CA 438

Denny G. Foust
DEPUTY OIL & GAS INSPECTOR

MAY 0 4 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: CHRIS #1A

Location: Unit or Qtr/Qtr Sec F Sec 15 T27N R3W County RIO ARRIBA

Pit Type: Separator ____ Dehydrator ____ Other BLOW

Land Type: RANGE

Pit Location: (Attach diagram)

Pit dimensions: length 25', width 18', depth 10'

Reference: wellhead X, other ____

Footage from reference: 21'

Direction from reference: 77 Degrees X East North X of ____ West South ____

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

CA#38 Blow pit

Date Remediation Started: 9-20-96 **Date Completed:** 9/23/96

Remediation Method: (Check all appropriate sections) Excavation X Approx. cubic yards 150

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. 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 5'

Sample date 9/20/96 Sample time 0840

Sample Results

Soil: Benzene	(ppm)	0.136	Water: Benzene	(ppb)	_____
Total BTEX	(ppm)	17.60	Toluene	(ppb)	_____
Field Headspace	(ppm)	1,422	Ethylbenzene	(ppb)	_____
TPH	(ppm)	412	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 9/23/96 **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 X NO ____ (REASON) Spray & Close

SIGNED: Ken C Marvell **DATE:** 9-24-96

CLIENT: CONOCO

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

LOCATION NO: CA438
C.O.C. NO: 4906

FIELD REPORT: CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: CHRIS WELL #: 1A PIT: BLOW
QUAD/UNIT: F SEC: 15 TWP: 27N RNG: 3W PM: NM CNTY: RA ST: NM
QTR/FOOTAGE: 1620' FNL/ 1850' FWL CONTRACTOR: ACME

DATE STARTED: 9/20/96
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. 25 FT. x 18 FT. x 10 FT. DEEP. CUBIC YARDAGE: 150
DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARMED
LAND USE: RANGE LEASE: CONTRACT #90 FORMATION: NV

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 21 FT. N77E 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:

SIDEWALLS: CONSIST MOSTLY OF DK. YELL. BROWN CLAY, PLASTIC, SLIGHTLY MOIST, STIFF TO VERY STIFF. WEST SIDEWALL MOSTLY DK. GRAY DISCOLORATION & W/ STRONG HC ODOR IN OVM SAMPLE, NO APPARENT HC STAINING OR ODOR OBSERVED IN OTHER SIDEWALLS.

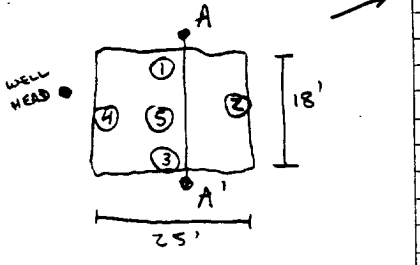
BOTTOM - BEDROCK, SHALE, HARD, LT GRAY IN COLOR, STRONG HC ODOR IN OVM SAMPLE.

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
0840	④@5'	TPH-1826	5	20	1:1	103	412

SCALE
0 FT

PIT PERIMETER



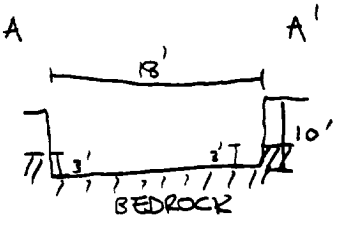
OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 6'	0.0
2 @ 5'	0.0
3 @ 5'	0.0
4 @ 5'	1422
5 @ 10'	436

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
④@5'	BTEX	0840
	PASSED	

PIT PROFILE



TRAVEL NOTES: CALLOUT: 9/19/96 AFTER ONSITE: 9/20/96 MORN.

Well Name:	**Chris #1A**
Well Site location:	Unit F, Sec. 15, T27N, R3W
Pit Type:	Blow pit
Producing Formation:	Mesaverde
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 shale bedrock at 10 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 shale bedrock located 10 feet below grade. Groundwater levels located on or close to the well pad are estimated to be at a much greater depth below the shale 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 Mesaverde type locations do not reflect direct correlation to total BTEX per USEPA Method 8020 concentrations. Listed below are a few typical AMOCO Mesaverde pit soil analyses comparing headspace to Benzene and total BTEX results.

LOCATION	HEADSPACE (ppm)	BENZENE (ppm)	TOTAL BTEX (ppm)
L.C. Kelly #6A	**833**	**0.033**	**2.857**
Johnston LS 7	**998**	**0.017**	**24.985**
Neil LS 7A	**819**	**0.282**	**0.440**

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

Based upon the information given, we conclude that the subsurface lateral impact from the earthen pit is very limited and that the shale 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:	4 @ 5'	Date Analyzed:	09-20-96
Project Location:	Chris # 1A	Date Reported:	09-20-96
Laboratory Number:	TPH-1826	Sample Matrix:	Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
Total Recoverable Petroleum Hydrocarbons	**410**	**20**

ND = Not Detectable at stated detection limits.

