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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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
☒ 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: Sovereign Eagle, LLC OGRID #: 263940
Address: PO Box 968, Roswell, NM 88202-0968
Facility or well name: Barnard "3b" #1
API Number: 30-005-63654 OCD Permit Number:
U/L or Qtr/Qtr Section 3 Township 3S Range 29E County: Chaves
Center of Proposed Design: Latitude Longitude NAD: ☐1927 ☐ 1983
Surface Owner: ☐ Federal ☐ State ☒ Private ☐ Tribal Trust or Indian Allotment

2.
☒ **Pit:** Subsection F or G of 19.15.17.11 NMAC
Temporary: ☐ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☒ P&A
☐ Lined ☐ Unlined Liner type: Thickness mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other
☐ String-Reinforced
Liner Seams: ☐ Welded ☐ Factory ☐ Other Volume: bbl Dimensions: L 25' x W 25' 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.

Final closure 6/11/10

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): Frank S. Morgan Title: Manager of Operations

Signature: Frank S Morgan Date: 09/01/10

e-mail address: fmorgan@stratanm.com Telephone: (575) 622-1127 EXT: 14

20.
OCD Approval: ☐ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment) Fin Pclosure

OCD Representative Signature: M Bratcher **Approval Date:** 9/2/10

Title: Environmental Specialist **OCD Permit Number:**

21.
Closure Report (required within 60 days of closure completion): Subsection K of 19.15.17.13 NMAC

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

☒ **Closure Completion Date:** 06/11/10

22.
Closure Method:

☐ Waste Excavation and Removal ☒ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)

☐ If different from approved plan, please explain.

23.
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:

Instructions: Please 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.***

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

On-site Closure Location: Latitude N340446.8 Longitude W1035342.2 NAD: ☐1927 ☐ 1983

25.
Operator Closure Certification:

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

Name (Print): Frank S. Morgan Title: Manager of Operations

Signature: Frank S Morgan Date: ~~07/07/10~~ 09/01/10

e-mail address: fmorgan@stratanm.com Telephone: 575-622-1127

Accepted for record
NMOCD

SOVEREIGN EAGLE, LLC

P.O. BOX 968
ROSWELL, NM 88202-0968
575-623-1957 TEL 575-623-3533 FAX

DEED NOTIFICATION

Drill cutting produced by Sovereign Eagle, LLC in drilling the Barnard "3B" #1 Located in Section 3, Township 3S, Range 29E, Unit Letter "B", 660' FNL & 1980' FEL are buried on this property.

Steel marker on burial site lined with 20 mil string reinforced LLDPE liner. Contents encapsulated w/ 20 mil string reinforced LLDPE liner at a depth of 4'-8'. Coordinates: Latitude (N340446.8) and Longitude (W1035342.2), 11' South & 11' North, 40' East & 40' West.

Signed,

Frank S. Morgan
Manager of Operations

Cheri D. Rogers
Notary Public Name

Notary Signature

This sworn before me on this the 5th day of Oct 2009

My commission expires: 02-10-2011

Summary Report

Frank Morgan
Sovereign Eagle, LLC

P.O. Box 968
Roswell, TX 88202-968

Report Date: June 24, 2010

Work Order: 10052710

Project Location: S3-T2S-R29E, Chaves County, NM
Project Name: Barnard 3b #1 Pit Closure
Project Number: Barnard 3b #1

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
232955	Barnard 3b #1 Composite Pit Samples	soil	2010-05-26	08:30	2010-05-27

Sample - Field Code	BTEX Benzene (mg/Kg)	BTEX Toluene (mg/Kg)	BTEX Ethylbenzene (mg/Kg)	BTEX Xylene (mg/Kg)	TPH 418.1 TRPHC (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
232955 - Barnard 3b #1 Composite Pit Samples	<0.0200	<0.0200	<0.0200	**0.0220**	<10.0	<50.0	<2.00

Sample: 232955 - Barnard 3b #1 Composite Pit Samples

Param	Flag	Result	Units	RL
Chloride		**611**	mg/Kg	2.50
SPLP Silver		<0.00500	mg/L	0.00500
SPLP Arsenic		<0.0100	mg/L	0.0100
SPLP Barium		**0.630**	mg/L	0.0100
SPLP Cadmium		<0.00500	mg/L	0.00500
SPLP Chloride		**2.03**	mg/L	0.500
SPLP Chromium		<0.00500	mg/L	0.00500
SPLP Copper		**0.00800**	mg/L	0.00500
SPLP Cyanide		<0.0150	mg/L	0.0150
SPLP Fluoride		**0.851**	mg/L	0.200
SPLP Mercury		<0.000200	mg/L	0.000200
SPLP Manganese		<0.00250	mg/L	0.00250
Nitrate-N		<0.200	mg/L	0.200
Naphthalene		<0.000200	mg/L	0.000200
Acenaphthylene		<0.000200	mg/L	0.000200
Acenaphthene		<0.000200	mg/L	0.000200
Dibenzofuran		<0.000200	mg/L	0.000200

continued ...

sample 232955 continued ...

Param	Flag	Result	Units	RL
Fluorene		<0.000200	mg/L	0.000200
Anthracene		<0.000200	mg/L	0.000200
Phenanthrene		<0.000200	mg/L	0.000200
Fluoranthene		<0.000200	mg/L	0.000200
Pyrene		<0.000200	mg/L	0.000200
Benzo(a)anthracene		<0.000200	mg/L	0.000200
Chrysene		<0.000200	mg/L	0.000200
Benzo(b)fluoranthene		<0.000200	mg/L	0.000200
Benzo(k)fluoranthene		<0.000200	mg/L	0.000200
Benzo(a)pyrene		<0.000200	mg/L	0.000200
Indeno(1,2,3-cd)pyrene		<0.000200	mg/L	0.000200
Dibenzo(a,h)anthracene		<0.000200	mg/L	0.000200
Benzo(g,h,i)perylene		<0.000200	mg/L	0.000200
SPLP Lead		<0.00500	mg/L	0.00500
Total PCB		<0.000500	mg/L	0.000500
Aroclor 1016 (PCB-1016)		<0.000500	mg/L	0.000500
Aroclor 1221 (PCB-1221)		<0.000500	mg/L	0.000500
Aroclor 1232 (PCB-1232)		<0.000500	mg/L	0.000500
Aroclor 1242 (PCB-1242)		<0.000500	mg/L	0.000500
Aroclor 1248 (PCB-1248)		<0.000500	mg/L	0.000500
Aroclor 1254 (PCB-1254)		<0.000500	mg/L	0.000500
Aroclor 1260 (PCB-1260)		<0.000500	mg/L	0.000500
Aroclor 1268 (PCB-1268)		<0.000500	mg/L	0.000500
SPLP Selenium		<0.0200	mg/L	0.0200
SPLP U		<0.0300	mg/L	0.0300
Bromochloromethane		<1.00	µg/L	1.00
Dichlorodifluoromethane		<1.00	µg/L	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1.00
Vinyl Chloride		<1.00	µg/L	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	5.00
Chloroethane		<1.00	µg/L	1.00
Trichlorofluoromethane		<1.00	µg/L	1.00
Acetone		<10.0	µg/L	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	5.00
Carbon Disulfide		<1.00	µg/L	1.00
Acrylonitrile		<1.00	µg/L	1.00
2-Butanone (MEK)		<5.00	µg/L	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5.00
2-Hexanone		<5.00	µg/L	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10.0
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		**8.21**	µg/L	5.00
MTBE		<1.00	µg/L	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1.00
1,1-Dichloroethane		<1.00	µg/L	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1.00
2,2-Dichloropropane		<1.00	µg/L	1.00

continued ...

sample 232955 continued ...

Param	Flag	Result	Units	RL
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
1,1-Dichloropropene		<1.00	µg/L	1.00
Benzene		<1.00	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
1,2-Dichloropropane		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1.00
Bromodichloromethane		<1.00	µg/L	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1.00
Toluene		**1.22**	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00
1,3-Dichloropropane		<1.00	µg/L	1.00
Dibromochloromethane		<1.00	µg/L	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1.00
Chlorobenzene		<1.00	µg/L	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		**2.27**	µg/L	1.00
Bromoform		<1.00	µg/L	1.00
Styrene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00
2-Chlorotoluene		<1.00	µg/L	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1.00
Isopropylbenzene		<1.00	µg/L	1.00
Bromobenzene		<1.00	µg/L	1.00
n-Propylbenzene		<1.00	µg/L	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1.00
tert-Butylbenzene		<1.00	µg/L	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1.00
sec-Butylbenzene		<1.00	µg/L	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1.00
p-Isopropyltoluene		<1.00	µg/L	1.00
4-Chlorotoluene		<1.00	µg/L	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1.00
n-Butylbenzene		<1.00	µg/L	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	5.00
Naphthalene		<5.00	µg/L	5.00
Hexachlorobutadiene		<5.00	µg/L	5.00

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.
30-005-63654

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

3. State Oil & Gas Lease No.

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)

☒ **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
Barnard 3B

6. Well Number:
001

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

8. Name of Operator
SOVEREIGN EAGLE, LLC

9. OGRID
263940

10 Address of Operator
P.O BOX 968, ROSWELL, NM 88202-0968

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:	B	3	3S	29E		660	N	1980	E	CHAVES
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.)
4/28/04	05-12-04	05-13-04	06-18-04	KB 4360'

18. Total Measured Depth of Well	19. Plug Back Measured Depth	20. Was Directional Survey Made?	21. Type Electric and Other Logs Run
3444'		NO	NEUTRON/GAMMARAY/LAT LOG

22. Producing Interval(s), of this completion - Top, Bottom, Name
GLORIETA TO SANTA ROSA

23. **CASING RECORD** (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8"	24#	354'	12 ¼"	260 SX "C" 2%KCL	CIRC TO PIT
5 ½"	15.5#	3444'	7 7/8"	525 SX 35/65 "C"	
				250 SX TAIL	CIRC TO PIT

24. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

25. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2 3/8"	800'	800'

26 Perforation record (interval, size, and number)
3266-3292 (24 HOLES) .42 HOLES
3205-3220 (30 HOLES) .42 HOLES
3117-3121 (20 HOLES) .42 HOLES
2951-3001 (100 HOLES) .42 HOLES
1775-1788 (20 HOLES) .42 HOLES
805-910 (70 HOLES) .42 HOLES

27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
ALL ZONES	1500 GAL 15% NEFE W/ BALL SEALERS
EACH	

28 **PRODUCTION**

Date First Production	Production Method *(Flowing, gas lift, pumping - Size and type pump)*	Well Status *(Prod. or Shut-in)*
6/11/04	FLOWING	SI

Date of Test	Hours Tested	Choke Size	Prod'n For Test Period	Oil – Bbl	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
6/11/04	24 HRS	1/2		0	50	25	

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API - *(Corr.)*
75	0		0	30	25	0

29. Disposition of Gas *(Sold, used for fuel, vented, etc.)*
VENTED

30. Test Witnessed By

31. List Attachments
PLATES & C-144

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 N34446 8 Longitude W1035342.2 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 [signature] Printed Name FRANK MORGAN Title MANAGER OF OPERATIONS Date 10/05/09

E-mail Address fmorgan@stratanm.com

INSTRUCTIONS

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

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico		Northwestern New Mexico	
T. Anhy	T. Canyon	T. Ojo Alamo	T. Penn A"
T. Salt	T. Strawn	T. Kirtland	T. Penn. "B"
B. Salt	T. Atoka	T. Fruitland	T. Penn. "C"
T. Yates 1165'	T. Miss	T. Pictured Cliffs	T. Penn. "D"
T. 7 Rivers	T. Devonian	T. Cliff House	T. Leadville
T. Queen 1773'	T. Silurian	T. Menefee	T. Madison
T. Grayburg	T. Montoya	T. Point Lookout	T. Elbert
T. San Andres 2070'	T. Simpson	T. Mancos	T. McCracken
T. Glorieta 3250'	T. McKee	T. Gallup	T. Ignacio Otzte
T. Paddock	T. Ellenburger	Base Greenhorn	T.Granite
T. Blinebry	T. Gr. Wash	T. Dakota	
T.Tubb	T. Delaware Sand	T. Morrison	
T. Drinkard	T. Bone Springs	T.Todilto	
T. Abo	T.	T. Entrada	
T. Wolfcamp	T.	T. Wingate	
T. Penn	T.	T. Chinle	
T. Cisco (Bough C)	T.	T. Permian	

OIL OR GAS SANDS OR ZONES

No. 1, from.....to..... No. 3, from.....to.....

No. 2, from.....to..... No. 4, from.....to.....

