

District I
1625 N French Dr., Hobbs, NM 88240
District II
1301 W Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S St Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
July 21, 2008

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office

9471
Pit, Closed-Loop System, Below-Grade Tank, or
Proposed Alternative Method Permit or Closure Plan Application

Type of action: ☐ Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method
☐ Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method
☐ Modification to an existing permit
☒ Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances

1. Operator HALLADOR PETROLEUM LLP OGRID # 12672
Address: 1660 LINCOLN ST., SUITE 2700, DENVER, CO 80264
Facility or well name HORTON 3
API Number 30-045-11448 OCD Permit Number: _____
U/L or Qtr/Qtr G Section 13 Township 32 N Range 12 W County SAN JUAN
Center of Proposed Design. Latitude 36.98752° N Longitude 108.04360° W NAD: ☐ 1927 ☒ 1983
Surface Owner: ☐ Federal ☐ State ☒ Private ☐ Tribal Trust or Indian Allotment

RCVD DEC 15 '08
OIL CONG. DIV.
DIST. 2

2. ☐ **Pit:** Subsection F or G of 19.15 17 11 NMAC
Temporary: ☐ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A
☐ Lined ☐ Unlined Liner type: Thickness mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☐ String-Reinforced
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____ Volume bbl Dimensions: L' x W' x D'

3. ☐ **Closed-loop System:** Subsection II of 19.15 17 11 NMAC
Type of Operation: ☐ P&A ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other _____
☐ Lined ☐ Unlined Liner type: Thickness _____ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
Liner Seams ☐ Welded ☐ Factory ☐ Other _____

4. ☒ **Below-grade tank:** Subsection I of 19.15 17 11 NMAC
Volume 25 bbl Type of fluid: produced water
Tank Construction material single wall fiberglass
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☒ Visible sidewalls only ☐ Other _____
Liner type Thickness _____ mil ☐ HDPE ☐ PVC ☐ Other _____

5. ☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval

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Fencing: Subsection D of 19 15 17 11 NMAC (*Applies to permanent pits, temporary pits, and below-grade tanks*)

- ☐ Chain link, six feet in height, two strands of barbed wire at top (*Required if located within 1000 feet of a permanent residence, school, hospital, institution or church*)
- ☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
- ☒ Alternate Please specify **48" high (= 36" hog wire + rebar top)**

7.

Netting: Subsection E of 19 15 17 11 NMAC (*Applies to permanent pits and permanent open top tanks*)

- ☐ Screen ☒ Netting ☐ Other _____
- ☐ Monthly inspections (If netting or screening is not physically feasible)

8.

Signs: Subsection C of 19 15 17 11 NMAC

- ☒ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
- ☐ Signed in compliance with 19 15 3.103 NMAC

9.

Administrative Approvals and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19 15 17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

- ☐ Administrative approval(s) Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval.
- ☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

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Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank - NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark) - Topographic map, Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to temporary, emergency, or cavitation pits and below-grade tanks) - Visual inspection (certification) of the proposed site; Aerial photo, Satellite image	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application (Applies to permanent pits) - Visual inspection (certification) of the proposed site; Aerial photo, Satellite image	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application - NM Office of the State Engineer - iWATERS database search, Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality, Written approval obtained from the municipality	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map, Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design: NM Bureau of Geology & Mineral Resources, USGS, NM Geological Society, Topographic map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19 15 17 9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☒ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19 15 17.9 NMAC
- ☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19 15 17 9 NMAC
- ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19 15 17 10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19 15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19 15 17 12 NMAC
- ☒ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC
- ☐ Previously Approved Design (attach copy of design) API Number _____ or Permit Number _____

12.

Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19 15 17 9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19 15 17 9
- ☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19 15 17 10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19 15 17 11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15 17 12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19.15.17 13 NMAC
- ☐ Previously Approved Design (attach copy of design) API Number _____
- ☐ Previously Approved Operating and Maintenance Plan API Number _____ (Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

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Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19 15 17 9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15 17 10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19 15 17 11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15 17 11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19 15 17 11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19 15 17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15 17 12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19 15.17 11 NMAC
- ☐ Nuisance or Hazardous Odors, including H₂S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC

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Proposed Closure: 19 15 17 13 NMAC**Instructions:** Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

- Type. ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☒ Below-grade Tank ☐ Closed-loop System
- ☐ Alternative
- Proposed Closure Method ☒ Waste Excavation and Removal
- ☐ Waste Removal (Closed-loop systems only)
- ☐ On-site Closure Method (Only for temporary pits and closed-loop systems)
- ☐ In-place Burial ☐ On-site Trench Burial
- ☐ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15.

Waste Excavation and Removal Closure Plan Checklist: (19 15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- ☒ Protocols and Procedures - based upon the appropriate requirements of 19 15 17 13 NMAC
- ☒ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19 15 17 13 NMAC
- ☒ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☒ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC
- ☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19 15 17 13 NMAC
- ☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19 15 17 13 D NMAC)

Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name _____ Disposal Facility Permit Number _____

Disposal Facility Name: _____ Disposal Facility Permit Number _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please provide the information below) ☐ No

Required for impacted areas which will not be used for future service and operations

☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19 15 17 13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC

Siting Criteria (regarding on-site closure methods only): 19 15 17 10 NMAC

Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 50 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Ground water is more than 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark) - Topographic map, Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application - Visual inspection (certification) of the proposed site, Aerial photo, Satellite image	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database, Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality, Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 500 feet of a wetland - US Fish and Wildlife Wetland Identification map, Topographic map, Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within the area overlying a subsurface mine - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design, NM Bureau of Geology & Mineral Resources, USGS, NM Geological Society, Topographic map	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> No

On-Site Closure Plan Checklist: (19 15 17 13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19 15 17.10 NMAC
- ☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19 15.17 13 NMAC
- ☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19 15.17 11 NMAC
- ☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15 17 11 NMAC
- ☐ Protocols and Procedures - based upon the appropriate requirements of 19 15.17 13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19 15 17 13 NMAC
- ☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19 15 17 13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- ☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15 17 13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19 15 17 13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC

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Operator Application Certification:

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief

Name (Print) **BRIAN WOOD** Title **CONSULTANT**

Signature Brian Wood Date **12-10-08**

e-mail address **brian@permitswest.com** Telephone **(505) 466-8120**

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OCD Approval: ☐ Permit Application (including closure plan) ☒ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: Jonathan D. Kelly Approval Date: 3/09/2012

Title: Compliance Officer OCD Permit Number: _____

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Closure Report (required within 60 days of closure completion): Subsection K of 19 15.17.13 NMAC

Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ Closure Completion Date: _____

22.

