

**Operator:** Amoco Production Company **Telephone:** (505) - 326-9200

**Address:** 200 Amoco Court, Farmington, New Mexico 87401

**Facility or:** FRED FEASEL E #1  
**Well Name**

**Location:** Unit or Qtr/Qtr Sec K Sec 32 T28N R10W County SAN JUAN

**Pit Type:** Separator Dehydrator Other Blow

**Land Type:** BLM X, State , Fee , Other

**Pit Location:** Pit dimensions: length 30', width 30', depth 2'  
(Attach diagram)

**Reference:** wellhead X, other

**Footage from reference:** 100

**Direction from reference:** 75 Degrees X East North  
of  
West South X

**Depth To Ground Water:** Less than 50 feet (20 points)  
(Vertical distance from 50 feet to 99 feet (10 points)  
contaminants to seasonal Greater than 100 feet (0 Points) 0  
high water elevation of  
ground water)

**Wellhead Protection Area:** Yes (20 points)  
(Less than 200 feet from a private No (0 points) 0  
domestic water source, or; less than  
1000 feet from all other water sources)

**Distance To Surface Water:** Less than 200 feet (20 points)  
(Horizontal distance to perennial 200 feet to 1000 feet (10 points)  
lakes, ponds, rivers, streams, creeks, Greater than 1000 feet (0 points) 0  
irrigation canals and ditches)

**RANKING SCORE (TOTAL POINTS):** 0

Date Remediation Started: \_\_\_\_\_ Date Completed: 2-17-95

Remediation Method: Excavation X Approx. cubic yards 60  
 (Check all appropriate sections) Landfarmed \_\_\_\_\_ Insitu Bioremediation \_\_\_\_\_  
 Other compost

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

General Description Of Remedial Action: \_\_\_\_\_

Excavation to bedrock -

Ground Water Encountered: No X 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 2'

Sample date 2-17-95 Sample time \_\_\_\_\_

Sample Results

Benzene(ppm) \_\_\_\_\_

Total BTEX(ppm) \_\_\_\_\_

Field headspace(ppm) 156

TPH 72 ppm

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 2-23-95

SIGNATURE B. Shaw

PRINTED NAME  
AND TITLE

Buddy D. Shaw  
Environmental Coordinator

RESULTS TO JOHNNY 2-20-85 AEO

CLIENT: <u>Amoco</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>80223</u> C.O.C. NO: <u>—</u>
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## FIELD REPORT: PIT CLOSURE VERIFICATION

LOCATION: NAME: FRED FEARSEL E WELL #:	1	PIT: BLOW	DATE STARTED: 2-17-95
QUAD/UNIT: K	SEC: 32	TWP: 28N	DATE FINISHED: _____
	RNG: 10W	BM: NM	
CNTY: SJ	ST: NM		
GTR/FOOTAGE: NE / SW	CONTRACTOR: EPC		ENVIRONMENTAL SPECIALIST: REO

EXCAVATION APPROX. 30 FT. x 30 FT. x 2 FT DEEP. CUBIC YARDS: 60  
DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: COMPOST  
LAND USE: RANGE LEASE: SF-046563 FORMATION: \_\_\_\_\_

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 100 FEET S75°E FROM WELLHEAD.  
DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'  
NMOC RANKING SCORE: 0 NMOC TPH CLOSURE STD: 5000 PPM

SOIL AND EXCAVATION DESCRIPTION: PIT DISPOSITION: ACTIVE

PIT EXCAVATED TO SANDSTONE BEDROCK. - SIDE SAMPLES AT BOTTOM,  
SOME SURFACE CONTAMINATION REMAINS OUTSIDE OF PIT TO SOUTH -  
APPEARS TO BE FROM A BLOW LINE.

