TALON

"All the Pieces"

May 27, 2009

RECEIVED
JUN 10 2009
HOBBSOCD

Larry Johnson
New Mexico Oil Conservation Division
District 1 office
1625 French Dr.
Hobbs, New Mexico 88240

RE: **Request for closure of the Norte 19 FED Com #1.**

In March of 2009, Talon/LPE was contracted by the Mewbourne Oil Company to perform the pit closure activities at the Norte 19 FED Com #1, API# 30-025-39160, Unit H Sec 19-T19S-R33E, in Lea county New Mexico. The C-144 for this pit closure was submitted to Paul Kautz and approved on September 29, 2008.

Talon/LPE contacted Larry Johnson on February 25, 2009 to give forty eight hour notification of intent to proceed with trench burial. On March 2, 2009 Talon/LPE started mixing the drill cuttings from the reserve pit at a ratio not more than 3:1 to stabilize the soil in preparation for trench burial. Up on completion of mixing the drill cuttings, Eb Taylor with Talon/LPE called Larry Johnson on March 4, 2009 to notify him of the planed sampling event on March 6, 2009, of the drill cuttings. A five point composite sample was collected from the drill cuttings and the samples were sent to Trace Analysis and analyzed in compliance with 19.15.17.13NMAC for official analytical results. When analytical was received it was determined that the chloride content was above regulatory levels for trench burial and the drill cuttings were mixed with more clean soil at a ratio of not more than 3:1. The cuttings were re-sampled on March 20, 2009 using the five point composite method and analytical results determined that the chlorides levels were below regulatory levels to procede with trench burial (see analytical results). A burial trench was excavated on the east side of the reserve pit and lined with a 20 mill liner. Once the drill cuttings were placed in the burial trench the cuttings were capped with a 20 mil cap and covered with a minimum of four foot of cover. On April 15, 2009 a five point composite sample of the reserve pit floor was collected and sent to Trace Analysis to be sampled in compliance with 19.15.17.13 NMAC for official analytical results. When the analytical results were received it was determine that the area could be backfilled (see analytical results). The area was backfilled and seeded using the hand broadcast method with BLM mix #3.

No deed amendment is required for this closure due to the fact that this is Federal land. A burial marker was placed at 32° 38' 59 N 103° 41' 56 W.

After review of attached documents and analysis by the NMOCD, Talon/LPE, and Mewbourne Oil Company we are requesting that this pit be considered properly closed.

FOR RECORD ONLY
WELL FILE
ENVIRONMENTAL ENGINEER

Sincerely,
Eb Taylor

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

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JUN 10 2009
HOBBSOCD

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

Form C-144
July 21, 2008

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

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
X 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 NEW MEXICO 88241_____
Facility or well name: Norte 19 Federal Com #1_____
API Number: 30-02539160_____ OCD Permit Number: P1-00477_____
U/L or Qtr/Qtr H_____ Section 19_____ Township 19S_____ Range 33E_____ County: Lea_____
Center of Proposed Design: Latitude 32° 38' 54" N_____ Longitude 103° 41' 44" W_____ NAD: X 1927 ☐ 1983
Surface Owner: X Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
X Pit: Subsection F or G of 19.15.17.11 NMAC
Temporary: X Drilling X Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A
X Lined ☐ Unlined Liner type: Thickness ____20__mil X LLDPE ☐ HDPE ☐ PVC ☐ Other _____
X String-Reinforced
Liner Seams: ☐ Welded X Factory ☐ Other _____ Volume: 13500_____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 H_2S, 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 indentify 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. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search: USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ 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

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.

X **Closure Completion Date: 5/1/2009**

22.
Closure Method:

☐ Waste Excavation and Removal X 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 indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

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

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

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

☐ Site Reclamation (Photo Documentation)

☐ Soil Backfilling and Cover Installation

☐ Re-vegetation Application Rates and Seeding Technique

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.***

X Proof of Closure Notice (surface owner and division)

☐ Proof of Deed Notice (required for on-site closure)

X Plot Plan (for on-site closures and temporary pits)

X Confirmation Sampling Analytical Results (if applicable)

X Waste Material Sampling Analytical Results (required for on-site closure)

☐ Disposal Facility Name and Permit Number

X Soil Backfilling and Cover Installation

X Re-vegetation Application Rates and Seeding Technique

X Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude 32° 31.234' N _____ Longitude 104° 01.536' W _____ NAD: X 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: 6-5-09

e-mail address: CMartin@mewbourne.com Telephone: (575) 393-5905

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.
30-025-39160

2 Type of Lease
☐ STATE ☐ FEE x FED/INDIAN

3 State Oil & Gas Lease No NMLC-064790

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

4. Reason for filing:

☐ **COMPLETION REPORT** (Fill in boxes #1 through #31 for State and Fee wells only)

x **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
Norte 19 Federal Com

6 Well Number: #1

7 Type of Completion:
x NEW WELL ☐ WORKOVER ☐ DEEPENING ☐ PLUGBACK ☐ DIFFERENT RESERVOIR ☐ OTHER

8 Name of Operator Mewbourne Oil Company

9 OGRID 14744

10 Address of Operator
PO Box 5270 Hobbs New Mexico 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	14 Date T D Reached	15. Date Rig Released	16 Date Completed (Ready to Produce)	17 Elevations (DF and RKB, RT, GR, etc.)
		02/06/09		

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

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

25 TUBING RECORD

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 N 32° 38' 54" Longitude 103° 41' 44" 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 Charles Martin Printed Name Charles Martin Title Engineer Date 6-5-09

E-mail Address CMartin@Mewbourne.com

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
301 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

OIL CONSERVATION DIVISION

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

Form C-102
Revised October 12, 2005

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
		Gem Morrow Gas

Property Code	Property Name	Well Number
	NORTE "19" FEDERAL COM	1

OGRID No.	Operator Name	Elevation
14744	MEWBOURNE OIL COMPANY	3614'

Surface Location

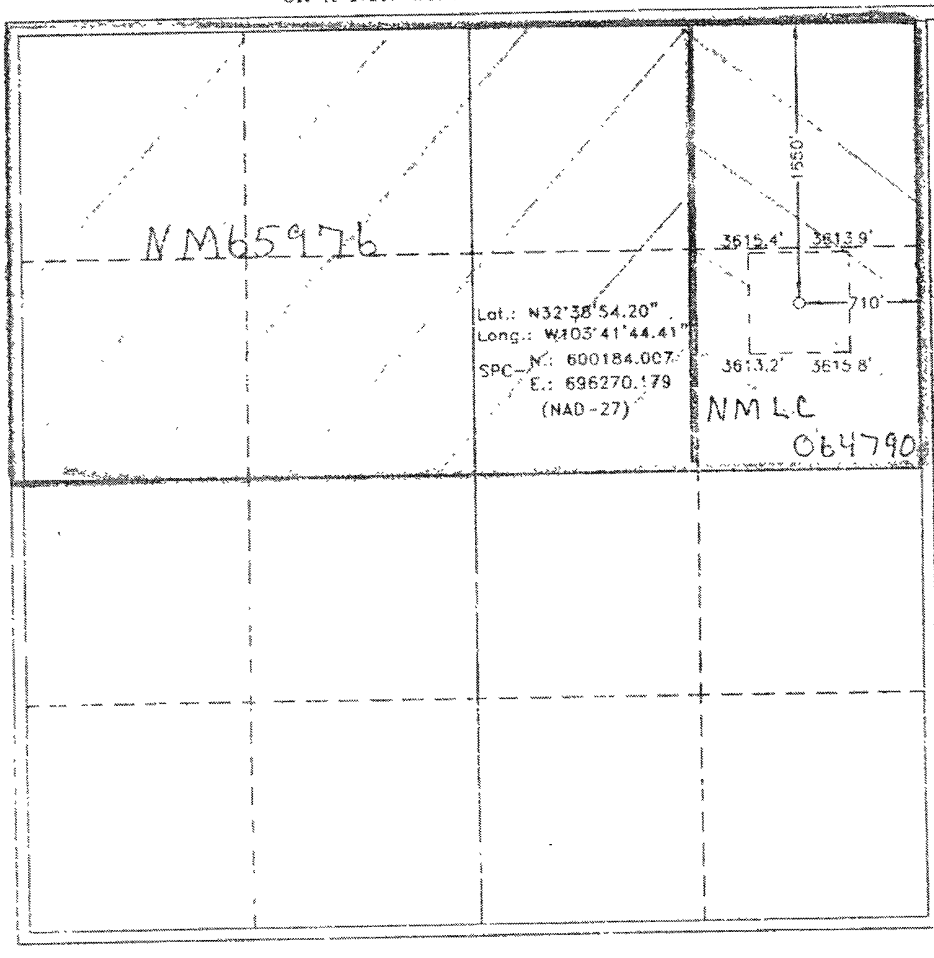
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	19	19 S	33 E		1650	NORTH	710	EAST	LEA

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	Joint or Infill	Consolidation Code	Order No.
320			

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.

Jackie Lathan 7/16/08
Signature Date

Jackie Lathan
Printed Name

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.

Date Surveyed: [illegible]2008
Signature & Seal of Professional Surveyor

NEW MEXICO
GARY L. JONES
7977
REGISTERED PROFESSIONAL SURVEYOR

W.O. Num. 20018

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

TRACEANALYSIS, INC.

Certifications

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

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

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

Report Date: March 13, 2009

Work Order: 9031014

Project Location: Lea County, NM
Project Name: Norte 19 Fed. Com. 1
Project Number: MEWBOU040PIT

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
189647	Drill Cuttings	soil	2009-03-06	15:40	2009-03-09

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.

Michael Abel

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 Norte 19 Fed. Com. 1 were received by TraceAnalysis, Inc. on 2009-03-09 and assigned to work order 9031014. Samples for work order 9031014 were received intact at a temperature of 4.0 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	49122	2009-03-10 at 14:44	57499	2009-03-10 at 14:44
SPLP Ag	S 6010B	49151	2009-03-12 at 09:49	57543	2009-03-12 at 13:11
SPLP As	S 6010B	49151	2009-03-12 at 09:49	57543	2009-03-12 at 13:11
SPLP Ba	S 6010B	49151	2009-03-12 at 09:49	57543	2009-03-12 at 13:11
SPLP Cd	S 6010B	49151	2009-03-12 at 09:49	57543	2009-03-12 at 13:11
SPLP Cl	E 300.0	49210	2009-03-12 at 12:30	57597	2009-03-13 at 00:46
SPLP Cr	S 6010B	49151	2009-03-12 at 09:49	57543	2009-03-12 at 13:11
SPLP Cyanide	SM 4500-CN C,E	49131	2009-03-11 at 10:00	57506	2009-03-11 at 13:30
SPLP Fluoride	E 300.0	49159	2009-03-11 at 11:55	57539	2009-03-11 at 15:25
SPLP Hg	S 7470A	49158	2009-03-12 at 10:45	57541	2009-03-12 at 12:41
SPLP NO3 (IC)	E 300.0	49159	2009-03-11 at 11:55	57539	2009-03-11 at 15:25
SPLP PAH	S 8270C	49152	2009-03-11 at 15:00	57529	2009-03-12 at 09:51
SPLP Pb	S 6010B	49151	2009-03-12 at 09:49	57543	2009-03-12 at 13:11
SPLP PCB	S 8082	49187	2009-03-11 at 15:00	57571	2009-03-12 at 10:35
SPLP Se	S 6010B	49151	2009-03-12 at 09:49	57543	2009-03-12 at 13:11
SPLP U	S 6010B	49151	2009-03-12 at 09:49	57543	2009-03-12 at 13:11
SPLP Volatiles	S 8260B	49148	2009-03-10 at 15:30	57526	2009-03-11 at 11:00
TPH 418.1	E 418.1	49135	2009-03-11 at 12:00	57511	2009-03-11 at 15:03
TPH DRO	Mod. 8015B	49097	2009-03-10 at 15:00	57469	2009-03-10 at 18:00
TPH GRO	S 8015B	49141	2009-03-11 at 13:49	57516	2009-03-11 at 13:49