Closure Method:

☐ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
☐ If different from approved plan, please explain.

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Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:

Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name _____ Disposal Facility Permit Number: _____

Disposal Facility Name _____ Disposal Facility Permit Number: _____

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations

- ☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

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Closure Report Attachment Checklist: *Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.*

- ☐ Proof of Closure Notice (surface owner and division)
☐ Proof of Deed Notice (required for on-site closure)
☐ Plot Plan (for on-site closures and temporary pits)
☐ Confirmation Sampling Analytical Results (if applicable)
☐ Waste Material Sampling Analytical Results (required for on-site closure)
☐ Disposal Facility Name and Permit Number
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique
☐ Site Reclamation (Photo Documentation)

On-site Closure Location Latitude _____ Longitude _____ NAD ☐ 1927 ☐ 1983

25.

Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan

Name (Print) _____ Title: _____

Signature _____ Date _____

e-mail address _____ Telephone _____

Hallador Petroleum LLP

PAGE 1

Horton 3 below grade tank proposed closure

1850' FNL & 1550' FEL Sec. 13, T. 32 N., R. 12 W.

San Juan County, New Mexico

API # 30-045-11448

Current Situation

There is a 25 barrel single wall fiberglass tank. Walls are visible. Tank is surrounded by hog wire fence topped with re-bar. There is no secondary containment. The tank has a nylon net top. After removal of the existing tank, water will be piped to a planned below grade tank. Application for it will be made once the design is finalized.

Time Line

Will close after approval of this application and before June 16, 2013. Will close earlier if OCD determines there is an imminent danger to fresh water, public health, or the environment.

Siting Criteria

1. Depth to ground water is estimated to be >100'. Closest reported water depth is the Decker water well which is $\approx 7,500'$ southeast in 19-32n-11w and is in the San Jose Formation. Next closest well is the Wayne well which is $\approx 9,200'$ southwest in 23-32n-12w and is in the Nacimiento Formation, which is the same surface formation at this gas well. Office of the State Engineer records are attached as Exhibit A. Exhibit B shows the well locations. (There are no closer wells in Colorado.)

$\approx 6,605'$ Decker water well ground elevation

- 155' depth to water

$\approx 6,450'$ San Jose water level elevation

6,182' Wayne water well elevation

- 60' depth to water

6,122' Nacimiento water level elevation

6,454' gas well elevation

- 3' depth to bottom of tank

6,451' tank bottom elevation

- 6,122' Nacimiento water level elevation

$\approx 329'$ depth to water

No water was found when Hallador excavated an 8' deep pit in 2003 (Exhibit C).

Hallador Petroleum LLP

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Horton 3 below grade tank proposed closure

1850' FNL & 1550' FEL Sec. 13, T. 32 N., R. 12 W.

San Juan County, New Mexico

API # 30-045-11448

2. Tank is not within 300' of a continuously flowing watercourse. Tank is not within 200' of any other significant watercourse as defined by OCD. Closest first order tributary of Jaquez Arroyo is \approx 6,000' west (Exhibits B & D).
3. Tank is not within 300' of any building. Closest buildings are more than 1/4 mile distant (Exhibit E).
4. Tank is not within 1,000' of any fresh water well or spring (Exhibits A & B).
5. Tank is not within municipal boundaries or within a municipal fresh water well field (Exhibits A & B).
6. Tank is not within 500' of a wetland (Exhibit F).
7. Tank does not overly a mine (Exhibit G).
8. Tank is not in an unstable area. No evidence of earth movement was found during a November 6, 2008 field inspection.
9. Tank is not within a 100 year flood plain (Exhibit H).
10. C-102 is attached as Exhibit I.
11. Closure notice to the surface owner (Roddy) is attached as Exhibit J.

Hydrogeology

Surface formation is the Nacimiento. According to Stone et al in Hydrogeology and water resources of San Juan Basin, New Mexico, the Nacimiento is mainly a mudstone. There are also medium to coarse grained sandstone layers in the Nacimiento. Transmissivities of 100 feet² per day can be found in the coarser continuous sandstones. Water in the more extensive sandstones has a specific conductance of 1,500 μ mhos. Specific conductance is >2,000 μ mhos in the finer grained sandstones.

Hallador Petroleum LLP

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Horton 3 below grade tank proposed closure

1850' FNL & 1550' FEL Sec. 13, T. 32 N., R. 12 W.

San Juan County, New Mexico

API # 30-045-11448

Closure Plan

Surface owner has been notified via certified return receipt requested mail of the proposed closure.

Will verbally notify OCD at least 72 hours and no more than 1 week before closure. Notice to OCD will include operator name, location (quarter-quarter, section, township, & range), well name & number, and API number.

Will pump out any remaining water and haul to Basin Disposal (NM-01-005)

Will haul sludge to J F J Land Farm (NM-01-010).

Will truck waste qualifying under OCD Rule 19.15.9.712 to the San Juan County landfill.

