

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

SEP 25 2009

REC'D OLD DIST II

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.

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: Mewbourne Oil Company OGRID #: 14744
Address: PO Box 5270 Hobbs NM 88241
Facility or well name: Penlon Ranch 24 #2
API Number: 30-015-36277 OCD Permit Number: _____
U/L or Qtr/Qtr E Section 24 Township 20S Range 27E County: Eddy
Center of Proposed Design: Latitude N 32°33'41" Longitude W 104°14'26" NAD: ☒ 1927 ☐ 1983
Surface Owner: ☐ Federal ☒ State ☐ Private ☐ Tribal Trust or Indian Allotment

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 20 mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☒ String-Reinforced
Liner Seams: ☐ Welded ☒ Factory ☐ Other _____ Volume: 14400 bbl Dimensions: L 120 x W 100 x D 8

3.
☐ **Closed-loop System:** Subsection H 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: _____ bbl Type of fluid: _____
Tank Construction material: _____
☐ 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.

6.

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 _____

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.

10.

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

☐ Yes ☒ 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

☐ Yes ☒ 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

☐ Yes ☒ No

☐ 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

☐ Yes ☐ No

☒ 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

☐ Yes ☒ 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

☐ Yes ☒ No

Within 500 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☒ No

Within the area overlying a subsurface mine.

- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

☐ Yes ☒ No

Within an unstable area.

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

☐ Yes ☒ No

Within a 100-year floodplain.

- FEMA map

☐ Yes ☒ No

11.

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)

13.

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

14.

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

16.

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

17.

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. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | <input type="checkbox"/> NA |
| Ground water is between 50 and 100 feet below the bottom of the buried waste | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | <input type="checkbox"/> NA |
| Ground water is more than 100 feet below the bottom of the buried waste. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | <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). | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| - Topographic map; Visual inspection (certification) of the proposed site | |
| Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image | |
| 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. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site | |
| 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. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| - Written confirmation or verification from the municipality; Written approval obtained from the municipality | |
| Within 500 feet of a wetland. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site | |
| Within the area overlying a subsurface mine. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division | |
| Within an unstable area. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map | |
| Within a 100-year floodplain. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| - FEMA map | |

18.

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

19.

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): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

20.

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

OCD Representative Signature: _____ **Approval Date:** _____

Title: _____ **OCD Permit Number:** _____

21.

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: 07/10/09

Earthwork Finished

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.

23.

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

Instructions: Please identify 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

24.

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 N 32.56155° Longitude W 104.24145 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): Charles Martin Title: Engineer

Signature: Charles L. Martin Date: 9-18-09

e-mail address: cmartin@newbourne.com Telephone: (575) 392-5905

Accepted for record SEP 25 2009
 NMOC

ATB



September 17, 2009

SEP 25 2009

Mr. Mike Bratcher
NMOCD District 2 Office
1301 W. Grand
Artesia, New Mexico 88210

RE: Penlon Ranch 24 State #2 Pit Closure, Mewbourne Oil Company
API: 30-015-36277
Sec 24, T 20S, R 27E, Eddy County, NM

Surface Owner: State
Analytical: Groundwater Protective Human Health Parameters, TPH GRO DRO, BTEX, Chlorides
Primary Land Use: Ranching/Oil and Gas.

Pursuant to Rule 19.15.17.10 NMAC of the New Mexico Oil Conservation District of the State of New Mexico regulatory requirement for temporary pit closure, please accept the following documentation for request of final closure of the temporary pit for the aforementioned location. The C-144 was approved for permit application and closure plan by Tim Gum on August 7, 2008.

Talon/LPE (Talon) was contracted by Mewbourne Oil Company (Mewbourne) to perform pit closure activities at the aforementioned location. During May 2009, Talon mixed all drill cuttings from the reserve pit with soil at a ratio of no more than 3 to 1 (soil to cuttings) to stabilize the soil in preparation for lined trench burial.

A five part composite sample was collected from the mixed pit contents on May 8, 2009 and submitted to Trace Analysis in Lubbock, Texas to be analyzed in compliance with 19.15.17.13 NMAC. Analyses indicate that these cuttings meet the NMOCD standards for trench burial. A five part composite pit bottom sample (C-1, attached) was collected on June 22, 2009 and indicate that the pit bottom soils are within acceptable NMOCD limits.

The north side of the reserve pit was over-excavated to create the burial trench which was lined with a 20 mil liner. The burial trench dimensions are 30 feet by 120 feet by 18 feet deep. Once the pit contents were placed onto the liner, a 20 mil cap liner was installed over the material to cover the burial cell. After final analytical review, the area was backfilled and covered with a minimum of three feet of native material and one foot of topsoil, and contoured to surrounding grade. The site was reseeded by broadcasting at a double seed ratio. The pit burial marker is placed at N 32.56155°, W 104.24145°. From the marker, the pit extends 20 feet north, 18 feet south, 53 feet west, and 57 feet east.

After review of the attached documents, it is requested that the NMOCD consider this pit properly closed.

Respectfully Submitted;

Kyle Summers
Senior Project Manager
Talon/LPE – Midland/Artesia
432.522.2133

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ENGINEERING
DRILLING
CONSTRUCTION
EMERGENCY RESPONSE

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911 West Anderson Lane
Suite 202
Austin, Texas 78757
Phone 512.989.3428
Fax 512.989.3487

TYLER
719 West Front Street
Suite 255
Tyler, Texas 75702
Phone 903.531.9971
Fax 903.531.9979

MIDLAND
2901 State Highway 349
Midland, Texas 79706
Phone 432.522.2133
Fax 432.522.2180

SAN ANTONIO
17170 Jordan Road
Suite 102
Selma, Texas 78154
Phone 210.579.0235
Fax 210.568.2191

TULSA
525 South Main Street
Suite 535
Tulsa, Oklahoma 74103
Phone 918.742.0871
Fax 918.382.0232

HOBBS
318 East Taylor Street
Hobbs, New Mexico 88241
Phone 505.393.4261
Fax 505.393.4658

ARTESIA
104 West Hermosa
Artesia, New Mexico 88210
Phone 575.746.8768
Fax 505.746.8905

MEWBOURNE OIL COMPANY
701 S. CECIL
PO BOX 5270
HOBBS, NM 88240
(575) 393-5905
(575) 397-6252 FAX

July 30, 2008

Commissioner Patrick H. Lyons
310 Old Santa Fe Trail
Santa Fe, NM 87504

Dear Mr. Lyons:

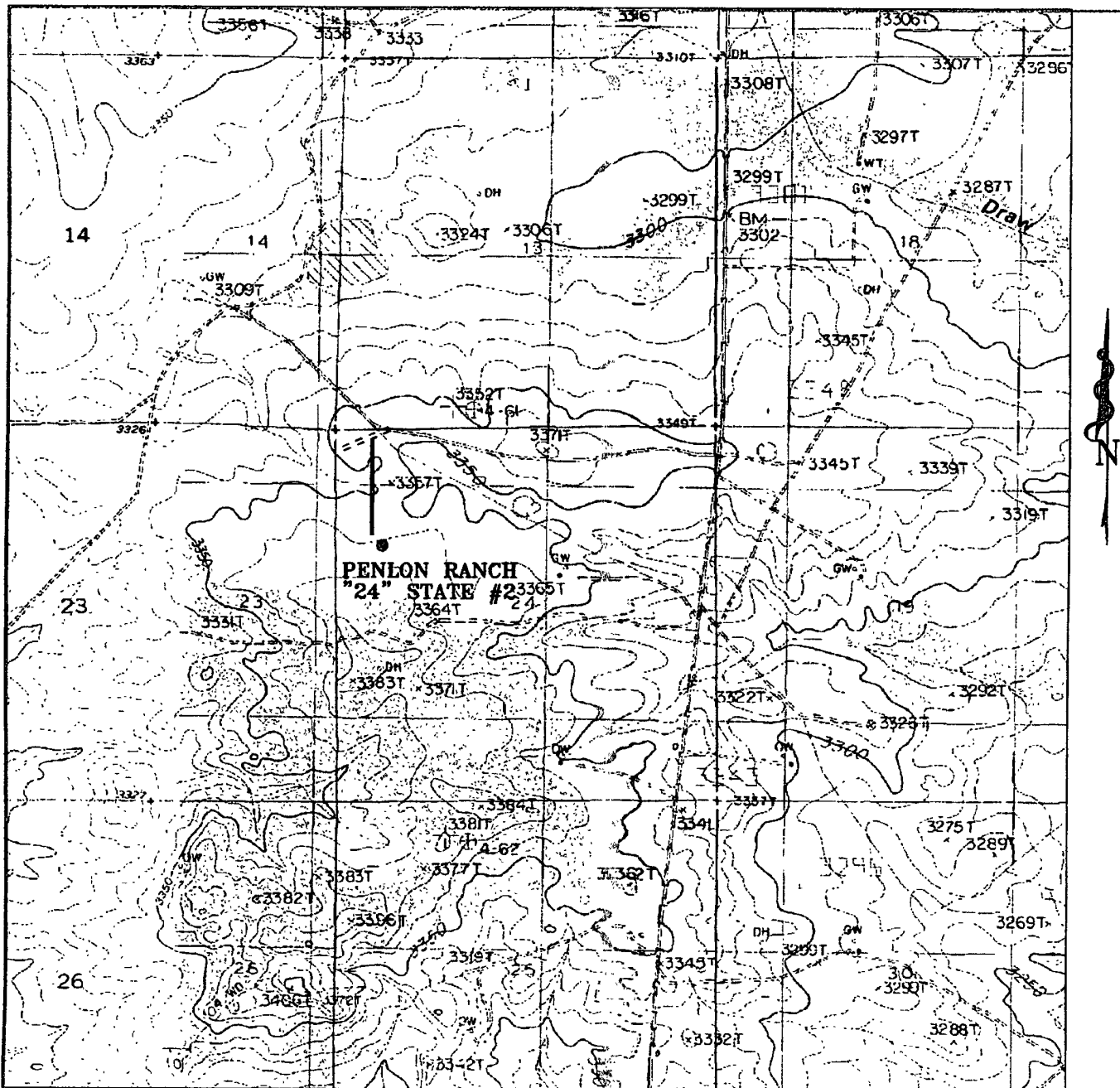
This letter is to inform the surface owner that the wells listed below will require a temporary pit to be constructed & closed, as required by the NMOCD, adjacent to the well site location.

Penlon Ranch 24 State #2
Unit Letter E
Sec 24, T20S, R27E
Eddy Co., NM

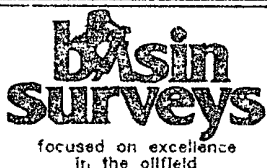
Paloma 28 State #2
Unit Letter M
Sec 28, T20S, R36E
Lea Co., NM

Thank you,


Charles Martin



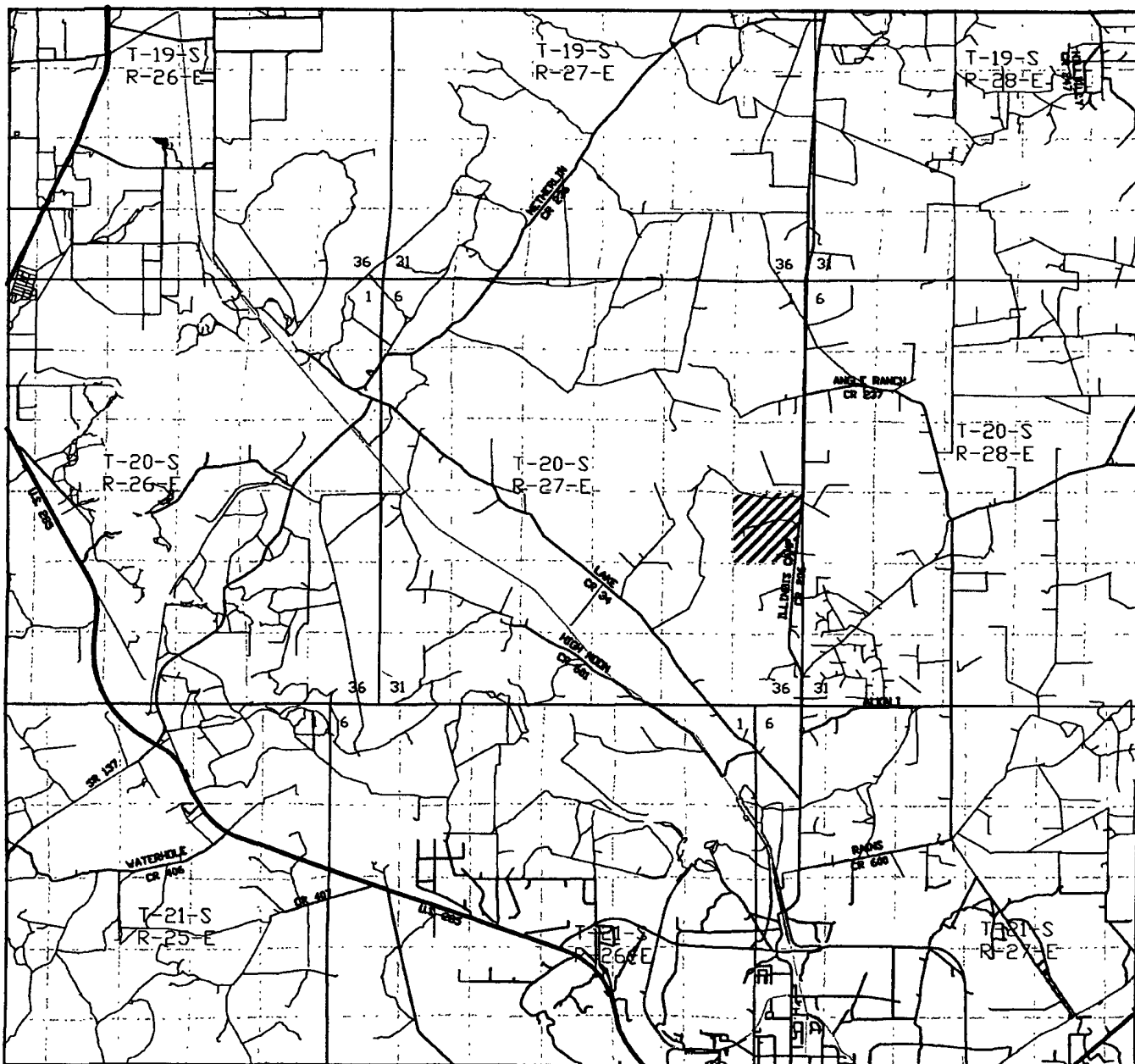
PENLON RANCH "24" STATE #2
 Located 1650' FNL and 660' FWL
 Section 24, Township 20 South, Range 27 East,
 N.M.P.M., Eddy County, New Mexico.



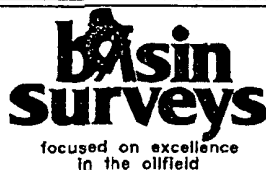
P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (505) 395-7316 - Office
 (505) 392-3074 - Fax
 basinsurveys.com

W.O. Number. 79530T JMS
 Survey Date 04-14-2008
 Scale 1" = 20000'
 Date 04-15-2008

**MEWBOURNE
 OIL CO.**



PENLON RANCH "24" STATE #2
 Located 1650' FNL and 660' FWL
 Section 24, Township 20 South, Range 27 East,
 N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (505) 393-7316 - Office
 (505) 392-3074 - Fax
 basinsurveys.com