IMPORTANT WATER SANDS

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

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

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

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

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness In Feet	Lithology	From	To	Thickness In Feet	Lithology
SURF	920	920	RED SHALE AND SAND				
920	1120	200	RED SHALE AND SANDSTONE				
1120	1810	690	ANY, SALT RED SHALE & SILTSTONE				
1810	2070	260	RED SHALE AND SILTSTONE				
2070	2950	880	ANYH, SALT AND DOLOMITE				
2950	3050	100	POROUS DOLOMITE AND ANYH				
3050	3250	200	LIMESTONE, DOLOMITE AND ANYH				
3250	3310	60	WHITE SANDSTONE				
3310	3450	140	ANYH, SALT AND RED SHALE				

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 10, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code	³ Pool Name
		UND Glorieta

⁴ Property Code	⁵ Property Name	⁶ Well Number
FEE	BARNARD 3B	1

⁷ OGRID No.	⁸ Operator Name	⁹ Elevation
182843	Eagle Resources, LP PO BOX 3900 ROSWELL NM 88202	4354

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	3	3s	29e		660	North	1980	East	Chaves

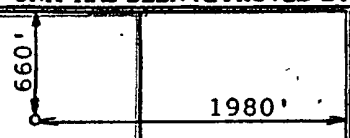
¹¹ Bottom Hole Location If Different From Surface

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

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
40			

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

16



¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

Tim Collier
Signature

TIM COLLIER
Printed Name

Agent, OPS
Title

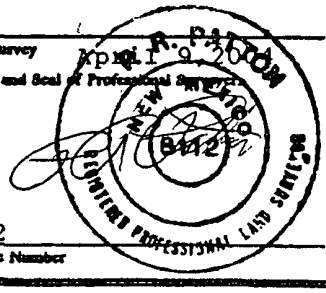
APRIL 16, 2004
Date

¹⁸ 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 of Survey April 9, 2004

Signature and Seal of Professional Surveyor



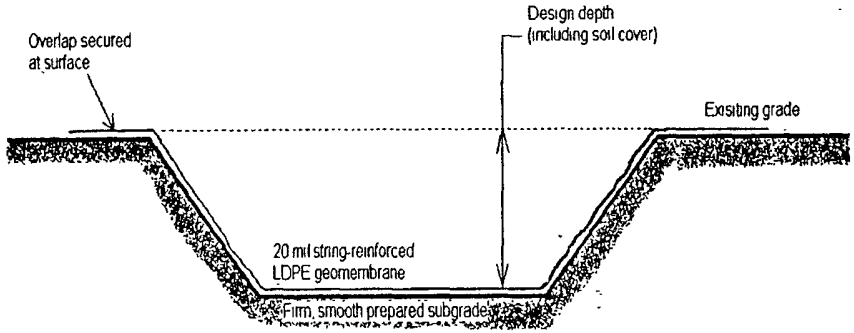
8112
Certificate Number

ON-SITE TRENCH DESIGN AND CONSTRUCTION

- On-site Trench for Closure:
  - Fold the outer edges of the trench liner to overlap the waste material in the trench prior to the installation of the geomembrane cover.
  - Install a geomembrane cover over the waste material in the lined trench.
    - Install in a manner that prevents the collection of infiltration water in the lined trench and on the geomembrane cover after the soil cover is in place.
    - Consist of a 20-mil string reinforced LLDPE liner or equivalent cover.
    - Composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions.
    - Cover compatibility shall comply with EPA SW-846 method 9090A.

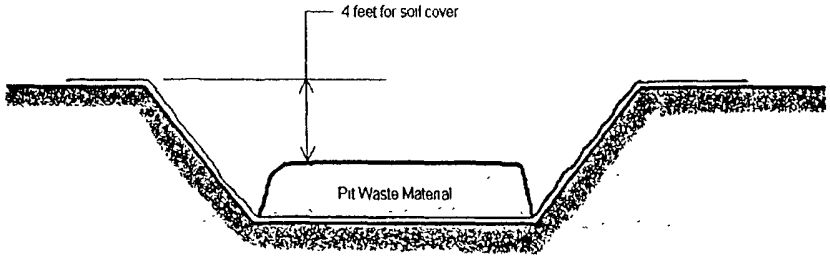
ON-SITE TRENCH DESIGN AND CONSTRUCTION 19.15.17.11.J NMAC

Step 1. Trench Construction



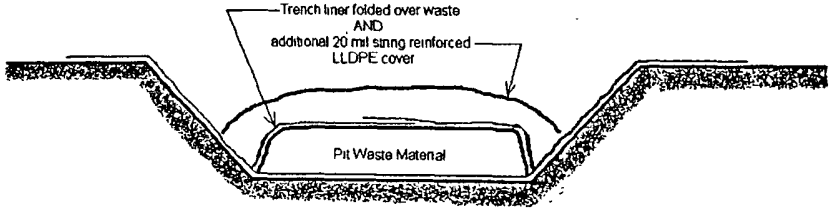
ON-SITE TRENCH DESIGN AND CONSTRUCTION 19.15.17.11.J NMAC

Step 2. Filling with Pit Wastes



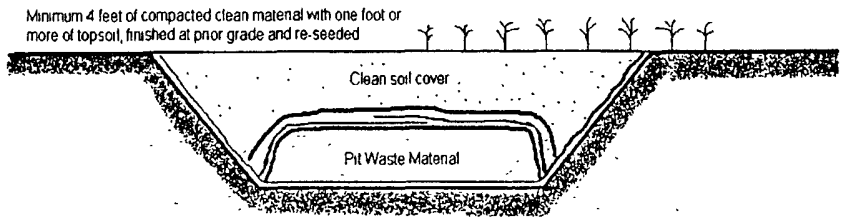
ON-SITE TRENCH DESIGN AND CONSTRUCTION 19.15.17.11.J NMAC

Step 3. Final liner configuration



ON-SITE TRENCH DESIGN AND CONSTRUCTION 19.15.17.11.J NMAC

Step 4. Cover fill



OPERATIONAL REQUIREMENTS

- General Specifications:
  - Operator shall operate and maintain a pit, closed-loop system, below-grade tank or sump to contain liquids and solids and maintain the integrity of the liner, liner system or secondary containment system.
  - Operator shall recycle, reuse or reclaim or dispose of all drilling fluids in a manner approved by division rules.
  - Operator shall not discharge into or store any hazardous waste in a pit, closed-loop system, below-grade tank or sump.

OPERATIONAL REQUIREMENTS

- General Specifications:
  - If any pit liner's integrity is compromised, or if any penetration of the liner occurs above the liquid's surface:
    - The operator shall notify the appropriate division district office within 48 hours of the discovery
    - The operator shall repair the damage or replace the liner.
    - Includes during the implementation of in-place closure.

OPERATIONAL REQUIREMENTS

- General Specifications:
  - If a pit, below-grade tank, closed-loop system or sump develops a leak, or if any penetration of the pit liner, below-grade tank, closed-loop system or sump occurs below the liquid's surface:
    - The operator shall remove all liquid above the damage or leak line within 48 hours.
    - The operator shall notify the appropriate division district office within 48 hours of the discovery.
    - The operator shall repair the damage or replace the pit liner, below-grade tank, closed-loop system or sump.
    - Applies during the implementation of in-place closure.

ARS INTERNATIONAL

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

ARS Sample Delivery Group:	ARS1-09-02087	**Request or PO Number:**	9072713
Client Sample ID:	203832	**ARS Sample ID:**	ARS1-09-02087-001
Sample Collection Date:	07/24/09	**Date Received:**	07/29/09
Sample Matrix:	Aqueous	**Report Date:**	09/16/09

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
RA-226	0 245	0.645	1.200	0 487	U	pCi/L	ARS-010/EPA 904 0	09/04/09 00 00	GJ	40%
RA-228	-0 706	1.745	3 267	1 517	U	pCi/L	ARS-010/EPA 904 0	09/04/09 00 00	GJ	38%

NOTES Ra-228 activity is below the MDC Tracer recovery is biased low by 2%

Project Manager Review

LELAP Certificate# 01949 NELAP Certificate # E87558

ARS INTERNATIONAL

QC Results per Analytical Batch

Analytical Batch	ARS1-B09-02948
SDG	Multiple SDGs
Analysis	Radium-228/226 in (Water [Aqueous, AQ])
Analysis Test Method	ARS-010/Gas Proportional Counter
Analysis Code	GPC-A-057
Report Units	pCi/L

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges		
Laboratory Control Sample	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 30	< 110
Duplicate	Replicate Error Ratio (RER):		< 1
	Duplicate Error Ration (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample

Analysis Date | Analysis Technician: GJONES

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (1s)	Expected Value	LCS Rec (%)	MDC
ARS1-B09-02948-01	LCS	RA-226	30 4	2 6	29 24	104	0 49
ARS1-B09-02948-01	LCS	RA-228	13 6	1.3	17.63	77	1 4

Duplicate RER/DER/RPD

Analysis Date | Analysis Technician: GJONES

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (1s)	RER	DER	RPD
ARS1-B09-02948-02	LCSD	RA-226	25 6	2 2	0 51	1 41	17 1
ARS1-B09-02948-02	LCSD	RA-228	12 9	1.2	0 14	0 40	5 3

Method Blank

Analysis Date | Analysis Technician: GJONES

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (1 s)	MDC	Qual
ARS1-B09-02948-03	MBL	RA-226	0.203	0 088	0 25	U
ARS1-B09-02948-03	MBL	RA-228	0 17	0 23	0 77	U

Katherine Savoie

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

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# 01949 *NELAP Cert# E87558*

9072713

LAB Order ID # 9072713

TraceAnalysis, Inc.

email lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9, Lubbock, Texas 79424, Tel (806) 794-1296, Fax (806) 794-1296, 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: Eagle Resources, Inc.

Phone #: 575-622-1127

Address (Street, City, Zip): PO Box 1030 Roswell, NM 88202-1030

Fax #: 575-623-3533

Contact Person: Frank Morgan

E-mail: FMORGAN@STRATANM.COM

Invoice to: (If different from above)

Project #: Banard 3B #1

Project Name: Banard Pit Closure

Project Location (including state): Unit Letter B Sec. 3 T.3S. R.29E. Chaves Co, NM

Sampler Signature: [signature]

N. 340446.8
W. 1035342.2

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	WATER	SOIL	AIR	SLUDGE	HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	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	Uranium - See attached sheet for Analysis Requirement Highlighted in Yellow	Please analyze for Highlighted		Turn Around Time if different from standard	Hold
208 203832	Banard 3B #1 Composite Pit Sample	2	4oz		X							X	X	07/24/09	0900		X	X	X		X												X				

Relinquished by: [signature] Company: OMB Environmental Date: 07/26/09 Time: 1170

Received by: Company: Date: Time: Temp °c:

Relinquished by: Company: Date: Time:

Received by: Company: Date: Time: Temp °c:

Relinquished by: Company: Date: Time:

Received by: Carol Fox Company: Trace Date: 7-27-09 Time: 10:10 Am Temp °c: 2.3 2.8

LAB USE ONLY

Intact (Y) N

Headspace Y / N / (NA)

Log-in-Review [initials]

REMARKS: Any Questions Please Call Frank Morgan @ 575-703-6866

☐ Dry Weight Basis Required

☐ TRRP Report Required

☐ Check If Special Reporting Limits Are Needed

Called Frank [illegible] 7/27/09

Sent Prelim Sum. 8-4-09

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

Carrier # GLI 305373350[7]

TRACEANALYSIS, INC.

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[redacted] El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
[redacted] Midland, Texas 79703 432•689•6301 FAX 432•689•6313
[redacted] Ft. Worth, Texas 76132 817•201•5260
E-Mail: info@traceanalysis.com

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

Frank Morgan
Eagle Resources, Inc

P O Box 1030
Roswell, NM, 88202

Report Date: August 4, 2009

Work Order: 9072713

Project Location: Unit B, Sec. 3, T3SR29E, Chaves Co., NM
Project Name: Banard Pit Closure
Project Number: Banard 3B #1

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
203832	Banard 3B #1 Composite Pit Sample	soil	2009-07-24	09:00	2009-07-27

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

This report consists of a total of 46 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael Abel

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

Standard Flags

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

Case Narrative

Samples for project Banard Pit Closure were received by TraceAnalysis, Inc. on 2009-07-27 and assigned to work order 9072713 Samples for work order 9072713 were received intact at a temperature of 2.8 deg. C

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	52814	2009-07-28 at 14:58	61916	2009-07-28 at 14:58
Chloride (Titration)	SM 4500-Cl B	52941	2009-07-31 at 14:30	62064	2009-07-31 at 15:30
SPLP Ag	S 6010B	52868	2009-07-30 at 09:51	62003	2009-07-30 at 14:11
SPLP As	S 6010B	52868	2009-07-30 at 09:51	62003	2009-07-30 at 14:11
SPLP Ba	S 6010B	52868	2009-07-30 at 09:51	62003	2009-07-30 at 14:11
SPLP Cd	S 6010B	52868	2009-07-30 at 09 51	62003	2009-07-30 at 14.11
SPLP Cl	E 300 0	52928	2009-07-30 at 14:22	62048	2009-07-31 at 06:14
SPLP Cr	S 6010B	52868	2009-07-30 at 09:51	62003	2009-07-30 at 14:11
SPLP Cu	S 6010B	52868	2009-07-30 at 09:51	62003	2009-07-30 at 14:11
SPLP Cyanide	SM 4500-CN C,E	52939	2009-07-31 at 10:30	62062	2009-07-31 at 12:00
SPLP Fluoride	E 300.0	52928	2009-07-30 at 14:22	62048	2009-07-31 at 06:14
SPLP Hg	S 7470A	52833	2009-07-29 at 10:00	61942	2009-07-29 at 14:07
SPLP Mn	S 6010B	52868	2009-07-30 at 09:51	62003	2009-07-30 at 14:11
SPLP NO3 (IC)	E 300.0	52928	2009-07-30 at 14:22	62048	2009-07-31 at 06:14
SPLP PAH	S 8270C	52915	2009-07-29 at 15:00	62035	2009-07-31 at 09:36
SPLP Pb	S 6010B	52868	2009-07-30 at 09:51	62003	2009-07-30 at 14:11
SPLP PCB	S 8082	52859	2009-07-29 at 17:00	61963	2009-07-29 at 17:22
SPLP Se	S 6010B	52868	2009-07-30 at 09:51	62003	2009-07-30 at 14:11
SPLP U	S 6010B	52868	2009-07-30 at 09 51	62003	2009-07-30 at 14:11
SPLP Volatiles	S 8260B	52923	2009-07-30 at 12:00	62041	2009-07-30 at 12:00
TPH 418 1	E 418.1	53021	2009-08-04 at 16:00	62157	2009-08-04 at 17:03
TPH DRO	Mod. 8015B	52821	2009-07-28 at 15.00	61923	2009-07-28 at 20:00
TPH GRO	S 8015B	52814	2009-07-28 at 14:58	61917	2009-07-28 at 14:58

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 9072713 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: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch	61916	Date Analyzed:	2009-07-28	Analyzed By:	MT
Prep Batch	52814	Sample Preparation:	2009-07-28	Prepared By:	MT

