

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

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

OIL CONSERVATION DIVISION

P.O. Box 2088  
Santa Fe, New Mexico 87504-2088  
DEPUTY OIL & GAS INSPECTOR

Revised 3/9/94

PIT REMEDIATION AND CLOSURE REPORT

DEC 11 5 1995

Operator: BHP PETROLEUM (AMERICAS) INC. Telephone: (505) 327-1639

Address: P.O. BOX 977 FARMINGTON, NEW MEXICO 87499

Facility Or: GALLEGOS CANYON UNIT #306 SWD  
Well Name

Location: Unit or Qtr/Qtr Sec NE/SE Sec 19 T 29N R 12W County SAN JUAN

Pit Type: Separator    Dehydrator    Other EMERGENCY OVERFLOW

Land Type: BLM   , State   , Fee X, Other   

Pit Location: Pit dimensions: length 60', width 60', depth 4'  
(Attach diagram)

Reference: wellhead   , other WATER STORAGE TANKS

Footage from reference: 25'

Direction from reference:    Degrees    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) 10  
Greater than 100 feet (0 Points)

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) 0  
No (0 points)

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) 10  
Greater than 1000 feet (0 points)

RANKING SCORE (TOTAL POINTS):

20

Date Remediation Started: SEPTEMBER 12, 1995 Date Completed: NOVEMBER 8, 1995

Remediation Method: Excavation      Approx. cubic yards 533  
(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: EXCAVATED APPROX. 5' DEPTH OF BOT-  
TOM & 2' OF SIDE WALLS, REMOVED ALL CONTAMINATED SOIL. SOIL FROM THE PIT WAS  
THEN SPREAD ON LOCATION FROM 8" TO 1' DEEP TO LAND FARM. WE THEN DILUTED WITH  
CLEAN SOIL TO BELOW THE SPECIFIC REMEDIATION LEVEL OF TPH 100 PPM. PIT WAS THEN  
CLOSED BY BACKFILLING AND CONTOURING. BHP TERMINATED REMEDIAL ACTION AFTER A  
FINAL COMPOSITE SOIL SAMPLE WAS TAKEN AND ANALIZED TO DOCUMENT SUCCESSFUL REM-  
EDIATION HAD OCCURED THE REMEDIATED SOIL WAS THEN USED TO SHAPE THE EXCAVATION.  
Ground Water Encountered: No X Yes      Depth     

Final Pit: Sample location PIT-NORTH WALL, SOUTH WALL, EAST WALL,  
Closure Sampling: WEST WALL AND CENTER OF PIT. 3 SAMPLES FROM FILL SOIL.  
(if multiple samples, attach sample results and diagram of sample locations and depths) Sample depth       
Sample date 10/26/95 BTEX Sample time 10/26/95 9:30AM  
Sample Results 11/02/95 TPH 11/02/95 11:00AM  
Benzene(ppm) L0.008  
Total BTEX(ppm) 0.13  
Field headspace(ppm) NA  
TPH L 20PPM  
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 NOVEMBER 14, 1995