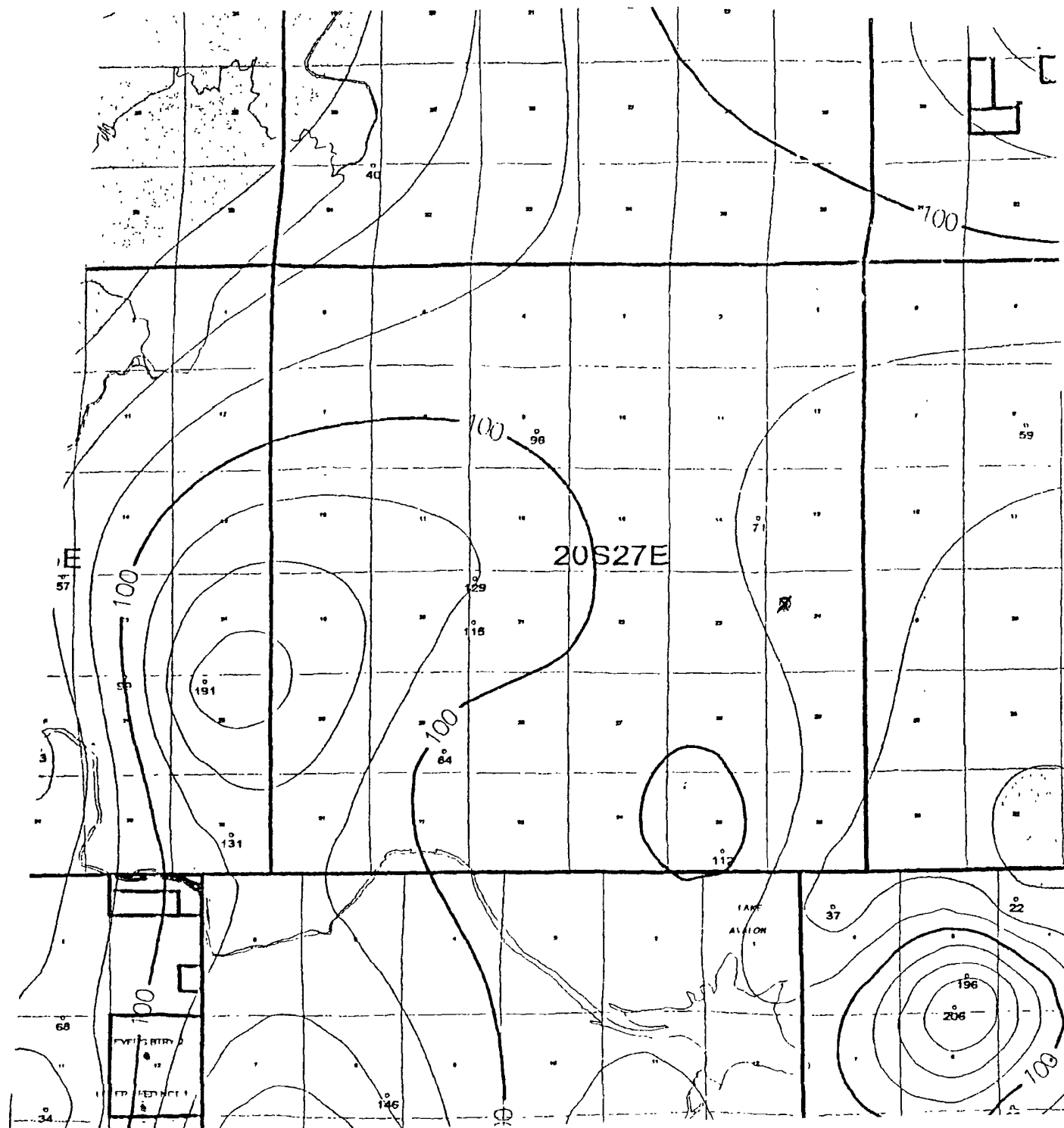
W.O. Number: 19530TR JMS

Survey Date: 04-14-2007

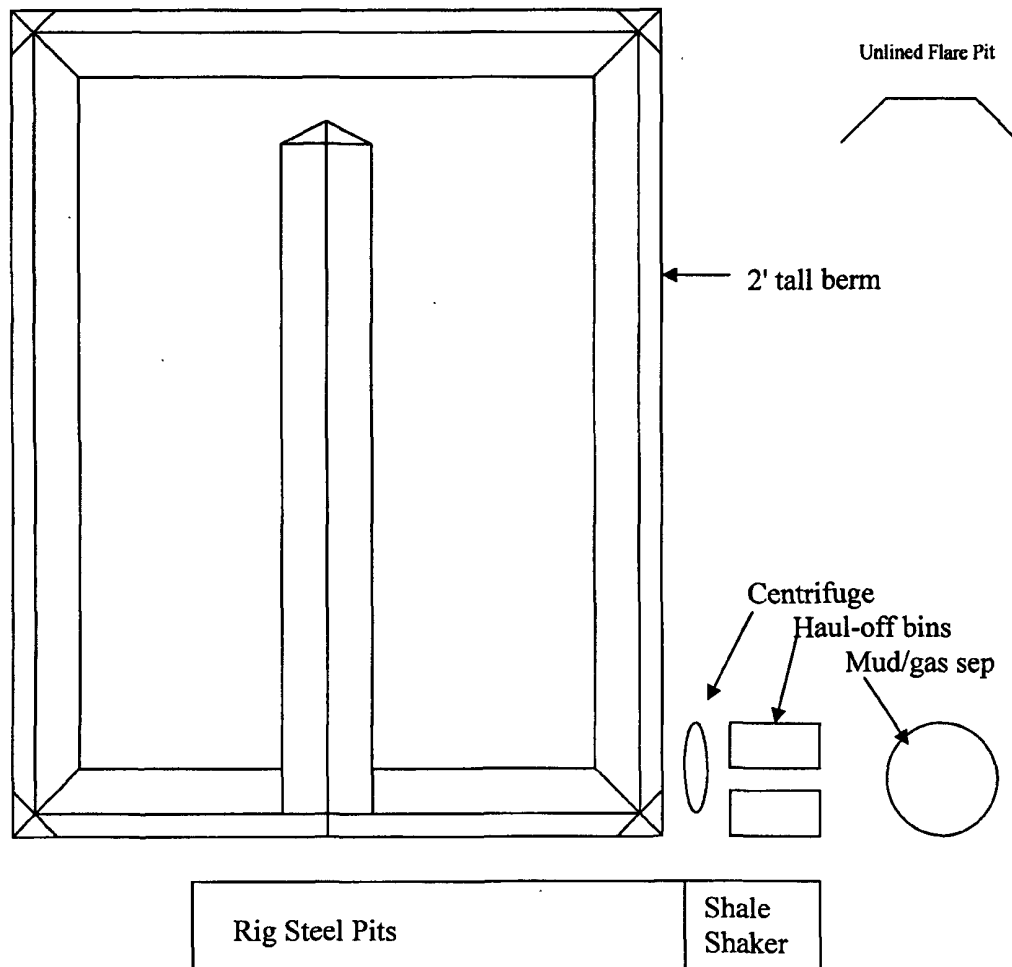
Scale: 1" = 2 MILES

Date: 04-15-2007

MEWBOURNE
 OIL CO.



Temporary Pit Design and Construction



Pit Dimensions:

Peak Width: 100' Floor Width: 76'

Peak Length: 120' Floor Length: 96'

Floor is 6' below GL.

Perimeter berm is 2' above GL.

All walls are built with 2:1 slope.

Pit is fenced on 3 sides with barbed wire before & during drilling operations. Fourth side will be installed after drilling operations are completed.

Pit is lined with 20 mil string reinforced LLDPE installed with 18" anchor trench.

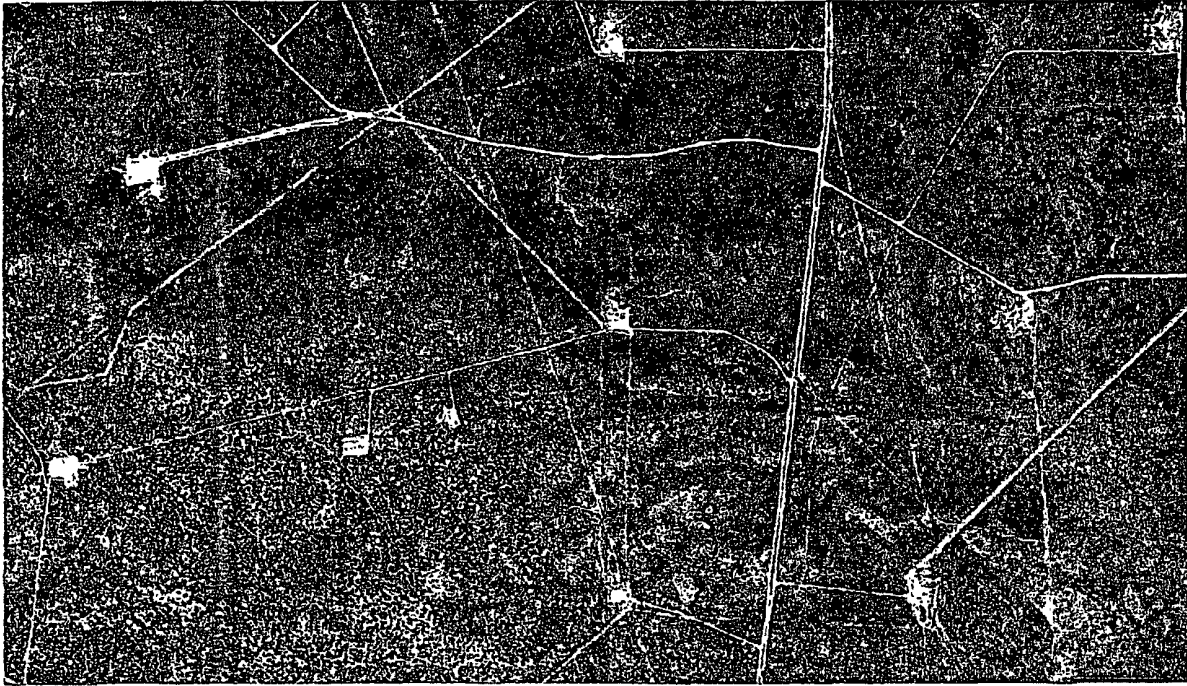
Approximate volume including 2' freeboard: 14,400 bbl.

Temporary Pit Operating and Maintenance and Closure Plan

Temporary pit will be built in a single horse shoe as shown in the attached drawing. The pit will only be utilized for “fresh” water-based fluids. Brine water fluids will be hauled off location and disposed of in an approved facility. Drilling cuttings in the high chloride sections of the well will collect in haul-off bins and will be disposed at either Lea Land Farm or CRI. Drilling cuttings in the low chloride sections of the well will collect in the temporary pit. The temporary pit will be dewatered and solids will be buried in a deep trench on site.

Contingency-

If the temporary pit does not meet the required specifications to bury on site, material will be disposed of at Lea Land Farm or CRI.



On-Site Closure Plan

- **Siting Criteria:** See attachments.
- **Proof of Surface Owner Notice:** See attached letter that has been sent to land owner.
- **Construction/Design Plan of Burial Trench:** See attachment.
- **Burial Trench:** In compliance with 19.15.17.13 NMAC, material from temporary pit will be stiffened with a maximum 3:1 ratio and placed in a lined 20mil burial trench with approximate dimensions of 150x40x20. A 20mil lid will be placed on top of the burial cell to seal in the impacted material. Upon excavation all applicable soil testing will be performed pursuant to Pit Rule 17 to verify the limits set by the NMOCD have been obtained. A copy of the analytical data will be attached to the Final Report.
- **Sampling Plan:** In compliance with Subsection F of 19.15.17.13 NMAC a five point composite sample will be taken from the floor of the excavation and the burial contents.
- **Soil Cover Design:** In compliance with Subsection H of 19.15.17.13 NMAC three foot of native material will be placed over the burial trench and the excavated pit area with one foot of top soil to ensure re-vegetation.
- **Re-vegetation Plan:** In compliance with Subsection I of 19.15.17.13 NMAC the area will be re-seeded with native vegetation.
- **Site Reclamation Plan:** In compliance with Subsection I of 19.15.17.13 NMAC the impacted and disturbed area will be re-contoured to surrounding terrain.
- **Marker:** Mewbourne Oil Company requests an exception to the placement of the permanent marker. It is of our opinion that the permanent marker will be better served if it is placed at the corner of the burial cell in native undisturbed soil rather than in the center of the burial area. In the area of the burial cell the material is not as compact and we feel could pose future problems with the stability of the permanent marker. The permanent marker will have all required information permanently listed on it.
- **Deed:** In compliance with 19.15.17.13 NMAC a deed will be filed with the county clerk and an approved copy will be attached to the final report.

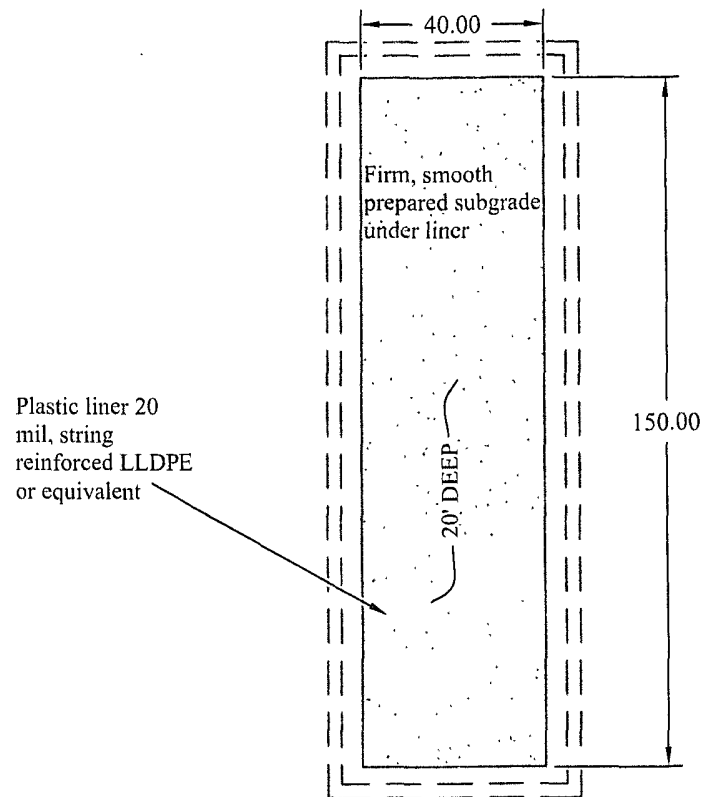
Not
Approved

On the 9th day of April, 2008 Mewbourne Oil Co. visually inspected the Penlon Ranch 24 "2 location in Unit Letter E of Sec 24, T20 S, R 27 E, of Eddy County, NM with the API # 30-015-36277.

This is to certify that upon visual inspection of the above mentioned location there are no permanent residences, schools, hospitals, institutions or churches within 300 feet. The location is not within 500 feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, nor within 1000 horizontal feet of any other fresh water well or spring, nor within 500 feet of a wetland, nor within 300 feet of a continuously flowing water course, nor within 200 feet of any other significant watercourse or lakebed, sinkhole or playa lake (measured from the ordinary high-water mark).

Signature: Charles L. Martin

Date: 7-30-08



Anticipated Trench Dimensions



Date: 9/15/2009

Scale: 1" = 40'

