

District I
700 Box 1980, Hobbs, NM
District II
P.O. Drawer DD, Artesia, NM 88211
District III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department
OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

80254
SUBMIT 1 COPY TO
APPROPRIATE
DISTRICT OFFICE
AND 1 COPY TO
SANTA FE OFFICE
DEPUTY OIL & GAS INSPECTOR
SEP 19 1996

PIT REMEDIATION AND CLOSURE REPORT

Approved

Operator: Amoco Production Company Telephone: (505) - 326-9200
Address: 200 Amoco Court, Farmington, New Mexico 87401
Facility Or: 6CU 165
Well Name
Location: Unit or Qtr/Qtr Sec H Sec 29 T28N R12W County SAN JUAN
Pit Type: Separator Dehydrator Other BLOW
Land Type: BLM, State, Fee, Other UNIT AGMT.

Pit Location: Pit dimensions: length 30', width 20', depth 6-10'
(Attach diagram) Reference: wellhead X, other
Footage from reference: 300
Direction from reference: 45 Degrees East North X
of
X West South

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) 20
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): 20

Date Remediation Started: _____ Date Completed: 3-31-95

Remediation Method: Excavation X Approx. cubic yards 150
(Check all appropriate sections) Landfarmed X Insitu Bioremediation _____
Other _____

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

General Description Of Remedial Action: _____

Excavation - to BEDROCK Bottom

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 3'

Sample date 3-31-95 Sample time _____

Sample Results

Benzene(ppm) _____

Total BTEX(ppm) _____

Field headspace(ppm) 58

TPH 800 ppm - SAND STONE

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 5-3-95

SIGNATURE

B. Shaw

PRINTED NAME
AND TITLE

Buddy D. Shaw
Environmental Coordinator

N A P I

CLIENT: <u>Amo Co</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>80254</u> C.O.C. NO: <u>—</u>
-----------------------	--	--

FIELD REPORT: PIT CLOSURE VERIFICATION

LOCATION: NAME: 6C4	WELL #: 165	PIT: 8LOW	DATE STARTED: 3-31-95
QUAD/UNIT: H	SEC: 29	TWP: 28N	DATE FINISHED:
	RNG: 12W	BM: NM	
QTR/FOOTAGE: SE/NE	CONTRACTOR: MOSS		ENVIRONMENTAL SPECIALIST: R E O

EXCAVATION APPROX. 30 FT. x 20 FT. x 6-10 FT. DEEP. CUBIC YARDS: 150
DISPOSAL FACILITY: ON SITE REMEDIATION METHOD: LANDFARM
LAND USE: RANGE / AGR. LEASE: 07882A - A FORMATION: Saltina

FIELD NOTES & REMARKS:	PIT LOCATED APPROXIMATELY <u>300</u> FEET <u>N45°W</u> FROM WELLHEAD.		
DEPTH TO GROUNDWATER: <u>450'</u>	NEAREST WATER SOURCE: <u>71000'</u>	NEAREST SURFACE WATER: <u>>1000'</u>	
NMOC RANKING SCORE: <u>20</u>	NMOC TPH CLOSURE STD: <u>100</u> PPM		

SOIL AND EXCAVATION DESCRIPTION: PIT DISPOSITION: ABANDONED

PIT EXCAVATED INTO SANDSTONE BEDROCK. REDDISH, ORANGE, LIGHT BROWN SOIL MIXTURE.
SAMPLES COLLECTED FROM SOFT + HARD SANDSTONE. SAND/GRAVEL MIX IN SANDSTONE.

NOTE: IRRIGATED FIELDS TO EAST ~ 1000'

BEDROCK
CLOSURE

FIELD 418.1 CALCULATIONS

SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
WSe 3'	1933	10.0	20.0	-	400	800

