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

State of New Mexico P.O. Box 1980, Energy, Minerals and Natural Resources Department APPROPRIATE

SUBMIT 1 COPY TO

OIL CONSERVATION DIVISION 1220 ST. Francis Drive

DISTRICT OFFICE AND 1 COPY TO

Santa Fe, New Mexico 87505

SANTA FE OFFICE

(Revised 3/9/94)

## PIT REMEDIATION AND CLOSURE REPORT

Operator: Hallador Petroleum, LLP

Telephone: 1-800-839-5506

Address: 1660 Lincoln Street, Denver CO. 80264

Well Name: Horton 2

Location: Unit A, Sec22 T32N R11W, County: San Juan, NM

Pit Type: Separator x Dehydrator Other

Land Type: BLM

Pit Location: Pit dimensions: length 25' width 25' depth 8'

(Attach diagram)

Reference: wellhead  $\underline{x}$ 

Footage from reference: 55'

Direction from reference: 10 Degrees East of North

Depth To Ground Water:

(Vertical distance from contaminants to seasonal high water elevation of

ground water)

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

0

Wellhead Protection Area:

(Less than 200 feet from a private domestic water source, or; less than 1000 feet from all other water sources) Yes No

(20 points) (0 points)

0

Distance To Surface Water:

(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)

Less than 200 feet 200 feet to 1,000 feet Greater than 1000 feet Yes

(20 points) (10 points) (0 points)\_0

RANKING SCORE (TOTAL POINTS):  $\underline{0}$ 

Date Remediation Started: 10/1999  Remediation Method: Excavation x (Check all appropriate sections)  Landfarmed x  Insitu Bioremediation  Remediation Location: Onsite landfarmed  General Description Of Remedial Action: Contaminated soils were excavated from the pit art to bedrock (approx. 8 feet). Recovered soils were distributed on location. Soils were remediated by landfarming. Over a seven-month period, soils were turned ten (10) times. Following land farm remediation and clearance sampling the treated soils were backfilled original pit area.
(Check all appropriate sections)  Landfarmed x  Insitu Bioremediation  Remediation Location: Onsite landfarmed  General Description Of Remedial Action: Contaminated soils were excavated from the pit are to bedrock (approx. 8 feet). Recovered soils were distributed on location. Soils were remediated by landfarming. Over a seven-month period, soils were turned ten (10) times. Following land farm remediation and clearance sampling the treated soils were backfilled original pit area.
Remediation Location: Onsite landfarmed  General Description Of Remedial Action: Contaminated soils were excavated from the pit are to bedrock (approx. 8 feet). Recovered soils were distributed on location. Soils were remediated by landfarming. Over a seven-month period, soils were turned ten (10) times. Following land farm remediation and clearance sampling the treated soils were backfilled original pit area.
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Ground Water Encountered: No <u>x</u> Yes Depth
Closure Sampling
Sample: <u>Horton 2</u> Sample location <u>Pit excavation bottom 5 point composite</u> Sample depth: <u>Refusal 6 inches below pit bottom approximately BGS</u> Lab ID: <u>Horton 2 CPC</u> Sample date: <u>11/09/00</u> Sample time <u>3:50 PM</u>
Sample Results
Benzene (ppm) <u>NA</u> Total BTEX (ppm) <u>NA</u> Field Headspace (ppm) <u>O.0</u> TPH <u>190 mg/Kq</u>
Sample location: <u>Side wall</u> <u>4 point composite</u> Sample Depth: <u>3-4' BGS</u> Lab ID: <u>Horton 2 SWC</u> Sample Date: <u>11/09/00</u> Sample Time <u>4:00 PM</u>
Sample Results
Benzene (ppm) <u>NA</u> Total BTEX (ppm) <u>NA</u> Field Headspace <u>0.0</u> TPH <u>ND</u>
Ground Water Sample: Yes No X
AS AN AUTHORIZED AGENT FOR HALLADOR PETROLEUM, I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.
DATE 4/4/01
SIGNATURE NAME John Hagstrom TITLE Environmental Technician

District I

State of New Mexico

SUBMIT 1 COPY

TO

P.O. Box 1980, Energy, Minerals and Natural Resources Department

APPROPRIATE

Hobbs, NM

District II

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AND 1 COPY TO

P.O. Drawer DD, Artesia, NM 88211

District III

OIL CONSERVATION DIVISION

SANTA FE OFFICE

1000 Rio Brazos Rd, Aztec, NM 87410

1220 St. Francis Drive Santa Fe, New Mexico 87505

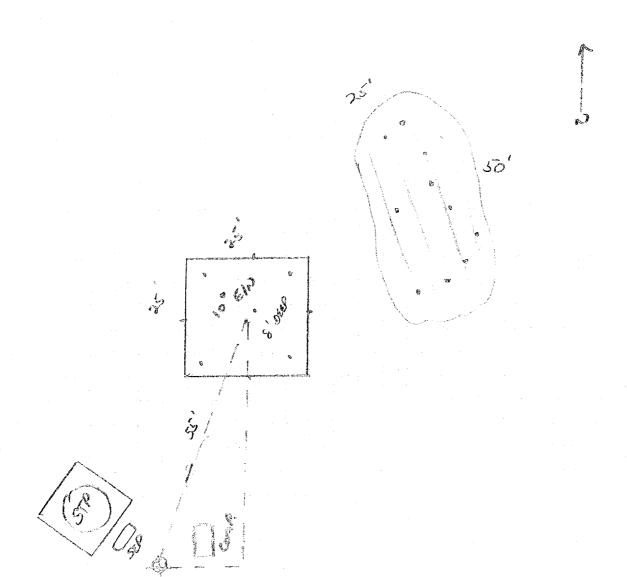
### Landfarm Remediation and Closure Report