Drawn By: HDJ

Mewbourne Oil Company
Pit Liner Site Plan

MEWBOURNE OIL COMPANY

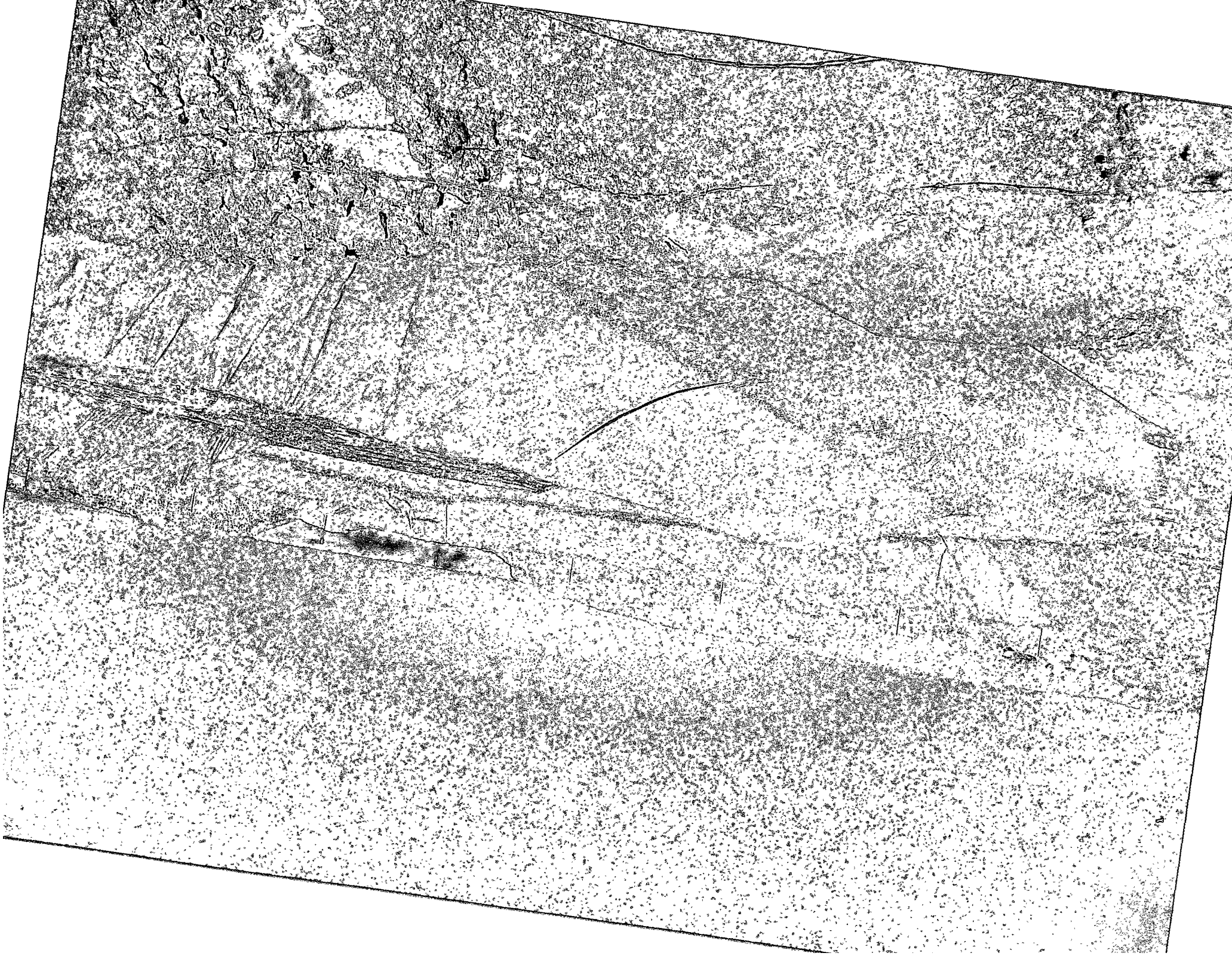
PENLON RANCH "24" STATE #2

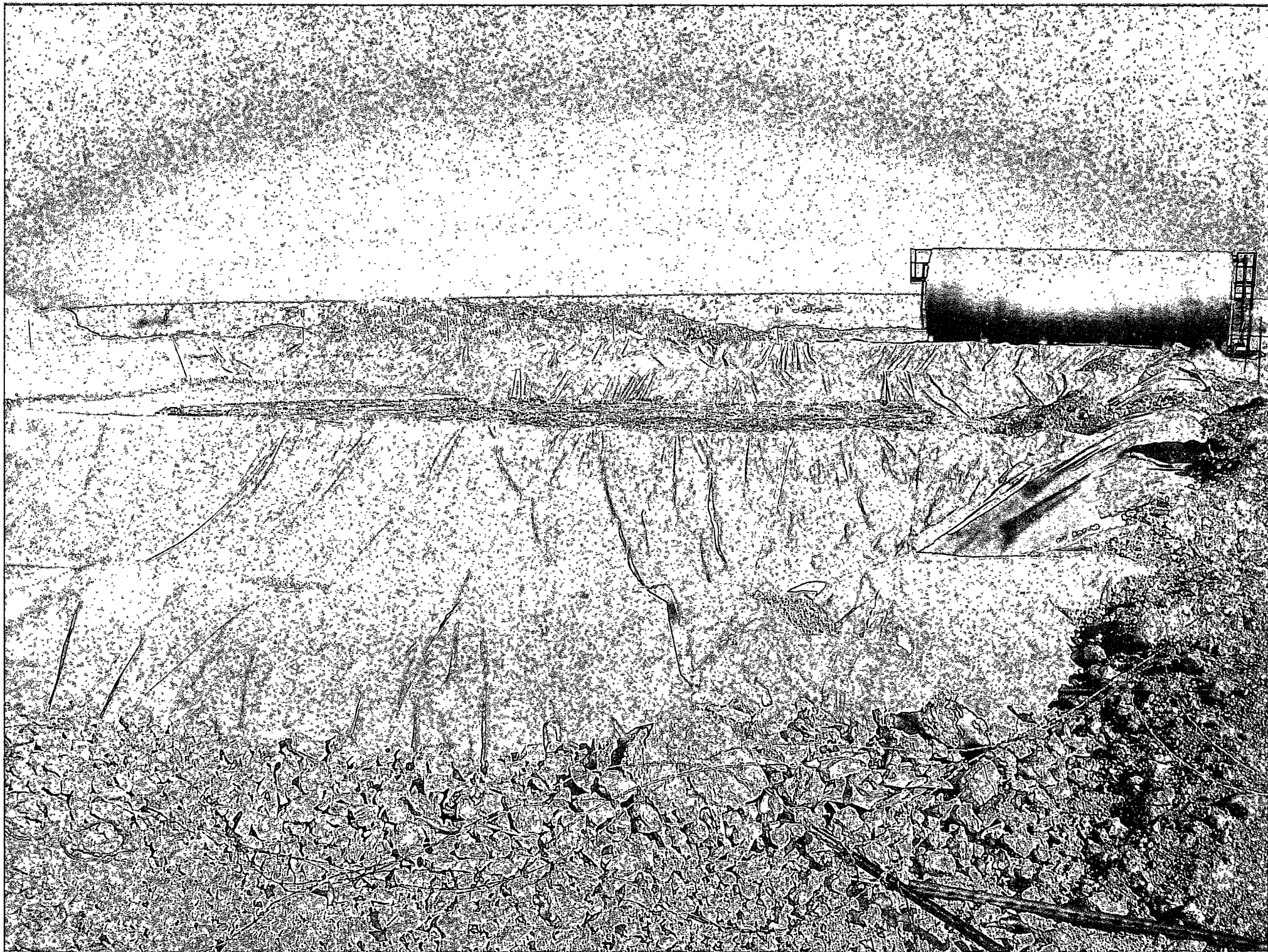
1650' FNL & 660' FWL

SEC. 24, T20S, R27E

EDDY COUNTY, NEW MEXICO

API #30-Q15-36277

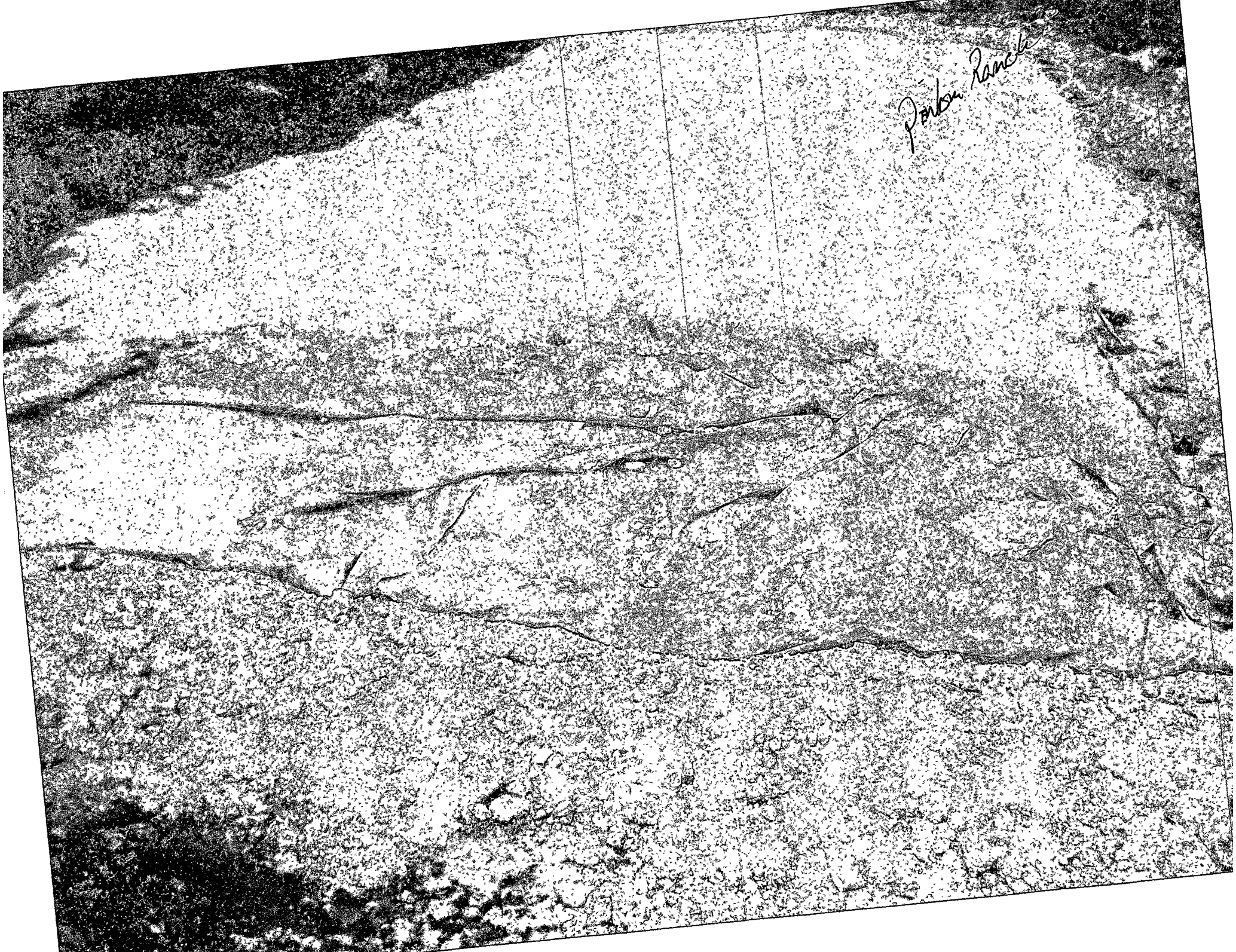




Penton Ranch



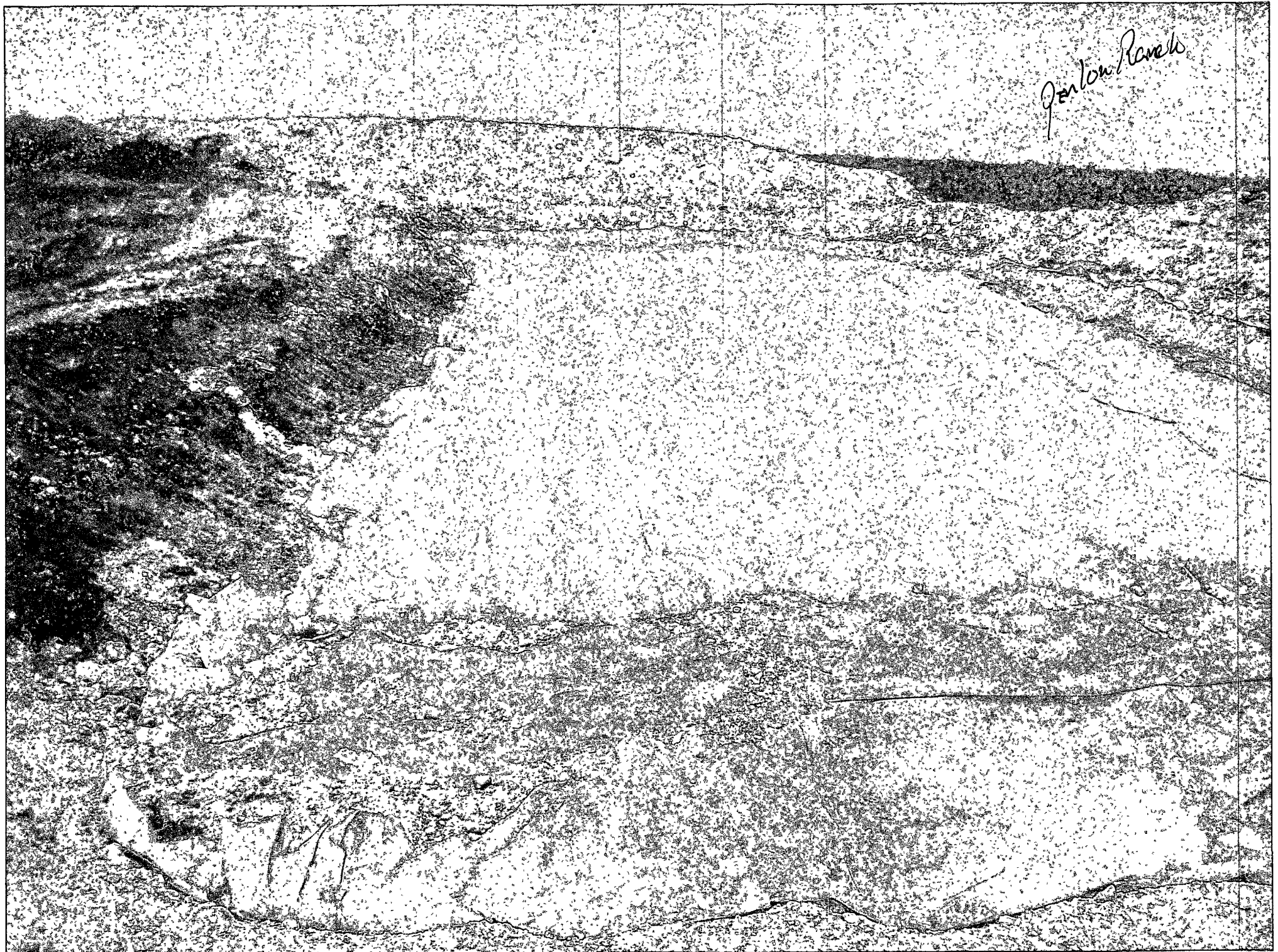
Panba Ranch

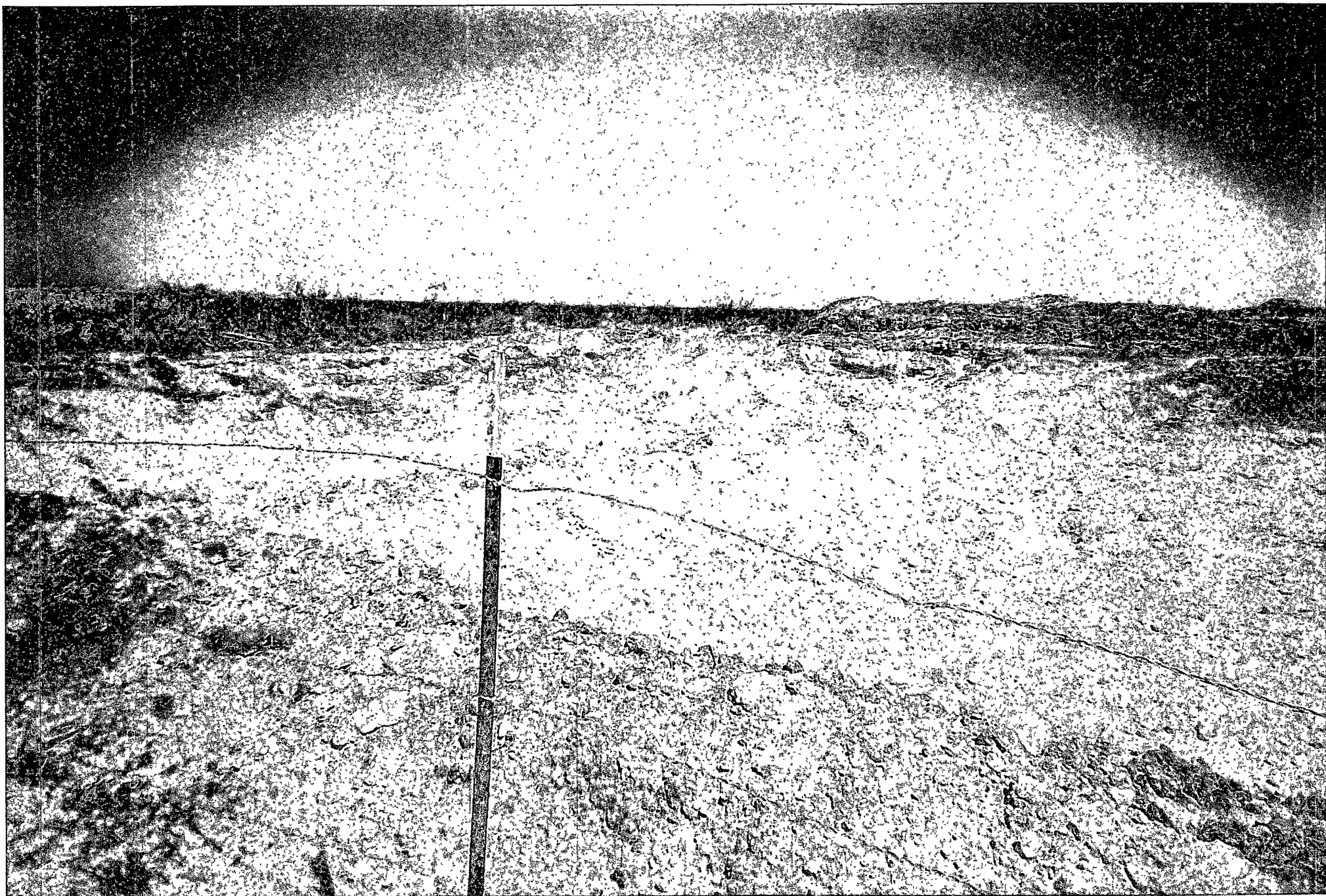


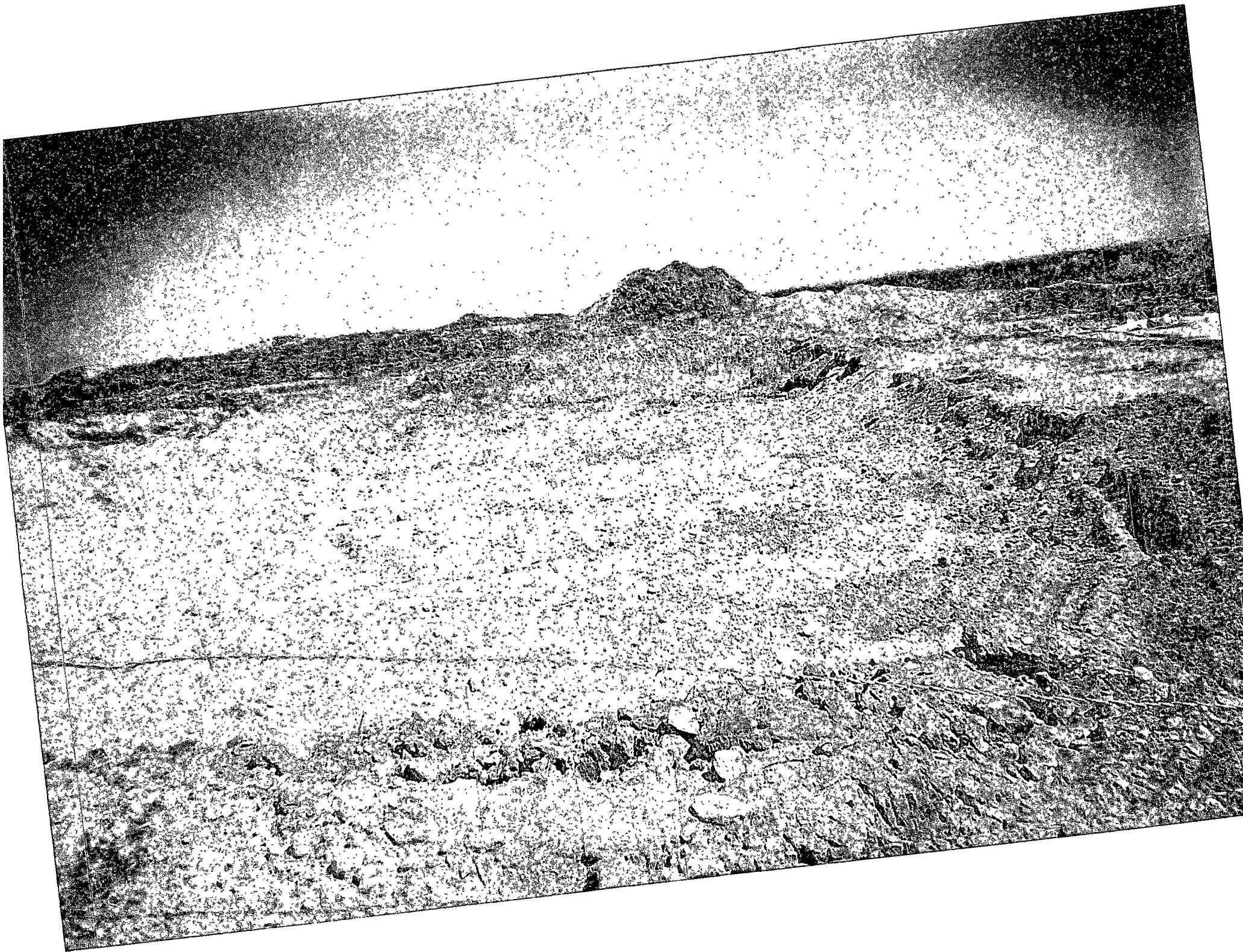
Pontau Raneh

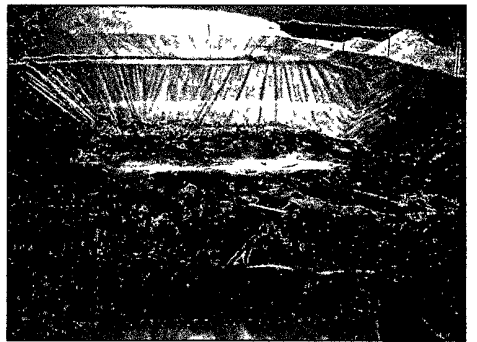
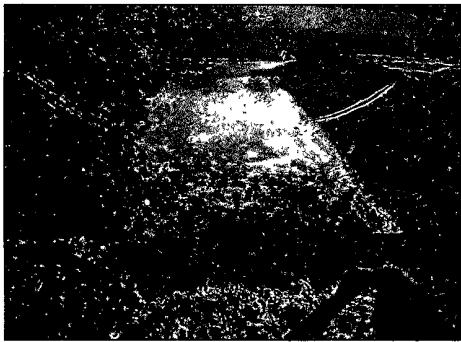
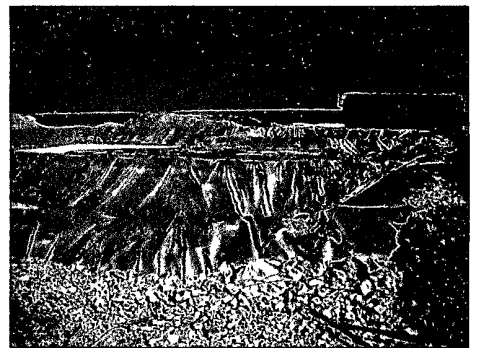
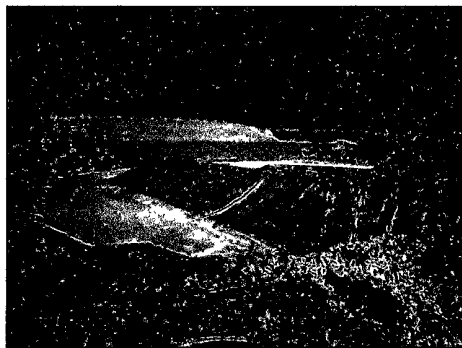