SCALE

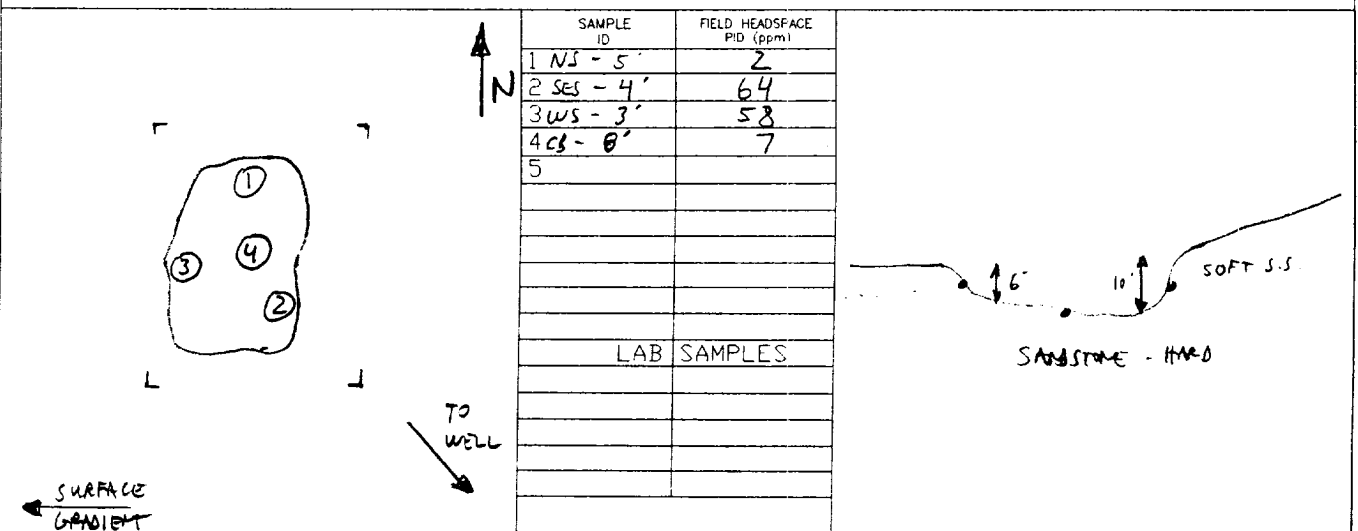


0 10 20 FT

PIT PERIMETER

OVM RESULTS

PIT PROFILE



TRAVEL NOTES: CALLOUT: 3-30-95 ONSITE: 3-31-95 0800

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:	Amoco	Project #:	
Sample ID:	West Side @ 3'	Date Analyzed:	3-31-95
Project Location:	GCU 165	Date Reported:	3-31-95
Laboratory Number:	TPH-1433	Sample Matrix:	Soil

Parameter -----	Result, mg/kg -----	Detection Limit, mg/kg -----
Total Recoverable Petroleum Hydrocarbons	800	10

ND = Not Detectable at stated detection limits.

QA/QC:	QA/QC Sample TPH mg/kg -----	Duplicate TPH mg/kg -----	% *Diff. -----
	14,000	13,000	7

*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 - B0254

R. E. O'Neill
Analyst

Review

80254

District I

P.O. Box 1980, Hobbs, NM

District II

P.O. Drawer DD, Artesia, NM 88211

District III

1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

SUBMIT 1 COPY TO
APPROPRIATE
DISTRICT OFFICE
AND 1 COPY TO
SANTA FE OFFICE

PIT REMEDIATION AND CLOSURE REPORTOperator: Amoco Production Company Telephone: (505) - 326-9200Address: 200 Amoco Court, Farmington, New Mexico 87401Facility Or: 604 165
Well NameLocation: Unit or Qtr/Qtr Sec H Sec 29 T28N R 12W County SAN JUANPit Type: Separator X Dehydrator Other Land Type: BLM , State , Fee , Other UNLT AGMT.Pit Location: Pit dimensions: length 40', width 40', depth 16'
(Attach diagram)Reference: wellhead X, other Footage from reference: 125Direction from reference: 25 Degrees X East North X
of
 West South **Depth To Ground Water:**(Vertical distance from
contaminants to seasonal
high water elevation of
ground water)

Less than 50 feet (20 points)
50 feet to 99 feet (10 points)
Greater than 100 feet (0 Points) 20

Wellhead Protection Area:(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) 0

Distance To Surface Water:(Horizontal distance to perennial
lakes, ponds, rivers, streams, creeks,
irrigation canals and ditches)

Less than 200 feet (20 points)
200 feet to 1000 feet (10 points)
Greater than 1000 feet (0 points) 0

RANKING SCORE (TOTAL POINTS): 20

Date Remediation Started: 4-12-95 Date Completed: 5-1-95

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

Excavation - INTO WATER - APPEARS TO BE PERIODIC

WATER PUMPED SEPARATE TINES + DISPOSED OF BY OIL FIELD WATER DISPOSAL.

Ground Water Encountered: No ☐ Yes ☒ Depth 15'

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

SEVERAL WATER SAMPLES COLLECTED OVER 3 WEEKS

Sample depth _____

Sample depth

Sample date _____ Sample time _____

Sample Results

Benzene (ppm)

Total BTEX (ppm)

Field headspace (ppm)

TPH

Ground Water Sample: Yes X No (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 5-3-95

SIGNATURE

B. Shaw

PRINTED NAME
AND TITLE

Buddy D. Shaw
Environmental Coordinator

TRAVEL NOTES: CALLOUT: 4-12-95 ONSITE: 4-12-95 1330, 4-17, 4-20

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID: GCU 165
Sample ID: Pit Water
Lab ID: 0827
Sample Matrix: Water
Preservative: Cool, HgCl₂
Condition: Intact

Report Date: 04/13/95
Date Sampled: 04/12/95
Date Received: 04/12/95
Date Analyzed: 04/12/95

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	916	40.0
Toluene	2,140	40.0
Ethylbenzene	205	40.0
m,p-Xylenes	2,430	80.0
o-Xylene	563	40.0

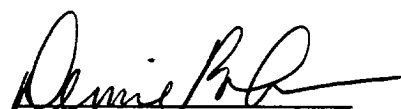
Total BTEX	6,260
-------------------	--------------

ND - Analyte not detected at the stated detection limit.