SIGNATURE J.C. Harris

PRINTED NAME  
AND TITLE

J.C. HARRIS  
PRODUCTION SUPERINTENDENT

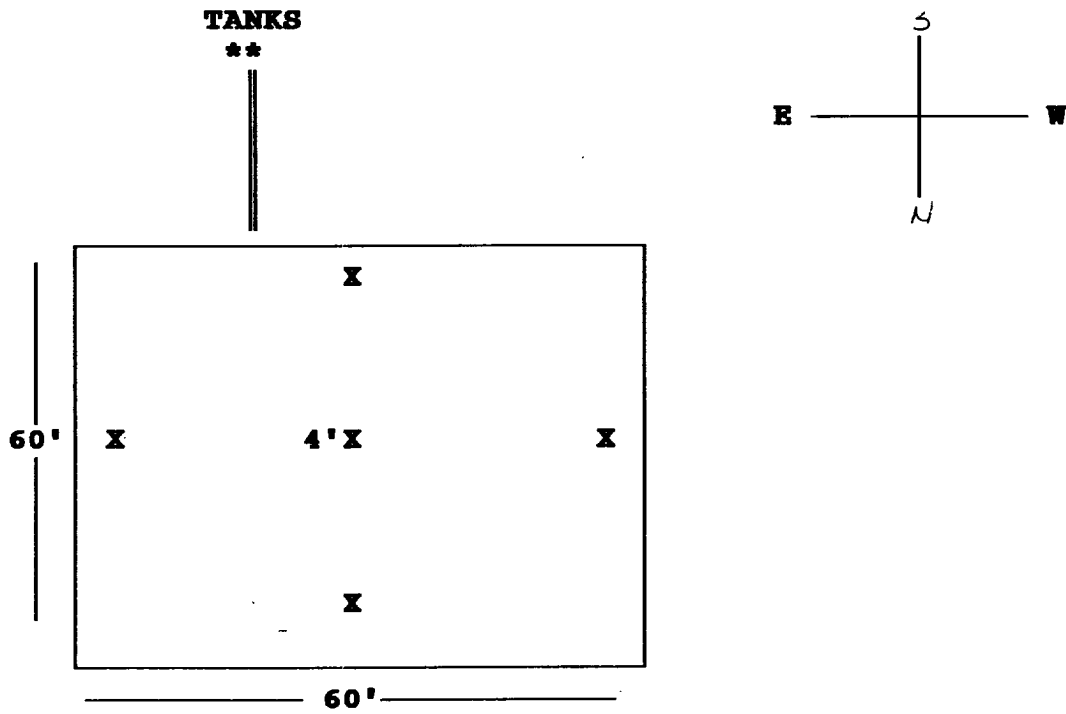
**PIT CLOSURE REPORT**

**GALLEGOS CANYON UNIT #306 SWD**

**FEE**

**2015' FSL 905' FEL**

**SEC 19 - T29N - R12W**



**CONTRACTORS LIST**

**GALLEGOS CANYON UNIT # 306 SWD**

**L.B.H. CONSTRUCTION  
P.O. BOX 213  
AZTEC, NEW MEXICO**

**87410**

# ANALYTICA

ENVIRONMENTAL LABORATORY

Gene Martin  
BHP Petroleum  
PO Box 977  
Farmington, NM 87499

November 6, 1995  
**RECEIVED**  
NOV 20 1995  
**OIL CON. DIV**  
**DIST. 3**

Dear Mr. Martin:

Enclosed are the results for the analysis of the samples, received on October 26, 1995. The samples were received cool and intact and analyzed for Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) and Total Petroleum Hydrocarbons (TPH) as per the chain of custody form. Pit samples were combined to give a five point composite as required by OCD guidelines for pit closure. The fill samples were combined for a three point composite. Additional pit samples were taken and delivered to the laboratory on November 2, 1995, and analyzed for TPH.

The samples were extracted with methanol prior to BTEX analysis. Analysis was performed according to EPA Method 8020, using a Hewlett-Packard 5890 gas chromatograph equipped with an OI Analytical purge and trap (model 4560) and a photoionization detector. Detectable levels of btx analytes were found in the composite samples at levels below the OCD limits as stated in the pit closure guidelines.

TPH analysis was performed according to EPA Method 418.1 following the freon extraction of the composite samples (EPA Method 3550 - Sonication Extraction). The instrument used for the analysis was a BUCK TPH analyzer. Levels of TPH present in the samples are indicated on the report sheets. The pit sample had a TPH level above the 100 ppm limit required by the OCD. The pit was resampled on a week later and TPH levels were below the 100 ppm limit.

GCU 306 can be closed based on the analytical data obtained. Quality control reports appear at the end of the analytical package and can be identified by title. Should you have any questions regarding the reports or the analysis, feel free to call.