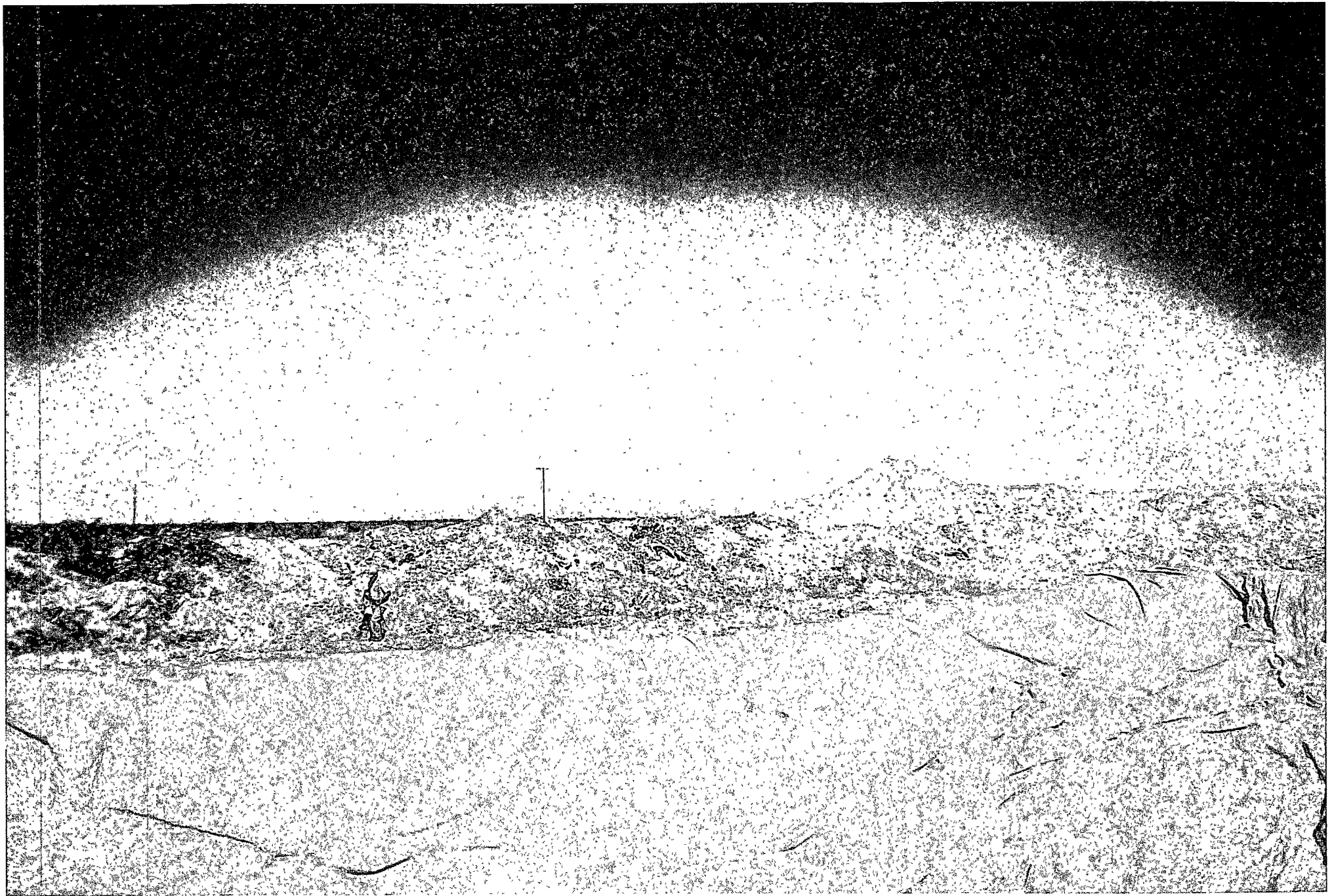
Genlon Ranch











A black and white photograph of an oil well platform. The platform is a metal structure with a central sign. To the left of the platform, a white pipe extends from the ground. The background is a flat, open landscape with some distant structures and a fence line.

MEWBOURNE OIL COMPANY
PENLON RANCH "24" STATE #2
1650' FNL & 660' FWL
SEC. 24, T20S, R27E
EDDY COUNTY, NEW MEXICO
API #30-Q15-36277

A black and white photograph of an oil wellhead. The wellhead is a complex of metal pipes and valves. A sign is attached to the wellhead, providing information about the well. The background shows a field with some vegetation and a fence line.

MEWBOURNE OIL COMPANY
PENLON RANCH "24" STATE #2
1650' FNL & 660' FWL
SEC. 24, T20S, R27E
EDDY COUNTY, NEW MEXICO
API #30-Q15-36277



MEWBOURNE OIL COMPANY
PENLON RANCH "24" STATE #2
1650' FNL & 660' FWL
SEC. 24, T20S, R27E
EDDY COUNTY, NEW MEXICO
API #30-Q15-36277



Submit To Appropriate District Office Two Copies District I 1625 N French Dr., Hobbs, NM 88240 District II 1301 W Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Rd., 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	Form C-105 July 17, 2008 1. WELL API NO. 30-015-36277 2. Type of Lease <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/> FED/INDIAN 3. State Oil & Gas Lease No. VB-1053								
WELL COMPLETION OR RECOMPLETION REPORT AND LOG										
4. Reason for filing <input type="checkbox"/> COMPLETION REPORT (Fill in boxes #1 through #31 for State and Fee wells only) <input checked="" type="checkbox"/> C-144 CLOSURE ATTACHMENT (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33, attach this and the plat to the C-144 closure report in accordance with 19 15 17 13 K NMAC)		5. Lease Name or Unit Agreement Name Penlon Ranch 24 State 6. Well Number #2								
7. Type of Completion <input checked="" type="checkbox"/> NEW WELL <input type="checkbox"/> WORKOVER <input type="checkbox"/> DEEPENING <input type="checkbox"/> PLUGBACK <input type="checkbox"/> DIFFERENT RESERVOIR <input type="checkbox"/> OTHER										
8. Name of Operator Mewbourne Oil Company 14744		9. OGRID 14744								
10. Address of Operator PO Box 5270 Hobbs, NM 88241		11. Pool name or Wildcat								
12. Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County
Surface:										
BH:										
13. Date Spudded 2/12/09	14. Date T D Reached 3/14/09	15. Date Rig Released 3/17/09		16. Date Completed (Ready to Produce)			17. Elevations (DF and RKB, RT, GR, etc)			
18. Total Measured Depth of Well		19. Plug Back Measured Depth		20. Was Directional Survey Made?			21. Type Electric and Other Logs Run			
22. Producing Interval(s), of this completion - Top, Bottom, Name										
23. CASING RECORD (Report all strings set in well)										
CASING SIZE		WEIGHT LB /FT		DEPTH SET		HOLE SIZE		CEMENTING RECORD		AMOUNT PULLED
24. LINER RECORD						25. TUBING RECORD				
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET			
26. Perforation record (interval, size, and number)					27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.					
					DEPTH INTERVAL			AMOUNT AND KIND MATERIAL USED		
28. PRODUCTION										
Date First Production		Production Method (Flowing, gas lift, pumping - Size and type pump)				Well Status (Prod or Shut-in)				
Date of Test	Hours Tested	Choke Size	Prod'n For Test Period	Oil - Bbl	Gas - MCF	Water - Bbl	Gas - Oil Ratio			
Flow Tubing Press	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl	Gas - MCF	Water - Bbl	Oil Gravity - API - (Corr)				
29. Disposition of Gas (Sold, used for fuel, vented, etc)							30. Test Witnessed By			
31. List Attachments										
32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit										
33. If an on-site burial was used at the well, report the exact location of the on-site burial										
Latitude 32 56155° N Longitude 104 24145° W NAD 1927 1983										
I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief										
Signature Jackie Lathan			Printed Name Jackie Lathan		Title Hobbs Regulatory		Date 9-21-09			
E-mail Address jathan@mewbourne.com										

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico		Northwestern New Mexico	
T. Anhy	T. Canyon	T. Ojo Alamo	T. Penn A"
T. Salt	T. Strawn	T. Kirtland	T. Penn. "B"
B. Salt	T. Atoka	T. Fruitland	T. Penn. "C"
T. Yates	T. Miss	T. Pictured Cliffs	T. Penn. "D"
T. 7 Rivers	T. Devonian	T. Cliff House	T. Leadville
T. Queen	T. Silurian	T. Menefee	T. Madison
T. Grayburg	T. Montoya	T. Point Lookout	T. Elbert
T. San Andres	T. Simpson	T. Mancos	T. McCracken
T. Glorieta	T. McKee	T. Gallup	T. Ignacio Otzte
T. Paddock	T. Ellenburger	Base Greenhorn	T.Granite
T. Blinebry	T. Gr. Wash	T. Dakota	
T.Tubb	T. Delaware Sand	T. Morrison	
T. Drinkard	T. Bone Springs	T.Todilto	
T. Abo	T.	T. Entrada	
T. Wolfcamp	T.	T. Wingate	
T. Penn	T.	T. Chinle	
T. Cisco (Bough C)	T.	T. Permian	

OIL OR GAS SANDS OR ZONES

No. 1, from.....to.....

No. 3, from.....to.....

No. 2, from.....to.....

No. 4, from.....to.....

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....

No. 2, from.....to.....feet.....

No. 3, from.....to.....feet.....

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness In Feet	Lithology

From	To	Thickness In Feet	Lithology

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-36277	Pool Code 73280	Pool Name Burton Flat; Morrow (Pro Gas)
Property Code	Property Name PENLON RANCH "24" STATE	Well Number 2
OGRID No. 14744	Operator Name MEWBOURNE OIL COMPANY	Elevation 3366'

Surface Location

UL or lot No. E	Section 24	Township 20 S	Range 27 E	Lot Idn	Feet from the 1650	North/South line NORTH	Feet from the 660	East/West line WEST	County EDDY
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Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
---------------	---------	----------	-------	---------	---------------	------------------	---------------	----------------	--------

Dedicated Acres 320	Joint or Infill	Consolidation Code	Order No.
-------------------------------	-----------------	--------------------	-----------

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature <u>Jackie Lathan</u> 9/21/09 Date Printed Name <u>Jackie Lathan</u>	
	SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. APRIL 14 2006 Date Surveyed <u>L. Jones</u> Signature of <u>Surveyor</u> Professional Surveyor Certificate No. <u>Gary L. Jones 7977</u>	
	BASIN SURVEYS	



2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group: ARS1-09-01545

Client Sample ID: 195729

Sample Collection Date: 05/08/09

Sample Matrix: Aqueous

Request or PO Number:

ARS Sample ID: ARS1-09-01545-001

Date Received: 05/21/09

Report Date: 06/24/09

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
RA-226	0.239	0.338	0.565	0.197		pCi/L	ARS-010/EPA 904.0	6/18/09 15:18	GJ	61%
RA-228	0.352	1.217	2.148	0.992		pCi/L	ARS-010/EPA 904.0	6/18/09 17:35	GJ	50%

NOTES: 9051320 ARS

Project Manager Review

Notes American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the American Radiation Services, Inc.

LELAP Certificate# 01949

NELAP Certificate # E87558

Summary Report

Eb Taylor
Talon LPE-Hobbs
318 E. Taylor
Hobbs, NM 88240

Report Date: June 4, 2009

Work Order: 9051320



Project Location: Eddy Co., NM
Project Name: Penlon Ranch 24 State #2
Project Number: MEWBOU043PIT

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
195729	Drill Cuttings	soil	2009-05-08	09:30	2009-05-12

Sample - Field Code	BTEX				TPH 418.1	TPH DRO	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	TRPHC (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
195729 - Drill Cuttings	<0.0200	<0.0200	<0.0200	<0.0200	89.1	<250	17.8

Sample: 195729 - Drill Cuttings

Param	Flag	Result	Units	RL
SPLP Silver		<0.00300	mg/L	0.00300
SPLP Arsenic		<0.0100	mg/L	0.0100
SPLP Barium		0.419	mg/L	0.100
SPLP Cadmium		<0.00500	mg/L	0.00500
SPLP Chloride		16.0	mg/L	0.500
SPLP Chromium		<0.00500	mg/L	0.00500
SPLP Cyanide	1	<0.0150	mg/L	0.0150
SPLP Fluoride		<1.00	mg/L	0.200
SPLP Mercury		<0.000200	mg/L	0.000200
Nitrate-N		2.39	mg/L	0.200
Naphthalene		<0.000200	mg/L	0.000200
Acenaphthylene		<0.000200	mg/L	0.000200
Acenaphthene		<0.000200	mg/L	0.000200
Dibenzofuran		<0.000200	mg/L	0.000200
Fluorene		<0.000200	mg/L	0.000200
Anthracene		<0.000200	mg/L	0.000200

continued ...

¹Not enough sample to run MS/MSD •

sample 195729 continued ...

Param	Flag	Result	Units	RL
Phenanthrene		<0.000200	mg/L	0.000200
Fluoranthene		<0.000200	mg/L	0.000200
Pyrene		<0.000200	mg/L	0.000200
Benzo(a)anthracene		<0.000200	mg/L	0.000200
Chrysene		<0.000200	mg/L	0.000200
Benzo(b)fluoranthene		<0.000200	mg/L	0.000200
Benzo(k)fluoranthene		<0.000200	mg/L	0.000200
Benzo(a)pyrene		<0.000200	mg/L	0.000200
Indeno(1,2,3-cd)pyrene		<0.000200	mg/L	0.000200
Dibenzo(a,h)anthracene		<0.000200	mg/L	0.000200
Benzo(g,h,i)perylene		<0.000200	mg/L	0.000200
SPLP Lead		<0.0100	mg/L	0.0100
Total PCB		<0.000500	mg/L	0.000500
Aroclor 1016 (PCB-1016)		<0.000500	mg/L	0.000500
Aroclor 1221 (PCB-1221)		<0.000500	mg/L	0.000500
Aroclor 1232 (PCB-1232)		<0.000500	mg/L	0.000500
Aroclor 1242 (PCB-1242)		<0.000500	mg/L	0.000500
Aroclor 1248 (PCB-1248)		<0.000500	mg/L	0.000500
Aroclor 1254 (PCB-1254)		<0.000500	mg/L	0.000500
Aroclor 1260 (PCB-1260)		<0.000500	mg/L	0.000500
Aroclor 1268 (PCB-1268)		<0.000500	mg/L	0.000500
SPLP Selenium		<0.0500	mg/L	0.0500
SPLP U		<0.0500	mg/L	0.0500
Vinyl Chloride		<1.00	µg/L	1.00
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		27.4	µg/L	5.00
1,1-Dichloroethane		<1.00	µg/L	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
Benzene		<1.00	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Toluene		1.03	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
o-Xylene		1.26	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street Suite A1 Midland Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft Worth Texas 76132 817•201•5260
E-Mail lab@traceanalysis.com

Certifications

WBENC: 237019

HUB: 1752439743100-86536
NCTRCA WFWB38444Y0909

DBE: VN 20657

NELAP Certifications

Lubbock: T104704219-08-TX
LELAP-02003
Kansas E-10317

El Paso: T104704221-08-TX
LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

Eh Taylor
Talon LPE-Hobbs
318 E. Taylor
Hobbs, NM, 88240

Report Date: June 4, 2009

Work Order: 9051320



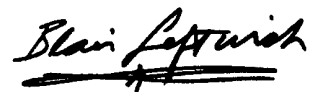
Project Location: Eddy Co., NM
Project Name: Penlon Ranch 24 State #2
Project Number: MEWBOU043PIT

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
195729	Drill Cuttings	soil	2009-05-08	09:30	2009-05-12

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 40 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



Dr. Blair Leftwich, Director

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank.