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 9031014 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: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	57499	Date Analyzed:	2009-03-10	Analyzed By:	MT
Prep Batch:	49122	Sample Preparation:	2009-03-10	Prepared By:	MT

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**0.0420**	mg/Kg	1	0.0200
Toluene		**0.209**	mg/Kg	1	0.0200
Ethylbenzene		**0.326**	mg/Kg	1	0.0200
Xylene		**0.499**	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.07	mg/Kg	1	2.00	104	72.9 - 113
4-Bromofluorobenzene (4-BFB)		2.02	mg/Kg	1	2.00	101	42.1 - 116

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis.	SPLP Ag	Analytical Method:	S 6010B	Prep Method:	SPLP 1312
QC Batch:	57543	Date Analyzed:	2009-03-12	Analyzed By:	RR
Prep Batch:	49151	SPLP Extraction:	2009-03-11	Prepared By:	KV
		Sample Preparation:	2009-03-12	Prepared By:	KV

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

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	SPLP As	Analytical Method:	S 6010B	Prep Method:	SPLP 1312
QC Batch:	57543	Date Analyzed:	2009-03-12	Analyzed By:	RR
Prep Batch:	49151	SPLP Extraction:	2009-03-11	Prepared By:	KV
		Sample Preparation:	2009-03-12	Prepared By:	KV

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

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	SPLP Ba	Analytical Method:	S 6010B	Prep Method:	SPLP 1312
QC Batch:	57543	Date Analyzed:	2009-03-12	Analyzed By:	RR
Prep Batch:	49151	SPLP Extraction:	2009-03-11	Prepared By:	KV
		Sample Preparation:	2009-03-12	Prepared By:	KV

Parameter	Flag	Result	RL Units	Dilution	RL
SPLP Barium		**0.551**	mg/L	1	0.100

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	SPLP Cd	Analytical Method:	S 6010B	Prep Method:	SPLP 1312
QC Batch:	57543	Date Analyzed:	2009-03-12	Analyzed By:	RR
Prep Batch:	49151	SPLP Extraction:	2009-03-11	Prepared By:	KV
		Sample Preparation:	2009-03-12	Prepared By:	KV

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

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	SPLP Cl	Analytical Method:	E 300.0	Prep Method:	SPLP 1312
QC Batch:	57597	Date Analyzed:	2009-03-13	Analyzed By:	SS
Prep Batch:	49210	SPLP Extraction:	2009-03-11	Prepared By:	SS
		Sample Preparation:	2009-03-12	Prepared By:	SS

Parameter	Flag	Result	RL Units	Dilution	RL
SPLP Chloride		**1270**	mg/L	50	0.500

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	SPLP Cr	Analytical Method:	S 6010B	Prep Method:	SPLP 1312
QC Batch:	57543	Date Analyzed:	2009-03-12	Analyzed By:	RR
Prep Batch:	49151	SPLP Extraction:	2009-03-11	Prepared By:	KV
		Sample Preparation:	2009-03-12	Prepared By:	KV

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

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	SPLP Cyanide	Analytical Method:	SM 4500-CN C,E	Prep Method:	SPLP 1312
QC Batch:	57506	Date Analyzed:	2009-03-11	Analyzed By:	AH
Prep Batch:	49131	SPLP Extraction:		Prepared By:	AH
		Sample Preparation:		Prepared By:	AH

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

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	SPLP Fluoride	Analytical Method:	E 300.0	Prep Method:	SPLP 1312
QC Batch:	57539	Date Analyzed:	2009-03-11	Analyzed By:	ER
Prep Batch:	49159	SPLP Extraction:	2009-03-10	Prepared By:	ER
		Sample Preparation:	2009-03-11	Prepared By:	ER

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

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	SPLP Hg	Analytical Method:	S 7470A	Prep Method:	N/A
QC Batch:	57541	Date Analyzed:	2009-03-12	Analyzed By:	TP
Prep Batch:	49158	Sample Preparation:	2009-03-12	Prepared By:	TP

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

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	SPLP NO3 (IC)	Analytical Method:	E 300.0	Prep Method:	SPLP 1312
QC Batch:	57539	Date Analyzed:	2009-03-11	Analyzed By:	ER
Prep Batch:	49159	SPLP Extraction:	2009-03-10	Prepared By:	ER
		Sample Preparation:	2009-03-11	Prepared By:	ER

Parameter	Flag	RL Result	Units	Dilution	RL
Nitrate-N		<1.00	mg/L	5	0.200

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis.	SPLP PAH	Analytical Method:	S 8270C	Prep Method:	SPLP 1312
QC Batch:	57529	Date Analyzed:	2009-03-12	Analyzed By:	MN
Prep Batch:	49152	SPLP Extraction:	2009-03-10	Prepared By:	MN
		Sample Preparation:	2009-03-11	Prepared By:	MN

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		**0.000318**	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		0.0471	mg/L	1	0.0800	59	37.4 - 123
Nitrobenzene-d5		0.0454	mg/L	1	0.0800	57	34.3 - 130
Terphenyl-d14		0.0636	mg/L	1	0.0800	80	10 - 252

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	SPLP Pb	Analytical Method:	S 6010B	Prep Method:	SPLP 1312
QC Batch:	57543	Date Analyzed:	2009-03-12	Analyzed By:	RR
Prep Batch:	49151	SPLP Extraction:	2009-03-11	Prepared By:	KV
		Sample Preparation:	2009-03-12	Prepared By:	KV

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

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	SPLP PCB	Analytical Method:	S 8082	Prep Method:	SPLP 1312
QC Batch:	57571	Date Analyzed:	2009-03-12	Analyzed By:	DS
Prep Batch:	49187	SPLP Extraction:	2009-03-10	Prepared By:	DS
		Sample Preparation:	2009-03-11	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		0.000599	mg/L	1	0.000500	120	10 - 128

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	SPLP Se	Analytical Method:	S 6010B	Prep Method:	SPLP 1312
QC Batch.	57543	Date Analyzed:	2009-03-12	Analyzed By:	RR
Prep Batch:	49151	SPLP Extraction:	2009-03-11	Prepared By:	KV
		Sample Preparation:	2009-03-12	Prepared By:	KV

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

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	SPLP U	Analytical Method:	S 6010B	Prep Method:	SPLP 1312
QC Batch:	57543	Date Analyzed:	2009-03-12	Analyzed By:	RR
Prep Batch:	49151	SPLP Extraction:	2009-03-11	Prepared By:	KV
		Sample Preparation:	2009-03-12	Prepared By:	KV

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

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	SPLP Volatiles	Analytical Method:	S 8260B	Prep Method:	SPLP 1312
QC Batch:	57526	Date Analyzed:	2009-03-11	Analyzed By:	KB
Prep Batch:	49148	SPLP Extraction:	2009-03-11	Prepared By:	KB
		Sample Preparation:	2009-03-10	Prepared By:	KB

Parameter	Flag	Result	RL Units	Dilution	RL
Bromochloromethane		<1.00	µg/L	1	1.00
Dichlorodifluoromethane		<1.00	µg/L	1	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1	1.00
Vinyl Chloride		<1.00	µg/L	1	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	1	5.00
Chloroethane		<1.00	µg/L	1	1.00
Trichlorofluoromethane		<1.00	µg/L	1	1.00
Acetone		<10.0	µg/L	1	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	1	5.00
Carbon Disulfide		<1.00	µg/L	1	1.00
Acrylonitrile		<1.00	µg/L	1	1.00
2-Butanone (MEK)		<5.00	µg/L	1	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	1	5.00
2-Hexanone		<5.00	µg/L	1	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	1	10.0
1,1-Dichloroethene		<1.00	µg/L	1	1.00
Methylene chloride		<5.00	µg/L	1	5.00
MTBE		<1.00	µg/L	1	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1	1.00

continued ...

sample 189647 continued ...

Parameter	Flag	Result	RL	Units	Dilution	RL
1,1-Dichloroethane		<1.00		µg/L	1	1.00
cis-1,2-Dichloroethene		<1.00		µg/L	1	1.00
2,2-Dichloropropane		<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
1,1-Dichloropropene		<1.00		µg/L	1	1.00
Benzene		**1.41**		µg/L	1	1.00
Carbon Tetrachloride		<1.00		µg/L	1	1.00
1,2-Dichloropropane		<1.00		µg/L	1	1.00
Trichloroethene (TCE)		<1.00		µg/L	1	1.00
Dibromomethane (methylene bromide)		<1.00		µg/L	1	1.00
Bromodichloromethane		<1.00		µg/L	1	1.00
2-Chloroethyl vinyl ether		<5.00		µg/L	1	5.00
cis-1,3-Dichloropropene		<1.00		µg/L	1	1.00
trans-1,3-Dichloropropene		<1.00		µg/L	1	1.00
Toluene		**9.92**		µg/L	1	1.00
1,1,2-Trichloroethane		<1.00		µg/L	1	1.00
1,3-Dichloropropane		<1.00		µg/L	1	1.00
Dibromochloromethane		<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
Chlorobenzene		<1.00		µg/L	1	1.00
1,1,1,2-Tetrachloroethane		<1.00		µg/L	1	1.00
Ethylbenzene		**8.19**		µg/L	1	1.00
m,p-Xylene		**10.7**		µg/L	1	1.00
Bromoform		<1.00		µg/L	1	1.00
Styrene		<1.00		µg/L	1	1.00
o-Xylene		**4.66**		µg/L	1	1.00
1,1,2,2-Tetrachloroethane		<1.00		µg/L	1	1.00
2-Chlorotoluene		<1.00		µg/L	1	1.00
1,2,3-Trichloropropane		<1.00		µg/L	1	1.00
Isopropylbenzene		**1.55**		µg/L	1	1.00
Bromobenzene		<1.00		µg/L	1	1.00
n-Propylbenzene		**2.05**		µg/L	1	1.00
1,3,5-Trimethylbenzene		**1.25**		µg/L	1	1.00
tert-Butylbenzene		<1.00		µg/L	1	1.00
1,2,4-Trimethylbenzene		**5.19**		µg/L	1	1.00
1,4-Dichlorobenzene (para)		<1.00		µg/L	1	1.00
sec-Butylbenzene		<1.00		µg/L	1	1.00
1,3-Dichlorobenzene (meta)		<1.00		µg/L	1	1.00
p-Isopropyltoluene		<1.00		µg/L	1	1.00
4-Chlorotoluene		<1.00		µg/L	1	1.00

continued ...

sample 189647 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1	1.00
n-Butylbenzene		<1.00	µg/L	1	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5.00
Naphthalene		<5.00	µg/L	1	5.00
Hexachlorobutadiene		<5.00	µg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		42.4	µg/L	1	50.0	85	70 - 130
Toluene-d8		46.2	µg/L	1	50.0	92	70 - 130
4-Bromofluorobenzene (4-BFB)		53.6	µg/L	1	50.0	107	70 - 130

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	TPH 418.1	Analytical Method:	E 418.1	Prep Method:	N/A
QC Batch:	57511	Date Analyzed:	2009-03-11	Analyzed By:	CM
Prep Batch:	49135	Sample Preparation:	2009-03-11	Prepared By:	

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

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	57469	Date Analyzed:	2009-03-10	Analyzed By:	RG
Prep Batch:	49097	Sample Preparation:	2009-03-10	Prepared By:	RG

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		155	mg/Kg	1	100	155	46.6 - 172

Sample: 189647 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch.	57516	Date Analyzed:	2009-03-11	Analyzed By:	ER
Prep Batch:	49141	Sample Preparation:	2009-03-11	Prepared By:	ER

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**30.3**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	[1]	1.54	mg/Kg	1	2.00	77	86.3 - 112
4-Bromofluorobenzene (4-BFB)		1.57	mg/Kg	1	2.00	78	61.8 - 107

Method Blank (1) QC Batch: 57469

QC Batch:	57469	Date Analyzed:	2009-03-10	Analyzed By:	RG
Prep Batch:	49097	QC Preparation:	2009-03-10	Prepared By:	RG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		110	mg/Kg	1	100	110	46.6 - 172

Method Blank (1) QC Batch: 57499

QC Batch:	57499	Date Analyzed:	2009-03-10	Analyzed By:	MT
Prep Batch:	49122	QC Preparation:	2009-03-10	Prepared By:	MT

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00505	mg/Kg	0.02
Toluene		<0.00611	mg/Kg	0.02
Ethylbenzene		<0.00630	mg/Kg	0.02
Xylene		<0.00673	mg/Kg	0.02

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.26	mg/Kg	1	2.00	113	72.9 - 113

continued ...

