CA410

Denny G. 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

Approved

PIT REMEDIATION AND CLOSURE REPORT

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

Address: 3315 Bloomfield Hwy., Farmington, NM 87401

Facility or Well Name: JICARILLA K #17

Location: Unit or Qtr/Qtr Sec K Sec 12 T25N R5W County RIO ARRIBA

Pit Type: Separator X Dehydrator ____ Other ____

Land Type: RANGE

Pit Location: (Attach diagram)

Pit dimensions: length 40', width 45', depth 19'

Reference: wellhead X, other ____

Footage from reference: ____

Direction from reference: 28 Degrees ____ East ____ North of X West South X

Depth To Groundwater: (Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet 50 feet to 99 feet Greater than 100 feet	(20 points) (10 points) (0 points)	0
Distance to an Ephemeral Stream (Downgradient dry wash greater than ten feet in width)	Less than 100 feet Greater than 100 feet	(10 points) (0 points)	0
Distance to Nearest Lake, Playa, or Watering Pond (Downgradient lakes, playas and livestock or wildlife watering ponds)	Less than 100 feet Greater than 100 feet	(10 points) (0 points)	0
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or: less than 1000 feet from all other water sources)	Yes No	(20 points) (0 points)	0
Distance To SurfaceWater: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 100 feet 100 feet to 1000 feet Greater than 1000 feet	(20 points) (10 points) (0 points)	0

RANKING SCORE (TOTAL POINTS): 0

CA410

Date Remediation Started: 8-20-96 **Date Completed:** 8/21/96

Remediation Method: (Check all appropriate sections) Excavation X Approx. cubic yards 1000

Landfarmed X Insitu Bioremediation _____

Other _____

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

General Description of Remedial Action: Excavation ALMOST ENTIRE WEST SIDEWALL CONSIST OF BEDROCK. BEDROCK BOTTOM.

Groundwater Encountered: No X Yes ____ Depth _____

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

Sample location see Attached Documents

Sample depth 2 @ 14'

Sample date 8/21/96 Sample time 0815

Sample Results

Soil:	Benzene	(ppm)		Water: Benzene	(ppb)
	Total BTEX	(ppm)		Toluene	(ppb)
	Field Headspace	(ppm)	0.0	Ethylbenzene	(ppb)
	TPH	(ppm)	36	Total Xylenes	(ppb)

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 KNOWLEGE AND BELIEF

DATE 8-21-96 **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: Gabriel Jaramillo **DATE:** 8/26/96

P&W

CLIENT: CONOCO

BLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199

LOCATION NO: CA410
C.O.C. NO: _____

FIELD REPORT: CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: JICARILLA K WELL #: 17 PIT: SEP
QUAD/UNIT: K SEC: 12 TWP: 25N RNG: 5W PM: NM CNTY: RA ST: NM
QTR/FOOTAGE: NE/4 SE/4 CONTRACTOR: ACME / GARZA

DATE STARTED: 8/21/96
DATE FINISHED: _____
ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. 40 FT. x 45 FT. x 19 FT. DEEP. CUBIC YARDAGE: 1000
DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARMED
LAND USE: RANGE LEASE: CONTRACT #145 FORMATION: DK

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 102 FT. 528W FROM WELLHEAD.
DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'
NMOCD RANKING SCORE: 0 NMOCD TPH CLOSURE STD: 5000 PPM

CHECK ONE:
___ PIT ABANDONED
✓ STEEL TANK INSTALLED

SOIL AND EXCAVATION DESCRIPTION:

SOIL IN SIDEWALLS MOSTLY DK. YELL. ORANGE TO BROWN SAND, NON-COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HC ODOR IN OVM SAMPLES, EXPOSED BEDROCK (SANDSTONE) OBSERVED AT VARIOUS THICKNESS (SEE PIT PROFILE), APPARENT HC STAINING ON BEDROCK SURFACES, BEDROCK TAPERING OFF TOWARD EAST SIDEWALL, WEST SIDEWALL OVM SAMPLE CONSIST OF DK. GRAY TO BLACK SANDSTONE.

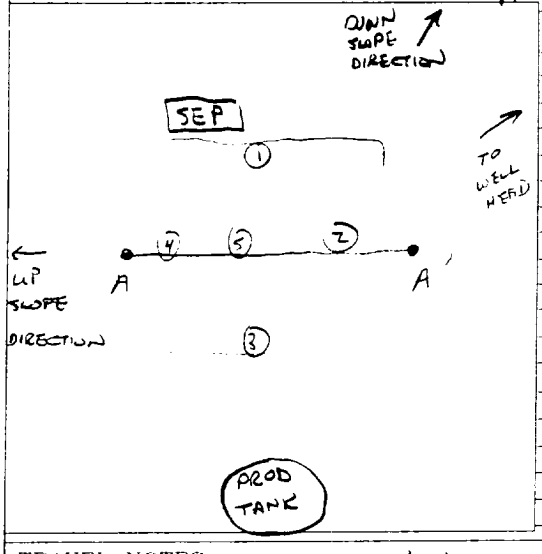
REDROCK

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
0815	2@14'	TPH-1794	5	20	1:1	9	36

