NM2 - ___3_____

CLOSURE PLAN REVIEW & DENIAL

June 19, 2017

Jones, Brad A., EMNRD

From: Griswold, Jim, EMNRD
Sent: Monday, June 19, 2017 10:56 AM
To: Herrera, Roxana
Cc: Moskal, Steven; Jones, Brad A., EMNRD
Subject: RE: Crouch Mesa Closure

Roxana and Steve,

Thanks for the reminder. Sorry I have not gotten back with you sooner. As I stated during the meeting, the closure document provided by BP dated March 10, 2017 is denied. I want to use this email to memorialize the discussions we had providing an affirmative path forward toward the desired closure of your centralized landfarm on Crouch Mesa in San Juan County (Permit NM2-3). There are several areas that need to be addressed; primarily the status of treated soils, characterization of the vadose zone, and establishment of background soil concentrations.

Treated soils
It is our understanding that no new materials have been brought into the facility for quite some time (i.e. years). Treatment of waste has been facilitated by composting in biopiles. BP wishes to close the facility by spreading the treated materials from the piles uniformly across a portion of the facility footprint. This is acceptable so long as the thickness of spread material does not exceed two feet. The soils cannot end up within 100 feet of the facility boundary nor within 20 feet of any underground pipelines crossing the facility.

To demonstrate compliance with the treatment zone closure performance standards, BP can gather representative samples from each of the existing piles, or sample on a regular gridded distribution across the areas once the soils are spread. Each performance sample must be representative of no more than 1,000 cubic yards of treated material. Each performance sample must be a composite consisting of four discrete samples within a given volume.

The composite performance samples must be analyzed by;

either Method 8021 or 8260 for benzene, toluene, ethylbenzene and total xylenes
by Method 8015 extended range (C6 thru C36) for GRO, DRO, and MRO yielding a combined value for TPH
by Method 300.1 for chlorides
and by either Method 6010B or 6020 for the following metals: Arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, copper, iron, manganese, and zinc.

To meet the closure performance standards, a composite sample must have an benzene concentration of less than 0.2 mg/kg, a BTEX concentration of less than 50 mg/kg, a GRO/DRO combined concentration or less than 500 mg/kg, a TPH concentration of less than 2,500 mg/kg, and a chloride concentration of less than 1,000 mg/kg. The assayed metals listed above must each be less than the higher or either the established background concentrations (which I will discuss later) or the practical quantitation limit (PQL) for each metal. If the concentration of one or more of the analytes exceeds the prescribed levels or the background or PQL for the metals, then BP can undertake a site specific risk assessment to perhaps propose alternative protective closure standards. BP could also choose to remove those "non-performing" soils for proper disposal. In any case, it's always best to wait until we have the data in hand.

Vadose Zone
The intent of this effort is to determine if potential contaminants may have leached from the soils being treated. The vadose zone needs to be characterized beneath any past or present biopile, anywhere treated soils have been placed during the facility's history, or any area which appears discolored or otherwise affected. Each vadose zone sample must be gathered at a depth of from 3 to 4 feet beneath any area's original grade. Each of those samples need to be analyzed for the same constituents by the same methods described above for treated soils. Those results need to then be

compared to the higher or either the facility background data or the PQLs (including those for hydrocarbons and chloride) to determine if a release has occurred.

If an exceedance is observed, the specific area involved should be immediately resampled for confirmation by gathering a set of four samples and analyze each for TPH and all constituents, including pH, listed in the water quality regulations Subsections A and B of 20.6.2.3103 NMAC except total dissolved solids (a total of 42 chemicals) by approved methods with appropriate detection limits. If an exceedance is confirmed, then BP will need to develop an appropriate response including delineation and possible remediation under our spill rules (19.15.29 or 19.15.30 NMAC).

Background
To establish background soil concentrations at least 12 soil samples from areas not potentially impacted by facility operations need to be gathered. These samples need to laterally dispersed and be representative of the varied surface geology that is exposed in the area of the facility. Each of the samples needs to be a composite of 16 grab samples from the same area and gathered between 6 inches and 4 feet beneath grade. Analyze the composite samples by:

either Method 8021 or 8260 for benzene, toluene, ethylbenzene and total xylenes
by Method 8015 extended range (C6 thru C36) for GRO, DRO, and MRO
by Method 300.1 for chlorides
and by approved methods for the balance of constituents, including pH, listed under Subsections A and B of 20.6.2.3103 NMAC except total dissolved solids (a total of 37 chemicals)

The resultant concentration data must then be statistically interpreted to provide a set of background concentrations. That process must include elimination of outliers and proper handling of non-detects. The OCD requests the analysis be undertaken by competent individuals using version 5.1 of ProUCL available free of charge from the USEPA.

All sample locations, be they from the treatment zone, the vadose zone, or for the purposes of establishing background should be determined by commercial or better grade GPS with an accuracy of about ten feet and reported using NAD 83 in decimal degrees with five significant digits beyond the decimal point.

The OCD requests a revised closure plan be developed incorporating the aspects discussed above and presented for our review. As part of that plan, BP is not at this point required to include a third party estimate of the closure costs as statewide blanket financial assurance is already in place. However, if the closure performance standards cannot be met in a timely fashion, the Division may need to review the situation. If there are any pits, ponds, or below-grade tanks they will need to be properly closed. All berms need to be removed. It is our understanding that the landowner desires to use the land and thus revegetation would not be required, but the OCD will need a written commitment and site use plan from the owner for review. That use plan must prevent surface erosion. This aspect may impede full release of your financial assurance.

If you have any questions or comments, please feel free to contact Brad Jones or myself. Thanks again.

Jim Griswold
Environmental Bureau Chief
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505.476.3465
email: jim.griswold@state.nm.us

From: Herrera, Roxana [mailto:ROXANA.HERRERA@bp.com]
Sent: Monday, June 19, 2017 9:05 AM
To: Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>
Cc: Moskal, Steven <Steven.Moskal@bp.com>

Subject: Crouch Mesa Closure
Importance: High

Jim:

Thanks for meeting with us on June 6th regarding the Crouch Mesa closure. During the meeting, you indicated that you were going to provide us a summary of what was discussed in the meeting for path forward on Crouch Mesa closure.

Also I have a question regarding the quarterly vadose zone sampling. Do we need to add A&B lists of metals to the one quarter when we analyze for major ions?

Regards,

Roxana

Roxana Herrera, P.G.
Sr. Water / Waste Advisor
BP Lower 48 Onshore
737 N. Eldridge Parkway
Houston TX 77079
Office: 281-892-6624
Cell: 713-416-3390
roxana.herrera@bp.com

March 10, 2017

Via Email and U.S. Mail

Mr. Brad Jones
Environmental Engineer
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505
Email: brad.a.jones@state.nm.us

Re: BP America Production Company,
Permit NM-02-0003 Crouch Mesa Waste Management Facility
Surface Waste Management Facility Proposed Closure

Dear Mr. Jones:

BP America Production Company is submitting a 60-day notice of cessation of operations, and closure / post closure plan with proposed decommissioning schedule for the above referenced facility pursuant to Permit NM-02-0003, issued November 25, 1998. Annual vadose zone monitoring reports and analytical test results submitted to the New Mexico Oil Conservation Division indicate that the facility met the applicable permit action levels.

Should you have questions or comments concerning this proposal for closure, please contact me at (281) 892-6624 or Roxana.herrera@bp.com.

Respectfully,

Roxana Herrera
Sr. Advisor Water / Waste
BP America Production Company

Cc: Steve Moskal, Field Environmental Coordinator; Julie Best, Area Operations Env. Team Lead; Gabrielle Sitomer, Lead Counsel - HSSE

Enclosure

March 10, 2017

Via Email and U.S. Mail

Mr. Brad Jones
Environmental Engineer
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505
Email: brad.a.jones@state.nm.us

Re: BP America Production Company,
Permit NM-02-0003 Crouch Mesa Waste Management Facility
Surface Waste Management Facility Proposed Closure

Dear Mr. Jones:

BP America Production Company is submitting a 60-day notice of cessation of operations, and closure / post closure plan with proposed decommissioning schedule for the above referenced facility pursuant to Permit NM-02-0003, issued November 25, 1998. Annual vadose zone monitoring reports and analytical test results submitted to the New Mexico Oil Conservation Division indicate that the facility met the applicable permit action levels.

Should you have questions or comments concerning this proposal for closure, please contact me at (281) 892-6624 or Roxana.herrera@bp.com.

Respectfully,

Roxana Herrera
Sr. Advisor Water / Waste
BP America Production Company

Cc: Steve Moskal, Field Environmental Coordinator; Julie Best, Area Operations Env. Team Lead; Gabrielle Sitomer, Lead Counsel - HSSE

Enclosure

Crouch Mesa Centralized Surface Waste Management Facility

Draft Closure Plan

OCD Rule 711 Permit NM-02-003

1.0 INTRODUCTION

The Crouch Mesa Centralized Surface Waste Management Facility (CM SWM Facility)is permitted by the New Mexico Oil Conservation Division (NMOCD) under OCD Rule 711. Permit-NM-02-003 (Attachment 1), dated November 25, 1998, is held by BP America Production Company (BP). The CM SWM Facility is located in San Juan County, New Mexico and has been used for centralized composting and biodegradation of BP impacted soils. The CM SWM Facility stopped taking waste on or before August, 20, 2015 and the all biopiles have been remediated to meet permit requirements. Operations at the CM SWM Facility are ongoing and limited to berm, perimeter, and storm water controls maintenance.

1.1 SITE LOCATION

The ten-acre CM SWM Facility is located in the SW/4 of SE/4 of Section 2, Township 29 North, Range 12 West, in San Juan County, New Mexico. The site lies approximately five miles east of Farmington, New Mexico and is accessed from C.R. 310. The southwest corner of the facility is situated at -108°4'6" Longitude and 36°44'52"Latitude at an elevation of approximately 5,840 feet above mean sea level (Attachment 2).

1.2 BACKGROUND AND HISTORY

The CM SWM Facility was originally constructed by Amoco in 1992 on a ten-acre tract, portions of which had previously been used to stockpile horse manure. The original site was levelled / backfilled with nearby-sourced native material, cleared, and graded. Industrial Ecosystems, Inc., Soil Reclamation Center is the owner of the tract of land that includes the CM SWM Facility .

Amoco originally permitted CM SWM Facility under OCD Rule 711 A (1) on July 28, 1992; and contracted with Industrial Ecosystems, Inc. (IEI) to maintain and manage the facility. Amoco received an NMOCD-approved permit renewal under OCD Rule 711 Permit NM-02-003 on November 30, 1998. The CM SWM Facility permit allows treatment of oilfield (E&P) RCRA-exempt waste and non-hazardous, non-exempt oilfield wastes generated at Amoco -owned or -operated sites within the State of New Mexico. On September 20, 2001, NMOCD approved a permit modification to accept specified Amoco waste generated in neighboring states, Utah and Arizona. In February 2002, BP notified the NMOCD of site ownership transferral from Amoco to BP; the NMOCD approved the transfer in March 2002.

The CM SWM Facility discontinued accepting waste material on August, 20, 2015. BP continued to remediate the final biopiles until laboratory analyses, dated May 27, 2016, indicated that all soils met permit required levels. BP continues to maintain the facility security, berms, and storm water controls until closure of the facility is complete.

1.3 GENERAL DESCRIPTION

The ten acre CM SWM Facility is presently configured into three (3) cells, identified as Cell 1, Cell 2, and Cell 5 (Attachment 3). Cells 1 and 2 were used for composting soils, while Cell 5 was

used to store the remediated soils once composting operations were complete. The northeast portion of the facility is used for equipment, materials, and unused compost media storage only. A perimeter berm and security chain link fence surrounds the facility. The entrance gate is located on the east side of the CM SWM Facility and accessed through adjacent JFJ Landfarm LLC property.

1.4 GEOLOGY

The site is located within the San Juan Basin of the Colorado Plateau in the Basin and Range Geologic Province of the southwest United States. The San Juan Basin is roughly a circular depression located in the northwest corner of New Mexico, extending slightly into southwest Colorado. It is bound on the east by the Nacimiento uplift and Archuleta arch, on the north by the Hogback monocline and Four Corners platform, and on the south by the Chaco slope (Kelley, 1950).

The land surface in the vicinity of the site generally slopes to the southeast to an un-named north-south oriented ephemeral streambed. The surrounding area is comprised of rolling hills sparsely vegetated with pinon trees. The site is located near the drainage divide of the Animas River and San Juan River drainage basins at an elevation of approximately 5,840 feet above mean sea level. The climate is arid to semi-arid, with an annual precipitation of approximately 9 inches, most of which occurs July through October. Annual pan evaporation near Farmington averages more than 67 inches. (Kohler etal, 1959).

The substrata underlying the site consist mostly of alternating layers of clayey, silty sands and weathered sandstone of the Tertiary San Jose Formation. This formation has been characterised as conglomeratic sandstone and mudstone. (Kelley, 1950).

1.5 GROUNDWATER

The CM SWM Facility is located on a hilltop divide separating the Animas and San Juan Rivers. The facility sits on the San Juan River side of the divide, approximately 4 miles from and 450 feet above its floodplain. There are no indications of surface seeps or springs that would indicate the presence of groundwater near the surface in the area of the CM SWM Facility. Review of available water well drillers' logs through the NMOSE indicate the closest groundwater measurements occur at domestic water wells, SJ01839, SJ00428, SJ04193, SJ03277, SJ02296, SJ02296S, SJ03388, SJ00548, and SJ03414 (Attachment 4, Figure 1). According to NMOSE records tabulated in Attachment 4, Table 1:

- Well SJ1839 is located down gradient of the CM SWM Facility, with a surface elevation difference from the facility of 170 feet. The depth to the first water bearing zone, a confined aquifer, is 207 feet below ground surface (bgs) or 377 feet below the facility ground surface.
- Well SJ00428 is located on the Animas River side of the mesa divide compared with the CM SWM Facility location. The surface elevation of the well is lower when compared with the facility by 80 feet. The upper water level is 25 feet bgs or 105 feet below the ground surface of the facility. However, the well is producing water from a confined aquifer at a depth of 90 feet bgs or 170 feet below the CM SWM Facility's ground surface.
- Well SJ04193 is located down gradient of the CM SWM Facility, with a surface elevation difference from the facility of 170 feet. The water level in a potential water table aquifer is 160 feet bgs or 330 feet below the facility ground surface.

- Well SJ03277 is located up-gradient of the CM SWM Facility, with a surface elevation 60 feet higher than the facility. The water level and top of a potential water table aquifer is 120 bgs or a potential for groundwater to be 60 feet below the facility ground surface.
- Well SJ02296 is located down gradient of the CM SWM Facility, with a surface elevation difference from the facility of 60 feet. The first water bearing zone is 78 feet bgs or 138 feet below the facility ground surface. The water level is 89 feet bgs or 149 feet below the facility ground surface. However, the well is producing water from a confined aquifer at a depth of 183 feet bgs or 243 feet below the facility's ground surface.
- Well SJ02296S is located down gradient of the CM SWM Facility, with a surface elevation difference from the facility of 60 feet. . The depth to the first water bearing zone, a confined aquifer, is 288 feet below ground surface (bgs) or 348 feet below the facility ground surface.
- Well SJ03388 is located down gradient of the CM SWM Facility, with a surface elevation difference from the facility of 260 feet. The depth to the first water bearing zone, a confined aquifer, is 150 feet below ground surface (bgs) or 410 feet below the facility ground surface.
- SJ00548 is located down gradient of the CM SWM Facility, with a surface elevation difference from the facility of 220 feet. The depth to the first water bearing zone, a confined aquifer, is 160 feet below ground surface (bgs) or 380 feet below the facility ground surface.
- Well SJ03414 is located down gradient of the CM SWM Facility, with a surface elevation difference from the facility of 220 feet. The water level in a potential water table aquifer is 70 feet bgs or 290 feet below the facility ground surface.

A map of estimated depth to water in the perched or unconfined aquifer(s), or upper water table, shows that groundwater depths are greater than 100 feet below the CM SWM Facility (Attachment 4, Figure 1). A separate map of the estimated top of the confined aquifers shows that the confined groundwater aquifers are greater than 100 feet below the CM SWM Facility (Attachment 4, Figure 2).

1.6 Adjacent Facilities

The north and east boundaries of the CM SWM Facility are bordered by JFJ Landfarm LLC, Permit NM-01-0010B, a commercial surface waste management facility operated by IEI. The west and south boundaries are bound by undeveloped property.

Surrounding oil and gas wells and distance from CM SWM Facility property line are:

Burlington Resources, Gas Well No. 500 – Cornell, located west 1,088 ft.
Thompson Engr. & Prod. Corp., Gas Well No. 006 – Cornell, located southwest 1,230 ft.
BP America Production Co., Gas Well No 001-DK – C. Cornell, located southwest 1,830 ft.
Burlington Resources, Gas Well No. 101 – Cornell, located southwest 2,330 ft.
Producing Royalties Inc., P&A'd Gas Well No. 001 – Payne, located southeast 1,635 ft.
Carroll & Cornell, Dry Hole Well No. 10 – Federal, located southeast 1,600 ft.
Burlington Resources, Gas Well No. 500S – Cornell Com, located east 850 ft.
Burlington Resources, P&A'd Gas Well No. 001R – McGrath, located northeast 1,130 ft.
Burlington Resources, Gas Well No. 001 – McGrath, located north 1,055 ft.

No active permitted water supply wells are located within approximately 4,500 ft. of the facility (NMOSE, NM Water Rights Reporting System).

2.0 REGULATORY REVIEW

In preparation of this Closure Plan applicable New Mexico rules, regulations, and guidelines were reviewed for Centralized Surface Waste Management Facility Closure. The Closure Plan has been prepared to and is intended to adhere to the closure requirements as discussed below in the following subsections.

2.1 NMAC 19.15.36.20 TRANSITIONAL PROVISIONS:

Existing permitted facilities. Surface waste management facilities in operation prior to the effective date of 19.15.36 NMAC pursuant to division permits or orders may continue to operate in accordance with such permits or orders, subject to the following provisions.

A. Existing surface waste management facilities shall comply with the financial assurance, operational, monitoring, waste acceptance and closure and post closure requirements provided in 19.15.36 NMAC, except as otherwise specifically provided in the applicable permit or order, or in a specific waiver, exception or agreement that the division has granted in writing to the particular surface waste management facility.

The CM SWM Facility was permitted and in operation before the effective date of NMAC 19.15.36. BP has complied with the financial assurance, operational, waste acceptance, and closure and post-closure requirements provided in Permit NM-02-003, NMAC 19.15.36.18.A. NMAC 19.15.36.18.C(4), and NMAC19.15.36.18.E.

2.2 NMOCD PERMIT NM-02-003, CROUCH MESA CENTRALIZED SURFACE WASTE MANAGEMENT FACILITY

2.2.1 CLOSURE REQUIREMENTS

1. *The OCD Santa Fe and Aztec District offices will be notified when operation of the facility is discontinued for a period in excess of six (6) months or when the facility is to be dismantled. Upon cessation of operations for six (6) consecutive months, the operator shall complete clean-up of constructed facilities and restoration of the facility within the following six (6) months, unless an extension of time is granted by the Director.*

BP continues to operate the CM SWM Facility, which includes security, berm maintenance, and quarterly vadose zone sampling. BP will notify the OCD Santa Fe and Aztec District offices prior to the start of facility dismantlement.

2. *A closure plan for the facility will be provided including the following OCD closure procedures:*

a. *When the facility is to be closed no new material will be accepted.*

The CM SWM Facility stopped taking waste on or before August, 20, 2015, and has not accepted any waste material since that date.

b. *Existing landfarm and compost cells will be remediated until they meet the OCD standards in effect at the time of closure.*

BP continued to remediate the final biopiles until laboratory analyses for TPH, Benzene, and BTEX, dated May 27, 2016, indicate that the last soils met permit required levels. All previous biopiles were remediated. Additionally, BP ran biopiles analyses for MRO and chlorides, and all

results were below the NMAC 19.15.36.15(F) limits. A summary table and the reports for the last five (5) years of final biopiles analyses are included in Attachment 6, and all analytical reports for the biopiles are available for review at the facility.

c. *The soils beneath the landfarm and compost cells will be characterized as to total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) content in order to determine potential migration of contamination beneath the facility.*

The vadose zone beneath Cells 1, 2, and 5 was sampled quarterly in March, May, August, and October 2016. The report and analytical test for TPH, Benzene, and BTEX results indicate that the facility met the permit action levels in all four sampling events.

d. *Contaminated soils exceeding OCD closure standards for the site will be removed or remediated according to a site specific remediation plan to be developed by the owner/operator.*

No soils exceed the applicable action levels for TPH, Benzene, and BTEX.

e. *The area will be contoured, seeded with native grasses and allowed to return to its natural state. If the landowner desires to keep existing structures, berms, or fences for future alternative uses the structures, berms, or fences may be left in place.*

At the request of the landowner, Industrial Ecosystems Inc., BP is requesting that the NMOCD approve levelling the reclaimed stockpiles, and leaving the site un-vegetated to allow for equipment storage on the property (Attachment 5). A perimeter berm and fencing will however remain permanently in place for site security and to prevent storm water runoff.

f. *Closure will be pursuant to all OCD requirements in effect at the time of closure, and any other applicable local, state, and/or federal regulations.*

BP has complied with the closure and post-closure requirements provided in Permit NM-02-003, NMAC 19.15.36.18.A. NMAC 19.15.36.18.C(4), and NMAC 19.15.36.18.E.

On November 30, 1998, the NMOCD approved the closure plan submitted with the March 1998 permit Application for Waste Management Facility, Form C-137. The following closure plan is excerpted from the original approved application:

B.1.i. Closure Plan
At closure site fences will be removed and berms will be recontoured to fit existing grades. Alternatively, if the landowner desires to keep the fences and berms in place for use as a facility not requiring NMOCD permitting, no alterations to these structures will be made.

At the request of the landowner, Industrial Ecosystems Inc., BP is requesting that the NMOCD approve levelling the reclaimed stockpiles, and leaving the site un-vegetated to allow for equipment storage on the property. Fencing and a perimeter berm will however remain permanently in place for site security and to prevent storm water runoff. The property will be used for equipment storage and not used as a facility requiring NMOCD permitting.

Five (5) point composite samples will be collected from 2'-3' below each cell area. These samples will be submitted to a qualified laboratory for determination of TPH and BTEX content. If TPH or BTEX are found to exceed existing NMOCD closure standards for the site, a site specific remediation plan will be developed and submitted to the NMOCD for acceptance. Otherwise, the site will be permanently closed.

The vadose zone beneath Cells 1, 2, and 5 was sampled quarterly in March, May, August, and October 2016. The report and analytical test for TPH, Benzene, and BTEX results indicate that the facility met the applicable action levels in all four sampling events.

2.2.2 CLOSURE STANDARDS

Landfarm and Compost Operation

7. Successive lifts of contaminated soils will not be spread on the landfarm or compost facility until a laboratory measurement of total petroleum hydrocarbon (TPH) in the previous lift is less than 100 ppm and the sum of all aromatic hydrocarbons (BTEX) is less than level 50 ppm, and the benzene is less than 10 ppm. Comprehensive records of the laboratory analyses and the sampling locations will be maintained at the facility for OCD review.

BP continued to remediate the final biopiles until laboratory analyses for TPH, Benzene, and BTEX, dated May 27, 2016, indicate that the last soils met permit required levels. All previous biopiles were remediated.

Closure

2.c. The soils beneath the landfarm and compost cells will be characterized as to the total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) content in order to determine potential migration of contamination beneath the facility.

BP has met the soil remediation action levels in the vadose zone beneath the landfarm as described in the NMOCD document - Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993:

IV. Soil and water Remediation Action levels

2. Unsaturated Contaminated Soils
The general site characteristics obtained during the site assessment (Section III.A.) will be used to determine the appropriate soil remediation action levels using a risk based approach. Soils which are contaminated by petroleum constituents will be scored according to the ranking criteria below to determine their relative threat to public health, fresh waters and the environment.
a. Ranking Criteria

Depth To Ground Water	*Ranking Score*
<50 feet	*20*
50 - 99	*10*
>100	*0*

Wellhead Protection Area

<1000 feet from a water source, or;
<200 feet from private domestic water source

Yes	*20*
No	*0*

Distance To Surface Water Body

<200 horizontal feet	*20*
200 - 1000 horizontal feet	*10*
>1000 horizontal feet	*0*

b. Recommended Remediation Action Level
The total ranking score determines the degree of remediation that may be required at any given site. The total ranking score is the sum of all four individual ranking criteria listed in Section IV.A.2.a. The table below lists the remediation action level that may be required for the appropriate total ranking score.

	Total Ranking Score		
	>19	*10 - 19*	*0 - 9*
*Benzene(ppm)**	*10*	*10*	*10*
*BTEX(ppm)**	*50*	*50*	*50*
*TPH(ppm)***	*100*	*1000*	*5000*

The Total Ranking Score for the site is:

Depth to groundwater*	0
Well Protection Area	0
Distance to Surface water Body	0
Total Ranking Score Range	**0**

The remediation action levels associated with the CM SWM Facility's total ranking score are:

Benzene	10 ppm
BTEX	50 ppm
TPH	5000 ppm

2.3 NMAC 19.15.36.18A. SURFACE WASTE MANAGEMENT FACILITY CLOSURE BY OPERATOR.

(1) The operator shall notify the division's environmental bureau at least 60 days prior to cessation of operations at the surface waste management facility and provide a proposed schedule for closure. Upon receipt of such notice and proposed schedule, the division shall review the current closure and post closure plan (post closure is not required for oil treating plants) for adequacy and inspect the surface waste management facility.

BP will notify the division's environmental bureau at least 60 days prior to ceasing operations at the CM SWM Facility and will provide a proposed closure schedule. This document serves as the 60 day notification.

(2) The division shall notify the operator within 60 days after the date of cessation of operations specified in the operator's closure notice of modifications of the closure and post closure plan and proposed schedule or additional requirements that it determines are necessary for the protection of fresh water, public health or the environment.

(3) If the division does not notify the operator of additional closure or post closure requirements within 60 days as provided, the operator may proceed with closure in accordance with the approved closure and post closure plan; provided that the director may, for good cause, extend the time for the division's response for an additional period not to exceed 60 days by written notice to the operator.

(4) The operator shall be entitled to a hearing concerning a modification or additional requirement the division seeks to impose if it files an application for a hearing within 10 days after receipt of written notice of the proposed modifications or additional requirements.

(5) Closure shall proceed in accordance with the approved closure and post closure plan and schedule and modifications or additional requirements the division imposes. During closure operations the operator shall maintain the surface waste management facility to protect fresh water, public health and the environment.

BP will proceed with closure according to the approved closure and post closure plan, schedule, and applicable modifications. BP will continue to operate the CM SWM Facility during closure to protect fresh water, public health, and the environment, including security, berm maintenance, and quarterly vadose zone sampling.

(6) Upon completion of closure, the operator shall re-vegetate the site unless the division has approved an alternative site use plan as provided in Subsection F of 19.15.36.18 NMAC. Re-vegetation, except for landfill cells, shall consist of establishment of a vegetative cover equal to seventy percent of the native perennial vegetative cover (un-impacted by overgrazing, fire or other intrusion damaging to native vegetation) or scientifically documented ecological description consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintenance of that cover through two successive growing seasons.

