

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

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

Form C-144
Revised August 1, 2011

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.

11203
Pit, Closed-Loop System, Below-Grade Tank, or
Proposed Alternative Method Permit or Closure Plan Application
RCVD AUG 26 '13
OIL CONS. DIV.
DIST. 3

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: Koch Exploration Company, LLC OGRID #: 12807
Address: PO Box 489, Aztec, NM 87410
Facility or well name: Bisti 36 1
API Number: 30-045-35385 OCD Permit Number: _____
U/L or Qtr/Qtr NW/NW Section 36 Township 25N Range 13W County: San Juan
Center of Proposed Design: Latitude 36.3631251 Longitude 108.1772921 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: _____
RCVD MAY 3 '13
OIL CONS. DIV.
DIST. 3

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 *Depression Not to be used for fluid storage. Steel Mud Tank 40' x 10' in a 2 1/2" Depression _____
☒ Lined ☐ Unlined Liner type: Thickness 20 mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
Liner Seams: ☐ Welded ☒ Factory ☐ Other _____

4.
☐ Below-grade tank: Subsection I of 19.15.17.11 NMAC
Volume: _____ bbl Type of fluid: _____
Tank Construction material: _____
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____
Liner type: Thickness _____ mil ☐ HDPE ☐ PVC ☐ Other _____

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

6.

Fencing: Subsection D of 19.15.17.11 NMAC (*Applies to permanent pits, temporary pits, and below-grade tanks*)

- ☐ Chain link, six feet in height, two strands of barbed wire at top (*Required if located within 1000 feet of a permanent residence, school, hospital, institution or church*)
- ☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
- ☐ Alternate. Please specify _____

7.

Netting: Subsection E of 19.15.17.11 NMAC (*Applies to permanent pits and permanent open top tanks*) NA

- ☐ 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 19.15.16.8 NMAC

9.

Administrative Approvals and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

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

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

10.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (*Applies to temporary, emergency, or cavitation pits and below-grade tanks*)

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No
☐ NA

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (*Applies to permanent pits*)

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No
☐ NA

Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

- Written confirmation or verification from the municipality; Written approval obtained from the municipality

☐ Yes ☐ No

Within 500 feet of a wetland.

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

☐ Yes ☐ No

Within the area overlying a subsurface mine.

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

☐ Yes ☐ No

Within an unstable area.

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

☐ Yes ☐ No

Within a 100-year floodplain.

- FEMA map

☐ Yes ☐ No

11.

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC*Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.*

- ☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
- ☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12.

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

- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
- ☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
- ☐ Previously Approved Design (attach copy of design) API Number: _____
- ☐ Previously Approved Operating and Maintenance Plan API Number: _____ (Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

13.

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

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H₂S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

14.

Proposed Closure: 19.15.17.13 NMAC*Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.*

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

15.

Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) *Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.*

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16.

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)

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

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

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

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

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

☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

17.

Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC

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

Ground water is less than 50 feet below the bottom of the buried waste.

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No

☐ NA

Ground water is between 50 and 100 feet below the bottom of the buried waste

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No

☐ NA

Ground water is more than 100 feet below the bottom of the buried waste.

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No

☐ NA

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.

- NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

- Written confirmation or verification from the municipality; Written approval obtained from the municipality

☐ Yes ☐ No

Within 500 feet of a wetland.

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

☐ Yes ☐ No

Within the area overlying a subsurface mine.

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

☐ Yes ☐ No

Within an unstable area.

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

☐ Yes ☐ No

Within a 100-year floodplain.

- FEMA map

☐ Yes ☐ No

18.

On-Site Closure Plan Checklist: (19.15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC

☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)

☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19.

Operator Application Certification:

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

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

20.

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

OCD Representative Signature: Jonathan D. Kelly Approval Date: 8/27/2013

Title: Compliance Officer 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: 6/4/13

22.

Closure Method:

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

23.

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

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

Disposal Facility Name: Aqua Moss Disposal Facility Permit Number: Permit # NM-01-009

Disposal Facility Name: JFI Landfarm, LLC aka IEI Disposal Facility Permit Number: Permit # NM-01-0010

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 _____ Longitude _____ NAD: ☐ 1927 ☐ 1983

25.

