98
DATE OF BTEX EXT. ANAL.:	10/26/98	10/26/98
TYPE DESCRIPTION:	VG	SOIL

Field Remarks: 23-24'

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	37	PPM				
PERCENT SOLIDS	90.8	%				

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

Surrogate Recovery was at 104.1 % for this sample All QA/QC was acceptable.
ative:

DF = Dilution Factor Used

Approved By: John Linder

Date: 11/20/98



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.: 810097

SAMPLE		MATRIX	DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.		SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	980754	NON-AQ	10/22/98	10/30/98	10/30/98	1
02	980753	NON-AQ	10/22/98	10/30/98	10/30/98	1
03	980751	NON-AQ	10/21/98	10/30/98	10/30/98	1
PARAMETER		DET. LIMIT	UNITS	01	02	03
FUEL HYDROCARBONS, C6-C10		10	MG/KG	< 10	< 10	16
FUEL HYDROCARBONS, C10-C22		5.0	MG/KG	< 5.0	< 5.0	150
FUEL HYDROCARBONS, C22-C36		5.0	MG/KG	< 5.0	< 5.0	< 5.0
CALCULATED SUM:						166.0

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

	126	129	91
--	-----	-----	----

CHEMIST NOTES:
N/A

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

PINNACLE
LABORATORIES

GAS CHROMATOGRAPHY RESULTS

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

PINNACLE I.D.: 810097

SAMPLE		MATRIX	DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.		SAMPLED	EXTRACTED	ANALYZED	FACTOR
04	980752	NON-AQ	10/22/98	10/30/98	10/30/98	1
PARAMETER		DET. LIMIT	UNITS	04		
FUEL HYDROCARBONS, C6-C10		10	MG/KG	< 10		
FUEL HYDROCARBONS, C10-C22		5.0	MG/KG	< 5.0		
FUEL HYDROCARBONS, C22-C36		5.0	MG/KG	< 5.0		

CALCULATED SUM:

SURROGATE:

O-TERPHENYL (%)
SURROGATE LIMITS

(66 - 151)

114

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
REAGENT BLANK

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)	PINNACLE I.D.	: 810097
BLANK I.D.	: 103098	DATE EXTRACTED	: 10/30/98
CLIENT	: EL PASO FIELD SERVICES	DATE ANALYZED	: 10/30/98
PROJECT #	: (none)	SAMPLE MATRIX	: NON-AQ
PROJECT NAME	: PHASE II DRILLING		

PARAMETER	UNITS	
FUEL HYDROCARBONS, C6-C10	MG/KG	< 10
FUEL HYDROCARBONS, C10-C22	MG/KG	< 5.0
FUEL HYDROCARBONS, C22-C36	MG/KG	< 5.0

SURROGATE: 114
BIPHENYL (%)
SURROGATE LIMITS (80 - 151)

CHEMIST NOTES:
N/A

BTEX SOIL SAMPLE WORKSHEET

File	:	980753	Date Printed	:	10/27/98
Soil Mass (g)	:	5.04	Multiplier (L/g)	:	0.00099
Extraction vol. (mL)	:	10	CAL FACTOR (Analytical):		200
Shot Volume (uL)	:	50	CAL FACTOR (Report):		0.19841

	DILUTION FACTOR:	1	Det. Limit
Benzene (ug/L) : <0.5	Benzene (mg/Kg):	#VALUE!	0.496
Toluene (ug/L) : <0.5	Toluene (mg/Kg):	#VALUE!	0.496
Ethylbenzene (ug/L) : <0.5	Ethylbenzene (mg/Kg):	#VALUE!	0.496
p & m-xylene (ug/L) : <1.0	p & m-xylene (mg/Kg):	#VALUE!	0.992
o-xylene (ug/L) : <0.5	o-xylene (mg/Kg):	#VALUE!	0.496
	Total xylenes (mg/Kg):	#VALUE!	1.488
	Total BTEX (mg/Kg):	#VALUE!	

CHAIN OF CUSTODY RECORD

12-2-98 *Arad* Page —
12-2-98 Chem 12-2-98 *Arad*

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