Will remove tank, pipes, and associated equipment and store at company yard for future reuse.

Will test soil under tank to determine if a release has occurred, even if there is no visible contamination. Will collect, at a minimum, a five point composite sample. Will collect individual grab samples from any area that is wet, discolored, or showing other evidence of a release. Will analyze all samples for:

<u>Component</u>	<u>Test Method</u>	<u>Not to Exceed (mg/kg)</u>
benzene	EPA SW-846 8021B or 8260B	0.2
total BTEX	EPA SW-846 8021B or 8260B	50
TPH	EPA 418.1	100
chlorides	EPA 300.1	250 or background

If the operator or OCD determines that a release has occurred, then the operator will comply with OCD rules 19.15.3.116 NMAC and 19.15.1.19 NMAC,

Horton 3 below grade tank proposed closure
1850' FNL & 1550' FEL Sec. 13, T. 32 N., R. 12 W.
San Juan County, New Mexico
API # 30-045-11448

as appropriate. A major (>25 barrels) release requires immediate verbal notice and timely written notice to OCD. A minor release (more than 5 barrels and less than 25 barrels) requires timely written notice to OCD. Timely is defined as 15 days. Written notice will include Form C-141. OCD may require additional sampling delineation upon its review of the results.

If the sampling program demonstrates that a release has not occurred, or that any release does not exceed the concentrations specified in Paragraph (4) of Subsection E of 19.15.17.13 NMAC (table on preceding page); then the operator will back fill the excavation with compacted waste free earthen material, construct an OCD prescribed soil cover, recontour, and revegetate the site. The soil cover, recontouring and re-vegetation requirements will comply with Subsections G, H and I of 19.15.17.13 NMAC. Specific steps are:

- ___ back fill to within 12" of grade
- ___ bring to grade with 12" topsoil or background thickness, whichever is more
- ___ contour to prevent ponding or erosion
- ___ seed first growing season after closure
- ___ seed with at least 3 native species, at least 1 of which must be a grass
(recommend grass species only for safety & keep seed bag tag)
- ___ seed mix will exclude noxious weeds
- ___ cover seed

Will file closure report on Form C-144 within 60 days of closure completion with necessary attachments to document all closure activities including:

- ___ proof of notice to surface owner
- ___ proof of notice to OCD
- ___ plot plan
- ___ chemical sampling analysis results
- ___ disposal facility name and permit number
- ___ back filling & cover details
- ___ seeding rate per species
- ___ how seeded
- ___ photograph of seeded area

Hallador Petroleum LLP

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Horton 3 below grade tank proposed closure

1850' FNL & 1550' FEL Sec. 13, T. 32 N., R. 12 W.

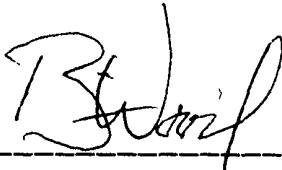
San Juan County, New Mexico

API # 30-045-11448

Successful revegetation will be accomplished if:

- ___ plant cover equals 70% of adjacent impact free native perennial vegetation
(noxious weeds are not counted toward 70% goal)
- ___ 70% goal maintained for 2 consecutive growing seasons without irrigation
if unsuccessful, repeat until goals is achieved
- ___ notify OCD when 70% goal has been met for 2 consecutive growing seasons
- ___ file Form C-144
- ___ include photograph of revegetated area

Executed this 10th day of December, 2008.



Brian Wood, Consultant

Permits West, Inc.

37 Verano Loop, Santa Fe, NM 87508

(505) 466-8120

FAX: (505) 466-9682

Cellular: (505) 699-2276

The operator's representative is:

Tim Lovseth

Hallador Petroleum LLP

1660 Lincoln St., Suite 2700

Denver, CO 80264

(303) 839-5504, Extension 317

**New Mexico Office of the State Engineer
POD Reports and Downloads**

Township: Range: Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ☐ Non-Domestic ☐ Domestic ☒ All

WATER COLUMN REPORT 12/10/2008

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are biggest to smallest)

POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water (in feet) Column
<u>SJ 01213</u>	32N	12W	18	2	3	4				640	20	620
<u>SJ 01212</u>	32N	12W	18	4	1	3				43	5	38
<u>SJ 03583</u>	32N	12W	23	1	1	1				167	60	107
<u>SJ 00055</u>	32N	12W	25	2						504		
<u>SJ 02110</u>	32N	12W	28	2	1	4	W	391500	2170000	171	90	81
<u>SJ 01106</u>	32N	12W	35	3	4					180	115	65

Record Count: 6

New Mexico Office of the State Engineer

12/10/08 8:20 AM

**New Mexico Office of the State Engineer
POD Reports and Downloads**

Township: Range: Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ☐ Non-Domestic ☐ Domestic ☒ All

WATER COLUMN REPORT 12/10/2008

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are biggest to smallest)

POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water (in feet) Column
<u>SJ 01360</u>	32N	11W	19	2	2					180	155	25
<u>SJ 01327</u>	32N	11W	23	2	2	3				90	50	40
<u>SJ 00021</u>	32N	11W	23	3						585		
<u>SJ 00017</u>	32N	11W	24	2						105		
<u>SJ 00020</u>	32N	11W	29	3						588		
<u>SJ 00026</u>	32N	11W	22	2								

EXHIBIT A

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1090 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr
Santa Fe, NM 87505

Submit 1 copy to
appropriate
District Office
and 1 copy to
the Santa Fe Office

(Revised 3/9/94)

PIT REMEDIATION AND CLOSURE REPORT

30-045-11448

Operator Hallador Petroleum, LLP Telephone 1-800-839-5506

Address 1660 Lincoln Street, Denver, CO 80264

Facility Or Horton 3
Well Name

Location Unit G Sec 13, T 32N, R 12W, County San Juan, NM

Pit Type: Separator X Dehydrator Other

Land Type BLM X State Fee Other



Pit Location Pit dimensions: length 30', width 30', depth 8'

