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

Jerry G. Hoyt
DEPUTY OIL & GAS INSPECTOR
AUG 25 1997

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

Approved

PIT REMEDIATION AND CLOSURE REPORT

Operator : Phillips Petroleum Company Telephone: (505) 599-3400

Address: 5525 Hwy. 64, NBU 3004, Farmington, NM 87401

Facility Or: San Juan 29 - 5 Unit # 41
Well Name

Location: Unit or Qtr/Qtr Sec NENE Sec 31 T 29N R 5W County Rio Arriba

Pit Type: Separator X Dehydrator _____ Other _____

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

Pit Location: (Attach diagram)

Pit dimensions: Length 24 ft, width 20 ft, depth 6 ft

Reference-. wellhead X other _____

Footage from reference: 30 ft

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

Depth to Ground Water: (vertical distance from contaminants to seasonal highwater elevation of ground water) 40 ft	X	Less than 50 feet	(20 points)	
	____	50 ft 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)	
	X	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)	
	X	Greater than 1000 feet	(0 points)	0

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DIST. 3

P:\pits\PrrC@.WK3

RANKING SCORE (TOTAL POINTS): 20

Date Remediation Started: 9/19/94 Dated Completed: 2/5/96

Excavation X Approx. cubic yards 174

Landfarmed X Insitu Bioremediation _____

Other _____

Remediation Method: Onsite X Offsite _____

(Check all appropriate sections)

General Description of Remedial Action- Excavated soil was landfarmed on location and tested clean on 4/6/95. Pit closure excavation was performed on 2/5/96 and risk assessment followed 4/16/97. Risk assessment provided pit to be within closure limits (see attached).

Ground Water Encountered: No X Yes _____ Depth _____

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

Sample location West edge of original pit.

Sample depth 20' below ground level, bedrock encountered at 28 ft

Sample date 4/16/97 Sample time 7:35

Sample Results

Benzene(ppm) _____

Total BTEX (PPM) _____

Field Headspace (ppm) 29

TPH Non-Detect

Ground Water Sample: Yes No X (if yes, attach sample results)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETED TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DATE 5-29-97 PRINTED NAME Bob Wirtanen

SIGNATURE Robert A. Wirtanen and TITLE Sr. Safety & Environmental Specialist

Risk Assessment
San Juan 29-5 #41

Depth to Groundwater	40'
Distance to Water Source	>1000'
Distance to Surface Water	>1000'
TPH Limit (ppm)	100

The subject pit was located in hard, well cemented sandstone at a depth of approximately 28 feet. The initial size of the pit was 15'x15'x4' deep. The stained soil was excavated to a final pit size of 19' x 21' x 14' deep. Excavated soil amounted to 174 total cubic yards, and was landfarmed on location.

The excavation was assessed by Envirotech on 6/30/93. Two test holes were utilized for assessment. Test hole # 1 was established in the deepest part of the pit with a total depth of 19 feet. Headspace analysis of test hole # 1 at 19 feet revealed a concentration of 775 parts per million (ppm). Test hole # 2 was established approximately 15 feet West of the pit, down gradient from the pit had a total depth (TD) of 14.5 feet. Headspace analysis of test hole # 2 at 14.5 feet revealed a concentration of 1055 ppm and a Total Petroleum Hydrocarbon (TPH) concentration of 1100 ppm utilizing EPA Method 418.1. Excavation of the walls and bottom were performed on 9/19/94 and 2/5/96. The first excavation (9/19/94) was excavated to a depth of 13 feet and width and length of pit walls to 17 feet by 18 feet. Headspace analysis of the walls and bottom showed OVM levels ranging from 1059 ppm to 3 ppm, and TPH levels ranging from 1200 ppm to 32 ppm utilizing EPA Method 418.1. The second attempt for closure was performed 2/5/96 and excavation increased pit dimensions to 19 feet by 21 feet by 14 feet in depth. Headspace analysis of the walls and bottom produced OVM levels from 587 ppm to 7 ppm, and TPH levels ranging from 81 ppm to 32 ppm utilizing EPA Method 418.1. A sample was retrieved from the North wall (587 ppm) and analyzed utilizing EPA Method 8020 for determination of Benzene, Toluene, ethyl Benzene, and Xylene (BTEX). Analysis of the sample produced levels within pit closure guidelines (Benzene = ND, and Total BTEX = 0.330 ppm). The landfarm had been tested on 4/6/95 by Envirotech and was found to be within closure guidelines (TPH = 35 ppm and an OVM reading of 0.0 ppm).