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		<0.0200		mg/Kg	1	0.0200
Toluene		<0.0200		mg/Kg	1	0.0200
Ethylbenzene		<0.0200		mg/Kg	1	0.0200
Xylene		**0.0585**		mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.70	mg/Kg	1	2.00	85	71.8 - 112
4-Bromofluorobenzene (4-BFB)		2.02	mg/Kg	1	2.00	101	72.8 - 115

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch	62064	Date Analyzed:	2009-07-31	Analyzed By:	AH
Prep Batch	52941	Sample Preparation:	2009-07-31	Prepared By:	AH

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**2310**		mg/Kg	100	3.25

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	SPLP Ag	Analytical Method:	S 6010B	Prep Method	SPLP 1312
QC Batch	62003	Date Analyzed:	2009-07-30	Analyzed By:	RR
Prep Batch	52868	SPLP Extraction:	2009-07-28	Prepared By:	KV
		Sample Preparation:	2009-07-30	Prepared By	KV

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

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	SPLP As	Analytical Method:	S 6010B	Prep Method:	SPLP 1312
QC Batch	62003	Date Analyzed	2009-07-30	Analyzed By:	RR
Prep Batch	52868	SPLP Extraction·	2009-07-28	Prepared By:	KV
		Sample Preparation:	2009-07-30	Prepared By:	KV

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

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	SPLP Ba	Analytical Method.	S 6010B	Prep Method:	SPLP 1312
QC Batch	62003	Date Analyzed:	2009-07-30	Analyzed By·	RR
Prep Batch	52868	SPLP Extraction:	2009-07-28	Prepared By:	KV
		Sample Preparation:	2009-07-30	Prepared By:	KV

Parameter	Flag	Result	RL Units	Dilution	RL
SPLP Barium		**0.709**	mg/L	1	0.100

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	SPLP Cd	Analytical Method.	S 6010B	Prep Method:	SPLP 1312
QC Batch	62003	Date Analyzed·	2009-07-30	Analyzed By.	RR
Prep Batch	52868	SPLP Extraction:	2009-07-28	Prepared By·	KV
		Sample Preparation·	2009-07-30	Prepared By:	KV

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

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	SPLP Cl	Analytical Method:	E 300.0	Prep Method:	SPLP 1312
QC Batch	62048	Date Analyzed:	2009-07-31	Analyzed By:	SS
Prep Batch·	52928	SPLP Extraction	2009-07-29	Prepared By	SS
		Sample Preparation:	2009-07-30	Prepared By:	SS

Parameter	Flag	Result	RL	Units	Dilution	RL
SPLP Chloride		**591**		mg/L	50	0.500

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	SPLP Cr	Analytical Method:	S 6010B	Prep Method	SPLP 1312
QC Batch	62003	Date Analyzed:	2009-07-30	Analyzed By:	RR
Prep Batch	52868	SPLP Extraction	2009-07-28	Prepared By:	KV
		Sample Preparation:	2009-07-30	Prepared By:	KV

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

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	SPLP Cu	Analytical Method:	S 6010B	Prep Method:	SPLP 1312
QC Batch	62003	Date Analyzed:	2009-07-30	Analyzed By:	RR
Prep Batch	52868	SPLP Extraction:	2009-07-28	Prepared By:	KV
		Sample Preparation:	2009-07-30	Prepared By:	KV

Parameter	Flag	Result	RL	Units	Dilution	RL
SPLP Copper		<0.0250		mg/L	1	0.0250

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	SPLP Cyanide	Analytical Method.	SM 4500-CN C,E	Prep Method.	SPLP 1312
QC Batch	62062	Date Analyzed.	2009-07-31	Analyzed By:	AH
Prep Batch	52939	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: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory:	Lubbock				
Analysis	SPLP Fluoride	Analytical Method:	E 300.0	Prep Method:	SPLP 1312
QC Batch	62048	Date Analyzed.	2009-07-31	Analyzed By:	SS
Prep Batch	52928	SPLP Extraction.	2009-07-29	Prepared By:	SS
		Sample Preparation	2009-07-30	Prepared By:	SS

Parameter	Flag	Result	RL Units	Dilution	RL
SPLP Fluoride		<1 00	mg/L	5	0.200

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	SPLP Hg	Analytical Method:	S 7470A	Prep Method:	N/A
QC Batch	61942	Date Analyzed:	2009-07-29	Analyzed By:	TP
Prep Batch	52833	Sample Preparation:	2009-07-29	Prepared By:	TP

Parameter	Flag	Result	RL Units	Dilution	RL
SPLP Mercury		0.000466	mg/L	1	0.000200

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory:	Lubbock				
Analysis:	SPLP Mn	Analytical Method:	S 6010B	Prep Method:	SPLP 1312
QC Batch:	62003	Date Analyzed:	2009-07-30	Analyzed By:	RR
Prep Batch.	52868	SPLP Extraction:	2009-07-28	Prepared By:	KV
		Sample Preparation:	2009-07-30	Prepared By:	KV

Parameter	Flag	Result	RL Units	Dilution	RL
SPLP Manganese		0.0360	mg/L	1	0.00250

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory:	Lubbock				
Analysis:	SPLP NO3 (IC)	Analytical Method:	E 300 0	Prep Method:	SPLP 1312
QC Batch	62048	Date Analyzed:	2009-07-31	Analyzed By:	SS
Prep Batch	52928	SPLP Extraction:	2009-07-29	Prepared By:	SS
		Sample Preparation:	2009-07-30	Prepared By:	SS

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

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	SPLP PAH	Analytical Method:	S 8270C	Prep Method:	SPLP 1312
QC Batch	62035	Date Analyzed	2009-07-31	Analyzed By.	MN
Prep Batch	52915	SPLP Extraction:	2009-07-29	Prepared By:	MN
		Sample Preparation:	2009-07-29	Prepared By:	MN

Parameter	Flag	Result	RL Units	Dilution	RL
Naphthalene		**0.000214**	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		**0.000308**	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		0.0343	mg/L	1	0.0800	43	37.4 - 123
Nitrobenzene-d5		0.0350	mg/L	1	0.0800	44	34.3 - 130
Terphenyl-d14		0.0431	mg/L	1	0.0800	54	10 - 252

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	SPLP Pb	Analytical Method.	S 6010B	Prep Method:	SPLP 1312
QC Batch	62003	Date Analyzed:	2009-07-30	Analyzed By:	RR
Prep Batch	52868	SPLP Extraction:	2009-07-28	Prepared By:	KV
		Sample Preparation:	2009-07-30	Prepared By.	KV

Parameter	Flag	RL Result	Units	Dilution	RL
SPLP Lead		<0 0100	mg/L	1	0.0100

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	SPLP PCB	Analytical Method:	S 8082	Prep Method:	SPLP 1312
QC Batch	61963	Date Analyzed·	2009-07-29	Analyzed By:	DS
Prep Batch	52859	SPLP Extraction:	2009-07-28	Prepared By:	DS
		Sample Preparation	2009-07-29	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		0.000502	mg/L	1	0.000500	100	10 - 128

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	SPLP Se	Analytical Method:	S 6010B	Prep Method:	SPLP 1312
QC Batch	62003	Date Analyzed.	2009-07-30	Analyzed By:	RR
Prep Batch	52868	SPLP Extraction:	2009-07-28	Prepared By:	KV
		Sample Preparation:	2009-07-30	Prepared By:	KV

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

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	SPLP U	Analytical Method:	S 6010B	Prep Method:	SPLP 1312
QC Batch	62003	Date Analyzed.	2009-07-30	Analyzed By:	RR
Prep Batch	52868	SPLP Extraction·	2009-07-28	Prepared By:	KV
		Sample Preparation:	2009-07-30	Prepared By:	KV

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

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	SPLP Volatiles	Analytical Method:	S 8260B	Prep Method:	SPLP 1312
QC Batch	62041	Date Analyzed:	2009-07-30	Analyzed By:	KB
Prep Batch	52923	SPLP Extraction·	2009-07-30	Prepared By:	KB
		Sample Preparation:	2009-07-30	Prepared By:	KB

Parameter	Flag	Result	RL Units	Dilution	RL
Vinyl Chloride		<1 00	µg/L	1	1.00
1,1-Dichloroethene		<1.00	µg/L	1	1.00
Methylene chloride	[1]	**58.3**	µg/L	1	5.00
1,1-Dichloroethane		<1.00	µg/L	1	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1	1.00
Chloroform		<1.00	µg/L	1	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1	1.00
Benzene		<1.00	µg/L	1	1.00
Carbon Tetrachloride		<1.00	µg/L	1	1.00
Trichloroethene (TCE)		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1 00
1,1,2-Trichloroethane		<1 00	µg/L	1	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52 1	µg/L	1	50.0	104	70 - 130
Toluene-d8		50.3	µg/L	1	50.0	101	70 - 130

continued ...

[1] Estimated value •

sample continued

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)		49.2	µg/L	1	50.0	98	70 - 130

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	TPH 418 1	Analytical Method	E 418 1	Prep Method:	N/A
QC Batch	62157	Date Analyzed:	2009-08-04	Analyzed By:	
Prep Batch	53021	Sample Preparation:	2009-08-04	Prepared By:	

Parameter	Flag	RL Result	Units	Dilution	RL
TRPHC	[2]	**1720**	mg/Kg	2	10.0

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method.	N/A
QC Batch	61923	Date Analyzed:	2009-07-28	Analyzed By:	
Prep Batch	52821	Sample Preparation:	2009-07-28	Prepared By:	

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**337**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		113	mg/Kg	1	100	113	46.6 - 172

Sample: 203832 - Banard 3B #1 Composite Pit Sample

Laboratory	Lubbock				
Analysis	TPH GRO	Analytical Method.	S 8015B	Prep Method:	S 5035
QC Batch	61917	Date Analyzed:	2009-07-28	Analyzed By:	MT
Prep Batch	52814	Sample Preparation:	2009-07-28	Prepared By:	MT

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**14.6**	mg/Kg	1	2.00

[2]Sample can not be re-extracted and re-ran because there is not enough sample remaining to analyze.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.84	mg/Kg	1	2.00	92	86.9 - 113
4-Bromofluorobenzene (4-BFB)		1 84	mg/Kg	1	2.00	92	56.2 - 130

Method Blank (1) QC Batch. 61916

QC Batch 61916 | Date Analyzed: 2009-07-28 | Analyzed By: MT
Prep Batch 52814 | QC Preparation: 2009-07-28 | 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)		1.83	mg/Kg	1	2.00	91	71.8 - 112
4-Bromofluorobenzene (4-BFB)		1 79	mg/Kg	1	2.00	90	72.8 - 115

Method Blank (1) QC Batch 61917

QC Batch 61917 | Date Analyzed. 2009-07-28 | Analyzed By MT
Prep Batch 52814 | QC Preparation. 2009-07-28 | Prepared By: MT

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1 93	mg/Kg	1	2.00	96	86.9 - 113
4-Bromofluorobenzene (4-BFB)		1.64	mg/Kg	1	2.00	82	56.2 - 130

Method Blank (1) QC Batch. 61923

QC Batch: 61923 | Date Analyzed: 2009-07-28 | Analyzed By:
Prep Batch 52821 | QC Preparation: 2009-07-28 | Prepared By:

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		93.4	mg/Kg	1	100	93	46.6 - 172

Method Blank (1) QC Batch 61942

QC Batch 61942 | Date Analyzed 2009-07-29 | Analyzed By: TP
Prep Batch 52833 | QC Preparation 2009-07-29 | Prepared By: TP

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

Method Blank (1) QC Batch: 61963

QC Batch 61963 | Date Analyzed: 2009-07-29 | Analyzed By: DS
Prep Batch 52859 | QC Preparation: 2009-07-29 | 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		0.000509	mg/L	1	0.000500	102	10 - 128

Method Blank (1) QC Batch 62003

QC Batch 62003 | Date Analyzed 2009-07-30 | Analyzed By: RR
Prep Batch 52868 | QC Preparation: 2009-07-30 | Prepared By: KV

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

Method Blank (1) QC Batch 62003

QC Batch	62003	Date Analyzed:	2009-07-30	Analyzed By	RR
Prep Batch	52868	QC Preparation	2009-07-30	Prepared By	KV

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

Method Blank (1) QC Batch. 62003

QC Batch	62003	Date Analyzed:	2009-07-30	Analyzed By:	RR
Prep Batch	52868	QC Preparation:	2009-07-30	Prepared By:	KV

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

Method Blank (1) QC Batch 62003

QC Batch	62003	Date Analyzed	2009-07-30	Analyzed By:	RR
Prep Batch	52868	QC Preparation	2009-07-30	Prepared By:	KV

Parameter	Flag	MDL Result	Units	RL
SPLP Arsenic		<0 00430	mg/L	0.01

Method Blank (1) QC Batch: 62003

QC Batch	62003	Date Analyzed:	2009-07-30	Analyzed By:	RR
Prep Batch	52868	QC Preparation:	2009-07-30	Prepared By:	KV

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

Method Blank (1) QC Batch: 62003

QC Batch	62003	Date Analyzed:	2009-07-30	Analyzed By:	RR
Prep Batch	52868	QC Preparation:	2009-07-30	Prepared By	KV

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

Method Blank (1) QC Batch. 62003

QC Batch	62003	Date Analyzed:	2009-07-30	Analyzed By:	RR
Prep Batch	52868	QC Preparation:	2009-07-30	Prepared By:	KV

Parameter	Flag	MDL Result	Units	RL
SPLP Copper		<0.00140	mg/L	0.025

Method Blank (1) QC Batch· 62003

QC Batch	62003	Date Analyzed:	2009-07-30	Analyzed By:	RR
Prep Batch:	52868	QC Preparation:	2009-07-30	Prepared By:	KV

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

Method Blank (1) QC Batch: 62003

QC Batch	62003	Date Analyzed:	2009-07-30	Analyzed By:	RR
Prep Batch	52868	QC Preparation:	2009-07-30	Prepared By·	KV

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

Method Blank (1) QC Batch. 62003

QC Batch	62003	Date Analyzed:	2009-07-30	Analyzed By.	RR
Prep Batch·	52868	QC Preparation:	2009-07-30	Prepared By:	KV