Attach diagram)

Reference wellhead X, other

Footage from reference: 45'

Direction from reference: 35 Degrees West of North

Depth To Ground Water	Less than 50 feet	No	(20 points)
Vertical distance from	50 feet to 99 feet		(10 points)
contaminants to seasonal	Greater than 100 feet		(0 points)
high water elevation of			<u>0</u>
round water)			

Wellhead Protection Area.		(20 points)
Less than 200 feet from a private	No	(0 points)
domestic water source, or; less than		<u>0</u>
1000 feet from all other water sources)		

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	Yes (0 points)
irrigation canals and ditches.)		<u>0</u>

RANKING SCORE (TOTAL POINTS): 0

EXHIBIT C

Date Remediation Started 10/1999 Date completed 6/2003

Remediation Method Excavation X Approx cubic yards 266
(Check all appropriate sections.) Landfarmed X Insitu Bioremediation

Other

Remediation Location: Onsite Landfarmed Offsite

(i.e. landfarmed onsite,
name and location of
offsite facility)

General Description of Remedial Action. Contaminated soils were excavated from pit area to a bedrock (shale) at approx. 8 feet. Recovered soil was distributed on the location and plowed and tilled periodically over a two year period.

Ground Water Encountered: No X Yes Depth

Final Pit

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

Sample location Horton 3, pit excavation bottom

Sample depth 1' below excavated bottom approx. 8' BGS

Sample Date 11/09/00 Sample time 1150

Sample Results

Benzene(ppm) NA

Total BTEX(ppm) NA

Field headspace(ppm) 0.0

TPH 50 mg/Kg

Sample location Horton 3, side wall

Sample depth 3-4' BGS

Sample Date 11/09/00 Sample time 1125

Sample Results

Benzene(ppm) NA

Total BTEX(ppm) NA

Field headspace(ppm) 0.0

TPH 210 mg/Kg

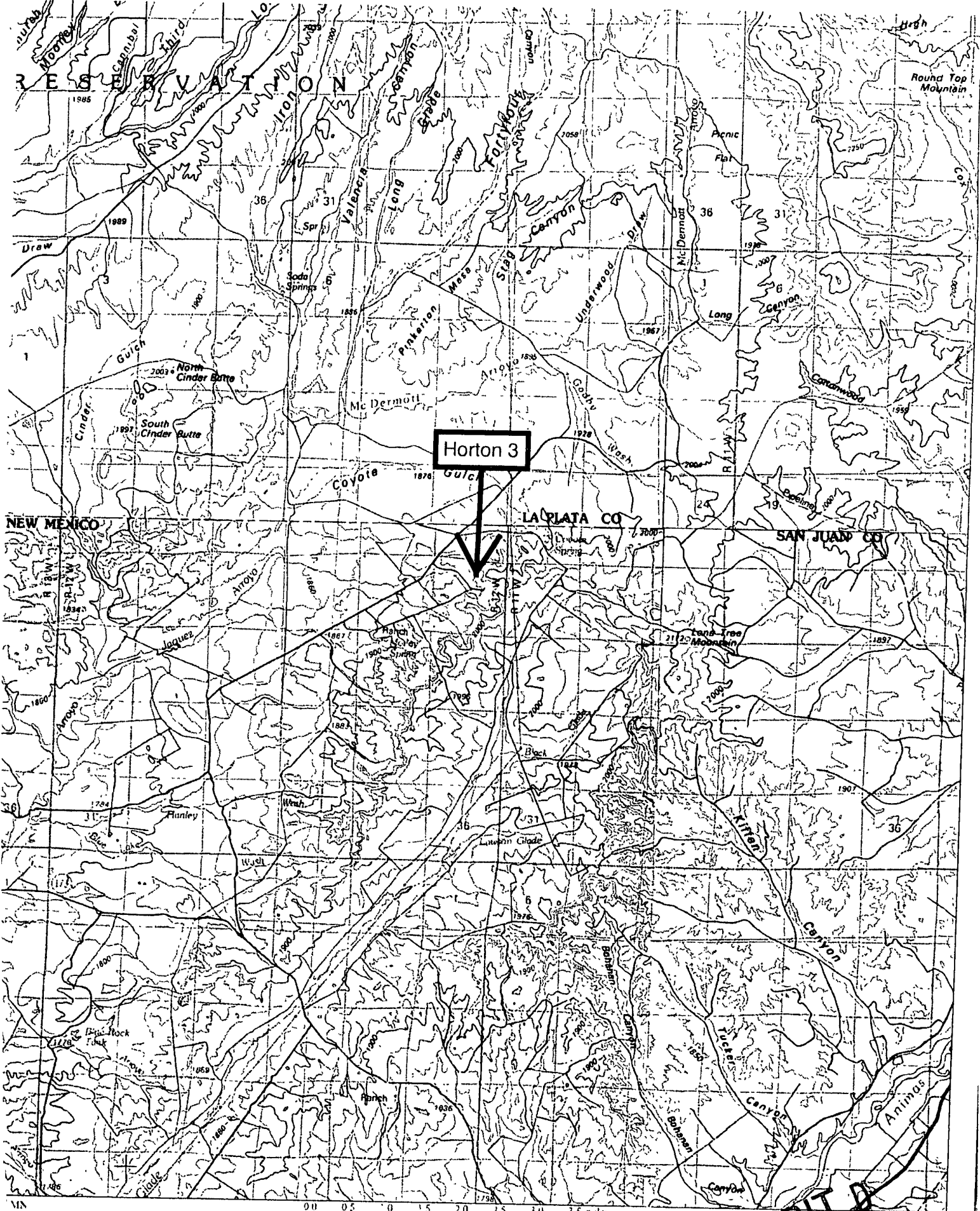
Ground Water Sample. Yes No X (If yes, attach sample results)