Operator Closure Certification:

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

Name (Print): Don Johnson Title: SR. Operations Manager

Signature: [Signature] Date: 8/19/13

e-mail address: johns4d@kochind.com Telephone: 505-3349111

**Attachment to Form C-144
Closed Loop System Permit #11203 Closure
Bisti 36 1**

Design Specifications were adhered to during the entire drilling operation.

Koch Exploration Company, LLC (KEC) will design a closed loop system without incorporating a temporary pit or drying pad. The steel mud tank will be placed in an excavated depression, approximately 2 ½ feet deep x 40 feet long x 10 feet wide so that mud can gravity drain to the tank. Depression was not used to contain any liquids. The tank will be placed on 20 mil, string reinforced, LLDPE liner with factory welded seams. The tank volume shall be sufficient enough to maintain an adequate free-board that allows for periodic removal and disposal of solids and liquids.

KEC will sign the well location in compliance with 19.15.3.103. Frac tanks will be utilized on location for fresh water storage or excess drill fluids. Sign is on location.

Operational and Maintenance Requirements

KEC will operate and maintain the closed loop system to contain liquids and solids to prevent contamination of fresh water and protect public health and environment.

1. KEC will conserve drilling fluids by transferring liquids to frac tanks to assist in moving the rig tanks, whenever possible. All other drilling fluids will be disposed at Basin Disposal Inc., OCD Permit NM-01-005 or, Aqua Moss, OCD Permit NM-01-009 or other OCD approved facility. Fluids were disposed of at Aqua Moss (OCD Permit #NM-01-009).
2. KEC will not discharge into or store any hazardous waste in the closed loop system. There were no hazardous waste(s) discharged or stored in the closed loop system.
3. Drilling solids will be recovered from the location and disposed at JFJ Landfarm, LLC (Permit # NM-01-0010), aka IEI, periodically as required to maintain a safe free board in the cuttings tank. No onsite burial of the cuttings will occur. Drilling solids were disposed of at JFJ Landfarm (OCD Permit #NM-01-0010), and no cuttings were buried on site.
4. In the event that the closed loop system should develop a leak, then KEC shall notify the Aztec Division office by phone or email within 48 hours of the discovery and repair the damage immediately. There were no leaks observed during the drilling process.

Closure Plan

1. Upon completion of the drilling operations, KEC shall remove any remaining liquids and dispose of them at Basin Disposal Inc., OCD Permit NM-01-005 or Aqua Moss, OCD Permit NM-01-009 and any remaining solids will be disposed at JFJ Landfarm, LLC (Permit # NM-01-0010) or other OCD approved facilities. All drilling liquids were removed and disposed at Aqua Moss (OCD Permit #NM-01-009), and solids were disposed at JFJ Landfarm (OCD Permit #NM-01-0010).
2. After the mud tank and liner are removed, the soil within the depression will be sampled to verify the absence of contamination. A five point composite sample will be collected to demonstrate that the following parameters aren't exceeded:
Liner was removed with no visible signs of a leak.

| | | | Results |
|-----------|----------------------------|---------------------------------------|---------|
| Benzene | EPA SW-846 8021 B or 8260B | 0.2 mg/kg | ND |
| BTEX | EPA SW-846 8021 B or 8260B | 50 mg/kg | ND |
| TPH | EPA SW-846, 418.1 | 2500 mg/kg | ND |
| GRO/DRO | EPA SW-846 8015M | 500 mg/kg | ND |
| Chlorides | EPA 300.1 | Greater of 500 mg/kg or background | ND |

3. KEC shall reclaim the areas associated with the closed loop system that are not determined to be part of the well site work area to a safe and stable condition that blends with the surrounding undisturbed area. Recontouring of the closed loop system area will match fit, shape, line, form and texture of the surrounding area. Reshaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be placed where needed to prevent erosion on a large scale. Final recontour shall have a uniform appearance with smooth surface, fitting the natural landscape. A soil cover will be installed per 19.15.17.13(H) and revegetation will be done in accordance with 19.15.17.13.(I). NA area associated with closed loop system will be a part of the working production zone.
4. KEC will seed the disturbed areas the first growing season after closing the closed loop system. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM or BIA stipulated seed mixes will be used on Tribal lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs. During the two growing seasons that prove viability, there shall be no artificial irrigation of the vegetation. KEC will notify the division when seeding and planting is done and when re-vegetation is complete. NA area associated with closed loop system will be a part of the working production zone.



