

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
1220 St. Francis Drive

Santa Fe, New Mexico 87505

SUBMIT 1 COPY TO
APPROPRIATE

DISTRICT OFFICE
AND 1 COPY TO

SANTA FE OFFICE

OK

(Revised 3/9/94)

PIT REMEDIATION AND CLOSURE REPORT

Operator: Hallador Petroleum, LLP

Telephone: 1-800-839-5506

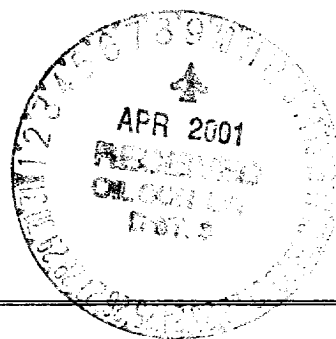
Address: 1660 Lincoln Street, Denver CO. 80264

Well Name: Horton 11

Location: Unit D, Sec27 T32N R12W, County: San Juan, NM

Pit Type: Separator ☒ Dehydrator ☐ Other ☐

Land Type: BLM



Pit Location: Pit dimensions: length 25' width 20' depth 22'
(Attach diagram)

Reference: wellhead ☒

Footage from reference: 25'

Direction from reference: 20 Degrees East of North

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) |
| <u>0</u> | |

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) |
| <u>0</u> | |

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) |
| <u>0</u> | |

RANKING SCORE (TOTAL POINTS): 0

Date Remediation Started: 10/1999

Date Completed: 10/2000

Remediation Method: Excavation x

Approx. cubic yards 407

(Check all appropriate

sections)

Landfarmed x

Insitu Bioremediation

Remediation Location: Onsite landfarmed

General Description Of Remedial Action: Contaminated soils were excavated from pit area. Bedrock of shale was uncovered at approx. 22 feet. Recovered soil was distributed on location and turned ten (10) times during a seven month period. Following landfarm remediation and sampling for clearance, treated soils were backfilled in the original pit area.

Ground Water Encountered: No x Yes _____ Depth _____

Closure Sampling

Sample Horton 11

Sample location Pit excavation bottom 5 point composite

Sample depth Refusal at 1' below excavated bottom approximately 21' BGS

Lab ID Horton 11 CPC

Sample date 10/30/00 Sample time 12:40 PM

Sample Results

Benzene (ppm) NA

Total BTEX (ppm) NA

Field headspace (ppm) 0.0

TPH ND

Sample location Side wall 4 point composite

Sample Depth 3' BGS

Lab ID Horton 11 SWC

Sample Date 10/30/00 Sample Time 12:45 PM

Sample Results

Benzene (ppm) NA

Total BTEX (ppm) NA

Field headspace 0.0

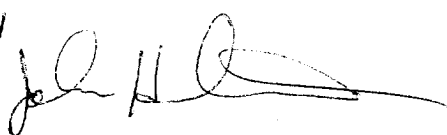
TPH 35 mg/Kg

Ground Water Sample: Yes _____ No None encountered

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

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Santa Fe, New Mexico 87505

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OFFICE

Landfarm Remediation and Closure Report

Owner/Operator: Hallador Petroleum, LLP

Telephone: 1-800-839-5506

Address: 1660 Lincoln Street Denver, CO 80264

Facility or Well Name: Horton 11

Location; Unit D, Section: 27 T32N R12W

County: San Juan, NM

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

Landfarm location Length: 80' Width: 30'

Reference: Wellhead: X Other: _____

Footage from reference: 25'

Direction from reference: 15° South of East

Refer to attached map for land farm location

GENERAL DISCRIPTION of LANDFARM ACTIVITIES: Contaminated soils from the pit area were excavated to bedrock (approx. 22'). Recovered soils were distributed on location. Soils were plowed/tilled, ten (10) times during a seven-month period. Following landfarm remediation, and sampling for clearance the treated soils were backfilled in the original pit area.

SAMPLING INFORMATION

Type of sample: Grab: _____ Composite: 10 points

Sample Depth : 0-12 inches

Sample Date: 11/09/00 Sample Time: 12:40 PM

Laboratory Analysis: BTEX _____ (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: 4/4/01

Signature: [Signature]