As an Agent for Hallador, LLP, I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Date 7/11/03

Signature John Hagstrom

Printed Name: John Hagstrom
and Title: Environ. Technician



11°

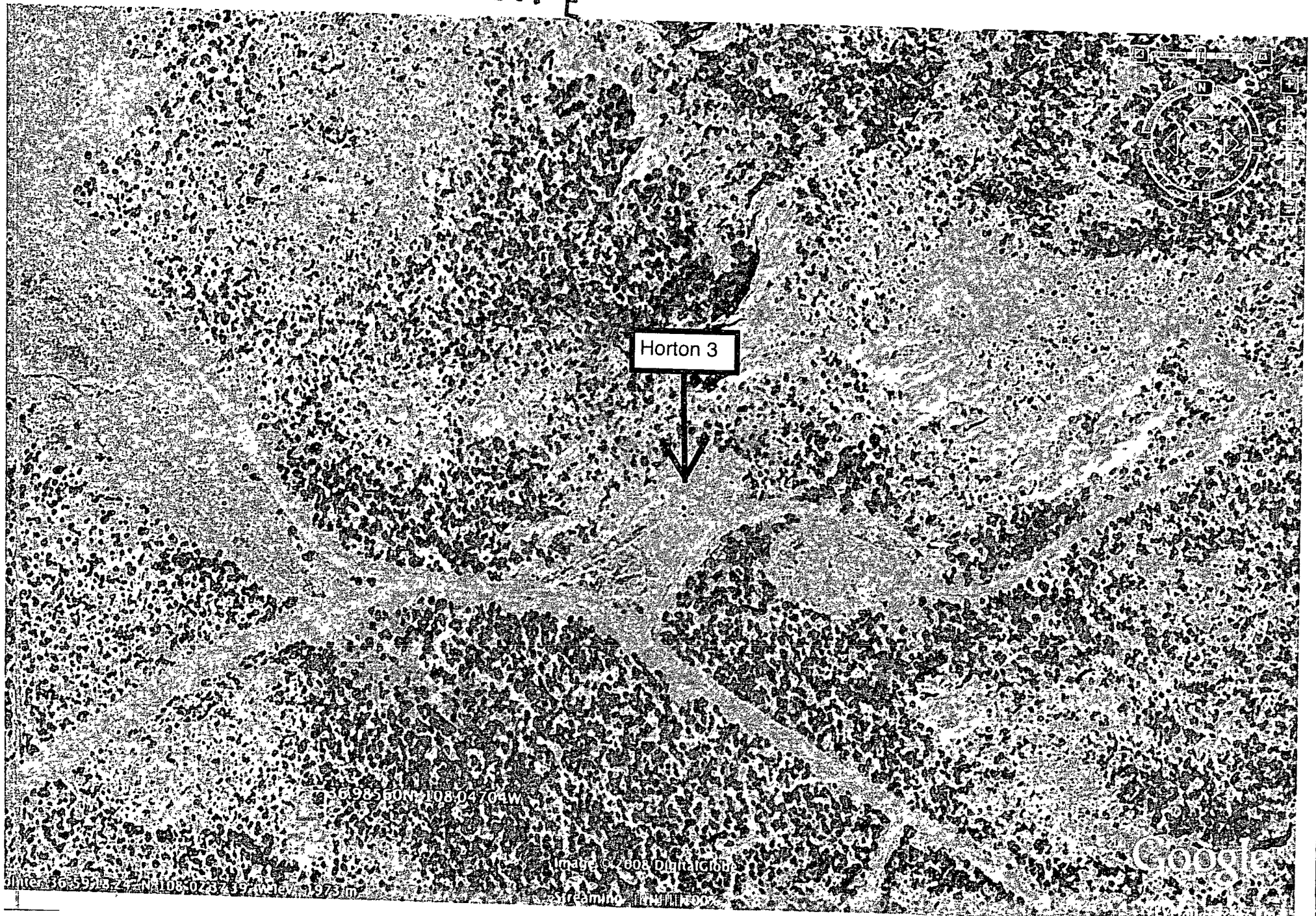
0 0.5 1 1.5 2 2.5 3 3.5 miles

0 1 2 3 4 5 km

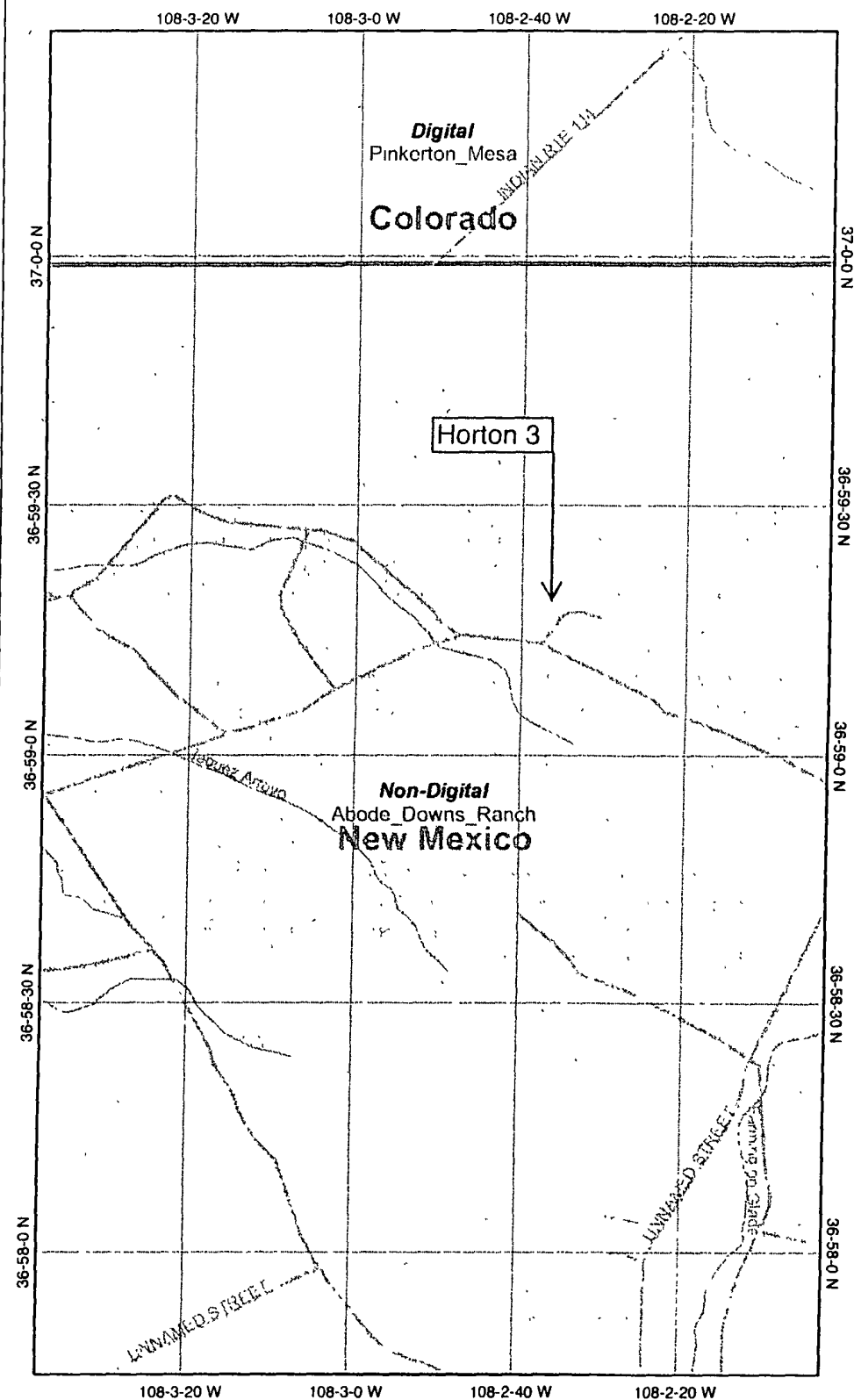
Map created with TOPON v. 122003 National Geographic (www.nationalgeographic.com/topo)

EXHIBIT D

EXHIBIT E



13-32n-12w wetland map



Legend

- Interstate
- Major Roads
- Other Road
- Interstate
- State highway
- US highway
- Roads
- Cities
- USGS Quad Index 24K
- Lower 48 Wetland Polygons