At the preference of the landowner, Industrial Ecosystems Inc., BP is requesting that the NMOCD approve levelling the reclaimed stockpiles, and leaving the site un-vegetated to allow for equipment storage on the property. Fencing and a perimeter berm will however remain permanently in place for site security and to prevent storm water runoff.

2.4 NMAC 19.15.36.18C (4) LANDFARM CLOSURE.

The operator shall ensure that:

(a) disking and addition of bioremediation enhancing materials continues until soils within the cells are remediated to the standards provided in Subsection F of 19.15.36.15 NMAC, or as otherwise approved by the division;

BP continued to remediate the final biopiles until laboratory analyses for TPH, Benzene, and BTEX, dated May 27, 2016, indicated that the last soils met permit required levels. All previous biopiles were remediated. The last five (5) years of final biopiles analyses are included in this report, and all analytical reports for the biopiles are available for review at the facility.

(b) soils remediated to the foregoing standards and left in place are re-vegetated in accordance with Paragraph (6) of Subsection A of 19.15.36.18 NMAC;

At the preference of the landowner, Industrial Ecosystems Inc., BP is requesting that the NMOCD approve levelling the reclaimed stockpiles, and leaving the site un-vegetated to allow for equipment storage on the property. Fencing and a perimeter berm will however remain permanently in place for site security and to prevent storm water runoff (Attachment 5).

(c) landfarmed soils that have not been or cannot be remediated to the standards in Subsection F of 19.15.36.15 NMAC are removed to a division-approved surface waste

management facility and the landfarm remediation area is filled in with native soil and re-vegetated in accordance with Paragraph (6) of Subsection A of 19.15.36.18 NMAC;

Not applicable.

(d) if treated soils are removed, the cell is filled in with native soils and re-vegetated in accordance with Paragraph (6) of Subsection A of 19.15.36.18 NMAC;

Not applicable.

(e) berms are removed;

At the preference of the landowner, Industrial Ecosystems Inc., BP is requesting that the NMOCD approve levelling the reclaimed stockpiles, and leaving the site un-vegetated to allow for equipment storage on the property. Fencing and a perimeter berm will however remain permanently in place for site security and to prevent storm water runoff (Attachment 5).

(f) buildings, fences, roads and equipment are removed, the site cleaned-up and tests conducted on the soils for contamination;

At the preference of the landowner, Industrial Ecosystems Inc., BP is requesting that the NMOCD approve levelling the reclaimed stockpiles, and leaving the site un-vegetated to allow for equipment storage on the property. Fencing and a perimeter berm will however remain permanently in place for site security and to prevent storm water runoff (Attachment 5).

(g) annual reports of vadose zone and treatment zone sampling are submitted to the division's environmental bureau until the division has approved the surface waste management facility's final closure; and

Annual reports of vadose zone monitoring will be submitted to the division's environmental bureau until the division has approved the surface waste management facility's final closure.

(h) for an operator who chooses to use the landfarm methods specified in Subsection H of 19.15.36.15 NMAC, that the soil has an ECs of less than or equal to 4.0 mmhos/cm (dS/m) and a SAR of less than or equal to 13.0.

Not applicable.

2.5 NMAC 19.15.36.18.E. LANDFARM POST-CLOSURE.

Landfarm and pond and pit post closure. The post-closure care period for a landfarm or pond or pit shall be three years if the operator has achieved clean closure. During that period the operator or other responsible entity shall regularly inspect and maintain required revegetation. If there has been a release to the vadose zone or to ground water, then the operator shall comply with the applicable requirements of19.15.30 NMAC and 19.15.29 NMAC.

At the preference of the landowner, Industrial Ecosystems Inc., BP is requesting that the NMOCD approve levelling the reclaimed stockpiles, and leaving the site un-vegetated to allow for equipment storage on the property. Fencing and a perimeter berm will however remain permanently in place for site security and to prevent storm water runoff (Attachment 5). If there has been a release as indicated by TPH, Benzene, and BTEX analyses to the vadose zone or

water, then BP will comply with the applicable requirements of19.15.30 NMAC and 19.15.29 NMAC.

3.0 DECOMMISSIONING

This closure plan serves as notification to the NMOCD that the CM SWM Facility is to be dismantled / closed with all reclaimed soils remaining onsite. The CM SWM Facility discontinued accepting waste material on or before August 20, 2015. BP continued to remediate biopiles until laboratory analyses, dated May 27, 2016, indicated that the last soils met permit required levels. All previous biopiles were remediated. The last five (5) years of biopiles analyses are included in this report, and analytical reports for the biopiles are available for review at the facility. The vadose zone beneath Cells 1, 2, and 5 was sampled quarterly in March, May, August, and October 2016, and the 2016 Annual Treatment Zone Monitoring Report was submitted to the NMOCD on November 30, 2016. The report and analytical test results indicate that the facility met the applicable action levels in all four sampling events. BP continues to maintain the facility security, berms, and storm water controls until closure of the facility is approved and construction completed. Annual reports of vadose zone monitoring will be submitted to the division's environmental bureau until the division has approved the surface waste management facility's final closure.

3.1 Decommissioning Plan

The landowner, Industrial Ecosystems Inc., preference is to level the reclaimed stockpiles, and leave the site un-vegetated to allow for equipment storage on the property. A perimeter berm and fencing will however remain permanently in place for site security and to prevent storm water runoff. The property will be used for equipment storage and not used as a facility requiring NMOCD permitting. There are no buildings on the facility. Closure construction will consist of the following:

- Level stockpiles across the 10-acre CM SWM Facility, creating a slight slope to the southeast corner of the site.
- Locate a small retention basin at the southeast corner of the site.
- Grade slopes to 3:1.
- Construct a level area of 10-feet, from the perimeter of the slope to the facility's perimeter fence.
- Maintain a berm of 4 feet in height around the external portions of the pad with a minimum width of 3 feet at the top of the berm.

3.1 Decommissioning Schedule

The closure construction will be completed within 21 days of closure approval. If the NMOCD has not responded within 60 days of submittal of this closure plan, then closure construction will begin within the 21 days of the end non-response period.

4.0 REFERENCES

Kelley, V. C., 1950. Tectonics of the San Juan Basin. New Mexico Geological Society, Second Field Conference, San Juan Basin, pp. 124-131.

Kohler, M. A., Nordenson, T. J., and Baker, D. R., 1959. Technical Paper No. 37, Evaporation Maps for the United States. Hydrologic Services Division, U.S. National Weather Service [Weather Bureau].

NM OCD, 1993. Guidelines for Remediation of Leaks, Spill and Releases. New Mexico Oil Conservation District. August 13, 1993.

NMAC, 2015. New Mexico Administrative Code website http://164.64.110.239/nmac/index.htm.

1. NMAC 19.15.36.20 Transitional Provisions
2. NMAC 19.15.36.18.A. Surface waste Management Facility Closure by Operator
3. NMAC 19.15.36.18.C. Landfarm Closure
4. NMAC 19.15.36.18.E. Landfarm Post-Closure

NMOSE, 2016. NM Water Rights Reporting System website http://www.ose.state.nm.us/WRAB/index.php

ATTACHMENT 1: OCD Rule 711 Permit Approval NM-01-003

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

November 30, 1998

DEC 0 2 1998

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-499

Mr. Buddy Shaw
Amoco Production Company
200 Amoco Court
Farmington, New Mexico 87401

RE: OCD Rule 711 Permit Approval NM-02-0003
Amoco Production Company
Crouch Mesa Centralized Surface Waste Management Facility
SW/4 SE/4 of Section 2, Township 29 North, Range 12 West, NMPM,
San Juan County, New Mexico.

Dear Mr. Shaw:

The permit application for the Amoco Production Company (Amoco) centralized surface waste management facility located in the SW/4 SE/4 of Section 2, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico **is hereby approved** in accordance with New Mexico Oil Conservation Division (OCD) Rule 711 under the conditions contained in the enclosed attachment. This permit approval is conditional upon the receipt and approval by the Director of financial assurance in the amount of $25,000 for this facility or a $50,000 blanket bond for all of Amoco's centralized surface waste management facilities. A $50,000 blanket bond #365133 has been submitted by Amoco and approved by the Director. The application consists of the permit application Form C-137 dated March 27, 1998 and materials from the original permit application already on file with the OCD.

The construction, operation, monitoring and reporting shall be as specified in the enclosed attachment. All modifications and alternatives to the approved landfarming methods must receive prior OCD approval. Amoco is required to notify the Director of any facility expansion or process modification and to file the appropriate materials with the Division.

Please be advised approval of this facility permit does not relieve Amoco Production Company of liability should your operation result in actual pollution of surface water, ground water, or the environment. In addition, OCD approval does not relieve Amoco Production Company of responsibility for compliance with other federal, state or local laws and/or regulations.

Please be advised that all tanks exceeding 16 feet in diameter and exposed pits, ponds or lagoons must be screened, netted or otherwise rendered non-hazardous to migratory birds. In

addition, OCD Rule 310 prohibits oil from being stored or retained in earthen reservoirs, or open receptacles.

The Amoco Crouch Mesa Centralized Surface Waste Management Facility Permit NM-02-0003 will be reviewed at least once every five (5) years from the date of this approval letter. The facility is subject to periodic inspections by the OCD.

Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the OCD Santa Fe Office within five working days of receipt of this letter.**

If you have any questions please do not hesitate to contact Martyne J. Kieling at (505) 827-7153.

Sincerely,

Lori Wrotenbery

Lori Wrotenbery
Director

LW/mjk

xc with attachments:
Aztec OCD Office

ATTACHMENT TO OCD 711 PERMIT APPROVAL
PERMIT NM-02-003
AMOCO PRODUCTION COMPANY
SW/4 SE/4 of Section 2, Township 29 North, Range 12 West, NMPM,
San Juan County, New Mexico
(November 25, 1998)

LANDFARM AND COMPOST CONSTRUCTION

1. The facility will be fenced and have a sign at the entrance. The sign will be legible from at least fifty (50) feet and contain the following information: a) name of the facility; b) location by section, township and range; and c) emergency phone number.

2. Contaminated soils will not be placed within one hundred (100) feet of the boundary of the facility.

3. Contaminated soils will not be placed within twenty (20) feet of any pipeline crossing the landfarm/compost facility. In addition, no equipment will be operated within ten (10) feet of a pipeline. All pipelines crossing the facility will have surface markers identifying the location of the pipelines.

4. The portion of the facility containing contaminated soils will be bermed to prevent runoff and runon. A perimeter berm no less than four (4) feet above grade will be constructed and maintained such that it is capable of containing precipitation from a one-hundred year flood for the specific region. Individual cells will be contained with three (3) foot berms and individual compost piles or landfarms within each cell will be contained within two (2) foot berms.

5. All above ground tanks located at the facility and containing materials other than fresh water will be labeled as to contents and hazards and will be bermed to contain one and one-third the volume of the largest tank or all interconnected tanks.

LANDFARM AND COMPOST OPERATION

1. Disposal will occur only when an attendant is on duty. The facility will be secured when no attendant is present.

2. All contaminated soils received at the facility for land farming will be spread and disked within 72 hours of receipt.

3. Soils to be landfarmed will be spread on the surface in lifts of six inches or less.

4. Soils to be landfarmed will be disked a minimum of one time every two weeks (biweekly) to enhance biodegradation of contaminants.

5. All contaminated soils received at the facility for composting will be placed into compost piles or cells within 72 hours of receipt. Individual compost piles or cells will be labeled. Weekly temperature measurements will be taken on each compost cell, recorded, and maintained for OCD review. Compost piles will be turned as necessary to enhance biodegradation.

6. Exempt contaminated soils will be placed in the landfarm and compost facility so that they are physically separate (*i.e.*, bermed) from non-exempt contaminated soils. There will be no mixing of exempt and non-exempt soils.

7. Successive lifts of contaminated soils will not be spread on the landfarm or compost facility until a laboratory measurement of total petroleum hydrocarbons (TPH) in the previous lift is less than 100 ppm and the sum of all aromatic hydrocarbons (BTEX) is less than 50 ppm, and the benzene is less than 10 ppm. Comprehensive records of the laboratory analyses and the sampling locations will be maintained at the facility for OCD review.

8. Prior to removal of remediated soils from the facility, the soils will be tested for TPH, BTEX and benzene content. The remediated soils may only be moved to another location when the level of TPH in the remediated soil is less than 100 ppm, BTEX is less than 50 ppm, and the benzene is less than 10 ppm. Comprehensive records of the laboratory analyses, destination and volume of remediated soils removed from the facility will be maintained at the facility for OCD review. Authorization from the OCD Santa Fe office will be obtained prior to removal of the remediated soils to sensitive areas.

   Amoco may request alternate remediation levels for soils to be used or deposited at a location if remediation standards described in the OCD surface impoundment closure guidelines are met. Alternate remediation levels shall be subject to approval on a case-by-case basis. Requests shall be submitted to the Santa Fe OCD office for review.

9. Moisture will be added as necessary to enhance bio-remediation and to control blowing dust. There will be no ponding, pooling or run-off of water allowed. Any ponding of precipitation will be removed within twenty-four (24) hours of discovery.

10. Enhanced bio-remediation through the application of microbes and/or fertilizers (livestock manure) will be permitted at this facility. Records shall be maintained on the composition of additives, and the method, amount and frequency of application. These records will be subject to OCD review.

TREATMENT ZONE MONITORING OF LANDFARM AND COMPOSTING AREA

1. In the event that any new cells are opened, one (1) background soil sample will be taken from the center portion of the new landfarm or compost cell two (2) feet below the native ground surface prior to operation. The sample will be analyzed for total petroleum hydrocarbons (TPH), major cations/anions, volatile aromatic organics (BTEX), and heavy metals using approved EPA methods.

2. A treatment zone not to exceed three (3) feet beneath the landfarm and compost native ground surface will be monitored. A minimum of one random soil sample will be taken from each individual cell, with no cell being larger than five (5) acres, six (6) months after the first contaminated soils are received in the cell and then quarterly thereafter. The sample will be taken between two (2) to three (3) feet below the native ground surface.

3. The treatment zone soil samples will be analyzed using approved EPA methods for total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) quarterly and major cations/anions and heavy metals annually.

4. After obtaining the soil samples the boreholes will be filled with an impermeable material such as cement or bentonite.

WASTE ACCEPTANCE CRITERIA

1. The facility is authorized to accept only exempt and "non-hazardous" non-exempt oilfield wastes that are generated in the State of New Mexico by Amoco Production Company.

2. The facility is authorized to accept only:

   a. Oilfield waste that is exempt from RCRA Subtitle C regulations and that does not contain Naturally Occurring Radioactive Material (NORM) regulated pursuant to 20 NMAC 3.1 Subpart 1403.

   b. "Non-hazardous" non-exempt oilfield waste on a case-by-case basis after conducting a hazardous waste characterization including corrosivity, reactivity, ignitability, and toxic constituents and receiving OCD approval. The test for hazardous characteristics for a particular waste may be effective for an extended period of time from the date of analysis if approved by the OCD. In addition, the generator must certify that this waste does not contain Naturally Occurring Radioactive Material (NORM) regulated pursuant to 20 NMAC 3.1 Subpart 1403.

3. At no time will any OCD-permitted surface waste management facility accept wastes that are determined to be RCRA Subtitle C hazardous wastes by either listing or characteristic testing.

4. The transporter of any wastes to the facility will supply a certification that wastes delivered are those wastes received from the generator and that no additional materials have been added.

5. No free liquids or soils with free liquids will be accepted at the landfarm and composting facility.

6. Comprehensive records of all material disposed of at the surface waste management facility will be maintained by the permit holder.

REPORTING AND RECORD KEEPING

1. Analytical results from the treatment zone monitoring will be submitted to the OCD Santa Fe office for annual review **by November 30 of each year.**

2. Background sample analytical results from new cells will be submitted to the OCD Santa Fe office for review **by November 30 of each year.**

3 The applicant will notify the **OCD Aztec District office within 24 hours** of any break, spill, blow out, or fire or any other circumstance that could constitute a hazard or contamination in accordance with OCD Rule 116.

4. Authorization from the OCD Santa Fe office will be obtained prior to removal of the remediated soils to sensitive areas.

5. All records of testing and monitoring will be retained for a period of five (5) years.

6. The OCD will be notified prior to the installation of any pipelines or wells or other structures within the boundaries of the facility.

7. The OCD Santa Fe and Aztec District offices will be notified when operation of the facility is discontinued for a period in excess of six (6) months or when the facility is to be dismantled. A closure plan for the facility will be provided.

FINANCIAL ASSURANCE

1. Pursuant to OCD Rule 711.B.3.a., financial assurance in a form approved by the Director is required from Amoco Production Company in the amount of **$25,000** for this facility or in the amount of **$50,000** to cover all of Amoco Production Company's surface waste management facilities.

2. Financial assurance must be submitted within thirty (30) days of this permit approval or on December 30, 1998.

3. The facility is subject to periodic inspections by the OCD. The conditions of this permit and the facility will be reviewed by the OCD no later than five (5) years from the date of this approval.

CLOSURE

1. The OCD Santa Fe and Aztec District offices will be notified when operation of the facility is discontinued for a period in excess of six (6) months or when the facility is to be dismantled. Upon cessation of operations for six (6) consecutive months, the operator shall complete cleanup of constructed facilities and restoration of the facility site within the following six (6) months, unless an extension of time is granted by the Director.

2. A closure plan for the facility will be provided including the following OCD closure procedures:

    a. When the facility is to be closed no new material will be accepted.

    b. Existing landfarm and compost soils will be remediated until they meet the OCD standards in effect at the time of closure.

    c. The soils beneath the landfarm and compost cells will be characterized as to the total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) content in order to determine potential migration of contamination beneath the facility.

    d. Contaminated soils exceeding OCD closure standards for the site will be removed or remediated according to a site specific remediation plan to be developed by the owner/operator.

    e. The area will be contoured, seeded with native grasses and allowed to return to its natural state. If the landowner desires to keep existing structures, berms, or fences for future alternative uses the structures, berms, or fences may be left in place.

    f. Closure will be pursuant to all OCD requirements in effect at the time of closure, and any other applicable local, state and/or federal regulations.

CERTIFICATION

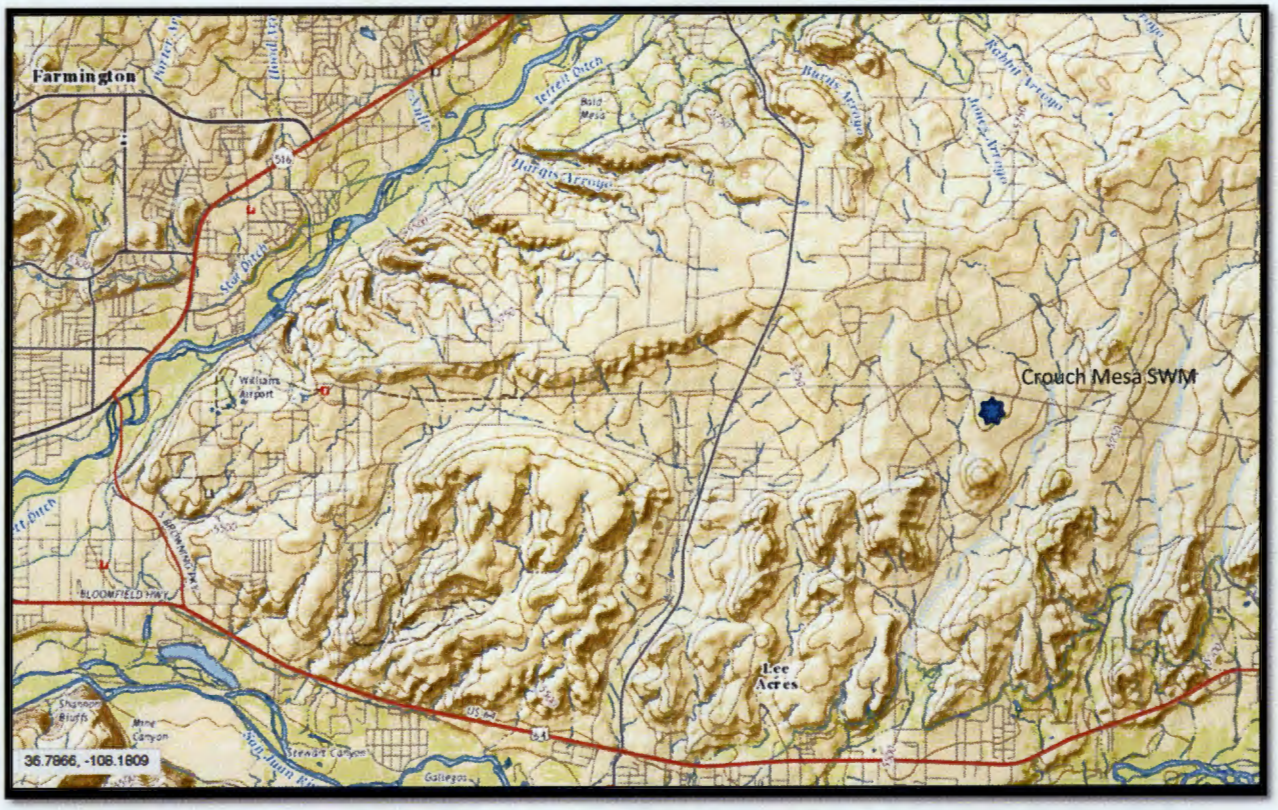
Amoco Production Company, by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. Amoco Production Company further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect ground water, surface water, human health and the environment.

Accepted: BJ Shaw

AMOCO PRODUCTION COMPANY

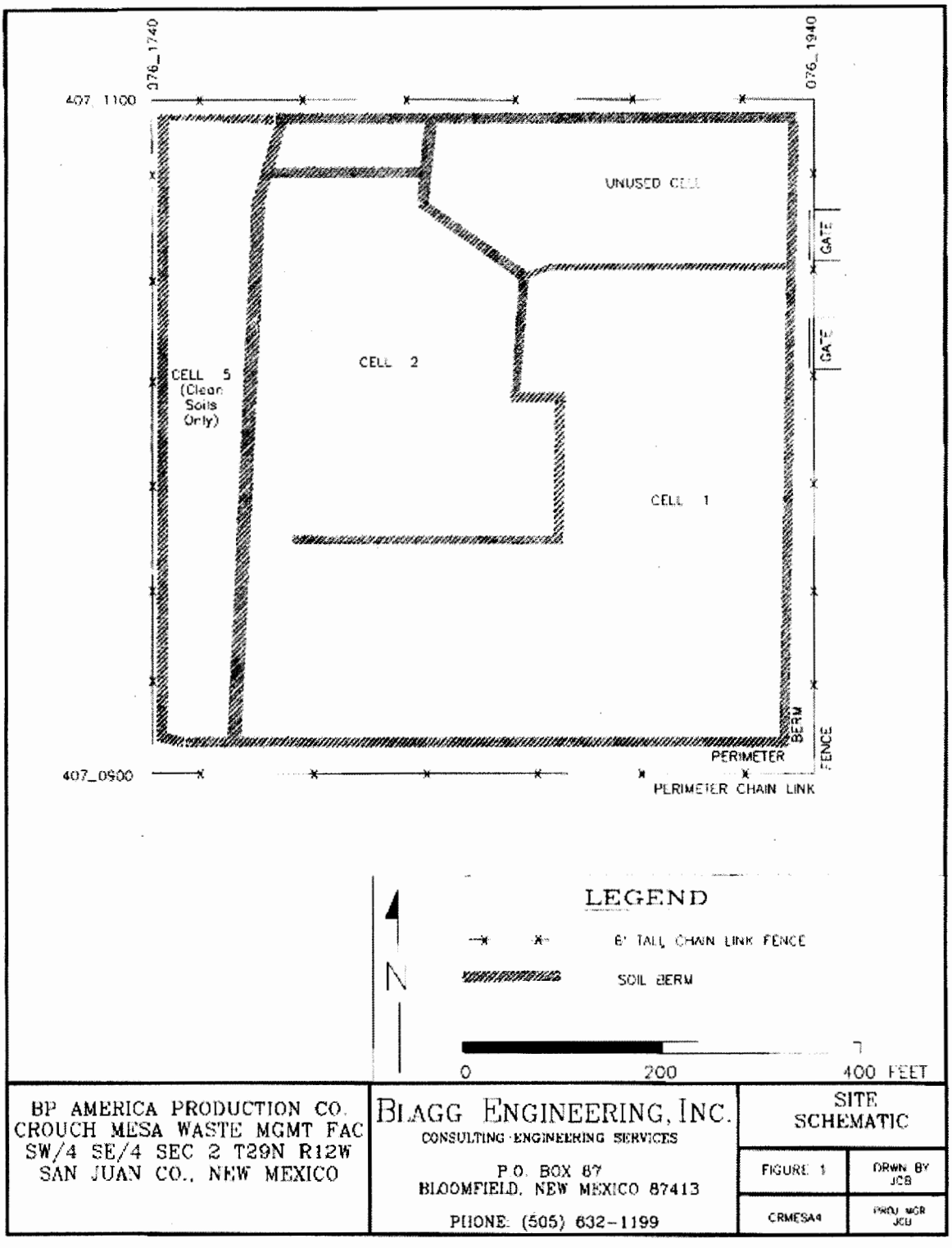
ATTACHMENT 2: CM SWM Facility Location Map

(Source: USGS Topographic Map, Flora Vista Quad)



USGS Topographic Map, Flora Vista Quad: Crouch Mesa SWM Facility. Animas River is located near northeast corner of map. San Juan River is located across the southern boundary of the map. North is towards top of page.

ATTACHMENT 3: CM SWM Facility Map



BP AMERICA PRODUCTION CO. CROUCH MESA WASTE MGMT FAC SW/4 SE/4 SEC 2 T29N R12W SAN JUAN CO., NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING ENGINEERING SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	SITE SCHEMATIC FIGURE 1 — DRWN BY JCB CRMESA4 — PROJ MGR JCB

ATTACHMENT 4: Water Well Locations and Depth to Water

Table 1- Water Wells nearest CM SWM Facility [source: NMOSE Water Rights Reporting System]

Figure 1 – Estimated Depth to Water in Unconfined Aquifer(s)

Figure 2 – Estimated Depth to Confined Aquifer

Well / POD No.	Tws	Rng	Sec	Q4	Q16	Surface Elevation relative to CM	Water level (ft. bgs) post development		Top (ft. bgs) - 1st water bearing zone		Top of Screen (ft. bgs)	COMMENTS
							Water well	relative to CM	Water well	relative to CM	Water well	
SJ01839	29N	12W	10	1	4	170-	175	345	207	377	192	~ SJ01036; drlrs log; confined; 6300' WSW of CM.
SJ00428	30N	12W	34	4	4	80-	25	105	25 90	170	140	Screen depth indicates water level is from 2nd aquifer @ 90' bgs; confined; 6200' NW of CM
SJ04193	29N	12W	10	2	3	170-	160	330	2	172	0	unconfined; 4700' WSW of CM
SJ03277	29N	12W	1	1	2	60+	120	60	120	60	100	unconfined; 5700' NE of CM
SJ02296	30N	12W	36			60-			TOP 78, BASE 90	138		unconfined; but probably not the zone of water production for this well.....
						60-	89	149	183	243	300	confined; water producing aquifer; 7600'NE of CM
SJ02296S	36N	12W	36	4	3	60-	100	160	288	348	240	confined;7700'NE of CM
SJ03388	29N	12W	15	2	2	260-	86	346	150	410	86	~SJ03388; confined; 6200' SW of CM
SJ00548	29N	12W	14	1	1	220-	60	280	160	380	n/a	confined; 6100' SW of CM
SJ03414	29N	12W	14	1	1	220-	70	290	70	290	n/a	unconfined; 5500' SW of CM

Table 1: Water Wells nearest CM SWM Facility [source: NMOSE Water Rights Reporting System - http://www.ose.state.nm.us/WRAB/index.php]

Figure 1: Estimated Depth to Water in Unconfined Aquifer(s)
Source: https://ose.maps.arcgis.com/apps/webappviewer/index.html?id=b9784910dd3c497ebb1476e014c1a444
www.ose.state.nm.us

Figure 2: Estimated Depth to Confined Aquifer
Source: https://ose.maps.arcgis.com/apps/webappviewer/index.html?id=b9784910dd3c497ebb1476e014c1a444
www.ose.state.nm.us

ATTACHMENT 5: Landowner Request to BP for specific site conditions to remain unvegetated and existing structures, berms, and fencing to be left in place.