[1]Surrogate TFT out due to matrix interference. Sample was reran on 3-11-09 to confirm matrix interference results.

method blank continued ...

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)		1.97	mg/Kg	1	2.00	98	42.1 - 116

Method Blank (1) QC Batch: 57506

QC Batch: 57506 Date Analyzed: 2009-03-11 Analyzed By: AH
Prep Batch: 49131 QC Preparation: 2009-03-11 Prepared By: AH

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

Method Blank (1) QC Batch: 57511

QC Batch: 57511 Date Analyzed: 2009-03-11 Analyzed By: CM
Prep Batch: 49135 QC Preparation: 2009-03-11 Prepared By: CM

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

Method Blank (1) QC Batch: 57516

QC Batch: 57516 Date Analyzed: 2009-03-11 Analyzed By: ER
Prep Batch: 49141 QC Preparation: 2009-03-11 Prepared By: ER

Parameter	Flag	MDL Result	Units	RL
GRO		<0.403	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.96	mg/Kg	1	2.00	98	86.3 - 112
4-Bromofluorobenzene (4-BFB)		1.64	mg/Kg	1	2.00	82	61.8 - 107

Method Blank (1) QC Batch: 57526

QC Batch: 57526 Date Analyzed: 2009-03-11 Analyzed By: KB
Prep Batch: 49148 QC Preparation: 2009-03-10 Prepared By: KB

Parameter	Flag	MDL Result	Units	RL
Bromochloromethane		<0.177	µg/L	1
Dichlorodifluoromethane		<0.208	µg/L	1
Chloromethane (methyl chloride)		<0.134	µg/L	1
Vinyl Chloride		<0.135	µg/L	1
Bromomethane (methyl bromide)		<1.23	µg/L	5
Chloroethane		<0.182	µg/L	1
Trichlorofluoromethane		<0.0610	µg/L	1
Acetone		<5.50	µg/L	10
Iodomethane (methyl iodide)		<0.107	µg/L	5
Carbon Disulfide		<0.0360	µg/L	1
Acrylonitrile		<0.0970	µg/L	1
2-Butanone (MEK)		<0.531	µg/L	5
4-Methyl-2-pentanone (MIBK)		<0.421	µg/L	5
2-Hexanone		<0.168	µg/L	5
trans 1,4-Dichloro-2-butene		<0.517	µg/L	10
1,1-Dichloroethene		<0.136	µg/L	1
Methylene chloride		<0.649	µg/L	5
MTBE		<0.123	µg/L	1
trans-1,2-Dichloroethene		<0.126	µg/L	1
1,1-Dichloroethane		<0.0600	µg/L	1
cis-1,2-Dichloroethene		<0.151	µg/L	1
2,2-Dichloropropane		<0.180	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
1,1-Dichloropropene		<0.0540	µg/L	1
Benzene		<0.146	µg/L	1
Carbon Tetrachloride		<0.0790	µg/L	1
1,2-Dichloropropane		<0.111	µg/L	1
Trichloroethene (TCE)		<0.117	µg/L	1
Dibromomethane (methylene bromide)		<0.140	µg/L	1
Bromodichloromethane		<0.161	µg/L	1
2-Chloroethyl vinyl ether		<0.388	µg/L	5
cis-1,3-Dichloropropene		<0.0890	µg/L	1
trans-1,3-Dichloropropene		<0.0760	µg/L	1
Toluene		<0.0600	µg/L	1
1,1,2-Trichloroethane		<0.135	µg/L	1
1,3-Dichloropropane		<0.0990	µg/L	1
Dibromochloromethane		<0.0900	µg/L	1
1,2-Dibromoethane (EDB)		<0.0700	µg/L	1
Tetrachloroethene (PCE)		<0.270	µg/L	1
Chlorobenzene		<0.0540	µg/L	1
1,1,1,2-Tetrachloroethane		<0.0990	µg/L	1
Ethylbenzene		<0.0360	µg/L	1
m,p-Xylene		<0.0940	µg/L	1

continued ...

method blank continued ...

Parameter	Flag	MDL Result	Units	RL
Bromoform		<0.0570	µg/L	1
Styrene		<0.0910	µg/L	1
o-Xylene		<0.0960	µg/L	1
1,1,2,2-Tetrachloroethane		<0.125	µg/L	1
2-Chlorotoluene		<0.0570	µg/L	1
1,2,3-Trichloropropane		<0.458	µg/L	1
Isopropylbenzene		<0.0850	µg/L	1
Bromobenzene		<0.106	µg/L	1
n-Propylbenzene		<0.0590	µg/L	1
1,3,5-Trimethylbenzene		0.0600	µg/L	1
tert-Butylbenzene		<0.107	µg/L	1
1,2,4-Trimethylbenzene		<0.0990	µg/L	1
1,4-Dichlorobenzene (para)		<0.217	µg/L	1
sec-Butylbenzene		0.0900	µg/L	1
1,3-Dichlorobenzene (meta)		0.0700	µg/L	1
p-Isopropyltoluene		<0.106	µg/L	1
4-Chlorotoluene		<0.0940	µg/L	1
1,2-Dichlorobenzene (ortho)		<0.100	µg/L	1
n-Butylbenzene		0.150	µg/L	1
1,2-Dibromo-3-chloropropane		<0.690	µg/L	5
1,2,3-Trichlorobenzene		<0.135	µg/L	5
1,2,4-Trichlorobenzene		<0.155	µg/L	5
Naphthalene		<0.594	µg/L	5
Hexachlorobutadiene		0.340	µg/L	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		42.5	µg/L	1	50.0	85	70 - 130
Toluene-d8		46.1	µg/L	1	50.0	92	70 - 130
4-Bromofluorobenzene (4-BFB)		53.3	µg/L	1	50.0	107	70 - 130

Method Blank (1) QC Batch: 57529

QC Batch:	57529	Date Analyzed:	2009-03-12	Analyzed By:	MN
Prep Batch:	49152	QC Preparation:	2009-03-11	Prepared By:	MN

Parameter	Flag	MDL Result	Units	RL
Naphthalene		<0.0000853	mg/L	0.0002
Acenaphthylene		<0.0000768	mg/L	0.0002
Acenaphthene		<0.000103	mg/L	0.0002
Dibenzofuran		<0.000200	mg/L	0.0002
Fluorene		<0.0000861	mg/L	0.0002

continued ...

method blank continued ...

Parameter	Flag	MDL Result	Units	RL
Anthracene		<0.000170	mg/L	0.0002
Phenanthrene		<0.0000884	mg/L	0.0002
Fluoranthene		<0.0000969	mg/L	0.0002
Pyrene		<0.0000855	mg/L	0.0002
Benzo(a)anthracene		<0.0000703	mg/L	0.0002
Chrysene		<0.000113	mg/L	0.0002
Benzo(b)fluoranthene		<0.000134	mg/L	0.0002
Benzo(k)fluoranthene		<0.000227	mg/L	0.0002
Benzo(a)pyrene		<0.000200	mg/L	0.0002
Indeno(1,2,3-cd)pyrene		<0.000253	mg/L	0.0002
Dibenzo(a,h)anthracene		<0.000180	mg/L	0.0002
Benzo(g,h,i)perylene		<0.000158	mg/L	0.0002

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorobiphenyl		0.0535	mg/L	1	0.0800	67	10 - 146
Nitrobenzene-d5		0.0575	mg/L	1	0.0800	72	10 - 141
Terphenyl-d14		0.0718	mg/L	1	0.0800	90	10 - 266

Method Blank (1) QC Batch: 57539

QC Batch:	57539	Date Analyzed:	2009-03-11	Analyzed By:	ER
Prep Batch:	49159	QC Preparation:	2009-03-11	Prepared By:	ER

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

Method Blank (1) QC Batch: 57539

QC Batch:	57539	Date Analyzed:	2009-03-11	Analyzed By:	ER
Prep Batch:	49159	QC Preparation:	2009-03-11	Prepared By:	ER

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

Method Blank (1) QC Batch: 57541

QC Batch:	57541	Date Analyzed:	2009-03-12	Analyzed By:	TP
Prep Batch:	49158	QC Preparation:	2009-03-12	Prepared By:	TP

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

Method Blank (1) QC Batch: 57543

QC Batch:	57543	Date Analyzed:	2009-03-12	Analyzed By:	RR
Prep Batch:	49151	QC Preparation:	2009-03-12	Prepared By:	KV

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

Method Blank (1) QC Batch: 57543

QC Batch:	57543	Date Analyzed:	2009-03-12	Analyzed By:	RR
Prep Batch.	49151	QC Preparation:	2009-03-12	Prepared By:	KV

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

Method Blank (1) QC Batch: 57543

QC Batch:	57543	Date Analyzed:	2009-03-12	Analyzed By:	RR
Prep Batch:	49151	QC Preparation:	2009-03-12	Prepared By:	KV

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

Method Blank (1) QC Batch: 57543

QC Batch:	57543	Date Analyzed:	2009-03-12	Analyzed By:	RR
Prep Batch:	49151	QC Preparation:	2009-03-12	Prepared By:	KV

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

Method Blank (1) QC Batch: 57543

QC Batch:	57543	Date Analyzed:	2009-03-12	Analyzed By:	RR
Prep Batch:	49151	QC Preparation:	2009-03-12	Prepared By:	KV

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

Method Blank (1) QC Batch: 57543

QC Batch:	57543	Date Analyzed:	2009-03-12	Analyzed By:	RR
Prep Batch:	49151	QC Preparation:	2009-03-12	Prepared By:	KV

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

Method Blank (1) QC Batch: 57543

QC Batch:	57543	Date Analyzed:	2009-03-12	Analyzed By:	RR
Prep Batch:	49151	QC Preparation:	2009-03-12	Prepared By:	KV

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

Method Blank (1) QC Batch: 57543

QC Batch:	57543	Date Analyzed:	2009-03-12	Analyzed By:	RR
Prep Batch:	49151	QC Preparation:	2009-03-12	Prepared By:	KV

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

Method Blank (1) QC Batch: 57571

QC Batch:	57571	Date Analyzed:	2009-03-12	Analyzed By:	DS
Prep Batch:	49187	QC Preparation:	2009-03-11	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		0.000502	mg/L	1	0.000500	100	10 - 128

Method Blank (1) QC Batch: 57597

QC Batch: 57597 | Date Analyzed: 2009-03-13 | Analyzed By: SS
Prep Batch: 49210 | QC Preparation: 2009-03-12 | Prepared By: SS

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

Laboratory Control Spike (LCS-1)

QC Batch: 57469 | Date Analyzed: 2009-03-10 | Analyzed By: RG
Prep Batch: 49097 | QC Preparation: 2009-03-10 | Prepared By: RG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	332	mg/Kg	1	250	<5.66	133	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	309	mg/Kg	1	250	<5.66	124	71.2 - 159	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
n-Triacontane	130	120	mg/Kg	1	100	130	120	46.6 - 172

Laboratory Control Spike (LCS-1)

QC Batch: 57499 | Date Analyzed: 2009-03-10 | Analyzed By: MT
Prep Batch: 49122 | QC Preparation: 2009-03-10 | Prepared By: MT