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Lower 48 Available Wetland Data
- Non-Digital
- Digital
- No Data
- Scan
- NHD Streams
- Counties 100K
- States 100K
- South America
- North America

EXHIBIT F



Scale: 1:24,000

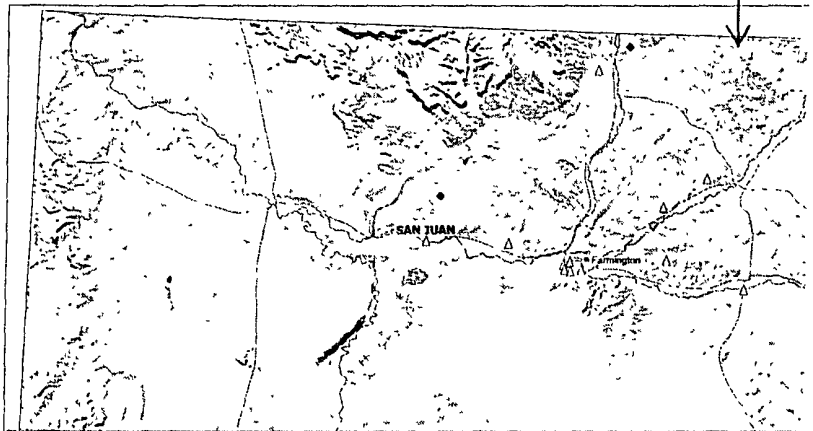
Map center: 36° 59' 6" N, 108° 2' 50" W

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

MMQonline Public Version

Mines, Mills & Quarries Commodity Groups

- △ Aggregate & Stone Mines
- ◆ Coal Mines
- ☆ Industrial Minerals Mines
- ▽ Industrial Minerals Mills
- ☐ Metal Mines and Mill Concentrate
- Potash Mines & Refineries
- ⌘ Smelters & Refinery Ops.
- * Uranium Mines