Case Narrative

Samples for project Penlon Ranch 24 State #2 were received by TraceAnalysis, Inc. on 2009-05-12 and assigned to work order 9051320. Samples for work order 9051320 were received intact at a temperature of 12.1 deg. C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	50806	2009-05-15 at 15:35	59525	2009-05-15 at 15:35
SPLP Ag	S 6010B	51282	2009-06-04 at 09:07	60107	2009-06-04 at 15:41
SPLP As	S 6010B	51282	2009-06-04 at 09:07	60107	2009-06-04 at 15:41
SPLP Ba	S 6010B	51282	2009-06-04 at 09:07	60107	2009-06-04 at 15:41
SPLP Cd	S 6010B	51282	2009-06-04 at 09:07	60107	2009-06-04 at 15:41
SPLP Cl	E 300.0	51169	2009-05-27 at 15:55	59951	2009-05-28 at 14:30
SPLP Cr	S 6010B	51282	2009-06-04 at 09:07	60107	2009-06-04 at 15:41
SPLP Cyanide	SM 4500-CN C,E	51209	2009-06-01 at 15:15	60000	2009-06-01 at 17:30
SPLP Fluoride	E 300.0	51169	2009-05-27 at 15:55	59951	2009-05-28 at 14:30
SPLP Hg	S 7470A	50958	2009-05-21 at 13:45	59740	2009-05-22 at 15:56
SPLP NO3 (IC)	E 300.0	51169	2009-05-27 at 15:55	59951	2009-05-28 at 14:30
SPLP PAH	S 8270C	51103	2009-05-26 at 15:00	59873	2009-05-28 at 09:34
SPLP Pb	S 6010B	51282	2009-06-04 at 09:07	60107	2009-06-04 at 15:41
SPLP PCB	S 8082	51052	2009-05-22 at 15:00	59811	2009-05-26 at 14:19
SPLP Se	S 6010B	51282	2009-06-04 at 09:07	60107	2009-06-04 at 15:41
SPLP U	S 6010B	51282	2009-06-04 at 09:07	60107	2009-06-04 at 15:41
SPLP Volatiles	S 8260B	51018	2009-05-22 at 12:00	59766	2009-05-22 at 12:00
TPH 418.1	E 418.1	50774	2009-05-15 at 08:17	59493	2009-05-15 at 10:18
TPH DRO	Mod. 8015B	50826	2009-05-15 at 15:00	59551	2009-05-16 at 20:00
TPH GRO	S 8015B	50844	2009-05-18 at 14:36	59567	2009-05-18 at 14:36

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 9051320 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 195729 - Drill Cuttings

Laboratory: Lubbock
Analysis: BTEX
QC Batch: 59525
Prep Batch: 50806

Analytical Method: S 8021B
Date Analyzed: 2009-05-15
Sample Preparation: 2009-05-15

Prep Method: S 5035
Analyzed By: ER
Prepared By: ER

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		<0.0200	mg/Kg	1	0.0200
Ethylbenzene		<0.0200	mg/Kg	1	0.0200
Xylene		<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.06	mg/Kg	1	2.00	103	72.9 - 113
4-Bromofluorobenzene (4-BFB)		2.21	mg/Kg	1	2.00	110	42.1 - 116

Sample: 195729 - Drill Cuttings

Laboratory: Lubbock
Analysis: SPLP Ag
QC Batch: 60107
Prep Batch: 51282

Analytical Method: S 6010B
Date Analyzed: 2009-06-04
SPLP Extraction: 2009-06-03
Sample Preparation: 2009-06-04

Prep Method: SPLP 1312
Analyzed By: RR
Prepared By: KV
Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
SPLP Silver		<0.00300	mg/L	1	0.00300

Sample: 195729 - Drill Cuttings

Laboratory: Lubbock
Analysis: SPLP As
QC Batch: 60107
Prep Batch: 51282

Analytical Method: S 6010B
Date Analyzed: 2009-06-04
SPLP Extraction: 2009-06-03
Sample Preparation: 2009-06-04

Prep Method: SPLP 1312
Analyzed By: RR
Prepared By: KV
Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
SPLP Arsenic		<0.0100	mg/L	1	0.0100

Sample: 195729 - Drill Cuttings

Laboratory:	Lubbock		
Analysis:	SPLP Ba	Analytical Method:	S 6010B
QC Batch:	60107	Date Analyzed:	2009-06-04
Prep Batch:	51282	SPLP Extraction:	2009-06-03
		Sample Preparation:	2009-06-04
		Prep Method:	SPLP 1312
		Analyzed By:	RR
		Prepared By:	KV
		Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
SPLP Barium		0.419	mg/L	1	0.100

Sample: 195729 - Drill Cuttings

Laboratory:	Lubbock		
Analysis:	SPLP Cd	Analytical Method:	S 6010B
QC Batch:	60107	Date Analyzed:	2009-06-04
Prep Batch:	51282	SPLP Extraction:	2009-06-03
		Sample Preparation:	2009-06-04
		Prep Method:	SPLP 1312
		Analyzed By:	RR
		Prepared By:	KV
		Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
SPLP Cadmium		<0.00500	mg/L	1	0.00500

Sample: 195729 - Drill Cuttings

Laboratory:	Lubbock		
Analysis:	SPLP Cl	Analytical Method:	E 300.0
QC Batch:	59951	Date Analyzed:	2009-05-28
Prep Batch:	51169	SPLP Extraction:	2009-05-26
		Sample Preparation:	2009-05-27
		Prep Method:	SPLP 1312
		Analyzed By:	SS
		Prepared By:	SS
		Prepared By:	SS

Parameter	Flag	RL Result	Units	Dilution	RL
SPLP Chloride		16.0	mg/L	5	0.500

Sample: 195729 - Drill Cuttings

Laboratory:	Lubbock		
Analysis:	SPLP Cr	Analytical Method:	S 6010B
QC Batch:	60107	Date Analyzed:	2009-06-04
Prep Batch:	51282	SPLP Extraction:	2009-06-03
		Sample Preparation:	2009-06-04
		Prep Method:	SPLP 1312
		Analyzed By:	RR
		Prepared By:	KV
		Prepared By:	KV

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Parameter	Flag	RL Result	Units	Dilution	RL
SPLP Chromium		<0.00500	mg/L	1	0.00500

Sample: 195729 - Drill Cuttings

Laboratory: Lubbock
Analysis: SPLP Cyanide Analytical Method: SM 4500-CN C,E Prep Method: SPLP 1312
QC Batch: 60000 Date Analyzed: 2009-06-01 Analyzed By: AH
Prep Batch: 51209 SPLP Extraction: Prepared By: AH
Sample Preparation: Prepared By: AH

Parameter	Flag	RL Result	Units	Dilution	RL
SPLP Cyanide	1	<0.0150	mg/L	1	0.0150

Sample: 195729 - Drill Cuttings

Laboratory: Lubbock
Analysis: SPLP Fluoride Analytical Method: E 300.0 Prep Method: SPLP 1312
QC Batch: 59951 Date Analyzed: 2009-05-28 Analyzed By: SS
Prep Batch: 51169 SPLP Extraction: 2009-05-26 Prepared By: SS
Sample Preparation: 2009-05-27 Prepared By: SS

Parameter	Flag	RL Result	Units	Dilution	RL
SPLP Fluoride		<1.00	mg/L	5	0.200

Sample: 195729 - Drill Cuttings

Laboratory: Lubbock
Analysis: SPLP Hg Analytical Method: S 7470A Prep Method: N/A
QC Batch: 59740 Date Analyzed: 2009-05-22 Analyzed By: TP
Prep Batch: 50958 Sample Preparation: 2009-05-21 Prepared By: TP

Parameter	Flag	RL Result	Units	Dilution	RL
SPLP Mercury		<0.000200	mg/L	1	0.000200

¹Not enough sample to run MS/MSD •

Sample: 195729 - Drill Cuttings

Laboratory:	Lubbock	Analytical Method:	E 300.0	Prep Method:	SPLP 1312
Analysis:	SPLP NO3 (IC)	Date Analyzed:	2009-05-28	Analyzed By:	SS
QC Batch:	59951	SPLP Extraction:	2009-05-26	Prepared By:	SS
Prep Batch:	51169	Sample Preparation:	2009-05-27	Prepared By:	SS

Parameter	Flag	RL Result	Units	Dilution	RL
Nitrate-N		2.39	mg/L	5	0.200

Sample: 195729 - Drill Cuttings

Laboratory:	Lubbock	Analytical Method:	S 8270C	Prep Method:	SPLP 1312
Analysis:	SPLP PAH	Date Analyzed:	2009-05-28	Analyzed By:	MN
QC Batch:	59873	SPLP Extraction:	2009-05-25	Prepared By:	MN
Prep Batch:	51103	Sample Preparation:	2009-05-26	Prepared By:	MN

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		<0.000200	mg/L	1	0.000200
Acenaphthylene		<0.000200	mg/L	1	0.000200
Acenaphthene		<0.000200	mg/L	1	0.000200
Dibenzofuran		<0.000200	mg/L	1	0.000200
Fluorene		<0.000200	mg/L	1	0.000200
Anthracene		<0.000200	mg/L	1	0.000200
Phenanthrene		<0.000200	mg/L	1	0.000200
Fluoranthene		<0.000200	mg/L	1	0.000200
Pyrene		<0.000200	mg/L	1	0.000200
Benzo(a)anthracene		<0.000200	mg/L	1	0.000200
Chrysene		<0.000200	mg/L	1	0.000200
Benzo(b)fluoranthene		<0.000200	mg/L	1	0.000200
Benzo(k)fluoranthene		<0.000200	mg/L	1	0.000200
Benzo(a)pyrene		<0.000200	mg/L	1	0.000200
Indeno(1,2,3-cd)pyrene		<0.000200	mg/L	1	0.000200
Dibenzo(a,h)anthracene		<0.000200	mg/L	1	0.000200
Benzo(g,h,i)perylene		<0.000200	mg/L	1	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorobiphenyl		0.0396	mg/L	1	0.0800	50	37.4 - 123
Nitrobenzene-d5		0.0377	mg/L	1	0.0800	47	34.3 - 130
Terphenyl-d14		0.0544	mg/L	1	0.0800	68	10 - 252

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Sample: 195729 - Drill Cuttings

Laboratory:	Lubbock		
Analysis:	SPLP Pb	Analytical Method:	S 6010B
QC Batch:	60107	Date Analyzed:	2009-06-04
Prep Batch:	51282	SPLP Extraction:	2009-06-03
		Sample Preparation:	2009-06-04
		Prep Method:	SPLP 1312
		Analyzed By:	RR
		Prepared By:	KV
		Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
SPLP Lead		<0.0100	mg/L	1	0.0100

Sample: 195729 - Drill Cuttings

Laboratory:	Lubbock		
Analysis:	SPLP PCB	Analytical Method:	S 8082
QC Batch:	59811	Date Analyzed:	2009-05-26
Prep Batch:	51052	SPLP Extraction:	2009-05-21
		Sample Preparation:	2009-05-22
		Prep Method:	SPLP 1312
		Analyzed By:	DS
		Prepared By:	DS
		Prepared By:	DS

Parameter	Flag	RL Result	Units	Dilution	RL
Total PCB		<0.000500	mg/L	1	0.000500
Aroclor 1016 (PCB-1016)		<0.000500	mg/L	1	0.000500
Aroclor 1221 (PCB-1221)		<0.000500	mg/L	1	0.000500
Aroclor 1232 (PCB-1232)		<0.000500	mg/L	1	0.000500
Aroclor 1242 (PCB-1242)		<0.000500	mg/L	1	0.000500
Aroclor 1248 (PCB-1248)		<0.000500	mg/L	1	0.000500
Aroclor 1254 (PCB-1254)		<0.000500	mg/L	1	0.000500
Aroclor 1260 (PCB-1260)		<0.000500	mg/L	1	0.000500
Aroclor 1268 (PCB-1268)		<0.000500	mg/L	1	0.000500

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Deca chlorobiphenyl		0.000498	mg/L	1	0.000500	100	10 - 128

Sample: 195729 - Drill Cuttings

Laboratory:	Lubbock		
Analysis:	SPLP Se	Analytical Method:	S 6010B
QC Batch:	60107	Date Analyzed:	2009-06-04
Prep Batch:	51282	SPLP Extraction:	2009-06-03
		Sample Preparation:	2009-06-04
		Prep Method:	SPLP 1312
		Analyzed By:	RR
		Prepared By:	KV
		Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
SPLP Selenium		<0.0500	mg/L	1	0.0500

Sample: 195729 - Drill Cuttings

Laboratory: Lubbock	Analytical Method: S 6010B	Prep Method: SPLP 1312
Analysis: SPLP U	Date Analyzed: 2009-06-04	Analyzed By: RR
QC Batch: 60107	SPLP Extraction: 2009-06-03	Prepared By: KV
Prep Batch: 51282	Sample Preparation: 2009-06-04	Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
SPLP U		<0.0500	mg/L	1	0.0500

Sample: 195729 - Drill Cuttings

Laboratory: Lubbock	Analytical Method: S 8260B	Prep Method: SPLP 1312
Analysis: SPLP Volatiles	Date Analyzed: 2009-05-22	Analyzed By: KB
QC Batch: 59766	SPLP Extraction: 2009-05-22	Prepared By: KB
Prep Batch: 51018	Sample Preparation: 2009-05-22	Prepared By: KB

Parameter	Flag	RL Result	Units	Dilution	RL
Vinyl Chloride		<1.00	µg/L	1	1.00
1,1-Dichloroethene		<1.00	µg/L	1	1.00
Methylene chloride		27.4	µg/L	1	5.00
1,1-Dichloroethane		<1.00	µg/L	1	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1	1.00
Chloroform		<1.00	µg/L	1	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1	1.00
Benzene		<1.00	µg/L	1	1.00
Carbon Tetrachloride		<1.00	µg/L	1	1.00
Trichloroethene (TCE)		<1.00	µg/L	1	1.00
Toluene		1.03	µg/L	1	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		1.26	µg/L	1	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1	1.00

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		54.3	µg/L	1	50.0	109	70 - 130
Toluene-d8		47.5	µg/L	1	50.0	95	70 - 130
4-Bromofluorobenzene (4-BFB)		46.8	µg/L	1	50.0	94	70 - 130

Sample: 195729 - Drill Cuttings

Laboratory: Lubbock
Analysis: TPH 418.1
QC Batch: 59493
Prep Batch: 50774

Analytical Method: E 418.1
Date Analyzed: 2009-05-15
Sample Preparation: 2009-05-15

Prep Method: N/A
Analyzed By: CM
Prepared By: CM

Parameter	Flag	RL Result	Units	Dilution	RL
TRPHC		89.1	mg/Kg	1	10.0

Sample: 195729 - Drill Cuttings

Laboratory: Lubbock
Analysis: TPH DRO
QC Batch: 59551
Prep Batch: 50826

Analytical Method: Mod. 8015B
Date Analyzed: 2009-05-16
Sample Preparation: 2009-05-15

Prep Method: N/A
Analyzed By: RG
Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<250	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		131	mg/Kg	5	100	131	46.6 - 172

Sample: 195729 - Drill Cuttings

Laboratory: Lubbock
Analysis: TPH GRO
QC Batch: 59567
Prep Batch: 50844

Analytical Method: S 8015B
Date Analyzed: 2009-05-18
Sample Preparation: 2009-05-18

Prep Method: S 5035
Analyzed By: ER
Prepared By: ER

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		17.8	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	²	2.87	mg/Kg	1	2.00	144	86.3 - 112
4-Bromofluorobenzene (4-BFB)	³	2.92	mg/Kg	1	2.00	146	61.8 - 107

Method Blank (1) QC Batch: 59493

QC Batch: 59493
Prep Batch: 50774

Date Analyzed: 2009-05-15
QC Preparation: 2009-05-15

Analyzed By: CM
Prepared By: CM

Parameter	Flag	MDL Result	Units	RL
TRPHC		<5.28	mg/Kg	10

Method Blank (1) QC Batch: 59525

QC Batch: 59525
Prep Batch: 50806

Date Analyzed: 2009-05-15
QC Preparation: 2009-05-15

Analyzed By: ER
Prepared By: ER

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00505	mg/Kg	0.02
Toluene		0.0132	mg/Kg	0.02
Ethylbenzene		<0.00630	mg/Kg	0.02
Xylene		0.0440	mg/Kg	0.02

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.86	mg/Kg	1	2.00	93	72.9 - 113
4-Bromofluorobenzene (4-BFB)		1.98	mg/Kg	1	2.00	99	42.1 - 116

Method Blank (1) QC Batch: 59551

QC Batch: 59551
Prep Batch: 50826

Date Analyzed: 2009-05-16
QC Preparation: 2009-05-15

Analyzed By: RG
Prepared By: RG

Parameter	Flag	MDL Result	Units	RL
DRO		<5.66	mg/Kg	50

²High surrogate recovery due to peak interference.

³High surrogate recovery due to peak interference.

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		107	mg/Kg	1	100	107	46.6 - 172

Method Blank (1) QC Batch: 59567

QC Batch: 59567
Prep Batch: 50844

Date Analyzed: 2009-05-18
QC Preparation: 2009-05-18

Analyzed By: ER
Prepared By: ER

Parameter	Flag	MDL Result	Units	RL
GRO		<0.403	mg/Kg	2

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.07	mg/Kg	1	2.00	104	86.3 - 112
4-Bromofluorobenzene (4-BFB)		1.79	mg/Kg	1	2.00	90	61.8 - 107

Method Blank (1) QC Batch: 59740

QC Batch: 59740
Prep Batch: 50958

Date Analyzed: 2009-05-22
QC Preparation: 2009-05-21

Analyzed By: TP
Prepared By: TP

Parameter	Flag	MDL Result	Units	RL
SPLP Mercury		<0.0000329	mg/L	0.0002

Method Blank (1) QC Batch: 59766

QC Batch: 59766
Prep Batch: 51018

Date Analyzed: 2009-05-22
QC Preparation: 2009-05-22

Analyzed By: KB
Prepared By: KB

Parameter	Flag	MDL Result	Units	RL
Vinyl Chloride		<0.135	µg/L	1
1,1-Dichloroethene		<0.136	µg/L	1
Methylene chloride		<0.649	µg/L	5
1,1-Dichloroethane		<0.0600	µg/L	1
1,2-Dichloroethane (EDC)		<0.113	µg/L	1
Chloroform		<0.141	µg/L	1
1,1,1-Trichloroethane		<0.116	µg/L	1
Benzene		<0.146	µg/L	1
Carbon Tetrachloride		<0.0790	µg/L	1

continued ...

method blank continued ...