On April 16, 1997, Cimarron Oilfield Services, utilizing a Geoprobe, bore three test holes for risk assessment analysis. Bore hole # 1 was established approximately 10 feet West (down gradient) of the existing pit, to a depth of 28 feet and encountered bedrock. Headspace analysis was performed periodically to ensure quality control and quality assurance. Headspace analysis revealed OVM levels ranging from 29 to 4.6 ppm. A sample at approximately 28 feet was analyzed for TPH utilizing EPA Method 8015. Results of the analysis determined no-detection of petroleum hydrocarbons present in the soil. Two more borings were established, down gradient, with bedrock encountered at 17 feet and OVM levels of Non-Detect were encountered. No groundwater was

encountered, and first water was not recorded on the nearby cathodic well until a depth of 40 feet. The bore holes were backfilled with well cuttings and Bentonite.

Having achieved action levels below NMOCD and BLM requirements this pit should be considered to have reached "final closure". Phillips Petroleum has removed and remediated all soils to the extent practical. By filling the excavation, the driving force created by additional fluids will be eliminated. Based on this information and the physical location of the pit, there is little to no risk to human health or environment.

Client : **Phillips Petroleum**

Date Started : **16 April 1997** Date Completed : **16 April 1997**

Location : **San Juan 29 - 5 # 41**

Quad : "A" Section : 31

Township: 29N Range: 5W

Pit : Separator

Reference : 30' East From Wellhead

Pit Size : 24' x 20' x 6' deep

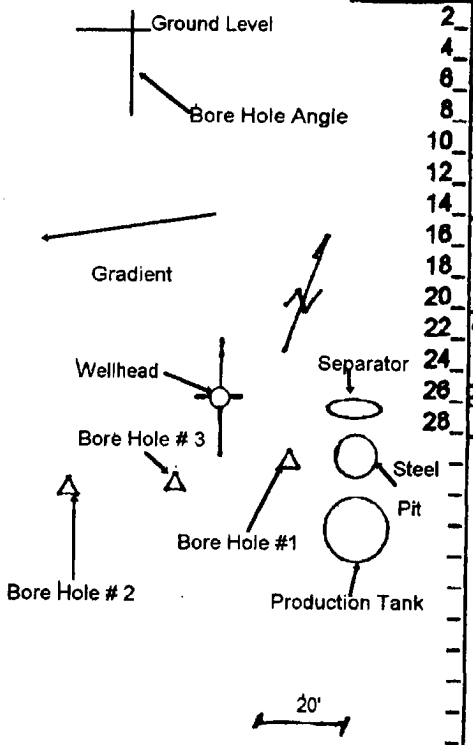
Sample #	Location	OVM(ppm)	TPH
1	BH#1@5'	0	
2	BH#1@10'	0	
3	BH#1@15'	0	
4	BH#1@20'	29	
5	BH#1@27'	4.6	
6	BH#2@15'	0	
7			
8			
9			
10			
11			
12			

Depth to Groundwater : 40' Soil Type : Clayey Silt, cohesive

Ranking Score: 20 Bedrock Encountered : Yes @ 28'

Closure Standard : 100 ppm Groundwater Encountered : No

Overview of Pit Location and Sampling :



Depth (ft)	Bore # 1	Bore # 2	Bore # 3
2	Brown		
4	cohesive	Brown	Brown
6	silty sand		
8	moist	clayey	clayey
10	no odor,		
12	no staining	silt	silt
14	Lt. brown	Sandstone	Sandstone
16	silty sand		
18	Gray		
20	silty sand		
22	Gray-black		
24	silty clay		
26	coarse sand		
28	Bedrock		

Comments : BH #1 0' - 12' - Brown, cohesive, clayey silt, moist, no odor, no staining
12' - 16' - Light brown, silty sand, moist, no odor, no staining
16' - 22' - Gray silty sand, moist, definite odor, visible staining
22' - 27' - Grayish black, silty clay, moist, definite odor, visible staining
27' - 28' - Grayish black, coarse sand, moist, definite odor, visible staining
28' - Sandstone bedrock
BH #1 Sample #4 @ 20' sent to IML lab for TPH 8015
BH #2 - Hit sandstone @ 17', no apparent visual or odorly contamination
BH #3 - Hit sandstone @ 17', no odor, no visible staining

Inter·Mountain Laboratories, Inc.
1160 Research Drive
Bozeman, Montana 59718

GASOLINE RANGE ORGANICS - GRO

Client: **PHILLIPS PETROLEUM COMPANY**
Sample ID: SJ 29-5 #41 / BH #1 @ 20'
Project ID: None Given
Lab ID: B971938 0397G00605
Matrix: Soil

Date Reported: 04/30/97
Date Sampled: 04/16/97
Date Received: 04/18/97
Date Extracted: 04/22/97
Date Analyzed: 04/29/97

Parameter	Result	PQL	Units
Gasoline Range Organics	ND	5.0	mg/kg
Gasoline Range Organics as Gasoline	ND	5.0	mg/kg
Total Purgeable Hydrocarbons	ND	5.0	mg/kg
QUALITY CONTROL - Surrogate Recovery	**%**	**QC Limits**	
Bromofluorobenzene	66	40 - 163	

ND - Not Detected at Practical Quantitation Level (PQL)

Reference: GRO - USEPA Method for Determination of Gasoline Range Organics, Rev. 5, February 1992. WTPH-G Total Petroleum Hydrocarbons Analytical Methods for Soil, Washington State Department of Ecology, Revision 6, 08/18/93.