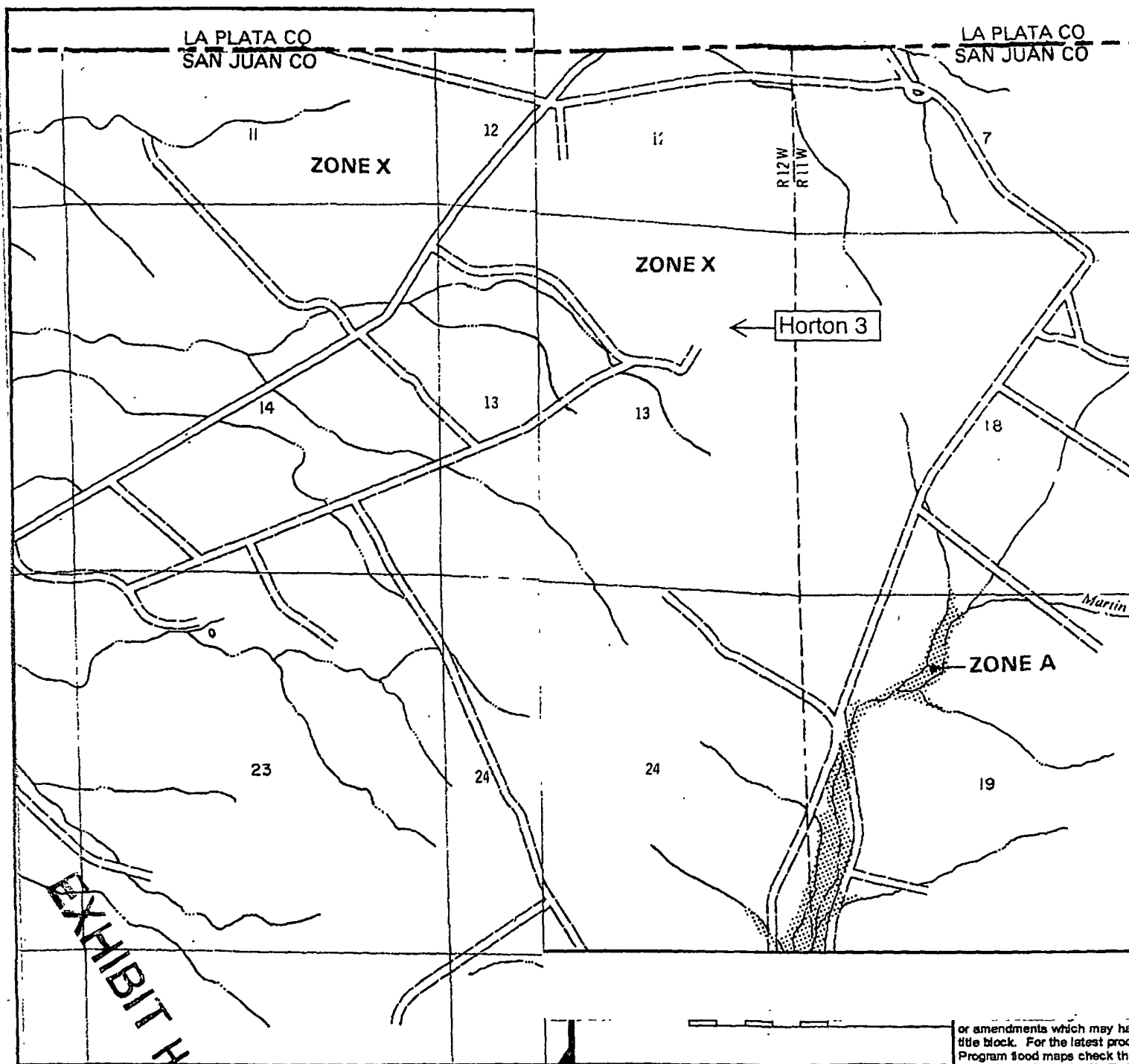
SCALE 1 : 974,401



EXHIBIT G



APPROXIM

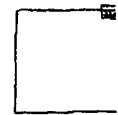


NATIONAL FLOOD INSUR

FIRM
FLOOD INSURANCE

SAN JUAN COUN
NEW MEXICO
UNINCORPORATED

PANEL 150 OF 1450
(SEE MAP INDEX FOR PANEL)



PANEL LOCATION

COMMUNITY-PAN
31

EFFECT
AL



Federal Emergency Manag

This is an official copy of a portion of the above referenced
was extracted using F-MIT On-Line. This map does not re
or amendments which may have been made subsequent to
title block. For the latest product information about Nation
Program flood maps check the FEMA Flood Map Store at

or amendments which may have been made subsequent to the date on the
title block. For the latest product information about National Flood Insurance
Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