Parameter	Flag	MDL Result	Units	RL
Trichloroethene (TCE)		<0.117	µg/L	1
Toluene		<0.0600	µg/L	1
1,1,2-Trichloroethane		<0.135	µg/L	1
1,2-Dibromoethane (EDB)		<0.0700	µg/L	1
Tetrachloroethene (PCE)		<0.270	µg/L	1
Ethylbenzene		<0.0360	µg/L	1
m,p-Xylene		<0.0940	µg/L	1
o-Xylene		<0.0960	µg/L	1
1,1,2,2-Tetrachloroethane		<0.125	µg/L	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		53.5	µg/L	1	50.0	107	70 - 130
Toluene-d8		47.0	µg/L	1	50.0	94	70 - 130
4-Bromofluorobenzene (4-BFB)		47.4	µg/L	1	50.0	95	70 - 130

Method Blank (1) QC Batch: 59811

QC Batch: 59811
Prep Batch: 51052

Date Analyzed: 2009-05-26
QC Preparation: 2009-05-22

Analyzed By: DS
Prepared By: DS

Parameter	Flag	MDL Result	Units	RL
Total PCB		<0.000125	mg/L	0.0005
Aroclor 1016 (PCB-1016)		<0.000122	mg/L	0.0005
Aroclor 1221 (PCB-1221)		<0.000118	mg/L	0.0005
Aroclor 1232 (PCB-1232)		<0.0000459	mg/L	0.0005
Aroclor 1242 (PCB-1242)		<0.000125	mg/L	0.0005
Aroclor 1248 (PCB-1248)		<0.0000546	mg/L	0.0005
Aroclor 1254 (PCB-1254)		<0.0000569	mg/L	0.0005
Aroclor 1260 (PCB-1260)		<0.0000331	mg/L	0.0005
Aroclor 1268 (PCB-1268)		<0.0000282	mg/L	

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Deca chlorobiphenyl		0.000480	mg/L	1	0.000500	96	10 - 128

Method Blank (1) QC Batch: 59873

QC Batch: 59873
Prep Batch: 51103

Date Analyzed: 2009-05-28
QC Preparation: 2009-05-26

Analyzed By: MN
Prepared By: MN

Parameter	Flag	MDL Result	Units	RL
Naphthalene		<0.000853	mg/L	0.0002
Acenaphthylene		<0.000768	mg/L	0.0002
Acenaphthene		<0.00103	mg/L	0.0002
Dibenzofuran		<0.000200	mg/L	0.0002
Fluorene		<0.000861	mg/L	0.0002
Anthracene		<0.00170	mg/L	0.0002
Phenanthrene		<0.000884	mg/L	0.0002
Fluoranthene		<0.000969	mg/L	0.0002
Pyrene		<0.000855	mg/L	0.0002
Benzo(a)anthracene		<0.000703	mg/L	0.0002
Chrysene		<0.00113	mg/L	0.0002
Benzo(b)fluoranthene		<0.00134	mg/L	0.0002
Benzo(k)fluoranthene		<0.00227	mg/L	0.0002
Benzo(a)pyrene		<0.00200	mg/L	0.0002
Indeno(1,2,3-cd)pyrene		<0.00253	mg/L	0.0002
Dibenzo(a,h)anthracene		<0.00180	mg/L	0.0002
Benzo(g,h,i)perylene		<0.00158	mg/L	0.0002

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorobiphenyl		0.0436	mg/L	1	0.0800	54	10 - 146
Nitrobenzene-d5		0.0411	mg/L	1	0.0800	51	10 - 141
Terphenyl-d14		0.0566	mg/L	1	0.0800	71	10 - 266

Method Blank (1) QC Batch: 59951

QC Batch: 59951 Date Analyzed: 2009-05-28 Analyzed By: SS
Prep Batch: 51169 QC Preparation: 2009-05-27 Prepared By: SS

Parameter	Flag	MDL Result	Units	RL
Nitrate-N		<0.0700	mg/L	0.2

Method Blank (1) QC Batch: 59951

QC Batch: 59951 Date Analyzed: 2009-05-28 Analyzed By: SS
Prep Batch: 51169 QC Preparation: 2009-05-27 Prepared By: SS

Parameter	Flag	MDL Result	Units	RL
SPLP Chloride		<0.137	mg/L	0.5

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Method Blank (1) QC Batch: 59951

QC Batch: 59951
Prep Batch: 51169

Date Analyzed: 2009-05-28
QC Preparation: 2009-05-27

Analyzed By: SS
Prepared By: SS

Parameter	Flag	MDL Result	Units	RL
SPLP Fluoride		<0.0889	mg/L	0.2

Method Blank (1) QC Batch: 60000

QC Batch: 60000
Prep Batch: 51209

Date Analyzed: 2009-06-01
QC Preparation: 2009-06-01

Analyzed By: AH
Prepared By: AH

Parameter	Flag	MDL Result	Units	RL
SPLP Cyanide		<0.0148	mg/L	0.015

Method Blank (1) QC Batch: 60107

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
SPLP Cadmium		<0.00140	mg/L	0.005

Method Blank (1) QC Batch: 60107

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
SPLP Lead		<0.00320	mg/L	0.01

Method Blank (1) QC Batch: 60107

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

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Parameter	Flag	MDL Result	Units	RL
SPLP Selenium		<0.0131	mg/L	0.05

Method Blank (1) QC Batch: 60107

QC Batch: 60107 Date Analyzed: 2009-06-04 Analyzed By: RR
Prep Batch: 51282 QC Preparation: 2009-06-04 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
SPLP Arsenic		<0.00430	mg/L	0.01

Method Blank (1) QC Batch: 60107

QC Batch: 60107 Date Analyzed: 2009-06-04 Analyzed By: RR
Prep Batch: 51282 QC Preparation: 2009-06-04 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
SPLP Barium		<0.00170	mg/L	0.1

Method Blank (1) QC Batch: 60107

QC Batch: 60107 Date Analyzed: 2009-06-04 Analyzed By: RR
Prep Batch: 51282 QC Preparation: 2009-06-04 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
SPLP Chromium		<0.000900	mg/L	0.005

Method Blank (1) QC Batch: 60107

QC Batch: 60107 Date Analyzed: 2009-06-04 Analyzed By: RR
Prep Batch: 51282 QC Preparation: 2009-06-04 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
SPLP Silver		<0.00210	mg/L	0.003

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Method Blank (1) QC Batch: 60107

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
SPLP U		<0.0105	mg/L	0.05

Laboratory Control Spike (LCS-1)

QC Batch: 59493
Prep Batch: 50774

Date Analyzed: 2009-05-15
QC Preparation: 2009-05-15

Analyzed By: CM
Prepared By: CM

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
TRPHC	268	mg/Kg	1	250	<5.28	107	75.5 - 136

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
TRPHC	253	mg/Kg	1	250	<5.28	101	75.5 - 136	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 59525
Prep Batch: 50806

Date Analyzed: 2009-05-15
QC Preparation: 2009-05-15

Analyzed By: ER
Prepared By: ER

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.02	mg/Kg	1	2.00	<0.00505	101	79.1 - 109
Toluene	1.96	mg/Kg	1	2.00	0.0132	98	79.4 - 111
Ethylbenzene	1.98	mg/Kg	1	2.00	<0.00630	99	77.7 - 112
Xylene	5.93	mg/Kg	1	6.00	0.044	99	78.4 - 112

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.03	mg/Kg	1	2.00	<0.00505	102	79.1 - 109	0	20
Toluene	1.95	mg/Kg	1	2.00	0.0132	98	79.4 - 111	0	20
Ethylbenzene	1.98	mg/Kg	1	2.00	<0.00630	99	77.7 - 112	0	20
Xylene	5.93	mg/Kg	1	6.00	0.044	99	78.4 - 112	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.91	1.89	mg/Kg	1	2.00	96	94	72.9 - 111
4-Bromofluorobenzene (4-BFB)	1.96	1.91	mg/Kg	1	2.00	98	96	68.5 - 114

Laboratory Control Spike (LCS-1)

QC Batch: 59551
Prep Batch: 50826

Date Analyzed: 2009-05-16
QC Preparation: 2009-05-15

Analyzed By: RG
Prepared By: RG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	334	mg/Kg	1	250	<5.66	134	71.2 - 159

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	337	mg/Kg	1	250	<5.66	135	71.2 - 159	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	121	125	mg/Kg	1	100	121	125	46.6 - 172

Laboratory Control Spike (LCS-1)

QC Batch: 59567
Prep Batch: 50844

Date Analyzed: 2009-05-18
QC Preparation: 2009-05-18

Analyzed By: ER
Prepared By: ER

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	18.8	mg/Kg	1	20.0	<0.403	94	78.1 - 109

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	20.0	mg/Kg	1	20.0	<0.403	100	78.1 - 109	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.81	1.97	mg/Kg	1	2.00	90	98	80.3 - 108
4-Bromofluorobenzene (4-BFB)	1.76	1.85	mg/Kg	1	2.00	88	92	82.6 - 109

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Laboratory Control Spike (LCS-1)

QC Batch: 59740
Prep Batch: 50958

Date Analyzed: 2009-05-22
QC Preparation: 2009-05-21

Analyzed By: TP
Prepared By: TP

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Mercury	0.00103	mg/L	1	0.00100	<0.0000329	103	90.1 - 112

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Mercury	0.00104	mg/L	1	0.00100	<0.0000329	104	90.1 - 112	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 59766
Prep Batch: 51018

Date Analyzed: 2009-05-22
QC Preparation: 2009-05-22

Analyzed By: KB
Prepared By: KB

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
1,1-Dichloroethene	52.6	µg/L	1	50.0	<0.136	105	70 - 130
Benzene	50.8	µg/L	1	50.0	<0.146	102	70 - 130
Trichloroethene (TCE)	49.9	µg/L	1	50.0	<0.117	100	70 - 130
Toluene	47.0	µg/L	1	50.0	<0.0600	94	70 - 130
Chlorobenzene	49.8	µg/L	1	50.0	<0.0540	100	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
1,1-Dichloroethene	53.5	µg/L	1	50.0	<0.136	107	70 - 130	2	
Benzene	52.6	µg/L	1	50.0	<0.146	105	70 - 130	4	
Trichloroethene (TCE)	51.4	µg/L	1	50.0	<0.117	103	70 - 130	3	
Toluene	49.6	µg/L	1	50.0	<0.0600	99	70 - 130	5	
Chlorobenzene	51.0	µg/L	1	50.0	<0.0540	102	70 - 130	2	

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Dibromofluoromethane	50.5	49.7	µg/L	1	50.0	101	99	70 - 130
Toluene-d8	47.4	48.1	µg/L	1	50.0	95	96	70 - 130
4-Bromofluorobenzene (4-BFB)	50.6	49.5	µg/L	1	50.0	101	99	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 59811
Prep Batch: 51052

Date Analyzed: 2009-05-26
QC Preparation: 2009-05-22

Analyzed By: DS
Prepared By: DS

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Aroclor 1260 (PCB-1260)	0.00191	mg/L	1	0.00200	<0.0000331	96	10 - 128

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Aroclor 1260 (PCB-1260)	0.00182	mg/L	1	0.00200	<0.0000331	91	10 - 128	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Deca chlorobiphenyl	0.000480	0.000467	mg/L	1	0.000500	96	93	10 - 128

Laboratory Control Spike (LCS-1)

QC Batch: 59873
Prep Batch: 51103

Date Analyzed: 2009-05-28
QC Preparation: 2009-05-26

Analyzed By: MN
Prepared By: MN

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Naphthalene	0.0267	mg/L	1	0.0800	<0.0000853	33	10 - 141
Acenaphthylene	0.0335	mg/L	1	0.0800	<0.0000768	42	10 - 152
Acenaphthene	0.0331	mg/L	1	0.0800	<0.000103	41	10 - 151
Dibenzofuran	0.0313	mg/L	1	0.0800	<0.000200	39	10 - 148
Fluorene	0.0365	mg/L	1	0.0800	<0.0000861	46	10 - 172
Anthracene	0.0341	mg/L	1	0.0800	<0.000170	43	19.6 - 172
Phenanthrene	0.0349	mg/L	1	0.0800	<0.0000884	44	22.5 - 172
Fluoranthene	0.0377	mg/L	1	0.0800	<0.0000969	47	17.3 - 187
Pyrene	0.0390	mg/L	1	0.0800	<0.0000855	49	14.9 - 199
Benzo(a)anthracene	0.0363	mg/L	1	0.0800	<0.0000703	45	19.4 - 185
Chrysene	0.0370	mg/L	1	0.0800	<0.000113	46	18.4 - 188
Benzo(b)fluoranthene	0.0307	mg/L	1	0.0800	<0.000134	38	10 - 193
Benzo(k)fluoranthene	0.0417	mg/L	1	0.0800	<0.000227	52	27.8 - 196
Benzo(a)pyrene	0.0390	mg/L	1	0.0800	<0.000200	49	12.4 - 205
Indeno(1,2,3-cd)pyrene	0.0368	mg/L	1	0.0800	<0.000253	46	10 - 198
Dibenzo(a,h)anthracene	0.0366	mg/L	1	0.0800	<0.000180	46	10 - 172
Benzo(g,h,i)perylene	0.0368	mg/L	1	0.0800	<0.000158	46	10 - 186

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Naphthalene	0.0266	mg/L	1	0.0800	<0.0000853	33	10 - 141	0	20
Acenaphthylene	0.0335	mg/L	1	0.0800	<0.0000768	42	10 - 152	0	20
Acenaphthene	0.0316	mg/L	1	0.0800	<0.000103	40	10 - 151	5	20
Dibenzofuran	0.0289	mg/L	1	0.0800	<0.000200	36	10 - 148	8	20
Fluorene	0.0331	mg/L	1	0.0800	<0.0000861	41	10 - 172	10	20
Anthracene	0.0340	mg/L	1	0.0800	<0.000170	42	19.6 - 172	0	20
Phenanthrene	0.0348	mg/L	1	0.0800	<0.0000884	44	22.5 - 172	0	20
Fluoranthene	0.0380	mg/L	1	0.0800	<0.0000969	48	17.3 - 187	1	20
Pyrene	0.0398	mg/L	1	0.0800	<0.0000855	50	14.9 - 199	2	20
Benzo(a)anthracene	0.0374	mg/L	1	0.0800	<0.0000703	47	19.4 - 185	3	20
Chrysene	0.0360	mg/L	1	0.0800	<0.000113	45	18.4 - 188	3	20
Benzo(b)fluoranthene	0.0356	mg/L	1	0.0800	<0.000134	44	10 - 193	15	20
Benzo(k)fluoranthene	0.0425	mg/L	1	0.0800	<0.000227	53	27.8 - 196	2	20
Benzo(a)pyrene	0.0415	mg/L	1	0.0800	<0.000200	52	12.4 - 205	6	20
Indeno(1,2,3-cd)pyrene	0.0378	mg/L	1	0.0800	<0.000253	47	10 - 198	3	20
Dibenzo(a,h)anthracene	0.0365	mg/L	1	0.0800	<0.000180	46	10 - 172	0	20
Benzo(g,h,i)perylene	0.0373	mg/L	1	0.0800	<0.000158	47	10 - 186	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
2-Fluorobiphenyl	0.0286	0.0338	mg/L	1	0.0800	36	42	10 - 165
Nitrobenzene-d5	0.0364	0.0322	mg/L	1	0.0800	46	40	10 - 157
Terphenyl-d14	0.0390	0.0396	mg/L	1	0.0800	49	50	10 - 220

Laboratory Control Spike (LCS-1)

QC Batch: 59951
Prep Batch: 51169

Date Analyzed: 2009-05-28
QC Preparation: 2009-05-27

Analyzed By: SS
Prepared By: SS

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Nitrate-N	5.12	mg/L	1	5.00	<0.0700	102	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Nitrate-N	4.76	mg/L	1	5.00	<0.0700	95	90 - 110	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 59951
Prep Batch: 51169

Date Analyzed: 2009-05-28
QC Preparation: 2009-05-27

Analyzed By: SS
Prepared By: SS

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Chloride	23.1	mg/L	1	25.0	<0.137	92	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Chloride	23.1	mg/L	1	25.0	<0.137	92	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 59951
Prep Batch: 51169

Date Analyzed: 2009-05-28
QC Preparation: 2009-05-27

Analyzed By: SS
Prepared By: SS

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Fluoride	4.65	mg/L	1	5.00	<0.0889	93	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Fluoride	4.65	mg/L	1	5.00	<0.0889	93	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Cadmium	0.244	mg/L	1	0.250	<0.00140	98	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Cadmium	0.246	mg/L	1	0.250	<0.00140	98	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Lead	0.503	mg/L	1	0.500	<0.00320	101	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Lead	0.510	mg/L	1	0.500	<0.00320	102	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Selenium	0.445	mg/L	1	0.500	<0.0131	89	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Selenium	0.448	mg/L	1	0.500	<0.0131	90	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Arsenic	0.478	mg/L	1	0.500	<0.00430	96	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Arsenic	0.483	mg/L	1	0.500	<0.00430	97	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Barium	1.02	mg/L	1	1.00	<0.00170	102	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Barium	1.03	mg/L	1	1.00	<0.00170	103	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Chromium	0.0880	mg/L	1	0.100	<0.000900	88	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Chromium	0.0890	mg/L	1	0.100	<0.000900	89	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Silver	0.119	mg/L	1	0.125	<0.00210	95	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Silver	0.120	mg/L	1	0.125	<0.00210	96	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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Laboratory Control Spike (LCS-1)

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP U	0.509	mg/L	1	0.500	<0.0105	102	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP U	0.518	mg/L	1	0.500	<0.0105	104	90 - 110	2	

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 195729

QC Batch: 59493
Prep Batch: 50774

Date Analyzed: 2009-05-15
QC Preparation: 2009-05-15

Analyzed By: CM
Prepared By: CM

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
TRPHC	317	mg/Kg	1	250	89.06	91	10 - 354

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
TRPHC	326	mg/Kg	1	250	89.06	95	10 - 354	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 195729

QC Batch: 59525
Prep Batch: 50806

Date Analyzed: 2009-05-15
QC Preparation: 2009-05-15

Analyzed By: ER
Prepared By: ER

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.99	mg/Kg	1	2.00	<0.00505	100	55.2 - 162
Toluene	2.10	mg/Kg	1	2.00	0.0096	104	56.5 - 172
Ethylbenzene	2.26	mg/Kg	1	2.00	<0.00630	113	62.3 - 180
Xylene	6.80	mg/Kg	1	6.00	0.0167	113	62.2 - 182

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.85	mg/Kg	1	2.00	<0.00505	92	55.2 - 162	7	20
Toluene	1.98	mg/Kg	1	2.00	0.0096	98	56.5 - 172	6	20
Ethylbenzene	2.09	mg/Kg	1	2.00	<0.00630	104	62.3 - 180	8	20
Xylene	6.26	mg/Kg	1	6.00	0.0167	104	62.2 - 182	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.02	2.05	mg/Kg	1	2	101	102	52.2 - 173
4-Bromofluorobenzene (4-BFB)	2.18	2.18	mg/Kg	1	2	109	109	63.5 - 171

Matrix Spike (MS-1) Spiked Sample: 195729

QC Batch: 59551
Prep Batch: 50826

Date Analyzed: 2009-05-16
QC Preparation: 2009-05-15

Analyzed By: RG
Prepared By: RG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	255	mg/Kg	5	250	<28.3	102	10 - 218

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	250	mg/Kg	5	250	<28.3	100	10 - 218	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	121	120	mg/Kg	5	100	121	120	46.6 - 172

Matrix Spike (MS-1) Spiked Sample: 195729

QC Batch: 59567
Prep Batch: 50844

Date Analyzed: 2009-05-18
QC Preparation: 2009-05-18

Analyzed By: ER
Prepared By: ER

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	40.1	mg/Kg	1	20.0	17.8	112	54.3 - 180

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

continued ...

matrix spikes continued ...