Analyst SD

Reviewed JK

Inter·Mountain Laboratories, Inc.
1160 Research Drive
Bozeman, Montana 59718

DIESEL RANGE ORGANICS - DRO

Client: PHILLIPS PETROLEUM COMPANY
Sample ID: SJ 29-5 #41 / BH #1 @ 20'
Project ID: None Given
Lab ID: B971938 0397G00605
Matrix: Soil

Date Reported: 04/30/97
Date Sampled: 04/16/97
Date Received: 04/18/97
Date Extracted: 04/24/97
Date Analyzed: 04/28/97

Parameter	Result	PQL	Units
Diesel Range Organics	ND	5.0	mg/kg
Diesel Range Organics as Diesel	ND	5.0	mg/kg
Total Extractable Hydrocarbons	ND	5.0	mg/kg

ND - Not Detected at Practical Quantitation Level (PQL)

Reference: DRO - USEPA Method for Determination of Diesel Range Organics. Revision 3, 05/08/92.
WTPH-D Total Petroleum Hydrocarbons Analytical Methods for Soil, Washington State Department of Ecology, Revision 3, October 1991.

Analyst _____ **Reviewed** _____

Bobo Wirtanene

inl
Inter- Mountain
Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
Phillips Petroleum Co	SJ 29-5 #41
Sampler: (Signature)	**Chain of Custody Tape No.**
Monica D. Rodahl	

ANALYSES / PARAMETERS

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers			8020 8260		Remarks
LA1 #1 @ 20'	4-16-97	10:58		Soil	1			X		
										Cool / Intact

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Monica D. Rodahl	4-17-97	7:35	Warren Manley	4/17/97	0735
Relinquished by: (Signature)	**Date**	**Time**	**Received by: (Signature)**	**Date**	**Time**
Relinquished by: (Signature)	**Date**	**Time**	**Received by laboratory: (Signature)**	**Date**	**Time**

Inter-Mountain Laboratories, Inc.

☐ 1633 Terra Avenue
Sheridan, Wyoming 82801
Telephone (307) 672-8945

☐ 1701 Phillips Circle
Gillette, Wyoming 82718
Telephone (307) 682-8945

☒ 2506 West Main Street
Farmington, NM 87401
Telephone (505) 326-4737

☐ 1160 Research Dr.
Bozeman, Montana 59715
Telephone (406) 586-8450

☐ 11183 SH 30
College Station, TX 77845
Telephone (409) 776-8945

45872

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0615

PIT NO: PA-008
C.O.C. NO: ---

FIELD REPORT: SITE ASSESSMENT

JOB No: 93163
PAGE No: 1 of 1

PROJECT: PIT ASSESSMENT
CLIENT: Phillips
CONTRACTOR: ENVIROTECH, INC.
EQUIPMENT USED: Job Extendahoe

DATE STARTED: 6-30-93
DATE FINISHED: 6-30-93
ENVIRO. SPCLT: REO
OPERATOR: Cimarron
ASSISTANT: --------

LOCATION: LEASE San Juan 29-5 WELL: #41-31 QD: 990' FNL, 1090' FEL (A)
SEC: 31 TWP: 29N RNG: 5W PM: NM CNTY: RA ST: NM PIT: Separator
LAND USE: Range Lease# SF 078282
SURFACE CONDITIONS: Earthen Pit

PIT CENTER IS LOCATED APPROXIMATELY 30 FEET East OF WELLHEAD.
CLOSURE STD: < 100 ppm TPH
RANKING SCORE: 20

T1: moist, black to gray, siltysand, definte odor.
T2: moist, brown, sandy, silty-clay
No more test holes-area not flagged for pipelines