Parameter	Flag	MDL Result	Units	RL
SPLP Manganese		<0.000305	mg/L	0.0025

Method Blank (1) QC Batch 62035

QC Batch 62035 | Date Analyzed: 2009-07-31 | Analyzed By: MN
Prep Batch 52915 | QC Preparation: 2009-07-29 | 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
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		0.0310	mg/L	1	0.0800	39	10 - 146
Nitrobenzene-d5		0.0320	mg/L	1	0.0800	40	10 - 141
Terphenyl-d14		0.0500	mg/L	1	0.0800	62	10 - 266

Method Blank (1) QC Batch 62041

QC Batch 62041 | Date Analyzed: 2009-07-30 | Analyzed By KB
Prep Batch 52923 | QC Preparation: 2009-07-30 | Prepared By: KB

Parameter	Flag	MDL Result	Units	RL
Bromochloromethane		<0.177	µg/L	1
Dichlorodifluoromethane		<0.208	µg/L	1

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Parameter	Flag	MDL Result	Units	RL
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)		0.370	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
Bromoform		<0 0570	µg/L	1

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Parameter	Flag	MDL Result	Units	RL
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		<0.0250	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		0.130	µg/L	1
1,3-Dichlorobenzene (meta)		<0.0690	µg/L	1
p-Isopropyltoluene		0.140	µg/L	1
4-Chlorotoluene		<0 0940	µg/L	1
1,2-Dichlorobenzene (ortho)		<0 100	µg/L	1
n-Butylbenzene		0.220	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		<0.248	µg/L	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		50.2	µg/L	1	50.0	100	70 - 130
Toluene-d8		49.2	µg/L	1	50.0	98	70 - 130
4-Bromofluorobenzene (4-BFB)		49.5	µg/L	1	50.0	99	70 - 130

Method Blank (1) QC Batch 62048

QC Batch	62048	Date Analyzed	2009-07-31	Analyzed By:	SS
Prep Batch	52928	QC Preparation.	2009-07-30	Prepared By:	SS

Parameter	Flag	MDL Result	Units	RL
Nitrate-N		<0 0700	mg/L	0 2

Method Blank (1) QC Batch. 62048

QC Batch 62048 | Date Analyzed: 2009-07-31 | Analyzed By: SS
Prep Batch 52928 | QC Preparation: 2009-07-30 | Prepared By: SS

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

Method Blank (1) QC Batch 62048

QC Batch 62048 | Date Analyzed. 2009-07-31 | Analyzed By: SS
Prep Batch 52928 | QC Preparation: 2009-07-30 | Prepared By: SS

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

Method Blank (1) QC Batch 62062

QC Batch 62062 | Date Analyzed: 2009-07-31 | Analyzed By: AH
Prep Batch 52939 | QC Preparation. 2009-07-31 | Prepared By: AH

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

Method Blank (1) QC Batch: 62064

QC Batch 62064 | Date Analyzed: 2009-07-31 | Analyzed By: AH
Prep Batch 52941 | QC Preparation. 2009-07-31 | Prepared By: AH

Parameter	Flag	MDL Result	Units	RL
Chloride		<1 80	mg/Kg	3.25

Method Blank (1) QC Batch 62157

QC Batch 62157 | Date Analyzed: 2009-08-04 | Analyzed By:
Prep Batch 53021 | QC Preparation 2009-08-04 | Prepared By: CM

Parameter	Flag	MDL Result	Units	RL
TRPHC	---	<5 28	mg/Kg	10

Laboratory Control Spike (LCS-1)

QC Batch 61916 | Date Analyzed: 2009-07-28 | Analyzed By: MT
Prep Batch: 52814 | QC Preparation: 2009-07-28 | Prepared By: MT

Param	LCS Result	Units	Dil	Spike Amount	Matrix Result	Rec	Rec Limit
Benzene	1 83	mg/Kg	1	2 00	<0.00505	92	78.9 - 113
Toluene	1 86	mg/Kg	1	2 00	<0.00611	93	78.3 - 116
Ethylbenzene	1.82	mg/Kg	1	2.00	<0.00630	91	79.1 - 117
Xylene	5.64	mg/Kg	1	6.00	<0.00673	94	79.6 - 116

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 90	mg/Kg	1	2 00	<0 00505	95	78.9 - 113	4	20
Toluene	1 88	mg/Kg	1	2.00	<0 00611	94	78.3 - 116	1	20
Ethylbenzene	1.84	mg/Kg	1	2.00	<0.00630	92	79.1 - 117	1	20
Xylene	5 68	mg/Kg	1	6.00	<0 00673	95	79.6 - 116	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
Trifluorotoluene (TFT)	1.82	1.87	mg/Kg	1	2.00	91	94	70.8 - 111
4-Bromofluorobenzene (4-BFB)	1.83	1.87	mg/Kg	1	2.00	92	93	68.3 - 117

Laboratory Control Spike (LCS-1)

QC Batch 61917 | Date Analyzed: 2009-07-28 | Analyzed By: MT
Prep Batch 52814 | QC Preparation: 2009-07-28 | Prepared By: MT

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	19.0	mg/Kg	1	20.0	<0.403	95	72.6 - 121

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	19.0	mg/Kg	1	20.0	<0.403	95	72.6 - 121	0	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)	1.90	1.86	mg/Kg	1	2.00	95	93	75.2 - 112
4-Bromofluorobenzene (4-BFB)	1.78	1 72	mg/Kg	1	2.00	89	86	54.9 - 133

Laboratory Control Spike (LCS-1)

QC Batch 61923 | Date Analyzed: 2009-07-28 | Analyzed By:
Prep Batch 52821 | QC Preparation: 2009-07-28 | Prepared By:

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	243	mg/Kg	1	250	<5.66	97	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	259	mg/Kg	1	250	<5.66	104	71.2 - 159	6	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec	Rec. Limit
n-Triacontane	94.7	102	mg/Kg	1	100	95	102	46.6 - 172

Laboratory Control Spike (LCS-1)

QC Batch 61942 | Date Analyzed: 2009-07-29 | Analyzed By: TP
Prep Batch 52833 | QC Preparation: 2009-07-29 | Prepared By: TP

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Mercury	0.00103	mg/L	1	0.00100	<0.0000329	103	88.8 - 111

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 00101	mg/L	1	0.00100	<0.0000329	101	88 8 - 111	2	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 61963 | Date Analyzed: 2009-07-29 | Analyzed By: DS
Prep Batch. 52859 | QC Preparation: 2009-07-29 | Prepared By: DS

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Aroclor 1260 (PCB-1260)	0.00175	mg/L	1	0.00200	<0.0000331	88	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)	0.00176	mg/L	1	0.00200	<0.0000331	88	10 - 128	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
Decachlorobiphenyl	0.000520	0.000519	mg/L	1	0.000500	104	104	10 - 128

Laboratory Control Spike (LCS-1)

QC Batch 62003 | Date Analyzed. 2009-07-30 | Analyzed By: RR
Prep Batch 52868 | QC Preparation. 2009-07-30 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Cadmium	0.249	mg/L	1	0.250	<0.00140	100	85 - 115

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

Param	LCSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Cadmium	0.240	mg/L	1	0.250	<0.00140	96	85 - 115	4	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 62003 | Date Analyzed: 2009-07-30 | Analyzed By: RR
Prep Batch 52868 | QC Preparation: 2009-07-30 | Prepared By: KV

Param	LCS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Lead	0.515	mg/L	1	0.500	<0.00320	103	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	0.493	mg/L	1	0.500	<0.00320	99	85 - 115	4	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 62003 | Date Analyzed: 2009-07-30 | Analyzed By: RR
Prep Batch 52868 | QC Preparation: 2009-07-30 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Selenium	0.440	mg/L	1	0.500	<0.0131	88	85 - 115

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

Param	LCSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec Limit	RPD	RPD Limit
SPLP 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 62003 | Date Analyzed: 2009-07-30 | Analyzed By: RR
Prep Batch. 52868 | QC Preparation: 2009-07-30 | Prepared By: KV

Param	LCS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Arsenic	0.475	mg/L	1	0.500	<0.00430	95	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Arsenic	0.456	mg/L	1	0.500	<0.00430	91	85 - 115	4	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 62003 | Date Analyzed: 2009-07-30 | Analyzed By. RR
Prep Batch 52868 | QC Preparation: 2009-07-30 | Prepared By: KV

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

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

Param	LCSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Barium	0.974	mg/L	1	1.00	<0.00170	97	85 - 115	5	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: 62003 | Date Analyzed: 2009-07-30 | Analyzed By: RR
Prep Batch: 52868 | QC Preparation: 2009-07-30 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Chromium	0.0950	mg/L	1	0.100	<0.000900	95	85 - 115

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

Param	LCSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec Limit	RPD	RPD Limit
SPLP Chromium	0.0910	mg/L	1	0.100	<0.000900	91	85 - 115	4	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: 62003 | Date Analyzed: 2009-07-30 | Analyzed By: RR
Prep Batch: 52868 | QC Preparation: 2009-07-30 | Prepared By: KV

Param	LCS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Copper	0.125	mg/L	1	0.125	<0.00140	100	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Copper	0.122	mg/L	1	0.125	<0.00140	98	85 - 115	2	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: 62003 | Date Analyzed: 2009-07-30 | Analyzed By: RR
Prep Batch: 52868 | QC Preparation: 2009-07-30 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Silver	0.123	mg/L	1	0.125	<0.00210	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 Silver	0.119	mg/L	1	0.125	<0.00210	95	85 - 115	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 62003 | Date Analyzed: 2009-07-30 | Analyzed By: RR
Prep Batch 52868 | QC Preparation: 2009-07-30 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP U	1.04	mg/L	1	1.00	<0.0105	104	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	0 995	mg/L	1	1.00	<0.0105	100	90 - 110	4	

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 62003 | Date Analyzed: 2009-07-30 | Analyzed By: RR
Prep Batch 52868 | QC Preparation: 2009-07-30 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec Limit
SPLP Manganese	0 248	mg/L	1	0.250	<0.000305	99	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 Manganese	0 238	mg/L	1	0 250	<0 000305	95	85 - 115	4	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 62035 | Date Analyzed 2009-07-31 | Analyzed By MN
Prep Batch 52915 | QC Preparation 2009-07-29 | Prepared By: MN

Param	LCS Result	Units	Dil	Spike Amount	Matrix Result	Rec	Rec. Limit
Naphthalene	0.0370	mg/L	1	0 0800	<0.0000853	46	10 - 141
Acenaphthylene	0.0463	mg/L	1	0.0800	<0.0000768	58	10 - 152
Acenaphthene	0.0456	mg/L	1	0.0800	<0.000103	57	10 - 151
Dibenzofuran	0 0420	mg/L	1	0.0800	<0.000200	52	10 - 148
Fluorene	0 0515	mg/L	1	0.0800	<0.0000861	64	10 - 172
Anthracene	0 0530	mg/L	1	0.0800	<0.000170	66	19.6 - 172

continued

control spikes continued ..

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec Limit
Phenanthrene	0.0514	mg/L	1	0.0800	<0.0000884	64	22.5 - 172
Fluoranthene	0.0576	mg/L	1	0.0800	<0.0000969	72	17.3 - 187
Pyrene	0.0557	mg/L	1	0.0800	<0.0000855	70	14.9 - 199
Benzo(a)anthracene	0.0523	mg/L	1	0.0800	<0.0000703	65	19.4 - 185
Chrysene	0.0504	mg/L	1	0.0800	<0.000113	63	18.4 - 188
Benzo(b)fluoranthene	0.0602	mg/L	1	0.0800	<0.000134	75	10 - 193
Benzo(k)fluoranthene	0.0722	mg/L	1	0.0800	<0.000227	90	27.8 - 196
Benzo(a)pyrene	0.0668	mg/L	1	0.0800	<0.000200	84	12.4 - 205
Indeno(1,2,3-cd)pyrene	0.0577	mg/L	1	0.0800	<0.000253	72	10 - 198
Dibenzo(a,h)anthracene	0.0557	mg/L	1	0.0800	<0.000180	70	10 - 172
Benzo(g,h,i)perylene	0.0571	mg/L	1	0.0800	<0.000158	71	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	0.0368	mg/L	1	0.0800	<0.0000853	46	10 - 141	0	20
Acenaphthylene	0.0458	mg/L	1	0.0800	<0.0000768	57	10 - 152	1	20
Acenaphthene	0.0453	mg/L	1	0.0800	<0.000103	57	10 - 151	1	20
Dibenzofuran	0.0414	mg/L	1	0.0800	<0.000200	52	10 - 148	1	20
Fluorene	0.0503	mg/L	1	0.0800	<0.0000861	63	10 - 172	2	20
Anthracene	0.0529	mg/L	1	0.0800	<0.000170	66	19.6 - 172	0	20
Phenanthrene	0.0511	mg/L	1	0.0800	<0.0000884	64	22.5 - 172	1	20
Fluoranthene	0.0582	mg/L	1	0.0800	<0.0000969	73	17.3 - 187	1	20
Pyrene	0.0548	mg/L	1	0.0800	<0.0000855	68	14.9 - 199	2	20
Benzo(a)anthracene	0.0510	mg/L	1	0.0800	<0.0000703	64	19.4 - 185	2	20
Chrysene	0.0503	mg/L	1	0.0800	<0.000113	63	18.4 - 188	0	20
Benzo(b)fluoranthene	0.0572	mg/L	1	0.0800	<0.000134	72	10 - 193	5	20
Benzo(k)fluoranthene	0.0673	mg/L	1	0.0800	<0.000227	84	27.8 - 196	7	20
Benzo(a)pyrene	0.0681	mg/L	1	0.0800	<0.000200	85	12.4 - 205	2	20
Indeno(1,2,3-cd)pyrene	0.0561	mg/L	1	0.0800	<0.000253	70	10 - 198	3	20
Dibenzo(a,h)anthracene	0.0551	mg/L	1	0.0800	<0.000180	69	10 - 172	1	20
Benzo(g,h,i)perylene	0.0563	mg/L	1	0.0800	<0.000158	70	10 - 186	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil	Spike Amount	LCS Rec	LCSD Rec	Rec. Limit
2-Fluorobiphenyl	0.0390	0.0396	mg/L	1	0.0800	49	50	10 - 165
Nitrobenzene-d5	0.0395	0.0386	mg/L	1	0.0800	49	48	10 - 157
Terphenyl-d14	0.0526	0.0522	mg/L	1	0.0800	66	65	10 - 220