EXHIBIT H

NEW MEXICO
OIL CONSERVATION COMMISSION

Gas Well Plat

Date _____

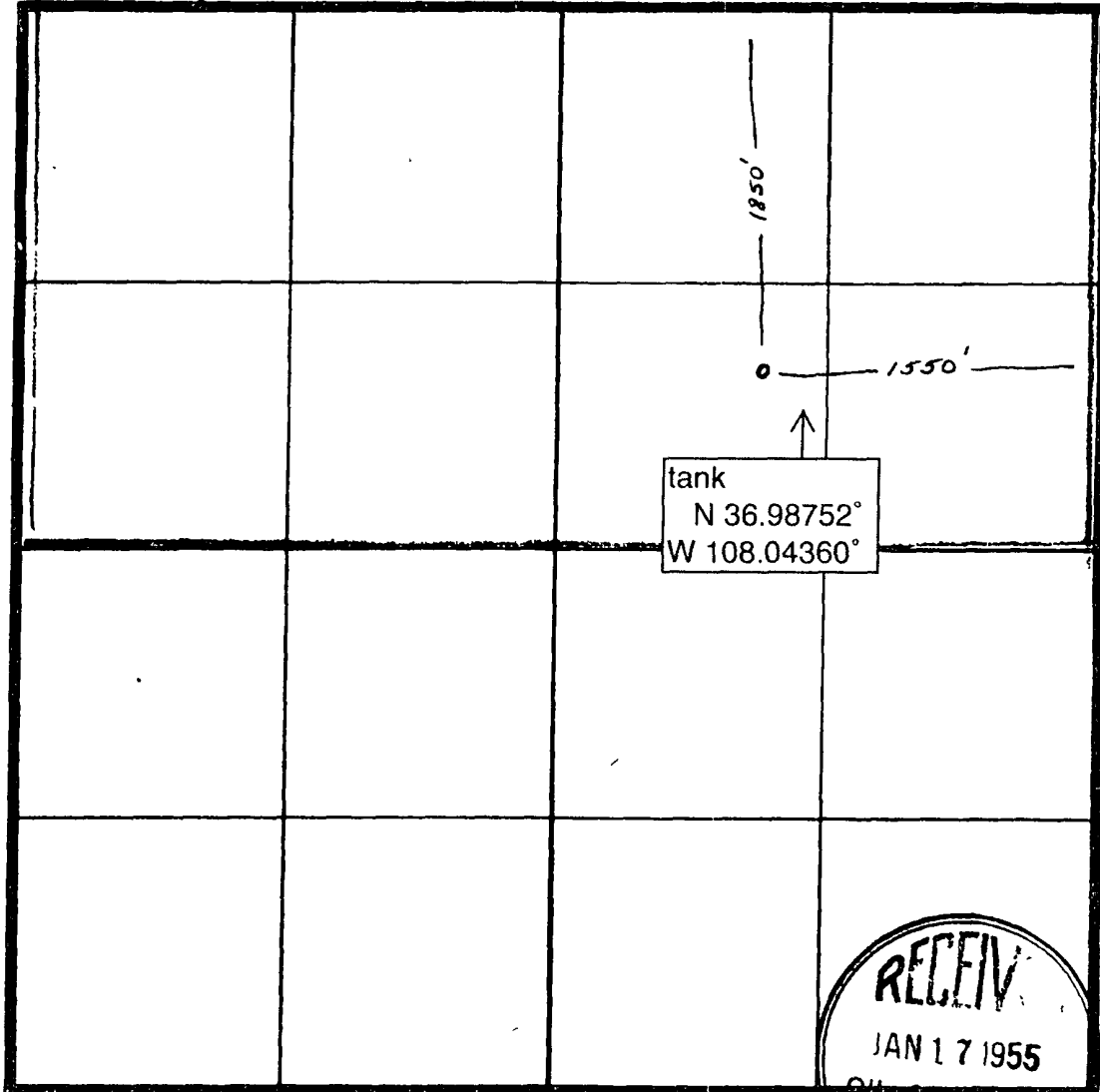
KENNETH MURCHISON HORTON 3
Operator Lease Well No.

Name of Producing Formation Mesa Verde Pool BLANCO

No. Acres Dedicated to the Well 3306 N. 31.7. 36

Indicate land status and show ownership Federal

SECTION N/2 13 TOWNSHIP 33 N RANGE 12 W



I hereby certify that the information given above is true and complete to the best of my knowledge.

Name Mitchell
Position Agent
Representing Kenneth Murchison
Address 1315 Pacific, Dallas, Texas

(over.)

EXHIBIT 1

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

December 8, 2008

Kenneth & Joyce Roddy Trust
P. O. Box 133197
Tyler, TX 75713-3197

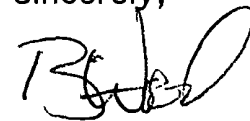
Dear Trustee(s):

As required by NMOCD rule Subsection J of 19.15.17.13 NMAC, I am notifying BLM that Hallador Petroleum LLP plans to close the following below grade tanks on your surface in San Juan County, NM:

<u>Well</u>	<u>API Number</u>	<u>Location</u>
Horton 3	30-045-11448	SWNE 13-32n-12w
Horton 3A	30-045-23394	SWNW 13-32n-12w
Horton 3C	30-045-31673	NENW 13-32n-12w
Horton 8	30-045-21846	SWNW 13-32n-12w
Horton 10	30-045-22935	SENE 13-32n-12w

Please call me if you have any questions.

Sincerely,



Brian Wood

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only, No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com

OFFICIAL USE	
Postage	\$ 4.2
Certified Fee	2.70
Return Receipt Fee (Endorsement Required)	2.20
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 5.32

QUICK-NO
SANTA FE
8-508
DEC 07
Postmark
Here 2008
USPS

Sent To: Roddy
Street, Apt. No.,
or PO Box No.
City, State, ZIP+4

EXHIBIT J

Power of Attorney

Know All Men By These Presents:

That I, Victor P. Stabio, Chief Executive Officer and President of Hallador Petroleum Company, with offices at 1660 Lincoln Street, Suite 2700, Denver, Colorado 80264, have made, constituted, and appointed, and by these presents do make, constitute and appoint Brian Wood of Permits West, Inc., whose address is 37 Verano Loop, Santa Fe, New Mexico 87505, my true and lawful attorney, for me, and in my name, place and stead, and to my use to sign any and all forms submitted on behalf of Hallador Petroleum Company to the New Mexico Oil Conservation Division.

This Power of Attorney is execute this 8th day of December, 2008, but shall be effective for all intents and purposes as of June 16, 2008.

By: 

Victor P. Stabio

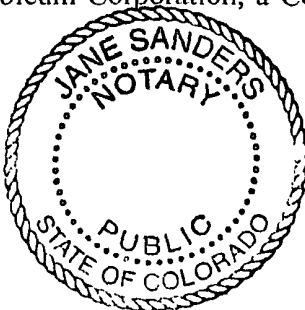
Chief Executive Officer and President of
Hallador Petroleum Company

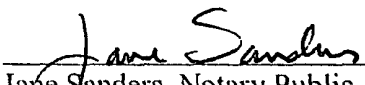
Corporate Acknowledgment

STATE OF COLORADO }
CITY AND } §
COUNTY OF DENVER }

Before me, a Notary Public in and for said County and State, on this 8th day of December, 2008, personally appeared Victor P. Stabio, Chief Executive Officer and President of Hallador Petroleum Corporation, a Colorado corporation, on behalf of said corporation.

My commission expires:
June 7, 2011




Jane Sanders, Notary Public
1660 Lincoln Street, Suite 2700
Denver, Colorado 80264

My Commission Expires 06/07/2011