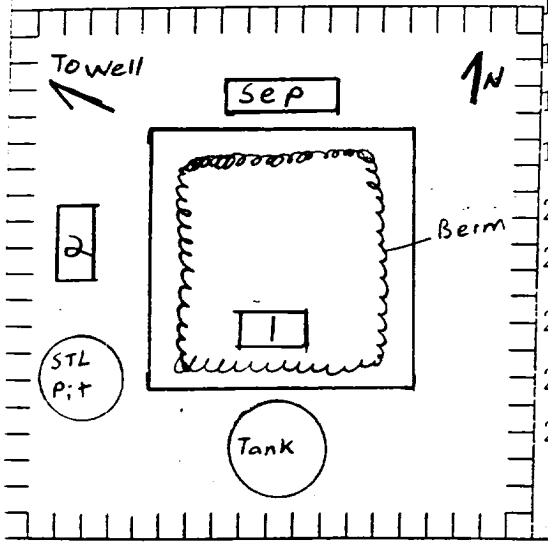
Field TPH, 1:1 = (534 x 2)(6AC0084)

SAMPLE INVENTORY

SMPL ID:	SMPL TYPE:	LABORATORY ANALYSIS:
T2 @ 14.5	soil	1068

SCALE
0 5 10 FEET

SITE DIAGRAM



TEST HOLE LOGS

TH#: 1

GD	SOIL TYPE:	SMPL TYPE:	OVM/TPH
2			
4	Pit Btm.		
6	SM	Gray Black Odor	
8			
10			
12			
14	SM	GRB574	
16	SM	Gray Brown	
18	SM	GRB775	
20	TD=19.5		
22			
24			
26			
28			

TH#: 2

SOIL TYPE:	SMPL TYPE:	OVM/TPH
SC	No Odor Brown	
SC	GRB533	
SC	Gray Odor	
SM	GRB1055	
TD=14.5		

TH#: _____

SOIL TYPE:	SMPL TYPE:	OVM/TPH

TH#: _____

SOIL TYPE:	SMPL TYPE:	OVM/TPH

SOIL TYPE: C - Clay, M - Silt, S - Sand, G - Gravel Plasticity: L - None, H - Plastic Grading: P - Poorly, W - Well

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FIELD MODIFIED EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	Phillips	Project #:	93163
Sample ID:	T2 @ 14.5' bgs	Date Analyzed:	06-30-93
Project Location:	San Juan 29-5 Unit 41-31	Date Reported:	07-06-93
Laboratory Number:	GAC0084	Sample Matrix:	Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
Petroleum Hydrocarbons	1100	10

Method: Modified Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Separator Pit PA008

R. E. O'Neill
Analyst

Review

ENVIROTECH LABS

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FIELD MODIFIED EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	Phillips Petroleum	Project #:	93163
Sample ID:	5 @ 13.0'	Date Analyzed:	9-19-94
Project Location:	San Juan 29-5 # 41	Date Reported:	9-26-94
Laboratory Number:	GAC0761	Sample Matrix:	Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
Total Recoverable Petroleum Hydrocarbons	**36**	**10**

ND = Not Detectable at stated detection limits.

QA/QC:

QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
126	142	12

*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: Separator Pit PA258

Analyst

Review

ENVIROTECH LABS

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FIELD MODIFIED EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	Phillips Petroleum	Project #:	93163
Sample ID:	1 @ 12.0'	Date Analyzed:	9-19-94
Project Location:	San Juan 29-5 # 41	Date Reported:	9-26-94
Laboratory Number:	GAC0762	Sample Matrix:	Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
Total Recoverable Petroleum Hydrocarbons	1,200	100

ND = Not Detectable at stated detection limits.

QA/QC:

QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
126	142	12

*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: Separator Pit PA258

Analyst

Review

ENVIROTECH LABS

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FIELD MODIFIED EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	Phillips Petroleum	Project #:	93163
Sample ID:	2 @ 12.0'	Date Analyzed:	9-19-94
Project Location:	San Juan 29-5 # 41	Date Reported:	9-26-94
Laboratory Number:	GAC0763	Sample Matrix:	Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
Total Recoverable Petroleum Hydrocarbons	32	10

ND = Not Detectable at stated detection limits.

QA/QC:	QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
	126	142	12

*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: Separator Pit PA258

Analyst

Review

ENVIROTECH LABS

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FIELD MODIFIED EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	Phillips Petroleum	Project #:	93163
Sample ID:	3 @ 12.0'	Date Analyzed:	9-19-94
Project Location:	San Juan 29-5 # 41	Date Reported:	9-26-94
Laboratory Number:	GAC0764	Sample Matrix:	Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
Total Recoverable Petroleum Hydrocarbons	102	10

ND = Not Detectable at stated detection limits.

QA/QC;	QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
	126	142	12

*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: Separator Pit PA258

Analyst

Review

ENVIROTECH LABS

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FIELD MODIFIED EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	Phillips Petroleum	Project #:	93163
Sample ID:	4 @ 12.0'	Date Analyzed:	9-19-94
Project Location:	San Juan 29-5 # 41	Date Reported:	9-26-94
Laboratory Number:	GAC0765	Sample Matrix:	Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
Total Recoverable Petroleum Hydrocarbons	42	10

ND = Not Detectable at stated detection limits.