Laboratory Control Spike (LCS-1)

QC Batch	62041	Date Analyzed	2009-07-30	Analyzed By:	KB
Prep Batch	52923	QC Preparation:	2009-07-30	Prepared By:	KB

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
1,1-Dichloroethene	49.1	µg/L	1	50.0	<0.136	98	70 - 130
Benzene	51.1	µg/L	1	50.0	<0.146	102	70 - 130
Trichloroethene (TCE)	51.7	µg/L	1	50.0	<0.117	103	70 - 130
Toluene	52.3	µg/L	1	50.0	<0.0600	105	70 - 130
Chlorobenzene	51.1	µg/L	1	50.0	<0.0540	102	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	48 1	µg/L	1	50 0	<0.136	96	70 - 130	2	
Benzene	50 5	µg/L	1	50 0	<0.146	101	70 - 130	1	
Trichloroethene (TCE)	49.7	µg/L	1	50 0	<0.117	99	70 - 130	4	
Toluene	52.2	µg/L	1	50.0	<0.0600	104	70 - 130	0	
Chlorobenzene	49.5	µg/L	1	50.0	<0.0540	99	70 - 130	3	

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	49 3	48 1	µg/L	1	50.0	99	96	70 - 130
Toluene-d8	50 6	50 2	µg/L	1	50.0	101	100	70 - 130
4-Bromofluorobenzene (4-BFB)	50 7	49.3	µg/L	1	50.0	101	99	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch 62048 | Date Analyzed: 2009-07-31 | Analyzed By: SS
Prep Batch 52928 | QC Preparation: 2009-07-30 | Prepared By: SS

Param	LCS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit
Nitrate-N	4.83	mg/L	1	5.00	<0.0700	97	90 - 110

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

Param	LCSD Result	Units	Dil	Spike Amount	Matrix Result	Rec	Rec Limit	RPD	RPD Limit
Nitrate-N	4.88	mg/L	1	5 00	<0.0700	98	90 - 110	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 62048 | Date Analyzed: 2009-07-31 | Analyzed By: SS
Prep Batch 52928 | QC Preparation: 2009-07-30 | Prepared By: SS

Param	LCS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Chloride	23 1	mg/L	1	25.0	<0.137	92	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Chloride	23 6	mg/L	1	25 0	<0.137	94	90 - 110	2	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 62048 | Date Analyzed: 2009-07-31 | Analyzed By: SS
Prep Batch 52928 | QC Preparation: 2009-07-30 | Prepared By: SS

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Fluoride	5.44	mg/L	1	5.00	<0.0889	109	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	5 42	mg/L	1	5 00	<0.0889	108	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch 62157 | Date Analyzed: 2009-08-04 | Analyzed By:
Prep Batch 53021 | QC Preparation: 2009-08-04 | Prepared By: CM

Param	LCS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec Limit
TRPHC	259	mg/Kg	1	250	<5.28	104	84.9 - 124

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	266	mg/Kg	1	250	<5.28	106	84.9 - 124	3	20

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

Matrix Spike (MS-1) Spiked Sample: 203832

QC Batch: 61916 | Date Analyzed: 2009-07-28 | Analyzed By: MT
Prep Batch 52814 | QC Preparation: 2009-07-28 | Prepared By: MT

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.59	mg/Kg	1	2 00	<0.00505	80	61.5 - 134
Toluene	1 69	mg/Kg	1	2.00	<0.00611	84	64.2 - 143
Ethylbenzene	1 83	mg/Kg	1	2.00	<0.00630	92	67.7 - 152
Xylene	5 66	mg/Kg	1	6.00	<0.00673	94	67.8 - 152

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 58	mg/Kg	1	2 00	<0.00505	79	61.5 - 134	1	20
Toluene	1 68	mg/Kg	1	2.00	<0.00611	84	64.2 - 143	1	20
Ethylbenzene	1.78	mg/Kg	1	2 00	<0.00630	89	67.7 - 152	3	20
Xylene	5 61	mg/Kg	1	6.00	<0.00673	94	67.8 - 152	1	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 83	1 94	mg/Kg	1	2	92	97	65.3 - 134
4-Bromofluorobenzene (4-BFB)	1 96	2 03	mg/Kg	1	2	98	102	61.9 - 143

Matrix Spike (MS-1) Spiked Sample: 203832

QC Batch: 61917 | Date Analyzed: 2009-07-28 | Analyzed By: MT
Prep Batch: 52814 | QC Preparation: 2009-07-28 | Prepared By: MT

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	43 6	mg/Kg	1	20.0	14 6	145	34.1 - 160

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	35.9	mg/Kg	1	20.0	14.6	106	34.1 - 160	19	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 85	1 85	mg/Kg	1	2	92	92	56.9 - 137
4-Bromofluorobenzene (4-BFB)	1 90	2.31	mg/Kg	1	2	95	116	42.1 - 171

Matrix Spike (MS-1) Spiked Sample. 203832

QC Batch: 61923 | Date Analyzed. 2009-07-28 | Analyzed By:
Prep Batch: 52821 | QC Preparation: 2009-07-28 | Prepared By:

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	517	mg/Kg	1	250	337	72	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 [3]	497	mg/Kg	1	250	337	64	10 - 218	4	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	111	108	mg/Kg	1	100	111	108	46.6 - 172

Matrix Spike (MS-1) Spiked Sample. 203832

QC Batch 61942 | Date Analyzed: 2009-07-29 | Analyzed By: TP
Prep Batch 52833 | QC Preparation 2009-07-29 | Prepared By: TP

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Mercury	0 00144	mg/L	1	0.00100	0.000466	97	83.8 - 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 Mercury	0 00146	mg/L	1	0.00100	0.000466	99	83.8 - 120	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 203832

QC Batch 62003 | Date Analyzed 2009-07-30 | Analyzed By: RR
Prep Batch 52868 | QC Preparation. 2009-07-30 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec Limit
SPLP Cadmium	0 237	mg/L	1	0.250	<0.00140	95	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	0 233	mg/L	1	0.250	<0.00140	93	75 - 125	2	20

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

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

Matrix Spike (MS-1) Spiked Sample: 203832

QC Batch 62003 | Date Analyzed: 2009-07-30 | Analyzed By: RR
Prep Batch 52868 | QC Preparation: 2009-07-30 | Prepared By: KV

Param	MS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Lead	0.496	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	0.485	mg/L	1	0.500	<0.00320	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 203832

QC Batch 62003 | Date Analyzed: 2009-07-30 | Analyzed By: RR
Prep Batch 52868 | QC Preparation: 2009-07-30 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Selenium	0.447	mg/L	1	0.500	<0.0131	89	75 - 125

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

Param	MSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Selenium	0 441	mg/L	1	0 500	<0.0131	88	75 - 125	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 203832

QC Batch 62003 | Date Analyzed: 2009-07-30 | Analyzed By: RR
Prep Batch 52868 | QC Preparation 2009-07-30 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Arsenic	0 483	mg/L	1	0.500	<0.00430	97	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	0 477	mg/L	1	0.500	<0.00430	95	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 203832

QC Batch 62003 | Date Analyzed: 2009-07-30 | Analyzed By: RR
Prep Batch. 52868 | QC Preparation: 2009-07-30 | Prepared By KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Barium	1 71	mg/L	1	1.00	0.709	100	75 - 125

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

Param	MSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec Limit	RPD	RPD Limit
SPLP Barium	1.70	mg/L	1	1.00	0.709	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 203832

QC Batch 62003 | Date Analyzed 2009-07-30 | Analyzed By: RR
Prep Batch 52868 | QC Preparation 2009-07-30 | Prepared By. KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec Limit
SPLP Chromium	0.0935	mg/L	1	0 100	<0.000900	94	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	0.0920	mg/L	1	0.100	<0.000900	92	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 203832

QC Batch 62003 | Date Analyzed: 2009-07-30 | Analyzed By: RR
Prep Batch 52868 | QC Preparation· 2009-07-30 | Prepared By: KV

Param	MS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec Limit
SPLP Copper	0 135	mg/L	1	0.125	0.003	106	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 Copper	0.134	mg/L	1	0.125	0.003	105	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: 203832

QC Batch 62003 | Date Analyzed: 2009-07-30 | Analyzed By: RR
Prep Batch 52868 | QC Preparation. 2009-07-30 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Silver	0.128	mg/L	1	0.125	<0.00210	102	75 - 125

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

Param	MSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec Limit	RPD	RPD Limit
SPLP Silver	0.127	mg/L	1	0.125	<0.00210	102	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 203832

QC Batch 62003 | Date Analyzed. 2009-07-30 | Analyzed By: RR
Prep Batch 52868 | QC Preparation 2009-07-30 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP U	1 07	mg/L	1	1.00	<0.0105	107	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	1.04	mg/L	1	1.00	<0.0105	104	90 - 110	3	

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

Matrix Spike (MS-1) Spiked Sample 203832

QC Batch 62003 | Date Analyzed 2009-07-30 | Analyzed By: RR
Prep Batch 52868 | QC Preparation 2009-07-30 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Manganese	0.274	mg/L	1	0.250	0.036	95	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 Manganese	0 269	mg/L	1	0 250	0 036	93	75 - 125	2	20

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

Matrix Spike (xMS-1) Spiked Sample:

QC Batch 62041 | Date Analyzed: 2009-07-30 | Analyzed By: KB
Prep Batch. 52923 | QC Preparation: 2009-07-30 | Prepared By: KB

Param	MS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit
1,1-Dichloroethene	47 7	µg/L	1	50.0	<0 136	95	70 - 130
Benzene	51 9	µg/L	1	50.0	<0.146	104	70 - 130
Trichloroethene (TCE)	49 5	µg/L	1	50 0	<0.117	99	70 - 130
Toluene	50 7	µg/L	1	50.0	<0 0600	101	70 - 130
Chlorobenzene	50 7	µg/L	1	50.0	<0.0540	101	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	48.3	µg/L	1	50.0	<0.136	97	70 - 130	1	
Benzene	51.3	µg/L	1	50.0	<0.146	103	70 - 130	1	
Trichloroethene (TCE)	48 6	µg/L	1	50.0	<0.117	97	70 - 130	2	
Toluene	49 4	µg/L	1	50.0	<0.0600	99	70 - 130	3	
Chlorobenzene	49 6	µg/L	1	50 0	<0 0540	99	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	44.9	45.7	µg/L	1	50	90	91	70 - 130
Toluene-d8	50.7	49.4	µg/L	1	50	101	99	70 - 130
4-Bromofluorobenzene (4-BFB)	44.7	43.3	µg/L	1	50	89	87	70 - 130

Matrix Spike (MS-1) Spiked Sample 203832

QC Batch 62048 | Date Analyzed 2009-07-31 | Analyzed By: SS
Prep Batch 52928 | QC Preparation 2009-07-30 | Prepared By: SS

Param	MS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit
Nitrate-N	249	mg/L	50	250	<3.50	100	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	249	mg/L	50	250	<3 50	100	73.6 - 122	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: 203832

QC Batch: 62048 | Date Analyzed: 2009-07-31 | Analyzed By: SS
Prep Batch 52928 | QC Preparation: 2009-07-30 | Prepared By: SS

Param	MS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Chloride	1850	mg/L	50	1250	591	101	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	1840	mg/L	50	1250	591	100	49.8 - 149	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: 203832

QC Batch: 62048 | Date Analyzed: 2009-07-31 | Analyzed By: SS
Prep Batch: 52928 | QC Preparation: 2009-07-30 | Prepared By: SS

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Fluoride	279	mg/L	50	250	<4.44	112	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	275	mg/L	50	250	<4.44	110	63 5 - 127	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: 203832

QC Batch: 62062 | Date Analyzed: 2009-07-31 | Analyzed By: AH
Prep Batch: 52939 | QC Preparation: 2009-07-31 | Prepared By: AH

Param	MS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Cyanide	10 8	mg/L	1	12.0	<0.0148	90	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	10.9	mg/L	1	12.0	<0.0148	91	80 - 120	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 204269

QC Batch 62064 | Date Analyzed 2009-07-31 | Analyzed By: AH
Prep Batch 52941 | QC Preparation: 2009-07-31 | Prepared By: AH

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	[4]	589	mg/Kg	1	500	394.99	39	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
Chloride	[5]	583	mg/Kg	1	500	394.99	38	80 - 120	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: 204168

QC Batch 62157 | Date Analyzed 2009-08-04 | Analyzed By:
Prep Batch. 53021 | QC Preparation. 2009-08-04 | Prepared By. CM

Param	MS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit
TRPHC	419	mg/Kg	1	250	120	120	10 - 196

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	429	mg/Kg	1	250	120	124	10 - 196	2	20

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

Standard (CCV-1)

QC Batch 61916 | Date Analyzed 2009-07-28 | 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 0944	94	80 - 120	2009-07-28
Toluene		mg/Kg	0 100	0.0932	93	80 - 120	2009-07-28
Ethylbenzene		mg/Kg	0 100	0.0910	91	80 - 120	2009-07-28
Xylene		mg/Kg	0.300	0.282	94	80 - 120	2009-07-28

[4] Matrix spike recovery out of control limits due to matrix interference Use LCS/LCSD to demonstrate analysis is under control
[5] Matrix spike recovery out of control limits due to matrix interference Use LCS/LCSD to demonstrate analysis is under control.