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	36.5	mg/Kg	1	20.0	17.8	94	54.3 - 180	9	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.23	2.20	mg/Kg	1	2	112	110	65.8 - 165
4-Bromofluorobenzene (4-BFB)	2.68	2.62	mg/Kg	1	2	134	131	68.6 - 210

Matrix Spike (MS-1) Spiked Sample: 195729

QC Batch: 59740
Prep Batch: 50958

Date Analyzed: 2009-05-22
QC Preparation: 2009-05-21

Analyzed By: TP
Prepared By: TP

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Mercury	0.00111	mg/L	1	0.00100	<0.0000329	111	88 - 117

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Mercury	0.00108	mg/L	1	0.00100	<0.0000329	108	88 - 117	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 59766
Prep Batch: 51018

Date Analyzed: 2009-05-22
QC Preparation: 2009-05-22

Analyzed By: KB
Prepared By: KB

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
1,1-Dichloroethene	51.1	µg/L	1	50.0	<0.136	102	70 - 130
Benzene	48.8	µg/L	1	50.0	<0.146	98	70 - 130
Trichloroethene (TCE)	45.6	µg/L	1	50.0	<0.117	91	70 - 130
Toluene	45.1	µg/L	1	50.0	<0.0600	90	70 - 130
Chlorobenzene	46.5	µg/L	1	50.0	<0.0540	93	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
1,1-Dichloroethene	57.2	µg/L	1	50.0	<0.136	114	70 - 130	11	
Benzene	55.1	µg/L	1	50.0	<0.146	110	70 - 130	12	
Trichloroethene (TCE)	52.5	µg/L	1	50.0	<0.117	105	70 - 130	14	
Toluene	50.2	µg/L	1	50.0	<0.0600	100	70 - 130	11	
Chlorobenzene	52.3	µg/L	1	50.0	<0.0540	105	70 - 130	12	

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Dibromofluoromethane	52.2	51.2	µg/L	1	50	104	102	70 - 130
Toluene-d8	48.3	47.8	µg/L	1	50	97	96	70 - 130
4-Bromofluorobenzene (4-BFB)	50.8	51.3	µg/L	1	50	102	103	70 - 130

Matrix Spike (MS-1) Spiked Sample: 195729

QC Batch: 59951 Date Analyzed: 2009-05-28 Analyzed By: SS
Prep Batch: 51169 QC Preparation: 2009-05-27 Prepared By: SS

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Nitrate-N	27.6	mg/L	5	25.0	2.39	101	73.6 - 122

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Nitrate-N	28.9	mg/L	5	25.0	2.39	106	73.6 - 122	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 195729

QC Batch: 59951 Date Analyzed: 2009-05-28 Analyzed By: SS
Prep Batch: 51169 QC Preparation: 2009-05-27 Prepared By: SS

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Chloride	138	mg/L	5	125	16	98	49.8 - 149

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Chloride	142	mg/L	5	125	16	101	49.8 - 149	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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Matrix Spike (MS-1) Spiked Sample: 195729

QC Batch: 59951
Prep Batch: 51169

Date Analyzed: 2009-05-28
QC Preparation: 2009-05-27

Analyzed By: SS
Prepared By: SS

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Fluoride	24.8	mg/L	5	25.0	<0.444	99	63.5 - 127

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Fluoride	26.8	mg/L	5	25.0	<0.444	107	63.5 - 127	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 195729

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Cadmium	0.248	mg/L	1	0.250	<0.00140	99	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Cadmium	0.237	mg/L	1	0.250	<0.00140	95	75 - 125	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 195729

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Lead	0.506	mg/L	1	0.500	<0.00320	101	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Lead	0.483	mg/L	1	0.500	<0.00320	97	75 - 125	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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Matrix Spike (MS-1) Spiked Sample: 195729

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Selenium	0.464	mg/L	1	0.500	<0.0131	93	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Selenium	0.441	mg/L	1	0.500	<0.0131	88	75 - 125	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 195729

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Arsenic	0.509	mg/L	1	0.500	<0.00430	102	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Arsenic	0.484	mg/L	1	0.500	<0.00430	97	75 - 125	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 195729

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Barium	1.44	mg/L	1	1.00	0.419	102	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Barium	1.38	mg/L	1	1.00	0.419	96	75 - 125	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 195729

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Chromium	0.0930	mg/L	1	0.100	<0.000900	93	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Chromium	0.0880	mg/L	1	0.100	<0.000900	88	75 - 125	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 195729

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Silver	0.125	mg/L	1	0.125	<0.00210	100	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Silver	0.119	mg/L	1	0.125	<0.00210	95	75 - 125	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 195729

QC Batch: 60107
Prep Batch: 51282

Date Analyzed: 2009-06-04
QC Preparation: 2009-06-04

Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP U	0.515	mg/L	1	0.500	<0.0105	103	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP U	0.515	mg/L	1	0.500	<0.0105	103	90 - 110	0	

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Standard (ICV-1)

QC Batch: 59493

Date Analyzed: 2009-05-15

Analyzed By: CM

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
TRPHC		mg/Kg	100	113	113	80 - 120	2009-05-15

Standard (CCV-1)

QC Batch: 59493

Date Analyzed: 2009-05-15

Analyzed By: CM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
TRPHC		mg/Kg	100	87.2	87	80 - 120	2009-05-15

Standard (CCV-1)

QC Batch: 59525

Date Analyzed: 2009-05-15

Analyzed By: ER

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0984	98	80 - 120	2009-05-15
Toluene		mg/Kg	0.100	0.0956	96	80 - 120	2009-05-15
Ethylbenzene		mg/Kg	0.100	0.0966	97	80 - 120	2009-05-15
Xylene		mg/Kg	0.300	0.289	96	80 - 120	2009-05-15

Standard (CCV-2)

QC Batch: 59525

Date Analyzed: 2009-05-15

Analyzed By: ER

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.101	101	80 - 120	2009-05-15
Toluene		mg/Kg	0.100	0.0993	99	80 - 120	2009-05-15
Ethylbenzene		mg/Kg	0.100	0.0996	100	80 - 120	2009-05-15
Xylene		mg/Kg	0.300	0.297	99	80 - 120	2009-05-15

Standard (CCV-1)

QC Batch: 59551

Date Analyzed: 2009-05-16

Analyzed By: RG

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	300	120	80 - 120	2009-05-16

Standard (CCV-2)

QC Batch: 59551

Date Analyzed: 2009-05-16

Analyzed By: RG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	290	116	80 - 120	2009-05-16

Standard (CCV-1)

QC Batch: 59567

Date Analyzed: 2009-05-18

Analyzed By: ER

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.948	95	80 - 120	2009-05-18

Standard (CCV-2)

QC Batch: 59567

Date Analyzed: 2009-05-18

Analyzed By: ER

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.03	103	80 - 120	2009-05-18

Standard (ICV-1)

QC Batch: 59740

Date Analyzed: 2009-05-22

Analyzed By: TP

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Mercury		mg/L	0.00100	0.000979	98	90 - 110	2009-05-22

Standard (CCV-1)

QC Batch: 59740

Date Analyzed: 2009-05-22

Analyzed By: TP

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Mercury		mg/L	0.00100	0.000978	98	90 - 110	2009-05-22

Standard (CCV-1)

QC Batch: 59766

Date Analyzed: 2009-05-22

Analyzed By: KB

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	50.0	49.1	98	80 - 120	2009-05-22
1,1-Dichloroethene		µg/L	50.0	49.1	98	80 - 120	2009-05-22
Chloroform		µg/L	50.0	49.6	99	80 - 120	2009-05-22
1,2-Dichloropropane		µg/L	50.0	48.2	96	80 - 120	2009-05-22
Toluene		µg/L	50.0	44.6	89	80 - 120	2009-05-22
Chlorobenzene		µg/L	50.0	46.8	94	80 - 120	2009-05-22
Ethylbenzene		µg/L	50.0	46.2	92	80 - 120	2009-05-22

Standard (ICV-1)

QC Batch: 59811

Date Analyzed: 2009-05-26

Analyzed By: DS

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Aroclor 1242 (PCB-1242)		mg/L	0.400	0.357	89	85 - 115	2009-05-26
Aroclor 1254 (PCB-1254)		mg/L	0.400	0.456	114	85 - 115	2009-05-26
Aroclor 1260 (PCB-1260)		mg/L	0.400	0.407	102	85 - 115	2009-05-26

Standard (CCV-1)

QC Batch: 59811

Date Analyzed: 2009-05-26

Analyzed By: DS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Aroclor 1242 (PCB-1242)		mg/L	0.400	0.342	86	85 - 115	2009-05-26
Aroclor 1254 (PCB-1254)		mg/L	0.400	0.459	115	85 - 115	2009-05-26
Aroclor 1260 (PCB-1260)		mg/L	0.400	0.434	108	85 - 115	2009-05-26

Standard (CCV-1)

QC Batch: 59873

Date Analyzed: 2009-05-28

Analyzed By: MN

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Naphthalene		mg/L	60.0	57.4	96	80 - 120	2009-05-28
Acenaphthylene		mg/L	60.0	58.2	97	80 - 120	2009-05-28
Acenaphthene		mg/L	60.0	58.2	97	80 - 120	2009-05-28
Dibenzofuran		mg/L	60.0	60.2	100	80 - 120	2009-05-28
Fluorene		mg/L	60.0	63.3	106	80 - 120	2009-05-28
Anthracene		mg/L	60.0	58.5	98	80 - 120	2009-05-28
Phenanthrene		mg/L	60.0	57.2	95	80 - 120	2009-05-28
Fluoranthene		mg/L	60.0	56.5	94	80 - 120	2009-05-28
Pyrene		mg/L	60.0	60.6	101	80 - 120	2009-05-28
Benzo(a)anthracene		mg/L	60.0	58.2	97	80 - 120	2009-05-28
Chrysene		mg/L	60.0	55.9	93	80 - 120	2009-05-28
Benzo(b)fluoranthene		mg/L	60.0	57.1	95	80 - 120	2009-05-28
Benzo(k)fluoranthene		mg/L	60.0	65.8	110	80 - 120	2009-05-28
Benzo(a)pyrene		mg/L	60.0	63.2	105	80 - 120	2009-05-28
Indeno(1,2,3-cd)pyrene		mg/L	60.0	58.4	97	80 - 120	2009-05-28
Dibenzo(a,h)anthracene		mg/L	60.0	58.5	98	80 - 120	2009-05-28
Benzo(g,h,i)perylene		mg/L	60.0	58.0	97	80 - 120	2009-05-28

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorobiphenyl		57.8	mg/L	1	60.0	96	80 - 120
Nitrobenzene-d5		63.8	mg/L	1	60.0	106	80 - 120
Terphenyl-d14		57.4	mg/L	1	60.0	96	80 - 120

Standard (CCV-1)

QC Batch: 59951

Date Analyzed: 2009-05-28

Analyzed By: SS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		mg/L	5.00	5.18	104	90 - 110	2009-05-28

Standard (CCV-1)

QC Batch: 59951

Date Analyzed: 2009-05-28

Analyzed By: SS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Chloride		mg/L	25.0	23.3	93	90 - 110	2009-05-28

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Standard (CCV-1)

QC Batch: 59951

Date Analyzed: 2009-05-28

Analyzed By: SS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Fluoride		mg/L	5.00	4.78	96	90 - 110	2009-05-28

Standard (CCV-2)

QC Batch: 59951

Date Analyzed: 2009-05-28

Analyzed By: SS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		mg/L	5.00	5.18	104	90 - 110	2009-05-28

Standard (CCV-2)

QC Batch: 59951

Date Analyzed: 2009-05-28

Analyzed By: SS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Chloride		mg/L	25.0	23.1	92	90 - 110	2009-05-28

Standard (CCV-2)

QC Batch: 59951

Date Analyzed: 2009-05-28

Analyzed By: SS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Fluoride		mg/L	5.00	4.71	94	90 - 110	2009-05-28

Standard (ICV-1)

QC Batch: 60000

Date Analyzed: 2009-06-01

Analyzed By: AH

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Cyanide		mg/L	0.120	0.127	106	80 - 120	2009-06-01

Standard (CCV-1)

QC Batch: 60000

Date Analyzed: 2009-06-01

Analyzed By: AH

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Cyanide		mg/L	0.120	0.125	104	80 - 120	2009-06-01

Standard (ICV-1)

QC Batch: 60107

Date Analyzed: 2009-06-04

Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Cadmium		mg/L	1.00	0.986	99	90 - 110	2009-06-04

Standard (ICV-1)

QC Batch: 60107

Date Analyzed: 2009-06-04

Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Lead		mg/L	2.00	1.99	100	90 - 110	2009-06-04

Standard (ICV-1)

QC Batch: 60107

Date Analyzed: 2009-06-04

Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Selenium		mg/L	1.00	1.02	102	90 - 110	2009-06-04

Standard (ICV-1)

QC Batch: 60107

Date Analyzed: 2009-06-04

Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Arsenic		mg/L	2.00	1.97	98	90 - 110	2009-06-04

Standard (ICV-1)

QC Batch: 60107

Date Analyzed: 2009-06-04

Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Barium		mg/L	1.00	1.03	103	90 - 110	2009-06-04

Standard (ICV-1)

QC Batch: 60107

Date Analyzed: 2009-06-04

Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Chromium		mg/L	1.00	1.02	102	90 - 110	2009-06-04

Standard (ICV-1)

QC Batch: 60107

Date Analyzed: 2009-06-04

Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Silver		mg/L	0.250	0.252	101	90 - 110	2009-06-04

Standard (ICV-1)

QC Batch: 60107

Date Analyzed: 2009-06-04

Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP U		mg/L	1.00	1.02	102	90 - 110	2009-06-04

Standard (CCV-1)

QC Batch: 60107

Date Analyzed: 2009-06-04

Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Cadmium		mg/L	1.00	0.964	96	90 - 110	2009-06-04

Standard (CCV-1)

QC Batch: 60107

Date Analyzed: 2009-06-04

Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Lead		mg/L	1.00	0.986	99	90 - 110	2009-06-04

Standard (CCV-1)

QC Batch: 60107

Date Analyzed: 2009-06-04

Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Selenium		mg/L	1.00	0.989	99	90 - 110	2009-06-04

Standard (CCV-1)

QC Batch: 60107

Date Analyzed: 2009-06-04

Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Arsenic		mg/L	1.00	0.988	99	90 - 110	2009-06-04

Standard (CCV-1)

QC Batch: 60107

Date Analyzed: 2009-06-04

Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Barium		mg/L	1.00	1.01	101	90 - 110	2009-06-04

Standard (CCV-1)

QC Batch: 60107

Date Analyzed: 2009-06-04

Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Chromium		mg/L	1.00	0.972	97	90 - 110	2009-06-04

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Standard (CCV-1)

QC Batch: 60107

Date Analyzed: 2009-06-04

Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Silver		mg/L	0.125	0.122	98	90 - 110	2009-06-04

Standard (CCV-1)

QC Batch: 60107

Date Analyzed: 2009-06-04

Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP U		mg/L	1.00	0.956	96	90 - 110	2009-06-04

C. The standards are not intended as maximum ranges and concentrations for use, and nothing herein contained shall be construed as limiting the use of waters containing higher ranges and concentrations [2-18-77; 20.6.2.3101 NMAC - Rn, 20 NMAC 6.2.III.3101, 1-15-01]

20.6.2.3102: [RESERVED]

[12-1-95; 20.6.2.3102 NMAC - Rn, 20 NMAC 6.2.III.3102, 1-15-01]

20.6.2.3103

STANDARDS FOR GROUND WATER OF 10,000 mg/l TDS CONCENTRATION OR

LESS: The following standards are the allowable pH range and the maximum allowable concentration in ground water for the contaminants specified unless the existing condition exceeds the standard or unless otherwise provided in Subsection D of Section 20.6.2.3109 NMAC. Regardless of whether there is one contaminant or more than one contaminant present in ground water, when an existing pH or concentration of any water contaminant exceeds the standard specified in Subsection A, B, or C of this section, the existing pH or concentration shall be the allowable limit, provided that the discharge at such concentrations will not result in concentrations at any place of withdrawal for present or reasonably foreseeable future use in excess of the standards of this section. These standards shall apply to the dissolved portion of the contaminants specified with a definition of dissolved being that given in the publication "*methods for chemical analysis of water and waste of the U.S. environmental protection agency*," with the exception that standards for mercury, organic compounds and non-aqueous phase liquids shall apply to the total unfiltered concentrations of the contaminants.

A. Human Health Standards-Ground water shall meet the standards of Subsection A and B of this section unless otherwise provided. If more than one water contaminant affecting human health is present, the toxic pollutant criteria as set forth in the definition of toxic pollutant in Section 20.6.2.1101 NMAC for the combination of contaminants, or the Human Health Standard of Subsection A of Section 20.6.2.3103 NMAC for each contaminant shall apply, whichever is more stringent. Non-aqueous phase liquid shall not be present floating atop of or immersed within ground water, as can be reasonably measured.

(1)	Arsenic (As)	0.1 mg/l
(2)	Barium (Ba).....	1.0 mg/l
(3)	Cadmium (Cd).....	0.01 mg/l
(4)	Chromium (Cr).....	0.05 mg/l
(5)	Cyanide (CN).....	0.2 mg/l
(6)	Fluoride (F).....	1.6 mg/l
(7)	Lead (Pb).....	0.05 mg/l
(8)	Total Mercury (Hg)	0.002 mg/l
(9)	Nitrate (NO ₃ as N).....	10.0 mg/l
(10)	Selenium (Se).....	0.05 mg/l
(11)	Silver (Ag).....	0.05 mg/l
(12)	Uranium (U).....	0.03 mg/l
(13)	Radioactivity: Combined Radium-226 & Radium-228.....	30 pCi/l
(14)	Benzene.....	0.01 mg/l
(15)	Polychlorinated biphenyls (PCB's).....	0.001 mg/l
(16)	Toluene.....	0.75 mg/l
(17)	Carbon Tetrachloride	0.01 mg/l
(18)	1,2-dichloroethane (EDC)	0.01 mg/l
(19)	1,1-dichloroethylene (1,1-DCE)	0.005 mg/l
(20)	1,1,2,2-tetrachloroethylene (PCE)	0.02 mg/l
(21)	1,1,2-trichloroethylene (TCE)	0.1 mg/l
(22)	ethylbenzene.....	0.75 mg/l
(23)	total xylenes	0.62 mg/l
(24)	methylene chloride	0.1 mg/l
(25)	chloroform.....	0.1 mg/l
(26)	1,1-dichloroethane.....	0.025 mg/l
(27)	ethylene dibromide (EDB)	0.0001 mg/l
(28)	1,1,1-trichloroethane	0.06 mg/l
(29)	1,1,2-trichloroethane.....	0.01 mg/l
(30)	1,1,2,2-tetrachloroethane.....	0.01 mg/l
(31)	vinyl chloride.....	0.001 mg/l

- (32) PAHs: total naphthalene plus monomethylnaphthalenes.....0.03 mg/l
 (33) benzo-a-pyrene..... 0.0007 mg/l
- B. Other Standards for Domestic Water Supply**
- (1) Chloride (Cl)250.0 mg/l
 (2) Copper (Cu)1.0 mg/l
 (3) Iron (Fe)1.0 mg/l
 (4) Manganese (Mn) 0.2 mg/l
 (6) Phenols0.005 mg/l
 (7) Sulfate (SO₄)600.0 mg/l
 (8) Total Dissolved Solids (TDS)1000.0 mg/l
 (9) Zinc (Zn)10.0 mg/l
 (10) pH..... between 6 and 9

C. Standards for Irrigation Use - Ground water shall meet the standards of Subsection A, B, and C of this section unless otherwise provided.