QA/QC:

QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
126	142	12

*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: Separator Pit PA258

Analyst

Review

CLIENT: Phillips

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0615

PIT NO: PA258

C.O.C. NO: ------

FIELD REPORT: CLOSURE VERIFICATION

JOB No: 93163
PAGE No: 1 of 1

LOCATION: NAME: San Jaun 29-5 WELL #41 PIT: Sep
QUAD/UNIT: A SEC: 31 TWP: 29N RNG: 5W BM: NM CNTY: RA ST: NM
QTR/FOOTAGE: 990'FNL1090'FEL CONTRACTOR:

DATE STARTED: 9-19-94
DATE FINISHED: 9-19-94
ENVIRONMENTAL SPECIALIST: CJC

SOIL REMEDIATION: EXCAVATION APPROX. 17 FT. x 18 FT. x 13 FT. DEEP.
DISPOSAL FACILITY: Land Farm CUBIC YARDAGE: _____
LAND USE: Range LEASE: SF078282

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 30 FEET East FROM WELLHEAD.
DEPTH TO GROUNDWATER: 40 NEARSET WATER SOURCE: > 1000 NEAREST SURFACE WATER: > 1000
NMOCD RANKING SCORE: 20 NMOCD TPH CLOSURE STD: 100 PPM

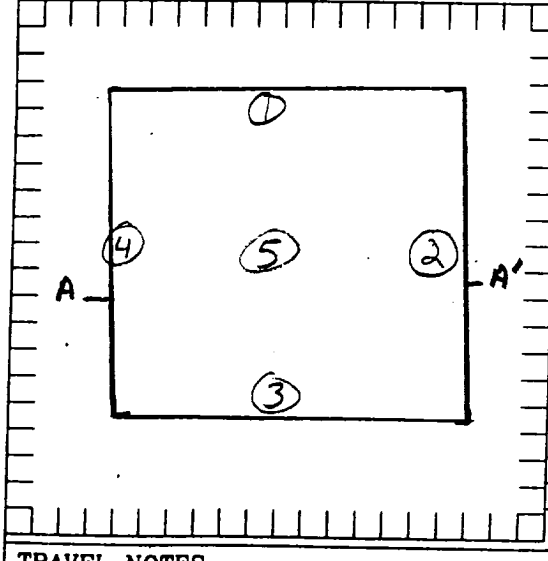
SOIL AND EXCAVATION DESCRIPTION: 0'-6' Sand, clay, tan, brown, soft, dry
no odor
6'-13' Sand, clay, tan, bluegrey, soft, dry
slight odor

FIELD 418.1 CALCULATIONS

SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
5@ 13'	761	10	20	2	18	36
1@ 12'	762	10	20	20	60	1200
2@ 12'	763	10	20	2	16	32
3@ 12'	764	10	20	2	51	102
4@ 12'	765	10	20	2	21	42

SCALE
0 10 FEET

PIT PERIMETER

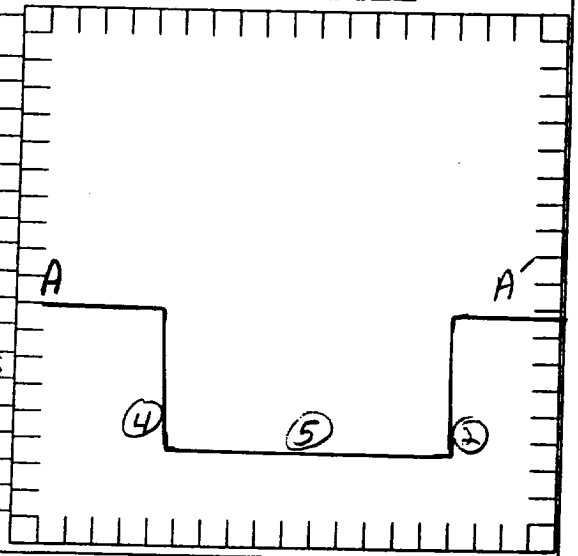


OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1@ 12'	1059
2@ 12'	7
3@ 12'	69
4@ 12'	3
5@ 13'	246

LAB SAMPLES

PIT PROFILE



TRAVEL NOTES: CALLOUT: _____ ONSITE: _____

CLIENT: Phillips Petroleum

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0615

PIT NO: PA008

C.O.C. NO: 4692

FIELD REPORT: CLOSURE VERIFICATION

JOB No: 93163

PAGE No: 1 of 1

LOCATION: NAME: San Juan 29-5 WELL #: 41 PIT: Separator

QUAD/UNIT: A SEC: 31 TWP: 29N RNG: 5W BM: NM CNTY: RA ST: NM

QTR/FOOTAGE 990'FNL,1090'FEL CONTRACTOR: Jay's Backhoe

DATE STARTED: 2-5-96

DATE FINISHED: 2-5-96

ENVIRONMENTAL SPECIALIST: CJC

SOIL REMEDIATION: EXCAVATION APPROX. 19' FT. x 21' FT. x 14' FT. DEEP.

