

*Denny E. Foust*  
DEPUTY OIL & GAS INSPECTOR

MAY 04 1998

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

SUBMIT 1 COPY TO  
NATURAL RESOURCE DEPT  
AND OIL & GAS ADMINISTRATION

PIT REMEDIATION AND CLOSURE REPORT

CA 375

Operator: CONOCO, INC. Telephone: (505) 324-5884

Address: 3315 Bloomfield Hwy., Farmington, NM 87401

Facility or Well Name: JICARILLA E7

Location: Unit or Qtr/Qtr Sec P Sec 15 T 26N R 4W County RIO ARRIBA

Pit Type: Separator  Dehydrator  Other BLOW

Land Type: RANGE

Pit Location: Pit dimensions: length 27', width 35', depth 5'  
(Attach diagram) Reference: wellhead , other \_\_\_\_\_  
Footage from reference: 180'  
Direction from reference: 68 Degrees \_\_\_\_\_ East of North \_\_\_\_\_  
 West of South

<b>Depth To Groundwater:</b> (Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet	(20 points)	
	50 feet to 99 feet	(10 points)	<u>0</u>
	Greater than 100 feet	(0 points)	
<b>Distance to an Ephemeral Stream</b> (Downgradient dry wash greater than ten feet in width)	Less than 100 feet	(10 points)	
	Greater than 100 feet	(0 points)	<u>0</u>
<b>Distance to Nearest Lake, Playa, or Watering Pond</b> (Downgradient lakes, playas and livestock or wildlife watering ponds)	Less than 100 feet	(10 points)	
	Greater than 100 feet	(0 points)	<u>0</u>
<b>Wellhead Protection Area:</b> (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>
<b>Distance To Surface Water:</b> (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 100 feet	(20 points)	
	100 feet to 1000 feet	(10 points)	<u>0</u>
	Greater than 1000 feet	(0 points)	
<b>RANKING SCORE (TOTAL POINTS):</b>			<u>0</u>

Date Remediation Started: \_\_\_\_\_ Date Completed: 6/25/96

Remediation Method: Excavation  Approx. cubic yards 150  
Check all appropriate sections) Landfarmed  Insitu Bioremediation \_\_\_\_\_  
Other \_\_\_\_\_

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

General Description of Remedial Action: Excavation. ENTIRE EXCAVATION CONSIST OF BEDROCK (HARD SANDSTONE)

Groundwater Encountered: No  Yes \_\_\_\_\_ Depth \_\_\_\_\_

Final Pit: Sample location see Attached Documents

Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)  
Sample depth 5'  
Sample date 6/25/96 Sample time 1430

Sample Results

Soil: Benzene	(ppm)	_____	Water: Benzene	(ppb)	_____
Total BTEX	(ppm)	_____	Toluene	(ppb)	_____
Field Headspace	(ppm)	<u>673</u>	Ethylbenzene	(ppb)	_____
TPH	(ppm)	_____	Total Xylenes	(ppb)	_____

Groundwater Sample: Yes \_\_\_\_\_ No  (If yes, attach sample results)

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

DATE 6/25/96 PRINTED NAME Jeffrey C. Blagg, P.E. # 11607

SIGNATURE Jeffrey C. Blagg AND TITLE President

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

APPROVED: YES  NO \_\_\_\_\_ (REASON) \_\_\_\_\_

SIGNED: [Signature] DATE: 6-27-96

CLIENT: <u>CONOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>CA375</u> C.D.C. NO: _____
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**FIELD REPORT: CLOSURE VERIFICATION** PAGE No: 1 of 1

LOCATION: NAME: <u>JICARILLA</u> WELL #: <u>E7</u> PIT: <u>BLOW</u>	DATE STARTED: <u>6/25/96</u> DATE FINISHED: _____
QUAD/UNIT: <u>P</u> SEC: <u>15</u> TWP: <u>26N</u> RNG: <u>4W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u>	ENVIRONMENTAL SPECIALIST: <u>NV</u>
QTR./FOOTAGE: <u>SE14 SE14</u> CONTRACTOR: <u>P&amp;S/ACME</u>	

EXCAVATION APPROX. 27 FT. x 35 FT. x 5 FT. DEEP. CUBIC YARDAGE: 150

DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARMED

LAND USE: RANGE LEASE: #104 FORMATION: OK

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 180 FT. 568W FROM WELLHEAD.

DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'

NMDCD RANKING SCORE: 0 NMDCD TPH CLOSURE STD: 5000 PPM

CHECK ONE !

PIT ABANDONED

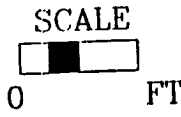
STEEL TANK INSTALLED

SOIL AND EXCAVATION DESCRIPTION:  
 ENTIRE EXCAVATION IN BEDROCK,  
 PALE ORANGE SAND, NON-COHESIVE DRY TO SLIGHTLY MOIST, DENSE TO HARD, STRONG HC ODOR IN NORTH & EAST SIDEWALL OUM SAMPLES.

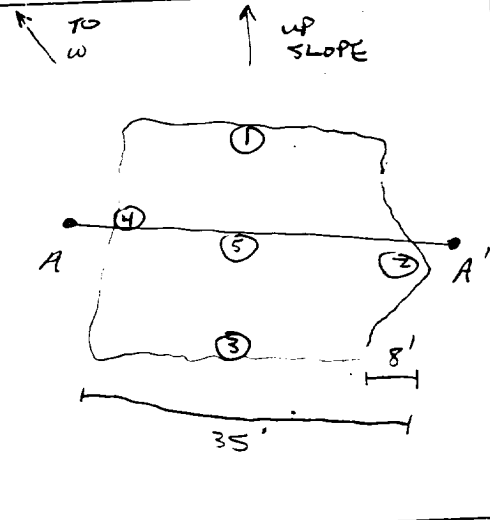
BOTTOM - BEDROCK (SANDSTONE), LT. GRAY IN COLOR, STRONG HC ODOR IN OUM SAMPLES. DUE TO ENTIRE EXCAVATION CONSISTING OF HARD SANDSTONE, NO TPH ANALYSIS WAS CONDUCTED.

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	ml. FREON	DILUTION	READING	CALC. ppm



**PIT PERIMETER**



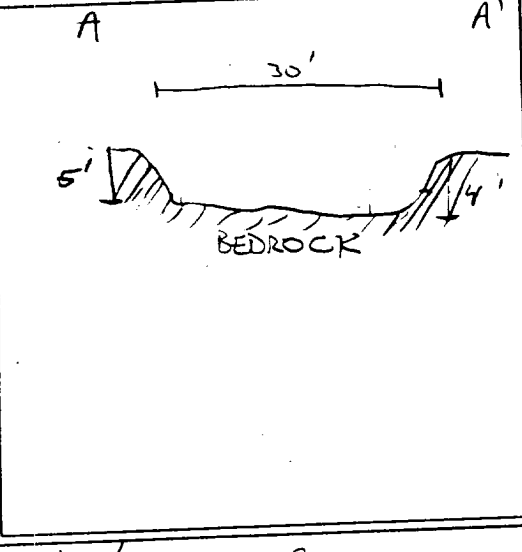
**OVM RESULTS**

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 3'	176
2 @ 2'	253
3 @ 2'	43.8
4 @ 2'	20
5 @ 5'	673

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME

**PIT PROFILE**



TRAVEL NOTES: CALLOUT: 6/25/96 AFTER. ONSITE: 6/25/96 AFTER.

<b>Well Name:</b>	<b>Jicarilla E # 7</b>
<b>Well Site location:</b>	Unit P, Sec. 15, T26N, R4W
<b>Pit Type:</b>	Blow Pit
<b>Producing Formation:</b>	Basin Dakota
<b>Pit Category:</b>	Non Vulnerable
<b>Horizontal Distance to Surface Water:</b>	> 1000 ft.
<b>Vicinity Groundwater Depth:</b>	> 100 ft.

## **RISK ASSESSMENT**

Pit remediation activities were terminated when trackhoe encountered sandstone bedrock at 5 feet below grade.