SCALE
0 FT

PIT PERIMETER



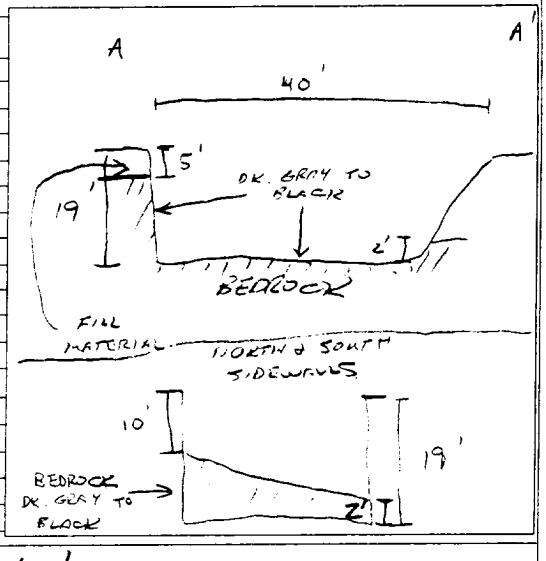
OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1@15'	0.0
2@14'	0.0
3@14'	5.6
4@14'	840
5@19'	726

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME

PIT PROFILE



TRAVEL NOTES: CALLOUT: 8/20/96 MORN ONSITE: 8/21/96 MORN.

Well Name:	**Jicarilla K # 17**
Well Site location:	Unit K, Sec. 12, T25N, R5W
Pit Type:	Separator Pit
Producing Formation:	Basin Dakota
Pit Category:	Non Vulnerable
Horizonal Distance to Surface Water:	> 1000 ft.
Vicinity Groundwater Depth:	> 100 ft.

RISK ASSESSMENT

Pit remediation activities were terminated when trackhoe encountered sandstone bedrock at 19 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 19 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.

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

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.

BLAGG ENGINEERING, INC.
P.O. Box 87, Bloomfield, New Mexico 87413
Phone: (505)632-1199 Fax: (505)632-3903

FIELD MODIFIED EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	CONOCO	Project #:	
Sample ID:	2 @ 14'	Date Analyzed:	08-22-96
Project Location:	Jicarilla K # 17	Date Reported:	08-22-96
Laboratory Number:	TPH-1794	Sample Matrix:	Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
Total Recoverable Petroleum Hydrocarbons	**36**	**20**

ND = Not Detectable at stated detection limits.

QA/QC:

QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
1420	1344	5.50

*Administrative Acceptance limits set at 30%.

Method: Modified Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Separator Pit - CA410

Analyst

Review

CA 410

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 K #17

Location: Unit or Qtr/Qtr Sec K Sec 12 T 25N R 5W **County** RIO ARRIBA

Land Type: RANGE

Date Remediation Started: 8/21/96 **Date Completed:** 8/18/97

Remediation Method: Landfarmed X Approx. cubic yards 250

Composted ____

Other ____

pth 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.)	0
Distance To SurfaceWater:	(pts.)	0
RANKING SCORE (TOTAL POINTS):		0

Final Closure Sampling:

Sampling Date: 8/15/97 Time: 1105

Sample Results:

Field Headspace (ppm) 30.0

TPH (ppm) 367 Method 8015

Other ____

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

DATE 8/18/97 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 X NO ____ (REASON) ____

SIGNED: Kent C. Mowell DATE: 9-2-97

OPERATOR: CONOCO	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: CA410 C.O.C. NO: 5378

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: JICARILLA K WELL #: 17 PITS: SEP.
QUAD/UNIT: K SEC: 12 TWP: 25N RNG: 5W PM: NM CNTY: RA ST: NM
UTE FOOTAGE: NE/4 SW/4 CONTRACTOR: ACME

DATE STARTED: 8/15/97
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: NV

SOIL REMEDIATION:

REMEDIATION SYSTEM: LANDFARM
APPROX. CUBIC YARDAGE: 250
LAND USE: RANGE
LIFT DEPTH (ft): 12"-24"

FIELD NOTES & REMARKS:

DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'
NMOCD RANKING SCORE: 0 NMOCD TPH CLOSURE STD: 5000 PPM

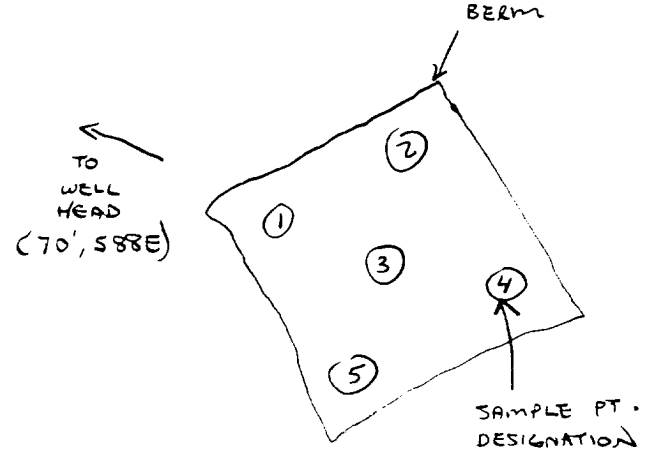
MOSTLY SAND TO SILTY SAND w/ VARYING COLOR, NON COHESIVE, SLIGHTLY MOIST, FIRM. SAMPLE PTS ③, ④, & ⑤ CONTAINED DK. GRAY TO BLACK DISCOLORATION w/ STRONG HC ODOR, SOME BEDROCK, SLIGHT HC ODOR IN OVM SAMPLE. 5 PT. COMPOSITE SAMPLE COLLECTED FOR LAB ANALYSIS.

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

SAMPLE ID	FIELD HEADSPACE PID (ppm)
LF-1	30.0

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	TPH (8015)	1105	367

SCALE
0 FT

TRAVEL NOTES: CALLOUT: NA ONSITE: 8/15/97

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:	08-18-97
Laboratory Number:	B862	Date Sampled:	08-15-97
Chain of Custody No:	5378	Date Received:	08-15-97
Sample Matrix:	Soil	Date Extracted:	08-18-97
Preservative:	Cool	Date Analyzed:	08-18-97
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**0.9**	**0.2**
Diesel Range (C10 - C28)	**366**	**0.1**
Total Petroleum Hydrocarbons	**367**	**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 K #17 Landfarm. 5 Pt. Composite.**

Analyst

Review

5796 U.S. Highway 64-3014 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

5378

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
BLAGG/CONOCO	LANDFARM JICARILLA K #17	
Sampler: (Signature) Nelson Velez	Chain of Custody Tape No. 04034-10	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH (8015)						Remarks
												PRESERV. - COOL
LF-1	8/15/97	1105	B862	SOIL	1	✓						5 PT. COMPOSITE
				Sample received cool & intact								

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	8/15/97	1418	Olivia L. Quinn	8-15-97	1418
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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

CLIENT: CONOCO	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: CA365 C.O.C. NO:

FIELD REPORT: CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: JICARILLA WELL #: A 15 PIT: PROD
QUAD/UNIT: G SEC: 14 TWP: 26N RNG: 4W PM: NM CNTY: RA ST: NM
QTR/FOOTAGE: SW/4 NW/4 CONTRACTOR: P&S/ACME

DATE STARTED: 5/13/96
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. 16 FT. x 11 FT. x 4 FT. DEEP. CUBIC YARDAGE: 10
DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: STOCKPILED
LAND USE: RANGE LEASE: CONTRACT #105 FORMATION:

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 110 FT. 55SW FROM WELLHEAD.
DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'
NMOCD RANKING SCORE: 0 NMOCD TPH CLOSURE STD: 5000 PPM

CHECK ONE:
✓ PIT ABANDONED
___ STEEL TANK INSTALLED

SOIL AND EXCAVATION DESCRIPTION:

O.K. YELL. BROWN SAND, NON-COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HC ODOR IN ANY OF THE OVM SAMPLES.

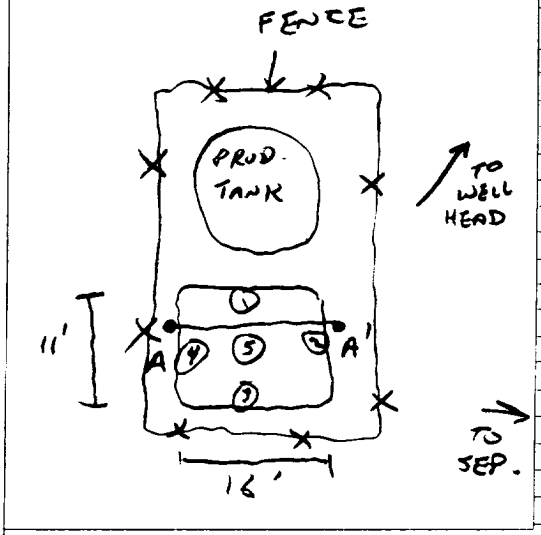
CLOSED

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
0910	⑤ @ 4'	TPH-1723	5	20	1:1	181	724
"	DUPLICATE	"	5	20	1:1	142	568

SCALE
0 FT

PIT PERIMETER



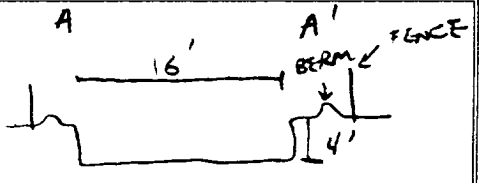
OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 3'	0.0
2 @ 2'	0.0
3 @ 3'	0.0
4 @ 4'	0.0
5 @ 4'	0.0

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME

PIT PROFILE



TRAVEL NOTES: CALLOUT: 5/10/96 AFTER - ONSITE: 5/13/96 MORN.