DISPOSAL FACILITY: Landfarm CUBIC YARDAGE: _____

LAND USE: Range LEASE: SF-078282

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 30' FEET East FROM WELLHEAD.

DEPTH TO GROUNDWATER: 40' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'

NMOCD RANKING SCORE: 20 NMOCD TPH CLOSURE STD: 100 PPM

SOIL AND EXCAVATION DESCRIPTION: Soft, sandy clay, tan, orange,grey, slight odor on north wall, dry.

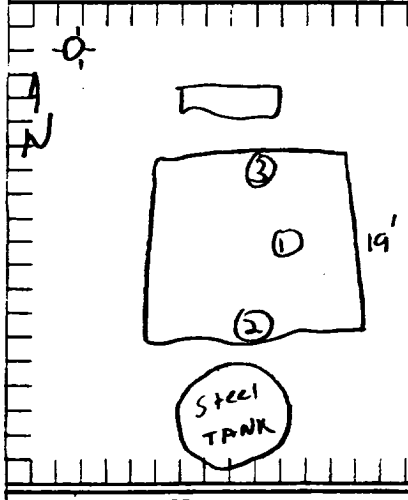
FIELD 418.1 CALCULATIONS

SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
Btm @ 15'	1158	10.00	20	1	16	32
SW@ 12'	1159	9.18	20	1	18	39
NW@12'	1160	10.63	20	1	43	81

SCALE

0 FEET

PIT PERIMETER



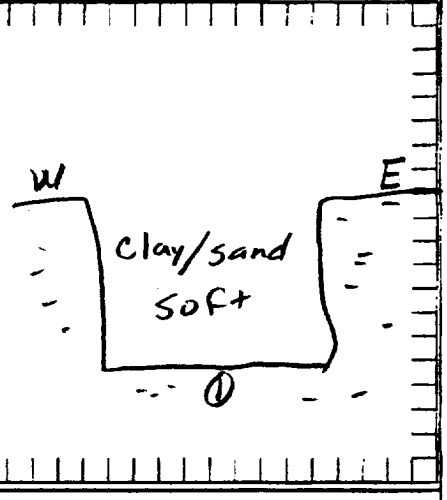
OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 Btm@15'	8.0
2 SW@12'	7.0
3 NW@12'	587
4	
5	

LAB SAMPLES

NW@12' BTEX

PIT PROFILE



TRAVEL NOTES: CALLOUT: 0700 ONSITE: 0815

ENVIROTECH LABS

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PHONE: (505) 632-0615 • FAX: (505) 632-1865

FIELD MODIFIED EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	**Phillips Petroleum**	Project #:	93163
Sample ID:	**BTM @ 15'**	Date Analyzed:	02/05/96
Project Location:	**San Juan 29-5, #41**	Date Reported:	02/06/96
Laboratory Number:	GAC1158	Sample Matrix:	Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
Total Recoverable Petroleum Hydrocarbons	32	10

ND = Not Detectable at stated detection limits.

QA/QC:	QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
	100	109	9

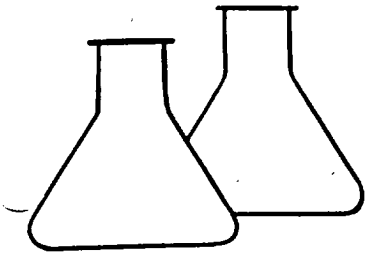
*Administrative Acceptance limits set at 30%.

Method: Modified Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Separator Pit PA008

C. Jack Collins
Analyst

Review



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FIELD MODIFIED EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	**Phillips Petroleum**	Project #:	93163
Sample ID:	**SW @ 12'**	Date Analyzed:	02/05/96
Project Location:	**San Juan 29-5, #41**	Date Reported:	02/06/96
Laboratory Number:	GAC1159	Sample Matrix:	Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
Total Recoverable Petroleum Hydrocarbons	39	10

ND = Not Detectable at stated detection limits.

QA/QC:	QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
	100	109	9

*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: Separator Pit PA008

Analyst

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FIELD MODIFIED EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	**Phillips Petroleum**	Project #:	93163
Sample ID:	**NW @ 12'**	Date Analyzed:	02/05/96
Project Location:	**San Juan 29-5, #41**	Date Reported:	02/06/96
Laboratory Number:	GAC1160	Sample Matrix:	Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
Total Recoverable Petroleum Hydrocarbons	**81**	**10**

ND = Not Detectable at stated detection limits.

