

Date Remediation Started: 8/15/96 ^{SAA} 97 Date Completed: 4/20/98

Remediation Method: Excavation X Approx. cubic yards 10/8
(Check all appropriate sections) Landfarmed X Insitu Bioremediation _____

Other _____

Remediation Location: Onsite X Offsite _____
(i.e. landfarmed onsite, name and location of offsite facility)

General Description of Remedial Action: REMOVED CONTAMINATED SOIL, SPREAD ON LOCATION IN SOIL FARM

Groundwater Encountered: No X Yes _____ Depth _____

Final Pit: Sample location Pit Bottom Center 4 BANKS N, S, E, W
Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths) Sample depth 18-19' GAS ND (PPB)
Sample date 4/20/98 Sample time 2:22 PM DIE 150 (PPM)
METHOD: Boism
Sample Results PID = 4.3

Soil Benzene (ppm)	<u>N/A</u>	Water: Benzene (ppb)	<u>N/A</u>
Total BTEX (ppm)	<u>N/A</u>	Toluene (ppb)	<u>N/A</u>
Field Headspace (ppm)	<u>11.1</u>	Ethylbenzene (ppb)	<u>N/A</u>
TPH GAS (ppm)	<u>0.30 (PPM)</u>	Total Xylenes (ppb)	<u>N/A</u>
DIE	<u>280 (PPM)</u>		

Groundwater 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 5/27/98 PRINTED NAME SHAWN ADAMS

SIGNATURE Shawn Adams AND TITLE ENV. CONSULTANT

AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

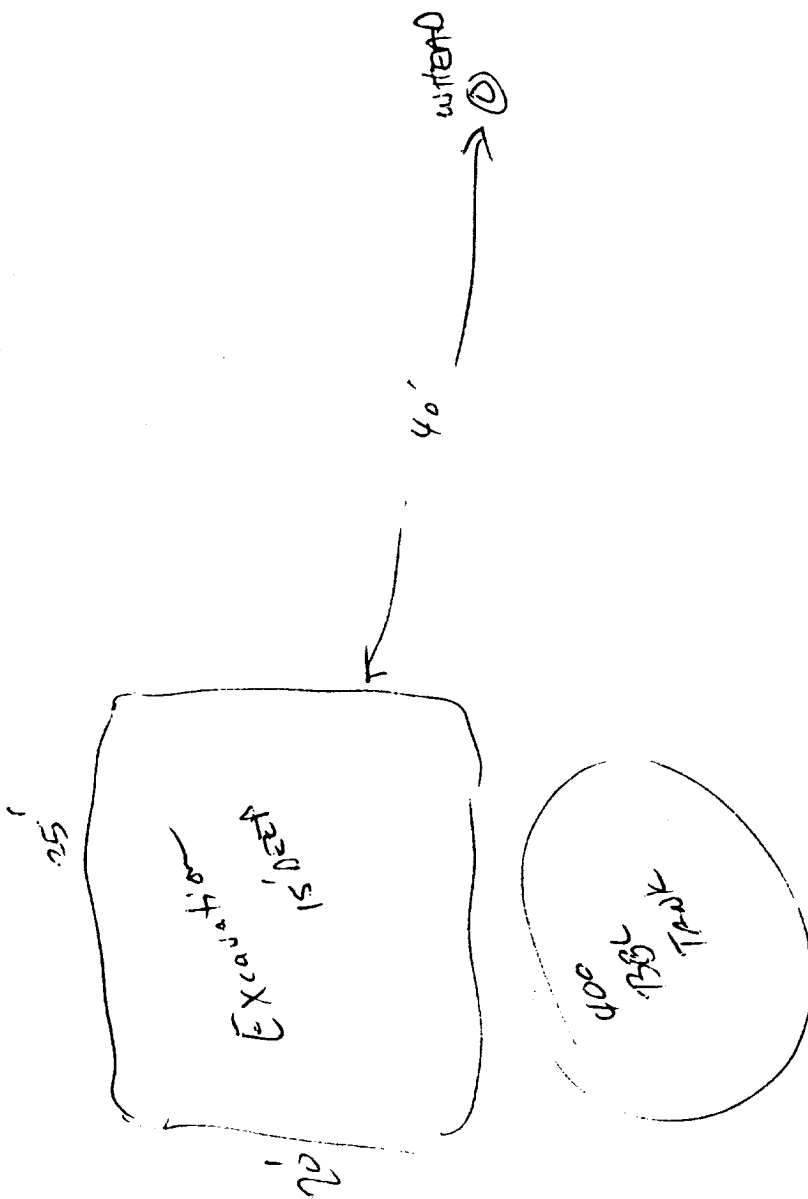
APPROVED: YES X NO _____ (REASON) Bedrock barrier