Quality Control:	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Trifluorotoluene	105	88 - 110%
	Bromofluorobenzene	96	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:


Analyst


Review

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID: GCU 165
Sample ID: Pit Water
Lab ID: 0837
Sample Matrix: Water
Preservative: Cool, HgCl₂
Condition: Intact

Report Date: 04/17/95
Date Sampled: 04/17/95
Date Received: 04/17/95
Date Analyzed: 04/17/95

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	84.2	10.0
Toluene	368	10.0
Ethylbenzene	36.4	10.0
m,p-Xylenes	369	20.0
o-Xylene	98.1	10.0

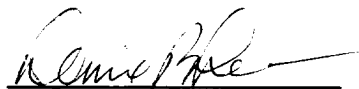
Total BTEX	956
-------------------	------------

ND - Analyte not detected at the stated detection limit.

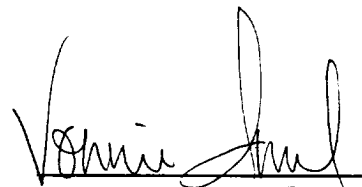
Quality Control:	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Trifluorotoluene	99	88 - 110%
	Bromofluorobenzene	94	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209,
Oct. 1984.

Comments:



Analyst



Review

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID: GCU 165
Sample ID: Pit Water
Lab ID: 0873
Sample Matrix: Water
Preservative: Cool, HgCl₂
Condition: Intact

Report Date: 04/24/95
Date Sampled: 04/20/95
Date Received: 04/20/95
Date Analyzed: 04/21/95

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	43.7	2.00
Toluene	212	2.00
Ethylbenzene	11.9	2.00
m,p-Xylenes	204	4.00
o-Xylene	61.8	2.00

Total BTEX	534
-------------------	------------

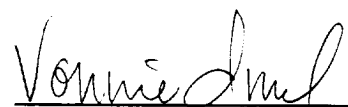
ND - Analyte not detected at the stated detection limit.

Quality Control:	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Trifluorotoluene	97	88 - 110%
	Bromofluorobenzene	92	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:


Analyst


Review

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID: GCU 165
Sample ID: Pit Water
Lab ID: 0897
Sample Matrix: Water
Preservative: Cool, HgCl₂
Condition: Intact

Report Date: 04/26/95
Date Sampled: 04/25/95
Date Received: 04/25/95
Date Analyzed: 04/26/95

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	19.8	2.00
Toluene	180	2.00
Ethylbenzene	11.5	2.00
m,p-Xylenes	184	4.00
o-Xylene	67.9	2.00

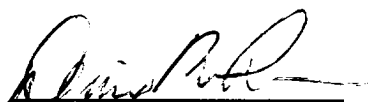
Total BTEX	464
-------------------	------------


ND - Analyte not detected at the stated detection limit.

Quality Control:	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Trifluorotoluene	101	88 - 110%
	Bromofluorobenzene	95	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:


Analyst


Review

OFF: (505) 325-8786



LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn: *R.E. O'Neill*
Company: *Blagg Engineering, Inc.*
Address: *P.O. Box 87*
City, State: *Bloomfield, NM 87413*

Date: *5/2/95*
Lab ID: *2927*
Sample ID: *6160*
Job No. *2-1000*

Project Name: *GCU 165*
Project Location: *Pit Water - Sep. Pit*
Sampled by: *REO* Date: *5/1/95*
Analyzed by: *DC* Date: *5/1/95*
Sample Matrix: *Water*

Time: *8:00*

Aromatic Volatile Organics

Component	Measured Concentration ug/L	Detection Limit Concentration ug/L
<i>Benzene</i>	<i>2.5</i>	<i>0.2</i>
<i>Toluene</i>	<i>2.0</i>	<i>0.2</i>
<i>Ethylbenzene</i>	<i>5.5</i>	<i>0.2</i>
<i>m,p-Xylene</i>	<i>125.8</i>	<i>0.2</i>
<i>o-Xylene</i>	<i>33.9</i>	<i>0.2</i>
	<i>TOTAL 169.6 ug/L</i>	

ND - Not Detectable

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: *Da 4*
Date: *5/2/95*

Well Name:

Well Site location:

Pit Type:

Producing Formation:

Pit Category:

Horizontal Distance to Surface Water:

Vicinity Groundwater Depth:

GCU #165

Unit H, Sec. 29, T28N, R12W

Separator Pit

Basin Dakota

Vulnerable Area

> 1000 ft.

< 50 ft.

RISK ASSESSMENT

Pit remediation activities were terminated when trackhoe encountered sandstone bedrock between 6 to 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 sandstone bedrock located 6 to 10 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. However, according to the pit closure report for the separator pit on site (located approximately 270 feet northeast), there appears to be seasonal groundwater at approximately 15 feet below grade due to nearby irrigation.
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 (double sidewall steel tank installed). 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 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.