Print Name: John Hagstrom

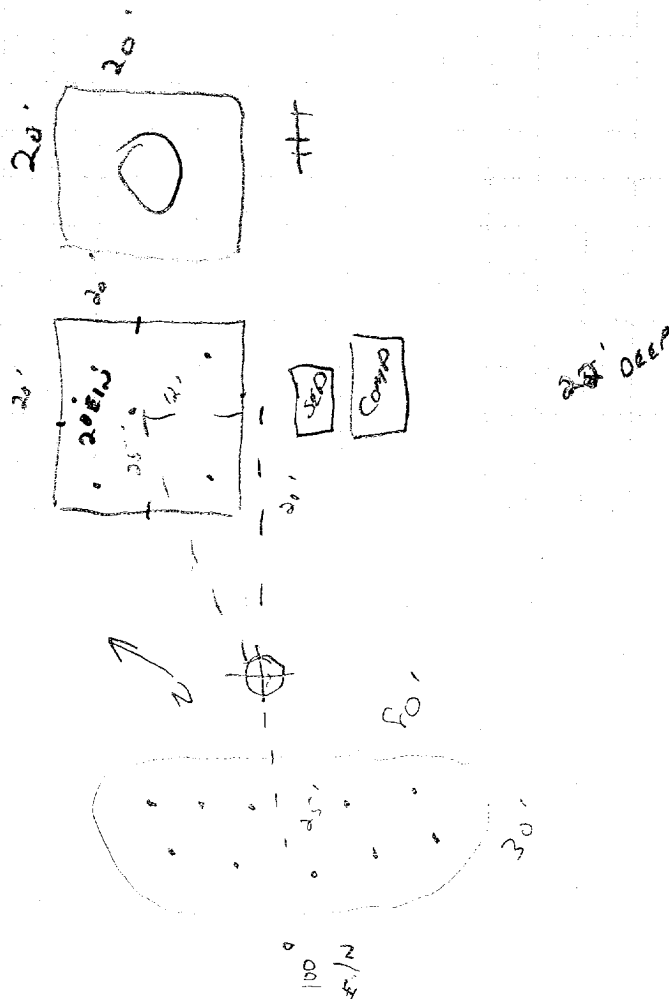
Title: Environmental Technician



DATE 10/30/00
BY JPH

SUBJECT HORTON #11

NW 1/4 SEC 27 T32N R12W SJ. COUNTY SF 078146A



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

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556
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

Order No.: 0010050

Dear John Hagstrom,

On Site Technologies, LTD. received 2 samples on 10/30/2000 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

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

ON SITE
TECHNOLOGIES, LTD.

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

On Site Technologies, LTD.

Date: 20-Nov-00

CLIENT: On Site Technologies Limited
Project: 4-1771; Hallador Pits
Lab Order: 0010050

CASE NARRATIVE

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).

OFF: (505) 325-5667
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ANALYTICAL REPORT

Date: 20-Nov-00

| | | | |
|--------------------|------------------------------|----------------------------|------------------------|
| Client: | On Site Technologies Limited | Client Sample Info: | Hallador Pits |
| Work Order: | 0010050 | Client Sample ID: | Horton 11 CPC |
| Lab ID: | 0010050-01A | Matrix: | SOIL |
| Project: | 4-1771; Hallador Pits | Collection Date: | 10/30/2000 12:40:00 PM |
| | | COC Record: | 10991 |

| Parameter | Result | PQL | Qual | Units | DF | Date Analyzed |
|-----------------------------|--------|---------------|------|-------|----|----------------------------------|
| TPH, T/R SOIL | | E418.1 | | | | |
| Petroleum Hydrocarbons, T/R | ND | 25 | | mg/Kg | 1 | Analyst: DM 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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ANALYTICAL REPORT

Date: 20-Nov-00

Client: On Site Technologies Limited
Work Order: 0010050
Lab ID: 0010050-02A **Matrix:** SOIL
Project: 4-1771; Hallador Pits

Client Sample Info: Hallador Pits
Client Sample ID: Horton 11 SWC
Collection Date: 10/30/2000 12:45:00 PM
COC Record: 10991

| Parameter | Result | PQL | Qual | Units | DF | Date Analyzed |
|-----------------------------|--------|---------------|------|-------|----|----------------------------------|
| TPH, T/R SOIL | | E418.1 | | | | |
| Petroleum Hydrocarbons, T/R | 35 | | 25 | mg/Kg | 1 | Analyst: DM 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

E - Value above quantitation range

Surrogate - Surrogate

2 of 2

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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

Order No.: 0011021

Dear John Hagstrom,

On Site Technologies, LTD. received 1 sample 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

OFF: (505) 325-5667
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TECHNOLOGIES, LTD.

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

On Site Technologies, LTD.

Date: 20-Nov-00

CLIENT: On Site Technologies Limited
Project: 4-1771; Hallador Pits
Lab Order: 0011021

CASE NARRATIVE

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).

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ANALYTICAL REPORT

Date: 20-Nov-00

Client: On Site Technologies Limited
Work Order: 0011021
Lab ID: 0011021-01A **Matrix:** SOIL
Project: 4-1771; Hallador Pits

Client Sample Info: Hallador Pits
Client Sample ID: Horton 11 LFC
Collection Date: 11/9/2000 12:40:00 PM
COC Record: 11011

| Parameter | Result | PQL | Qual | Units | DF | Date Analyzed |
|-----------------------------|--------|---------------|------|-------|----|----------------------------------|
| TPH, T/R SOIL | | E418.1 | | | | |
| Petroleum Hydrocarbons, T/R | ND | 25 | | mg/Kg | 1 | Analyst: DM 11/17/2000 |

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

E - Value above quantitation range

Surrogate - Surrogate

1 of 1

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