SIGNED: Shawn Adams DATE: 6/4/98

2

2000

2000



SOIL
FARM
AREA

CONTRACT ENVIRONMENTAL

DATE 4/20/98 TIME STARTED 13:45 TIME FINISHED 14:40

SITE NAME Jicarilla Apache "B" well 12 tan

PIT SIZE AT START x x PIT SIZE WHEN FINISHED x x

P.I.D READINGS

NORTH WALL #1 _____ #2 _____ #3 _____ FINALE TIME _____

SOUTH WALL #1 _____ #2 _____ #3 _____ FINALE TIME _____

EAST WALL #1 _____ #2 _____ #3 _____ FINALE TIME _____

WEST WALL #1 _____ #2 _____ #3 _____ FINALE TIME _____

WALL COMPOSITE #1 15.2 #2 _____ #3 _____ FINALE TIME 14:15

FLOOR #1 261.0 #2 _____ #3 _____ FINALE TIME 14:22

LAND FARM 13.8 SAMPLE TIME 14:28

SPOIL PILE _____ SAMPLE TIME _____

REMARKS: Rock at 8'

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 28-Apr-98

Client:	Contract Environmental Services, Inc.	Client Sample Info:	Jicarilla Apache "B" Well 12
Work Order:	9804029	Client Sample ID:	JB12-110 Floor Tan
Lab ID:	9804029-11A	Matrix:	SOIL
Project:	Jicarilla Apache "B"	Collection Date:	4/20/98 2:22:00 PM
		COC Record:	4317

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	280	25		mg/Kg	1	4/27/98
GASOLINE RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C6-C10	300	180		µg/Kg	2	4/23/98
Surr: Trifluorotoluene	75.6	70-130		%REC	2	4/23/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 28-Apr-98

Client:	Contract Environmental Services, Inc.	Client Sample Info:	Jicarilla Apache "B" Well 12
Work Order:	9804029	Client Sample ID:	JB12-109 Wall Tan
Lab ID:	9804029-10A	Matrix:	SOIL
Project:	Jicarilla Apache "B"	Collection Date:	4/20/98 2:15:00 PM
		COC Record:	4317

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	150	25		mg/Kg	1	4/27/98
GASOLINE RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C6-C10	ND	180		µg/Kg	1	4/23/98
Surr: Trifluorotoluene	99.6	70-130		%REC	1	4/23/98

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr: - Surrogate

1 of 1

APPROVED

for BACKFILL if we spray + close
must provide risk assessment
+ site security diagram but
we can go ahead + close.

K. Mannell

5/29/98

1:55PM my office

What is this
not your
SUBMIT COPY TO
NATURAL RESOURCE DEPT
AND OIL & GAS ADMINISTRATION

JICARILLA APACHE TRIBE
ENVIRONMENTAL PROTECTION OFFICE
P.O. BOX 507
DULCE, NEW MEXICO 87528

ON-SITE SOIL REMEDIATION REPORT

APPROVED

Operator: ELM RIDGE RESOURCES Telephone: (505) 326-7099
Address: 312 W. LAPLATA STREET, FARMINGTON, NM 87401
Facility or Well Name: JICARILLA APACHE "B" WELL #12 TAN LAND FARM
Location: Unit or Qtr/Qtr Sec A Sec 30 T 24N R 5W County RIO ARriba
Land Type: _____

Date Remediation Started: 8/15/97 Date Completed: 4/20/98
Remediation Method: Landfarmed X Approx. cubic yards 1018
Composted _____
Other _____

Depth To Groundwater: (pts.) 0
Distance to an Ephemeral Stream (pts.) 0
Distance to Nearest Lake, Playa, or Watering Pond (pts.) 0
Wellhead Protection Area: (pts.) 20
Distance To Surface Water: (pts.) 10

Final Closure Sampling:

Sampling Date: 4/20/98 Time: 2:28

Sample Results:

Field Headspace (ppm) 13.8 ppm

TPH (ppm) Gas - ND Method 8015 M
DIE - 220 ppm

Other _____

RANKING SCORE (TOTAL POINTS): 30

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 12/22/98 PRINTED NAME SHAWN ADAMS
SIGNATURE Shawn Adams AND TITLE ENV. CONSULTANT

AFTER REVIEW OF THE SOIL REMEDIATION INFORMATION, ON-SITE REMEDIATION IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

APPROVED: YES X NO _____ (REASON) Cannot be used as backfill.

