

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

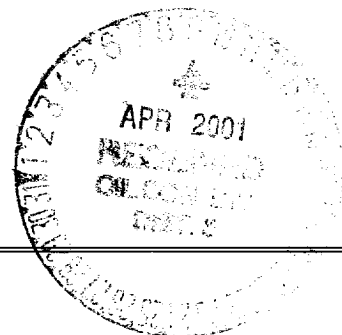
(Revised 3/9/94)

PIT REMEDIATION AND CLOSURE REPORTOperator: Hallador Petroleum, LLPTelephone: 1-800-839-5506Address: 1660 Lincoln Street, Denver CO. 80264Well Name: Horton 10

Location: Unit H, Sec13 T32N R12W, County: San Juan, NM

Pit Type: Separator ☒ Dehydrator ☐ Other ☐

Land Type: BLM



Pit Location: Pit dimensions: length 25' width 16' depth 20'
(Attach diagram)

Reference: wellhead ☒Footage from reference: 30'Direction from reference: 30 Degrees South of East**Depth To Ground Water:**

(Vertical distance from
contaminants to seasonal
high water elevation of
ground water)

Less than 50 feet	(20 points)
50 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 ☒

Approx. cubic yards 300

(Check all appropriate
sections)

Landfarmed ☒

Insitu Bioremediation _____

Remediation Location: Onsite landfarmed

General Description Of Remedial Action: All contaminated soils were excavated from the pit area to bedrock of shale at approx. 20 feet. Recovered soils were distributed in a twelve inch lift on site and plowed/tilled ten (10) times over a seven month period. Following sampling for clearance, landfarm remediated soils were backfilled into the original pit area.

Ground Water Encountered: No ☒ Yes _____ Depth _____

Closure Sampling

Sample Horton 10

Sample location Pit bottom excavation 5 point composite

Sample depth Refusal at approximately 20' BGS

Lab ID Horton 10 CPC

Sample date 11/09/00 Sample time 11:55AM

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 3-4' BGS

Lab ID Horton 10 SWC

Sample Date 11/09/00

Sample Time 12:05 PM

Sample Results

Benzene (ppm) NA

Total BTEX (ppm) NA

Field headspace 0.0

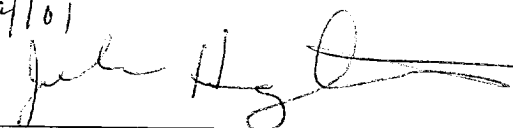
TPH ND

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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TO
APPROPRIATE

DISTRICT
OFFICE
AND 1 COPY TO

SANTA FE
OFFICE

1220 St. Francis Drive
Santa Fe, New Mexico 87505

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 10

Location: Unit H, Section: 13 T32N R12W

County: San Juan, NM

Land Type BLM X State , Fee , Other _____

Landfarm location Length: 80' Width: 40'

Reference: Wellhead: X Other: _____

Footage from reference: 60'

Direction from reference: 70° South of East

Refer to attached map for land farm location

GENERAL DISCRIPTION of LANDFARM ACTIVITIES: The contaminated soil from the pit area was excavated to approx. 20' where bedrock of shale was encountered. The recovered soil was landfarmed on location. The twelve inch lifts were plowed/tilled, ten (10) times over a seven-month period. Following land farm remediation treated soils were clearance sampled and 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: 12:15 PM

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:

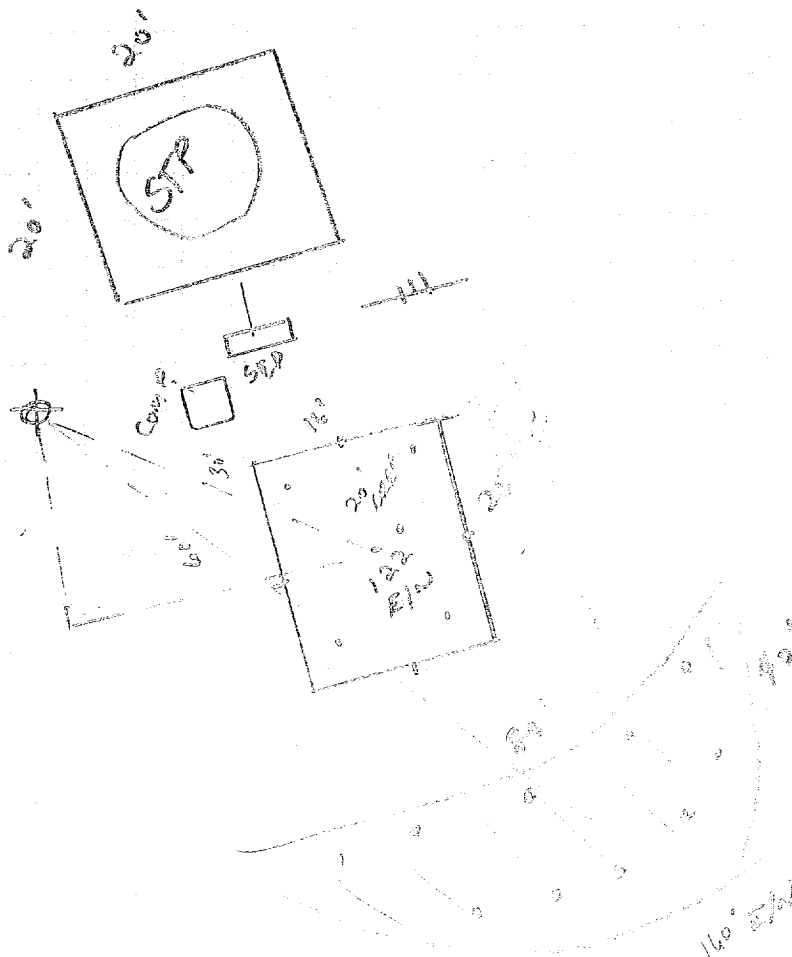
Print Name: John Hagstrom

Title: Environmental Technician



DATE 11/9/00
BY JPH

SUBJECT HORTON 10
SE/WB SEC 13 T22N R12W S40 Judd County



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



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

November 20, 2000

Larry Trujillo
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.: 0011022

Dear Larry Trujillo,

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

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



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: 0011022

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

ANALYTICAL REPORT

Date: 20-Nov-00

Client:	On Site Technologies Limited	Client Sample Info:	Hallador Pits
Work Order:	0011022	Client Sample ID:	Horton 10 CPC
Lab ID:	0011022-01A	Matrix:	SOIL
Project:	4-1771; Hallador Pits	Collection Date:	11/9/2000 11:55:00 AM
		COC Record:	11010

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	11/17/2000

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

Surrogate

1 of 3

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EMAIL: ONSITE@ONSITELTD.COM

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



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

ANALYTICAL REPORT

Date: 20-Nov-00

Client: On Site Technologies Limited
Work Order: 0011022
Lab ID: 0011022-02A **Matrix:** SOIL
Project: 4-1771; Hallador Pits

Client Sample Info: Hallador Pits
Client Sample ID: Horton 10 SWC
Collection Date: 11/9/2000 12:05:00 PM
COC Record: 11010

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	11/17/2000

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

2 of 3

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



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

ANALYTICAL REPORT

Date: 20-Nov-00

Client: On Site Technologies Limited
Work Order: 0011022
Lab ID: 0011022-03A **Matrix:** SOIL
Project: 4-1771; Hallador Pits

Client Sample Info: Hallador Pits
Client Sample ID: Horton 10 LFC
Collection Date: 11/9/2000 12:15:00 PM
COC Record: 11010

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	11/17/2000

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

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R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

3 of 3

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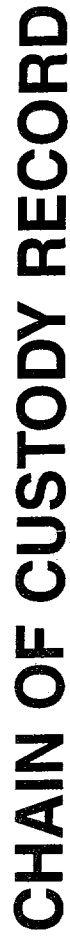


Figure 1. The four types of the *Phragmites* communities in the study area.

Date: _____

Page: _____ of _____

Distribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client