Sincerely,

  
Denise A. Bohemier  
Lab Director

## VOLATILE AROMATIC HYDROCARBONS

BHP Petroleum, Inc.

Project ID: GCU 306  
Sample ID: Fill Dirt - Composite  
Lab ID: 1792  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Intact

Report Date: 11/06/95  
Date Sampled: 10/26/95  
Date Received: 10/26/95  
Date Extracted: 11/01/95  
Date Analyzed: 11/01/95

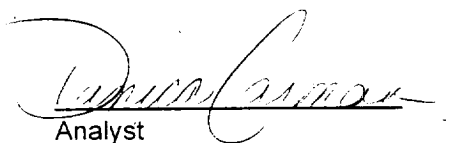
Target Analyte	Concentration (ug/kg)	Detection Limit (ug/kg)
Benzene	ND	21.0
Toluene	24.1	21.0
Ethylbenzene	ND	21.0
m,p-Xylenes	50.4	42.1
o-Xylene	ND	21.0

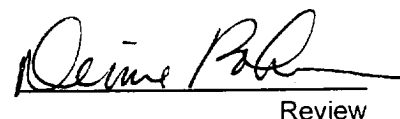
ND - Analyte not detected at the stated detection limit.

Quality Control:	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Trifluorotoluene	104	81 -117%
	Bromofluorobenzene	104	74 -121%

**Reference:** Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics;  
Test Methods for Evaluating Solid Wastes, SW-846, United States  
Environmental Protection Agency, Final Update I, July, 1992.

**Comments:**

  
Analyst

  
Review

## VOLATILE AROMATIC HYDROCARBONS

### BHP Petroleum, Inc.

Project ID: GCU 306  
Sample ID: Pit - Composite  
Lab ID: 1793  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Intact

Report Date: 11/06/95  
Date Sampled: 10/26/95  
Date Received: 10/26/95  
Date Extracted: 11/01/95  
Date Analyzed: 11/01/95

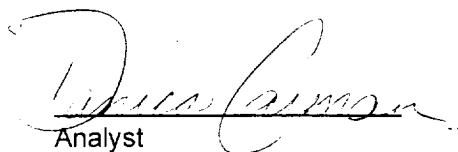
Target Analyte	Concentration (ug/kg)	Detection Limit (ug/kg)
Benzene	ND	8.22
Toluene	31.2	8.22
Ethylbenzene	19.4	8.22
m,p-Xylenes	65.5	16.4
o-Xylene	13.2	8.22

ND - Analyte not detected at the stated detection limit.

<b>Quality Control:</b>	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Trifluorotoluene	104	81 -117%
	Bromofluorobenzene	103	74 -121%

**Reference:** Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics;  
Test Methods for Evaluating Solid Wastes, SW-846, United States  
Environmental Protection Agency, Final Update I, July, 1992.

**Comments:**

  
Analyst

  
Review

## TOTAL PETROLEUM HYDROCARBONS

EPA Method 418.1

BHP Petroleum, Inc.

Project ID: GCU 306  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Intact

Report Date: 11/06/95  
Date Sampled: 10/26/95  
Date Received: 10/26/95  
Date Extracted: 11/01/95  
Date Analyzed: 11/01/95

Sample ID	Lab ID	Concentration (mg/kg)	Detection Limit (mg/kg)
Fill Dirt Composite	1792	ND	19.3
Pit Composite	1793	129	19.7


ND- Analyte not detected at the stated detection limit.

## Reference:

Method 3550 - Sonication Extraction; Test Methods for Evaluating Solid Waste, SW-846, United States Environmental Protection Agency, September, 1986;  
Method 418.1 - Petroleum Hydrocarbons, Total Recoverable; Chemical Analysis of Water and Waste, United States Environmental Protection Agency, 1978.

## Comments:

  
Analyst

  
Review

## TOTAL PETROLEUM HYDROCARBONS

EPA Method 418.1

BHP Petroleum, Inc.