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

June 10, 2013

Don Johnson
Koch Exploration Compay, LLC
P.O. Box 489
Aztec, NM 87410
TEL: (505) 334-9111
FAX

RE: Bisti 36-1

OrderNo.: 1306199

Dear Don Johnson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/5/2013 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical ReportLab Order **1306199**Date Reported: **6/10/2013****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Koch Exploration Company, LLC**Client Sample ID:** Mud Tank Despression**Project:** Bisti 36-1**Collection Date:** 6/4/2013 9:00:00 AM**Lab ID:** 1306199-001**Matrix:** SOIL**Received Date:** 6/5/2013 9:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|--|--------|--------|------|-------|----|----------------------|---------------------|
| EPA METHOD 8015D: DIESEL RANGE ORGANICS | | | | | | | Analyst: JME |
| Diesel Range Organics (DRO) | ND | 10 | | mg/Kg | 1 | 6/7/2013 11:49:46 AM | 7788 |
| Motor Oil Range Organics (MRO) | ND | 51 | | mg/Kg | 1 | 6/7/2013 11:49:46 AM | 7788 |
| Surr: DNOP | 86.0 | 63-147 | | %REC | 1 | 6/7/2013 11:49:46 AM | 7788 |
| EPA METHOD 8015D: GASOLINE RANGE | | | | | | | Analyst: NSB |
| Gasoline Range Organics (GRO) | ND | 4.6 | | mg/Kg | 1 | 6/7/2013 12:58:13 PM | 7791 |
| Surr: BFB | 93.8 | 80-120 | | %REC | 1 | 6/7/2013 12:58:13 PM | 7791 |
| EPA METHOD 8021B: VOLATILES | | | | | | | Analyst: NSB |
| Methyl tert-butyl ether (MTBE) | ND | 0.093 | | mg/Kg | 1 | 6/7/2013 12:58:13 PM | 7791 |
| Benzene | ND | 0.046 | | mg/Kg | 1 | 6/7/2013 12:58:13 PM | 7791 |
| Toluene | ND | 0.046 | | mg/Kg | 1 | 6/7/2013 12:58:13 PM | 7791 |
| Ethylbenzene | ND | 0.046 | | mg/Kg | 1 | 6/7/2013 12:58:13 PM | 7791 |
| Xylenes, Total | ND | 0.093 | | mg/Kg | 1 | 6/7/2013 12:58:13 PM | 7791 |
| Surr: 4-Bromofluorobenzene | 97.8 | 80-120 | | %REC | 1 | 6/7/2013 12:58:13 PM | 7791 |
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: JRR |
| Chloride | ND | 7.5 | | mg/Kg | 5 | 6/7/2013 3:41:16 PM | 7817 |
| EPA METHOD 418.1: TPH | | | | | | | Analyst: jmb |
| Petroleum Hydrocarbons, TR | ND | 20 | | mg/Kg | 1 | 6/7/2013 11:15:00 AM | 7796 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

| | | | | |
|--------------------|---|--|----|--|
| Qualifiers: | * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| | J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| | O | RSD is greater than RSDlimit | P | Sample pH greater than 2 for VOA and TOC only. |
| | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306199