Standard (CCV-2)

QC Batch 61916 Date Analyzed. 2009-07-28 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	0.0933	93	80 - 120	2009-07-28
Toluene		mg/Kg	0.100	0.0915	92	80 - 120	2009-07-28
Ethylbenzene		mg/Kg	0.100	0.0894	89	80 - 120	2009-07-28
Xylene		mg/Kg	0.300	0.276	92	80 - 120	2009-07-28

Standard (CCV-1)

QC Batch 61917 Date Analyzed 2009-07-28 Analyzed By: MT

Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1 00	0.974	97	80 - 120	2009-07-28

Standard (CCV-2)

QC Batch 61917 Date Analyzed 2009-07-28 Analyzed By: MT

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1 00	0.884	88	80 - 120	2009-07-28

Standard (CCV-1)

QC Batch 61923 Date Analyzed: 2009-07-28 Analyzed By:

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	238	95	80 - 120	2009-07-28

Standard (CCV-2)

QC Batch 61923 Date Analyzed. 2009-07-28 Analyzed By:

Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	236	94	80 - 120	2009-07-28

Standard (ICV-1)

QC Batch 61942 Date Analyzed 2009-07-29 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 00101	101	90 - 110	2009-07-29

Standard (CCV-1)

QC Batch 61942 Date Analyzed: 2009-07-29 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	0.000987	99	90 - 110	2009-07-29

Standard (ICV-1)

QC Batch 61963 Date Analyzed 2009-07-29 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	0 366	92	85 - 115	2009-07-29
Aroclor 1254 (PCB-1254)		mg/L	0 400	0 340	85	85 - 115	2009-07-29
Aroclor 1260 (PCB-1260)		mg/L	0 400	0.375	94	85 - 115	2009-07-29

Standard (CCV-1)

QC Batch 61963 Date Analyzed: 2009-07-29 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	0.412	103	85 - 115	2009-07-29
Aroclor 1254 (PCB-1254)		mg/L	0.400	0.366	92	85 - 115	2009-07-29
Aroclor 1260 (PCB-1260)		mg/L	0 400	0.405	101	85 - 115	2009-07-29

Standard (ICV-1)

QC Batch 62003 Date Analyzed: 2009-07-30 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	1.02	102	90 - 110	2009-07-30

Standard (ICV-1)

QC Batch 62003 Date Analyzed· 2009-07-30 Analyzed By: RR

Param	Flag	Units	ICVs True Conc	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Lead		mg/L	2.00	1.99	100	90 - 110	2009-07-30

Standard (ICV-1)

QC Batch. 62003 Date Analyzed. 2009-07-30 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	1.01	101	90 - 110	2009-07-30

Standard (ICV-1)

QC Batch 62003 Date Analyzed· 2009-07-30 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Arsenic		mg/L	2 00	1 98	99	90 - 110	2009-07-30

Standard (ICV-1)

QC Batch 62003 Date Analyzed 2009-07-30 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	1.02	102	90 - 110	2009-07-30

Standard (ICV-1)

QC Batch 62003 Date Analyzed 2009-07-30 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	1.05	105	90 - 110	2009-07-30

Standard (ICV-1)

QC Batch 62003 Date Analyzed 2009-07-30 Analyzed By: RR

Param	Flag	Units	ICVs True Conc	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Copper		mg/L	1.00	1.01	101	90 - 110	2009-07-30

Standard (ICV-1)

QC Batch 62003 Date Analyzed 2009-07-30 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Silver		mg/L	0.250	0.252	101	90 - 110	2009-07-30

Standard (ICV-1)

QC Batch 62003 Date Analyzed 2009-07-30 Analyzed By: RR

Param	Flag	Units	ICVs True Conc	ICVs Found Conc	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP U		mg/L	2.50	2.54	102	90 - 110	2009-07-30

Standard (ICV-1)

QC Batch 62003 Date Analyzed 2009-07-30 Analyzed By: RR

Param	Flag	Units	ICVs True Conc	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Manganese		mg/L	1 00	0.988	99	90 - 110	2009-07-30

Standard (CCV-1)

QC Batch 62003 Date Analyzed 2009-07-30 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	0.999	100	90 - 110	2009-07-30

Standard (CCV-1)

QC Batch 62003 Date Analyzed: 2009-07-30 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	2009-07-30

Standard (CCV-1)

QC Batch 62003 Date Analyzed 2009-07-30 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	0 992	99	90 - 110	2009-07-30

Standard (CCV-1)

QC Batch 62003 Date Analyzed 2009-07-30 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	0.985	98	90 - 110	2009-07-30

Standard (CCV-1)

QC Batch 62003 Date Analyzed 2009-07-30 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 03	103	90 - 110	2009-07-30

Standard (CCV-1)

QC Batch 62003 Date Analyzed 2009-07-30 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	1.02	102	90 - 110	2009-07-30

Standard (CCV-1)

QC Batch 62003 Date Analyzed: 2009-07-30 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Copper		mg/L	1.00	1.01	101	90 - 110	2009-07-30

Standard (CCV-1)

QC Batch 62003 Date Analyzed 2009-07-30 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	0.126	101	90 - 110	2009-07-30

Standard (CCV-1)

QC Batch 62003 Date Analyzed 2009-07-30 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	1 03	103	90 - 110	2009-07-30

Standard (CCV-1)

QC Batch 62003 Date Analyzed: 2009-07-30 Analyzed By: RR

Param	Flag	Units	CCVs True Conc	CCVs Found Conc	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Manganese		mg/L	1 00	0 986	99	90 - 110	2009-07-30

Standard (CCV-1)

QC Batch 62035 Date Analyzed 2009-07-31 Analyzed By: MN

Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Naphthalene		mg/L	60.0	57.8	96	80 - 120	2009-07-31
Acenaphthylene		mg/L	60.0	58.7	98	80 - 120	2009-07-31
Acenaphthene		mg/L	60.0	58.7	98	80 - 120	2009-07-31
Dibenzofuran		mg/L	60.0	61.0	102	80 - 120	2009-07-31
Fluorene		mg/L	60 0	63.7	106	80 - 120	2009-07-31
Anthracene		mg/L	60.0	58.2	97	80 - 120	2009-07-31
Phenanthrene		mg/L	60 0	56 5	94	80 - 120	2009-07-31
Fluoranthene		mg/L	60 0	56.0	93	80 - 120	2009-07-31
Pyrene		mg/L	60 0	59.3	99	80 - 120	2009-07-31
Benzo(a)anthracene		mg/L	60 0	57.0	95	80 - 120	2009-07-31
Chrysene		mg/L	60.0	56.7	94	80 - 120	2009-07-31
Benzo(b)fluoranthene		mg/L	60 0	48 8	81	80 - 120	2009-07-31
Benzo(k)fluoranthene		mg/L	60.0	65.4	109	80 - 120	2009-07-31
Benzo(a)pyrene		mg/L	60.0	55.0	92	80 - 120	2009-07-31
Indeno(1 2,3-cd)pyrene		mg/L	60.0	57.9	96	80 - 120	2009-07-31
Dibenzo(a,h)anthracene		mg/L	60 0	58.3	97	80 - 120	2009-07-31
Benzo(g,h i)perylene		mg/L	60 0	57 0	95	80 - 120	2009-07-31

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorobiphenyl		54.9	mg/L	1	60.0	92	80 - 120
Nitrobenzene-d5		62.6	mg/L	1	60.0	104	80 - 120
Terphenyl-d14		55.1	mg/L	1	60.0	92	80 - 120

Standard (CCV-1)

QC Batch 62041 Date Analyzed: 2009-07-30 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	55.1	110	80 - 120	2009-07-30
1,1-Dichloroethene		µg/L	50 0	50.2	100	80 - 120	2009-07-30
Chloroform		µg/L	50.0	50.3	101	80 - 120	2009-07-30
1 2-Dichloropropane		µg/L	50.0	52.2	104	80 - 120	2009-07-30
Toluene		µg/L	50 0	52 5	105	80 - 120	2009-07-30
Chlorobenzene		µg/L	50 0	50 4	101	80 - 120	2009-07-30
Ethylbenzene		µg/L	50 0	51.8	104	80 - 120	2009-07-30

Standard (CCV-1)

QC Batch: 62048 Date Analyzed: 2009-07-31 Analyzed By: SS

Param	Flag	Units	CCVs True Conc	CCVs Found Conc	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		mg/L	5.00	4.87	97	90 - 110	2009-07-31

Standard (CCV-1)

QC Batch: 62048 Date Analyzed: 2009-07-31 Analyzed By: SS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Chloride		mg/L	25.0	23.3	93	90 - 110	2009-07-31

Standard (CCV-1)

QC Batch: 62048 Date Analyzed: 2009-07-31 Analyzed By: SS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Fluoride		mg/L	5.00	5.43	109	90 - 110	2009-07-31

Standard (CCV-2)

QC Batch: 62048 Date Analyzed: 2009-07-31 Analyzed By: SS

Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		mg/L	5.00	4.82	96	90 - 110	2009-07-31

Standard (CCV-2)

QC Batch: 62048 Date Analyzed: 2009-07-31 Analyzed By: SS

Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Chloride		mg/L	25.0	23.2	93	90 - 110	2009-07-31

Standard (CCV-2)

QC Batch 62048 Date Analyzed: 2009-07-31 Analyzed By: SS

Param	Flag	Units	CCVs True Conc	CCVs Found Conc	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Fluoride		mg/L	5 00	5.41	108	90 - 110	2009-07-31

Standard (ICV-1)

QC Batch 62062 Date Analyzed: 2009-07-31 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	0.125	104	80 - 120	2009-07-31

Standard (CCV-1)

QC Batch 62062 Date Analyzed 2009-07-31 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	0.122	102	80 - 120	2009-07-31

Standard (ICV-1)

QC Batch 62064 Date Analyzed 2009-07-31 Analyzed By: AH

Param	Flag	Units	ICVs True Conc	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2009-07-31

Standard (CCV-1)

QC Batch 62064 Date Analyzed: 2009-07-31 Analyzed By: AH

Param	Flag	Units	CCVs True Conc	CCVs Found Conc	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99 8	100	85 - 115	2009-07-31

Standard (ICV-1)

QC Batch 62157 Date Analyzed 2009-08-04 Analyzed By:

Param	Flag	Units	ICVs True Conc	ICVs Found Conc	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
TRPHC		mg/Kg	100	109	109	80 - 120	2009-08-04

Standard (CCV-1)

QC Batch 62157 Date Analyzed: 2009-08-04 Analyzed By.

Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
TRPHC		mg/Kg	100	115	115	80 - 120	2009-08-04

9072713

LAB Order ID # 9072713

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: Eagle Resources, Inc.

Phone #: 575-622-1127

Address (Street, City, Zip): PO Box 1030 Roswell, NM 88202-1030

Fax #: 575-623-3533

Contact Person: Frank Morgan

E-mail: FMORGAN@STRATANM.COM

Invoice to (If different from above):

Project #: Banard 3B #1

Project Name: Banard Pit Closure

Project Location (including state): Unit Letter B Sec. 3 T. 3S. R. 29E. Chaves Co., NM

N. 340446.8
W. 1035342.2

Sampler Signature: [signature]

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB #	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
203832	Banard 3B #1 Composite Pit Sample.	2	4 oz		X							X	X	07/24/09	0900

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	Uranium - See attached sheet for Analysis Requirements Highlighted in Yellow					Please standardize for highlighted				Turn Around Time if different from standard	Hold
203832		X	X	X		X												X										

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp°c:
[signature]	AMB Environmental	07/24/09	1120					
				Carol Fox	Trace	7-27-09	10:10 Am	2.3 / 2.8

LAB USE ONLY

Intact Y / N (Y circled)

Headspace Y / N / NA (NA circled)

Log In-Review [illegible]

REMARKS: Any Questions Please Call Frank Morgan @ 575-703-6866

☐ Dry Weight Basis Required

☐ TRRP Report Required — Called Frank [illegible] 7/27/09

☐ Check If Special Reporting Limits Are Needed

sent Prelim Sum 8-4-09

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

Carrier # GLI 3053733507

TULE FIELD AREA
DEPTH TO LIVESTOCK WATER

Township 2 South, Range 29 East
N.M.P.M. Survey
Roosevelt County, New Mexico

WELL LOCATION	SURFACE OWNERSHIP	CONTACT PERSON	DATE CONTACTED	DEPTH
SW/4 Section 27	McGee Ranches	Sid Price, Owner	Sept. 11, 2006	100'
NW/4 Section 24	Monte Best Ranch	Sid Price (helped pull well)	Sept. 11, 2006	120'
SE/4 Section 27	Woody Investments, LLC	Ron Crenshaw, Foreman	Sept. 7, 2006	95' +
N/2 Section 20	Woody Investments, LLC	Ron Crenshaw, Foreman	Sept. 7, 2006	95' +
N/2 Section 20	Woody Investments, LLC	Ron Crenshaw, Foreman	Sept. 7, 2006	95' +
S/2 Section 17	Woody Investments, LLC	Ron Crenshaw, Foreman	Sept. 7, 2006	95' +

PECOS DISTRICT, BLM
SEED MIX FOR

The following Soils or Soil Associations may represent these ecological sites:
Amarillo loamy fine sand
Amarillo loamy fine sand eroded
Arvana loamy fine sand
Patricia fine sand
Gomez loamy fine sand
Clovis fine sandy loam
Drake loamy fine sand