No past or future threat to surface water or groundwater is likely based on the following considerations:

1. Past production fluids were contained locally by a relatively shallow sandstone bedrock located 5 feet below grade. Groundwater levels located on or close to the well pad are estimated to be at a much greater depth below sandstone bedrock.
2. Topographic information does not indicate off site lateral fluid migration near the earthen pit.
3. Daily discharge into the earthen pit has been terminated (pit abandoned). Prior discharge into the pit is believed to be under 5 barrels per day.
4. Field headspace readings (OVM/PID) on Basin Dakota type locations do not reflect direct correlation to total BTEX per USEPA Method 8020 concentrations. Listed below are several typical AMOCO Basin Dakota pit soil analyses comparing headspace to Benzene and total BTEX results.

<b>LOCATION</b>	<b>HEADSPACE (ppm)</b>	<b>BENZENE (ppm)</b>	<b>TOTAL BTEX (ppm)</b>
<b>Frost, Jack B 1E</b>	<b>1100</b>	<b>0.011</b>	<b>5.889</b>
<b>Berger A1</b>	<b>482</b>	<b>0.084</b>	<b>0.681</b>
<b>Mudge Com B 1E</b>	<b>684</b>	<b>0.017</b>	<b>16.438</b>
<b>L.C. Kelly #5</b>	<b>1235</b>	<b>0.643</b>	<b>13.908</b>

The comparisons listed above demonstrates that headspace testing is not an accurate measurement to Benzene or total BTEX concentrations when above standards for Basin Dakota type pits.

Based upon the information given, we conclude that the subsurface lateral impact from the earthen pit is very limited and that the sandstone bottom creates enough of a impermeable barrier as to subdue impact to groundwater below it (please refer to AMOCO's report "Post Excavation Pit Closure Investigation Summary, July, 1995", with cover letter dated November 30, 1995). CONOCO requests pit closure approval on this location.

CA375

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

SUBMIT 1 COPY TO  
NATURAL RESOURCE DEPT  
AND OIL & GAS ADMINISTRATION

ON-SITE SOIL REMEDIATION REPORT

Operator: Conoco, Inc. Telephone: (505) 324-5884  
 Address: 3315 Bloomfield Hwy., Farmington, NM 87401  
 Facility or Well Name: JICARILLA E #7  
 Location: Unit or Qtr/Qtr Sec P Sec 15 T 26N R 4W County RIO ARRIBA  
 Land Type: RANGE

Date Remediation Started: 6/25/96 Date Completed: 8/27/97  
 Remediation Method: Landfarmed  Approx. cubic yards 150  
 Composted   
 Other

Depth To Groundwater: (pts.) <u>0</u>	<b>Final Closure Sampling:</b> Sampling Date: <u>8/22/97</u> Time: <u>1140</u> Sample Results: Field Headspace (ppm) <u>2.0</u> TPH (ppm) <u>1,040</u> Method <u>8015</u> Other _____
Distance to an Ephemeral Stream (pts.) <u>0</u>	
Distance to Nearest Lake, Playa, or Watering Pond (pts.) <u>0</u>	
Wellhead Protection Area: (pts.) <u>0</u>	
Distance To Surface Water: (pts.) <u>0</u>	
RANKING SCORE (TOTAL POINTS): <u>0</u>	

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

DATE 8/27/97 PRINTED NAME Jeffrey C. Blagg, P.E. #11607  
 SIGNATURE Jeffrey C. Blagg AND TITLE President

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

APPROVED: YES  NO  (REASON) \_\_\_\_\_  
 SIGNED: Kirk C. Marshall DATE: 9-2-97

CLIENT: <u>CONOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>CA375</u> C.O.C. NO: <u>5396</u>
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FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: <u>JICARILLA</u> E WELL #: <u>7</u> PITS: <u>BLOW</u>	DATE STARTED: <u>8/22/97</u> DATE FINISHED: _____
QUAD/UNIT: <u>P</u> SEC: <u>15</u> TWP: <u>26N</u> RNG: <u>4W</u> PM: <u>Nm</u> CNTY: <u>SJ</u> ST: <u>Nm</u>	ENVIRONMENTAL SPECIALIST: <u>NV</u>
LIFT DEPTH: <u>SE14 SE14</u> CONTRACTOR: <u>Acme</u>	

SOIL REMEDIATION:

REMEDICATION SYSTEM: LANDFARMED

APPROX. CUBIC YARDAGE: 150

LAND USE: RANGE

LIFT DEPTH (ft): 12"-24"

FIELD NOTES & REMARKS:

DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'