10-Jun-13

Client: Koch Exploration Company, LLC

Project: Bisti 36-1

| | | | | | | | | | | |
|-----------|----------|---------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID | MB-7817 | SampType | MBLK | TestCode | EPA Method 300.0: Anions | | | | | |
| Client ID | PBS | Batch ID | 7817 | RunNo | 11185 | | | | | |
| Prep Date | 6/7/2013 | Analysis Date | 6/7/2013 | SeqNo | 316364 | Units | mg/Kg | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | ND | 1.5 | | | | | | | | |

| | | | | | | | | | | |
|-----------|----------|---------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID | LCS-7817 | SampType | LCS | TestCode | EPA Method 300.0: Anions | | | | | |
| Client ID | LCSS | Batch ID | 7817 | RunNo | 11185 | | | | | |
| Prep Date | 6/7/2013 | Analysis Date | 6/7/2013 | SeqNo | 316365 | Units | mg/Kg | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | 14 | 1.5 | 15.00 | 0 | 95.7 | 90 | 110 | | | |

| | | | | | | | | | | |
|-----------|----------------|---------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID | 1306267-001AMS | SampType | MS | TestCode | EPA Method 300.0: Anions | | | | | |
| Client ID | BatchQC | Batch ID | 7817 | RunNo | 11185 | | | | | |
| Prep Date | 6/7/2013 | Analysis Date | 6/7/2013 | SeqNo | 316383 | Units | mg/Kg | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | 15 | 7.5 | 15.00 | 3.378 | 79.5 | 58.8 | 109 | | | |

| | | | | | | | | | | |
|-----------|-----------------|---------------|-----------|-------------|--------------------------|----------|-----------|-------|----------|------|
| Sample ID | 1306267-001AMSD | SampType | MSD | TestCode | EPA Method 300.0: Anions | | | | | |
| Client ID | BatchQC | Batch ID | 7817 | RunNo | 11185 | | | | | |
| Prep Date | 6/7/2013 | Analysis Date | 6/7/2013 | SeqNo | 316384 | Units | mg/Kg | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | 15 | 7.5 | 15.00 | 3.378 | 80.4 | 58.8 | 109 | 0.888 | 20 | |

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306199

10-Jun-13

Client: Koch Exploration Compay, LLC

Project: Bisti 36-1

| | | | | | | | | | | | |
|----------------------------|----------|-----|----------------|-------------|------|-----------|-----------------------|------|--------------|------|--|
| Sample ID | MB-7796 | | SampType: | MBLK | | TestCode: | EPA Method 418.1: TPH | | | | |
| Client ID: | PBS | | Batch ID: | 7796 | | RunNo: | 11164 | | | | |
| Prep Date: | 6/6/2013 | | Analysis Date: | 6/7/2013 | | SeqNo: | 315738 | | Units: mg/Kg | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual | |
| Petroleum Hydrocarbons, TR | ND | 20 | | | | | | | | | |

| | | | | | | | | | | | |
|----------------------------|----------|-----|-----------|----------------|----------|----------|-----------|-----------|-----------------------|------|--|
| Sample ID | LCS-7796 | | | SampType: | LCS | | | TestCode: | EPA Method 418.1: TPH | | |
| Client ID: | LCSS | | | Batch ID: | 7796 | | | RunNo: | 11164 | | |
| Prep Date: | 6/6/2013 | | | Analysis Date: | 6/7/2013 | | | SeqNo: | 315739 | | |
| | | | | | | | | Units: | mg/Kg | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual | |
| Petroleum Hydrocarbons, TR | 96 | 20 | 100.0 | 0 | 95.7 | 80 | 120 | | | | |

| | | | | | | | | | | | |
|----------------------------|-----------|-----|----------------|-------------|------|-----------|-----------------------|------|--------------|------|--|
| Sample ID | LCSD-7796 | | SampType: | LCSD | | TestCode: | EPA Method 418.1: TPH | | | | |
| Client ID: | LCSS02 | | Batch ID: | 7796 | | RunNo: | 11164 | | | | |
| Prep Date: | 6/6/2013 | | Analysis Date: | 6/7/2013 | | SeqNo: | 315740 | | Units: mg/Kg | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual | |
| Petroleum Hydrocarbons, TR | 97 | 20 | 100.0 | 0 | 97.1 | 80 | 120 | 1.43 | 20 | | |