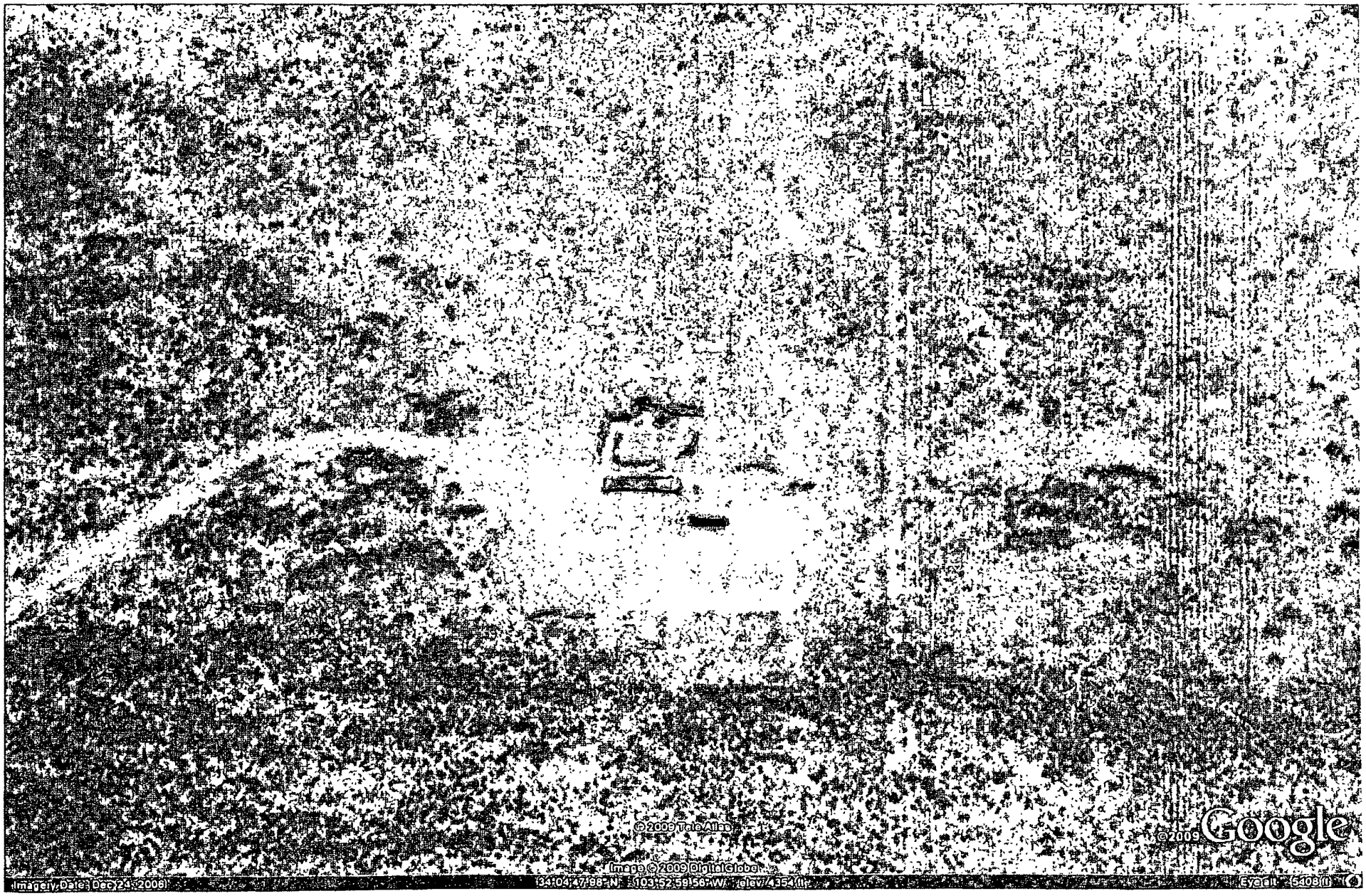
Range Site: Sandy Plains HP-3
April 4, 2006

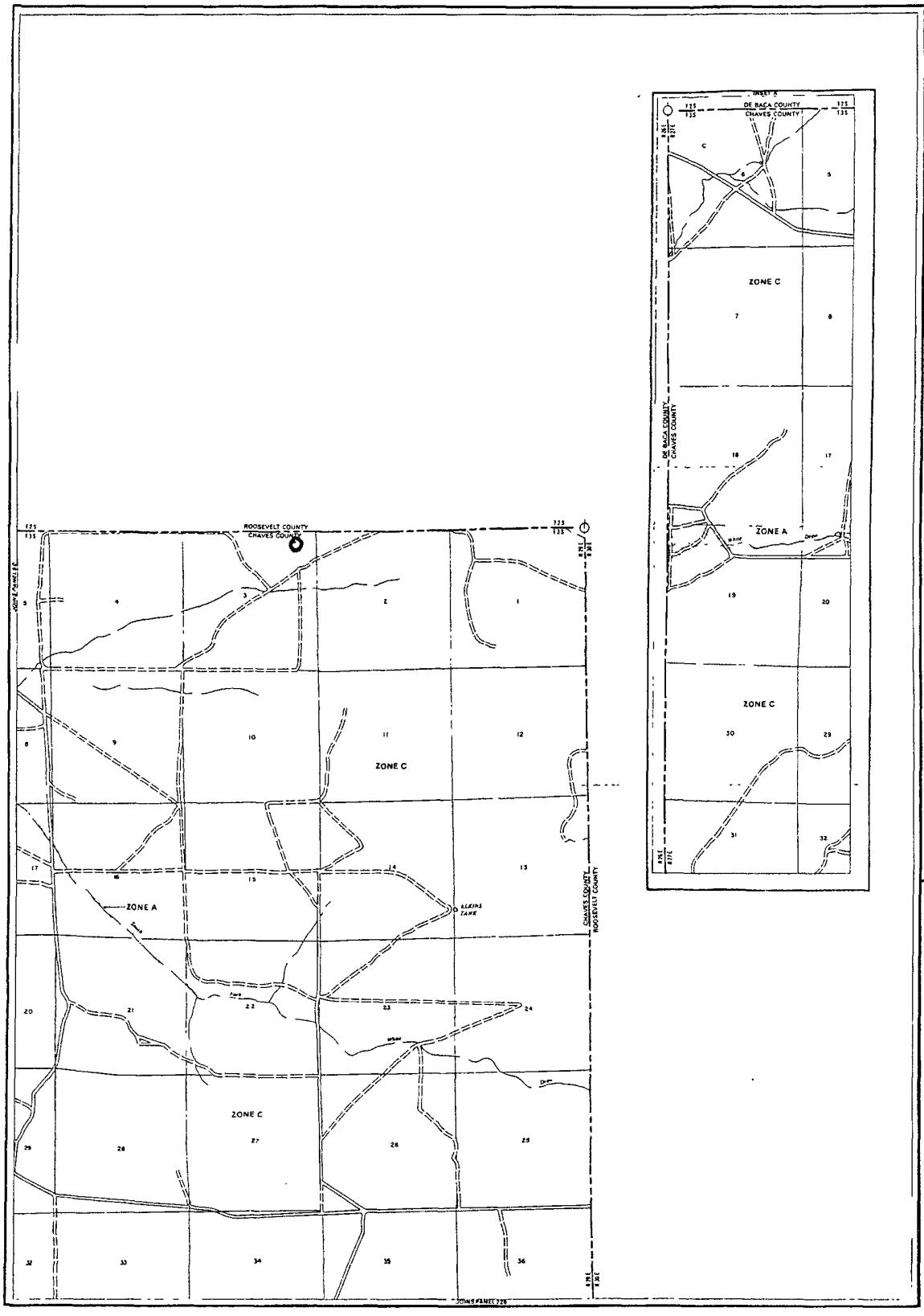
Common Name and Preferred Variety	Scientific Name	Pounds of Pure Live Seed Per Acre
Sideoats grama var. Vaughn or El Reno	(*Bouteloua curtipendula*)	2.0
Little bluestem	(*Andropogon scoparium*)	2.5
Sand bluestem	(*Andropogon halli*)	1.5
Sand dropseed	(*Sporobolus cryptandrus*)	1.0
Bush penstemon	(*Penstemon ambiguous*)	1.0
Desert or Scarlet Globemallow	(*Sphaeralcea ambigua or S. coccinea*)	1.0
TOTAL POUNDS PURE LIVE SEED (pls)PER ACRE Certified Weed Free Seed		9.0

IF ONE SPECIES IS NOT AVAILABLE,
INCREASE ALL OTHERS PROPORTIONATELY
Mix must include a minimum of 4 species, including one forb species.

No less than 9.0 pounds pls per acre shall be applied

APPROVED: /s/ Douglas J. Burger
District Manager, Pecos District


© 2009 Tele Atlas
Image © 2009 DigitalGlobe
© 2009 Google
Google
Imagery Date: Dec 24, 2009
34°04'47.98" N 103°52'59.56" W elev 4354 ft
Eye alt 5408 ft



KEY TO MAP

SPECIAL FLOOD HAZARD AREA — ZONE A

EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined but possible flood hazards
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined

NOTES TO USER

Certain areas not in the special flood hazard zones (Zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

INITIAL IDENTIFICATION
JUNE 13 1978

FLOOD INSURANCE RATE MAP EFFECTIVE
FEBRUARY 2 1983

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date shown on this map to determine what actuarial rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program at (800) 638-6620.

APPROXIMATE SCALE
2000 0 2000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CHAVES COUNTY
NEW MEXICO
(UNINCORPORATED AREAS)

PANEL 75 OF 1625
(SEE MAP INDEX FOR PANELS NOT PRINTED)

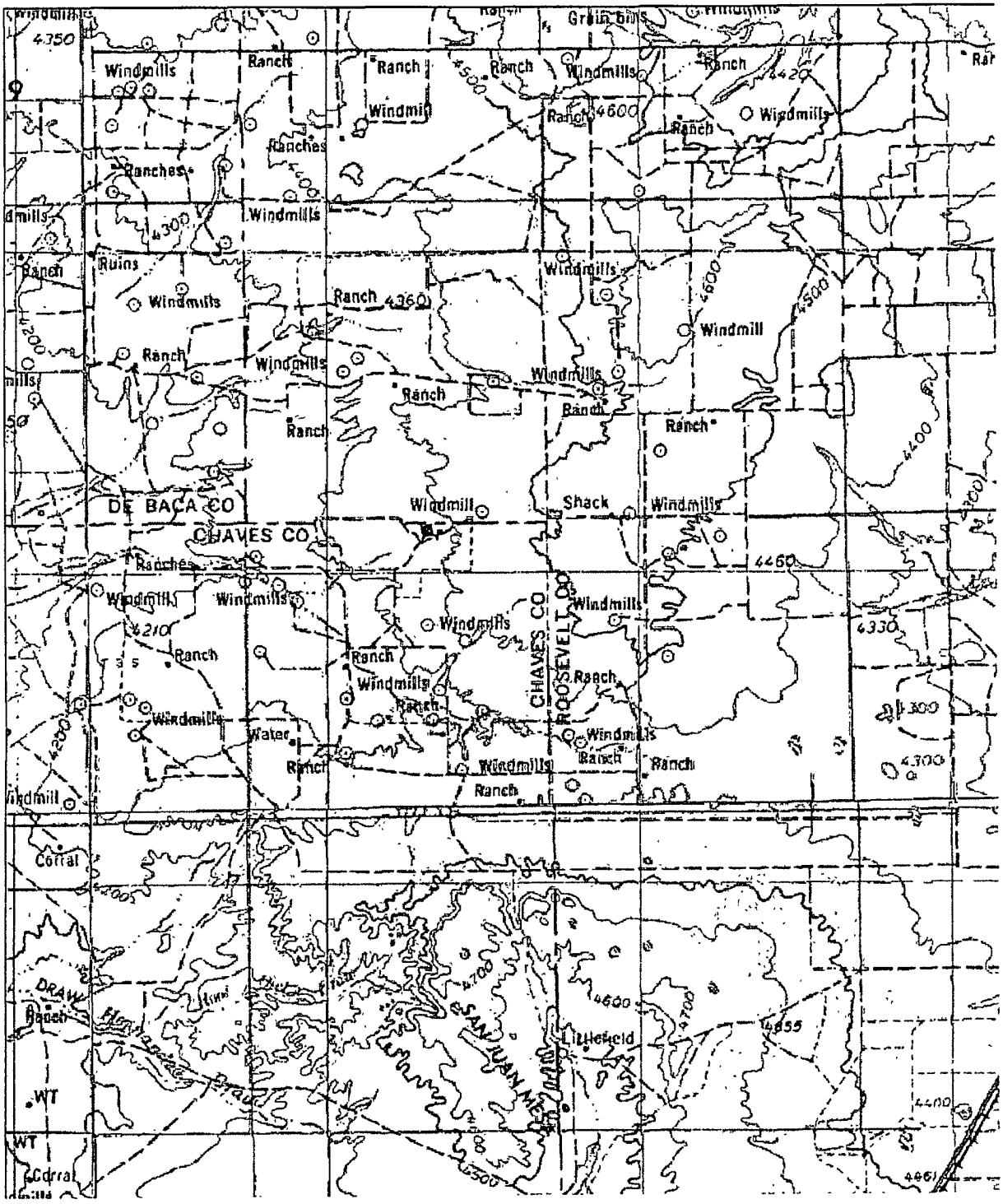
COMMUNITY PANEL NUMBER
350125 0075 B

EFFECTIVE DATE
FEBRUARY 2 1983

Federal Emergency Management Agency

Cheri Rogers

From: Saved by Windows Internet Explorer 7
Sent: Wednesday, June 03, 2009 3:13 PM
Subject: MyTopo Map Print



RECEIVED
SEP 1 2010
NMOCD ARTESIA

Submit One Copy To Appropriate District Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., 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-103
March 18, 2009

WELL API NO. 30-005-63654
5. Indicate Type of Lease STATE ☐ FEE ☒
6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name: Barnard 3B
1. Type of Well: ☐ Oil Well ☐ Gas Well ☒ Other
8. Well Number: 001
2. Name of Operator: Sovereign Eagle, LLC
9. OGRID Number: 263940
3. Address of Operator: PO Box 968, Roswell, NM 88202-0968
10. Pool name or Wildcat: Wildcat

4. Well Location
Unit Letter B : 660' feet from the North line and 1980' feet from the Eastline
Section 3 Township 3S Range 29E NMPM _____ County Chaves

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☒
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
OTHER:	☐			☒ **Location is ready for OCD inspection after P&A**			

☒ All pits have been remediated in compliance with OCD rules and the terms of the Operator's pit permit and closure plan.
☒ Rat hole and cellar have been filled and leveled. Cathodic protection holes have been properly abandoned.
☒ A steel marker at least 4" in diameter and at least 4' above ground level has been set in concrete. It shows the

OPERATOR NAME, LEASE NAME, WELL NUMBER, API NUMBER, QUARTER/QUARTER LOCATION OR UNIT LETTER, SECTION, TOWNSHIP, AND RANGE. All INFORMATION HAS BEEN WELDED OR PERMANENTLY STAMPED ON THE MARKER'S SURFACE.