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.14	mg/Kg	1	2.00	<0.00505	107	79.1 - 109
Toluene	2.17	mg/Kg	1	2.00	<0.00611	108	79.4 - 111
Ethylbenzene	2.12	mg/Kg	1	2.00	<0.00630	106	77.7 - 112
Xylene	6.39	mg/Kg	1	6.00	<0.00673	106	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	2.04	mg/Kg	1	2.00	<0.00505	102	79.1 - 109	5	20
Toluene	2.11	mg/Kg	1	2.00	<0.00611	106	79.4 - 111	3	20
Ethylbenzene	2.07	mg/Kg	1	2.00	<0.00630	104	77.7 - 112	2	20
Xylene	6.24	mg/Kg	1	6.00	<0.00673	104	78.4 - 112	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
Trifluorotoluene (TFT)	2.12	1.82	mg/Kg	1	2.00	106	91	72.9 - 111
4-Bromofluorobenzene (4-BFB)	1.85	1.73	mg/Kg	1	2.00	92	86	68.5 - 114

Laboratory Control Spike (LCS-1)

QC Batch: 57511 | Date Analyzed: 2009-03-11 | Analyzed By: CM
Prep Batch: 49135 | QC Preparation: 2009-03-11 | 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	252	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: 57516 | Date Analyzed: 2009-03-11 | Analyzed By: ER
Prep Batch: 49141 | QC Preparation: 2009-03-11 | Prepared By: ER

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	17.9	mg/Kg	1	20.0	<0.403	90	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	18.2	mg/Kg	1	20.0	<0.403	91	78.1 - 109	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
Trifluorotoluene (TFT)	1.74	1.87	mg/Kg	1	2.00	87	94	80.3 - 108
4-Bromofluorobenzene (4-BFB)	1.68	1.67	mg/Kg	1	2.00	84	84	82.6 - 109

Laboratory Control Spike (LCS-1)

QC Batch: 57526 | Date Analyzed: 2009-03-11 | Analyzed By: KB
Prep Batch: 49148 | QC Preparation: 2009-03-10 | Prepared By: KB

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
1,1-Dichloroethene	39.7	µg/L	1	50.0	<0.136	79	70 - 130
Benzene	43.9	µg/L	1	50.0	<0.146	88	70 - 130
Trichloroethene (TCE)	51.1	µg/L	1	50.0	<0.117	102	70 - 130
Toluene	45.7	µg/L	1	50.0	<0.0600	91	70 - 130
Chlorobenzene	50.0	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	40.7	µg/L	1	50.0	<0.136	81	70 - 130	3	
Benzene	44.3	µg/L	1	50.0	<0.146	89	70 - 130	1	
Trichloroethene (TCE)	51.2	µg/L	1	50.0	<0.117	102	70 - 130	0	
Toluene	47.5	µg/L	1	50.0	<0.0600	95	70 - 130	4	
Chlorobenzene	50.1	µg/L	1	50.0	<0.0540	100	70 - 130	0	

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	41.8	43.2	µg/L	1	50.0	84	86	70 - 130
Toluene-d8	47.2	46.4	µg/L	1	50.0	94	93	70 - 130
4-Bromofluorobenzene (4-BFB)	53.1	53.3	µg/L	1	50.0	106	107	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 57529 | Date Analyzed: 2009-03-12 | Analyzed By: MN
Prep Batch: 49152 | QC Preparation: 2009-03-11 | Prepared By: MN

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Naphthalene	0.0448	mg/L	1	0.0800	<0.0000853	56	10 - 141
Acenaphthylene	0.0585	mg/L	1	0.0800	<0.0000768	73	10 - 152
Acenaphthene	0.0587	mg/L	1	0.0800	<0.000103	73	10 - 151
Dibenzofuran	0.0526	mg/L	1	0.0800	<0.000200	66	10 - 148
Fluorene	0.0644	mg/L	1	0.0800	<0.0000861	80	10 - 172
Anthracene	0.0626	mg/L	1	0.0800	<0.000170	78	19.6 - 172
Phenanthrene	0.0604	mg/L	1	0.0800	<0.0000884	76	22.5 - 172
Fluoranthene	0.0633	mg/L	1	0.0800	<0.0000969	79	17.3 - 187
Pyrene	0.0640	mg/L	1	0.0800	<0.0000855	80	14.9 - 199
Benzo(a)anthracene	0.0619	mg/L	1	0.0800	<0.0000703	77	19.4 - 185
Chrysene	0.0650	mg/L	1	0.0800	<0.000113	81	18.4 - 188
Benzo(b)fluoranthene	0.0616	mg/L	1	0.0800	<0.000134	77	10 - 193
Benzo(k)fluoranthene	0.0674	mg/L	1	0.0800	<0.000227	84	27.8 - 196
Benzo(a)pyrene	0.0712	mg/L	1	0.0800	<0.000200	89	12.4 - 205
Indeno(1,2,3-cd)pyrene	0.0621	mg/L	1	0.0800	<0.000253	78	10 - 198
Dibenzo(a,h)anthracene	0.0614	mg/L	1	0.0800	<0.000180	77	10 - 172
Benzo(g,h,i)perylene	0.0701	mg/L	1	0.0800	<0.000158	88	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	0.0465	mg/L	1	0.0800	<0.0000853	58	10 - 141	4	20
Acenaphthylene	0.0611	mg/L	1	0.0800	<0.0000768	76	10 - 152	4	20
Acenaphthene	0.0603	mg/L	1	0.0800	<0.000103	75	10 - 151	3	20
Dibenzofuran	0.0537	mg/L	1	0.0800	<0.000200	67	10 - 148	2	20
Fluorene	0.0664	mg/L	1	0.0800	<0.0000861	83	10 - 172	3	20
Anthracene	0.0642	mg/L	1	0.0800	<0.000170	80	19.6 - 172	2	20
Phenanthrene	0.0624	mg/L	1	0.0800	<0.0000884	78	22.5 - 172	3	20
Fluoranthene	0.0654	mg/L	1	0.0800	<0.0000969	82	17.3 - 187	3	20
Pyrene	0.0687	mg/L	1	0.0800	<0.0000855	86	14.9 - 199	7	20
Benzo(a)anthracene	0.0648	mg/L	1	0.0800	<0.0000703	81	19.4 - 185	5	20
Chrysene	0.0673	mg/L	1	0.0800	<0.000113	84	18.4 - 188	4	20
Benzo(b)fluoranthene	0.0639	mg/L	1	0.0800	<0.000134	80	10 - 193	4	20
Benzo(k)fluoranthene	0.0686	mg/L	1	0.0800	<0.000227	86	27.8 - 196	2	20
Benzo(a)pyrene	0.0732	mg/L	1	0.0800	<0.000200	92	12.4 - 205	3	20
Indeno(1,2,3-cd)pyrene	0.0641	mg/L	1	0.0800	<0.000253	80	10 - 198	3	20
Dibenzo(a,h)anthracene	0.0632	mg/L	1	0.0800	<0.000180	79	10 - 172	3	20
Benzo(g,h,i)perylene	0.0729	mg/L	1	0.0800	<0.000158	91	10 - 186	4	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	0.0527	0.0558	mg/L	1	0.0800	66	70	10 - 165
Nitrobenzene-d5	0.0541	0.0555	mg/L	1	0.0800	68	69	10 - 157
Terphenyl-d14	0.0648	0.0677	mg/L	1	0.0800	81	85	10 - 220

Laboratory Control Spike (LCS-1)

QC Batch: 57539 | Date Analyzed: 2009-03-11 | Analyzed By: ER
Prep Batch: 49159 | QC Preparation: 2009-03-11 | Prepared By: ER

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Nitrate-N	2.53	mg/L	1	2.50	<0.0700	101	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	2.25	mg/L	1	2.50	<0.0700	90	90 - 110	12	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: 57539 | Date Analyzed: 2009-03-11 | Analyzed By: ER
Prep Batch: 49159 | QC Preparation: 2009-03-11 | Prepared By: ER

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Fluoride	2.37	mg/L	1	2.50	<0.0889	95	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	2.31	mg/L	1	2.50	<0.0889	92	90 - 110	3	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: 57541 | Date Analyzed: 2009-03-12 | Analyzed By: TP
Prep Batch: 49158 | QC Preparation: 2009-03-12 | Prepared By: TP

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Mercury	0.000955	mg/L	1	0.00100	<0.0000329	96	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	0.000945	mg/L	1	0.00100	<0.0000329	94	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: 57543 Date Analyzed: 2009-03-12 Analyzed By: RR
Prep Batch: 49151 QC Preparation: 2009-03-12 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Cadmium	0.245	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	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: 57543 Date Analyzed: 2009-03-12 Analyzed By: RR
Prep Batch: 49151 QC Preparation: 2009-03-12 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Lead	0.508	mg/L	1	0.500	<0.00320	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 Lead	0.510	mg/L	1	0.500	<0.00320	102	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: 57543 Date Analyzed: 2009-03-12 Analyzed By: RR
Prep Batch: 49151 QC Preparation: 2009-03-12 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Selenium	0.443	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	0.442	mg/L	1	0.500	<0.0131	88	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: 57543 Date Analyzed: 2009-03-12 Analyzed By: RR
Prep Batch: 49151 QC Preparation: 2009-03-12 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Arsenic	0.466	mg/L	1	0.500	<0.00430	93	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	0.469	mg/L	1	0.500	<0.00430	94	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: 57543 Date Analyzed: 2009-03-12 Analyzed By: RR
Prep Batch: 49151 QC Preparation: 2009-03-12 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Barium	1.04	mg/L	1	1.00	<0.00170	104	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	1.05	mg/L	1	1.00	<0.00170	105	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: 57543 Date Analyzed: 2009-03-12 Analyzed By: RR
Prep Batch: 49151 QC Preparation: 2009-03-12 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Chromium	0.0970	mg/L	1	0.100	<0.000900	97	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	0.0960	mg/L	1	0.100	<0.000900	96	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: 57543 | Date Analyzed: 2009-03-12 | Analyzed By: RR
Prep Batch: 49151 | QC Preparation: 2009-03-12 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Silver	0.120	mg/L	1	0.125	<0.00210	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 Silver	0.121	mg/L	1	0.125	<0.00210	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: 57543 | Date Analyzed: 2009-03-12 | Analyzed By: RR
Prep Batch: 49151 | QC Preparation: 2009-03-12 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP U	0.537	mg/L	1	0.500	<0.0105	107	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	0.541	mg/L	1	0.500	<0.0105	108	90 - 110	1	

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: 57571 | Date Analyzed: 2009-03-12 | Analyzed By: DS
Prep Batch: 49187 | QC Preparation: 2009-03-11 | Prepared By: DS

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Aroclor 1260 (PCB-1260)	0.00234	mg/L	1	0.00200	<0.0000331	117	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)	0.00243	mg/L	1	0.00200	<0.0000331	122	10 - 128	4	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	0.000489	0.000492	mg/L	1	0.000500	98	98	10 - 128

Laboratory Control Spike (LCS-1)

QC Batch: 57597 | Date Analyzed: 2009-03-13 | Analyzed By: SS
Prep Batch: 49210 | QC Preparation: 2009-03-12 | Prepared By: SS

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Chloride	11.7	mg/L	1	12.5	<0.137	94	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	11.7	mg/L	1	12.5	<0.137	94	90 - 110	0	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: 189648

QC Batch: 57469 | Date Analyzed: 2009-03-10 | Analyzed By: RG
Prep Batch: 49097 | QC Preparation: 2009-03-10 | Prepared By: RG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	355	mg/Kg	1	250	<5.66	142	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 [2]	289	mg/Kg	1	250	<5.66	116	10 - 218	20	20

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

[2]MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	141	137	mg/Kg	1	100	141	137	46.6 - 172

Matrix Spike (MS-1) Spiked Sample: 189647

QC Batch: 57499 | Date Analyzed: 2009-03-10 | Analyzed By: MT
Prep Batch: 49122 | QC Preparation: 2009-03-10 | Prepared By: MT