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306199

10-Jun-13

Client: Koch Exploration Company, LLC

Project: Bisti 36-1

| | | | | | | | | | | |
|--------------------------------|-----------------|-----|----------------|-----------------|------|-----------|--|------|---------------------|------|
| Sample ID | MB-7788 | | SampType: | MBLK | | TestCode: | EPA Method 8015D: Diesel Range Organics | | | |
| Client ID: | PBS | | Batch ID: | 7788 | | RunNo: | 11148 | | | |
| Prep Date: | 6/6/2013 | | Analysis Date: | 6/7/2013 | | SeqNo: | 315511 | | Units: mg/Kg | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | ND | 10 | | | | | | | | |
| Motor Oil Range Organics (MRO) | ND | 50 | | | | | | | | |
| Surr: DNOP | 11 | | 10.00 | | 113 | 63 | 147 | | | |

| | | | | | | | | | | |
|-----------------------------|-----------------|-----|----------------|-----------------|------|-----------|--|------|---------------------|------|
| Sample ID | LCS-7788 | | SampType: | LCS | | TestCode: | EPA Method 8015D: Diesel Range Organics | | | |
| Client ID: | LCSS | | Batch ID: | 7788 | | RunNo: | 11148 | | | |
| Prep Date: | 6/6/2013 | | Analysis Date: | 6/7/2013 | | SeqNo: | 315512 | | Units: mg/Kg | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 52 | 10 | 50.00 | 0 | 105 | 77.1 | 128 | | | |
| Surr: DNOP | 4.8 | | 5.000 | | 95.1 | 63 | 147 | | | |

| | | | | | | | | | | |
|-----------------------------|--------------------------|-----|----------------|-----------------|------|-----------|--|------|---------------------|------|
| Sample ID | 1306199-001AMS | | SampType: | MS | | TestCode: | EPA Method 8015D: Diesel Range Organics | | | |
| Client ID: | Mud Tank Despress | | Batch ID: | 7788 | | RunNo: | 11148 | | | |
| Prep Date: | 6/6/2013 | | Analysis Date: | 6/7/2013 | | SeqNo: | 315716 | | Units: mg/Kg | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 39 | 10 | 49.85 | 0 | 77.9 | 61.3 | 138 | | | |
| Surr: DNOP | 3.3 | | 4.985 | | 66.0 | 63 | 147 | | | |

| | | | | | | | | | | |
|-----------------------------|--------------------------|-----|----------------|-----------------|------|-----------|--|------|---------------------|------|
| Sample ID | 1306199-001AMSD | | SampType: | MSD | | TestCode: | EPA Method 8015D: Diesel Range Organics | | | |
| Client ID: | Mud Tank Despress | | Batch ID: | 7788 | | RunNo: | 11148 | | | |
| Prep Date: | 6/6/2013 | | Analysis Date: | 6/7/2013 | | SeqNo: | 315752 | | Units: mg/Kg | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 46 | 10 | 50.00 | 0 | 91.2 | 61.3 | 138 | 16.0 | 20 | |
| Surr: DNOP | 3.9 | | 5.000 | | 77.8 | 63 | 147 | 0 | 0 | |

| | | | | | | | | | | |
|------------|-----------------------|-----|----------------|-----------------|------|-----------|--|------|--------------------|------|
| Sample ID | 1306251-001AMS | | SampType: | MS | | TestCode: | EPA Method 8015D: Diesel Range Organics | | | |
| Client ID: | BatchQC | | Batch ID: | 7792 | | RunNo: | 11148 | | | |
| Prep Date: | 6/6/2013 | | Analysis Date: | 6/7/2013 | | SeqNo: | 315916 | | Units: %REC | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: DNOP | 4.7 | | 4.990 | | 94.8 | 63 | 147 | | | |

| | | | | | | | | | | |
|------------|------------------------|-----|----------------|-----------------|------|-----------|--|------|--------------------|------|
| Sample ID | 1306251-001AMSD | | SampType: | MSD | | TestCode: | EPA Method 8015D: Diesel Range Organics | | | |
| Client ID: | BatchQC | | Batch ID: | 7792 | | RunNo: | 11148 | | | |
| Prep Date: | 6/6/2013 | | Analysis Date: | 6/7/2013 | | SeqNo: | 315919 | | Units: %REC | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: DNOP | 4.8 | | 4.931 | | 97.9 | 63 | 147 | 0 | 0 | |