QA/QC:

QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
4640	4400	5.31

*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: Blow Pit - CA438

Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Conoco	Project #:	04034
Sample ID:	4 @ 5'	Date Reported:	09-23-96
Laboratory Number:	A580	Date Sampled:	09-20-96
Chain of Custody:	4906	Date Received:	09-23-96
Sample Matrix:	Soil	Date Analyzed:	09-23-96
Preservative:	Cool	Date Extracted:	09-23-96
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**136**	**11.7**
Toluene	**409**	**11.1**
Ethylbenzene	**704**	**10.1**
p,m-Xylene	**13,000**	**14.4**
o-Xylene	**3,380**	**6.9**
Total BTEX	**17,600**	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**99 %**
	Bromofluorobenzene	**98 %**

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1994.

Comments: **Chris #1A Blow Pit.**

Analyst

Review

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

4906

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
BLAGG / CONOCO	BLOW PIT CHRIS # 1A	

Sampler: (Signature): Nelson Velez

Chain of Custody Tape No.: 04034

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8020)						Remarks
⑦ @ 5'	9/20/96	0840	A580	SOIL	1	✓						PRESERV. - COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	9/20/96	1555	J. C. Blagg	9-20-96	1555
J-C-Blagg	9-23-96	0722	Delores L. Quintana	9-23-96	722
Relinquished by: (Signature)			Received by: (Signature)		

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

san juan repro Form 578-81

CA 438

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: CHRIS #1A

Location: Unit or Qtr/Qtr Sec F Sec 15 T27N R3W County RIO ARRIBA

Land Type: RANGE

Date Remediation Started: 9/20/96 **Date Completed:** 8/18/97

Remediation Method: Landfarmed X Approx. cubic yards 190

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

Final Closure Sampling:

Sampling Date: 8/14/97 Time: 1245

Sample Results:

Field Headspace (ppm) 0.0

TPH (ppm) 0.5 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: Lee C. Mandell DATE: 9-2-97

CLIENT: CONOCO

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

LOCATION NO: CA 438
C.O.C. NO: 5145

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: CHRIS WELL #: 1A PITS: PROD, BLOW
QUAD/UNIT: F SEC: 15 TWP: 27N RNG: 3W PM: NM CNTY: RA ST: NM
QTR/FOOTAGE: 1620' FNL 1850' FWL CONTRACTOR: ACME

DATE STARTED: 8/14/97
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: NV

SOIL REMEDIATION:
REMEDIATION SYSTEM: LANDFARMED
APPROX. CUBIC YARDAGE: 190
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

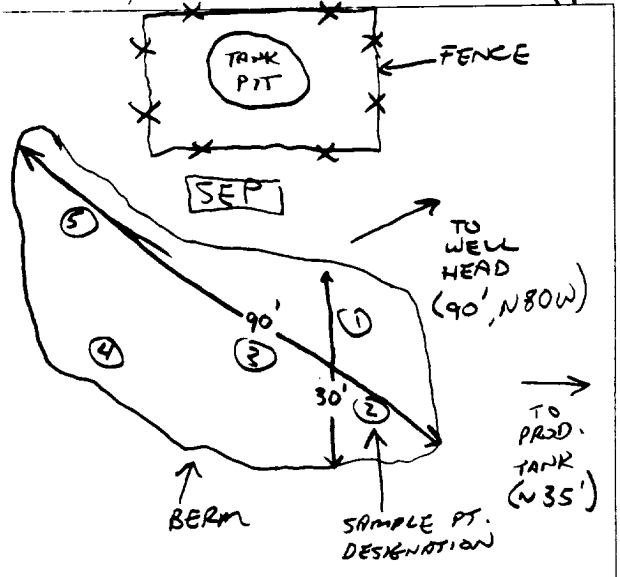
VARYING COLOR FROM PALE ORANGE TO DUSKY RED CLAY W/ SOME BEDROCK, DRY TO SLIGHTLY MOIST, STIFF TO VERY HARD, NO APPARENT HC ODOR OBSERVED W/ IN OVM SAMPLE. 5 PT. COMPOSITE COLLECTED FOR LAB ANALYSIS.

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

SAMPLE ID	FIELD HEADSPACE PID (ppm)
LF-1	0.0

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	TPH (8015)	1245	0.5

SCALE
0 FT

TRAVEL NOTES: CALLOUT: NA ONSITE: 8/14/97

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:	08-15-97
Laboratory Number:	B845	Date Sampled:	08-14-97
Chain of Custody No:	5145	Date Received:	08-14-97
Sample Matrix:	Soil	Date Extracted:	08-15-97
Preservative:	Cool	Date Analyzed:	08-15-97
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**ND**	**0.2**
Diesel Range (C10 - C28)	**0.5**	**0.1**
Total Petroleum Hydrocarbons	**0.5**	**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: **Chris #1A Landfarm. 5 Pt. Composite.**

Analyst

Review

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

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
BLAGG/CONOCO	LANDFARM CHRIS #1A	

Sampler: (Signature)	Chain of Custody Tape No.
Nelson Velez	04034-10

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH (8015)						Remarks
												PRESERV. - COOL
LF - 1	8/14/97	1245	B845	SOIL	1	✓						5 PT. COMPOSITE
				Samples received cool & intact								

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	8/14/97	1641	Karen L. Gipson	8/14/97	1641
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