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.11	mg/Kg	1	2.00	0.042	103	55.2 - 162
Toluene	2.48	mg/Kg	1	2.00	0.209	114	56.5 - 172
Ethylbenzene	2.50	mg/Kg	1	2.00	0.326	109	62.3 - 180
Xylene	7.14	mg/Kg	1	6.00	0.499	111	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	1.89	mg/Kg	1	2.00	0.042	92	55.2 - 162	11	20
Toluene	2.34	mg/Kg	1	2.00	0.209	106	56.5 - 172	6	20
Ethylbenzene	2.36	mg/Kg	1	2.00	0.326	102	62.3 - 180	6	20
Xylene	6.73	mg/Kg	1	6.00	0.499	104	62.2 - 182	6	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)	2.08	1.97	mg/Kg	1	2	104	98	52.2 - 173
4-Bromofluorobenzene (4-BFB)	2.00	1.97	mg/Kg	1	2	100	98	63.5 - 171

Matrix Spike (MS-1) Spiked Sample: 189647

QC Batch: 57506 | Date Analyzed: 2009-03-11 | Analyzed By: AH
Prep Batch: 49131 | QC Preparation: 2009-03-11 | Prepared By: AH

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Cyanide	11.1	mg/L	1	12.0	<0.0148	92	80 - 120

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 Cyanide	13.1	mg/L	1	12.0	<0.0148	109	80 - 120	16	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: 189647

QC Batch: 57511 | Date Analyzed: 2009-03-11 | Analyzed By: CM
Prep Batch: 49135 | QC Preparation: 2009-03-11 | Prepared By: CM

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
TRPHC	244	mg/Kg	1	250	<5.28	98	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	260	mg/Kg	1	250	<5.28	104	10 - 354	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: 189648

QC Batch: 57516 | Date Analyzed: 2009-03-11 | Analyzed By: ER
Prep Batch: 49141 | QC Preparation: 2009-03-11 | Prepared By: ER

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	13.8	mg/Kg	1	20.0	<0.403	69	54.3 - 180

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	14.6	mg/Kg	1	20.0	<0.403	73	54.3 - 180	6	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)	1.48	1.54	mg/Kg	1	2	74	77	65.8 - 165
4-Bromofluorobenzene (4-BFB)	1.38	1.41	mg/Kg	1	2	69	70	68.6 - 210

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 57526 | Date Analyzed: 2009-03-11 | Analyzed By: KB
Prep Batch: 49148 | QC Preparation: 2009-03-10 | Prepared By: KB

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
1,1-Dichloroethene	36.8	µg/L	1	50.0	<0.136	74	70 - 130

continued ...

matrix spikes continued ...

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	44.7	µg/L	1	50.0	<0.146	89	70 - 130
Trichloroethene (TCE)	48.5	µg/L	1	50.0	<0.117	97	70 - 130
Toluene	45.4	µg/L	1	50.0	<0.0600	91	70 - 130
Chlorobenzene	49.1	µg/L	1	50.0	<0.0540	98	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	38.4	µg/L	1	50.0	<0.136	77	70 - 130	4	
Benzene	45.5	µg/L	1	50.0	<0.146	91	70 - 130	2	
Trichloroethene (TCE)	50.1	µg/L	1	50.0	<0.117	100	70 - 130	3	
Toluene	46.9	µg/L	1	50.0	<0.0600	94	70 - 130	3	
Chlorobenzene	50.0	µg/L	1	50.0	<0.0540	100	70 - 130	2	

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	43.8	43.5	µg/L	1	50	88	87	70 - 130
Toluene-d8	47.5	47.0	µg/L	1	50	95	94	70 - 130
4-Bromofluorobenzene (4-BFB)	54.5	54.6	µg/L	1	50	109	109	70 - 130

Matrix Spike (MS-1) Spiked Sample: 188382

QC Batch: 57539 | Date Analyzed: 2009-03-11 | Analyzed By: ER
Prep Batch: 49159 | QC Preparation: 2009-03-11 | Prepared By: ER

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Nitrate-N	242	mg/L	100	250	<7.00	97	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	236	mg/L	100	250	<7.00	94	73.6 - 122	2	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: 188382

QC Batch: 57539 | Date Analyzed: 2009-03-11 | Analyzed By: ER
Prep Batch: 49159 | QC Preparation: 2009-03-11 | Prepared By: ER

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Fluoride	291	mg/L	100	250	33.5	103	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	271	mg/L	100	250	33.5	95	63.5 - 127	7	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: 189647

QC Batch: 57541 | Date Analyzed: 2009-03-12 | Analyzed By: TP
Prep Batch: 49158 | QC Preparation: 2009-03-12 | Prepared By: TP

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Mercury	0.00113	mg/L	1	0.00100	9.5e-05	104	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	0.00115	mg/L	1	0.00100	9.5e-05	106	88 - 117	2	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: 189647

QC Batch: 57543 | Date Analyzed: 2009-03-12 | Analyzed By: RR
Prep Batch: 49151 | QC Preparation: 2009-03-12 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Cadmium	0.241	mg/L	1	0.250	<0.00140	96	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	0.239	mg/L	1	0.250	<0.00140	96	75 - 125	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: 189647

QC Batch: 57543 | Date Analyzed: 2009-03-12 | Analyzed By: RR
Prep Batch: 49151 | QC Preparation: 2009-03-12 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Lead	0.497	mg/L	1	0.500	<0.00320	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 Lead	0.490	mg/L	1	0.500	<0.00320	98	75 - 125	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: 189647

QC Batch: 57543 Date Analyzed: 2009-03-12 Analyzed By: RR
Prep Batch: 49151 QC Preparation: 2009-03-12 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Selenium	0.432	mg/L	1	0.500	<0.0131	86	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	0.430	mg/L	1	0.500	<0.0131	86	75 - 125	0	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: 189647

QC Batch: 57543 Date Analyzed: 2009-03-12 Analyzed By: RR
Prep Batch: 49151 QC Preparation: 2009-03-12 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Arsenic	0.492	mg/L	1	0.500	<0.00430	98	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	0.487	mg/L	1	0.500	<0.00430	97	75 - 125	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: 189647

QC Batch: 57543 Date Analyzed: 2009-03-12 Analyzed By: RR
Prep Batch: 49151 QC Preparation: 2009-03-12 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Barium	1.56	mg/L	1	1.00	0.551	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 Barium	1.54	mg/L	1	1.00	0.551	99	75 - 125	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: 189647

QC Batch: 57543 | Date Analyzed: 2009-03-12 | Analyzed By: RR
Prep Batch: 49151 | QC Preparation: 2009-03-12 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Chromium	0.103	mg/L	1	0.100	<0.000900	103	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	0.0980	mg/L	1	0.100	<0.000900	98	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: 189647

QC Batch: 57543 | Date Analyzed: 2009-03-12 | Analyzed By: RR
Prep Batch: 49151 | QC Preparation: 2009-03-12 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Silver	0.123	mg/L	1	0.125	<0.00210	98	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	0.121	mg/L	1	0.125	<0.00210	97	75 - 125	2	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: 189647

QC Batch: 57543 | Date Analyzed: 2009-03-12 | Analyzed By: RR
Prep Batch: 49151 | QC Preparation: 2009-03-12 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP U	0.548	mg/L	1	0.500	<0.0105	110	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	0.526	mg/L	1	0.500	<0.0105	105	90 - 110	4	

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

Matrix Spike (MS-1) Spiked Sample: 189647

QC Batch: 57597 | Date Analyzed: 2009-03-13 | Analyzed By: SS
Prep Batch: 49210 | QC Preparation: 2009-03-12 | Prepared By: SS

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Chloride	1640	mg/L	50	625	1270	59	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	1810	mg/L	50	625	1270	86	49.8 - 149	10	20

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

Standard (CCV-1)

QC Batch: 57469 | Date Analyzed: 2009-03-10 | Analyzed By: RG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	284	114	80 - 120	2009-03-10

Standard (CCV-2)

QC Batch: 57469 | Date Analyzed: 2009-03-10 | Analyzed By: RG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	288	115	80 - 120	2009-03-10

Standard (CCV-1)

QC Batch: 57499 Date Analyzed: 2009-03-10 Analyzed By: MT

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.106	106	80 - 120	2009-03-10
Toluene		mg/Kg	0.100	0.108	108	80 - 120	2009-03-10
Ethylbenzene		mg/Kg	0.100	0.104	104	80 - 120	2009-03-10
Xylene		mg/Kg	0.300	0.314	105	80 - 120	2009-03-10

Standard (CCV-2)

QC Batch: 57499 Date Analyzed: 2009-03-10 Analyzed By: MT

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.112	112	80 - 120	2009-03-10
Toluene		mg/Kg	0.100	0.115	115	80 - 120	2009-03-10
Ethylbenzene		mg/Kg	0.100	0.110	110	80 - 120	2009-03-10
Xylene		mg/Kg	0.300	0.341	114	80 - 120	2009-03-10

Standard (ICV-1)

QC Batch: 57506 Date Analyzed: 2009-03-11 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	0.120	100	80 - 120	2009-03-11

Standard (CCV-1)

QC Batch: 57506 Date Analyzed: 2009-03-11 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	0.117	98	80 - 120	2009-03-11

Standard (ICV-1)

QC Batch: 57511 Date Analyzed: 2009-03-11 Analyzed By: CM

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
TRPHC		mg/Kg	100	101	101	80 - 120	2009-03-11

Standard (CCV-1)

QC Batch: 57511 Date Analyzed: 2009-03-11 Analyzed By: CM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
TRPHC		mg/Kg	100	86.4	86	80 - 120	2009-03-11

Standard (CCV-1)

QC Batch: 57516 Date Analyzed: 2009-03-11 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	0.989	99	80 - 120	2009-03-11

Standard (CCV-2)

QC Batch: 57516 Date Analyzed: 2009-03-11 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	0.953	95	80 - 120	2009-03-11

Standard (CCV-1)

QC Batch: 57526 Date Analyzed: 2009-03-11 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	43.3	87	80 - 120	2009-03-11
1,1-Dichloroethene		µg/L	50.0	41.1	82	80 - 120	2009-03-11
Chloroform		µg/L	50.0	44.5	89	80 - 120	2009-03-11
1,2-Dichloropropane		µg/L	50.0	45.1	90	80 - 120	2009-03-11
Toluene		µg/L	50.0	46.0	92	80 - 120	2009-03-11
Chlorobenzene		µg/L	50.0	48.3	97	80 - 120	2009-03-11

continued ...

standard continued ...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Ethylbenzene		µg/L	50.0	45.8	92	80 - 120	2009-03-11

Standard (CCV-1)

QC Batch: 57529 Date Analyzed: 2009-03-12 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	59.8	100	80 - 120	2009-03-12
Acenaphthylene		mg/L	60.0	61.0	102	80 - 120	2009-03-12
Acenaphthene		mg/L	60.0	62.1	104	80 - 120	2009-03-12
Dibenzofuran		mg/L	60.0	62.4	104	80 - 120	2009-03-12
Fluorene		mg/L	60.0	65.4	109	80 - 120	2009-03-12
Anthracene		mg/L	60.0	60.3	100	80 - 120	2009-03-12
Phenanthrene		mg/L	60.0	59.3	99	80 - 120	2009-03-12
Fluoranthene		mg/L	60.0	57.2	95	80 - 120	2009-03-12
Pyrene		mg/L	60.0	59.4	99	80 - 120	2009-03-12
Benzo(a)anthracene		mg/L	60.0	56.6	94	80 - 120	2009-03-12
Chrysene		mg/L	60.0	59.0	98	80 - 120	2009-03-12
Benzo(b)fluoranthene		mg/L	60.0	57.2	95	80 - 120	2009-03-12
Benzo(k)fluoranthene		mg/L	60.0	61.6	103	80 - 120	2009-03-12
Benzo(a)pyrene		mg/L	60.0	63.4	106	80 - 120	2009-03-12
Indeno(1,2,3-cd)pyrene		mg/L	60.0	58.0	97	80 - 120	2009-03-12
Dibenzo(a,h)anthracene		mg/L	60.0	58.7	98	80 - 120	2009-03-12
Benzo(g,h,i)perylene		mg/L	60.0	65.3	109	80 - 120	2009-03-12

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorobiphenyl		54.2	mg/L	1	60.0	90	80 - 120
Nitrobenzene-d5		65.6	mg/L	1	60.0	109	80 - 120
Terphenyl-d14		55.4	mg/L	1	60.0	92	80 - 120

