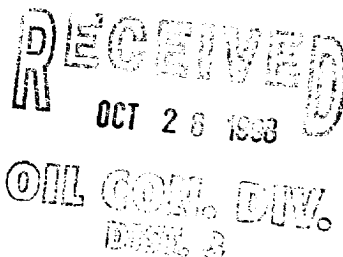


BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413

Phone: (505)632-1199 Fax: (505)632-3903



October 20, 1998

Mr. Denny Foust
New Mexico Oil Conservation Division
1000 Rio Brazos Rd.
Aztec, New Mexico 87410

Re: Amoco Production Company - GCU Com C No. 144
NW/4 SW/4 (L) Sec 16-T29N-R12W
San Juan County, New Mexico

Dear Mr. Foust:

Blagg Engineering, Inc. (BEI) has monitored the reclamation efforts conducted by Amoco Production Company (Amoco) during cleanup of a hydrocarbon spill at the captioned gas well location. A spill of hydrocarbons to the environment was discovered as the result of vandalism to a 300 barrel tank during the weekend of October 3-4, 1998. Amoco initiated a spill report to your office immediately following discovery of the vandalism. Attached, please find a closure verification field report and associated laboratory reports documenting remediation of the spill. Note that contamination impacts were limited to soils within the bermed area of the above ground tank and no groundwater, surface water or storm water runoff channels were found to be impacted.

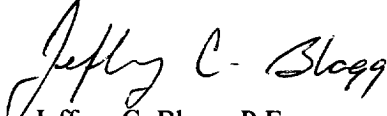
BEI inspected the site on October 8, 1998 following excavation of hydrocarbon contaminated soils within the bermed area of the tank. On this date, an excavation immediately adjacent to the above ground tank with approximate dimensions 24' x 12' x 8' deep was observed. The side walls of the excavation were comprised of unconsolidated silty sand and the excavation bottom was of large river cobbles/boulders. Minor hydrocarbon staining was observed on the sidewalls of the excavation and in the soils surrounding the cobbles. BEI obtained samples of the sidewalls and bottom for field OVM PID screening and recorded a sidewall headspace value of 214 ppm and a pit bottom headspace value of 477 ppm. A split sample from the pit bottom at the 8' depth was submitted to Envirotech Laboratories for further testing. The Envirotech lab recorded a TPH value of 960 ppm and a total BTEX value of 115.76 ppm. Note that this spill is in a non-vulnerable area with a closure standard of 5,000 ppm TPH.

Further excavation of the pit bottom was conducted on October 15, 1998. Excavations were advanced to a depth of 10 feet below grade and hard sandstone was encountered. Referencing our telephone communication on October 15, it was determined that the sandstone bedrock would be sufficient to impede further hydrocarbon migration and additional remediation would not be required.

The excavated soils from the impacted area were landfarmed on site in a dedicated bermed area. Approximately 100 cubic yards of soils were excavated during the remediation. Clean fill soils were transported to the site on October 19, 1998 and the excavation was backfilled. The landfarm will be periodically monitored and you will be notified when these soils meet closure standards of 5,000 ppm TPH, 10 ppm Benzene and 50 ppm total BTEX.

Questions or comments concerning this transmittal may be directed to Jeff Blagg of Blagg Engineering at (505)632-1199.

Respectfully submitted:
Blagg Engineering, Inc.


Jeffrey C. Blagg, P.E.
President

Attachment: Lab Reports
Site Diagrams

cc: B.D. Shaw-Amoco SJ Op Center

CLIENT: <u>Amoco</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: _____ C.D.C. NO: <u>6346</u>
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FIELD REPORT: CLOSURE VERIFICATION	PAGE No: <u>1</u> of <u>1</u>
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LOCATION: NAME: <u>GCU Com C</u> WELL #: <u>144</u> PIT: <u>NONE - TANK SPILL</u> QUAD/UNIT: SEC: <u>16</u> TWP: <u>29N</u> RNG: <u>12W</u> PM: <u>NM</u> CNTY: <u>SJ</u> ST: <u>NM</u> QTR/FOOTAGE: <u>NW/4 SW/4</u> CONTRACTOR: _____	DATE STARTED: <u>10-8-98</u> DATE FINISHED: <u>10-19-98</u> ENVIRONMENTAL SPECIALIST: <u>JCB</u>
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EXCAVATION APPROX. <u>24</u> FT. x <u>12'</u> FT. x <u>10'</u> FT. DEEP.	CUBIC YARDAGE: <u>100±</u>	
DISPOSAL FACILITY: <u>ON SITE</u>	REMEDIAATION METHOD: <u>ON SITE LANDFARM</u>	
LAND USE: <u>RANGE</u>	LEASE: <u>STATE B- 9145</u>	FORMATION: <u>DAKOTA</u>

FIELD NOTES & REMARKS:	PIT LOCATED APPROXIMATELY <u>160</u> FT. <u>N22°E</u> FROM WELLHEAD. DEPTH TO GROUNDWATER: <u>>100</u> NEAREST WATER SOURCE: <u>>1000</u> NEAREST SURFACE WATER: <u>>1000</u> NMDCD RANKING SCORE: <u>0</u> NMDCD TPH CLOSURE STD: <u>5,000</u> PPM SOIL AND EXCAVATION DESCRIPTION:
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CHECK ONE:	
<input type="checkbox"/>	PIT ABANDONED
<input type="checkbox"/>	STEEL TANK INSTALLED
<input type="checkbox"/>	FIBERGLASS TANK INSTALLED

