

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

Deninger & Frost
DEPUTY OIL & GAS INSPECTOR
APPROPRIATE
DISTRICT OFFICE
AUG 26 1996
AND 1 COPY TO
SANTA FE OFFICE

(Revised 3/9/94)

PIT REMEDIATION AND CLOSURE REPORT

Operator: Hallwood Petroleum Company Telephone: (970) 259-1374

Address: 463 Turner Drive, Suite 101 Durango, CO 81301

Facility Or: State #3
Well Name

Location: Unit or Qtr/Qtr Sec SE, SE Sec 2 T 31 N R 7 W County San Juan

Pit Type: separator Dehydrator other Separator / Dehydrator

Land Type: BLM , State X, Fee , other

Pit Location: Pit dimensions: length 18', width 15', depth 7'
(Attach diagram)

Reference: wellhead , other

Footage from reference:

Direction from reference: Degrees East North
of
 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) <u>0</u>
high water elevation of		
ground water)		

Wellhead Protection Area:
(Less than 200 feet from a private
domestic water source, or; less than
1000 feet from all other water sources)

RECEIVED
MAY 30 1996
OIL CON. DIV.
DIST. 3

Yes (20 points)
No (0 points) 0

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) <u>0</u>
irrigation canals and ditches)		

RANKING SCORE (TOTAL POINTS): 0

Date Remediation Started: 10/15/94 Date Completed: 04/24/96

Remediation Method: Excavation ☒ Approx. cubic yards 210
(Check all appropriate sections) Landfarmed ☒ Insitu Bioremediation _____
Other Landfarm on site.

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

General Description Of Remedial Action: Excavate pit to acceptable levels
for closure. Material then spread on same location to a thickness of

approximately six inches. Berm placed around landfarm for erosion control.

Landfarming completed April 25, 1996. Took 6 pt. composite sample.

PIT CLOSED.

Ground Water Encountered: No ☒ Yes _____ Depth _____

Final Pit:

Sample location Landfarm
6 pt. composite

Closure Sampling:

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

Sample depth 2'

Sample date 04/24/96 Sample time _____

Sample Results

Benzene (ppm) 0.0037

Total BTEX (ppm) 0.0251

Field headspace (ppm) N/A

TPH 3127.8 mg/kg

Ground Water Sample: Yes _____ 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 05/28/96

SIGNATURE

Kevin E. O'Connell

PRINTED NAME
AND TITLE

KEVIN E. O'CONNELL
Drilling & Production Mgr.

ON SITE TECHNOLOGIES, LTD.

TEST HOLE LOG and FIELD TESTING RESULTS

PROJECT: Hallwood Pit Rem. JOB # _____ DATE: 10-18-94

SITE LOCATION: State #3 CLIENT: Doug E

SAMPLER: Jon Little

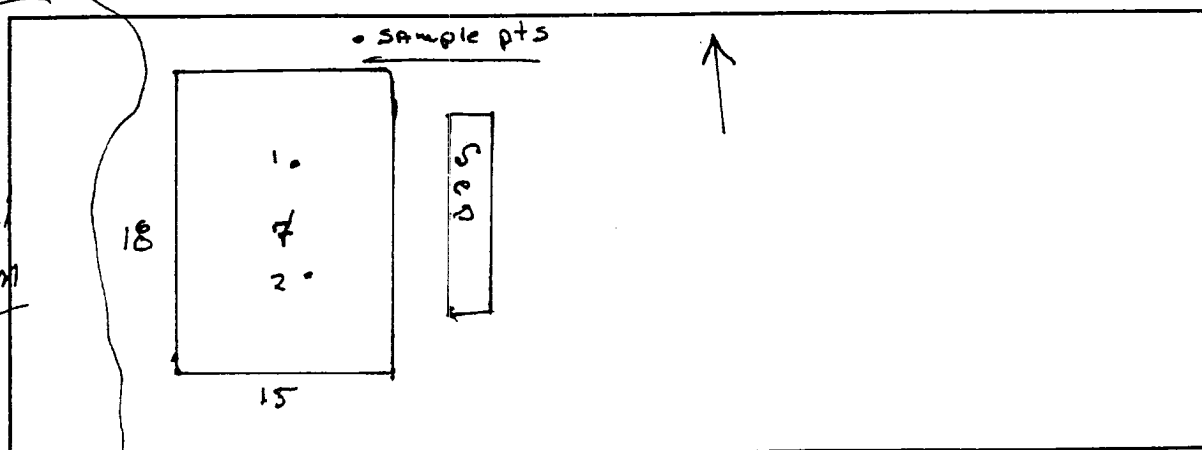
METHOD: _____

TEST HOLE # _____ LAB SAMPLE IDs _____

DEPTH	SOIL TYPE	P.I.D. FIELD SCREENING	TPH EPA 418.1	OTHER REMARKS
7'	clay to silty clay			LAND FARM NEEDS to be excavated bermed

