

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

OK
SUBMIT 1 COPY TO
APPROPRIATE

DISTRICT OFFICE
AND 1 COPY TO

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 12

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

Pit Type: Separator ☒ Dehydrator ☐ Other

Land Type: BLM

Pit Location: Pit dimensions: length 25' width 25' depth 24'
(Attach diagram)

Reference: wellhead ☒

Footage from reference: 22'

Direction from reference: 40 Degrees West 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 1,000 feet	(10 points)
Greater than 1,000 feet	(0 points) <u>0</u>

RANKING SCORE (TOTAL POINTS): 0

Date Remediation Started: 10/1999

Date Completed: 10/30/2000

Remediation Method: Excavation ☒

Approx. cubic yards 560

(Check all appropriate
sections)

Landfarmed ☒

Insitu Bioremediation _____

Remediation Location: Onsite landfarmed

General Description Of Remedial Action: Contaminated soils were excavated from the pit area. A bedrock of shale was exposed at approx. 24 feet. Recovered soils were spread in a twelve inch lift on location. Contaminated soils were plowed/tilled ten (10) times during a seven-month period. Following remediation and sampling for clearance, the treated soils were backfilled into the original pit area.

Ground Water Encountered: No ☒ Yes _____ Depth _____

Closure Sampling

Sample Horton 12

Sample Location Pit excavation bottom 5 point composite

Sample depth Refusal .5' below excavated bottom approximately
24' BGS

Lab ID Horton 12 CPC

Sample date 10/30/00 Sample time 2:20 PM

Sample Results

Benzene (ppm) NA

Total BTEX (ppm) NA

Field Headspace (ppm) 0.0

TPH 360 mg/Kg

Sample Side wall 4 point composite

Sample Depth 3-4' BGS

Lab ID Horton 12 SWC

Sample Date 10/30/00 Sample Time 2:35 PM

Sample Results

Benzene (ppm) NA

Total BTEX (ppm) NA

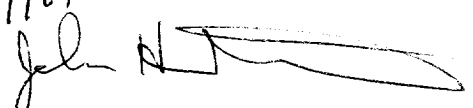
Field Headspace 0.0

TPH ND

Ground Water Sample: Yes _____ No ☒

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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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 12

Location: Unit M, Section: 27 T32N R12W

County: San Juan, NM

Land Type BLM X, State , Fee , Other

Landfarm location Length: 90' Width: 60'

Reference: Wellhead: X Other:

Footage from reference: 55'

Direction from reference: 5° East of North

Refer to attached map for land farm location

GENERAL DISCRIPTION of LANDFARM ACTIVITIES: Excavated contaminated soils were removed from the pit area and distributed on location. The soils were turned ten times in seven months. Bedrock of shale was uncovered at approximately 24 feet. Following sampling for clearance and land farm remediation, treated soils were backfilled in the original pit area.

SAMPLING INFORMATION

Type of sample: Grab: Composite: 10 points

Sample Depth : 0-12"

Sample Date: 10/30/00 Sample Time: 1445

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: 4/4/01

Signature: [Signature]