Owner/Operator: Hallador Petroleum Telephone: 1-800-839-5506
Address: 1660 Lincoln Street, Denver CO 80264
Well Name: Horton 2
Location: Unit A, Section: 22, T32N, R11W, (990 FNL, 990 FEL)  County: San Juan, NM  Land Type BLM X, State, Fee, Other  Landfarm location Length: 50' Width: 25'  Reference: Wellhead: X Other:  Footage from reference: 85'  Direction from reference: 20° East of North  Refer to attached map for land farm location
Refer to accaened map for rand farm reception
GENERAL DISCRIPTION of LANDFARM ACTIVITIES: Excavated soils from the pit area were distributed on location in twelve inch lifts. During a seven (7) month period the soils were plowed/tilled ten (10) times. Following clearance sampling and land farm remediation the treated soils were backfilled in the original pit area.
SAMPLING INFORMATION
Type of sample: Grab: Composite: 10 points Sample Depth: 0-12"_
Sample Date: 11/09/00 Sample Time: 1605 Laboratory Analysis: BTEX NA (ppm) TPH ND (ppm) OVM/PID 0.0 units
Refer to attached map for sample location. Laboratory results attached
AS AN AUTHORIZED AGENT FOR HALLADOR PETROLEUM, I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF
Date: Signature:
Name: John Hagstrom
Title: Environmental Technician



DATE ///q/m

990 FOR GGO FER SECONTION FOR SANDOWN COUNTY





LAB: (505) 325-1556

FAX: (505) 327-1496

Order No.: 0011018

OFF: (505) 325-5667 FAX: (505) 327-1496

November 20, 2000

John Hagstrom On Site Technologies Limited 612 E. Murray Drive P.O. Box 2606 Farmington, NM 87499

TEL: (505) 325-5667 FAX (505) 327-1496

RE: 4-1771; Hallador Pits

Dear John Hagstrom,

On Site Technologies, LTD. received 3 samples on 11/9/2000 for the analyses presented in the following report.

The Samples were analyzed for the following tests: SOPREP SONICATION: TPH 418.1 (SW3550A) TPH, T/R Soil (E418.1)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

David Cox



**CLIENT:** 

LAB: (505) 325-1556 FAX: (505) 327-1496

# On Site Technologies, LTD.

On Site Technologies Limited

**Project:** 4-1771; Hallador Pits

**Lab Order:** 0011018

**CASE NARRATIVE** 

Date: 20-Nov-00

Samples were analyzed using the methods outlined in the following references:

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, March 1983.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

Any quality control and/or data qualifiers associated with this laboratory order will be flagged in the analytical result page(s) or the quality control summary report(s).



LAB: (505) 325-1556 FAX: (505) 327-1496

#### ANALYTICAL REPORT

**Date:** 20-Nov-00

Client:

On Site Technologies Limited

Work Order:

0011018

Lab ID:

0011018-01A

Matrix: SOIL

Project:

4-1771; Hallador Pits

Client Sample Info: Hallador Pits

Client Sample ID: Horton 2 CPC

**Collection Date:** 11/9/2000 3:50:00 PM

COC Record: 11014

Parameter	Result	PQL Qu	al Units	DF	Date Analyzed
TPH, T/R SOIL Petroleum Hydrocarbons, T/R	<b>E</b> .	<b>418.1</b> 25	mg/Kg	1	Analyst: <b>DM</b> 11/16/2000

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

R - RPD outside accepted recovery limits

J - Analyte detected below Practical Quantitation Limit

E - Value above quantitation range

B - Analyte detected in the associated Method Blank

Surr: - Surrogate

1 of 3



LAB: (505) 325-1556 FAX: (505) 327-1496

### ANALYTICAL REPORT

**Date:** 20-Nov-00

Client:

On Site Technologies Limited

Work Order:

0011018

Lab ID:

0011018-02A

Matrix: SOIL

Project:

4-1771; Hallador Pits

Client Sample Info: Hallador Pits

Client Sample ID: Horton 2 SWC

Collection Date: 11/9/2000 4:00:00 PM

COC Record: 11014

Parameter	Result	PQL Qu	al Units	DF	Date Analyzed
TPH, T/R SOIL Petroleum Hydrocarbons, T/R	E.	<b>418.1</b> 25	mg/Kg	1	Analyst: <b>DM</b> 11/16/2000

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

it is a common array.

E - Value above quantitation range

Surr: - Surrogate

2 of 3



LAB: (505) 325-1556 FAX: (505) 327-1496

# ANALYTICAL REPORT

Date: 20-Nov-00

Client:

On Site Technologies Limited

Work Order:

0011018

Lab ID:

0011018-03A

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Matrix: SOIL

Project:

4-1771; Hallador Pits

Client Sample Info: Hallador Pits

Client Sample ID: Horton 2 LFC

**Collection Date:** 11/9/2000 4:05:00 PM

COC Record: 11014

Parameter	Result	PQL Qu	al Units	DF	Date Analyzed
TPH, T/R SOIL Petroleum Hydrocarbons, T/R	<b>E</b> 4 83	<b>418.1</b> 25	mg/Kg	1	Analyst: <b>DM</b> 11/16/2000

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

R - RPD outside accepted recovery limits

J - Analyte detected below Practical Quantitation Limit

E - Value above quantitation range

B - Analyte detected in the associated Method Blank

Surr: - Surrogate

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RECORD Date: Page:

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