Standard (CCV-1)

QC Batch: 57539 Date Analyzed: 2009-03-11 Analyzed By: ER

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		mg/L	2.50	2.62	105	90 - 110	2009-03-11

Standard (CCV-1)

QC Batch: 57539 Date Analyzed: 2009-03-11 Analyzed By: ER

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Fluoride		mg/L	2.50	2.51	100	90 - 110	2009-03-11

Standard (CCV-2)

QC Batch: 57539 Date Analyzed: 2009-03-11 Analyzed By: ER

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		mg/L	2.50	2.33	93	90 - 110	2009-03-11

Standard (CCV-2)

QC Batch: 57539 Date Analyzed: 2009-03-11 Analyzed By: ER

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Fluoride		mg/L	2.50	2.27	91	90 - 110	2009-03-11

Standard (ICV-1)

QC Batch: 57541 Date Analyzed: 2009-03-12 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	0.000984	98	90 - 110	2009-03-12

Standard (CCV-1)

QC Batch. 57541 Date Analyzed: 2009-03-12 Analyzed By: TP

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Mercury		mg/L	0.00100	0.00100	100	90 - 110	2009-03-12

Standard (ICV-1)

QC Batch: 57543 Date Analyzed: 2009-03-12 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	1.04	104	90 - 110	2009-03-12

Standard (ICV-1)

QC Batch: 57543 Date Analyzed: 2009-03-12 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Lead		mg/L	1.00	1.03	103	90 - 110	2009-03-12

Standard (ICV-1)

QC Batch: 57543 Date Analyzed: 2009-03-12 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	2009-03-12

Standard (ICV-1)

QC Batch: 57543 Date Analyzed: 2009-03-12 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Arsenic		mg/L	1.00	1.02	102	90 - 110	2009-03-12

Standard (ICV-1)

QC Batch: 57543 Date Analyzed: 2009-03-12 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	1.05	105	90 - 110	2009-03-12

Standard (ICV-1)

QC Batch: 57543 | Date Analyzed: 2009-03-12 | 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	1.03	103	90 - 110	2009-03-12

Standard (ICV-1)

QC Batch: 57543 | Date Analyzed: 2009-03-12 | Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Silver		mg/L	0.125	0.127	102	90 - 110	2009-03-12

Standard (ICV-1)

QC Batch: 57543 | Date Analyzed: 2009-03-12 | 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	0.977	98	90 - 110	2009-03-12

Standard (CCV-1)

QC Batch: 57543 | Date Analyzed: 2009-03-12 | 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	0.984	98	90 - 110	2009-03-12

Standard (CCV-1)

QC Batch: 57543 | Date Analyzed: 2009-03-12 | 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	1.01	101	90 - 110	2009-03-12

Standard (CCV-1)

QC Batch: 57543 Date Analyzed: 2009-03-12 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	0.974	97	90 - 110	2009-03-12

Standard (CCV-1)

QC Batch: 57543 Date Analyzed: 2009-03-12 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	0.970	97	90 - 110	2009-03-12

Standard (CCV-1)

QC Batch: 57543 Date Analyzed: 2009-03-12 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	1.04	104	90 - 110	2009-03-12

Standard (CCV-1)

QC Batch: 57543 Date Analyzed: 2009-03-12 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	0.971	97	90 - 110	2009-03-12

Standard (CCV-1)

QC Batch: 57543 Date Analyzed: 2009-03-12 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	0.125	100	90 - 110	2009-03-12

Standard (CCV-1)

QC Batch: 57543 Date Analyzed: 2009-03-12 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	0.993	99	90 - 110	2009-03-12

Standard (ICV-1)

QC Batch: 57571 Date Analyzed: 2009-03-12 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	0.350	88	85 - 115	2009-03-12
Aroclor 1254 (PCB-1254)		mg/L	0.400	0.441	110	85 - 115	2009-03-12
Aroclor 1260 (PCB-1260)		mg/L	0.400	0.461	115	85 - 115	2009-03-12

Standard (CCV-1)

QC Batch: 57571 Date Analyzed: 2009-03-12 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	0.346	86	85 - 115	2009-03-12
Aroclor 1254 (PCB-1254)		mg/L	0.400	0.447	112	85 - 115	2009-03-12
Aroclor 1260 (PCB-1260)		mg/L	0.400	0.457	114	85 - 115	2009-03-12

Standard (CCV-1)

QC Batch: 57597 Date Analyzed: 2009-03-13 Analyzed By: SS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Chloride		mg/L	12.5	11.6	93	90 - 110	2009-03-13

Standard (CCV-2)

QC Batch: 57597 Date Analyzed: 2009-03-13 Analyzed By: SS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Chloride		mg/L	12.5	11.7	94	90 - 110	2009-03-13

LAB Order ID # 9031014 Page 1 of 1

TraceAnalysis, Inc.

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Contact Person: EB TAYLOR
E-mail:
Invoice to: (If different from above) NEWBOURNE OIL CHARLES MARTIN
Project #: NEWBOU040 PIT
Project Name: NORTE 19 FED COM 1
Project Location (including state): LEA COUNTY NM
Sampler Signature: Tom Dewey

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME	MTBE 8021B / 602 / 8260B / 624	BTEX 8021B / 602 / 8260B / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO DRO / TVHC	PAH 8270C / 625 + Sue List	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol 8260B / 624 See attached sheet	GC/MS Semi Vol 8270C / 625	PCB's 8082 / 608	Pesticides 8081A / 608	BOD, TSS, pH	Moisture Content	SPLP Chlor, SEE	Uranium	Radium - 226 & 228	CN-	Fluoride, NO_3	Turn Around Time if different from standard	Hold
89647	DRILL CUTTINGS	2			X							X		3/6/09	3:40		X	X	X	X	X						X	X	X				X	X	X	X	X		

Relinquished by: Date: 3/9/09 Time: 15:30
Received by: Date: 3-9-09 Time: 15:30

Relinquished by: Date: 3-9-09 Time: 17:00
Received by: L.S. ZH617376 Date: Time:

Relinquished by: Date: Time:
Received at Laboratory by: Brenda Ward Date: 3/10/09 Time: 8:50

3.5
4.0 IR

LAB USE ONLY
Intact (Y) N
Headspace LN/AD
Temp 10.7°C
Log-in-Review AS

REMARKS:
* SEE ATTACHED FORM FOR ADDITIONAL TESTS
24 hr.
All tests Lubbock
Dry Weight Basis Required
TRRP Report Required
Check If Special Reporting Limits Are Needed

Carrier # Courier

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

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TRACEANALYSIS, INC.

Certifications

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

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

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

Report Date: March 26, 2009

Work Order: 9032317

Project Location: Lea County, NM
Project Name: Norte 19 Fed. Com. 1
Project Number: MEWBOU040PIT

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
190957	Drill Cuttings	soil	2009-03-20	15:00	2009-03-23

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.

Michael Abel

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 Norte 19 Fed. Com. 1 were received by TraceAnalysis, Inc. on 2009-03-23 and assigned to work order 9032317. Samples for work order 9032317 were received intact at a temperature of 3.8 deg. C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
SPLP Cl	E 300.0	49528	2009-03-25 at 12:41	57990	2009-03-26 at 00:01

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 9032317 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: 190957 - Drill Cuttings

Laboratory:	Lubbock				
Analysis:	SPLP Cl	Analytical Method:	E 300.0	Prep Method:	SPLP 1312
QC Batch:	57990	Date Analyzed:	2009-03-26	Analyzed By:	SS
Prep Batch:	49528	SPLP Extraction:	2009-03-24	Prepared By:	SS
		Sample Preparation:	2009-03-25	Prepared By:	SS

Parameter	Flag	RL Result	Units	Dilution	RL
SPLP Chloride		**27.7**	mg/L	1	0.500

Method Blank (1) QC Batch: 57990

QC Batch:	57990	Date Analyzed:	2009-03-26	Analyzed By:	SS
Prep Batch:	49528	QC Preparation:	2009-03-25	Prepared By:	SS

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

Laboratory Control Spike (LCS-1)

QC Batch:	57990	Date Analyzed:	2009-03-26	Analyzed By:	SS
Prep Batch:	49528	QC Preparation:	2009-03-25	Prepared By:	SS

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Chloride	11.4	mg/L	1	12.5	<0.137	91	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	11.4	mg/L	1	12.5	<0.137	91	90 - 110	0	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: 190957

QC Batch:	57990	Date Analyzed:	2009-03-26	Analyzed By:	SS
Prep Batch:	49528	QC Preparation:	2009-03-25	Prepared By:	SS

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Chloride	37.0	mg/L	1	12.5	27.7	74	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	38.2	mg/L	1	12.5	27.7	84	49.8 - 149	3	20

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

Standard (CCV-1)

QC Batch: 57990 Date Analyzed: 2009-03-26 Analyzed By: SS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Chloride		mg/L	12.5	11.6	93	90 - 110	2009-03-26

Standard (CCV-2)

QC Batch: 57990 Date Analyzed: 2009-03-26 Analyzed By: SS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Chloride		mg/L	12.5	11.7	94	90 - 110	2009-03-26

LAB Order ID # 9032317 Page 1 of 1

TraceAnalysis, Inc.

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Address: (Street, City, Zip) 318 E TAYLOR HOBBS NM 88240
Fax #:
Contact Person: EB TAYLOR
E-mail:
Invoice to:
(If different from above)
Project #: MSW BOV 040 PIT
Project Name: NORTE 19 FED #1
Project Location (including state): LEA COUNTY NM
Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
19095	DRUM CUTTINGS	1			X							X		3/20/09	3:00

ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8021B / 602 / 8260B / 624	BTEX 8021B / 602 / 8260B / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO / DRO / TVHC	PAH 8270C / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol 8260B / 624	GC/MS Semi. Vol. 8270C / 625	PCB's 8082 / 608	Pesticides 8081A / 608	BOD, TSS, pH	Moisture Content	CHLORIDES SM4					Turn Around Time if different from standard	Hold
																X	X					X	
																						24 hr	

Relinquished by: [signature] Date: 3/23/09 Time: 1056
Received by: Lindsey Wilson Date: 3-23-09 Time: 10:56
Relinquished by: Date: Time:
Received by: Date: Time:
Relinquished by: Date: Time:
Received at Laboratory by: Date: Time:

LAB USE ONLY
Intact (Y) / N
Headspace Y (N)
Temp 3.8 °C
Log-in-Review

REMARKS:
All tests Midland

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

Carrier # Carry-in

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

ORIGINAL COPY

TRACEANALYSIS, INC.

Certifications

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

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

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

Report Date: April 24, 2009

Work Order: 9041531

Project Location: Lea County, NM
Project Name: Norte 19 Fed. Com. 1
Project Number: MEWBOU040PIT

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
193180	Floor Composite	soil	2009-04-15	09:00	2009-04-15

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.