SIGNED: Karena L. Callado DATE: 22 DEC 98

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 28-Apr-98

Client:	Contract Environmental Services, Inc.	Client Sample Info:	Jicarilla Apache "B" Well 12
Work Order:	9804029	Client Sample ID:	JB12-111 Land Farm Tan
Lab ID:	9804029-12A	Matrix:	SOIL
Project:	Jicarilla Apache "B"	Collection Date:	4/20/98 2:28:00 PM
		COC Record:	4317

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	220	25		mg/Kg	1	4/27/98
GASOLINE RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C6-C10	ND	180		µg/Kg	1	4/23/98
Surr: Trifluorotoluene	100.6	70-130		%REC	1	4/23/98

Qualifiers:

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R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1



CHAIN OF CUSTODY RECORD

4317

Page 1 of 1

Date: 4/20/98

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.:		Job No.	
Name		Title	
Company		Company	
Address		Mailing Address	
City, State, Zip		City, State, Zip	
Telephone No.		Telefax No.	
SEND INVOICE TO		RESULTS TO	
Name		Name	
Company		Company	
Address		Mailing Address	
City, State, Zip		City, State, Zip	
Telephone No.		Telefax No.	
Sampling Location: Tularilla Apache "B" well 10		ANALYSIS REQUESTED	
Tularilla Apache well 12			
Sampler: James R. Kirby			
SAMPLE IDENTIFICATION			
SAMPLE	DATE		PRES.
	DATE	TIME	
JB10 100 well sel	4/20/98	13:15	soil w/19
JB10 101 Floor Sel	4/20/98	13:17	soil w/19
JB10 102 Land Farm sel	4/20/98	13:20	soil w/19
JB10 103 well Ten	4/20/98	13:25	soil w/19
JB10 104 Floor Ten	4/20/98	13:27	soil w/19
JB10 105 Land Farm Ten	4/20/98	13:30	soil w/19
JB10 106 well Sel	4/20/98	13:35	soil w/19
JB10 107 Floor Sel	4/20/98	14:05	soil w/19
JB10 108 Land Farm Sel	4/20/98	14:10	soil w/19
JB10 109 well Ten	4/20/98	14:15	soil w/19
JB10 110 Floor Ten	4/20/98	14:22	soil w/19
JB10 111 Land Farm Ten	4/20/98	14:28	soil w/19
Relinquished by: Sam Rana		Date/Time	4/21/98
Relinquished by:		Date/Time	11:20
Relinquished by:		Date/Time	
Method of Shipment:		Rush	
Authorized by: SRA		Date	4/21
(Client Signature Must Accompany Request)			
Received by: [Signature]		Date/Time	4/21/98
Received by:		Date/Time	
Received by:		Date/Time	
Special Instructions:			

Elm Ridge Resources

Risk Analysis

Prepared by:

Contract Environmental Services, Inc.

Prepared for:

Oil Conservation Division - District III

Jicarilla Apache Tribe - EPO

Date: 6/3/98

Location: Jicarilla Apache B # 12 - Tank Pit

Unit-A, Sec30, T24N, R5W

Lease Number:

Resources

Ground Water: 100 feet +

Closest Surface Water: No down gradient perennial bodies within 1000 feet
(visual inspection of the area)

Water Sources: A private water source is located within 1000 feet of
this site. This water source is a stock water tank.

Risk Management

Natural Barriers: Natural soil permeability is one natural barrier that
will protect ground water from site contamination.

Additional Investigation: This earthen pit had sandstone bedrock at 8' of
depth. Field-testing and laboratory analysis was
done on this earthen pit. The results of this
analysis and testing are shown in the following
pages. All data is supported with lab result sheets
and field data sheets found in this closure package.

Risk Analysis

Contract Environmental Services, Inc.
Post Office Box 3376
Farmington, New Mexico 87499

Additional
Investigation: (continued)

Table 1. Field and laboratory results summary.

	Sample			
	Depth	Field Headspace Results	Laboratory Results	Remarks
	(feet)	(PPM)	(PPM)	
JB12- 110	18-19'	261	Gas = 0.30 Die = 280	Pit Bottom
JB12- 109	8'	15.2	Gas = ND Die = 150	4 Banks NSEW

Risk

The following table and conclusion summarize the risk this contamination sources poses to the ground water.

Table 2. Total risk table.

RISK	CHOICE
Extremely Low	X
Low	
Moderate	
High	

Risk Analysis

Contract Environmental Services, Inc.
Post Office Box 3376
Farmington, New Mexico 87499

The ground water under this site is at almost no danger of being impacted by contamination from this site. From the low laboratory and field-test results and the restrictive geologic soil barriers it is concluded that the risk of resource contamination is extremely low.