Industrial Ecosystems Inc.
Soil Reclamation Center

P.O. Box 2043
Farmington, NM 87499

Phone: (505) 632-1782
Fax: (505) 632-1876

#49 CR 3150
Aztec, NM 87410

February 7, 2017

Roxana Herrera
Sr. Water / Waste Advisor
BP Lower 48 Onshore
737 N. Eldridge Parkway
Houston TX 77079

Re: Closure of the BP/Amoco Production Co. Surface Waste Management Facility Permit # NM-02-003

Dear Roxana:

This letter is being submitted to you regarding BP commencing closure of its Crouch Mesa Surface Waste Management Facility (Permit # NM-02-003). As the landowners of the property, we would want to keep the existing perimeter berms in place for erosion and stormwater run on/off control. We would also want to keep the existing fencing in place for security purposes and to continue to separate the land from the existing JFJ SWMF.

As per NMAC 19.15.36.18.G, with division approval, the landowner can implement use of the land for purposes inconsistent with re-vegetation. As the landowner, we would like to utilize the area for storage purposes (i.e. trailers, sheds, equipment). We would perform on-going maintenance to keep the area free from weeds and trash and to maintain berm integrity to provide erosion and stormwater run on/off control.

Please feel free to contact myself or Marcella Marquez if there are any questions or if additional information is needed.

Respectfully,

James Hatcher

James Hatcher, President

ATTACHMENT 6: Biopile Laboratory Analyses & Summary Table

May 2011 to May 2016

Crouch Mesa SWM Facility Biopile Laboratory Analyses - 5 Years (May 2011 through May 2016)

Pile Sample ID	Lab Sample ID	Sample date (collected)	Lab	DRO (mg/kg)	GRO (mg/kg)	TPH (mg/kg)	MRO (mg/kg)	TPH+MRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene, total (mg/kg)	BTEX (mg/kg)	Chloride (mg/kg)
			19.15.36.15(F) Limits			**500**		**2500**	**0.2**				50	500(if GW<100'; 1000(if GW>100')
			PERMIT LIMIT			**100**		**n/a**	**10**				**50**	**n/a**
890	1108156-02	7/29/2011	Hall Env. Analysis Lab	14	ND (PQL=4.9)	14	ND (PQL=51)	14						
	1011748-06	11/16/2010	Hall Env. Analysis Lab						ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.10)	ND	240
895	1205699-003	5/10/2012	Hall Env. Analysis Lab	43	ND (RL=4.8)	43	180	223	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.10)	ND	170
903	1203239-003	3/5/2012	Hall Env. Analysis Lab	65	ND (RL=4.8)	65	130	195	ND (RL=0.050)	0.051	ND (RL=0.050)	0.21	0.261	720
905	1203239-004	3/5/2012	Hall Env. Analysis Lab	87	ND (RL=4.6)	87	270	357	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.050)	0.14	0.14	530
906	1207D22-002	7/30/2012	Hall Env. Analysis Lab	48	ND (RL=4.8)	48	61	109	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.10)	ND	30
908	1203239-007	3/5/2012	Hall Env. Analysis Lab	84	ND (RL=4.6)	84	220	304	ND (RL=0.046)	0.049	ND (RL=0.046)	0.15	0.199	490
910	1305716-005	5/10/2013	Hall Env. Analysis Lab	52	ND (RL=4.6)	52	120	172	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.092)	ND	140
911	1106662-06	6/14/2011	Hall Env. Analysis Lab	21	ND (PQL=5.0)	21	57	78						
	1011748-04	11/16/2010	Hall Env. Analysis Lab						ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.10)	ND	87
913	1108156-11	7/29/2011	Hall Env. Analysis Lab	62	ND (PQL=4.8)	62	280	342						
	1106662-09	6/14/2011	Hall Env. Analysis Lab						ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.10)	ND	71
914	1106662-07	6/14/2011	Hall Env. Analysis Lab	29	ND (PQL=5.0)	29	160	189	ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.10)	ND	63
915	1403537-009	3/7/2014	Hall Env. Analysis Lab	65	ND (PQL=4.7)	65	110	175	ND (PQL=0.047)	ND (PQL=0.047)	ND (PQL=0.047)	ND (PQL=0.047)	ND	31
916	1106662-05	6/14/2011	Hall Env. Analysis Lab	38	ND (PQL=5.0)	38	160	168	ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.10)	ND	79
917	1305716-004	5/10/2013	Hall Env. Analysis Lab	44	ND (RL=4.7)	44	160	204	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	54
918	1203239-005	3/5/2012	Hall Env. Analysis Lab	18	ND (RL=4.9)	18	440	458	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.099)	ND	280
919	1203239-002	3/5/2012	Hall Env. Analysis Lab	56	ND (RL=4.8)	56	160	216	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)	ND	160
920	1108156-01	7/29/2011	Hall Env. Analysis Lab	20	ND (PQL=5.0)	20	78	98	ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.10)	ND	100
921	1209542-007	9/11/2012	Hall Env. Analysis Lab	38	ND (RL=4.8)	38	70	108	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)	ND	160
922	1205699-002	5/10/2012	Hall Env. Analysis Lab	49	ND (RL=4.8)	49	92	141	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.097)	ND	93
923	1305716-003	5/10/2013	Hall Env. Analysis Lab	34	ND (RL=4.7)	34	170	204	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.095)	ND	100
924	1308D49-002	8/29/2013	Hall Env. Analysis Lab	10	ND (RL=4.8)	10	ND (PQL=50)	10	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.097)	ND	92
925	1209542-006	9/11/2012	Hall Env. Analysis Lab	ND (RL=10)	ND (RL=4.8)	ND	ND (PQL=51)	ND	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)	ND	96
926	1311148-004	10/31/2013	Hall Env. Analysis Lab	17	ND (RL=4.6)		70	17	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.093)	ND	110
926A	1311148-005	10/31/2013	Hall Env. Analysis Lab	29	ND (RL=4.9)	29	78	29	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.097)	ND	95
927	1209542-008	6/11/2012	Hall Env. Analysis Lab	29	ND (RL=4.9)		ND (PQL=49)	29	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.097)	ND	48
928	1409892-006	9/16/2014	Hall Env. Analysis Lab	93	ND (RL=4.7)	93	310	403	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	83
928A	1403537-008	3/7/2014	Hall Env. Analysis Lab	62	ND (RL=4.7)	62	97	159	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.095)	ND	39
929	1305716-001	5/10/2013	Hall Env. Analysis Lab	35	ND (RL=4.7)	35	80	115	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.095)	ND	68
930	1311148-001	10/31/2013	Hall Env. Analysis Lab	64	28	64	ND (PQL=49)	92	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.093)	ND	150
931	1311148-002	10/31/2013	Hall Env. Analysis Lab	20	ND (RL=4.8)	20	53	20	ND (RL=0.048)	0.049	ND (RL=0.048)	ND (RL=0.096)	0.049	160
931A	1311148-003	10/31/2013	Hall Env. Analysis Lab	ND (RL=10)	ND (RL=4.8)	ND	59	ND	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)	ND	100
932	1311148-006	11/1/2013	Hall Env. Analysis Lab	14	ND (RL=4.6)	14	70	14	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.092)	ND	66
932A	1311148-007	11/1/2013	Hall Env. Analysis Lab	ND (RL=10)	ND (RL=4.7)	ND	ND (PQL=50)	ND	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.095)	ND	36
933	1409892-009	9/16/2014	Hall Env. Analysis Lab	17	ND (RL=4.8)	17	ND (PQL=50)	17	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.095)	ND	ND (RL=30)
934	1311148-009	11/1/2013	Hall Env. Analysis Lab	51	ND (RL=4.8)	51	77	121	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.095)	ND	73
935	1405024-007	4/28/2014	Hall Env. Analysis Lab	14	ND (RL=4.9)	14	ND (PQL=49)	14	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.099)	ND	100
936	1405024-005	4/28/2014	Hall Env. Analysis Lab	19	5.7	19	ND (PQL=50)	24.7	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.093)	ND	43
937	1308D49-005	8/29/2013	Hall Env. Analysis Lab	67	8.4	67	120	195.4	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.093)	ND	67
938	1405764-005	5/12/2014	Hall Env. Analysis Lab	38	ND (RL=4.8)	38	120	158	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.095)	ND	260
939	1403537-005	3/7/2014	Hall Env. Analysis Lab	24	ND (RL=4.7)	24	51	75	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	100
940	1403537-006	3/7/2014	Hall Env. Analysis Lab	26	ND (RL=4.7)	26	ND (PQL=50)	26	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.093)	ND	78
941	1405024-004	4/28/2014	Hall Env. Analysis Lab	ND (RL=9.9)	ND (RL=4.7)	ND	ND (PQL=49)	ND	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	100
942	1405764-006	5/12/2014	Hall Env. Analysis Lab	46	ND (RL=4.7)	46	56	102	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	41
943	1405024-006	4/28/2014	Hall Env. Analysis Lab	ND (RL=10)	ND (RL=4.9)	ND	ND (PQL=50)	ND	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.097)	ND	59
943A	1311148-008	11/1/2013	Hall Env. Analysis Lab	12	ND (RL=4.7)	12	ND (PQL=51)	12	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	110
944	1507544-001	7/10/2015	Hall Env. Analysis Lab	90	ND (RL=5.0)	90	92	182	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.099)	ND	70
945	1507963-001	7/21/2015	Hall Env. Analysis Lab	91	ND (RL=4.9)	91	140	231	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.098)	ND	49
946	1409892-010	9/16/2014	Hall Env. Analysis Lab	41	ND (RL=4.7)	41	470	511	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	440
947	1507963-002	7/21/2015	Hall Env. Analysis Lab	66	ND (PQL=4.8)	66			ND (PQL=0.048)	ND (PQL=0.048)	ND (PQL=0.048)	ND (PQL=0.096)	ND	39

Crouch Mesa SWM Facility Biopile Laboratory Analyses - 5 Years (May 2011 through May 2016)

Pile Sample ID	Lab Sample ID	Sample date (collected)	Lab	DRO (mg/kg)	GRO (mg/kg)	TPH (mg/kg)	MRO (mg/kg)	TPH+MRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene, total (mg/kg)	BTEX (mg/kg)	Chloride (mg/kg)
948	1512183-002	11/30/2015	Hall Env. Analysis Lab	53	ND (RL=4.9)	53	100	153	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.098)	ND	57
949	1512183-001	11/30/2015	Hall Env. Analysis Lab	49	ND (RL=4.9)	49	89	138	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.099)	ND	57
950	1605989-001	5/18/2016	Hall Env. Analysis Lab	23	ND (RL=4.9)	23	ND (PQL=48)	23	ND (RL=0.025)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.098)	ND	30
951	1408032-004	7/30/2014	Hall Env. Analysis Lab	40	ND (RL=4.7)	40	90	130	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	32
952	1408032-005	7/30/2014	Hall Env. Analysis Lab	ND (RL=9.9)	ND (RL=4.8)	ND	55	55	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)	ND	61
953	1408032-006	7/30/2014	Hall Env. Analysis Lab	10	ND (RL=4.8)	10	ND (PQL=50)	10	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)	ND	63
954	1405764-003	5/12/2014	Hall Env. Analysis Lab	26	ND (RL=4.8)	26	ND (PQL=50)	26	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)	ND	54
955	1508119-002	8/3/2015	Hall Env. Analysis Lab	ND (RL=9.6)	ND (RL=4.8)	ND	ND (PQL=48)	ND	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.097)	ND	96
956	1508119-003	8/3/2015	Hall Env. Analysis Lab	37	ND (RL=4.9)	37	ND (PQL=48)	37	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.098)	ND	97
957	1407373-006	7/8/2014	Hall Env. Analysis Lab	45	ND (RL=4.8)	45	110	155	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)	ND	100
958	1405764-001	5/12/2014	Hall Env. Analysis Lab	35	29	35	ND (PQL=50)	64	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.093)	ND	100
959	1410B59-005	10/21/2014	Hall Env. Analysis Lab	87	ND (RL=4.8)	87	90	177	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)	ND	82
960	1409892-008	9/16/2014	Hall Env. Analysis Lab	21	ND (RL=4.7)	21	ND (PQL=50)	21	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.093)	ND	130
961	1507963-005	7/21/2015	Hall Env. Analysis Lab	ND (RL=9.5)	ND (RL=4.9)	ND	ND (PQL=48)	ND	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.097)	ND	150
962	1408032-008	7/30/2014	Hall Env. Analysis Lab	26	ND (RL=4.8)	26	ND (PQL=50)	26	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.097)	ND	36
963	1407373-002	7/8/2014	Hall Env. Analysis Lab	71	ND (RL=4.7)	71	53	124	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.095)	ND	90
964	1408032-009	7/30/2014	Hall Env. Analysis Lab	20	ND (RL=4.9)	20	ND (PQL=50)	20	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.099)	ND	ND (RL=30)
965	1408032-010	7/30/2014	Hall Env. Analysis Lab	41	ND (RL=4.7)	41	68	109	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.095)	ND	47
966	1512183-005	11/30/2015	Hall Env. Analysis Lab	ND (RL=9.5)	ND (RL=4.9)	ND	ND (PQL=48)	ND	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.098)	ND	98
967	1412597-007	12/8/2014	Hall Env. Analysis Lab	35	ND (RL=4.7)	35	73	108	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.095)	ND	80
968	1512A94-002	12/22/2015	Hall Env. Analysis Lab	13	ND (RL=4.8)	13	ND (PQL=47)	13	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.097)	ND	76
969	1512A94-003	12/22/2015	Hall Env. Analysis Lab	ND (RL=9.4)	ND (RL=4.6)	ND	ND (PQL=47)	ND	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.092)	ND	120
970	1506E14-010	6/26/2015	Hall Env. Analysis Lab	17	ND (RL=4.8)	17	250	267	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)	ND	89
971	1412597-004	12/8/2014	Hall Env. Analysis Lab	100	ND (RL=4.8)	100	110	210	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.097)	ND	70
972	1512183-003	11/30/2015	Hall Env. Analysis Lab	ND (RL=9.5)	ND (RL=4.9)	ND	ND (PQL=47)	ND	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.098)	ND	47
973	1512183-004	11/30/2015	Hall Env. Analysis Lab	ND (RL=9.7)	ND (RL=4.9)	ND	ND (PQL=48)	ND	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.098)	ND	56
974	1512A94-005	12/22/2015	Hall Env. Analysis Lab	ND (RL=9.7)	ND (RL=4.9)	ND	ND (PQL=48)	ND	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.097)	ND	120
975	1412597-003	12/8/2014	Hall Env. Analysis Lab	33	ND (RL=4.7)	33	54	87	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.095)	ND	50
976	1512A94-007	12/22/2015	Hall Env. Analysis Lab	ND (RL=9.5)	ND (RL=4.8)	ND	50	50	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.097)	ND	370
977	1507544-003	7/10/2015	Hall Env. Analysis Lab	16	ND (RL=4.9)	16	ND (PQL=48)	16	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.097)	ND	82
978	1507544-004	7/10/2015	Hall Env. Analysis Lab	ND (RL=9.8)	ND (RL=.049)	ND	49	49	ND (RL=0.0049)	ND (RL=0.0049)	ND (RL=0.0049)	ND (RL=0.0099)	ND	92
980	1512A94-006	12/22/2015	Hall Env. Analysis Lab	ND (RL=9.8)	ND (RL=4.6)	ND	ND (PQL=47)	ND	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.097)	ND	190
981	1502134-007	2/2/2015	Hall Env. Analysis Lab	19	ND (RL=5.0)	19	ND (PQL=50)	19	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.10)	ND	81
982	1512A94-004	12/22/2015	Hall Env. Analysis Lab	ND (RL=10)	ND (RL=4.8)	ND	ND (PQL=50)	ND	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)	ND	140
983	1412597-008	12/8/2014	Hall Env. Analysis Lab	66	ND (RL=4.7)	66	ND (PQL=49)	66	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	76
984	1512A94-001	12/22/2015	Hall Env. Analysis Lab	ND (RL=9.4)	ND (RL=4.8)	ND	ND (PQL=47)	ND	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.095)	ND	110
985	1507963-006	7/21/2015	Hall Env. Analysis Lab	ND (RL=9.7)	ND (RL=4.7)	ND	ND (PQL=48)	ND	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	150
986	1412597-009	12/8/2014	Hall Env. Analysis Lab	55	ND (RL=5.0)	55	68	123	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.099)	ND	78
987	1506E14-009	6/26/2015	Hall Env. Analysis Lab	28	ND (RL=4.8)	28	400	428	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.095)	ND	110
989	1502134-004	2/2/2015	Hall Env. Analysis Lab	19	ND (RL=4.7)	19	51	70	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	73
990	1412597-001	12/8/2014	Hall Env. Analysis Lab	ND (RL=10)	ND (RL=4.9)	ND	ND (PQL=50)	ND	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.099)	ND	74
991	1412597-005	12/8/2014	Hall Env. Analysis Lab	47	ND (RL=4.9)	47	67	114	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.099)	ND	63
992	1507963-007	7/21/2015	Hall Env. Analysis Lab	72	ND (RL=5.0)	72	71	143	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.099)	ND	59
993	1507544-005	7/10/2015	Hall Env. Analysis Lab	ND (RL=9.4)	ND (RL=4.9)	ND	ND (PQL=47)	ND	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.098)	ND	100
994	1502134-002	2/2/2015	Hall Env. Analysis Lab	ND (RL=10)	ND (RL=4.8)	ND	ND (PQL=50)	ND	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.097)	ND	79
996	1502134-006	2/2/2015	Hall Env. Analysis Lab	41	ND (RL=4.7)	41	87	128	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	140
997	1502134-001	2/2/2015	Hall Env. Analysis Lab	17	ND (RL=4.8)	17	60	77	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.097)	ND	290
998	1502134-003	2/2/2015	Hall Env. Analysis Lab	11	ND (RL=5.0)	11	ND (PQL=50)	11	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.10)	ND	ND (RL=30)
999	1507544-006	7/10/2015	Hall Env. Analysis Lab	100	ND (RL=.049)	100	ND (PQL=490)	100	ND (RL=0.0049)	ND (RL=0.0049)	ND (RL=0.0049)	ND (RL=0.0099)	ND	ND (RL=30)
1000	1502134-005	2/2/2015	Hall Env. Analysis Lab	28	ND (RL=4.8)	28	68	96	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.097)	ND	ND (RL=30)
1001	1507963-008	7/22/2015	Hall Env. Analysis Lab	ND (RL=9.6)	ND (RL=4.6)	ND	ND (PQL=48)	ND	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.093)	ND	ND (RL=30)
1002	1507963-009	7/21/2015	Hall Env. Analysis Lab	ND (RL=9.7)	ND (RL=4.8)	ND	ND (PQL=49)	ND	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)	ND	42
1003	1512183-006	11/30/2015	Hall Env. Analysis Lab	ND (RL=9.9)	ND (RL=4.9)	ND	ND (PQL=49)	ND	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.098)	ND	ND (RL=30)

Crouch Mesa SWM Facility Biopile Laboratory Analyses - 5 Years (May 2011 through May 2016)

Pile Sample ID	Lab Sample ID	Sample date (collected)	Lab	DRO (mg/kg)	GRO (mg/kg)	TPH (mg/kg)	MRO (mg/kg)	TPH+MRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene, total (mg/kg)	BTEX (mg/kg)	Chloride (mg/kg)
1004	1507544-007	7/10/2015	Hall Env. Analysis Lab	73	ND (RL=4.9)	73	84	157	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.098)	ND	ND (RL=30)
1005	1506E14-003	6/26/2015	Hall Env. Analysis Lab	42	ND (RL=4.7)	42	140	182	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	48
1006	1506E14-004	6/26/2015	Hall Env. Analysis Lab	24	ND (RL=4.9)	24	130	154	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.098)	ND	53

May 2011 - Dec 2011

Hall Environmental Analysis Laboratory, Inc.

Date: *23-Sep-16*
Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	PILE 890
Lab Order:	1108156	**Collection Date:**	7/29/2011 9:15:00 AM
Project:	Crouch Mesa Landfarm	**Date Received:**	8/2/2011
Lab ID:	1108156-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	14	10		mg/Kg	1	8/8/2011 12:46:54 PM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	8/8/2011 12:46:54 PM
Surr: DNOP	75.6	73.4-123		%REC	1	8/8/2011 12:46:54 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/7/2011 5:37:19 PM
Surr: BFB	97.5	75.2-136		%REC	1	8/7/2011 5:37:19 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *01-Dec-10*

CLIENT:	Blagg Engineering	**Client Sample ID:**	PILE 890
Lab Order:	1011748	**Collection Date:**	11/16/2010 8:55:00 AM
Project:	Crouch Mesa L.F.	**Date Received:**	11/17/2010
Lab ID:	1011748-06	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	140	10		mg/Kg	1	11/22/2010 10:11:34 AM
Surr: DNOP	111	61.7-135		%REC	1	11/22/2010 10:11:34 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/22/2010 7:44:11 PM
Surr: BFB	105	89.7-125		%REC	1	11/22/2010 7:44:11 PM
EPA METHOD 300.0: ANIONS						Analyst: **SRM**
Chloride	240	30		mg/Kg	20	11/24/2010 11:41:18 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **MMS**
Benzene	ND	0.050		mg/Kg	1	11/19/2010 4:13:10 PM
Toluene	ND	0.050		mg/Kg	1	11/19/2010 4:13:10 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/19/2010 4:13:10 PM
Xylenes, Total	ND	0.10		mg/Kg	1	11/19/2010 4:13:10 PM
Surr: 4-Bromofluorobenzene	88.9	82.2-105		%REC	1	11/19/2010 4:13:10 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *23-Sep-16*
Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	Pile 911
Lab Order:	1106662	**Collection Date:**	6/14/2011 11:05:00 AM
Project:	Crouch Mesa L.F.	**Date Received:**	6/15/2011
Lab ID:	1106662-06	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	21	9.6		mg/Kg	1	6/17/2011 12:12:14 PM
Motor Oil Range Organics (MRO)	57	48		mg/Kg	1	6/17/2011 12:12:14 PM
Surr: DNOP	101	73.4-123		%REC	1	6/17/2011 12:12:14 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/17/2011 1:02:06 AM
Surr: BFB	82.7	75.2-136		%REC	1	6/17/2011 1:02:06 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *01-Dec-10*

CLIENT:	Blagg Engineering	**Client Sample ID:**	PILE 911
Lab Order:	1011748	**Collection Date:**	11/16/2010 8:35:00 AM
Project:	Crouch Mesa L.F.	**Date Received:**	11/17/2010
Lab ID:	1011748-04	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	170	10		mg/Kg	1	11/22/2010 9:37:27 AM
Surr: DNOP	113	61.7-135		%REC	1	11/22/2010 9:37:27 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/22/2010 6:46:20 PM
Surr: BFB	110	89.7-125		%REC	1	11/22/2010 6:46:20 PM
EPA METHOD 300.0: ANIONS						Analyst: **SRM**
Chloride	87	30		mg/Kg	20	11/24/2010 10:31:39 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **MMS**
Benzene	ND	0.050		mg/Kg	1	11/19/2010 3:16:46 PM
Toluene	ND	0.050		mg/Kg	1	11/19/2010 3:16:46 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/19/2010 3:16:46 PM
Xylenes, Total	ND	0.10		mg/Kg	1	11/19/2010 3:16:46 PM
Surr: 4-Bromofluorobenzene	86.2	82.2-105		%REC	1	11/19/2010 3:16:46 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Estimated value
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- NC Non-Chlorinated
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitation Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *23-Sep-16*
Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	PILE 913
Lab Order:	1108156	**Collection Date:**	7/29/2011 10:25:00 AM
Project:	Crouch Mesa Landfarm	**Date Received:**	8/2/2011
Lab ID:	1108156-11	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	62	49		mg/Kg	5	8/9/2011 11:24:24 AM
Motor Oil Range Organics (MRO)	280	240		mg/Kg	5	8/9/2011 11:24:24 AM
Surr: DNOP	123	73.4-123		%REC	5	8/9/2011 11:24:24 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/7/2011 9:57:21 PM
Surr: BFB	95.9	75.2-136		%REC	1	8/7/2011 9:57:21 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *27-Jun-11*

Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	Pile 913
Lab Order:	1106662	**Collection Date:**	6/14/2011 11:35:00 AM
Project:	Crouch Mesa L.F.	**Date Received:**	6/15/2011
Lab ID:	1106662-09	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	110	100		mg/Kg	10	6/18/2011 3:50:23 PM
Surr: DNOP	0	73.4-123	S	%REC	10	6/18/2011 3:50:23 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/17/2011 3:01:56 AM
Surr: BFB	91.6	75.2-136		%REC	1	6/17/2011 3:01:56 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.050		mg/Kg	1	6/17/2011 3:01:56 AM
Toluene	ND	0.050		mg/Kg	1	6/17/2011 3:01:56 AM
Ethylbenzene	ND	0.050		mg/Kg	1	6/17/2011 3:01:56 AM
Xylenes, Total	ND	0.10		mg/Kg	1	6/17/2011 3:01:56 AM
Surr: 4-Bromofluorobenzene	100	92-130		%REC	1	6/17/2011 3:01:56 AM
EPA METHOD 300.0: ANIONS						Analyst: **SRM**
Chloride	71	30		mg/Kg	20	6/24/2011 3:59:37 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *23-Sep-16*
Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	Pile 914
Lab Order:	1106662	**Collection Date:**	6/14/2011 11:15:00 AM
Project:	Crouch Mesa L.F.	**Date Received:**	6/15/2011
Lab ID:	1106662-07	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	29	9.8		mg/Kg	1	6/17/2011 12:47:08 PM
Motor Oil Range Organics (MRO)	160	49		mg/Kg	1	6/17/2011 12:47:08 PM
Surr: DNOP	103	73.4-123		%REC	1	6/17/2011 12:47:08 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/17/2011 1:32:00 AM
Surr: BFB	88.3	75.2-136		%REC	1	6/17/2011 1:32:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.050		mg/Kg	1	6/17/2011 1:32:00 AM
Toluene	ND	0.050		mg/Kg	1	6/17/2011 1:32:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	6/17/2011 1:32:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	6/17/2011 1:32:00 AM
Surr: 4-Bromofluorobenzene	96.6	92-130		%REC	1	6/17/2011 1:32:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **SRM**
Chloride	63	30		mg/Kg	20	6/24/2011 3:24:48 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *23-Sep-16*
Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	Pile 916
Lab Order:	1106662	**Collection Date:**	6/14/2011 10:55:00 AM
Project:	Crouch Mesa L.F.	**Date Received:**	6/15/2011
Lab ID:	1106662-05	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	38	9.9		mg/Kg	1	6/17/2011 11:37:18 AM
Motor Oil Range Organics (MRO)	160	50		mg/Kg	1	6/17/2011 11:37:18 AM
Surr: DNOP	116	73.4-123		%REC	1	6/17/2011 11:37:18 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/17/2011 12:32:02 AM
Surr: BFB	85.2	75.2-136		%REC	1	6/17/2011 12:32:02 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.050		mg/Kg	1	6/17/2011 12:32:02 AM
Toluene	ND	0.050		mg/Kg	1	6/17/2011 12:32:02 AM
Ethylbenzene	ND	0.050		mg/Kg	1	6/17/2011 12:32:02 AM
Xylenes, Total	ND	0.10		mg/Kg	1	6/17/2011 12:32:02 AM
Surr: 4-Bromofluorobenzene	92.7	92-130		%REC	1	6/17/2011 12:32:02 AM
EPA METHOD 300.0: ANIONS						Analyst: **SRM**
Chloride	79	7.5		mg/Kg	5	6/24/2011 1:57:45 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *23-Sep-16*
Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	PILE 920
Lab Order:	1108156	**Collection Date:**	7/29/2011 9:10:00 AM
Project:	Crouch Mesa Landfarm	**Date Received:**	8/2/2011
Lab ID:	1108156-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	20	9.9		mg/Kg	1	8/8/2011 11:03:16 AM
Motor Oil Range Organics (MRO)	78	49		mg/Kg	1	8/8/2011 11:03:16 AM
Surr: DNOP	81.2	73.4-123		%REC	1	8/8/2011 11:03:16 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/7/2011 5:08:21 PM
Surr: BFB	97.9	75.2-136		%REC	1	8/7/2011 5:08:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.049		mg/Kg	1	8/7/2011 5:08:21 PM
Toluene	ND	0.049		mg/Kg	1	8/7/2011 5:08:21 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/7/2011 5:08:21 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/7/2011 5:08:21 PM
Surr: 4-Bromofluorobenzene	106	90.3-115		%REC	1	8/7/2011 5:08:21 PM
EPA METHOD 300.0: ANIONS						Analyst: **SRM**
Chloride	100	30		mg/Kg	20	8/8/2011 9:18:34 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Crouch Mesa Landfarm **Work Order:** 1108156

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB-27943		*MBLK*				Batch ID:	**27943**	Analysis Date:	8/8/2011 4:57:21 PM		
Chloride	ND	mg/Kg	1.5								
Sample ID: LCS-27943		*LCS*				Batch ID:	**27943**	Analysis Date:	8/8/2011 5:14:46 PM		
Chloride	14.69	mg/Kg	1.5	15	0	97.9	90	110			
Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: MB-27921		*MBLK*				Batch ID:	**27921**	Analysis Date:	8/8/2011 9:19:50 AM		
Diesel Range Organics (DRO)	ND	mg/Kg	10								
Motor Oil Range Organics (MRO)	ND	mg/Kg	50								
Surr: DNOP	7.448	mg/Kg	0	10	0	74.5	73.4	123			
Sample ID: LCS-27921		*LCS*				Batch ID:	**27921**	Analysis Date:	8/8/2011 9:54:28 AM		
Diesel Range Organics (DRO)	41.18	mg/Kg	10	50	0	82.4	66.7	119			
Surr: DNOP	4.252	mg/Kg	0	5	0	85.0	73.4	123			
Method: EPA Method 8015B: Gasoline Range											
Sample ID: MB-27920		*MBLK*				Batch ID:	**27920**	Analysis Date:	8/7/2011 12:47:05 PM		
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Surr: BFB	979.1	mg/Kg	0	1000	0	97.9	75.2	136			
Sample ID: LCS-27920		*LCS*				Batch ID:	**27920**	Analysis Date:	8/7/2011 2:42:50 PM		
Gasoline Range Organics (GRO)	29.94	mg/Kg	5.0	25	0	120	86.4	132			
Surr: BFB	1032	mg/Kg	0	1000	0	103	75.2	136			
Method: EPA Method 8021B: Volatiles											
Sample ID: MB-27920		*MBLK*				Batch ID:	**27920**	Analysis Date:	8/7/2011 12:47:05 PM		
Benzene	ND	mg/Kg	0.050								
Toluene	ND	mg/Kg	0.050								
Ethylbenzene	ND	mg/Kg	0.050								
Xylenes, Total	ND	mg/Kg	0.10								
Surr: 4-Bromofluorobenzene	1.069	mg/Kg	0	1	0	107	90.3	115			
Sample ID: LCS-27920		*LCS*				Batch ID:	**27920**	Analysis Date:	8/7/2011 3:11:45 PM		
Benzene	0.8840	mg/Kg	0.050	1	0	88.4	83.3	107			
Toluene	0.9774	mg/Kg	0.050	1	0	97.7	74.3	115			
Ethylbenzene	1.015	mg/Kg	0.050	1	0	102	80.9	122			
Xylenes, Total	3.085	mg/Kg	0.10	3	0	103	85.2	123			
Surr: 4-Bromofluorobenzene	1.051	mg/Kg	0	1	0	105	90.3	115			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG | Date Received: 8/2/2011

Work Order Number 1108156 | Received by: LNM

Checklist completed by: Signature 8/2/11 Date | Sample ID labels checked by: Initials

Matrix: | Carrier name: Courier

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☐	No ☑		Number of preserved bottles checked for pH:
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	<2 >12 *unless noted below.*
Container/Temp Blank temperature?	**2.9°**	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: BLAGG ENGINEERING INC.
BP AMERICA
Mailing Address: P.O. BOX 87
BLOOMFIELD NM
Phone #: 505-632-1199
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: CROUCH MESA LANDFARM
Project #:
Project Manager: JEFF BLAGG
Sampler: JEFF BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 2.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1108156	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
7/29/2011	0910	SOIL	PILE 920	4oz x 1	COOL	1	X		X									X				
"	0915	"	PILE 890	"	"	2			X													
"	0920	"	PILE 908	"	"	3			X													
"	0930	"	PILE 910	"	"	4			X													
"	0940	"	PILE 918	"	"	5			X													
"	0945	"	PILE 905	"	"	6			X													
"	0950	"	PILE 903	"	"	7			X													
"	1000	"	PILE 906	"	"	8			X													
"	1005	"	PILE 917	"	"	9	X		X									X				
"	1015	"	PILE 895	"	"	10			X													
"	1025	"	PILE 913	"	"	11			X													

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/1/11	1541			8/1/11	1541
8/1/11	1710			8/2/11	800

Remarks:
GRO + DRO ON TPH
PAYKEY: 2PEACJDENV
WORKORDER: N1273322

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.

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Crouch Mesa L.F.
Work Order: 1104A12

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB-26629		*MBLK*				Batch ID:	**26629**	Analysis Date:	5/2/2011 1:43:20 PM		
Chloride	ND	mg/Kg	1.5								
Sample ID: LCS-26629		*LCS*				Batch ID:	**26629**	Analysis Date:	5/2/2011 2:00:45 PM		
Chloride	14.62	mg/Kg	1.5	15	0	97.5	90	110			
Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: MB-26622		*MBLK*				Batch ID:	**26622**	Analysis Date:	5/3/2011 8:43:37 AM		
Diesel Range Organics (DRO)	ND	mg/Kg	10								
Motor Oil Range Organics (MRO)	ND	mg/Kg	50								
Surr: DNOP	8.480	mg/Kg	0	10	0	84.8	81.8	129			
Sample ID: LCS-26622		*LCS*				Batch ID:	**26622**	Analysis Date:	5/3/2011 11:32:05 AM		
Diesel Range Organics (DRO)	61.59	mg/Kg	10	50	6.24	111	66.2	120			
Surr: DNOP	4.423	mg/Kg	0	5	0	88.5	81.8	129			
Method: EPA Method 8015B: Gasoline Range											
Sample ID: MB-26617		*MBLK*				Batch ID:	**26617**	Analysis Date:	5/2/2011 8:21:09 PM		
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Surr: BFB	1034	mg/Kg	0	1000	0	103	89.7	125			
Sample ID: LCS-26617		*LCS*				Batch ID:	**26617**	Analysis Date:	5/2/2011 6:25:38 PM		
Gasoline Range Organics (GRO)	25.94	mg/Kg	5.0	25	0	104	88.8	124			
Surr: BFB	1118	mg/Kg	0	1000	0	112	89.7	125			
Method: EPA Method 8021B: Volatiles											
Sample ID: MB-26617		*MBLK*				Batch ID:	**26617**	Analysis Date:	5/2/2011 8:21:09 PM		
Benzene	ND	mg/Kg	0.050								
Toluene	ND	mg/Kg	0.050								
Ethylbenzene	ND	mg/Kg	0.050								
Xylenes, Total	ND	mg/Kg	0.10								
Surr: 4-Bromofluorobenzene	1.109	mg/Kg	0	1	0	111	85.3	139			
Sample ID: LCS-26617		*LCS*				Batch ID:	**26617**	Analysis Date:	5/2/2011 7:52:15 PM		
Benzene	0.8073	mg/Kg	0.050	1	0.0085	79.9	83.3	107			S
Toluene	0.8190	mg/Kg	0.050	1	0.0059	81.3	74.3	115			
Ethylbenzene	0.8547	mg/Kg	0.050	1	0.007	84.8	80.9	122			
Xylenes, Total	2.575	mg/Kg	0.10	3	0.0201	85.2	85.2	123			S
Surr: 4-Bromofluorobenzene	1.112	mg/Kg	0	1	0	111	85.3	139			

Qualifiers:

- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- NC Non-Chlorinated
- R RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG **Date Received:** 4/28/2011

Work Order Number 1104A12 **Received by:** AMG

Checklist completed by: Michael Crain 4/28/11 (Signature / Date) **Sample ID labels checked by:** (Initials)

Matrix: **Carrier name:** Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		Number of preserved bottles checked for pH:
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	*<2 >12 unless noted below.*
Container/Temp Blank temperature?	3.7°	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ **Date contacted:** _____ **Person contacted** _____

Contacted by: _____ **Regarding:** _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: BLAGG ENGINEERING INC.
BP AMERICA
Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413
Phone #: (505) 632-1199
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: CROUCH MESA L.F.
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 3

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
4/26/11	1340	SOIL	PILE 903	4 oz x1	COOL	-1	✓		✓									✓				
"	1350	"	PILE 894	"	"	-2	✓		✓									✓				
"	1400	"	PILE 905	"	"	-3	✓		✓									✓				
"	1410	"	PILE 918	"	"	-4	✓		✓									✓				
"	1420	"	PILE 908	"	"	-5	✓		✓									✓				
"	1430	"	PILE 906	"	"	-6	✓		✓									✓				
"	1440	"	PILE 900	"	"	-7	✓		✓									✓				
"	1450	"	PILE 899	"	"	-8	✓		✓									✓				
"	1505	"	PILE 898	"	"	-9	✓		✓									✓				
"	1520	"	PILE 910	"	"	-10	✓		✓									✓				

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/27/11	1308	Jeff Blagg	Christine Walters	4/27/11	1308
4/27/11	1651	Christine Walters		4/28/11	1019

Remarks: GRO + DRO ON 8015B
PLEASE ONLY RUN BTEX + CHLORIDE IF Σ OF GRO + DRO < 100 Mg/Kg
WORKORDER No: N1273322
ALL ARE 10-POINT COMPOSITES

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Crouch Mesa L.F.
Work Order: 1106662

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB-27346		*MBLK*				Batch ID:	**27346**	Analysis Date:	6/24/2011 11:21:01 AM		
Chloride	ND	mg/Kg	1.5								
Sample ID: LCS-27346		*LCS*				Batch ID:	**27346**	Analysis Date:	6/24/2011 11:38:26 AM		
Chloride	13.68	mg/Kg	1.5	15	0	91.2	90	110			
Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: MB-27237		*MBLK*				Batch ID:	**27237**	Analysis Date:	6/17/2011 9:53:11 AM		
Diesel Range Organics (DRO)	ND	mg/Kg	10								
Motor Oil Range Organics (MRO)	ND	mg/Kg	50								
Surr: DNOP	10.43	mg/Kg	0	10	0	104	73.4	123			
Sample ID: LCS-27237		*LCS*				Batch ID:	**27237**	Analysis Date:	6/17/2011 10:27:51 AM		
Diesel Range Organics (DRO)	50.32	mg/Kg	10	50	0	101	66.7	119			
Surr: DNOP	5.047	mg/Kg	0	5	0	101	73.4	123			
Method: EPA Method 8015B: Gasoline Range											
Sample ID: MB-27222		*MBLK*				Batch ID:	**27222**	Analysis Date:	6/16/2011 11:32:02 PM		
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Surr: BFB	850.5	mg/Kg	0	1000	0	85.1	75.2	136			
Sample ID: LCS-27222		*LCS*				Batch ID:	**27222**	Analysis Date:	6/17/2011 4:32:09 AM		
Gasoline Range Organics (GRO)	25.76	mg/Kg	5.0	25	0	103	88.8	124			
Surr: BFB	882.1	mg/Kg	0	1000	0	88.2	75.2	136			
Method: EPA Method 8021B: Volatiles											
Sample ID: MB-27222		*MBLK*				Batch ID:	**27222**	Analysis Date:	6/16/2011 11:32:02 PM		
Benzene	ND	mg/Kg	0.050								
Toluene	ND	mg/Kg	0.050								
Ethylbenzene	ND	mg/Kg	0.050								
Xylenes, Total	ND	mg/Kg	0.10								
Surr: 4-Bromofluorobenzene	0.9466	mg/Kg	0	1	0	94.7	92	130			
Sample ID: LCS-27222		*LCS*				Batch ID:	**27222**	Analysis Date:	6/17/2011 4:02:06 AM		
Benzene	1.032	mg/Kg	0.050	1	0	103	83.3	107			
Toluene	0.9425	mg/Kg	0.050	1	0	94.3	74.3	115			
Ethylbenzene	1.028	mg/Kg	0.050	1	0	103	80.9	122			
Xylenes, Total	3.202	mg/Kg	0.10	3	0	107	85.2	123			
Surr: 4-Bromofluorobenzene	0.9228	mg/Kg	0	1	0	92.3	92	130			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG | Date Received: 6/15/2011

Work Order Number 1106662 | Received by: AMG

Checklist completed by: Signature 6/15/11 Date | Sample ID labels checked by: Initials

Matrix: | Carrier name: Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		Number of preserved bottles checked for pH:
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	<2 >12 *unless noted below.*
Container/Temp Blank temperature?	1.6°	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: BLAGG ENGINEERING INC.
BP AMERICA
Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413
Phone #: 505-632-1199
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: CROUCH MESA L.F.
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: Yes No
Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
6/14/2011	1015	SOIL	PILE 903	4 oz x 1	COOL	1			X													
"	1025	"	PILE 905	"	"	2			X													
"	1035	"	PILE 918	"	"	3			X													
"	1045	"	PILE 908	"	"	4			X													
"	1055	"	PILE 916	"	"	5	X		X									X				
"	1105	"	PILE 911	"	"	6			X													
"	1115	"	PILE 914	"	"	7	X		X									X				
"	1125	"	PILE 890	"	"	8			X													
"	1135	"	PILE 913	"	"	9	X		X									X				
"	1145	"	PILE 895	"	"	10			X													

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/14/11	1530			6/15	0955
Date:	Time:	Relinquished by:	Received by:	Date	Time
				6/15/11	955

Remarks: GRO + DRO ONLY ON 8015 B
ALL ARE 10-POINT COMPOSITES (10)
BP PAYER: 2PEACJDENV
BP WORKORDER: N1273322

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.

2012 - Biopiles

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa Landfarm
Lab ID: 1205699-003 **Matrix:** SOIL

Client Sample ID: PILE 895
Collection Date: 5/10/2012 2:00:00 PM
Received Date: 5/16/2012 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **BRM**	
Chloride	170	30		mg/Kg	20	5/17/2012 2:50:09 PM	1992
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JMP**	
Diesel Range Organics (DRO)	43	10		mg/Kg	1	5/21/2012 11:01:29 AM	1986
Motor Oil Range Organics (MRO)	180	51		mg/Kg	1	5/21/2012 11:01:29 AM	1986
Surr: DNOP	98.0	70-130		%Rec	1	5/21/2012 11:01:29 AM	1986
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/19/2012 12:22:42 AM	1988
Surr: BFB	104	69.7-121		%Rec	1	5/19/2012 12:22:42 AM	1988
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	5/19/2012 12:22:42 AM	1988
Toluene	ND	0.048		mg/Kg	1	5/19/2012 12:22:42 AM	1988
Ethylbenzene	ND	0.048		mg/Kg	1	5/19/2012 12:22:42 AM	1988
Xylenes, Total	ND	0.096		mg/Kg	1	5/19/2012 12:22:42 AM	1988
Surr: 4-Bromofluorobenzene	90.8	80-120		%Rec	1	5/19/2012 12:22:42 AM	1988

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa L.F.
Lab ID: 1203239-003 **Matrix:** SOIL

Client Sample ID: PILE 903
Collection Date: 3/5/2012 10:00:00 AM
Received Date: 3/7/2012 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **BRM**	
Chloride	720	30		mg/Kg	20	3/12/2012 7:24:50 PM	1046
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JMP**	
Diesel Range Organics (DRO)	65	10		mg/Kg	1	3/8/2012 2:24:49 PM	988
Motor Oil Range Organics (MRO)	130	50		mg/Kg	1	3/8/2012 2:24:49 PM	988
Surr: DNOP	87.8	70-130		%Rec	1	3/8/2012 2:24:49 PM	988
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/8/2012 2:39:04 PM	990
Surr: BFB	115	69.7-121		%Rec	1	3/8/2012 2:39:04 PM	990
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.049		mg/Kg	1	3/8/2012 2:39:04 PM	990
Toluene	0.051	0.049		mg/Kg	1	3/8/2012 2:39:04 PM	990
Ethylbenzene	ND	0.049		mg/Kg	1	3/8/2012 2:39:04 PM	990
Xylenes, Total	0.21	0.099		mg/Kg	1	3/8/2012 2:39:04 PM	990
Surr: 4-Bromofluorobenzene	101	85.3-139		%Rec	1	3/8/2012 2:39:04 PM	990

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa L.F.
Lab ID: 1203239-004
Matrix: SOIL
Client Sample ID: PILE 905
Collection Date: 3/5/2012 10:05:00 AM
Received Date: 3/7/2012 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **BRM**	
Chloride	530	30		mg/Kg	20	3/12/2012 8:14:29 PM	1046
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JMP**	
Diesel Range Organics (DRO)	87	10		mg/Kg	1	3/8/2012 2:46:35 PM	988
Motor Oil Range Organics (MRO)	270	50		mg/Kg	1	3/8/2012 2:46:35 PM	988
Surr: DNOP	88.3	70-130		%Rec	1	3/8/2012 2:46:35 PM	988
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/8/2012 3:09:16 PM	990
Surr: BFB	100	69.7-121		%Rec	1	3/8/2012 3:09:16 PM	990
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.046		mg/Kg	1	3/8/2012 3:09:16 PM	990
Toluene	ND	0.046		mg/Kg	1	3/8/2012 3:09:16 PM	990
Ethylbenzene	ND	0.046		mg/Kg	1	3/8/2012 3:09:16 PM	990
Xylenes, Total	0.14	0.092		mg/Kg	1	3/8/2012 3:09:16 PM	990
Surr: 4-Bromofluorobenzene	93.5	85.3-139		%Rec	1	3/8/2012 3:09:16 PM	990

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 906
Project: Crouch Mesa Landfarm Piles
Collection Date: 7/30/2012 8:18:00 AM
Lab ID: 1207D22-002 **Matrix:** SOIL
Received Date: 7/31/2012 9:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	30	7.5		mg/Kg	5	8/2/2012 1:38:40 PM	3155
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JMP**	
Diesel Range Organics (DRO)	48	10		mg/Kg	1	8/1/2012 2:02:31 PM	3117
Motor Oil Range Organics (MRO)	61	50		mg/Kg	1	8/1/2012 2:02:31 PM	3117
Surr: DNOP	116	70-130		%Rec	1	8/1/2012 2:02:31 PM	3117
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/1/2012 6:18:10 PM	3118
Surr: BFB	101	84-116		%Rec	1	8/1/2012 6:18:10 PM	3118
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	8/1/2012 6:18:10 PM	3118
Toluene	ND	0.048		mg/Kg	1	8/1/2012 6:18:10 PM	3118
Ethylbenzene	ND	0.048		mg/Kg	1	8/1/2012 6:18:10 PM	3118
Xylenes, Total	ND	0.095		mg/Kg	1	8/1/2012 6:18:10 PM	3118
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	8/1/2012 6:18:10 PM	3118

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa L.F.
Lab ID: 1203239-007 **Matrix:** SOIL

Client Sample ID: PILE 908
Collection Date: 3/5/2012 10:20:00 AM
Received Date: 3/7/2012 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **BRM**	
Chloride	490	30		mg/Kg	20	3/12/2012 6:10:22 PM	1046
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JMP**	
Diesel Range Organics (DRO)	84	10		mg/Kg	1	3/8/2012 3:08:23 PM	988
Motor Oil Range Organics (MRO)	220	50		mg/Kg	1	3/8/2012 3:08:23 PM	988
Surr: DNOP	84.2	70-130		%Rec	1	3/8/2012 3:08:23 PM	988
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/8/2012 4:39:53 PM	990
Surr: BFB	108	69.7-121		%Rec	1	3/8/2012 4:39:53 PM	990
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.046		mg/Kg	1	3/8/2012 4:39:53 PM	990
Toluene	0.049	0.046		mg/Kg	1	3/8/2012 4:39:53 PM	990
Ethylbenzene	ND	0.046		mg/Kg	1	3/8/2012 4:39:53 PM	990
Xylenes, Total	0.15	0.092		mg/Kg	1	3/8/2012 4:39:53 PM	990
Surr: 4-Bromofluorobenzene	101	85.3-139		%Rec	1	3/8/2012 4:39:53 PM	990

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa L.F.
Lab ID: 1203239-005 **Matrix:** SOIL

Client Sample ID: PILE 918
Collection Date: 3/5/2012 10:10:00 AM
Received Date: 3/7/2012 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **BRM**	
Chloride	280	30		mg/Kg	20	3/12/2012 4:55:53 PM	1046
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JMP**	
Diesel Range Organics (DRO)	18	9.7		mg/Kg	1	3/9/2012 9:14:40 AM	988
Motor Oil Range Organics (MRO)	440	48		mg/Kg	1	3/9/2012 9:14:40 AM	988
Surr: DNOP	80.5	70-130		%Rec	1	3/9/2012 9:14:40 AM	988
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/8/2012 3:39:32 PM	990
Surr: BFB	89.2	69.7-121		%Rec	1	3/8/2012 3:39:32 PM	990
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.049		mg/Kg	1	3/8/2012 3:39:32 PM	990
Toluene	ND	0.049		mg/Kg	1	3/8/2012 3:39:32 PM	990
Ethylbenzene	ND	0.049		mg/Kg	1	3/8/2012 3:39:32 PM	990
Xylenes, Total	ND	0.099		mg/Kg	1	3/8/2012 3:39:32 PM	990
Surr: 4-Bromofluorobenzene	82.9	85.3-139	S	%Rec	1	3/8/2012 3:39:32 PM	990

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa L.F.
Lab ID: 1203239-002 **Matrix:** SOIL

Client Sample ID: PILE 919
Collection Date: 3/5/2012 9:55:00 AM
Received Date: 3/7/2012 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **BRM**	
Chloride	160	30		mg/Kg	20	3/12/2012 6:35:11 PM	1046
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JMP**	
Diesel Range Organics (DRO)	56	10		mg/Kg	1	3/8/2012 2:02:59 PM	988
Motor Oil Range Organics (MRO)	160	50		mg/Kg	1	3/8/2012 2:02:59 PM	988
Surr: DNOP	84.1	70-130		%Rec	1	3/8/2012 2:02:59 PM	988
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/8/2012 2:08:43 PM	990
Surr: BFB	126	69.7-121	S	%Rec	1	3/8/2012 2:08:43 PM	990
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.048		mg/Kg	1	3/8/2012 2:08:43 PM	990
Toluene	ND	0.048		mg/Kg	1	3/8/2012 2:08:43 PM	990
Ethylbenzene	ND	0.048		mg/Kg	1	3/8/2012 2:08:43 PM	990
Xylenes, Total	ND	0.096		mg/Kg	1	3/8/2012 2:08:43 PM	990
Surr: 4-Bromofluorobenzene	101	85.3-139		%Rec	1	3/8/2012 2:08:43 PM	990

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 921
Project: Crouch Mesa Land Farm
Collection Date: 9/11/2012 10:05:00 AM
Lab ID: 1209542-007
Matrix: SOIL
Received Date: 9/13/2012 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	160	30		mg/Kg	20	9/17/2012 12:16:34 AM	3773
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JMP**	
Diesel Range Organics (DRO)	38	10		mg/Kg	1	9/17/2012 12:53:34 PM	3762
Motor Oil Range Organics (MRO)	70	51		mg/Kg	1	9/17/2012 12:53:34 PM	3762
Surr: DNOP	97.8	70-130		%Rec	1	9/17/2012 12:53:34 PM	3762
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/19/2012 12:05:45 AM	3765
Surr: BFB	104	84-116		%Rec	1	9/19/2012 12:05:45 AM	3765
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	9/19/2012 12:05:45 AM	3765
Toluene	ND	0.048		mg/Kg	1	9/19/2012 12:05:45 AM	3765
Ethylbenzene	ND	0.048		mg/Kg	1	9/19/2012 12:05:45 AM	3765
Xylenes, Total	ND	0.096		mg/Kg	1	9/19/2012 12:05:45 AM	3765
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	9/19/2012 12:05:45 AM	3765

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa Landfarm
Lab ID: 1205699-002 **Matrix:** SOIL

Client Sample ID: PILE 922
Collection Date: 5/10/2012 1:52:00 PM
Received Date: 5/16/2012 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **BRM**	
Chloride	93	30		mg/Kg	20	5/17/2012 2:25:19 PM	1992
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JMP**	
Diesel Range Organics (DRO)	49	10		mg/Kg	1	5/21/2012 10:39:45 AM	1986
Motor Oil Range Organics (MRO)	92	50		mg/Kg	1	5/21/2012 10:39:45 AM	1986
Surr: DNOP	96.7	70-130		%Rec	1	5/21/2012 10:39:45 AM	1986
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/18/2012 11:53:58 PM	1988
Surr: BFB	102	69.7-121		%Rec	1	5/18/2012 11:53:58 PM	1988
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	5/18/2012 11:53:58 PM	1988
Toluene	ND	0.048		mg/Kg	1	5/18/2012 11:53:58 PM	1988
Ethylbenzene	ND	0.048		mg/Kg	1	5/18/2012 11:53:58 PM	1988
Xylenes, Total	ND	0.097		mg/Kg	1	5/18/2012 11:53:58 PM	1988
Surr: 4-Bromofluorobenzene	90.0	80-120		%Rec	1	5/18/2012 11:53:58 PM	1988

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa Land Farm
Lab ID: 1209542-006 **Matrix:** SOIL

Client Sample ID: Pile 925
Collection Date: 9/11/2012 9:50:00 AM
Received Date: 9/13/2012 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	96	30		mg/Kg	20	9/16/2012 11:51:44 PM	3773
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JMP**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/17/2012 10:47:12 AM	3762
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	9/17/2012 10:47:12 AM	3762
Surr: DNOP	95.2	70-130		%Rec	1	9/17/2012 10:47:12 AM	3762
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/18/2012 11:37:00 PM	3765
Surr: BFB	101	84-116		%Rec	1	9/18/2012 11:37:00 PM	3765
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	9/18/2012 11:37:00 PM	3765
Toluene	ND	0.048		mg/Kg	1	9/18/2012 11:37:00 PM	3765
Ethylbenzene	ND	0.048		mg/Kg	1	9/18/2012 11:37:00 PM	3765
Xylenes, Total	ND	0.096		mg/Kg	1	9/18/2012 11:37:00 PM	3765
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	9/18/2012 11:37:00 PM	3765

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 927
Project: Crouch Mesa Land Farm
Collection Date: 9/11/2012 10:20:00 AM
Lab ID: 1209542-008
Matrix: SOIL
Received Date: 9/13/2012 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	48	1.5		mg/Kg	1	9/17/2012 12:28:58 AM	3773
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JMP**	
Diesel Range Organics (DRO)	29	9.8		mg/Kg	1	9/17/2012 11:12:19 AM	3762
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/17/2012 11:12:19 AM	3762
Surr: DNOP	101	70-130		%Rec	1	9/17/2012 11:12:19 AM	3762
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/19/2012 12:34:28 AM	3765
Surr: BFB	113	84-116		%Rec	1	9/19/2012 12:34:28 AM	3765
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	9/19/2012 12:34:28 AM	3765
Toluene	ND	0.049		mg/Kg	1	9/19/2012 12:34:28 AM	3765
Ethylbenzene	ND	0.049		mg/Kg	1	9/19/2012 12:34:28 AM	3765
Xylenes, Total	ND	0.097		mg/Kg	1	9/19/2012 12:34:28 AM	3765
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	9/19/2012 12:34:28 AM	3765

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1203239**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa L.F.