- (1) Aluminum (Al).....5.0 mg/l
 (2) Boron (B)0.75 mg/l
 (3) Cobalt (Co)0.05 mg/l
 (4) Molybdenum (Mo)1.0 mg/l
 (5) Nickel (Ni)0.2 mg/l

[2-18-77, 1-29-82, 11-17-83, 3-3-86, 12-1-95; 20.6.2.3103 NMAC - Rn, 20 NMAC 6.2.III.3103, 1-15-01; A, 9-26-04]

[Note: For purposes of application of the amended numeric uranium standard to past and current water discharges (as of 9-26-04), the new standard will not become effective until June 1, 2007. For any new water discharges, the uranium standard is effective 9-26-04.]

20.6.2.3104 DISCHARGE PERMIT REQUIRED: Unless otherwise provided by this Part, no person shall cause or allow effluent or leachate to discharge so that it may move directly or indirectly into ground water unless he is discharging pursuant to a discharge permit issued by the secretary. When a permit has been issued, discharges must be consistent with the terms and conditions of the permit. In the event of a transfer of the ownership, control, or possession of a facility for which a discharge permit is in effect, the transferee shall have authority to discharge under such permit, provided that the transferee has complied with Section 20.6.2.3111 NMAC, regarding transfers. [2-18-77, 12-24-87, 12-1-95; Rn & A, 20.6.2.3104 NMAC - 20 NMAC 6.2.III.3104, 1-15-01; A, 12-1-01]

20.6.2.3105 EXEMPTIONS FROM DISCHARGE PERMIT REQUIREMENT: Sections 20.6.2.3104 and 20.6.2.3106 NMAC do not apply to the following:

A. Effluent or leachate which conforms to all the listed numerical standards of Section 20.6.2.3103 NMAC and has a total nitrogen concentration of 10 mg/l or less, and does not contain any toxic pollutant. To determine conformance, samples may be taken by the agency before the effluent or leachate is discharged so that it may move directly or indirectly into ground water; provided that if the discharge is by seepage through non-natural or altered natural materials, the agency may take samples of the solution before or after seepage. If for any reason the agency does not have access to obtain the appropriate samples, this exemption shall not apply;

B. Effluent which is discharged from a sewerage system used only for disposal of household and other domestic waste which is designed to receive and which receives 2,000 gallons or less of liquid waste per day;

C. Water used for irrigated agriculture, for watering of lawns, trees, gardens or shrubs, or for irrigation for a period not to exceed five years for the revegetation of any disturbed land area, unless that water is received directly from any sewerage system;

D. Discharges resulting from the transport or storage of water diverted, provided that the water diverted has not had added to it after the point of diversion any effluent received from a sewerage system, that the source of the water diverted was not mine workings, and that the secretary has not determined that a hazard to public health may result;

E. Effluent which is discharged to a watercourse which is naturally perennial; discharges to dry arroyos and ephemeral streams are not exempt from the discharge permit requirement, except as otherwise provided in this section;

F. Those constituents which are subject to effective and enforceable effluent limitations in a National Pollutant Discharge Elimination System (NPDES) permit, where discharge onto or below the surface of the ground so that water contaminants may move directly or indirectly into ground water occurs downstream from the outfall



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E-Mail lab@traceanalysis.com

Certifications

WBENC: 237019 **HUB:** 1752439743100-86536 **DBE:** VN 20657
NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock: T104704219-08-TX **El Paso:** T104704221-08-TX **Midland:** T104704392-08-TX
LELAP-02003 LELAP-02002
Kansas E-10317

Analytical and Quality Control Report

Kyle Summers
Talon LPE-Midland
2901 State Highway 349
Midland, TX, 79706

Report Date: June 30, 2009

Work Order: 9062316



Project Location: Lea Co., NM
Project Name: Penlon Ranch
Project Number MEWBOU043PIT

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
200003	C-1	soil	2009-06-22	15:45	2009-06-23

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 13 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank.

Case Narrative

Samples for project Penlon Ranch were received by TraceAnalysis, Inc. on 2009-06-23 and assigned to work order 9062316. Samples for work order 9062316 were received intact at a temperature of 8.8 deg. C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	51859	2009-06-24 at 10:09	60787	2009-06-24 at 10:09
Chloride (Titration)	SM 4500-Cl B	51904	2009-06-25 at 13:14	60859	2009-06-26 at 09:06
Total BTEX	S 8021B	51859	2009-06-24 at 10:09	60787	2009-06-24 at 10:09
TPH 418.1	E 418.1	52006	2009-06-30 at 08:00	60964	2009-06-30 at 10:33
TPH DRO	Mod. 8015B	51815	2009-06-23 at 11:30	60741	2009-06-23 at 21:25
TPH GRO	S 8015B	51859	2009-06-24 at 10:09	60788	2009-06-24 at 10:09

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 9062316 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 200003 - C-1

Laboratory: Midland

Analysis: BTEX, Total BTEX

QC Batch: 60787

Prep Batch: 51859

Analytical Method: S 8021B

Date Analyzed: 2009-06-24

Sample Preparation: 2009-06-24

Prep Method: S 5035

Analyzed By: ME

Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		0.0965	mg/Kg	1	0.0100
Total BTEX		0.0965	mg/Kg	1	0.0600

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.99	mg/Kg	1	2.00	100	49 - 129.7
4-Bromofluorobenzene (4-BFB)		2.02	mg/Kg	1	2.00	101	45.2 - 144.3

Sample: 200003 - C-1

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 60859

Prep Batch: 51904

Analytical Method: SM 4500-Cl B

Date Analyzed: 2009-06-26

Sample Preparation: 2009-06-25

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 200003 - C-1

Laboratory: Lubbock

Analysis: TPH 418.1

QC Batch: 60964

Prep Batch: 52006

Analytical Method: E 418.1

Date Analyzed: 2009-06-30

Sample Preparation: 2009-06-30

Prep Method: N/A

Analyzed By: CM

Prepared By: CM

Parameter	Flag	RL Result	Units	Dilution	RL
TRPHC		24.4	mg/Kg	1	10.0

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Penlon Ranch

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Lea Co., NM

Sample: 200003 - C-1

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 60741
Prep Batch: 51815

Analytical Method: Mod. 8015B
Date Analyzed: 2009-06-23
Sample Preparation: 2009-06-23

Prep Method: N/A
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		88.0	mg/Kg	1	100	88	13.2 - 219.3

Sample: 200003 - C-1

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 60788
Prep Batch: 51859

Analytical Method: S 8015B
Date Analyzed: 2009-06-24
Sample Preparation: 2009-06-24

Prep Method: S 5035
Analyzed By: ME
Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		1.46	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.04	mg/Kg	1	2.00	102	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)		2.28	mg/Kg	1	2.00	114	52 - 117

Method Blank (1) QC Batch: 60741

QC Batch: 60741
Prep Batch: 51815

Date Analyzed: 2009-06-23
QC Preparation: 2009-06-23

Analyzed By: AG
Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
DRO		8.90	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		68.9	mg/Kg	1	100	69	13 - 178.5

Method Blank (1) QC Batch: 60787

QC Batch: 60787
Prep Batch: 51859

Date Analyzed: 2009-06-24
QC Preparation: 2009-06-24

Analyzed By: ME
Prepared By: ME

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00100	mg/Kg	0.01
Toluene		<0.00100	mg/Kg	0.01
Ethylbenzene		<0.00110	mg/Kg	0.01
Xylene		<0.00360	mg/Kg	0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.91	mg/Kg	1	2.00	96	65.6 - 130.6
4-Bromofluorobenzene (4-BFB)		2.01	mg/Kg	1	2.00	100	51.9 - 128.1

Method Blank (1) QC Batch: 60788

QC Batch: 60788
Prep Batch: 51859

Date Analyzed: 2009-06-24
QC Preparation: 2009-06-24

Analyzed By: ME
Prepared By: ME

Parameter	Flag	MDL Result	Units	RL
GRO		<0.482	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.99	mg/Kg	1	2.00	100	71.9 - 115
4-Bromofluorobenzene (4-BFB)		2.28	mg/Kg	1	2.00	114	45.7 - 118.9

Method Blank (1) QC Batch: 60859

QC Batch: 60859
Prep Batch: 51904

Date Analyzed: 2009-06-26
QC Preparation: 2009-06-25

Analyzed By: AR
Prepared By: AR

Parameter	Flag	MDL Result	Units	RL
Chloride		<2.18	mg/Kg	4

Method Blank (1) QC Batch: 60964

QC Batch: 60964
Prep Batch: 52006

Date Analyzed: 2009-06-30
QC Preparation: 2009-06-30

Analyzed By: CM
Prepared By: CM

Report Date: June 30, 2009
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Parameter	Flag	MDL Result	Units	RL
TRPHC		<5.28	mg/Kg	10

Laboratory Control Spike (LCS-1)

QC Batch: 60741
Prep Batch: 51815

Date Analyzed: 2009-06-23
QC Preparation: 2009-06-23

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	207	mg/Kg	1	250	8.9	79	57.4 - 133.4

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	202	mg/Kg	1	250	8.9	77	57.4 - 133.4	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	93.2	92.9	mg/Kg	1	100	93	93	48.5 - 146.7

Laboratory Control Spike (LCS-1)

QC Batch: 60787
Prep Batch: 51859

Date Analyzed: 2009-06-24
QC Preparation: 2009-06-24

Analyzed By: ME
Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.09	mg/Kg	1	2.00	<0.00100	104	72.7 - 129.8
Toluene	2.12	mg/Kg	1	2.00	<0.00100	106	71.6 - 129.6
Ethylbenzene	2.07	mg/Kg	1	2.00	<0.00110	104	70.8 - 129.7
Xylene	6.33	mg/Kg	1	6.00	<0.00360	106	70.9 - 129.4

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.13	mg/Kg	1	2.00	<0.00100	106	72.7 - 129.8	2	20
Toluene	2.19	mg/Kg	1	2.00	<0.00100	110	71.6 - 129.6	3	20
Ethylbenzene	2.19	mg/Kg	1	2.00	<0.00110	110	70.8 - 129.7	6	20
Xylene	6.74	mg/Kg	1	6.00	<0.00360	112	70.9 - 129.4	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

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Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.94	1.94	mg/Kg	1	2.00	97	97	65.9 - 132
4-Bromofluorobenzene (4-BFB)	2.03	2.02	mg/Kg	1	2.00	102	101	55.2 - 128.9

Laboratory Control Spike (LCS-1)

QC Batch: 60788
Prep Batch: 51859

Date Analyzed: 2009-06-24
QC Preparation: 2009-06-24

Analyzed By: ME
Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.6	mg/Kg	1	20.0	<0.482	73	60.5 - 100.1

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	13.6	mg/Kg	1	20.0	<0.482	68	60.5 - 100.1	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.91	1.91	mg/Kg	1	2.00	96	96	78.8 - 104.7
4-Bromofluorobenzene (4-BFB)	2.15	2.15	mg/Kg	1	2.00	108	108	66.1 - 108.3

Laboratory Control Spike (LCS-1)

QC Batch. 60859
Prep Batch. 51904

Date Analyzed: 2009-06-26
QC Preparation: 2009-06-25

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	100	mg/Kg	1	100	<2.18	100	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	99.7	mg/Kg	1	100	<2.18	100	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 60964
Prep Batch. 52006

Date Analyzed: 2009-06-30
QC Preparation: 2009-06-30

Analyzed By: CM
Prepared By: CM

Report Date: June 30, 2009
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Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
TRPHC	265	mg/Kg	1	250	<5.28	106	75.5 - 136

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
TRPHC	241	mg/Kg	1	250	<5.28	96	75.5 - 136	10	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 199965

QC Batch: 60741
Prep Batch: 51815

Date Analyzed: 2009-06-23
QC Preparation: 2009-06-23

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	240	mg/Kg	1	250	84.8	62	35.2 - 167.1

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	262	mg/Kg	1	250	84.8	71	35.2 - 167.1	9	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	114	106	mg/Kg	1	100	114	106	34.5 - 178.4

Matrix Spike (MS-1) Spiked Sample: 200003

QC Batch: 60787
Prep Batch: 51859

Date Analyzed: 2009-06-24
QC Preparation: 2009-06-24

Analyzed By: ME
Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.04	mg/Kg	1	2.00	<0.00100	102	58.6 - 165.2
Toluene	2.05	mg/Kg	1	2.00	<0.00100	102	64.2 - 153.8
Ethylbenzene	2.06	mg/Kg	1	2.00	<0.00110	103	61.6 - 159.4
Xylene	6.23	mg/Kg	1	6.00	0.0965	102	64.4 - 155.3

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

continued ...

matrix spikes continued ...

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.24	mg/Kg	1	2.00	<0.00100	112	58.6 - 165.2	9	20
Toluene	2.27	mg/Kg	1	2.00	<0.00100	114	64.2 - 153.8	10	20
Ethylbenzene	2.34	mg/Kg	1	2.00	<0.00110	117	61.6 - 159.4	13	20
Xylene	7.13	mg/Kg	1	6.00	0.0965	117	64.4 - 155.3	14	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.99	1.98	mg/Kg	1	2	100	99	76 - 127.9
4-Bromofluorobenzene (4-BFB)	1.80	1.88	mg/Kg	1	2	90	94	72 - 127.8

Matrix Spike (MS-1) Spiked Sample: 200003

QC Batch: 60788
Prep Batch: 51859

Date Analyzed: 2009-06-24
QC Preparation: 2009-06-24

Analyzed By: ME
Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	¹ 40.1	mg/Kg	1	20.0	1.4623	193	12.8 - 175.2

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	² 42.2	mg/Kg	1	20.0	1.4623	204	12.8 - 175.2	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.16	2.20	mg/Kg	1	2	108	110	60.8 - 132.1
4-Bromofluorobenzene (4-BFB)	2.03	2.06	mg/Kg	1	2	102	103	31.3 - 161.7

Matrix Spike (MS-1) Spiked Sample: 200003

QC Batch: 60859
Prep Batch: 51904

Date Analyzed: 2009-06-26
QC Preparation: 2009-06-25

Analyzed By: AR
Prepared By: AR

¹Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

²Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control

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Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	5100	mg/Kg	50	5000	<109	102	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	5160	mg/Kg	50	5000	<109	103	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 200003

QC Batch: 60964
Prep Batch: 52006

Date Analyzed: 2009-06-30
QC Preparation: 2009-06-30

Analyzed By: CM
Prepared By: CM

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
TRPHC	398	mg/Kg	1	250	24.4	149	10 - 354

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
TRPHC	406	mg/Kg	1	250	24.4	153	10 - 354	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Standard (CCV-1)

QC Batch: 60741

Date Analyzed: 2009-06-23

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	208	83	80 - 120	2009-06-23

Standard (CCV-2)

QC Batch: 60741

Date Analyzed: 2009-06-23

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	205	82	80 - 120	2009-06-23

Standard (CCV-1)

QC Batch: 60787

Date Analyzed: 2009-06-24

Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.107	107	80 - 120	2009-06-24
Toluene		mg/Kg	0.100	0.114	114	80 - 120	2009-06-24
Ethylbenzene		mg/Kg	0.100	0.110	110	80 - 120	2009-06-24
Xylene		mg/Kg	0.300	0.339	113	80 - 120	2009-06-24

Standard (CCV-2)

QC Batch: 60787

Date Analyzed: 2009-06-24

Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.113	113	80 - 120	2009-06-24
Toluene		mg/Kg	0.100	0.113	113	80 - 120	2009-06-24
Ethylbenzene		mg/Kg	0.100	0.113	113	80 - 120	2009-06-24
Xylene		mg/Kg	0.300	0.347	116	80 - 120	2009-06-24

Standard (CCV-1)

QC Batch: 60788

Date Analyzed: 2009-06-24

Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.949	95	80 - 120	2009-06-24

Standard (CCV-2)

QC Batch: 60788

Date Analyzed: 2009-06-24

Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.02	102	80 - 120	2009-06-24

Standard (ICV-1)

QC Batch: 60859

Date Analyzed: 2009-06-26

Analyzed By: AR

Report Date: June 30, 2009
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Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2009-06-26

Standard (CCV-1)

QC Batch. 60859

Date Analyzed: 2009-06-26

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2009-06-26

Standard (ICV-1)

QC Batch: 60964

Date Analyzed. 2009-06-30

Analyzed By: CM

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
TRPHC		mg/Kg	100	114	114	80 - 120	2009-06-30

Standard (CCV-1)

QC Batch. 60964

Date Analyzed: 2009-06-30

Analyzed By: CM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
TRPHC		mg/Kg	100	87.5	87	80 - 120	2009-06-30

TraceAnalysis, Inc.

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Contact Person: Ryle Summers E-mail: Rsummers@talonpc.com

Invoice to:
(If different from above)

Project #: Mowbray 0423 pit Project Name: Penlon Ranch "24"

Project Location (including state): Leahurst, NM Sampler Signature: [Signature]

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX				PRESERVATIVE METHOD						SAMPLING		MTBE 8021B / 60
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Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp ^o c:
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Ref L Talon 6/23/09 14:30 Mr. Louis B. Allen Tracer 6/23/09 14:30 88

Relinquished by: _____ Company: _____ Date: _____ Time: _____ Received by: _____ Company: _____ Date: _____ Time: _____ Temp °C: _____

[illegible]

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp ^o c:
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LAB USE ONLY

REMARKS:

REMARKS: New Mexico Site

- ☐ Dry Weight Basis Required
- ☐ TRRP Report Required
- ☐ Check If Special Reporting Limits Are Needed

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

Carrier #

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Summary Report

Kyle Summers
Talon LPE-Midland
2901 State Highway 349
Midland, TX 79706

Report Date: June 30, 2009

Work Order: 9062316



Project Location: Lea Co., NM
Project Name: Penlon Ranch
Project Number: MEWBOU043PIT

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
200003	C-1	soil	2009-06-22	15:45	2009-06-23

Sample - Field Code	TPH 418.1 TRPHC (mg/Kg)	TPH DRO DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
200003 - C-1	24.4	<50.0	1.46

Sample: 200003 - C-1

Param	Flag	Result	Units	RL
Benzene		<0.0100	mg/Kg	0.0100
Toluene		<0.0100	mg/Kg	0.0100
Ethylbenzene		<0.0100	mg/Kg	0.0100
Xylene		0.0965	mg/Kg	0.0100
Total BTEX		0.0965	mg/Kg	0.0600
Chloride		<200	mg/Kg	4.00