QA/QC:	QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
	100	109	9

*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: Separator Pit PA008

C. Jack Collins
Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Phillips Petroleum	Project #:	93163
Sample ID:	NW @ 12'	Date Reported:	02-07-96
Laboratory Number:	9982	Date Sampled:	02-05-96
Chain of Custody:	4692	Date Received:	02-05-96
Sample Matrix:	Soil	Date Analyzed:	02-06-96
Preservative:	Cool	Date Extracted:	02-06-96
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**ND**	**22.3**
Toluene	**72.3**	**24.0**
Ethylbenzene	**36.1**	**18.9**
p,m-Xylene	**175**	**35.3**
o-Xylene	**46.1**	**23.0**
Total BTEX	**330**	

ND - Parameter not detected at the stated detection limit.

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

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: **San Juan 29-5 #41 PA008.**

Analyst

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4692

CHAIN OF CUSTODY RECORD

Client/Project Name: Phillips Petroleum

Project Location: San Juan 29-5 #4608

Sampler: (Signature) C. Jack Collins

Chain of Custody Tape No.: 93163

ANALYSIS/PARAMETERS

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX						Remarks
NW Q 12'	2/5/95	0930	9982	Soil	1	✓						

	Date	Time		Date	Time
Relinquished by: (Signature) C. Jack Collins	2/5/96	16:50	Received by: (Signature)	2/5/96	16:50
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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San Juan regional Form 279-91

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	02-07-96
Laboratory Number:	02-06-PM-BTEX.BLANK	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-06-96
Condition:	N/A	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	**ND**	**0.3**
Toluene	**ND**	**0.4**
Ethylbenzene	**ND**	**0.3**
p,m-Xylene	**ND**	**0.5**
o-Xylene	**ND**	**0.3**

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**103 %**
	Bromofluorobenzene	**99 %**

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: **QA/QC for samples 9975 - 9982.**

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	02-07-96
Laboratory Number:	9975	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	Cool	Date Analyzed:	02-06-96
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Sample Result (ug/Kg)	Duplicate Result (ug/Kg)	Det. Limit (ug/Kg)	Percent Difference
Benzene	**ND**	**ND**	**22.3**	**0.0%**
Toluene	**ND**	**ND**	**24.1**	**0.0%**
Ethylbenzene	**ND**	**ND**	**18.9**	**0.0%**
p,m-Xylene	**ND**	**ND**	**35.3**	**0.0%**
o-Xylene	**ND**	**ND**	**23.0**	**0.0%**

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8020 Compounds	**30 %**

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: **QA/QC for samples 9975 - 9982.**

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Spike	Date Reported:	02-07-96
Laboratory Number:	9975	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	Cool	Date Extracted:	02-06-96
Condition:	Cool and Intact	Date Analyzed:	02-06-96

Parameter	Sample Result (ug/Kg)	Spike Added (ug/Kg)	Spiked Sample Result (ug/Kg)	Det. Limit (ug/Kg)	Percent Recovery	SW-846 % Rec. Accept. Range
Benzene	ND	50.0	47.2	22.3	94%	39-150
Toluene	ND	50.0	70.5	24.1	97%	46-148
Ethylbenzene	ND	50.0	48.3	18.9	92%	32-160
p,m-Xylene	ND	100	101	35.3	93%	46-148
o-Xylene	ND	50.0	51.5	23.0	93%	46-148

ND - Parameter not detected at the stated detection limit.

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: **QA/QC for samples 9975 - 9982.**

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PIT No: PA258
C.O.C #: 4150

FIELD REPORT: REMEDIATION FACILITY CLOSURE VERIFICATION

JOB No: 93163
PAGE No: 1 of 1

FACILITY LOCATION: San Juan 29-5 #41
SOURCE LOCATION:
SOURCE LOCATION:
SOURCE LOCATION:
FACILITY CLASSIFICATION: Landfarm PIT TYPE: Sep

DATE STARTED: 4-6-95
DATE FINISHED:

ENVIRONMENTAL SPECIALIST: CJC

SOIL REMEDIATION: QUANTITY: 60 cy # OF COMP. SAMPLES: 1
DIMENSIONS: 27'x120'x0.5'
VISIBLE OBSERVATIONS:
SAMPLING PLAN: One five point composite