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 Norte 19 Fed. Com. 1 were received by TraceAnalysis, Inc. on 2009-04-15 and assigned to work order 9041531. Samples for work order 9041531 were received intact at a temperature of 15.4 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	50115	2009-04-17 at 09:39	58705	2009-04-17 at 09:39
Chloride (Titration)	SM 4500-Cl B	50125	2009-04-17 at 09:53	58721	2009-04-20 at 11:17
TPH 418.1	E 418.1	50262	2009-04-24 at 12:00	58881	2009-04-24 at 13:48
TPH DRO	Mod. 8015B	50046	2009-04-16 at 10:00	58629	2009-04-16 at 08:45
TPH GRO	S 8015B	50115	2009-04-17 at 09:39	58706	2009-04-17 at 09:39

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 9041531 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: 193180 - Floor Composite

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	58705	Date Analyzed:	2009-04-17	Analyzed By:	ME
Prep Batch:	50115	Sample Preparation:	2009-04-17	Prepared By:	ME

Parameter	Flag	Result	RL	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		<0.0100		mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.07	mg/Kg	1	2.00	104	49 - 129.7
4-Bromofluorobenzene (4-BFB)		1.50	mg/Kg	1	2.00	75	45.2 - 144.3

Sample: 193180 - Floor Composite

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	58721	Date Analyzed:	2009-04-20	Analyzed By:	AR
Prep Batch:	50125	Sample Preparation:	2009-04-20	Prepared By:	AR

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

Sample: 193180 - Floor Composite

Laboratory:	Lubbock				
Analysis:	TPH 418.1	Analytical Method:	E 418.1	Prep Method:	N/A
QC Batch:	58881	Date Analyzed:	2009-04-24	Analyzed By:	CM
Prep Batch:	50262	Sample Preparation:	2009-04-24	Prepared By:	CM

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

Sample: 193180 - Floor Composite

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	58629	Date Analyzed:	2009-04-16	Analyzed By:	LD
Prep Batch:	50046	Sample Preparation:	2009-04-16	Prepared By:	LD

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		117	mg/Kg	1	100	117	13.2 - 219.3

Sample: 193180 - Floor Composite

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	58706	Date Analyzed:	2009-04-17	Analyzed By:	ME
Prep Batch:	50115	Sample Preparation:	2009-04-17	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**3.24**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.92	mg/Kg	1	2.00	96	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)		1.46	mg/Kg	1	2.00	73	52 - 117

Method Blank (1) QC Batch: 58629

QC Batch:	58629	Date Analyzed:	2009-04-16	Analyzed By:	LD
Prep Batch:	50046	QC Preparation:	2009-04-16	Prepared By:	LD

Parameter	Flag	MDL Result	Units	RL
DRO		21.9	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		103	mg/Kg	1	100	103	13 - 178.5

Method Blank (1) QC Batch: 58705

QC Batch: 58705 | Date Analyzed: 2009-04-17 | Analyzed By: ME
Prep Batch: 50115 | QC Preparation: 2009-04-17 | 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)		1.86	mg/Kg	1	2.00	93	65.6 - 130.6
4-Bromofluorobenzene (4-BFB)		1.53	mg/Kg	1	2.00	76	51.9 - 128.1

Method Blank (1) QC Batch: 58706

QC Batch: 58706 | Date Analyzed: 2009-04-17 | Analyzed By: ME
Prep Batch: 50115 | QC Preparation: 2009-04-17 | 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)		1.94	mg/Kg	1	2.00	97	71.9 - 115
4-Bromofluorobenzene (4-BFB)		1.52	mg/Kg	1	2.00	76	45.7 - 118.9

Method Blank (1) QC Batch: 58721

QC Batch: 58721 | Date Analyzed: 2009-04-20 | Analyzed By: AR
Prep Batch: 50125 | QC Preparation: 2009-04-17 | Prepared By: AR

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

Method Blank (1) QC Batch: 58881

QC Batch: 58881 | Date Analyzed: 2009-04-24 | Analyzed By: CM
Prep Batch: 50262 | QC Preparation: 2009-04-24 | Prepared By: CM

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

Laboratory Control Spike (LCS-1)

QC Batch: 58629 | Date Analyzed: 2009-04-16 | Analyzed By: LD
Prep Batch: 50046 | QC Preparation: 2009-04-16 | Prepared By: LD

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	250	mg/Kg	1	250	21.9	91	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	248	mg/Kg	1	250	21.9	90	57.4 - 133.4	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	128	134	mg/Kg	1	100	128	134	48.5 - 146.7

Laboratory Control Spike (LCS-1)

QC Batch: 58705 | Date Analyzed: 2009-04-17 | Analyzed By: ME
Prep Batch: 50115 | QC Preparation: 2009-04-17 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.97	mg/Kg	1	2.00	<0.00100	98	72.7 - 129.8
Toluene	1.90	mg/Kg	1	2.00	<0.00100	95	71.6 - 129.6
Ethylbenzene	1.90	mg/Kg	1	2.00	<0.00110	95	70.8 - 129.7
Xylene	5.60	mg/Kg	1	6.00	<0.00360	93	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	1.96	mg/Kg	1	2.00	<0.00100	98	72.7 - 129.8	0	20
Toluene	1.95	mg/Kg	1	2.00	<0.00100	98	71.6 - 129.6	3	20
Ethylbenzene	1.96	mg/Kg	1	2.00	<0.00110	98	70.8 - 129.7	3	20
Xylene	5.82	mg/Kg	1	6.00	<0.00360	97	70.9 - 129.4	4	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)	2.21	2.12	mg/Kg	1	2.00	110	106	65.9 - 132
4-Bromofluorobenzene (4-BFB)	1.65	1.82	mg/Kg	1	2.00	82	91	55.2 - 128.9

Laboratory Control Spike (LCS-1)

QC Batch: 58706 | Date Analyzed: 2009-04-17 | Analyzed By: ME
Prep Batch: 50115 | QC Preparation: 2009-04-17 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	17.2	mg/Kg	1	20.0	<0.482	86	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	18.1	mg/Kg	1	20.0	<0.482	90	60.5 - 100.1	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
Trifluorotoluene (TFT)	2.02	2.03	mg/Kg	1	2.00	101	102	78.8 - 104.7
4-Bromofluorobenzene (4-BFB)	1.63	1.68	mg/Kg	1	2.00	82	84	66.1 - 107.3

Laboratory Control Spike (LCS-1)

QC Batch: 58721 | Date Analyzed: 2009-04-20 | Analyzed By: AR
Prep Batch: 50125 | QC Preparation: 2009-04-17 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	101	mg/Kg	1	100	<2.18	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
Chloride	99.6	mg/Kg	1	100	<2.18	100	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: 58881 | Date Analyzed: 2009-04-24 | Analyzed By: CM
Prep Batch: 50262 | QC Preparation: 2009-04-24 | Prepared By: CM

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
TRPHC	266	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	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
TRPHC	251	mg/Kg	1	250	<5.28	100	75.5 - 136	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: 193180

QC Batch: 58629 | Date Analyzed: 2009-04-16 | Analyzed By: LD
Prep Batch: 50046 | QC Preparation: 2009-04-16 | Prepared By: LD

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	250	mg/Kg	1	250	<5.86	100	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	289	mg/Kg	1	250	<5.86	116	35.2 - 167.1	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
n-Triacontane	165	171	mg/Kg	1	100	165	171	34.5 - 178.4

Matrix Spike (MS-1) Spiked Sample: 193391

QC Batch: 58705 | Date Analyzed: 2009-04-17 | Analyzed By: ME
Prep Batch: 50115 | QC Preparation: 2009-04-17 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.02	mg/Kg	1	2.00	<0.00100	101	58.6 - 165.2
Toluene	2.02	mg/Kg	1	2.00	<0.00100	101	64.2 - 153.8
Ethylbenzene	2.08	mg/Kg	1	2.00	<0.00110	104	61.6 - 159.4
Xylene	6.11	mg/Kg	1	6.00	<0.00360	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	2.08	mg/Kg	1	2.00	<0.00100	104	58.6 - 165.2	3	20
Toluene	2.09	mg/Kg	1	2.00	<0.00100	104	64.2 - 153.8	3	20
Ethylbenzene	2.14	mg/Kg	1	2.00	<0.00110	107	61.6 - 159.4	3	20
Xylene	6.13	mg/Kg	1	6.00	<0.00360	102	64.4 - 155.3	0	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)	2.20	2.10	mg/Kg	1	2	110	105	76 - 127.9
4-Bromofluorobenzene (4-BFB)	1.57	1.63	mg/Kg	1	2	78	82	72 - 127.8

Matrix Spike (MS-1) Spiked Sample: 193180

QC Batch: 58706 | Date Analyzed: 2009-04-17 | Analyzed By: ME
Prep Batch: 50115 | QC Preparation: 2009-04-17 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	23.3	mg/Kg	1	20.0	3.2457	100	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	21.7	mg/Kg	1	20.0	3.2457	92	12.8 - 175.2	7	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)	2.12	2.15	mg/Kg	1	2	106	108	60.8 - 132.1
4-Bromofluorobenzene (4-BFB)	1.48	1.54	mg/Kg	1	2	74	77	31.3 - 161.7

Matrix Spike (MS-1) Spiked Sample: 193180

QC Batch: 58721 | Date Analyzed: 2009-04-20 | Analyzed By: AR
Prep Batch: 50125 | QC Preparation: 2009-04-17 | Prepared By: AR

continued ...

matrix spikes continued ...

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	4990	mg/Kg	50	5000	<109	100	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	4950	mg/Kg	50	5000	<109	99	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: 193180

QC Batch: 58881 Date Analyzed: 2009-04-24 Analyzed By: CM
Prep Batch: 50262 QC Preparation: 2009-04-24 Prepared By: CM

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
TRPHC	271	mg/Kg	1	250	<5.28	108	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	270	mg/Kg	1	250	<5.28	108	10 - 354	0	20

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

Standard (CCV-1)

QC Batch: 58629 Date Analyzed: 2009-04-16 Analyzed By: LD

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	248	99	80 - 120	2009-04-16

Standard (CCV-2)

QC Batch: 58629 Date Analyzed: 2009-04-16 Analyzed By: LD

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	275	110	80 - 120	2009-04-16

Standard (CCV-1)

QC Batch: 58705 Date Analyzed: 2009-04-17 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	0.0956	96	80 - 120	2009-04-17
Toluene		mg/Kg	0.100	0.0952	95	80 - 120	2009-04-17
Ethylbenzene		mg/Kg	0.100	0.0954	95	80 - 120	2009-04-17
Xylene		mg/Kg	0.300	0.281	94	80 - 120	2009-04-17

Standard (CCV-2)

QC Batch: 58705 Date Analyzed: 2009-04-17 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	2009-04-17
Toluene		mg/Kg	0.100	0.111	111	80 - 120	2009-04-17
Ethylbenzene		mg/Kg	0.100	0.107	107	80 - 120	2009-04-17
Xylene		mg/Kg	0.300	0.322	107	80 - 120	2009-04-17

Standard (CCV-1)

QC Batch: 58706 Date Analyzed: 2009-04-17 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	0.946	95	80 - 120	2009-04-17

Standard (CCV-2)

QC Batch: 58706 Date Analyzed: 2009-04-17 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	1.04	104	80 - 120	2009-04-17

Standard (ICV-1)

QC Batch: 58721 Date Analyzed: 2009-04-20 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.8	100	85 - 115	2009-04-20

Standard (CCV-1)

QC Batch: 58721 Date Analyzed: 2009-04-20 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	2009-04-20

Standard (ICV-1)

QC Batch: 58881 Date Analyzed: 2009-04-24 Analyzed By: CM

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
TRPHC		mg/Kg	100	102	102	80 - 120	2009-04-24

Standard (CCV-1)

QC Batch: 58881 Date Analyzed: 2009-04-24 Analyzed By: CM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
TRPHC		mg/Kg	100	103	103	80 - 120	2009-04-24

LAB Order ID # 904153 1 Page 1 of 1

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9, Lubbock, Texas 79424, Tel (806) 794-1296, Fax (806) 794-1298, 1 (800) 378-1296
5002 Basin Street, Suite A1, Midland, Texas 79703, Tel (432) 689-6301, Fax (432) 689-6313
200 East Sunset Rd., Suite E, El Paso, Texas 79922, Tel (915) 585-3443, Fax (915) 585-4944, 1 (888) 588-3443
8808 Camp Bowie Blvd West, Suite 180, Ft. Worth, Texas 76116, Tel (817) 201-5260, Fax (817) 560-4336

Company Name: Talon LPE
Phone #: 432-238-6388
Address: (Street, City, Zip) 318 E. Taylor St. Hobbs N.M.
Fax #:
Contact Person: Eb Taylor
E-mail:
Invoice to: (If different from above) Newbourne Oil Co. Attn: Charles Martin
Project #: NEWBOU040PIT
Project Name: Norte 19 Fedcom #1
Project Location (including state): Loco Hills N.M.
Sampler Signature: Waymon Taylor

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
193180	Floor Composite	1	4oz		X							X		4/15	09:00