☒ The location has been leveled as nearly as possible to original ground contour and has been cleared of all junk, trash, flow lines and other production equipment.
☒ Anchors, dead men, tie downs and risers have been cut off at least two feet below ground level.
☒ If this is a one-well lease or last remaining well on lease, the battery and pit location(s) have been remediated in compliance with OCD rules and the terms of the Operator's pit permit and closure plan. All flow lines, production equipment and junk have been removed from lease and well location.
☒ All metal bolts and other materials have been removed. Portable bases have been removed. (Poured onsite concrete bases do not have to be removed.)
☒ All other environmental concerns have been addressed as per OCD rules.
☒ Pipelines and flow lines have been abandoned in accordance with 19.15.35.10 NMAC. All fluids have been removed from non-retrieved flow lines and pipelines.

When all work has been completed, return this form to the appropriate District office to schedule an inspection.

SIGNATURE Frank A Morgan TITLE Manager of Operations DATE 6-30-10

TYPE OR PRINT NAME Frank Morgan E-MAIL: fmorgan@stratanm.com PHONE: 575-622-1127

For State Use Only

APPROVED BY: _____ TITLE _____ DATE _____

Conditions of Approval (if any):

Submit 3 Copies To Appropriate District Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., 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

RECEIVED
SEP 1 2010
NMOCD ARTESIA

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

Form C-103
June 19, 2008

WELL API NO.
30-005-63654

5. Indicate Type of Lease
STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name
Barnard 3B

1. Type of Well: Oil Well ☐ Gas Well ☐ Other

8. Well Number #1

2. Name of Operator
Sovereign Eagle, LLC

9. OGRID Number
263940

3. Address of Operator
PO Box 968, Roswell NM 88202-0968

10. Pool name or Wildcat
Wildcat

4. Well Location
Unit Letter B : 660' feet from the North line and 1980' feet from the East line
Section 3 Township 3S Range 29E NMPM County Chaves

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
4354' GR

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☒
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
DOWNHOLE COMMINGLE	☐						
OTHER:	☐			OTHER:	☐		

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

5/18/10- MI Equipment, Remove fenced pit. Start mixing sand.
5/20/10- Digging deep bury pit.
5/25/10- Line pit and ready to transfer mud into pit.
6/10/10- Back fill pit and move caliche.
6/11/10- Spread over burden. Approved by land-owner.
6/12/10- Move out equipment and turn well over to Barnard Ranch for water well.

Spud Date: 04/28/04

Rig Release Date: 05/15/04

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

SIGNATURE [signature] TITLE Manager of Operations DATE 06/30/10

Type or print name Frank S. Morgan E-mail address: fmorgan@stratanm.com PHONE: 575-622-1127

For State Use Only

APPROVED BY: _____ TITLE _____ DATE _____

Conditions of Approval (if any):

NEW MEXICO OIL CONSERVATION DIVISION
SANTA FE, NEW MEXIO

AFFIDAVIT OF RESPONSIBILITY
CONVERSION TO WATER WELL

STATE OF NEW MEXIO)
) SS.
COUNTY OF CHAVES)

MARK B. MURPHY, being first duly sworn according to law, upon his oath deposes and says:

1. That he is Manager of Sovereign Eagle, LLC, whose address is P.O. Box 968; Roswell, New Mexico 88202-0968
2. That Sovereign Eagle, LLC is the operator of a well drilled on land belonging to Rose Marie Caldwell, whose address is 1102 South Michigan Avenue; Roswell, New Mexico 88201, said well being drilled to test for hydrocarbons and/or carbon dioxide gas and described as the Barnard #1, being located 660 feet from the North line and 1980 feet from the East line of Section 3, Township 3-South, Range 29-East, NMPM Chaves County, New Mexico API #30-005-63654.
3. That said well was drilled to a total depth of 3,440 feet and that casing has been set and cemented as follows:
   8-5/8" 24.00#, J-55, LT&C, Range III set @ 354 feet with cement circulated to surface.
   5-1/2" 15.50#, J-55, LT&C, Range III set @ 3,440 feet with cement circulated to surface
4. That operator and landowner have made an agreement whereby operator is to back fill pits, level location, and clear it of all junk. The agreement further provides that operator is to plug said well back to the plugged back total depth of 300 feet and transfers to landowner for his use as a water-well. Operator will leave casing in well as follows:
   (As described in Paragraph 3 above)
5. That when operator has complied with the provisions of Paragraph 4 above, it will so notify the Oil Conservation Division of the State of New Mexico on Form C-103, together with the signed statement from the landowner that the provisions of Paragraph 4 above have been complied with to his satisfaction.

OFFICIAL SEAL
MITCH KRAKAUSKAS
NOTARY PUBLIC
STATE OF NEW MEXICO
Com. Expires June 18, 2013

Mark B. Murphy
Sovereign Eagle, LLC

This instrument was acknowledged before me on SEPTEMBER 1, 2009 by Mark B. Murphy, Manager of Sovereign Eagle, LLC, a New Mexico limited liability company, on behalf of said company.

My Commission Expires:
JUNE 18, 2013

Notary Public

STATE OF NEW MEXIO)
) SS.
COUNTY OF CHAVES)

ROSE MARIE CALDWELL, dealing with her sole and separate property, being first duly sworn according to law, upon her oath deposes and says that when the provisions of Paragraph 4 and 5 above have been complied with, she will accept the above-described well for her use as water-well, and that she will assume all responsibility for the well, the location, and the conversion of the well to a water-well.

Rose Marie Caldwell

This instrument was acknowledged before me on Sept 11, 2009 by Rose Marie Caldwell, dealing with her sole and separate property.

My Commission Expires:
3/30/2013

Notary Public

OFFICIAL SEAL
CARMEN C GONZALEZ
NOTARY PUBLIC
STATE OF NEW MEXICO
Com Expires 3/30/2013

EAGLE RESOURCES, LP

505/622-8800

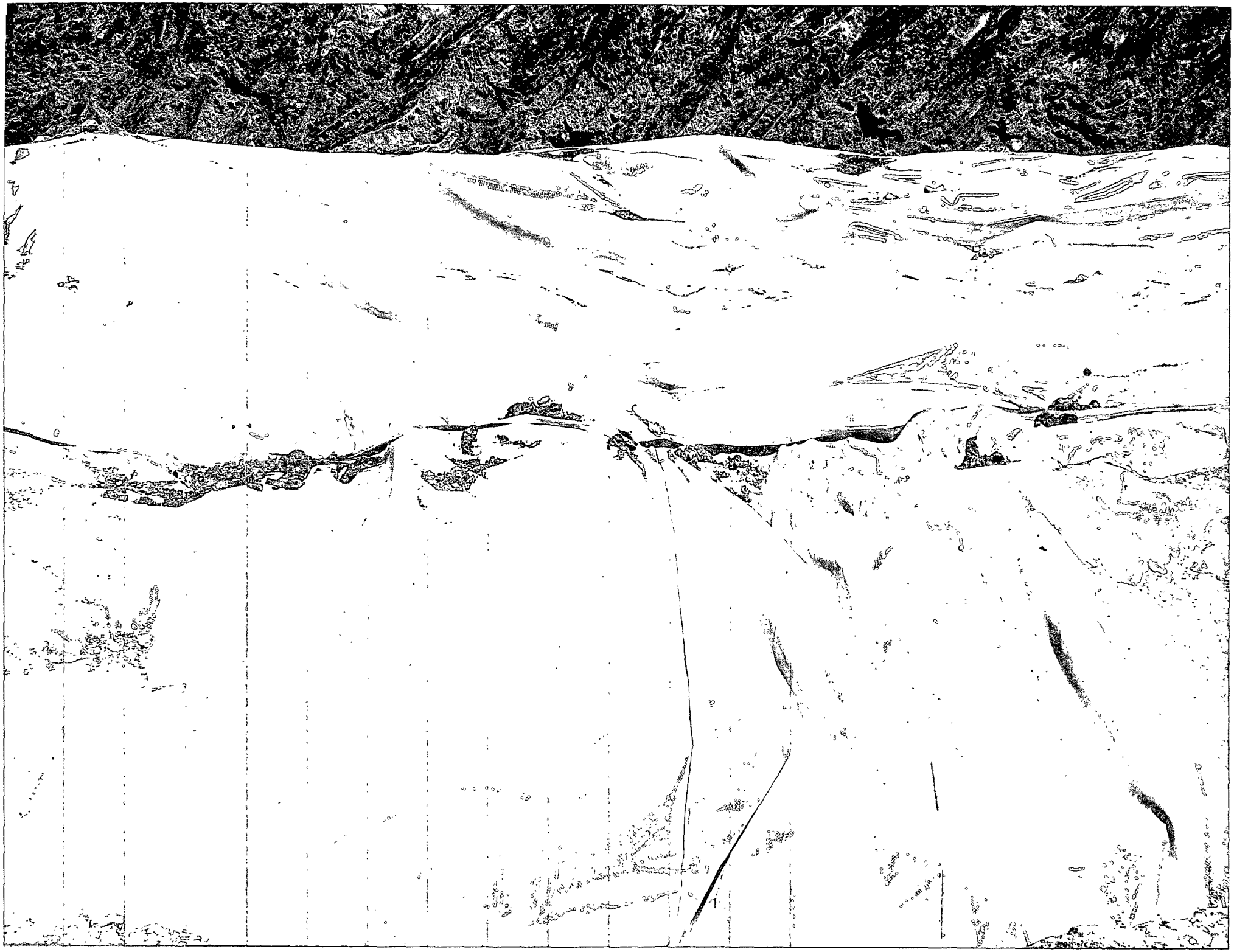
Barnard 3B #1 API #30-005-63654

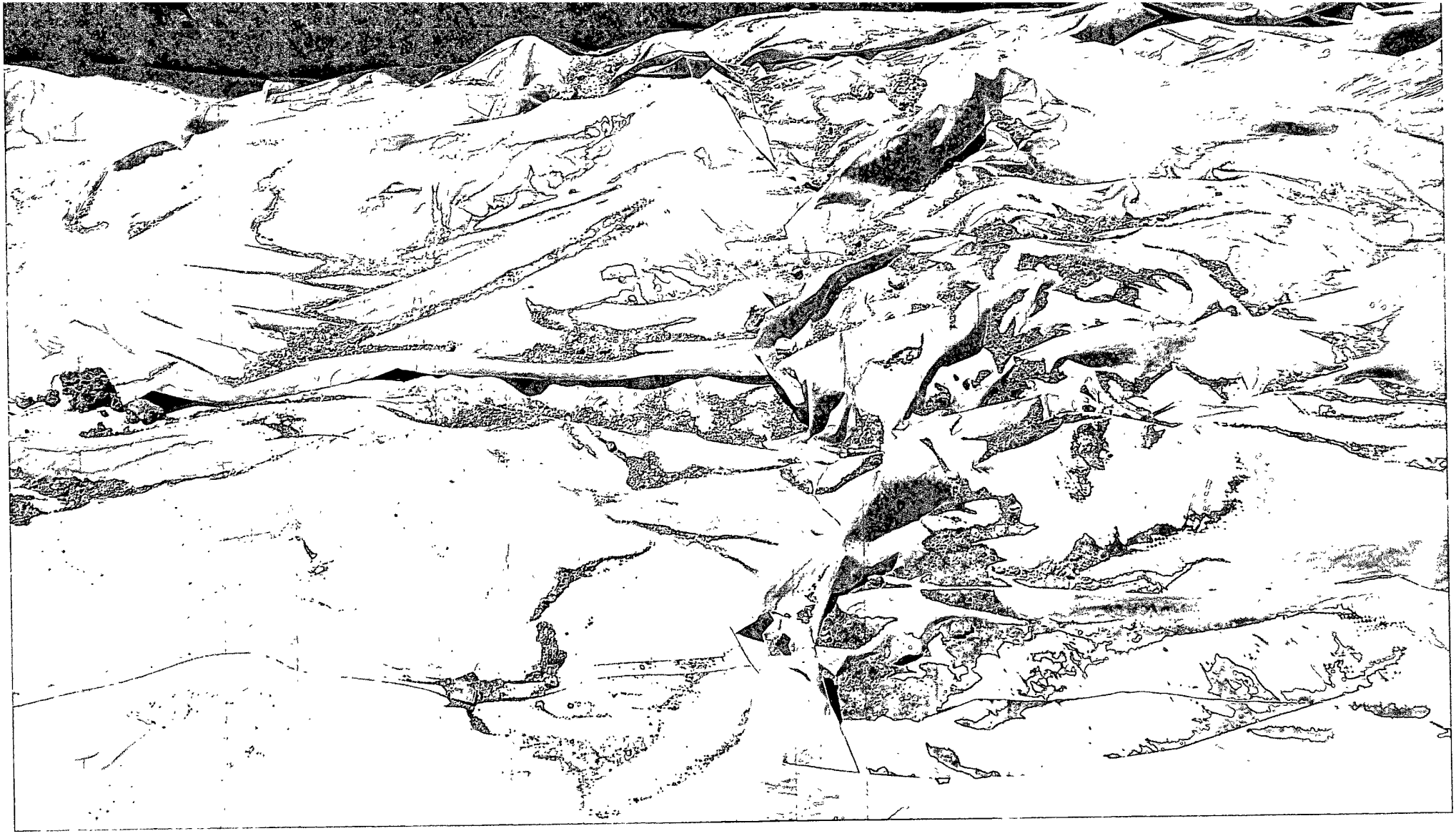
T-3-S, R-29-E, N.M.P.M. Survey

Section: 3, Unit Letter B

660' FNL & 1,980' FEL

Chaves County, NM






VOLVO