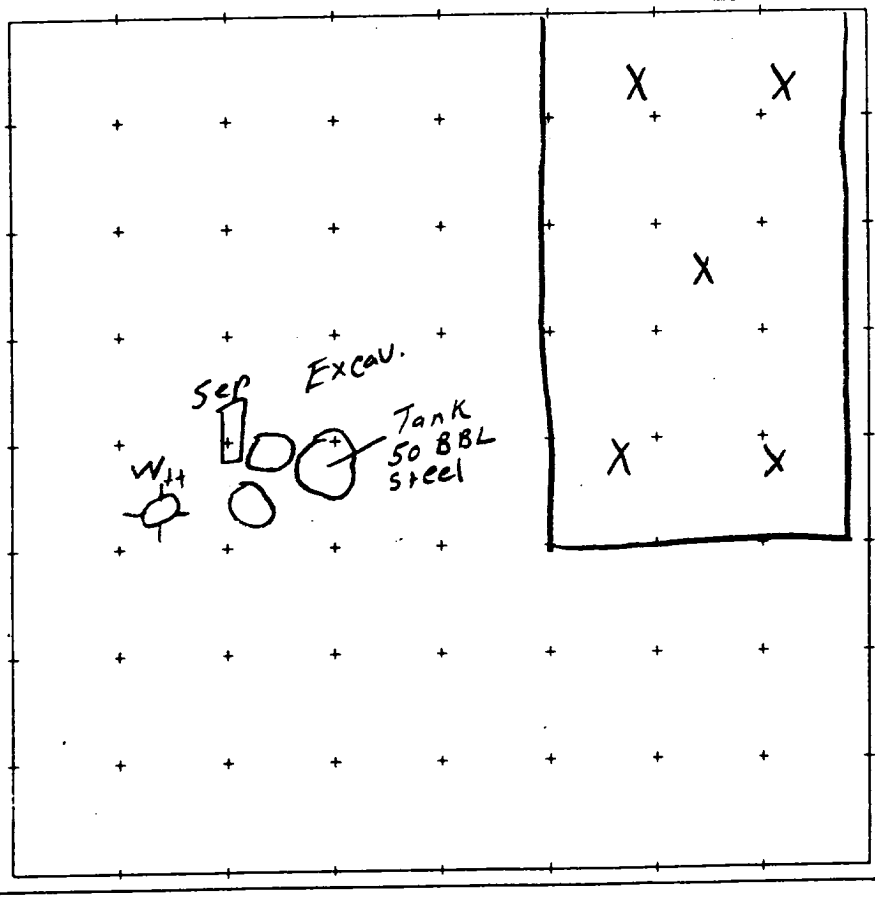
FIELD NOTES & REMARKS: FACILITY CENTER LOCATED APPROX 31 YARDS East FROM WELLHEAD.

DEPTH TO GROUNDWATER: 40'
NEAREST WATER SOURCE/TYPE: >1000
NEAREST SURFACE WATER: >1000
MAX TPH PER NMOCD: 100 ppm

No. OF 5-POINT COMPOSITE SAMPLES: YARDAGE--#
0-200=1
201-400=2
401-1000=3
>1000=5

FACILITY DIAGRAM

GRID SCALE: 20'



OVM RESULTS

SAMPLE ID:	FIELD HEADSPACE PID (ppm)
c1	0.0

LAB RESULTS

SAMPLE ID:	ANALYSIS REQUESTED:	RESULTS PPM:
c1	TPH	35

NORTH

WELLHEAD

SURFACE FLOW DIR.

ESTIMATED GROUNDWATER FLOW DIR.

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	Phillips	Project #:	93163
Sample ID:	29-5 #41	Date Reported:	04-13-95
Laboratory Number:	8336	Date Sampled:	04-06-95
Chain of Custody No:	4150	Date Received:	04-06-95
Sample Matrix:	Soil	Date Extracted:	04-12-95
Preservative:	Cool	Date Analyzed:	04-12-95
Condition:	Cool and Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	35.4	10.0

ND = Parameter not detected at the stated detection limit.

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978.

Comments: Cl - L.F.

Analyst

Review

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
Phillips / 93163		
Sampler: (Signature) C. Jack Collins	Chain of Custody Tape No.	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH 418.1	BTEX					Remarks
29-5 #59	4-6-95	1448	8332	Soil	1	X						
29-5 #9-26	" "	1537	8333		1	X						
29-5 #91	" "	1611	8334		2	X	X					
29-6 #58A	" "	1126	8335		1	X						
29-5 # 41	" "	1421	8336		1	X						
29-5 # 58	" "	1342	8337		1	X						
29-6 # 100	" "	1312	8338		1	X						
29-6 # 25A	" "	1224	8339		1	X						
29-5 # 55A	" "	1024	8340		1	X						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
C. Jack Collins	4-6-95	1741	Natalie Spear	4-6-95	1741
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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