Sample ID	**MB-1046**	SampType: **MBLK**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID: **1046**			RunNo: **1421**					
Prep Date:	**3/12/2012**	Analysis Date: **3/12/2012**			SeqNo: **39891**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-1046**	SampType: **LCS**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID: **1046**			RunNo: **1421**					
Prep Date:	**3/12/2012**	Analysis Date: **3/12/2012**			SeqNo: **39892**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.1	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1203239**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa L.F.

Sample ID **MB-988**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **988**	RunNo: **1342**
Prep Date: **3/7/2012**	Analysis Date: **3/8/2012**	SeqNo: **38057** 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	8.5		10.00		84.6	77.4	131			

Sample ID **LCS-988**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **988**	RunNo: **1342**
Prep Date: **3/7/2012**	Analysis Date: **3/8/2012**	SeqNo: **38064** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	82.5	62.7	139			
Surr: DNOP	4.3		5.000		85.5	77.4	131			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- 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
- P Sample pH Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1203239**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa L.F.

Sample ID **MB-990**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **990**	RunNo: **1348**
Prep Date: **3/7/2012**	Analysis Date: **3/8/2012**	SeqNo: **38690** 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	980		1000		98.2	69.7	121			

Sample ID **LCS-990**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **990**	RunNo: **1348**
Prep Date: **3/7/2012**	Analysis Date: **3/8/2012**	SeqNo: **38694** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	32	5.0	25.00	0	126	98.5	133			
Surr: BFB	1100		1000		106	69.7	121			

Sample ID **1203239-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PILE 416**	Batch ID: **990**	RunNo: **1348**
Prep Date: **3/7/2012**	Analysis Date: **3/8/2012**	SeqNo: **38695** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	43	4.8	23.85	7.869	145	85.4	147			
Surr: BFB	1600		954.2		170	69.7	121			S

Sample ID **1203239-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PILE 416**	Batch ID: **990**	RunNo: **1348**
Prep Date: **3/7/2012**	Analysis Date: **3/8/2012**	SeqNo: **38696** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	45	4.7	23.26	7.869	160	85.4	147	5.78	19.2	S
Surr: BFB	1700		930.2		187	69.7	121	0	0	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1203239**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa L.F.

Sample ID **MB-990**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **990**	RunNo: **1348**
Prep Date: **3/7/2012**	Analysis Date: **3/8/2012**	SeqNo: **38712** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	85.3	139			

Sample ID **LCS-990**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **990**	RunNo: **1348**
Prep Date: **3/7/2012**	Analysis Date: **3/8/2012**	SeqNo: **38717** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	102	83.3	107			
Toluene	1.0	0.050	1.000	0	99.9	74.3	115			
Ethylbenzene	1.1	0.050	1.000	0	105	80.9	122			
Xylenes, Total	3.3	0.10	3.000	0	109	85.2	123			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	85.3	139			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- 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
- P Sample pH Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix
- W Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: BLAGG Work Order Number: 1203239

Received by/date: MG 03/07/12

Logged By: Michelle Garcia 3/7/2012 9:30:00 AM Michelle Garcia

Completed By: Michelle Garcia 3/7/2012 11:08:07 AM Michelle Garcia

Reviewed By: 03/07/12

Chain of Custody

1.	Were seals intact?	Yes		No	Not Present	✔
2.	Is Chain of Custody complete?	Yes	✔	No	Not Present	
3.	How was the sample delivered?	FedEx				

Log In

4.	Coolers are present? (see 19. for cooler specific information)	Yes	✔	No	NA	
5.	Was an attempt made to cool the samples?	Yes	✔	No	NA	
6.	Were all samples received at a temperature of >0° C to 6.0°C	Yes	✔	No	NA	
7.	Sample(s) in proper container(s)?	Yes	✔	No		
8.	Sufficient sample volume for indicated test(s)?	Yes	✔	No		
9.	Are samples (except VOA and ONG) properly preserved?	Yes	✔	No		
10.	Was preservative added to bottles?	Yes		No ✔	NA	
11.	VOA vials have zero headspace?	Yes		No	No VOA Vials	✔
12.	Were any sample containers received broken?	Yes		No ✔		
13.	Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes	✔	No	# of preserved bottles checked for pH:	
14.	Are matrices correctly identified on Chain of Custody?	Yes	✔	No	(<2 or >12 unless noted)	
15.	Is it clear what analyses were requested?	Yes	✔	No	Adjusted?	
16.	Were all holding times able to be met? (If no, notify customer for authorization.)	Yes	✔	No	Checked by:	

Special Handling (if applicable)

17. 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:

18. Additional remarks:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: BLAGG ENGINEERING INC
BP AMERICA
Mailing Address: P.O. BOX 87
BLOOMFIELD NM 87413
Phone #: 505-632-1199
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: CROUCH MESA L.F.
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: [redacted]
Sample Temperature: [redacted]

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	[redacted]	BTEX + ~~MTBE + TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
3/5/12	0950	SOIL	PILE 416	4oz x1	COOL	-1	X		X									X				
"	0955	"	PILE 919	"	"	-2	X		X									X				
"	1000	"	PILE 903	"	"	-3	X		X									X				
"	1005	"	PILE 905	"	"	-4	X		X									X				
"	1010	"	PILE 918	"	"	-5	X		X									X				
"	1015	"	PILE 910	"	"	-6	X		X									X				
"	1020	"	PILE 908	"	"	-7	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/6/12	1155	JH Blagg	Christine Walker	3/6/12	1155
Date:	Time:	Relinquished by:	Received by:	Date	Time
3/6/12	1421	Christine Walker	Michelle Garcia	03/07/12	0930

Remarks: GRO + DRO ON 8015B
WO: N1273322
PK: BPEACJDENV
CONTACT: JEFF PEACE

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1205699**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa Landfarm

Sample ID	**MB-1992**	SampType: **MBLK**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID: **1992**			RunNo: **2857**					
Prep Date:	**5/17/2012**	Analysis Date: **5/17/2012**			SeqNo: **79261**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-1992**	SampType: **LCS**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID: **1992**			RunNo: **2857**					
Prep Date:	**5/17/2012**	Analysis Date: **5/17/2012**			SeqNo: **79262**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	99.8	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- I Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1205699**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa Landfarm

Sample ID **MB-1986**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **1986**	RunNo: **2869**
Prep Date: **5/17/2012**	Analysis Date: **5/18/2012**	SeqNo: **79585** 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	9.1		10.00		90.6	82.1	121			

Sample ID **LCS-1986**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **1986**	RunNo: **2869**
Prep Date: **5/17/2012**	Analysis Date: **5/18/2012**	SeqNo: **79700** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	36	10	50.00	0	72.6	52.6	130			
Surr: DNOP	4.2		5.000		83.8	82.1	121			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1205699**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa Landfarm

Sample ID **MB-1988**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **1988**	RunNo: **2915**
Prep Date: **5/17/2012**	Analysis Date: **5/18/2012**	SeqNo: **80948** 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	1000		1000		103	69.7	121			

Sample ID **LCS-1988**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **1988**	RunNo: **2915**
Prep Date: **5/17/2012**	Analysis Date: **5/18/2012**	SeqNo: **80949** 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	98.5	133			
Surr: BFB	1100		1000		110	69.7	121			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1205699**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa Landfarm

Sample ID **MB-1988**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **1988**	RunNo: **2915**
Prep Date: **5/17/2012**	Analysis Date: **5/18/2012**	SeqNo: **80975** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.91		1.000		91.3	80	120			

Sample ID **LCS-1988**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **1988**	RunNo: **2915**
Prep Date: **5/17/2012**	Analysis Date: **5/18/2012**	SeqNo: **80976** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.050	1.000	0	91.6	83.3	107			
Toluene	0.93	0.050	1.000	0	93.2	74.3	115			
Ethylbenzene	0.91	0.050	1.000	0	91.5	80.9	122			
Xylenes, Total	2.8	0.10	3.000	0	92.6	85.2	123			
Surr: 4-Bromofluorobenzene	0.95		1.000		95.2	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: BLAGG

Work Order Number: 1205699

Received by/date: 05/16/12

Logged By: Ashley Gallegos 5/16/2012 10:00:00 AM

Completed By: Ashley Gallegos 5/16/2012 1:16:33 PM

Reviewed By: 05/16/12

Chain of Custody

1. Were seals intact?	Yes	No	Not Present ✔	
2. Is Chain of Custody complete?	Yes ✔	No	Not Present	
3. How was the sample delivered?	Courier			

Log In

4. Coolers are present? (see 19. for cooler specific information)	Yes ✔	No	NA	
5. Was an attempt made to cool the samples?	Yes ✔	No	NA	
6. Were all samples received at a temperature of >0° C to 6.0°C	Yes ✔	No	NA	
7. Sample(s) in proper container(s)?	Yes ✔	No		
8. Sufficient sample volume for indicated test(s)?	Yes ✔	No		
9. Are samples (except VOA and ONG) properly preserved?	Yes ✔	No		
10. Was preservative added to bottles?	Yes	No ✔	NA	
11. VOA vials have zero headspace?	Yes	No	No VOA Vials ✔	
12. Were any sample containers received broken?	Yes	No ✔		
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✔	No	# of preserved bottles checked for pH:	
14. Are matrices correctly identified on Chain of Custody?	Yes ✔	No	(<2 or >12 unless noted)	
15. Is it clear what analyses were requested?	Yes ✔	No	Adjusted?	
16. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ✔	No	Checked by:	

Special Handling (if applicable)

17. 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:

18. Additional remarks:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: BLAGG ENGINEERING INC.
BP AMERICA
Mailing Address: P.O. BOX 87
BLOOMFIELD NM 87413
Phone #: 505-632-1199
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____
Project Name: CROUCH MESA LANDFARM
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 4°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
5/10/2012	1345	SOIL	PILE 906	4 oz x 1	COOL	-001	X		X									X				
"	1352	"	PILE 922	"	"	-002	X		X									X				
"	1400	"	PILE 895	"	"	-003	X		X									X				
"	1408	"	PILE 910	"	"	-004	X		X									X				
"	1415	"	PILE 416	"	"	-005	X		X									X				
"	1425	"	PILE 420	"	"	-006	X		X									X				
"	1435	"	PILE 418	"	"	-007	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/15/12	1317			5/15/12	1312
5/15/12	1721			05/16/12	1000

Remarks: GRO + DRO ON 8015
N1500038
2PEACJDENV
JEFF PEACE

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1207D22**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa Landfarm Piles

Sample ID **MB-3117**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **3117**	RunNo: **4554**
Prep Date: **7/31/2012**	Analysis Date: **8/1/2012**	SeqNo: **127853** 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		106	77.6	140			

Sample ID **LCS-3117**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **3117**	RunNo: **4554**
Prep Date: **7/31/2012**	Analysis Date: **8/1/2012**	SeqNo: **127881** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	35	10	50.00	0	70.6	52.6	130			
Surr: DNOP	4.1		5.000		81.1	77.6	140			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- 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
- P Sample pH Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1207D22**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa Landfarm Piles

Sample ID **MB-3118**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **3118**	RunNo: **4574**
Prep Date: **7/31/2012**	Analysis Date: **8/1/2012**	SeqNo: **129323** 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	980		1000		98.4	84	116			

Sample ID **LCS-3118**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **3118**	RunNo: **4574**
Prep Date: **7/31/2012**	Analysis Date: **8/1/2012**	SeqNo: **129324** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.6	85	115			
Surr: BFB	1000		1000		101	84	116			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1207D22**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa Landfarm Piles

Sample ID **MB-3118**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **3118**	RunNo: **4574**
Prep Date: **7/31/2012**	Analysis Date: **8/1/2012**	SeqNo: **129348** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID **LCS-3118**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **3118**	RunNo: **4574**
Prep Date: **7/31/2012**	Analysis Date: **8/1/2012**	SeqNo: **129349** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.050	1.000	0	95.7	76.3	117			
Toluene	0.97	0.050	1.000	0	96.8	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.5	77	116			
Xylenes, Total	3.0	0.10	3.000	0	99.4	76.7	117			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: BLAGG Work Order Number: 1207D22

Received by/date: AS 07/31/12

Logged By: Lindsay Mangin 7/31/2012 9:55:00 AM

Completed By: Lindsay Mangin 7/31/2012 10:49:43 AM

Reviewed By: mg 07/31/12

Chain of Custody

1. Were seals intact?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Coolers are present? (see 19. for cooler specific information)	Yes ☑	No ☐	NA ☐
5. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
7. Sample(s) in proper container(s)?	Yes ☑	No ☐	
8. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
9. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
10. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
11. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
12. Were any sample containers received broken?	Yes ☐	No ☑	
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
14. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
15. Is it clear what analyses were requested?	Yes ☑	No ☐	
16. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

17. 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: _____

18. Additional remarks:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.9	Good	Yes			

Chain-of-Custody Record

Client: BLAGG ENGINEERING INC
BP AMERICA
Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413
Phone #: 505-632-1199
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: CROUCH MESA LANDFARM PILES
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. Z12D22	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
7/30/12	0810	SOIL	PILE 917	4oz x1	COOL	-001	X		X									X				
"	0918	"	PILE 906	"	"	-002	X		X									X				
"	0830	"	PILE 910	"	"	-003	X		X									X				
"	0839	"	PILE 921	"	"	-004	X		X									X				
"	0850	"	PILE 927	"	"	-005	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/30/12	1544	Jeff Blagg	Christine Walters	7/30/12	1544
7/30/12	1730	Christine Walters		07/31/2055	

Remarks: GRO + DRO ON 8015B
WO: N 1500038
PK: ZPEACEJDEN
CONTACT: Jeff Peace

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1209542**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa Land Farm

Sample ID	**MB-3773**	SampType: **MBLK**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID: **3773**			RunNo: **5546**					
Prep Date:	**9/16/2012**	Analysis Date: **9/16/2012**			SeqNo: **158605**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-3773**	SampType: **LCS**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID: **3773**			RunNo: **5546**					
Prep Date:	**9/16/2012**	Analysis Date: **9/16/2012**			SeqNo: **158606**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1209542**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa Land Farm

Sample ID **MB-3762**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **3762**	RunNo: **5559**
Prep Date: **9/14/2012**	Analysis Date: **9/17/2012**	SeqNo: **159035** 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	12		10.00		117	77.6	140			

Sample ID **LCS-3762**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **3762**	RunNo: **5559**
Prep Date: **9/14/2012**	Analysis Date: **9/17/2012**	SeqNo: **159036** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39	10	50.00	0	78.4	52.6	130			
Surr: DNOP	4.6		5.000		92.0	77.6	140			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1209542**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa Land Farm

Sample ID **MB-3765**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **3765**	RunNo: **5612**
Prep Date: **9/14/2012**	Analysis Date: **9/18/2012**	SeqNo: **160814** 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	990		1000		99.3	84	116			

Sample ID **LCS-3765**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **3765**	RunNo: **5612**
Prep Date: **9/14/2012**	Analysis Date: **9/18/2012**	SeqNo: **160815** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	74	117			
Surr: BFB	1000		1000		103	84	116			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1209542**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa Land Farm

Sample ID **MB-3765**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **3765**	RunNo: **5612**
Prep Date: **9/14/2012**	Analysis Date: **9/18/2012**	SeqNo: **160837** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID **LCS-3765**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **3765**	RunNo: **5612**
Prep Date: **9/14/2012**	Analysis Date: **9/18/2012**	SeqNo: **160838** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	100	76.3	117			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	103	77	116			
Xylenes, Total	3.1	0.10	3.000	0	104	76.7	117			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- 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
- P Sample pH Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix
- W Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 8710[illegible]
TEL: 505-345-3975 FAX: 505-345-410[illegible]
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1209542

Received by/date: AG 09/13/12

Logged By: **Lindsay Mangin** 9/13/2012 10:05:00 AM

Completed By: **Lindsay Mangin** 9/13/2012 2:22:07 PM

Reviewed By: 09/13/12

Chain of Custody

1. Were seals intact?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Coolers are present? (see 19. for cooler specific information)	Yes ☑	No ☐	NA ☐
5. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
7. Sample(s) in proper container(s)?	Yes ☑	No ☐	
8. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
9. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
10. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
11. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
12. Were any sample containers received broken?	Yes ☐	No ☑	
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
14. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
15. Is it clear what analyses were requested?	Yes ☑	No ☐	
16. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

17. 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: _____

18. Additional remarks:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			

Chain-of-Custody Record

Client: BLAGG ENGINEERING INC.
BP AMERICA
Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413
Phone #: 505-632-1199
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: CROUCH MESA LAND FARM
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: [redacted]
Sample Temperature: [redacted]

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	[redacted]	BTEX + ~~MTBE~~ + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
9/11/2012	0905	SOIL	PILE 407	4 oz x1	COOL	-001	X		X									X				
"	0915	"	PILE 428	"	"	-002	X		X									X				
"	0925	"	PILE 917	"	"	-003	X		X									X				
"	0932	"	PILE 910	"	"	-004	X		X									X				
"	0940	"	PILE 418	"	"	-005	X		X									X				
"	0950	"	PILE 925	"	"	-006	X		X									X				
"	1005	"	PILE 921	"	"	-007	X		X									X				
"	1020	"	PILE 927	"	"	-008	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/12/12	1446	Jeff Blagg	Christine Walters	9/12/12	1446
9/12/12	1740	Christine Walters		09/13/12	1005

Remarks: GRO + DRO ON BOTH
WO: N1500038
PK: 3PEACJDEN
Contact: Jeff Poole

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 910
Project: Crouch Mesa Land Farm
Collection Date: 5/10/2013 1:55:00 PM
Lab ID: 1305716-005 **Matrix:** SOIL **Received Date:** 5/16/2013 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	140	30		mg/Kg	20	5/22/2013 1:00:05 PM	7553
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	52	10		mg/Kg	1	5/22/2013 4:09:46 PM	7513
Motor Oil Range Organics (MRO)	120	50		mg/Kg	1	5/22/2013 4:09:46 PM	7513
Surr: DNOP	68.3	70-130	S	%Rec	1	5/22/2013 4:09:46 PM	7513
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	5/21/2013 12:12:50 AM	7495
Surr: BFB	95.9	80-120		%Rec	1	5/21/2013 12:12:50 AM	7495
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.046		mg/Kg	1	5/21/2013 12:12:50 AM	7495
Toluene	ND	0.046		mg/Kg	1	5/21/2013 12:12:50 AM	7495
Ethylbenzene	ND	0.046		mg/Kg	1	5/21/2013 12:12:50 AM	7495
Xylenes, Total	ND	0.092		mg/Kg	1	5/21/2013 12:12:50 AM	7495
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	5/21/2013 12:12:50 AM	7495

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa Land Farm
Lab ID: 1305716-004 **Matrix:** SOIL

Client Sample ID: Pile 917
Collection Date: 5/10/2013 1:45:00 PM
Received Date: 5/16/2013 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	54	7.5		mg/Kg	5	5/22/2013 12:22:51 PM	7553
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	44	10		mg/Kg	1	5/22/2013 3:47:37 PM	7513
Motor Oil Range Organics (MRO)	160	50		mg/Kg	1	5/22/2013 3:47:37 PM	7513
Surr: DNOP	127	70-130		%Rec	1	5/22/2013 3:47:37 PM	7513
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/20/2013 11:44:20 PM	7495
Surr: BFB	96.7	80-120		%Rec	1	5/20/2013 11:44:20 PM	7495
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	5/20/2013 11:44:20 PM	7495
Toluene	ND	0.047		mg/Kg	1	5/20/2013 11:44:20 PM	7495
Ethylbenzene	ND	0.047		mg/Kg	1	5/20/2013 11:44:20 PM	7495
Xylenes, Total	ND	0.094		mg/Kg	1	5/20/2013 11:44:20 PM	7495
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	5/20/2013 11:44:20 PM	7495

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa Land Farm
Lab ID: 1305716-003 **Matrix:** SOIL

Client Sample ID: Pile 923
Collection Date: 5/10/2013 1:35:00 PM
Received Date: 5/16/2013 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	100	30		mg/Kg	20	5/22/2013 11:20:50 AM	7553
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	34	10		mg/Kg	1	5/22/2013 3:03:11 PM	7513
Motor Oil Range Organics (MRO)	170	50		mg/Kg	1	5/22/2013 3:03:11 PM	7513
Surr: DNOP	119	70-130		%Rec	1	5/22/2013 3:03:11 PM	7513
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/20/2013 11:15:43 PM	7495
Surr: BFB	97.0	80-120		%Rec	1	5/20/2013 11:15:43 PM	7495
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	5/20/2013 11:15:43 PM	7495
Toluene	ND	0.047		mg/Kg	1	5/20/2013 11:15:43 PM	7495
Ethylbenzene	ND	0.047		mg/Kg	1	5/20/2013 11:15:43 PM	7495
Xylenes, Total	ND	0.095		mg/Kg	1	5/20/2013 11:15:43 PM	7495
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	5/20/2013 11:15:43 PM	7495

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa L.F.
Lab ID: 1308D49-002 **Matrix:** SOIL

Client Sample ID: Pile 924
Collection Date: 8/29/2013 1:12:00 PM
Received Date: 8/30/2013 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	92	30		mg/Kg	20	9/4/2013 1:04:04 PM	9158
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	10	9.9		mg/Kg	1	9/4/2013 3:31:39 PM	9124
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/4/2013 3:31:39 PM	9124
Surr: DNOP	92.6	70-130		%Rec	1	9/4/2013 3:31:39 PM	9124
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/3/2013 6:37:08 PM	9117
Surr: BFB	92.8	80-120		%Rec	1	9/3/2013 6:37:08 PM	9117
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.048		mg/Kg	1	9/3/2013 6:37:08 PM	9117
Toluene	ND	0.048		mg/Kg	1	9/3/2013 6:37:08 PM	9117
Ethylbenzene	ND	0.048		mg/Kg	1	9/3/2013 6:37:08 PM	9117
Xylenes, Total	ND	0.097		mg/Kg	1	9/3/2013 6:37:08 PM	9117
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	9/3/2013 6:37:08 PM	9117

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 926
Project: Crouch Mesa LF-Piles
Collection Date: 10/31/2013 11:05:00 AM
Lab ID: 1311148-004
Matrix: SOIL
Received Date: 11/5/2013 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	110	30		mg/Kg	20	11/8/2013 2:16:27 PM	10252
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	17	9.9		mg/Kg	1	11/7/2013 3:14:24 PM	10211
Motor Oil Range Organics (MRO)	70	50		mg/Kg	1	11/7/2013 3:14:24 PM	10211
Surr: DNOP	90.8	70-130		%Rec	1	11/7/2013 3:14:24 PM	10211
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/7/2013 9:29:01 PM	10207
Surr: BFB	93.8	74.5-129		%Rec	1	11/7/2013 9:29:01 PM	10207
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.046		mg/Kg	1	11/7/2013 9:29:01 PM	10207
Toluene	ND	0.046		mg/Kg	1	11/7/2013 9:29:01 PM	10207
Ethylbenzene	ND	0.046		mg/Kg	1	11/7/2013 9:29:01 PM	10207
Xylenes, Total	ND	0.093		mg/Kg	1	11/7/2013 9:29:01 PM	10207
Surr: 4-Bromofluorobenzene	112	80-120		%Rec	1	11/7/2013 9:29:01 PM	10207

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF-Piles
Lab ID: 1311148-005 **Matrix:** SOIL

Client Sample ID: Pile 926A
Collection Date: 10/31/2013 11:15:00 AM
Received Date: 11/5/2013 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	95	30		mg/Kg	20	11/8/2013 2:28:51 PM	10252
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	29	9.9		mg/Kg	1	11/7/2013 3:36:16 PM	10211
Motor Oil Range Organics (MRO)	78	50		mg/Kg	1	11/7/2013 3:36:16 PM	10211
Surr: DNOP	95.4	70-130		%Rec	1	11/7/2013 3:36:16 PM	10211
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/7/2013 9:57:31 PM	10207
Surr: BFB	102	74.5-129		%Rec	1	11/7/2013 9:57:31 PM	10207
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	11/7/2013 9:57:31 PM	10207
Toluene	ND	0.049		mg/Kg	1	11/7/2013 9:57:31 PM	10207
Ethylbenzene	ND	0.049		mg/Kg	1	11/7/2013 9:57:31 PM	10207
Xylenes, Total	ND	0.097		mg/Kg	1	11/7/2013 9:57:31 PM	10207
Surr: 4-Bromofluorobenzene	111	80-120		%Rec	1	11/7/2013 9:57:31 PM	10207