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB #	MTBE 8021B / 602 / 8260B / 624	BTEX 8021B / 602 / 8260B / 624	TPH (418.1) / TX1005 / TX1005 Ext(C35)	TPH 8015 (GRO) (DRO) / TVHC	PAH 8270C / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol 8270C / 625	PCB's 8082 / 608	Pesticides 8081A / 608	BOD, TSS, pH	Moisture Content	Chlorides 4500	Turn Around Time if different from standard	Hold
193180	X	X	X	X														X		

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp°c:
Waymon Taylor		4-15-09	1:55		Trace	4-15-09	13:55	15.4
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp°c:
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp°c:

LAB USE ONLY
Intact (Y) / N
Headspace Y / N (NA)
15.4°C
Log-in Review

REMARKS: BTEX, TPH DRO & GRO, Cl⁻ Midland.
TPH 418.1 Lubbock

- ☐ 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 # Carry-in

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LAB Order ID # 904153 1 Page 1 of 1

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9, Lubbock, Texas 79424, Tel (806) 794-1296, Fax (806) 794-1298, 1 (800) 378-1296
5002 Basin Street, Suite A1, Midland, Texas 79703, Tel (432) 689-6301, Fax (432) 689-6313
200 East Sunset Rd. Suite E, El Paso, Texas 79922, Tel (915) 585-3443, Fax (915) 585-4944, 1 (888) 588-3443
8808 Camp Bowie Blvd. West Suite 180, Ft. Worth, Texas 76116, Tel (817) 201-5260, Fax (817) 560-4336

Company Name: Talon LPE
Phone #: 432-238-6388
Address: (Street, City, Zip) 318 E. Taylor ST Hobbs N.M.
Fax #:
Contact Person: Eb Taylor
E-mail:
Invoice to: (If different from above) Mewbourne Oil CO. Attn: Charles martin
Project #: MEWBOU040PIT
Project Name: Norte 19 Fedcom #1
Project Location (including state): Loco Hills N.M.
Sampler Signature: Waymon Taylor

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME	MTBE 8021B / 602 / 8260B / 624	BTEX 8021B / 602 / 8260B / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 (GRO) (DRO) / TVHC	PAH 8270C / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol 8260B / 624	GC/MS Semi Vol 8270C / 625	PCB's 8082 / 608	Pesticides 8081A / 608	BOD, TSS, pH	Moisture Content	Chlorides 4500				Turn Around Time if different from standard	Hold
193180	Floor Composite	1	4oz		X							X		4/15	09:00		X	X	X													X					

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp°c:
Waymon Taylor		4-15-09	1:55		Trace	4-15-09	13:55	15.4
	Trace	4-15-09	17:00					
				Carol Fox	Trace LBK	4-16-09	9:00	5.5 / 6.0

LAB USE ONLY: Intact Y / N, Headspace Y / N / NA, 15.4, Log-in-Review

REMARKS: BTEX, TPH DRO + GRO, Cl- Midland
TPH 418.1 Lubbock
☐ Dry Weight Basis Required
☐ TRRP Report Required
☐ Check If Special Reporting Limits Are Needed

IR Carrier # Carry-in (LS ZH703338)

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

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ARS INTERNATIONAL

2609 North River Road, Port Allen, Louisiana 70767

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

American Radiation Services, Inc.

Laboratory Analysis Report

ARS1-09-00973

Prepared for:

Trace Analysis, Inc.

Liz Givens
6701 Aberdeen Avenue, Suite 9
Lubbock, TX 79424

lgivens@traceanalysis.com
lab@traceanalysis.com

Phone: 806-794-1296
Fax: 806-794-1298

Project Manager Review

Management Review

Contact Person: Questions regarding this analytical report should be addressed to:

Project Manager

ProjectManagers@amrad.com

Phone: 225.381.2991
Fax: 225.381.2996

LELAP Cert# 30658

NELAP Cert# E87558

ARS INTERNATIONAL

2609 North River Road, Port Allen, Louisiana 70767

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

ARS Sample Delivery Group:	ARS1-09-00973	**Request or PO Number:**	903104
Client Sample ID:	189647	**ARS Sample ID:**	ARS1-09-00973-001
Sample Collection Date:	03/06/09 15 40	**Date Received:**	03/13/09
Sample Matrix:	Aqueous	**Report Date:**	04/03/09 11 05

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	0 204	0 322	0 224	0 083	U	pCi/L	ARS-010/EPA 904.0	3/23/09 14 12	GJ	81%
RA-228	0 322	0 469	0 781	0 362	U	pCi/L	ARS-010/EPA 904.0	3/23/09 14 12	GJ	81%

NOTES:

Project Manager Review

LELAP Certificate# 30658 NELAP Certificate # E87558

ARS INTERNATIONAL
2609 North River Road, Port Allen, Louisiana 70767
1 (800) 401-4277 FAX (225) 381-2996

QC Results Report

Sample Delivery Group: ARS1-09-00973
Date Received: 03/13/09

Laboratory Control Sample Evaluation

Analysis Batch	QC Type	Analyte	Analysis Results	CSU 1 (1 s)	MDC	Expected Value	Qual	Report Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Percent Recovery (%)	LCS Acceptance Range
ARS1-B09-01057	LCS	RA-228	12.024	3.586	0.899	14.343		pCi/L	ARS-010/EPA 904.0	3/23/09 14:11	GJ	84	75%-125%

Blank Evaluation

Analysis Batch	QC Type	Analyte	Analysis Results	CSU 1 (1 s)	MDC	Expected Value	Qual	Report Units	Analysis Test Method	Analysis Date/Time	Analysis Technician
ARS1-B09-01057	MBL	RA-228	0.327	0.476	0.791	NA	U	pCi/L	ARS-010/EPA 904.0	3/23/09 14:11	GJ

RER Duplicate Evaluation

Analysis Batch	QC Type	Analysis Description	Result 1	CSU 1 (1 s)	Result 2	CSU 2 (1s)	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	RER	RER AcceptanceRange
ARS1-B09-01057	LCSD	RA-228	12.024	3.586	11.534	3.451		pCi/L	ARS-010/EPA 904.0	3/23/09 14:11	GJ	0.07	< 1

DER Duplicate Evaluation

Analysis Batch	QC Type	Analysis Description	Result 1	CSU 1 (1 s)	Result 2	CSU 2 (1s)	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	DER	DER AcceptanceRange
ARS1-B09-01057	LCSD	RA-228	12.024	3.586	11.534	3.451		pCi/L	ARS-010/EPA 904.0	3/23/09 14.11	GJ	0.20	< 3

Project Manager Review

LELAP Certificate# 01949 NELAP Certificate # E87558

ARS INTERNATIONAL
2609 North River Road, Port Allen, Louisiana 70767
1 (800) 401-4277 FAX (225) 381-2996

QC Results Report

Sample Delivery Group: ARS1-09-00973
Date Received: 03/13/09

Laboratory Control Sample Evaluation

Analysis Batch	QC Type	Analyte	Analysis Results	CSU 1 (1 s)	MDC	Expected Value	Qual	Report Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Percent Recovery (%)	LCS Acceptance Range
ARS1-B09-01057	LCS	RA-226	40 727	6 710	0 229	29.802		pCi/L	ARS-008/EPA 903 0	3/23/09 14 12	GJ	137	75%-125%

Blank Evaluation

Analysis Batch	QC Type	Analyte	Analysis Results	CSU 1 (1 s)	MDC	Expected Value	Qual	Report Units	Analysis Test Method	Analysis Date/Time	Analysis Technician
ARS1-B09-01057	MBL	RA-226	0 000	0.172	0.204	NA	U	pCi/L	ARS-008/EPA 903.0	3/23/09 14:12	GJ

RER Duplicate Evaluation

Analysis Batch	QC Type	Analysis Description	Result 1	CSU 1 (1 s)	Result 2	CSU 2 (1s)	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	RER	RER AcceptanceRange
ARS1-B09-01057	LCSD	RA-226	40.727	6.710	41.705	7 517		pCi/L	ARS-008/EPA 903.0	3/23/09 14.12	GJ	0.07	< 1

DER Duplicate Evaluation

Analysis Batch	QC Type	Analysis Description	Result 1	CSU 1 (1 s)	Result 2	CSU 2 (1s)	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	DER	DER AcceptanceRange
ARS1-B09-01057	LCSD	RA-226	40.727	6.710	41.705	7 517		pCi/L	ARS-008/EPA 903.0	3/23/09 14:12	GJ	0 19	< 3

Project Manager Review

LELAP Certificate# 01949 NELAP Certificate # E87558

ARS INTERNATIONAL

2609 North River Road • Port Allen, Louisiana 70767
1 (800) 401-4277 • Fax (225) 381-2996

Notes:

Comments:

1 0) Soil and Sludge analysis are reported on a wet basis or an as received basis unless otherwise indicated.

2 0) Data in this report are within the limits of uncertainty specified in the reference method unless otherwise specified

3 0) Modified analysis procedures are procedures that are modified to meet the certain specifications. An example may be the use of a water method to analyze a solid matrix due to the lack of an officially recognized procedure for the analysis of the solid matrix Modified analyses are indicated by the subsequent addition of "m" to the procedure number (i e. 900.0M)

4.0) Derived Air Concentrations and Effluent Release Concentrations are obtained from 10 CFR 20 Appendix B.

5 0) **Total activity** is actually total gamma activity and is determined utilizing the prominent gamma emitters from the naturally occurring radioactive decay chains and other prominent radioactive nuclides Total activity may be lower than the actual total activity due to the extent of secular equilibrium achieved in the various decay chains at the time of analysis. The total activity is not representative of nuclides that emit solely alpha or beta particles

6 0) Ra-228 is determined via secular equilibrium with its daughter, Actinium 228 (Gamma Spectroscopy only)

7 0) U-238 is determined via secular equilibrium with its daughter, Thorium 234. (Gamma Spectroscopy only).

8 0) All gamma spectroscopy was performed utilizing high purity germanium detectors (**HPGe**)

9 0) ARS makes every attempt to match sample density to calibrated density, however, in some cases, it is not practical or possible to do so and data results may be affected

Method References:

1 0) **EPA 600/4-80-032**, Prescribed Procedures for the Measurements of Radioactivity in Drinking Water, August 1980.

2 0) Standard Methods for Examination of Water and Waste Water, 18th, 1992

3 0) **EPA SW-846**, Test Methods for Evaluating Solid Waste, Third Edition, (9/86) (Updated through 1995).

4 0) **EPA 600/4/79-020**, Methods for Chemical Analysis of Water and Waste, March 1983.

5.0) **HASL 300**

6.0) **ARS-040**, An LCSD is not reported with this process. The criteria for the LCS/LCSD analysis for reproducibility have not been established for Low Level Tritium analysis A prepared standard for Low Level Tritium has not been developed As a result, the standard we use is based on the dilution of a verified conventional tritium standard. The volume required for Low Level Tritium analysis, in addition to the lack of an available Low Level Tritium standard, introduce variability into the LCS/LCSD analysis that does not represent the actual sample analysis The preferred measure for reproducibility is to run a duplicate analysis of a sample.

Definitions:

1 0)	**ND**	Not detected above the detection limit (non-detect).
2 0)	**MDC**	(Minimum Detectable Concentration) minimum concentration of the analyte that ARS can detect utilizing the specific analysis
3 0)	**MBL**	Method Blank
4 0)	**DO**	Duplicate Original
5 0)	**DUP**	Method Duplicate
6 0)	**MS/MSD**	Matrix Spike/Matrix Spike Duplicate
7 0)	**S**	Spike
8 0)	**RS**	Reference Spike
9 0)	***SC**	Subcontracted out to another qualified laboratory
10 0)	**NR**	Not Referenced
11 0)	**N/A**	Not Applicable
12 0)	*	Reported as a calculated value
13 0)	**	False Positive due to interference from Bi-214
14 0)	**U**	Activity is below the MDC
15 0)	**LCS/LCSD**	Laboratory Control Standard/Laboratory Control Standard Duplicate

LELAP Cert# 30658 ***NELAP Cert# E87558***