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306199

10-Jun-13

Client: Koch Exploration Compay, LLC

Project: Bisti 36-1

| | | | | | | | | | | |
|------------|----------|----------------|-----------|-------------|---|----------|-----------|------|----------|------|
| Sample ID | MB-7810 | SampType: | MBLK | TestCode: | EPA Method 8015D: Diesel Range Organics | | | | | |
| Client ID: | PBS | Batch ID: | 7810 | RunNo: | 11148 | | | | | |
| Prep Date: | 6/7/2013 | Analysis Date: | 6/7/2013 | SeqNo: | 315936 | Units: | %REC | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: DNOP | 10 | | 10.00 | | 101 | 63 | 147 | | | |

| | | | | | | | | | | |
|------------|----------|----------------|-----------|-------------|---|----------|-----------|------|----------|------|
| Sample ID | LCS-7810 | SampType: | LCS | TestCode: | EPA Method 8015D: Diesel Range Organics | | | | | |
| Client ID: | LCSS | Batch ID: | 7810 | RunNo: | 11148 | | | | | |
| Prep Date: | 6/7/2013 | Analysis Date: | 6/7/2013 | SeqNo: | 315937 | Units: | %REC | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: DNOP | 4.7 | | 5.000 | | 94.3 | 63 | 147 | | | |

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306199

10-Jun-13

Client: Koch Exploration Compay, LLC

Project: Bisti 36-1

| | | | | | | | | | | | |
|-------------------------------|----------|-----|----------------|-------------|------|-----------|----------------------------------|------|--------------|------|--|
| Sample ID | MB-7791 | | SampType: | MBLK | | TestCode: | EPA Method 8015D: Gasoline Range | | | | |
| Client ID: | PBS | | Batch ID: | 7791 | | RunNo: | 11163 | | | | |
| Prep Date: | 6/6/2013 | | Analysis Date: | 6/7/2013 | | SeqNo: | 315953 | | Units: mg/Kg | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual | |
| Gasoline Range Organics (GRO) | ND | 5.0 | | | | | | | | | |
| Surr: BFB | 920 | | 1000 | | 91.6 | 80 | 120 | | | | |

| | | | | | | | | | | | |
|-------------------------------|----------|-----|----------------|-------------|------|-----------|----------------------------------|------|--------------|------|--|
| Sample ID | LCS-7791 | | SampType: | LCS | | TestCode: | EPA Method 8015D: Gasoline Range | | | | |
| Client ID: | LCSS | | Batch ID: | 7791 | | RunNo: | 11163 | | | | |
| Prep Date: | 6/6/2013 | | Analysis Date: | 6/7/2013 | | SeqNo: | 315954 | | Units: mg/Kg | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual | |
| Gasoline Range Organics (GRO) | 27 | 5.0 | 25.00 | 0 | 107 | 62.6 | 136 | | | | |
| Surr: BFB | 1000 | | 1000 | | 101 | 80 | 120 | | | | |

| | | | | | | | | | | | |
|-------------------------------|----------------|-----|----------------|-------------|------|-----------|----------------------------------|------|--------------|------|--|
| Sample ID | 1306205-001AMS | | SampType: | MS | | TestCode: | EPA Method 8015D: Gasoline Range | | | | |
| Client ID: | BatchQC | | Batch ID: | 7791 | | RunNo: | 11163 | | | | |
| Prep Date: | 6/6/2013 | | Analysis Date: | 6/7/2013 | | SeqNo: | 315957 | | Units: mg/Kg | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual | |
| Gasoline Range Organics (GRO) | 29 | 4.6 | 23.17 | 0 | 126 | 70 | 130 | | | | |
| Surr: BFB | 950 | | 926.8 | | 102 | 80 | 120 | | | | |

| | | | | | | | | | | | |
|-------------------------------|-----------------|-----|----------------|-------------|------|-----------|----------------------------------|------|--------------|------|--|
| Sample ID | 1306205-001AMSD | | SampType: | MSD | | TestCode: | EPA Method 8015D: Gasoline Range | | | | |
| Client ID: | BatchQC | | Batch ID: | 7791 | | RunNo: | 11163 | | | | |
| Prep Date: | 6/6/2013 | | Analysis Date: | 6/7/2013 | | SeqNo: | 315958 | | Units: mg/Kg | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual | |
| Gasoline Range Organics (GRO) | 28 | 4.6 | 23.21 | 0 | 122 | 70 | 130 | 2.81 | 22.1 | | |
| Surr: BFB | 960 | | 928.5 | | 103 | 80 | 120 | 0 | 0 | | |