5-6-96	NO SOIL ON LOCATION
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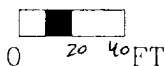
RISK ASSESSED

BECKROCK

FIELD 418.1 CALCULATIONS

SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
ES@2'	1376	10.0	20.0	—	36	72

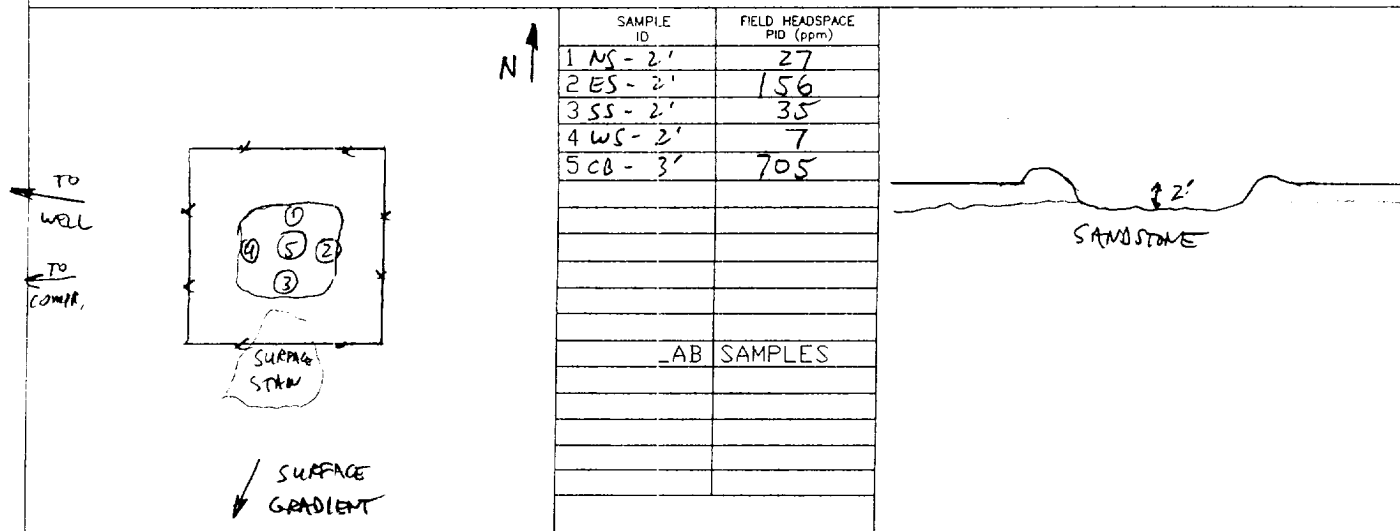
SCALE



PIT PERIMETER

## OVM RESULTS

PIT PROFILE



TRAVEL NOTES: CALLOUT: 2-16-95 ONSITE: 2-17-95

**Well Name:**

Well Site location:

Pit Type:

Producing Formation:

Pit Category:

Horizontal Distance to Surface Water:

Vicinity Groundwater Depth:

**Fred Feasel E #1**

Unit K, Sec. 32, T28N, R10W

Blow Pit

Pictured Cliffs

Area III

&gt; 1000 ft.

&gt; 100 ft.

**RISK ASSESSMENT**

Pit remediation activities were terminated when trackhoe encountered sandstone bedrock at 2 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 2 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 Pictured Cliffs type locations do not reflect direct correlation to total BTEX per USEPA Method 8020 concentrations. Listed below are several typical AMOCO Pictured Cliffs pit soil analyses comparing headspace to Benzene and total BTEX results.

LOCATION	HEADSPACE (ppm)	BENZENE (ppm)	TOTAL BTEX (ppm)
E.E. Elliott C2	649	ND	26.330
Elliott GC L1	808	ND	14.073
W.D. Heath A13	1069	ND	4.455
Daum LS #4	564	0.034	10.725

The comparisons listed above demonstrates that headspace testing is not an accurate measurement to Benzene or total BTEX concentrations when above standards for Pictured Cliffs 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 permeable 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). AMOCO requests pit closure approval on this location.