SITE SKETCH

WEATHER: Sunny APPROX. TEMP. 35°F



(505) 325-8786

FAX (505) 327-1496

3005 NORTHRIDGE DRIVE, SUITE F P.O. BOX 2606 FARMINGTON, NEW MEXICO 87499

OFF: (505) 325-8786



LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn: *Jon Little*
Company: *On Site Technologies, Ltd.*
Address: *657 W. Maple*
City, State: *Farmington, NM 87401*

Date: *10/19/94*
Lab ID: *2223*
Sample ID: *3635*
Job No. *4-1097*

Project Name: *Hallwood Petroleum / Pit Assessments*
Project Location: *State 3 Pit Bottom @ 7' 2 pt. Composite*
Sampled by: *JL* Date: *10/18/94*
Analyzed by: *DLA* Date: *10/19/94*
Sample Matrix: *Soil*

Time: *9:04*

Aromatic Volatile Organics

Component	Measured Concentration ug/kg	Detection Limit Concentration ug/kg
<i>Benzene</i>	<i>7.9</i>	<i>0.2</i>
<i>Toluene</i>	<i>116.0</i>	<i>0.2</i>
<i>Ethylbenzene</i>	<i>18.1</i>	<i>0.2</i>
<i>m,p-Xylene</i>	<i>194.6</i>	<i>0.2</i>
<i>o-Xylene</i>	<i>50.4</i>	<i>0.2</i>
	TOTAL <i>386.9 ug/kg</i>	

ND - Not Detectable

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

Approved by:

Date:

Jon Little
10/19/94

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TOTAL PETROLEUM HYDROCARBONS

Attn: *Jon Little*
Company: *On Site Technologies, Ltd.*
Address: *657 W. Maple*
City, State: *Farmington, NM 87401*

Date: 10/19/94
Lab ID: 2223
Sample No. 3635
Job No. 4-1097

Project Name: *Hallwood Petroleum / Pit Assessments*
Project Location: *State 3 Pit Bottom @ 7' 2 pt. Composite*
Sampled by: JL Date: 10/18/94 Time: 9:04
Analyzed by: DC Date: 10/18/94
Type of Sample: *Soil*

Laboratory Analysis

Laboratory Identification	Sample Identification	Total Petroleum Hydrocarbons
3635-2223	<i>Hallwood Petroleum / Pit Assessments</i> <i>State 3 Pit Bottom @ 7' 2 pt. Composite</i>	15 mg/kg

Method - EPA Method 418.1 Total Petroleum Hydrocarbons

Approved by:

Date:

Jon Little
10/19/94

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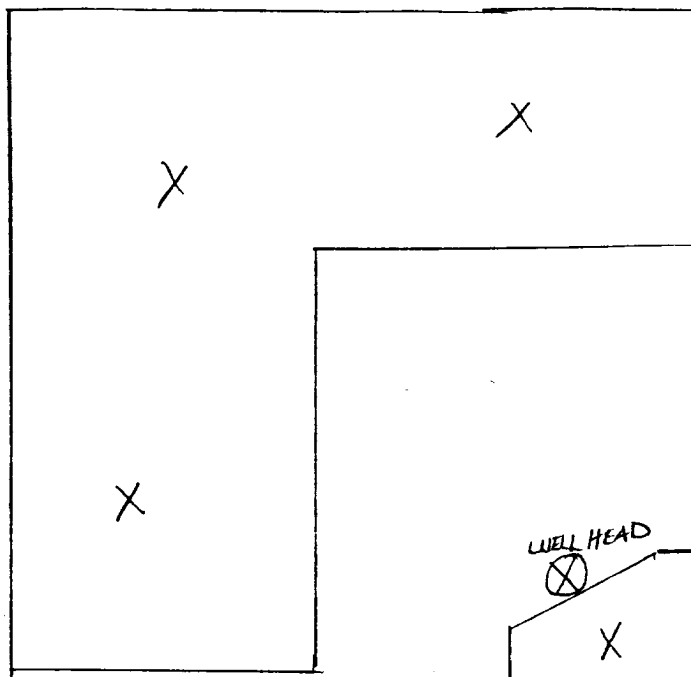
- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS

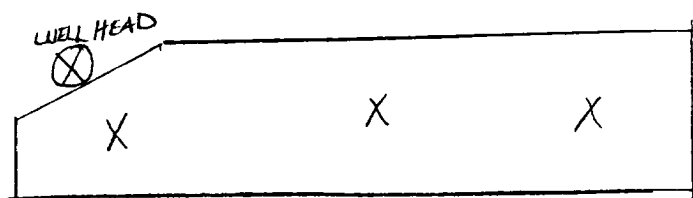


HALLWOOD PETROLEUM
STATE # 3

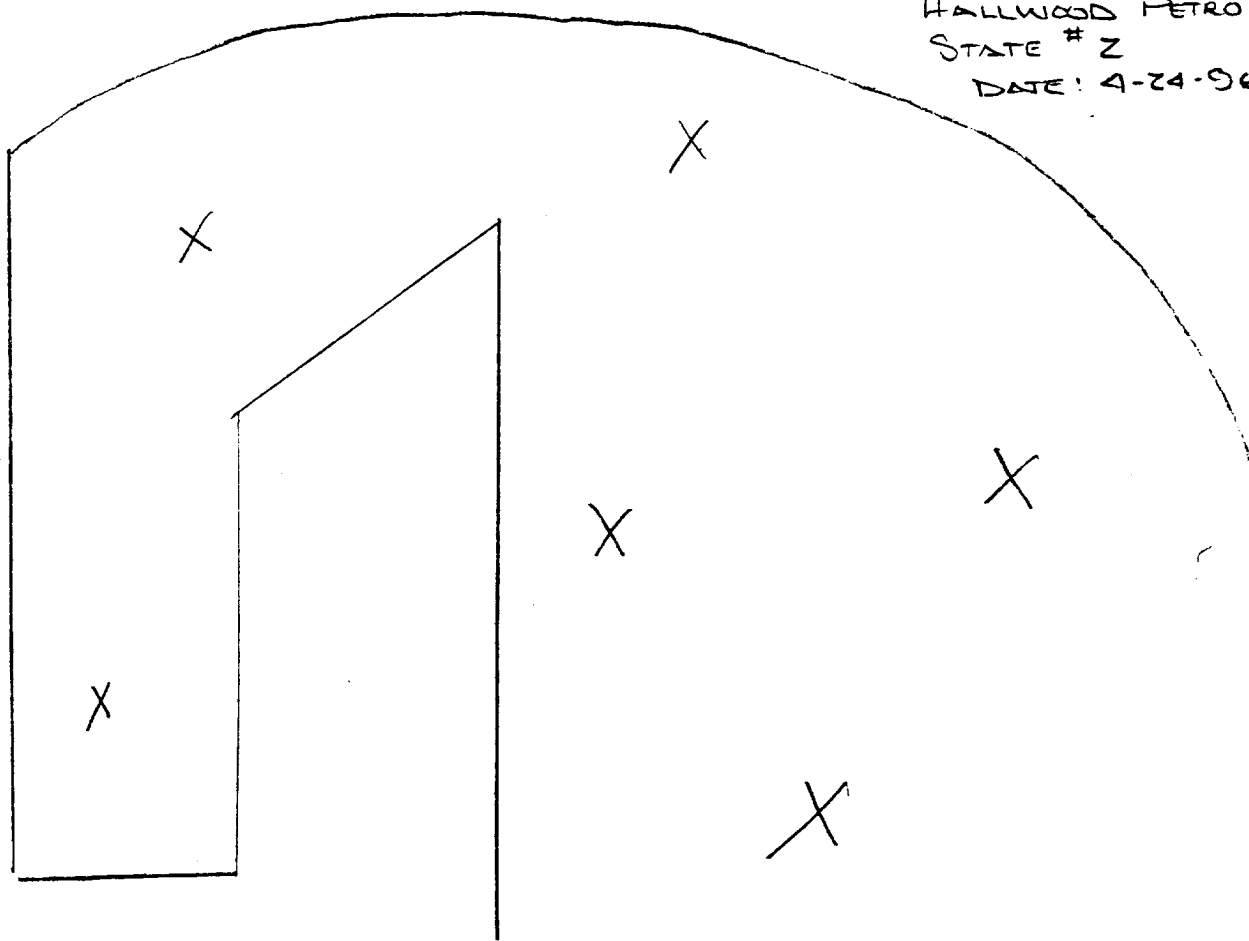
DATE: 4-24-96



SOIL SAMPLES - X
WELLHEADS - ⊗



6pt. Composite
HALLWOOD PETRO
STATE # 2
DATE: 4-24-96



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TPH - Gasoline / Diesel Range Organics