NMDCD BANKING SCORE: 0 NMDCD TPH CLOSURE STD: 5000 PPM

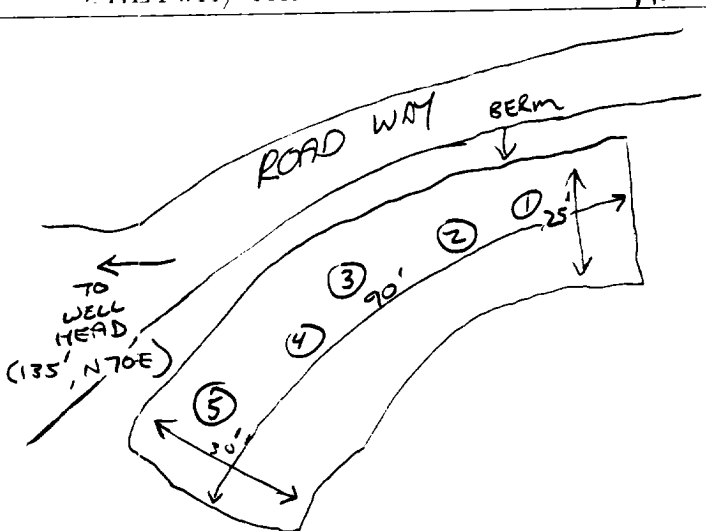
PALE ORANGE TO BLACK (DISCOLORED) SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HC ODOR IN OVM SAMPLE AND ALL SAMPLE PTS. EXCEPT ⑤. 5 PT. COMPOSITE COLLECTED FOR LAB ANALYSIS.

CLOSED

FIELD 418.1 CALCULATIONS

SAMP. TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm

SKETCH/SAMPLE LOCATIONS 



OVM RESULTS

LAB SAMPLES

SAMPLE ID	FIELD HEADSPACE PID (ppm)
LF-1	2.0

SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	TPH (8015)	1140	1,040

SCALE



TRAVEL NOTES:

CALLOUT: NA

ONSITE: 8/22/97

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

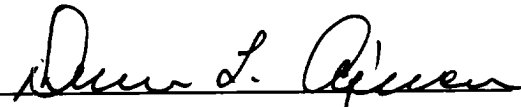
Client:	Blagg / Conoco	Project #:	04034-10
Sample ID:	LF - 1	Date Reported:	08-25-97
Laboratory Number:	B914	Date Sampled:	08-22-97
Chain of Custody No:	5396	Date Received:	08-22-97
Sample Matrix:	Soil	Date Extracted:	08-25-97
Preservative:	Cool	Date Analyzed:	08-25-97
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

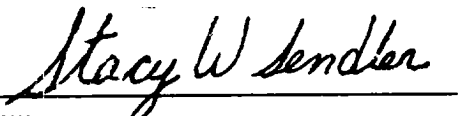
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	8.7	0.2
Diesel Range (C10 - C28)	1,031	0.1
Total Petroleum Hydrocarbons	1,040	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Comments: Jicarilla E #7. 5 Pt. Composite.

  
Analyst

  
Review

CHAIN OF CUSTODY RECORD

Client/Project Name <i>BRS-CONOCO</i>			Project Location <i>TERRA E #7</i>			ANALYSIS/PARAMETERS					
Sampler: (Signature) <i>Thomas Vif</i>			Chain of Custody Tape No. <i>04034-10</i>			No. of Containers <i>TPH (8015)</i>		Remarks <i>PRESENT - COOL</i>			
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix							
<i>LS-1</i>	<i>8/22/97</i>	<i>1140</i>	<i>R914</i>	<i>SOIL</i>	<i>1</i>	<i>✓</i>					<i>5 PT, COMPOSITE</i>
<i>Sample re-cooled &amp; re-tested</i>											
Relinquished by: (Signature) <i>Thomas Vif</i>			Date	Time	Received by: (Signature)					Date	Time
Relinquished by: (Signature)			<i>8/22/97</i>	<i>1348</i>	<i>D. P. [Signature]</i>					<i>8-22-97</i>	<i>13:48</i>
Relinquished by: (Signature)			Received by: (Signature)								

ENVIROTECH INC.  
5796 U.S. Highway 64-3014  
Farmington, New Mexico 87401  
(505) 632-0615