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306199

10-Jun-13

Client: Koch Exploration Company, LLC

Project: Bisti 36-1

| | | | | | | | | | | |
|--------------------------------|-----------------|-------|----------------|-----------------|------|-----------|------------------------------------|------|---------------------|------|
| Sample ID | MB-7791 | | SampType: | MBLK | | TestCode: | EPA Method 8021B: Volatiles | | | |
| Client ID: | PBS | | Batch ID: | 7791 | | RunNo: | 11163 | | | |
| Prep Date: | 6/6/2013 | | Analysis Date: | 6/7/2013 | | SeqNo: | 315971 | | Units: mg/Kg | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Methyl tert-butyl ether (MTBE) | ND | 0.10 | | | | | | | | |
| Benzene | ND | 0.050 | | | | | | | | |
| Toluene | ND | 0.050 | | | | | | | | |
| Ethylbenzene | ND | 0.050 | | | | | | | | |
| Xylenes, Total | ND | 0.10 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 0.96 | | 1.000 | | 96.3 | 80 | 120 | | | |

| | | | | | | | | | | |
|--------------------------------|-----------------|-------|----------------|-----------------|------|-----------|------------------------------------|------|---------------------|------|
| Sample ID | LCS-7791 | | SampType: | LCS | | TestCode: | EPA Method 8021B: Volatiles | | | |
| Client ID: | LCSS | | Batch ID: | 7791 | | RunNo: | 11163 | | | |
| Prep Date: | 6/6/2013 | | Analysis Date: | 6/7/2013 | | SeqNo: | 315972 | | Units: mg/Kg | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Methyl tert-butyl ether (MTBE) | 1.1 | 0.10 | 1.000 | 0 | 106 | 72.6 | 114 | | | |
| Benzene | 1.1 | 0.050 | 1.000 | 0 | 107 | 80 | 120 | | | |
| Toluene | 1.0 | 0.050 | 1.000 | 0 | 104 | 80 | 120 | | | |
| Ethylbenzene | 1.1 | 0.050 | 1.000 | 0 | 105 | 80 | 120 | | | |
| Xylenes, Total | 3.2 | 0.10 | 3.000 | 0 | 107 | 80 | 120 | | | |
| Surr: 4-Bromofluorobenzene | 1.0 | | 1.000 | | 102 | 80 | 120 | | | |

| | | | | | | | | | | |
|--------------------------------|--------------------------|-------|----------------|-----------------|------|-----------|------------------------------------|------|---------------------|------|
| Sample ID | 1306199-001AMS | | SampType: | MS | | TestCode: | EPA Method 8021B: Volatiles | | | |
| Client ID: | Mud Tank Despress | | Batch ID: | 7791 | | RunNo: | 11163 | | | |
| Prep Date: | 6/6/2013 | | Analysis Date: | 6/7/2013 | | SeqNo: | 315974 | | Units: mg/Kg | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Methyl tert-butyl ether (MTBE) | 1.0 | 0.097 | 0.9690 | 0 | 106 | 61.3 | 215 | | | |
| Benzene | 1.1 | 0.048 | 0.9690 | 0 | 110 | 67.2 | 113 | | | |
| Toluene | 1.1 | 0.048 | 0.9690 | 0.007994 | 109 | 62.1 | 116 | | | |
| Ethylbenzene | 1.1 | 0.048 | 0.9690 | 0 | 112 | 67.9 | 127 | | | |
| Xylenes, Total | 3.3 | 0.097 | 2.907 | 0.01402 | 113 | 60.6 | 134 | | | |
| Surr: 4-Bromofluorobenzene | 0.97 | | 0.9690 | | 100 | 80 | 120 | | | |