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1305716**
Date Reported: **9/21/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 929
Project: Crouch Mesa Land Farm
Collection Date: 5/10/2013 1:10:00 PM
Lab ID: 1305716-001 **Matrix:** SOIL **Received Date:** 5/16/2013 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	68	30		mg/Kg	20	5/22/2013 10:31:11 AM	7553
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	35	10		mg/Kg	1	5/22/2013 2:18:40 PM	7513
Motor Oil Range Organics (MRO)	80	50		mg/Kg	1	5/22/2013 2:18:40 PM	7513
Surr: DNOP	92.0	70-130		%Rec	1	5/22/2013 2:18:40 PM	7513
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/20/2013 10:18:30 PM	7495
Surr: BFB	94.6	80-120		%Rec	1	5/20/2013 10:18:30 PM	7495
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	5/20/2013 10:18:30 PM	7495
Toluene	ND	0.047		mg/Kg	1	5/20/2013 10:18:30 PM	7495
Ethylbenzene	ND	0.047		mg/Kg	1	5/20/2013 10:18:30 PM	7495
Xylenes, Total	ND	0.095		mg/Kg	1	5/20/2013 10:18:30 PM	7495
Surr: 4-Bromofluorobenzene	98.4	80-120		%Rec	1	5/20/2013 10:18:30 PM	7495

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1311148**
Date Reported: **9/21/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF-Piles
Lab ID: 1311148-001 **Matrix:** SOIL

Client Sample ID: Pile 930
Collection Date: 10/31/2013 10:35:00 AM
Received Date: 11/5/2013 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	150	30		mg/Kg	20	11/8/2013 12:49:35 PM	10252
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	64	9.9		mg/Kg	1	11/7/2013 1:02:54 PM	10211
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/7/2013 1:02:54 PM	10211
Surr: DNOP	98.2	70-130		%Rec	1	11/7/2013 1:02:54 PM	10211
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	28	4.6		mg/Kg	1	11/7/2013 5:40:45 PM	10207
Surr: BFB	272	74.5-129	S	%Rec	1	11/7/2013 5:40:45 PM	10207
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.046		mg/Kg	1	11/7/2013 5:40:45 PM	10207
Toluene	ND	0.046		mg/Kg	1	11/7/2013 5:40:45 PM	10207
Ethylbenzene	ND	0.046		mg/Kg	1	11/7/2013 5:40:45 PM	10207
Xylenes, Total	ND	0.093		mg/Kg	1	11/7/2013 5:40:45 PM	10207
Surr: 4-Bromofluorobenzene	120	80-120	S	%Rec	1	11/7/2013 5:40:45 PM	10207

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 931
Project: Crouch Mesa LF-Piles
Collection Date: 10/31/2013 10:45:00 AM
Lab ID: 1311148-002
Matrix: SOIL
Received Date: 11/5/2013 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	160	30		mg/Kg	20	11/8/2013 1:26:48 PM	10252
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	20	9.9		mg/Kg	1	11/7/2013 2:30:40 PM	10211
Motor Oil Range Organics (MRO)	53	50		mg/Kg	1	11/7/2013 2:30:40 PM	10211
Surr: DNOP	95.4	70-130		%Rec	1	11/7/2013 2:30:40 PM	10211
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/7/2013 8:31:50 PM	10207
Surr: BFB	120	74.5-129		%Rec	1	11/7/2013 8:31:50 PM	10207
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	11/7/2013 8:31:50 PM	10207
Toluene	0.049	0.048		mg/Kg	1	11/7/2013 8:31:50 PM	10207
Ethylbenzene	ND	0.048		mg/Kg	1	11/7/2013 8:31:50 PM	10207
Xylenes, Total	ND	0.096		mg/Kg	1	11/7/2013 8:31:50 PM	10207
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	11/7/2013 8:31:50 PM	10207

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 931A
Project: Crouch Mesa LF-Piles
Collection Date: 10/31/2013 10:55:00 AM
Lab ID: 1311148-003
Matrix: SOIL
Received Date: 11/5/2013 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	100	30		mg/Kg	20	11/8/2013 1:39:13 PM	10252
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2013 2:52:29 PM	10211
Motor Oil Range Organics (MRO)	59	50		mg/Kg	1	11/7/2013 2:52:29 PM	10211
Surr: DNOP	92.2	70-130		%Rec	1	11/7/2013 2:52:29 PM	10211
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/7/2013 9:00:28 PM	10207
Surr: BFB	94.6	74.5-129		%Rec	1	11/7/2013 9:00:28 PM	10207
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	11/7/2013 9:00:28 PM	10207
Toluene	ND	0.048		mg/Kg	1	11/7/2013 9:00:28 PM	10207
Ethylbenzene	ND	0.048		mg/Kg	1	11/7/2013 9:00:28 PM	10207
Xylenes, Total	ND	0.096		mg/Kg	1	11/7/2013 9:00:28 PM	10207
Surr: 4-Bromofluorobenzene	111	80-120		%Rec	1	11/7/2013 9:00:28 PM	10207

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 932
Project: Crouch Mesa LF-Piles
Collection Date: 11/1/2013 9:45:00 AM
Lab ID: 1311148-006
Matrix: SOIL
Received Date: 11/5/2013 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	66	30		mg/Kg	20	11/8/2013 2:41:16 PM	10252
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	14	10		mg/Kg	1	11/7/2013 3:58:16 PM	10211
Motor Oil Range Organics (MRO)	70	50		mg/Kg	1	11/7/2013 3:58:16 PM	10211
Surr: DNOP	97.9	70-130		%Rec	1	11/7/2013 3:58:16 PM	10211
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/7/2013 10:26:00 PM	10207
Surr: BFB	92.7	74.5-129		%Rec	1	11/7/2013 10:26:00 PM	10207
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.046		mg/Kg	1	11/7/2013 10:26:00 PM	10207
Toluene	ND	0.046		mg/Kg	1	11/7/2013 10:26:00 PM	10207
Ethylbenzene	ND	0.046		mg/Kg	1	11/7/2013 10:26:00 PM	10207
Xylenes, Total	ND	0.092		mg/Kg	1	11/7/2013 10:26:00 PM	10207
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	11/7/2013 10:26:00 PM	10207

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 932A
Project: Crouch Mesa LF-Piles
Collection Date: 11/1/2013 9:55:00 AM
Lab ID: 1311148-007
Matrix: SOIL
Received Date: 11/5/2013 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	36	30		mg/Kg	20	11/8/2013 2:53:40 PM	10252
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2013 4:42:04 PM	10211
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/7/2013 4:42:04 PM	10211
Surr: DNOP	91.1	70-130		%Rec	1	11/7/2013 4:42:04 PM	10211
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/7/2013 10:54:33 PM	10207
Surr: BFB	91.2	74.5-129		%Rec	1	11/7/2013 10:54:33 PM	10207
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	11/7/2013 10:54:33 PM	10207
Toluene	ND	0.047		mg/Kg	1	11/7/2013 10:54:33 PM	10207
Ethylbenzene	ND	0.047		mg/Kg	1	11/7/2013 10:54:33 PM	10207
Xylenes, Total	ND	0.095		mg/Kg	1	11/7/2013 10:54:33 PM	10207
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	11/7/2013 10:54:33 PM	10207

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 934
Project: Crouch Mesa LF-Piles
Collection Date: 11/1/2013 10:12:00 AM
Lab ID: 1311148-009
Matrix: SOIL
Received Date: 11/5/2013 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	73	30		mg/Kg	20	11/8/2013 3:18:30 PM	10252
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	51	9.9		mg/Kg	1	11/7/2013 5:26:02 PM	10211
Motor Oil Range Organics (MRO)	77	50		mg/Kg	1	11/7/2013 5:26:02 PM	10211
Surr: DNOP	104	70-130		%Rec	1	11/7/2013 5:26:02 PM	10211
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/7/2013 11:51:32 PM	10207
Surr: BFB	99.7	74.5-129		%Rec	1	11/7/2013 11:51:32 PM	10207
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	11/7/2013 11:51:32 PM	10207
Toluene	ND	0.048		mg/Kg	1	11/7/2013 11:51:32 PM	10207
Ethylbenzene	ND	0.048		mg/Kg	1	11/7/2013 11:51:32 PM	10207
Xylenes, Total	ND	0.095		mg/Kg	1	11/7/2013 11:51:32 PM	10207
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	11/7/2013 11:51:32 PM	10207

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 937
Project: Crouch Mesa L.F.
Collection Date: 8/29/2013 1:37:00 PM
Lab ID: 1308D49-005 **Matrix:** SOIL **Received Date:** 8/30/2013 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	67	30		mg/Kg	20	9/4/2013 2:18:30 PM	9158
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	67	10		mg/Kg	1	9/4/2013 5:04:47 PM	9124
Motor Oil Range Organics (MRO)	120	50		mg/Kg	1	9/4/2013 5:04:47 PM	9124
Surr: DNOP	93.3	70-130		%Rec	1	9/4/2013 5:04:47 PM	9124
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	8.4	4.7		mg/Kg	1	9/3/2013 8:03:04 PM	9117
Surr: BFB	158	80-120	S	%Rec	1	9/3/2013 8:03:04 PM	9117
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.047		mg/Kg	1	9/3/2013 8:03:04 PM	9117
Toluene	ND	0.047		mg/Kg	1	9/3/2013 8:03:04 PM	9117
Ethylbenzene	ND	0.047		mg/Kg	1	9/3/2013 8:03:04 PM	9117
Xylenes, Total	ND	0.093		mg/Kg	1	9/3/2013 8:03:04 PM	9117
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	9/3/2013 8:03:04 PM	9117

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF-Piles
Lab ID: 1311148-008 **Matrix:** SOIL

Client Sample ID: Pile 943A
Collection Date: 11/1/2013 10:05:00 AM
Received Date: 11/5/2013 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	110	30		mg/Kg	20	11/8/2013 3:06:05 PM	10252
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	12	10		mg/Kg	1	11/7/2013 5:04:04 PM	10211
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	11/7/2013 5:04:04 PM	10211
Surr: DNOP	101	70-130		%Rec	1	11/7/2013 5:04:04 PM	10211
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/7/2013 11:23:04 PM	10207
Surr: BFB	104	74.5-129		%Rec	1	11/7/2013 11:23:04 PM	10207
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	11/7/2013 11:23:04 PM	10207
Toluene	ND	0.047		mg/Kg	1	11/7/2013 11:23:04 PM	10207
Ethylbenzene	ND	0.047		mg/Kg	1	11/7/2013 11:23:04 PM	10207
Xylenes, Total	ND	0.094		mg/Kg	1	11/7/2013 11:23:04 PM	10207
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	11/7/2013 11:23:04 PM	10207

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305716**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa Land Farm

Sample ID **MB-7553**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **7553**	RunNo: **10806**
Prep Date: **5/22/2013**	Analysis Date: **5/22/2013**	SeqNo: **305452** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID **LCS-7553**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **7553**	RunNo: **10806**
Prep Date: **5/22/2013**	Analysis Date: **5/22/2013**	SeqNo: **305453** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.5	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305716**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa Land Farm

Sample ID **LCS-7513**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **7513**	RunNo: **10726**
Prep Date: **5/20/2013**	Analysis Date: **5/20/2013**	SeqNo: **303445** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	10	50.00	0	118	77.1	128			
Surr: DNOP	6.4		5.000		129	63	147			

Sample ID **MB-7513**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **7513**	RunNo: **10726**
Prep Date: **5/20/2013**	Analysis Date: **5/20/2013**	SeqNo: **303446** 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	10		10.00		105	63	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305716**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa Land Farm

Sample ID **MB-7495**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **7495**	RunNo: **10738**
Prep Date: **5/17/2013**	Analysis Date: **5/20/2013**	SeqNo: **303873** 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	940		1000		93.9	80	120			

Sample ID **LCS-7495**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **7495**	RunNo: **10738**
Prep Date: **5/17/2013**	Analysis Date: **5/20/2013**	SeqNo: **303874** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	5.0	25.00	0	125	62.6	136			
Surr: BFB	1100		1000		113	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305716**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa Land Farm

Sample ID **MB-7495**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **7495**	RunNo: **10738**
Prep Date: **5/17/2013**	Analysis Date: **5/20/2013**	SeqNo: **303902** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		99.7	80	120			

Sample ID **LCS-7495**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **7495**	RunNo: **10738**
Prep Date: **5/17/2013**	Analysis Date: **5/20/2013**	SeqNo: **303903** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	109	80	120			
Toluene	1.1	0.050	1.000	0	109	80	120			
Ethylbenzene	1.1	0.050	1.000	0	109	80	120			
Xylenes, Total	3.3	0.10	3.000	0	110	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- 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
- P Sample pH Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix
- W Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **BLAGG** Work Order Number: **1305716** RcptNo: **1**

Received by/date: LM 05/14/13

Logged By: **Michelle Garcia** 5/16/2013 10:00:00 AM Michelle Garcia

Completed By: **Michelle Garcia** 5/17/2013 10:49:21 AM Michelle Garcia

Reviewed By: IO 05/17/2013

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?	Courier		

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 ✔	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✔	No	Adjusted?
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? (If no, notify customer for authorization.)	Yes ✔	No	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	1.2	Good	Yes			

Chain-of-Custody Record

Client: BLAGG ENGINEERING INC.
BP AMERICA
Mailing Address: P.O. BOX 87
BLOOMFIELD NM 87413
Phone #: 505-632-1199
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: CROUCH MESA LAND FARM
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: ☑ Yes ☐ No
Sample Temperature: 4°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + ~~MTBE + TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / ~~MRO~~)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
5/10/2013	1310	SOIL	PILE 929	4oz x 1	COOL	-001	X		X									X				
"	1325	"	PILE 928	"	"	-002	X		X									X				
"	1335	"	PILE 923	"	"	-003	X		X									X				
"	1345	"	PILE 917	"	"	-004	X		X									X				
"	1355	"	PILE 910	"	"	-005	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/15/13	0848	Jeff Blagg	Chrystal Walker	5/13/13	0848
5/13/13	1745	Chrystal Walker		05/16/13	1000

Remarks: BILL BP: PARKEY: ZPEACJDENV
WORKORDER: N1500038
CONTACT: JEFF PEACE

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1308D49**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa L.F.

Sample ID **MB-9124**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **9124**	RunNo: **13058**
Prep Date: **9/3/2013**	Analysis Date: **9/4/2013**	SeqNo: **372712** 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	8.7		10.00		87.3	63	147			

Sample ID **LCS-9124**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **9124**	RunNo: **13058**
Prep Date: **9/3/2013**	Analysis Date: **9/4/2013**	SeqNo: **372713** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	61	10	50.00	0	121	77.1	128			
Surr: DNOP	4.3		5.000		86.8	63	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1308D49**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa L.F.

Sample ID **MB-9117**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **9117**	RunNo: **13041**
Prep Date: **8/30/2013**	Analysis Date: **9/3/2013**	SeqNo: **372358** 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		91.9	80	120			

Sample ID **LCS-9117**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **9117**	RunNo: **13041**
Prep Date: **8/30/2013**	Analysis Date: **9/3/2013**	SeqNo: **372359** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	106	74.5	126			
Surr: BFB	1000		1000		100	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1308D49**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa L.F.

Sample ID **MB-9117**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **9117**	RunNo: **13041**
Prep Date: **8/30/2013**	Analysis Date: **9/3/2013**	SeqNo: **372398** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID **LCS-9117**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **9117**	RunNo: **13041**
Prep Date: **8/30/2013**	Analysis Date: **9/3/2013**	SeqNo: **372399** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	100	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: BLAGG | Work Order Number: 1308D49 | RcptNo: 1

Received by/date: 08/30/13

Logged By: Lindsay Mangin 8/30/2013 10:00:00 AM

Completed By: Lindsay Mangin 8/30/2013 1:01:53 PM

Reviewed By: MG 08/30/13

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?	Courier		

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# 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	4.9	Good	Yes			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Client:	BLAGG ENGINEERING INC.
	BP AMERICA
Mailing Address:	P.O. BOX 87
	BLOOMFIELD NM 87413
Phone #:	505-632-1199
email or Fax#:	
QA/QC Package:	☒ Standard ☐ Level 4 (Full Validation)
Accreditation	☐ NELAP ☐ Other
	☐ EDD (Type)
Turn-Around Time:	☒ Standard ☐ Rush
Project Name:	CROUCH MESA L.F.
Project #:	
Project Manager:	J. BLAGG
Sampler:	J. BLAGG
On Ice:	☒ Yes ☐ No
Sample Temperature:	4.9

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + ~~MTBE + TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / ~~MRO~~)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
8/29/13	1305	SOIL	PILE 928	4oz x1	COOL	-001	X		X									X				
"	1312	"	PILE 924	"	"	-002	X		X									X				
"	1319	"	PILE 925	"	"	-003	X		X									X				
"	1326	"	PILE 407	"	"	-004	X		X									X				
"	1337	"	PILE 937	"	"	-005	X		X									X				

Date: 8/29/13	Time: 1439	Relinquished by: Jeff Blagg	Received by: Christine Walker	Date: 8/29/13	Time: 1439
Date: 8/29/13	Time: 1757	Relinquished by: Christine Walker	Received by:	Date: 08/30/13	Time: 1000

Remarks: BILL BLAGG

BP CONTACT: JEFF PEACE

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1311148**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa LF-Piles

Sample ID	**MB-10252**	SampType: **MBLK**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID: **10252**			RunNo: **14687**					
Prep Date:	**11/8/2013**	Analysis Date: **11/8/2013**			SeqNo: **422780**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-10252**	SampType: **LCS**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID: **10252**			RunNo: **14687**					
Prep Date:	**11/8/2013**	Analysis Date: **11/8/2013**			SeqNo: **422781**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.9	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1311148**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa LF-Piles

Sample ID **MB-10211** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **10211** RunNo: **14643**

Prep Date: **11/6/2013** Analysis Date: **11/7/2013** SeqNo: **421178** 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	9.6		10.00		96.3	66	131			

Sample ID **LCS-10211** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **10211** RunNo: **14643**

Prep Date: **11/6/2013** Analysis Date: **11/7/2013** SeqNo: **421183** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.2	62.1	127			
Surr: DNOP	5.0		5.000		100	66	131			

Sample ID **1311148-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **Pile 930** Batch ID: **10211** RunNo: **14643**

Prep Date: **11/6/2013** Analysis Date: **11/7/2013** SeqNo: **421211** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	73	9.9	49.50	0	147	47.4	148			
Surr: DNOP	5.1		4.950		102	66	131			

Sample ID **1311148-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **Pile 930** Batch ID: **10211** RunNo: **14643**

Prep Date: **11/6/2013** Analysis Date: **11/7/2013** SeqNo: **421243** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	90	9.9	49.65	0	182	47.4	148	21.5	22.7	S
Surr: DNOP	5.2		4.965		104	66	131	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- 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
- P Sample pH Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1311148**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF-Piles

Sample ID **MB-10207**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **10207**	RunNo: **14650**
Prep Date: **11/6/2013**	Analysis Date: **11/7/2013**	SeqNo: **421489** 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		92.3	74.5	129			

Sample ID **LCS-10207**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **10207**	RunNo: **14650**
Prep Date: **11/6/2013**	Analysis Date: **11/7/2013**	SeqNo: **421490** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	74.5	126			
Surr: BFB	990		1000		99.4	74.5	129			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1311148**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa LF-Piles

Sample ID **MB-10207**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **10207**	RunNo: **14650**
Prep Date: **11/6/2013**	Analysis Date: **11/7/2013**	SeqNo: **421547** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID **LCS-10207**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **10207**	RunNo: **14650**
Prep Date: **11/6/2013**	Analysis Date: **11/7/2013**	SeqNo: **421548** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	100	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	103	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- 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
- P Sample pH Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix
- W Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: BLAGG | Work Order Number: 1311148 | RcptNo: 1

Received by/date: LM 11/05/13

Logged By: Anne Thorne 11/5/2013 10:00:00 AM Anne Thorne

Completed By: Anne Thorne 11/5/2013 Anne Thorne

Reviewed By: AK 11/06/13

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?	Courier		

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# 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	Yes			

Chain-of-Custody Record

Client: BLAGG ENGINEERING INC

BP AMERICA

Mailing Address: P.O. BOX 87

BLOOMFIELD NM 87413

Phone #: 505-632-1199

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: CROUCH MESA LF – PILES

Project #:

Project Manager: J. BLAGG

Sampler: J. BLAGG

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1311648	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
10/31/13	1035	SOIL	PILE 930	4oz x1	COOL	-001	X		X									X				
"	1045	"	PILE 931	"	"	-002	X		X									X				
"	1055	"	PILE 931A	"	"	-003	X		X									X				
"	1105	"	PILE 926	"	"	-004	X		X									X				
"	1115	"	PILE 926A	"	"	-005	X		X									X				
11/1/13	0945	"	PILE 932	"	"	-006	X		X									X				
"	0955	"	PILE 932A	"	"	-007	X		X									X				
"	1005	"	PILE 943A	"	"	-008	X		X									X				
"	1012	"	PILE 934	"	"	-009	X		X									X				
"	1020	"	PILE 938	"	"	-010	X		X									X				
"	1035	"	PILE 925	"	"	-011	X		X									X				

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/4/2013	1312	Jeff Blagg	Christine Walker	11/4/2013	1312
11/4/13	1742	Christine Walker		11/05/13	1000

Remarks: BILL BLAGG

BP CONTACT: JEFF PEACE

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.

2014 Biopiles

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1403537-009 **Matrix:** SOIL

Client Sample ID: Pile 915
Collection Date: 3/7/2014 9:00:00 AM
Received Date: 3/12/2014 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	31	30		mg/Kg	20	3/17/2014 4:27:58 PM	12201
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	65	9.9		mg/Kg	1	3/15/2014 3:06:41 AM	12165
Motor Oil Range Organics (MRO)	110	50		mg/Kg	1	3/15/2014 3:06:41 AM	12165
Surr: DNOP	109	70-130		%Rec	1	3/15/2014 3:06:41 AM	12165
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/17/2014 10:00:16 PM	12163
Surr: BFB	88.0	74.5-129		%Rec	1	3/17/2014 10:00:16 PM	12163
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	3/17/2014 10:00:16 PM	12163
Toluene	ND	0.047		mg/Kg	1	3/17/2014 10:00:16 PM	12163
Ethylbenzene	ND	0.047		mg/Kg	1	3/17/2014 10:00:16 PM	12163
Xylenes, Total	ND	0.093		mg/Kg	1	3/17/2014 10:00:16 PM	12163
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	3/17/2014 10:00:16 PM	12163

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1409892-006 **Matrix:** SOIL

Client Sample ID: Pile 928
Collection Date: 9/16/2014 1:37:00 PM
Received Date: 9/18/2014 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	83	30		mg/Kg	20	9/19/2014 5:33:51 PM	15404
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	93	9.9		mg/Kg	1	9/23/2014 5:10:41 PM	15372
Motor Oil Range Organics (MRO)	310	49		mg/Kg	1	9/23/2014 5:10:41 PM	15372
Surr: DNOP	110	70-130		%Rec	1	9/23/2014 5:10:41 PM	15372
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/19/2014 6:55:13 PM	15381
Surr: BFB	94.3	80-120		%Rec	1	9/19/2014 6:55:13 PM	15381
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	9/19/2014 6:55:13 PM	15381
Toluene	ND	0.047		mg/Kg	1	9/19/2014 6:55:13 PM	15381
Ethylbenzene	ND	0.047		mg/Kg	1	9/19/2014 6:55:13 PM	15381
Xylenes, Total	ND	0.094		mg/Kg	1	9/19/2014 6:55:13 PM	15381
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	9/19/2014 6:55:13 PM	15381

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1403537-008 **Matrix:** SOIL

Client Sample ID: Pile 928A
Collection Date: 3/7/2014 8:50:00 AM
Received Date: 3/12/2014 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	39	30		mg/Kg	20	3/17/2014 4:15:33 PM	12201
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	62	9.9		mg/Kg	1	3/15/2014 1:36:21 AM	12165
Motor Oil Range Organics (MRO)	97	50		mg/Kg	1	3/15/2014 1:36:21 AM	12165
Surr: DNOP	108	70-130		%Rec	1	3/15/2014 1:36:21 AM	12165
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/17/2014 9:31:35 PM	12163
Surr: BFB	88.5	74.5-129		%Rec	1	3/17/2014 9:31:35 PM	12163
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	3/17/2014 9:31:35 PM	12163
Toluene	ND	0.047		mg/Kg	1	3/17/2014 9:31:35 PM	12163
Ethylbenzene	ND	0.047		mg/Kg	1	3/17/2014 9:31:35 PM	12163
Xylenes, Total	ND	0.095		mg/Kg	1	3/17/2014 9:31:35 PM	12163
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	3/17/2014 9:31:35 PM	12163

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1409892**
Date Reported: **9/21/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1409892-009 **Matrix:** SOIL

Client Sample ID: Pile 933
Collection Date: 9/16/2014 2:10:00 PM
Received Date: 9/18/2014 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	ND	30		mg/Kg	20	9/19/2014 6:11:05 PM	15404
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	17	10		mg/Kg	1	9/20/2014 5:50:59 AM	15372
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/20/2014 5:50:59 AM	15372
Surr: DNOP	94.9	70-130		%Rec	1	9/20/2014 5:50:59 AM	15372
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2014 12:17:46 AM	15381
Surr: BFB	87.1	80-120		%Rec	1	9/23/2014 12:17:46 AM	15381
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	9/23/2014 12:17:46 AM	15381
Toluene	ND	0.048		mg/Kg	1	9/23/2014 12:17:46 AM	15381
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2014 12:17:46 AM	15381
Xylenes, Total	ND	0.095		mg/Kg	1	9/23/2014 12:17:46 AM	15381
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	9/23/2014 12:17:46 AM	15381

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1405024-007 **Matrix:** SOIL

Client Sample ID: Pile 935
Collection Date: 4/28/2014 11:54:00 AM
Received Date: 5/1/2014 10:03:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	100	30		mg/Kg	20	5/2/2014 2:11:29 PM	12983
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	14	9.9		mg/Kg	1	5/2/2014 6:42:22 PM	12956
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/2/2014 6:42:22 PM	12956
Surr: DNOP	91.9	70-130		%Rec	1	5/2/2014 6:42:22 PM	12956
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/2/2014 7:39:06 PM	12961
Surr: BFB	93.6	74.5-129		%Rec	1	5/2/2014 7:39:06 PM	12961
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	5/2/2014 7:39:06 PM	12961
Toluene	ND	0.049		mg/Kg	1	5/2/2014 7:39:06 PM	12961
Ethylbenzene	ND	0.049		mg/Kg	1	5/2/2014 7:39:06 PM	12961
Xylenes, Total	ND	0.099		mg/Kg	1	5/2/2014 7:39:06 PM	12961
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	5/2/2014 7:39:06 PM	12961

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 936
Project: Crouch Mesa LF
Collection Date: 4/28/2014 11:33:00 AM
Lab ID: 1405024-005
Matrix: SOIL
Received Date: 5/1/2014 10:03:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	43	30		mg/Kg	20	5/2/2014 1:46:40 PM	12983
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	19	10		mg/Kg	1	5/2/2014 5:58:42 PM	12956
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/2/2014 5:58:42 PM	12956
Surr: DNOP	86.4	70-130		%Rec	1	5/2/2014 5:58:42 PM	12956
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	5.7	4.6		mg/Kg	1	5/5/2014 9:18:56 PM	12961
Surr: BFB	161	74.5-129	S	%Rec	1	5/5/2014 9:18:56 PM	12961
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.046		mg/Kg	1	5/5/2014 9:18:56 PM	12961
Toluene	ND	0.046		mg/Kg	1	5/5/2014 9:18:56 PM	12961
Ethylbenzene	ND	0.046		mg/Kg	1	5/5/2014 9:18:56 PM	12961
Xylenes, Total	ND	0.093		mg/Kg	1	5/5/2014 9:18:56 PM	12961
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	5/5/2014 9:18:56 PM	12961