Project ID: GCU 306  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Intact

Report Date: 11/06/95  
Date Sampled: 11/02/95  
Date Received: 11/02/95  
Date Extracted: 11/02/95  
Date Analyzed: 11/02/95

Sample ID	Lab ID	Concentration (mg/kg)	Detection Limit (mg/kg)
Pit - Composite	1836	ND	19.7

ND- Analyte not detected at the stated detection limit.

**Reference:** Method 3550 - Sonication Extraction; Test Methods for Evaluating Solid Waste, SW-846, United States Environmental Protection Agency, September, 1986;  
Method 418.1 - Petroleum Hydrocarbons, Total Recoverable; Chemical Analysis of Water and Waste, United States Environmental Protection Agency, 1978.

**Comments:**



Analyst



Review

## VOLATILE AROMATIC HYDROCARBONS

### Matrix Spike Duplicate Analysis

Lab ID: MB35004Spk  
Sample Matrix: Extract Blank  
Preservative: NA  
Condition: NA

Report Date: 11/06/95  
Date Sampled: NA  
Date Received: NA  
Date Extracted: 11/01/95  
Date Analyzed: 11/01/95

Target Analyte	Spike Added (ug/kg)	Sample Spike Recovery (%)	Duplicate Spike Recovery (%)	Acceptance Limits (%)
Benzene	200	71%	62%	53 - 80
Toluene	200	82%	72%	62 - 92
Ethylbenzene	200	94%	85%	58 - 120
m,p-Xylenes	400	91%	85%	NE
o-Xylene	200	93%	87%	NE

ND - Analyte not detected at the stated detection limit.

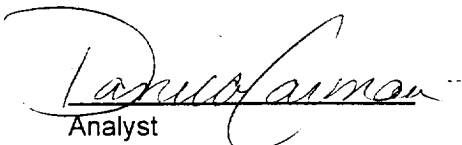
NA - Not applicable or not calculated.

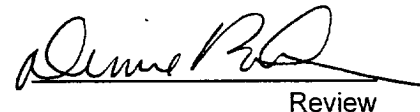
NE - Spike acceptance range not established by the EPA.

Quality Control:	Surrogate	% Recovery	Acceptance Limits
	Trifluorotoluene	102	81-117%
	Bromofluorobenzene	103	74-121%

**Reference:** Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics;  
Test Methods for Evaluating Solid Wastes, SW-846, United States  
Environmental Protection Agency, September 1986.

**Comments:**

  
Analyst

  
Review

## VOLATILE AROMATIC HYDROCARBONS

### Matrix Spike Analysis

Lab ID: MB35004Spk  
Sample Matrix: Soil  
Preservative: NA  
Condition: NA

Report Date: 11/06/95  
Date Sampled: NA  
Date Received: NA  
Date Extracted: 11/01/95  
Date Analyzed: 11/01/95

Target Analyte	Spike Added. (mg/kg)	Original Conc. (mg/kg)	Spiked Sample Conc. (mg/kg)	% Recovery	Acceptance Limits (%)
Benzene	200	0.01	143	71%	39-150
Toluene	200	0.02	165	82%	32-160
Ethylbenzene	200	0.01	187	94%	46-148
m,p-Xylenes	400	0.02	365	91%	NE
o-Xylene	200	0.01	186	93%	NE

ND - Analyte not detected at the stated detection limit.

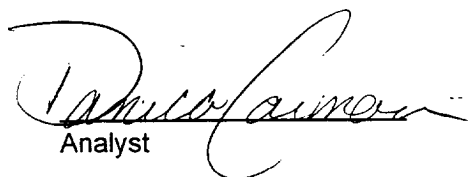
NA - Not applicable or not calculated.

NE - Spike acceptance range not established by the EPA.

<b>Quality Control:</b>	<u>Surrogate</u>	<u>% Recovery</u>	<u>Acceptance Limits</u>
	Trifluorotoluene	103	81 - 117%
	Bromofluorobenzene	103	74 - 121%

**Reference:** Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

**Comments:**

  
Analyst

  
Review