| | | | | | | | | | | |
|--------------------------------|--------------------------|-------|----------------|-----------------|------|-----------|------------------------------------|-------|---------------------|------|
| Sample ID | 1306199-001AMSD | | SampType: | MSD | | TestCode: | EPA Method 8021B: Volatiles | | | |
| Client ID: | Mud Tank Despress | | Batch ID: | 7791 | | RunNo: | 11163 | | | |
| Prep Date: | 6/6/2013 | | Analysis Date: | 6/7/2013 | | SeqNo: | 315975 | | Units: mg/Kg | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Methyl tert-butyl ether (MTBE) | 1.0 | 0.097 | 0.9681 | 0 | 107 | 61.3 | 215 | 0.922 | 19.6 | |
| Benzene | 1.1 | 0.048 | 0.9681 | 0 | 112 | 67.2 | 113 | 1.80 | 14.3 | |
| Toluene | 1.1 | 0.048 | 0.9681 | 0.007994 | 110 | 62.1 | 116 | 1.37 | 15.9 | |
| Ethylbenzene | 1.1 | 0.048 | 0.9681 | 0 | 113 | 67.9 | 127 | 0.307 | 14.4 | |
| Xylenes, Total | 3.3 | 0.097 | 2.904 | 0.01402 | 112 | 60.6 | 134 | 0.899 | 12.6 | |

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306199

10-Jun-13

Client: Koch Exploration Company, LLC

Project: Bisti 36-1

| | | | | | | | | | | |
|----------------------------|-------------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID | 1306199-001AMSD | SampType: | MSD | TestCode: | EPA Method 8021B: Volatiles | | | | | |
| Client ID: | Mud Tank Despress | Batch ID: | 7791 | RunNo: | 11163 | | | | | |
| Prep Date: | 6/6/2013 | Analysis Date: | 6/7/2013 | SeqNo: | 315975 | Units: | mg/Kg | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene | 0.98 | | 0.9681 | | 101 | 80 | 120 | 0 | 0 | |

Qualifiers:

- | | |
|--|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH greater than 2 for VOA and TOC only. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: KOCH EXPLORATION C

Work Order Number: 1306199

RcptNo: 1

Received by/date: *mg*

06/05/13

Logged By: Ashley Gallegos

6/5/2013 9:15:00 AM

Completed By: Ashley Gallegos

6/5/2013 1:56:30 PM

Reviewed By: *[Signature]*

06/05/13

Chain of Custody

1. Custody seals intact on sample bottles? Yes No Not Present ✓
2. Is Chain of Custody complete? Yes ✓ No Not Present
3. How was the sample delivered? Client

Log In

4. Was an attempt made to cool the samples? Yes ✓ No NA
5. Were all samples received at a temperature of >0° C to 6.0°C Yes ✓ No NA
6. Sample(s) in proper container(s)? Yes ✓ No
7. Sufficient sample volume for indicated test(s)? Yes ✓ No
8. Are samples (except VOA and ONG) properly preserved? Yes ✓ No
9. Was preservative added to bottles? Yes No ✓ NA
10. VOA vials have zero headspace? Yes No No VOA Vials ✓
11. Were any sample containers received broken? Yes No ✓
12. Does paperwork match bottle labels? Yes ✓ No
(Note discrepancies on chain of custody)
13. Are matrices correctly identified on Chain of Custody? Yes ✓ No
14. Is it clear what analyses were requested? Yes ✓ No
15. Were all holding times able to be met? Yes ✓ No
(If no, notify customer for authorization.)
- # of preserved bottles checked for pH: (<2 or >12 unless noted)
Adjusted?
Checked by:

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes No NA ✓

Person Notified: _____

Date: _____

By Whom: _____

Via: _____

eMail

Phone

Fax

In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|---------|-----------|-------------|---------|-----------|-----------|
| 1 | 1.0 | Good | Not Present | | | |

[illegible]



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Analysis Request

[illegible]

| | | | | | | |
|--------|--------|---|---|----------|------|----------|
| Date: | Time: | Relinquished by: | Received by: | Date | Time | Remarks: |
| 6/4/13 | 3:00pm |  |  | 06/05/13 | 0915 | |
| Date: | Time: | Relinquished by: | Received by: | Date | Time | |

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.