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1405764-005 **Matrix:** SOIL

Client Sample ID: Pile 938
Collection Date: 5/12/2014 8:37:00 AM
Received Date: 5/17/2014 10:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	260	30		mg/Kg	20	5/20/2014 1:23:48 PM	13252
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	38	9.8		mg/Kg	1	5/20/2014 10:52:47 AM	13217
Motor Oil Range Organics (MRO)	120	49		mg/Kg	1	5/20/2014 10:52:47 AM	13217
Surr: DNOP	109	70-130		%Rec	1	5/20/2014 10:52:47 AM	13217
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/20/2014 10:28:13 PM	13226
Surr: BFB	87.5	80-120		%Rec	1	5/20/2014 10:28:13 PM	13226
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	5/20/2014 10:28:13 PM	13226
Toluene	ND	0.048		mg/Kg	1	5/20/2014 10:28:13 PM	13226
Ethylbenzene	ND	0.048		mg/Kg	1	5/20/2014 10:28:13 PM	13226
Xylenes, Total	ND	0.095		mg/Kg	1	5/20/2014 10:28:13 PM	13226
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	5/20/2014 10:28:13 PM	13226

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1403537-005 **Matrix:** SOIL

Client Sample ID: Pile 939
Collection Date: 3/7/2014 8:30:00 AM
Received Date: 3/12/2014 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	100	30		mg/Kg	20	3/17/2014 3:38:19 PM	12201
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	24	10		mg/Kg	1	3/14/2014 9:03:24 PM	12165
Motor Oil Range Organics (MRO)	51	50		mg/Kg	1	3/14/2014 9:03:24 PM	12165
Surr: DNOP	110	70-130		%Rec	1	3/14/2014 9:03:24 PM	12165
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/17/2014 5:42:28 PM	12163
Surr: BFB	86.8	74.5-129		%Rec	1	3/17/2014 5:42:28 PM	12163
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	3/17/2014 5:42:28 PM	12163
Toluene	ND	0.047		mg/Kg	1	3/17/2014 5:42:28 PM	12163
Ethylbenzene	ND	0.047		mg/Kg	1	3/17/2014 5:42:28 PM	12163
Xylenes, Total	ND	0.094		mg/Kg	1	3/17/2014 5:42:28 PM	12163
Surr: 4-Bromofluorobenzene	97.7	80-120		%Rec	1	3/17/2014 5:42:28 PM	12163

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 940
Project: Crouch Mesa LF
Collection Date: 3/7/2014 8:35:00 AM
Lab ID: 1403537-006
Matrix: SOIL
Received Date: 3/12/2014 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	78	30		mg/Kg	20	3/17/2014 3:50:44 PM	12201
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	26	10		mg/Kg	1	3/14/2014 10:34:58 PM	12165
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/14/2014 10:34:58 PM	12165
Surr: DNOP	115	70-130		%Rec	1	3/14/2014 10:34:58 PM	12165
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/17/2014 8:05:36 PM	12163
Surr: BFB	87.1	74.5-129		%Rec	1	3/17/2014 8:05:36 PM	12163
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	3/17/2014 8:05:36 PM	12163
Toluene	ND	0.047		mg/Kg	1	3/17/2014 8:05:36 PM	12163
Ethylbenzene	ND	0.047		mg/Kg	1	3/17/2014 8:05:36 PM	12163
Xylenes, Total	ND	0.093		mg/Kg	1	3/17/2014 8:05:36 PM	12163
Surr: 4-Bromofluorobenzene	99.9	80-120		%Rec	1	3/17/2014 8:05:36 PM	12163

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 941
Project: Crouch Mesa LF
Collection Date: 4/28/2014 11:24:00 AM
Lab ID: 1405024-004
Matrix: SOIL
Received Date: 5/1/2014 10:03:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	100	30		mg/Kg	20	5/2/2014 1:34:16 PM	12983
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/2/2014 5:36:56 PM	12956
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/2/2014 5:36:56 PM	12956
Surr: DNOP	88.5	70-130		%Rec	1	5/2/2014 5:36:56 PM	12956
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/2/2014 6:13:08 PM	12961
Surr: BFB	87.6	74.5-129		%Rec	1	5/2/2014 6:13:08 PM	12961
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	5/2/2014 6:13:08 PM	12961
Toluene	ND	0.047		mg/Kg	1	5/2/2014 6:13:08 PM	12961
Ethylbenzene	ND	0.047		mg/Kg	1	5/2/2014 6:13:08 PM	12961
Xylenes, Total	ND	0.094		mg/Kg	1	5/2/2014 6:13:08 PM	12961
Surr: 4-Bromofluorobenzene	99.9	80-120		%Rec	1	5/2/2014 6:13:08 PM	12961

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 942
Project: Crouch Mesa LF
Collection Date: 5/12/2014 8:45:00 AM
Lab ID: 1405764-006
Matrix: SOIL
Received Date: 5/17/2014 10:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	41	30		mg/Kg	20	5/20/2014 1:36:12 PM	13252
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	46	10		mg/Kg	1	5/20/2014 11:36:19 AM	13217
Motor Oil Range Organics (MRO)	56	51		mg/Kg	1	5/20/2014 11:36:19 AM	13217
Surr: DNOP	113	70-130		%Rec	1	5/20/2014 11:36:19 AM	13217
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/20/2014 10:56:46 PM	13226
Surr: BFB	95.2	80-120		%Rec	1	5/20/2014 10:56:46 PM	13226
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	5/20/2014 10:56:46 PM	13226
Toluene	ND	0.047		mg/Kg	1	5/20/2014 10:56:46 PM	13226
Ethylbenzene	ND	0.047		mg/Kg	1	5/20/2014 10:56:46 PM	13226
Xylenes, Total	ND	0.094		mg/Kg	1	5/20/2014 10:56:46 PM	13226
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	5/20/2014 10:56:46 PM	13226

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1405024-006 **Matrix:** SOIL

Client Sample ID: Pile 943
Collection Date: 4/28/2014 11:45:00 AM
Received Date: 5/1/2014 10:03:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	59	30		mg/Kg	20	5/2/2014 1:59:04 PM	12983
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/2/2014 6:20:37 PM	12956
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/2/2014 6:20:37 PM	12956
Surr: DNOP	85.0	70-130		%Rec	1	5/2/2014 6:20:37 PM	12956
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/2/2014 7:10:20 PM	12961
Surr: BFB	86.4	74.5-129		%Rec	1	5/2/2014 7:10:20 PM	12961
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	5/2/2014 7:10:20 PM	12961
Toluene	ND	0.049		mg/Kg	1	5/2/2014 7:10:20 PM	12961
Ethylbenzene	ND	0.049		mg/Kg	1	5/2/2014 7:10:20 PM	12961
Xylenes, Total	ND	0.097		mg/Kg	1	5/2/2014 7:10:20 PM	12961
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	5/2/2014 7:10:20 PM	12961

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1409892-010 **Matrix:** SOIL

Client Sample ID: Pile 946
Collection Date: 9/16/2014 2:22:00 PM
Received Date: 9/18/2014 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	440	30		mg/Kg	20	9/19/2014 6:23:29 PM	15404
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	41	10		mg/Kg	1	9/23/2014 5:53:22 PM	15372
Motor Oil Range Organics (MRO)	470	50		mg/Kg	1	9/23/2014 5:53:22 PM	15372
Surr: DNOP	109	70-130		%Rec	1	9/23/2014 5:53:22 PM	15372
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/23/2014 12:47:59 AM	15381
Surr: BFB	89.2	80-120		%Rec	1	9/23/2014 12:47:59 AM	15381
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	9/23/2014 12:47:59 AM	15381
Toluene	ND	0.047		mg/Kg	1	9/23/2014 12:47:59 AM	15381
Ethylbenzene	ND	0.047		mg/Kg	1	9/23/2014 12:47:59 AM	15381
Xylenes, Total	ND	0.094		mg/Kg	1	9/23/2014 12:47:59 AM	15381
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	9/23/2014 12:47:59 AM	15381

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1408032-004 **Matrix:** SOIL

Client Sample ID: Pile 951
Collection Date: 7/30/2014 10:45:00 AM
Received Date: 7/30/2014 1:06:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**LGT**
Chloride	32	30		mg/Kg	20	8/4/2014 2:40:55 PM	14585
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BCN**
Diesel Range Organics (DRO)	40	10		mg/Kg	1	8/4/2014 1:16:34 PM	14572
Motor Oil Range Organics (MRO)	90	50		mg/Kg	1	8/4/2014 1:16:34 PM	14572
Surr: DNOP	120	70-130		%Rec	1	8/4/2014 1:16:34 PM	14572
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/4/2014 10:37:48 PM	14556
Surr: BFB	86.8	80-120		%Rec	1	8/4/2014 10:37:48 PM	14556
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.047		mg/Kg	1	8/4/2014 10:37:48 PM	14556
Toluene	ND	0.047		mg/Kg	1	8/4/2014 10:37:48 PM	14556
Ethylbenzene	ND	0.047		mg/Kg	1	8/4/2014 10:37:48 PM	14556
Xylenes, Total	ND	0.094		mg/Kg	1	8/4/2014 10:37:48 PM	14556
Surr: 4-Bromofluorobenzene	96.8	80-120		%Rec	1	8/4/2014 10:37:48 PM	14556

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1408032-005 **Matrix:** SOIL

Client Sample ID: Pile 952
Collection Date: 7/30/2014 10:55:00 AM
Received Date: 7/30/2014 1:06:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	61	30		mg/Kg	20	8/4/2014 2:53:20 PM	14585
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/4/2014 1:38:00 PM	14572
Motor Oil Range Organics (MRO)	55	50		mg/Kg	1	8/4/2014 1:38:00 PM	14572
Surr: DNOP	119	70-130		%Rec	1	8/4/2014 1:38:00 PM	14572
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/4/2014 11:07:51 PM	14556
Surr: BFB	93.8	80-120		%Rec	1	8/4/2014 11:07:51 PM	14556
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	8/4/2014 11:07:51 PM	14556
Toluene	ND	0.048		mg/Kg	1	8/4/2014 11:07:51 PM	14556
Ethylbenzene	ND	0.048		mg/Kg	1	8/4/2014 11:07:51 PM	14556
Xylenes, Total	ND	0.096		mg/Kg	1	8/4/2014 11:07:51 PM	14556
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	8/4/2014 11:07:51 PM	14556

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1408032-006 **Matrix:** SOIL

Client Sample ID: Pile 953
Collection Date: 7/30/2014 11:05:00 AM
Received Date: 7/30/2014 1:06:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	63	30		mg/Kg	20	8/4/2014 3:05:44 PM	14585
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/4/2014 1:59:40 PM	14572
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/4/2014 1:59:40 PM	14572
Surr: DNOP	116	70-130		%Rec	1	8/4/2014 1:59:40 PM	14572
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/4/2014 11:37:49 PM	14556
Surr: BFB	92.4	80-120		%Rec	1	8/4/2014 11:37:49 PM	14556
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	8/4/2014 11:37:49 PM	14556
Toluene	ND	0.048		mg/Kg	1	8/4/2014 11:37:49 PM	14556
Ethylbenzene	ND	0.048		mg/Kg	1	8/4/2014 11:37:49 PM	14556
Xylenes, Total	ND	0.096		mg/Kg	1	8/4/2014 11:37:49 PM	14556
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	8/4/2014 11:37:49 PM	14556

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1405764-003 **Matrix:** SOIL

Client Sample ID: Pile 954
Collection Date: 5/12/2014 8:22:00 AM
Received Date: 5/17/2014 10:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	54	30		mg/Kg	20	5/20/2014 12:58:59 PM	13252
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	26	10		mg/Kg	1	5/21/2014 11:43:44 AM	13217
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/21/2014 11:43:44 AM	13217
Surr: DNOP	92.0	70-130		%Rec	1	5/21/2014 11:43:44 AM	13217
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/22/2014 4:33:06 PM	13226
Surr: BFB	86.9	80-120		%Rec	1	5/22/2014 4:33:06 PM	13226
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	5/20/2014 2:50:50 PM	13226
Toluene	ND	0.048		mg/Kg	1	5/20/2014 2:50:50 PM	13226
Ethylbenzene	ND	0.048		mg/Kg	1	5/20/2014 2:50:50 PM	13226
Xylenes, Total	ND	0.096		mg/Kg	1	5/20/2014 2:50:50 PM	13226
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	5/20/2014 2:50:50 PM	13226

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1407373-006 **Matrix:** SOIL

Client Sample ID: Pile 957
Collection Date: 7/8/2014 11:15:00 AM
Received Date: 7/9/2014 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	100	30		mg/Kg	20	7/11/2014 11:07:51 AM	14177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	45	10		mg/Kg	1	7/10/2014 4:58:48 PM	14125
Motor Oil Range Organics (MRO)	110	50		mg/Kg	1	7/10/2014 4:58:48 PM	14125
Surr: DNOP	90.6	70-130		%Rec	1	7/10/2014 4:58:48 PM	14125
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/12/2014 1:15:32 AM	14134
Surr: BFB	114	80-120		%Rec	1	7/12/2014 1:15:32 AM	14134
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	7/10/2014 5:28:38 PM	14134
Toluene	ND	0.048		mg/Kg	1	7/10/2014 5:28:38 PM	14134
Ethylbenzene	ND	0.048		mg/Kg	1	7/10/2014 5:28:38 PM	14134
Xylenes, Total	ND	0.096		mg/Kg	1	7/10/2014 5:28:38 PM	14134
Surr: 4-Bromofluorobenzene	98.0	80-120		%Rec	1	7/10/2014 5:28:38 PM	14134

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1405764**
Date Reported: **9/21/2016**

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1405764-001 **Matrix:** SOIL

Client Sample ID: Pile 958
Collection Date: 5/12/2014 8:05:00 AM
Received Date: 5/17/2014 10:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	100	30		mg/Kg	20	5/20/2014 11:44:32 AM	13252
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	35	10		mg/Kg	1	5/20/2014 9:47:32 AM	13217
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/20/2014 9:47:32 AM	13217
Surr: DNOP	106	70-130		%Rec	1	5/20/2014 9:47:32 AM	13217
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	29	4.7		mg/Kg	1	5/20/2014 1:53:35 PM	13226
Surr: BFB	438	80-120	S	%Rec	1	5/20/2014 1:53:35 PM	13226
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	5/20/2014 1:53:35 PM	13226
Toluene	ND	0.047		mg/Kg	1	5/20/2014 1:53:35 PM	13226
Ethylbenzene	ND	0.047		mg/Kg	1	5/20/2014 1:53:35 PM	13226
Xylenes, Total	ND	0.093		mg/Kg	1	5/20/2014 1:53:35 PM	13226
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	1	5/20/2014 1:53:35 PM	13226

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1410B59-005 **Matrix:** SOIL

Client Sample ID: Pile 959
Collection Date: 10/21/2014 3:32:00 PM
Received Date: 10/24/2014 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	82	30		mg/Kg	20	10/28/2014 12:09:17 PM	16119
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	87	9.9		mg/Kg	1	10/27/2014 7:48:25 PM	16081
Motor Oil Range Organics (MRO)	90	50		mg/Kg	1	10/27/2014 7:48:25 PM	16081
Surr: DNOP	109	70-130		%Rec	1	10/27/2014 7:48:25 PM	16081
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/27/2014 8:09:09 PM	16088
Surr: BFB	108	80-120		%Rec	1	10/27/2014 8:09:09 PM	16088
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	10/27/2014 8:09:09 PM	16088
Toluene	ND	0.048		mg/Kg	1	10/27/2014 8:09:09 PM	16088
Ethylbenzene	ND	0.048		mg/Kg	1	10/27/2014 8:09:09 PM	16088
Xylenes, Total	ND	0.096		mg/Kg	1	10/27/2014 8:09:09 PM	16088
Surr: 4-Bromofluorobenzene	92.5	80-120		%Rec	1	10/27/2014 8:09:09 PM	16088

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1409892-008 **Matrix:** SOIL

Client Sample ID: Pile 960
Collection Date: 9/16/2014 1:55:00 PM
Received Date: 9/18/2014 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	130	30		mg/Kg	20	9/19/2014 5:58:41 PM	15404
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	21	9.9		mg/Kg	1	9/20/2014 5:29:27 AM	15372
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/20/2014 5:29:27 AM	15372
Surr: DNOP	87.1	70-130		%Rec	1	9/20/2014 5:29:27 AM	15372
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/23/2014 4:06:43 AM	15381
Surr: BFB	97.8	80-120		%Rec	1	9/23/2014 4:06:43 AM	15381
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	9/23/2014 4:06:43 AM	15381
Toluene	ND	0.047		mg/Kg	1	9/23/2014 4:06:43 AM	15381
Ethylbenzene	ND	0.047		mg/Kg	1	9/23/2014 4:06:43 AM	15381
Xylenes, Total	ND	0.093		mg/Kg	1	9/23/2014 4:06:43 AM	15381
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	9/23/2014 4:06:43 AM	15381

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1408032-008 **Matrix:** SOIL

Client Sample ID: Pile 962
Collection Date: 7/30/2014 10:04:00 AM
Received Date: 7/30/2014 1:06:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	36	30		mg/Kg	20	8/4/2014 3:30:34 PM	14585
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	26	10		mg/Kg	1	8/4/2014 2:42:46 PM	14572
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/4/2014 2:42:46 PM	14572
Surr: DNOP	115	70-130		%Rec	1	8/4/2014 2:42:46 PM	14572
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/5/2014 1:08:02 AM	14556
Surr: BFB	94.8	80-120		%Rec	1	8/5/2014 1:08:02 AM	14556
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	8/5/2014 1:08:02 AM	14556
Toluene	ND	0.048		mg/Kg	1	8/5/2014 1:08:02 AM	14556
Ethylbenzene	ND	0.048		mg/Kg	1	8/5/2014 1:08:02 AM	14556
Xylenes, Total	ND	0.097		mg/Kg	1	8/5/2014 1:08:02 AM	14556
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	8/5/2014 1:08:02 AM	14556

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1407373-002 **Matrix:** SOIL

Client Sample ID: Pile 963
Collection Date: 7/8/2014 10:40:00 AM
Received Date: 7/9/2014 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	90	30		mg/Kg	20	7/11/2014 9:53:23 AM	14177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	71	9.9		mg/Kg	1	7/10/2014 1:20:11 PM	14125
Motor Oil Range Organics (MRO)	53	50		mg/Kg	1	7/10/2014 1:20:11 PM	14125
Surr: DNOP	83.6	70-130		%Rec	1	7/10/2014 1:20:11 PM	14125
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/11/2014 11:15:05 PM	14134
Surr: BFB	126	80-120	S	%Rec	1	7/11/2014 11:15:05 PM	14134
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	7/10/2014 3:33:51 PM	14134
Toluene	ND	0.047		mg/Kg	1	7/10/2014 3:33:51 PM	14134
Ethylbenzene	ND	0.047		mg/Kg	1	7/10/2014 3:33:51 PM	14134
Xylenes, Total	ND	0.095		mg/Kg	1	7/10/2014 3:33:51 PM	14134
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	7/10/2014 3:33:51 PM	14134

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1408032-009 **Matrix:** SOIL

Client Sample ID: Pile 964
Collection Date: 7/30/2014 10:20:00 AM
Received Date: 7/30/2014 1:06:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	8/4/2014 3:42:59 PM	14585
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	20	9.9		mg/Kg	1	8/4/2014 3:04:15 PM	14572
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/4/2014 3:04:15 PM	14572
Surr: DNOP	122	70-130		%Rec	1	8/4/2014 3:04:15 PM	14572
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/5/2014 1:38:17 AM	14556
Surr: BFB	85.3	80-120		%Rec	1	8/5/2014 1:38:17 AM	14556
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	8/5/2014 1:38:17 AM	14556
Toluene	ND	0.049		mg/Kg	1	8/5/2014 1:38:17 AM	14556
Ethylbenzene	ND	0.049		mg/Kg	1	8/5/2014 1:38:17 AM	14556
Xylenes, Total	ND	0.099		mg/Kg	1	8/5/2014 1:38:17 AM	14556
Surr: 4-Bromofluorobenzene	91.8	80-120		%Rec	1	8/5/2014 1:38:17 AM	14556

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1408032-010 **Matrix:** SOIL

Client Sample ID: Pile 965
Collection Date: 7/30/2014 9:55:00 AM
Received Date: 7/30/2014 1:06:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	47	30		mg/Kg	20	8/4/2014 3:55:23 PM	14585
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	41	9.9		mg/Kg	1	8/4/2014 3:25:59 PM	14572
Motor Oil Range Organics (MRO)	68	50		mg/Kg	1	8/4/2014 3:25:59 PM	14572
Surr: DNOP	111	70-130		%Rec	1	8/4/2014 3:25:59 PM	14572
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/5/2014 2:08:27 AM	14556
Surr: BFB	89.4	80-120		%Rec	1	8/5/2014 2:08:27 AM	14556
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	8/5/2014 2:08:27 AM	14556
Toluene	ND	0.047		mg/Kg	1	8/5/2014 2:08:27 AM	14556
Ethylbenzene	ND	0.047		mg/Kg	1	8/5/2014 2:08:27 AM	14556
Xylenes, Total	ND	0.095		mg/Kg	1	8/5/2014 2:08:27 AM	14556
Surr: 4-Bromofluorobenzene	98.9	80-120		%Rec	1	8/5/2014 2:08:27 AM	14556

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1412597-007 **Matrix:** SOIL

Client Sample ID: Pile 967
Collection Date: 12/8/2014 1:10:00 PM
Received Date: 12/12/2014 7:32:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	80	30		mg/Kg	20	12/15/2014 4:27:29 PM	16822
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	35	9.9		mg/Kg	1	12/15/2014 3:22:10 PM	16790
Motor Oil Range Organics (MRO)	73	49		mg/Kg	1	12/15/2014 3:22:10 PM	16790
Surr: DNOP	81.7	70-130		%Rec	1	12/15/2014 3:22:10 PM	16790
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/15/2014 10:57:27 PM	16795
Surr: BFB	92.9	80-120		%Rec	1	12/15/2014 10:57:27 PM	16795
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	12/15/2014 10:57:27 PM	16795
Toluene	ND	0.047		mg/Kg	1	12/15/2014 10:57:27 PM	16795
Ethylbenzene	ND	0.047		mg/Kg	1	12/15/2014 10:57:27 PM	16795
Xylenes, Total	ND	0.095		mg/Kg	1	12/15/2014 10:57:27 PM	16795
Surr: 4-Bromofluorobenzene	97.2	80-120		%Rec	1	12/15/2014 10:57:27 PM	16795

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1412597-004 **Matrix:** SOIL

Client Sample ID: Pile 971
Collection Date: 12/8/2014 12:40:00 PM
Received Date: 12/12/2014 7:32:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	70	30		mg/Kg	20	12/15/2014 3:25:24 PM	16822
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	100	9.9		mg/Kg	1	12/15/2014 2:17:22 PM	16790
Motor Oil Range Organics (MRO)	110	50		mg/Kg	1	12/15/2014 2:17:22 PM	16790
Surr: DNOP	85.5	70-130		%Rec	1	12/15/2014 2:17:22 PM	16790
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/15/2014 9:31:38 PM	16795
Surr: BFB	92.1	80-120		%Rec	1	12/15/2014 9:31:38 PM	16795
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	12/15/2014 9:31:38 PM	16795
Toluene	ND	0.048		mg/Kg	1	12/15/2014 9:31:38 PM	16795
Ethylbenzene	ND	0.048		mg/Kg	1	12/15/2014 9:31:38 PM	16795
Xylenes, Total	ND	0.097		mg/Kg	1	12/15/2014 9:31:38 PM	16795
Surr: 4-Bromofluorobenzene	95.7	80-120		%Rec	1	12/15/2014 9:31:38 PM	16795

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1412597-003 **Matrix:** SOIL

Client Sample ID: Pile 975
Collection Date: 12/8/2014 12:30:00 PM
Received Date: 12/12/2014 7:32:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	50	30		mg/Kg	20	12/15/2014 3:12:59 PM	16822
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	33	9.9		mg/Kg	1	12/15/2014 1:55:42 PM	16790
Motor Oil Range Organics (MRO)	54	49		mg/Kg	1	12/15/2014 1:55:42 PM	16790
Surr: DNOP	80.4	70-130		%Rec	1	12/15/2014 1:55:42 PM	16790
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/15/2014 9:02:59 PM	16795
Surr: BFB	93.5	80-120		%Rec	1	12/15/2014 9:02:59 PM	16795
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	12/15/2014 9:02:59 PM	16795
Toluene	ND	0.047		mg/Kg	1	12/15/2014 9:02:59 PM	16795
Ethylbenzene	ND	0.047		mg/Kg	1	12/15/2014 9:02:59 PM	16795
Xylenes, Total	ND	0.095		mg/Kg	1	12/15/2014 9:02:59 PM	16795
Surr: 4-Bromofluorobenzene	98.9	80-120		%Rec	1	12/15/2014 9:02:59 PM	16795

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1412597-008 **Matrix:** SOIL

Client Sample ID: Pile 983
Collection Date: 12/8/2014 1:25:00 PM
Received Date: 12/12/2014 7:32:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	76	30		mg/Kg	20	12/15/2014 4:39:55 PM	16822
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	66	9.9		mg/Kg	1	12/15/2014 3:43:44 PM	16790
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/15/2014 3:43:44 PM	16790
Surr: DNOP	84.2	70-130		%Rec	1	12/15/2014 3:43:44 PM	16790
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/15/2014 11:26:02 PM	16795
Surr: BFB	91.1	80-120		%Rec	1	12/15/2014 11:26:02 PM	16795
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	12/15/2014 11:26:02 PM	16795
Toluene	ND	0.047		mg/Kg	1	12/15/2014 11:26:02 PM	16795
Ethylbenzene	ND	0.047		mg/Kg	1	12/15/2014 11:26:02 PM	16795
Xylenes, Total	ND	0.094		mg/Kg	1	12/15/2014 11:26:02 PM	16795
Surr: 4-Bromofluorobenzene	94.3	80-120		%Rec	1	12/15/2014 11:26:02 PM	16795

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1412597-009 **Matrix:** SOIL

Client Sample ID: Pile 986
Collection Date: 12/8/2014 1:40:00 PM
Received Date: 12/12/2014 7:32:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	78	30		mg/Kg	20	12/15/2014 4:52:19 PM	16822
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	55	10		mg/Kg	1	12/15/2014 4:05:21 PM	16790
Motor Oil Range Organics (MRO)	68	50		mg/Kg	1	12/15/2014 4:05:21 PM	16790
Surr: DNOP	83.7	70-130		%Rec	1	12/15/2014 4:05:21 PM	16790
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/15/2014 11:54:36 PM	16795
Surr: BFB	90.1	80-120		%Rec	1	12/15/2014 11:54:36 PM	16795
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050		mg/Kg	1	12/15/2014 11:54:36 PM	16795
Toluene	ND	0.050		mg/Kg	1	12/15/2014 11:54:36 PM	16795
Ethylbenzene	ND	0.050		mg/Kg	1	12/15/2014 11:54:36 PM	16795
Xylenes, Total	ND	0.099		mg/Kg	1	12/15/2014 11:54:36 PM	16795
Surr: 4-Bromofluorobenzene	94.5	80-120		%Rec	1	12/15/2014 11:54:36 PM	16795