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>80223</u> C.O.C. NO: <u>5648</u>
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# FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: <u>FRED FEASEL E</u> WELL #: <u>1</u> PITS: <u>Blow</u>	DATE STARTED: <u>12.5.97</u>
QUAD/UNIT: <u>(K)</u> SEC: <u>32</u> TWP: <u>28N</u> RNG: <u>10W</u> PM. NM CNTY: <u>SS</u> ST: <u>NM</u>	DATE FINISHED: _____
SITE/ESTAGE: <u>NE/4 SW/4</u> CONTRACTOR: <u>E.P.C.</u>	ENVIRONMENTAL SPECIALIST: <u>NV/EP</u>

SOIL REMEDIATION:	
REMEDICATION SYSTEM: <u>LANDFARM</u>	APPROX. CUBIC YARDAGE: <u>60</u>
LAND USE: <u>RANGE</u>	LIFT DEPTH (ft): <u>NA</u>

FIELD NOTES & REMARKS:

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

NMOC PANKING SCORE: 0 NMOC TPH CLOSURE STD: 5000 PPM

SOIL IS A DRY DARK YELLOW WITH LIGHT BROWN SILTY SAND.

NO STAIN OR HC ODOR.

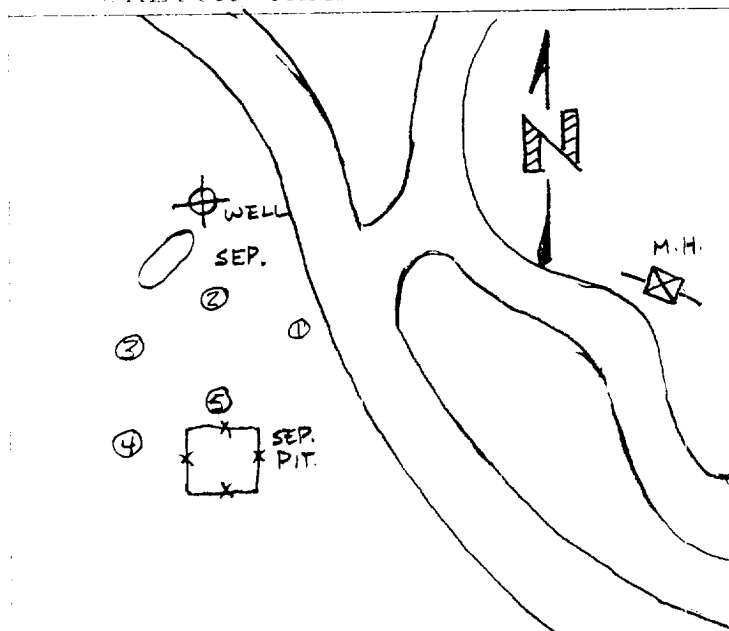
TOOK 5 PT. COMPOSITE SAMPLE FOR LAB ANALYSIS.

MATERIAL WAS ORIGINALLY COMPOSTED, ACTUAL LANDFARM WAS NOT OBSERVED ON WELL SITE.

## 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)	SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	0.0	LF-1	8015	0910	ND

## SCALE

0 FT

TRAVEL NOTES:	CALC OUT: <u>N/A</u>	ONSITE: <u>12.5.97</u> <u>0910</u>
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# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

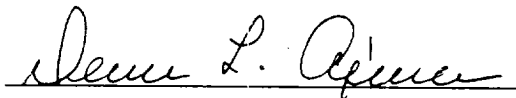
Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	LF - 1	Date Reported:	12-16-97
Laboratory Number:	C689	Date Sampled:	12-05-97
Chain of Custody No:	5648	Date Received:	12-15-97
Sample Matrix:	Soil	Date Extracted:	12-15-97
Preservative:	Cool	Date Analyzed:	12-15-97
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

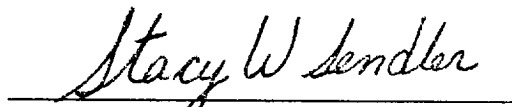
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Feasel, Fred E #1 Landfarm. 5 Pt. Composite.

  
Analyst

  
Review

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