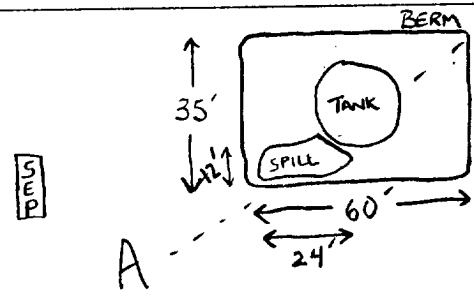
TANK SPILL FROM VANDALISM - HOLES SHOT INTO TANK. UNCONSOLIDATED SAND FROM 0'-6'. MEDIUM TO LARGE COBBLES FROM 6'-9' DEPTH. HARD SANDSTONE @ 9' DEPTH - could not Penetrate with BACKHOE

FIELD 418.1 CALCULATIONS

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



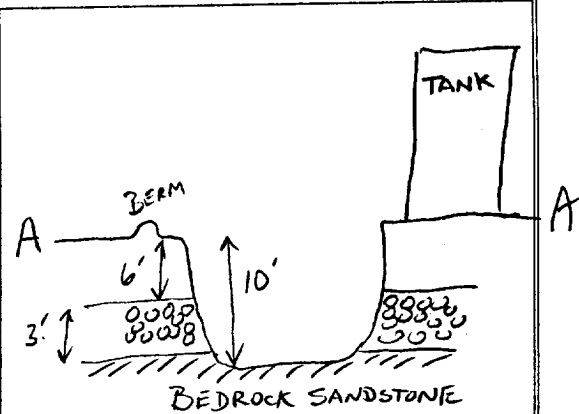
PIT PERIMETER



OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 Soil @ 6" = 214	
2	
3 Center @ 8" = 477	
4	
5	

PIT PROFILE



SAMPLE ID	ANALYSIS	TIME
Center @ 8"	8015/8021	

TRAVEL NOTES:	CALLOUT: _____	ONSITE: _____
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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

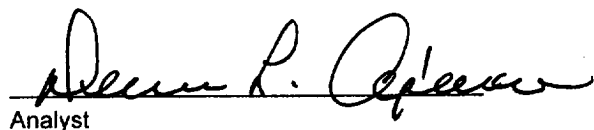
Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	Tank Spill C @ 8'	Date Reported:	10-09-98
Laboratory Number:	E036	Date Sampled:	10-08-98
Chain of Custody No:	6346	Date Received:	10-08-98
Sample Matrix:	Soil	Date Extracted:	10-08-98
Preservative:	Cool	Date Analyzed:	10-08-98
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	725	0.2
Diesel Range (C10 - C28)	235	0.1
Total Petroleum Hydrocarbons	960	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: GCU Com C #144.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	10-08-TPH QA/QC	Date Reported:	10-09-98
Laboratory Number:	E036	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-08-98
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	04-28-98	4.9098E-002	4.9054E-002	0.09%	0 - 15%
Diesel Range C10 - C28	04-28-98	3.9029E-002	3.9005E-002	0.06%	0 - 15%

Blank Conc. (mg/L - mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

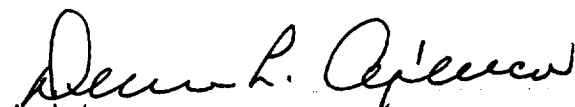
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	725	719	0.8%	0 - 30%
Diesel Range C10 - C28	235	233	0.8%	0 - 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	725	250	973	100%	75 - 125%
Diesel Range C10 - C28	235	250	484	100%	75 - 125%

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: QA/QC for samples E036 - E040.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	Tank Spill C @ 8'	Date Reported:	10-09-98
Laboratory Number:	E036	Date Sampled:	10-08-98
Chain of Custody:	6346	Date Received:	10-08-98
Sample Matrix:	Soil	Date Analyzed:	10-08-98
Preservative:	Cool	Date Extracted:	10-08-98
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	1,890	8.8
Toluene	32,770	8.4
Ethylbenzene	17,020	7.6
p,m-Xylene	39,320	10.8
o-Xylene	24,760	5.2
Total BTEX	115,760	

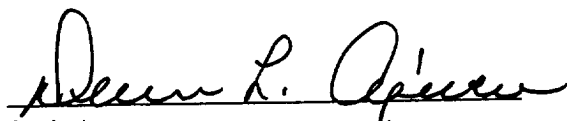
ND - Parameter not detected at the stated detection limit.

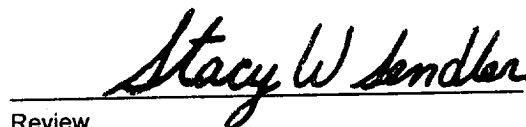
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	98 %
	Bromofluorobenzene	98 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: GCU Com C #144.


Analyst


Review

6346

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