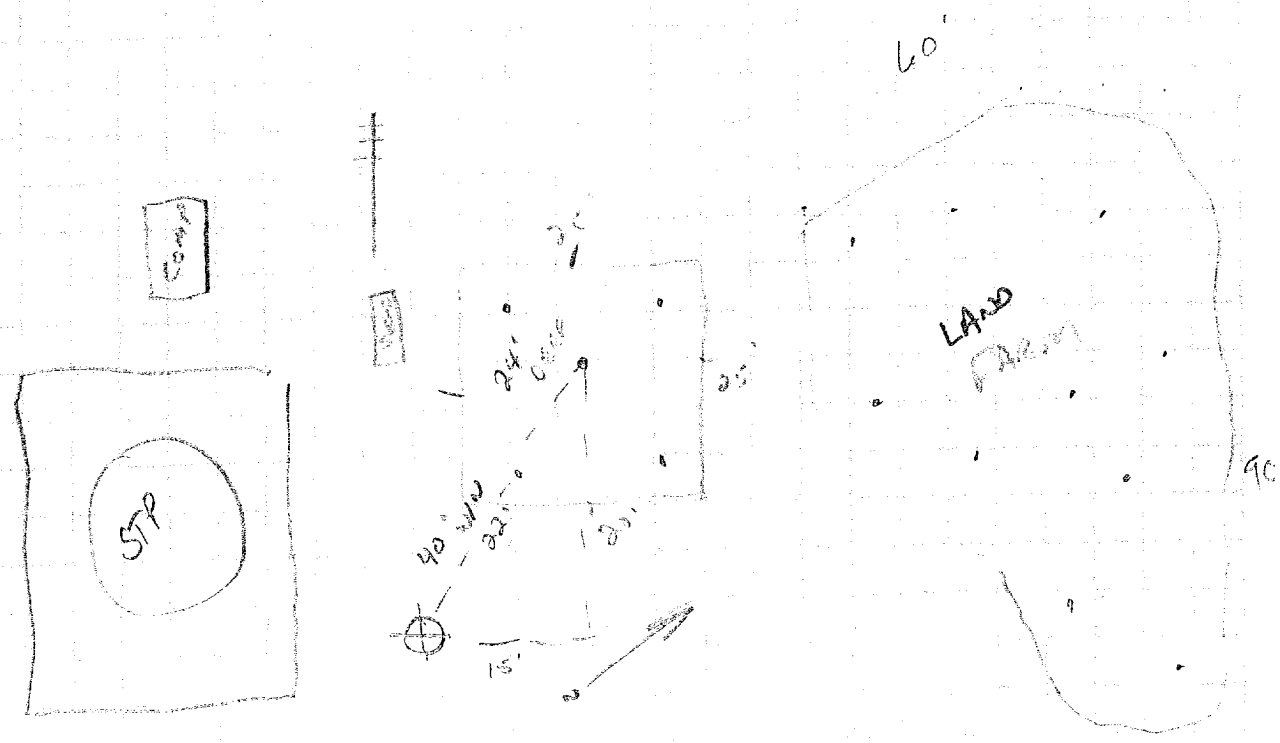
Print Name: John Hagstrom

Title: Environmental Technician



DATE 10/30/00
BY JPH

SUBJECT Map 12
SW/SW SEC 27 T. 30N R. 12W SJ County OK 075115h



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



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.: 0010051

Dear John Hagstrom,

On Site Technologies, LTD. received 3 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,

A handwritten signature in black ink, appearing to be "David Cox", written over a horizontal line.

David Cox

P.O. BOX 2606 • FARMINGTON, NM 87499

EMAIL: ONSITE@ONSITELTD.COM

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OFF: (505) 325-5667
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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: 0010051

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	Client Sample Info:	Hallador Pits
Work Order:	0010051	Client Sample ID:	Horton 12 CPC
Lab ID:	0010051-01A	Matrix:	SOIL
Project:	4-1771; Hallador Pits	Collection Date:	10/30/2000 2:20:00 PM
		COC Record:	10992

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
TPH, T/R SOIL		E418.1				Analyst: DM
Petroleum Hydrocarbons, T/R	360		25	mg/Kg	1	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
Surr: - Surrogate

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ANALYTICAL REPORT

Date: 20-Nov-00

Client:	On Site Technologies Limited	Client Sample Info:	Hallador Pits
Work Order:	0010051	Client Sample ID:	Horton 12 SWC
Lab ID:	0010051-02A	Matrix:	SOIL
Project:	4-1771; Hallador Pits	Collection Date:	10/30/2000 2:35:00 PM
		COC Record:	10992

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

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ANALYTICAL REPORT

Date: 20-Nov-00

Client:	On Site Technologies Limited	Client Sample Info:	Hallador Pits
Work Order:	0010051	Client Sample ID:	Horton 12 Landfarm
Lab ID:	0010051-03A	Matrix:	SOIL
Project:	4-1771; Hallador Pits	Collection Date:	10/30/2000 2:45:00 PM
		COC Record:	10992

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

Surr: - Surrogate

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