Attn: *Duane Aspaas*
 Company: *On Site Technologies, Ltd.*
 Address: *612 E. Murray Drive*
 City, State: *Farmington, NM 87401*

Date: 25-Apr-96
 COC No.: 4056
 Sample No. 10713
 Job No. 4-1137

Project Name: *Hallwood Petroleum - Middle Mesa*
 Project Location: *State #3; 6pt. Composite*
 Sampled by: DA Date: 24-Apr-96 Time: 11:07
 Analyzed by: DC Date: 25-Apr-96
 Sample Matrix: *Soil*

Laboratory Analysis

Analyte	Result	Unit of Measure	Detection Limit	Unit of Measure
Gasoline Range Organics (C5 - C9)	<5.0	mg/kg	5.0	mg/kg
Diesel Range Organics (C10 - C28)	3127.8	mg/kg	5.0	mg/kg
	TOTAL	3127.8		mg/kg

Quality Assurance Report

GRO QC No.: 0447-STD

DRO QC No.: 0446-STD

Calibration Check

Analyte	Method Blank	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Gasoline Range (C5 - C9)	<50	ppb	1,350	1,318	2.4	15%
Diesel Range (C10 - C28)	<5.0	ppm	2,000	1,990	0.5	15%

Matrix Spike

Analyte	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Gasoline Range (C5-C9)	102	97	(70-130)	3	20%
Diesel Range (C10-C28)	101	101	(70-130)	0	20%

Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas ChromatographyApproved by: *DAF*

Date: 4/25/96

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT

OFF: (505) 325-8786



LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn: *Duane Aspaas*
Company: *On Site Technologies, Ltd.*
Address: *612 E. Murray*
City, State: *Farmington, NM 87401*

Date: 26-Apr-96
COC No.: 4056
Sample No. 10713
Job No. 4-1137

Project Name: *Hallwood Petroleum - Middle Mesa*

Project Location: *State #3; 6pt. Composite*

Sampled by: DA Date: 24-Apr-96 Time: 11:07

Analyzed by: DC Date: 25-Apr-96

Sample Matrix: *Soil*

Aromatic Volatile Organics

Component	Result	Units of Measure	Detection Limit	Units of Measure
<i>Benzene</i>	3.7	ug/kg	0.2	ug/kg
<i>Toluene</i>	10.0	ug/kg	0.2	ug/kg
<i>Ethylbenzene</i>	1.7	ug/kg	0.2	ug/kg
<i>m,p-Xylene</i>	7.5	ug/kg	0.2	ug/kg
<i>o-Xylene</i>	2.2	ug/kg	0.2	ug/kg
	<i>TOTAL</i>	25.1	ug/kg	

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

Approved by: *Da F*
Date: *4/26/96*

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OFF: (505) 325-8786



LAB: (505) 325-5667

QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 25-Apr-96

Internal QC No.: 0444-STD

Surrogate QC No.: 0445-STD

Reference Standard QC No.: 0355-STD

Method Blank

<i>Analyte</i>	<i>Result</i>	<i>Units of Measure</i>
Average Amount of All Analytes in Blank	<0.2	ppb

Calibration Check

<i>Analyte</i>	<i>Units of Measure</i>	<i>True Value</i>	<i>Analyzed Value</i>	<i>% Diff</i>	<i>Limit</i>
Benzene	ppb	20.0	21.3	6	15%
Toluene	ppb	20.0	20.6	3	15%
Ethylbenzene	ppb	20.0	21.5	8	15%
m,p-Xylene	ppb	40.0	42.4	6	15%
o-Xylene	ppb	20.0	22.2	11	15%

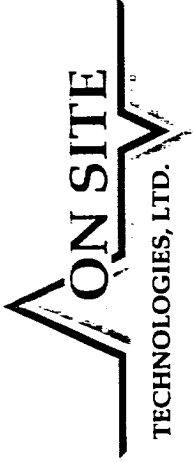
Matrix Spike

<i>Analyte</i>	<i>1 - Percent Recovered</i>	<i>2 - Percent Recovered</i>	<i>Limit</i>	<i>%RSD</i>	<i>Limit</i>
Benzene	105	110	(39-150)	3	20%
Toluene	109	110	(46-148)	0	20%
Ethylbenzene	112	113	(32-160)	1	20%
m,p-Xylene	110	112	(35-145)	1	20%
o-Xylene	111	111	(35-145)	0	20%

Surrogate Recoveries

	<i>S1 Percent Recovered</i>	<i>S2 Percent Recovered</i>
Laboratory Identification		
Limit Percent Recovery	(70-130)	
10713-4056	100	
10714-4056	99	

S1: Fluorobenzene



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