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1412597-001 **Matrix:** SOIL

Client Sample ID: Pile 990
Collection Date: 12/8/2014 12:10:00 PM
Received Date: 12/12/2014 7:32:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	74	30		mg/Kg	20	12/15/2014 2:48:09 PM	16822
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/15/2014 1:12:36 PM	16790
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/15/2014 1:12:36 PM	16790
Surr: DNOP	78.1	70-130		%Rec	1	12/15/2014 1:12:36 PM	16790
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/15/2014 8:05:37 PM	16795
Surr: BFB	92.8	80-120		%Rec	1	12/15/2014 8:05:37 PM	16795
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	12/15/2014 8:05:37 PM	16795
Toluene	ND	0.049		mg/Kg	1	12/15/2014 8:05:37 PM	16795
Ethylbenzene	ND	0.049		mg/Kg	1	12/15/2014 8:05:37 PM	16795
Xylenes, Total	ND	0.099		mg/Kg	1	12/15/2014 8:05:37 PM	16795
Surr: 4-Bromofluorobenzene	98.0	80-120		%Rec	1	12/15/2014 8:05:37 PM	16795

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1412597-005 **Matrix:** SOIL

Client Sample ID: Pile 991
Collection Date: 12/8/2014 12:50:00 PM
Received Date: 12/12/2014 7:32:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	63	30		mg/Kg	20	12/15/2014 3:37:49 PM	16822
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	47	9.9		mg/Kg	1	12/15/2014 2:39:07 PM	16790
Motor Oil Range Organics (MRO)	67	49		mg/Kg	1	12/15/2014 2:39:07 PM	16790
Surr: DNOP	81.3	70-130		%Rec	1	12/15/2014 2:39:07 PM	16790
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/15/2014 10:00:15 PM	16795
Surr: BFB	90.9	80-120		%Rec	1	12/15/2014 10:00:15 PM	16795
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	12/15/2014 10:00:15 PM	16795
Toluene	ND	0.049		mg/Kg	1	12/15/2014 10:00:15 PM	16795
Ethylbenzene	ND	0.049		mg/Kg	1	12/15/2014 10:00:15 PM	16795
Xylenes, Total	ND	0.099		mg/Kg	1	12/15/2014 10:00:15 PM	16795
Surr: 4-Bromofluorobenzene	96.4	80-120		%Rec	1	12/15/2014 10:00:15 PM	16795

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1403537**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-12201**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **12201**	RunNo: **17390**							
Prep Date: **3/17/2014**	Analysis Date: **3/17/2014**	SeqNo: **500913**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID **LCS-12201**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **12201**	RunNo: **17390**							
Prep Date: **3/17/2014**	Analysis Date: **3/17/2014**	SeqNo: **500914**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.2	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- 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
- P Sample pH Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1403537**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa LF

Sample ID **MB-12165**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **12165**	RunNo: **17309**
Prep Date: **3/13/2014**	Analysis Date: **3/14/2014**	SeqNo: **499648** 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	10		10.00		101	66	131			

Sample ID **LCS-12165**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **12165**	RunNo: **17357**
Prep Date: **3/13/2014**	Analysis Date: **3/17/2014**	SeqNo: **499909** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	10	50.00	0	109	60.8	145			
Surr: DNOP	5.4		5.000		107	66	131			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1403537**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-12163**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **12163**	RunNo: **17371**
Prep Date: **3/13/2014**	Analysis Date: **3/17/2014**	SeqNo: **500261** 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	870		1000		87.2	74.5	129			

Sample ID **LCS-12163**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **12163**	RunNo: **17371**
Prep Date: **3/13/2014**	Analysis Date: **3/17/2014**	SeqNo: **500262** 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	108	71.7	134			
Surr: BFB	930		1000		92.7	74.5	129			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1403537**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa LF

Sample ID **MB-12163**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **12163**	RunNo: **17371**
Prep Date: **3/13/2014**	Analysis Date: **3/17/2014**	SeqNo: **500288** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID **LCS-12163**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **12163**	RunNo: **17371**
Prep Date: **3/13/2014**	Analysis Date: **3/17/2014**	SeqNo: **500289** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.050	1.000	0	97.4	80	120			
Toluene	0.96	0.050	1.000	0	96.5	80	120			
Ethylbenzene	0.97	0.050	1.000	0	97.5	80	120			
Xylenes, Total	3.0	0.10	3.000	0	98.5	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- 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
- P Sample pH Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix
- W Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: BLAGG Work Order Number: 1403537 RcptNo: 1

Received by/date: LM 03/12/14

Logged By: **Michelle Garcia** 3/12/2014 10:00:00 AM Michelle Garcia

Completed By: **Michelle Garcia** 3/13/2014 11:02:14 AM Michelle Garcia

Reviewed By: AT 03/13/14

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?	Courier		

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# 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	1.2	Good	Yes			

Client:	Blagg Engineering, Inc.	☒ Standard ☐ Rush	**ANALYSIS LABORATORY**
	BP America	Project Name: Crouch Mesa LF	www.hallenvironmental.com
Mailing Address:	P.O. Box 87		4901 Hawkins NE - Albuquerque, NM 87109
	Bloomfield, NM 87413	Project #:	Tel. 505-345-3975 Fax 505-345-4107
Phone #:	(505)320-1183		
email or Fax#:		Project Manager: Jeff Blagg	
QA/QC Package:			
☒ Standard	☐ Level 4 (Full Validation)		
☐ Other		Sampler: Jeff Blagg	
☐ EDD (Type)		On Ice: ☑ Yes ☐ No	
		Sample Temperature: 1.2	

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1403536	BTEX (8021)		TPH 8015B (GRO / DRO)									Chloride		Air Bubbles (Y or N)
03/07/2014	8:05	Soil	Pile 410	4oz x 1	cool	001	x		x									x		
03/07/2014	8:10	Soil	Pile 417	4oz x 1	cool	002	x		x									x		
03/07/2014	8:15	Soil	Pile 431	4oz x 1	cool	003	x		x									x		
03/07/2014	8:20	Soil	Pile 411	4oz x 1	cool	004	x		x									x		
03/07/2014	8:30	Soil	Pile 939	4oz x 1	cool	005	x		x									x		
03/07/2014	8:35	Soil	Pile 940	4oz x 1	cool	006	x		x									x		
03/07/2014	8:40	Soil	Pile 928	4oz x 1	cool	007	x		x									x		
03/07/2014	8:50	Soil	Pile 928A	4oz x 1	cool	008	x		x									x		
03/07/2014	9:00	Soil	Pile 915	4oz x 1	cool	009	x		x									x		

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/11/2014	1407	Jeff Blagg	Christie Walters	3/11/14	1407
3/11/14	1744	Christie Walters		03/12/14	1000

Remarks: Bill Blagg
BP Contact: Jeff Peace Please copy results to:
peace.jeffrey@bp.com

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1405024**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-12983**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **12983**	RunNo: **18386**
Prep Date: **5/2/2014**	Analysis Date: **5/2/2014**	SeqNo: **530932** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID **LCS-12983**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **12983**	RunNo: **18386**
Prep Date: **5/2/2014**	Analysis Date: **5/2/2014**	SeqNo: **530933** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.9	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1405024**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa LF

Sample ID **MB-12956**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **12956**	RunNo: **18327**
Prep Date: **5/1/2014**	Analysis Date: **5/1/2014**	SeqNo: **529725** 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	8.7		10.00		87.3	57.9	140			

Sample ID **LCS-12956**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **12956**	RunNo: **18327**
Prep Date: **5/1/2014**	Analysis Date: **5/1/2014**	SeqNo: **529726** 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	91.8	60.8	145			
Surr: DNOP	4.7		5.000		94.0	57.9	140			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

WO#: **1405024**

Hall Environmental Analysis Laboratory, Inc.

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-12961**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **12961**	RunNo: **18363**
Prep Date: **5/1/2014**	Analysis Date: **5/2/2014**	SeqNo: **530504** 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	840		1000		84.0	74.5	129			

Sample ID **LCS-12961**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **12961**	RunNo: **18363**
Prep Date: **5/1/2014**	Analysis Date: **5/2/2014**	SeqNo: **530505** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.3	71.7	134			
Surr: BFB	920		1000		91.9	74.5	129			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1405024**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa LF

Sample ID **MB-12961**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **12961**	RunNo: **18363**
Prep Date: **5/1/2014**	Analysis Date: **5/2/2014**	SeqNo: **530547** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		98.9	80	120			

Sample ID **LCS-12961**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **12961**	RunNo: **18363**
Prep Date: **5/1/2014**	Analysis Date: **5/2/2014**	SeqNo: **530548** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	111	80	120			
Toluene	1.0	0.050	1.000	0	104	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **BLAGG** Work Order Number: **1405024** RcptNo: 1

Received by/date: CS 05/01/14

Logged By: **Celina Sessa** **5/1/2014 10:03:00 AM**

Completed By: **Celina Sessa** **5/1/2014 11:18:11 AM**

Reviewed By: CS 05/01/14

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?	Courier		

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# 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	2.2	Good	Yes			

Client:	Blagg Engineering, Inc.	☒ Standard ☐ Rush	
	BP America	Project Name: Crouch Mesa LF	
Mailing Address:	P.O. Box 87		
	Bloomfield, NM 87413	Project #:	
Phone #:	(505)320-1183		
email or Fax#:		Project Manager: Jeff Blagg	
QA/QC Package:			
☒ Standard	☐ Level 4 (Full Validation)		
☐ Other		Sampler: Jeff Blagg	
☐ EDD (Type)		On Ice: ☒ Yes ☐ No	
		Sample Temperature: 2.2°	

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1405024	BTEX (8021)		TPH 8015B (GRO / DRO)									Chloride		Air Bubbles (Y or N)
04/28/2014	10:58	Soil	Pile 949	4oz x 1	cool	-001	x		x									x		
04/28/2014	11:08	Soil	Pile 947	4oz x 1	cool	-002	x		x									x		
04/28/2014	11:15	Soil	Pile 945	4oz x 1	cool	-003	x		x									x		
04/28/2014	11:24	Soil	Pile 941	4oz x 1	cool	-004	x		x									x		
04/28/2014	11:33	Soil	Pile 936	4oz x 1	cool	-005	x		x									x		
04/28/2014	11:45	Soil	Pile 943	4oz x 1	cool	-006	x		x									x		
04/28/2014	11:54	Soil	Pile 935	4oz x 1	cool	-007	x		x									x		

Date	Time	Relinquished by	Received by	Date	Time
4/30/2014	1400	Jeff Blagg	Christine Walker	4/30/14	1400
4/30/14	1735	Christine Walker	Celina Sum	05/01/14	10:03

Remarks: Bill Blagg
BP Contact: Jeff Peace
peace.jeffrey@bp.com
Please copy results to:

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1405764**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID	**MB-13252**	SampType:	**MBLK**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**13252**		RunNo:	**18762**				
Prep Date:	**5/20/2014**	Analysis Date:	**5/20/2014**		SeqNo:	**541699**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-13252**	SampType:	**LCS**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**13252**		RunNo:	**18762**				
Prep Date:	**5/20/2014**	Analysis Date:	**5/20/2014**		SeqNo:	**541700**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.1	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1405764**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-13217**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **13217**	RunNo: **18691**
Prep Date: **5/19/2014**	Analysis Date: **5/19/2014**	SeqNo: **540085** 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	9.4		10.00		93.6	57.9	140			

Sample ID **LCS-13217**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **13217**	RunNo: **18691**
Prep Date: **5/19/2014**	Analysis Date: **5/19/2014**	SeqNo: **540086** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	108	60.8	145			
Surr: DNOP	4.4		5.000		87.1	57.9	140			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1405764**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-13226**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **13226**	RunNo: **18746**
Prep Date: **5/19/2014**	Analysis Date: **5/20/2014**	SeqNo: **541337** 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	820		1000		82.3	80	120			

Sample ID **LCS-13226**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **13226**	RunNo: **18746**
Prep Date: **5/19/2014**	Analysis Date: **5/20/2014**	SeqNo: **541338** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.8	71.7	134			
Surr: BFB	910		1000		91.0	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- 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
- P Sample pH Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1405764**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa LF

Sample ID **MB-13226**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **13226**	RunNo: **18746**
Prep Date: **5/19/2014**	Analysis Date: **5/20/2014**	SeqNo: **541368** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		98.1	80	120			

Sample ID **LCS-13226**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **13226**	RunNo: **18746**
Prep Date: **5/19/2014**	Analysis Date: **5/20/2014**	SeqNo: **541370** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.050	1.000	0	118	80	120			
Toluene	1.1	0.050	1.000	0	108	80	120			
Ethylbenzene	1.1	0.050	1.000	0	107	80	120			
Xylenes, Total	3.1	0.10	3.000	0	105	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: BLAGG | Work Order Number: 1405764 | RcptNo: 1

Received by/date: 05/17/14
Logged By: Ashley Gallegos 5/17/2014 10:45:00 AM
Completed By: Ashley Gallegos 5/17/2014 11:32:19 AM
Reviewed By: 05/19/14

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?	Courier		

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# 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	Yes			

Chain of Custody Record

Client:	BP America
	Blagg Engineering Inc.
Mailing Address:	P.O. Box 87
	Bloomfield, NM 87413
Phone #:	(505)320-1183
email or Fax#:	
QA/QC Package:	
☒ Standard	☐ Level 4 (Full Validation)
☐ Other	
☐ EDD (Type)	

☒ Standard ☐ Rush

Project Name: Crouch Mesa LF

Project #:

Project Manager: Jeff Blagg

Sampler: Jeff Blagg

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1405704	BTEX (8021)		TPH 80015B (GRO / DRO)									Chloride		Air Bubbles (Y or N)
05/12/2014	8:05	Soil	Pile 958	4oz x 1	cool	-001	x		x									x		
05/12/2014	8:15	Soil	Pile 957	4oz x 1	cool	-002	x		x									x		
05/12/2014	8:22	Soil	Pile 954	4oz x 1	cool	-003	x		x									x		
05/12/2014	8:30	Soil	Pile 945	4oz x 1	cool	-004	x		x									x		
05/12/2014	8:37	Soil	Pile 938	4oz x 1	cool	-005	x		x									x		
05/12/2014	8:45	Soil	Pile 942	4oz x 1	cool	-006	x		x									x		
05/12/2014	8:55	Soil	Pile 933	4oz x 1	cool	-007	x		x									x		
05/12/2014	9:05	Soil	Pile 411	4oz x 1	cool	-008	x		x									x		
05/12/2014	9:15	Soil	Pile 438	4oz x 1	cool	-009	x		x									x		
05/12/2014	9:25	Soil	Pile 441	4oz x 1	cool	-010	x		x									x		

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/16/2014	1104	Jeff Blagg	Christine Walters	5/16/14	1104
5/16/14	1735	Christine Walters		5/17/14	10:45

Remarks: BP

BP Contact: Jeff Peace

peace.jeffrey@bp.com

Please copy results to:

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1407373**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa LF

Sample ID	**MB-14177**	SampType:	**MBLK**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**14177**		RunNo:	**19846**				
Prep Date:	**7/11/2014**	Analysis Date:	**7/11/2014**		SeqNo:	**576755**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-14177**	SampType:	**LCS**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**14177**		RunNo:	**19846**				
Prep Date:	**7/11/2014**	Analysis Date:	**7/11/2014**		SeqNo:	**576756**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.9	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1407373**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-14125**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **14125**	RunNo: **19793**
Prep Date: **7/9/2014**	Analysis Date: **7/10/2014**	SeqNo: **575249** 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	6.9		10.00		69.2	57.9	140			

Sample ID **LCS-14125**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **14125**	RunNo: **19793**
Prep Date: **7/9/2014**	Analysis Date: **7/10/2014**	SeqNo: **575252** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	68.6	130			
Surr: DNOP	3.6		5.000		71.1	57.9	140			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1407373**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-14134**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **14134**	RunNo: **19853**
Prep Date: **7/9/2014**	Analysis Date: **7/11/2014**	SeqNo: **577102** 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	940		1000		94.1	80	120			

Sample ID **LCS-14134**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **14134**	RunNo: **19853**
Prep Date: **7/9/2014**	Analysis Date: **7/11/2014**	SeqNo: **577103** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	89.6	71.7	134			
Surr: BFB	1000		1000		102	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1407373**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-14134**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **14134**	RunNo: **19798**
Prep Date: **7/9/2014**	Analysis Date: **7/10/2014**	SeqNo: **575755** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.96		1.000		95.8	80	120			

Sample ID **LCS-14134**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **14134**	RunNo: **19798**
Prep Date: **7/9/2014**	Analysis Date: **7/10/2014**	SeqNo: **575756** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	103	80	120			
Toluene	0.99	0.050	1.000	0	98.7	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: BLAGG | Work Order Number: 1407373 | RcptNo: 1

Received by/date: AT 07/09/14

Logged By: **Michelle Garcia** 7/9/2014 8:00:00 AM Michelle Garcia

Completed By: **Michelle Garcia** 7/9/2014 9:00:26 AM Michelle Garcia

Reviewed By: TO 07/09/14

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?	Courier		

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# 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	Yes			

Client: BP America		☒ Standard ☐ Rush	**ANALYSIS LABORATORY**
Blagg Engineering Inc.		Project Name: Crouch Mesa LF	www.hallenvironmental.com
Mailing Address: P.O. Box 87			4901 Hawkins NE - Albuquerque, NM 87109
Bloomfield, NM 87413		Project #:	Tel. 505-345-3975 Fax 505-345-4107
Phone #: (505)320-1183			Analysis Request
email or Fax#:		Project Manager: Jeff Blagg	
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)			
☐ Other ☐ EDD (Type)		Sampler: Jeff Blagg	
		On Ice: ☒ Yes ☐ No	
		Sample Temperature: 1.0	

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1407373	BTEX (8021)		TPH 8015B (GRO / DRO)									Chloride		Air Bubbles (Y or N)
07/08/2014	10:32	Soil	Pile 949	4oz x 1	cool	-001	x		x									x		
07/08/2014	10:40	Soil	Pile 963	4oz x 1	cool	-002	x		x									x		
07/08/2014	10:48	Soil	Pile 410	4oz x 1	cool	-003	x		x									x		
07/08/2014	10:56	Soil	Pile 430	4oz x 1	cool	-004	x		x									x		
07/08/2014	11:04	Soil	Pile 928	4oz x 1	cool	-005	x		x									x		
07/08/2014	11:15	Soil	Pile 957	4oz x 1	cool	-006	x		x									x		
07/08/2014	11:22	Soil	Pile 933	4oz x 1	cool	-007	x		x									x		

Date: 7/3/2014	Time: 1400	Relinquished by: Jeff Blagg	Received by: Christine Walters	Date: 7/8/14	Time: 1400
Date: 7/8/14	Time: 2000	Relinquished by: Christine Walters	Received by:	Date: 07/09/14	Time: 0800

Remarks: Bill BP
BP Contact: Jeff Peace Please copy results to:
peace.jeffrey@bp.com and to
marcella@industrialecosystems.com

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1408032**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID	**MB-14585**	SampType: **MBLK**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID: **14585**			RunNo: **20370**					
Prep Date:	**8/4/2014**	Analysis Date: **8/4/2014**			SeqNo: **592455**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-14585**	SampType: **LCS**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID: **14585**			RunNo: **20370**					
Prep Date:	**8/4/2014**	Analysis Date: **8/4/2014**			SeqNo: **592456**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.9	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1408032**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-14572**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **14572**	RunNo: **20327**
Prep Date: **8/4/2014**	Analysis Date: **8/4/2014**	SeqNo: **591198** 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		107	57.9	140			

Sample ID **LCS-14572**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **14572**	RunNo: **20327**
Prep Date: **8/4/2014**	Analysis Date: **8/4/2014**	SeqNo: **591199** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	108	68.6	130			
Surr: DNOP	5.4		5.000		109	57.9	140			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- 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
- P Sample pH Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1408032**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-14556**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **14556**	RunNo: **20336**
Prep Date: **8/1/2014**	Analysis Date: **8/4/2014**	SeqNo: **591835** 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	900		1000		89.7	80	120			

Sample ID **LCS-14556**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **14556**	RunNo: **20336**
Prep Date: **8/1/2014**	Analysis Date: **8/4/2014**	SeqNo: **591836** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	102	65.8	139			
Surr: BFB	970		1000		97.4	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1408032**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-14556**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **14556**	RunNo: **20336**
Prep Date: **8/1/2014**	Analysis Date: **8/4/2014**	SeqNo: **591883** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Sample ID **LCS-14556**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **14556**	RunNo: **20336**
Prep Date: **8/1/2014**	Analysis Date: **8/4/2014**	SeqNo: **591884** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.050	1.000	0	90.4	80	120			
Toluene	0.88	0.050	1.000	0	88.2	80	120			
Ethylbenzene	0.90	0.050	1.000	0	90.3	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.4	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: BLAGG | Work Order Number: 1408032 | RcptNo: 1

Received by/date: AT 08/01/14

Logged By: **Celina Sessa** 7/30/2014 1:06:00 PM Celina Sessa

Completed By: **Celina Sessa** 8/1/2014 2:11:44 PM Celina Sessa

Reviewed By: 08/01/14

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?	Courier		

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 ☑ CS 08/01/14
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# 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	Yes			

Client:	BP America	☒ Standard ☐ Rush	
	Blagg Engineering Inc.	Project Name: Crouch Mesa LF	
Mailing Address:	P.O. Box 87		
	Bloomfield, NM 87413	Project #:	
Phone #:	(505)320-1183		
email or Fax#:		Project Manager: Jeff Blagg	
QA/QC Package:			
☒ Standard	☐ Level 4 (Full Validation)		
☐ Other		Sampler: Jeff Blagg	
☐ EDD (Type)		On Ice: ☒ Yes ☐ No	
		Sample Temperature: 1.0	

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1408032	BTEX (8021)		TPH 8015B (GRO / DRO)										Air Bubbles (Y or N)
07/30/2014	10:36	Soil	Pile 928	4oz x 1	cool	-001	x		x										
07/30/2014	10:27	Soil	Pile 945	4oz x 1	cool	-002	x		x										
07/30/2014	10:12	Soil	Pile 949	4oz x 1	cool	-003	x		x										
07/30/2014	10:45	Soil	Pile 951	4oz x 1	cool	-004	x		x										
07/30/2014	10:55	Soil	Pile 952	4oz x 1	cool	-005	x		x										
07/30/2014	11:05	Soil	Pile 953	4oz x 1	cool	-006	x		x										
07/30/2014	11:15	Soil	Pile 959	4oz x 1	cool	-007	x		x										
07/30/2014	10:04	Soil	Pile 962	4oz x 1	cool	-008	x		x										
07/30/2014	10:20	Soil	Pile 964	4oz x 1	cool	-009	x		x										
07/30/2014	9:55	Soil	Pile 965	4oz x 1	cool	-010	x		x										

Date:	Time:	Relinquished by	Received by:	Date Time
7/31/2014	1228	Jeff Blagg	Cynthia Walla	7/31/14 1228
7/31/14	1840	Cynthia Walla		08/01/14 0855

Remarks: Bill BP
BP Contact: Jeff Peace ... Please copy results to
peacejeffrey@bp.com and
marcella@industrialecosystems.com

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409892**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-15404**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **15404**	RunNo: **21343**							
Prep Date: **9/19/2014**	Analysis Date: **9/19/2014**	SeqNo: **623059**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID **LCS-15404**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **15404**	RunNo: **21343**							
Prep Date: **9/19/2014**	Analysis Date: **9/19/2014**	SeqNo: **623060**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.5	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409892**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **LCS-15372**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **15372**	RunNo: **21309**
Prep Date: **9/18/2014**	Analysis Date: **9/19/2014**	SeqNo: **622114** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	56	10	50.00	0	111	68.6	130			
Surr: DNOP	5.1		5.000		102	57.9	140			

Sample ID **MB-15372**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **15372**	RunNo: **21309**
Prep Date: **9/18/2014**	Analysis Date: **9/19/2014**	SeqNo: **622131** 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	9.1		10.00		90.8	57.9	140			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- 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
- P Sample pH Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409892**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-15381**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **15381**	RunNo: **21331**
Prep Date: **9/18/2014**	Analysis Date: **9/19/2014**	SeqNo: **622637** 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		91.9	80	120			

Sample ID **LCS-15381**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **15381**	RunNo: **21331**
Prep Date: **9/18/2014**	Analysis Date: **9/19/2014**	SeqNo: **622638** 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	109	65.8	139			
Surr: BFB	1000		1000		100	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409892**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa LF

Sample ID **MB-15381**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **15381**	RunNo: **21331**
Prep Date: **9/18/2014**	Analysis Date: **9/19/2014**	SeqNo: **622658** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		98.9	80	120			

Sample ID **LCS-15381**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **15381**	RunNo: **21331**
Prep Date: **9/18/2014**	Analysis Date: **9/19/2014**	SeqNo: **622659** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.050	1.000	0	97.8	80	120			
Toluene	0.96	0.050	1.000	0	96.4	80	120			
Ethylbenzene	0.98	0.050	1.000	0	98.0	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.8	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- 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
- P Sample pH Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix
- W Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: BLAGG | Work Order Number: 1409892 | RcptNo: 1

Received by/date: AT 09/18/14

Logged By: Lindsay Mangin 9/18/2014 7:30:00 AM

Completed By: Lindsay Mangin 9/18/2014 10:18:47 AM

Reviewed By: 09/18/14

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?	Courier		

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# 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	Yes			

HALL ENVIRONMENTAL
ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Client: BP America	☒ Standard ☐ Rush
Blagg Engineering Inc.	Project Name: Crouch Mesa LF
Mailing Address: P.O. Box 87, Bloomfield, NM 87413	Project #:
Phone #: (505)320-1183	
email or Fax#:	Project Manager: Jeff Blagg
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)	
☐ Other ☐ EDD (Type)	Sampler: Jeff Blagg
	On Ice: ☒ Yes ☐ No
	Sample Temperature: 1.0

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1409892	BTEX (8021)		TPH 8015B (GRO / DRO)									Chloride		Air Bubbles (Y or N)
09/16/2014	13:00	Soil	Pile 959	4oz x 1	cool	-001	x		x									x		
09/16/2014	13:08	Soil	Pile 950	4oz x 1	cool	-002	x		x									x		
09/16/2014	13:15	Soil	Pile 948	4oz x 1	cool	-003	x		x									x		
09/16/2014	13:23	Soil	Pile 947	4oz x 1	cool	-004	x		x									x		
09/16/2014	13:30	Soil	Pile 945	4oz x 1	cool	-005	x		x									x		
09/16/2014	13:37	Soil	Pile 928	4oz x 1	cool	-006	x		x									x		
09/16/2014	13:45	Soil	Pile 949	4oz x 1	cool	-007	x		x									x		
09/16/2014	13:55	Soil	Pile 960	4oz x 1	cool	-008	x		x									x		
09/16/2014	14:10	Soil	Pile 933	4oz x 1	cool	-009	x		x									x		
09/16/2014	14:22	Soil	Pile 946	4oz x 1	cool	-010	x		x									x		

Date	Time	Relinquished by:	Received by:	Date	Time
9/17/2014	1506	Jeff Blagg		9/17/14	1506
9/17/14	2046	Christine Walters		09/18/14	0730

Remarks: Bill BP
BP Contact: Jeff Peace Please copy results to:
peace.jeffrey@bp.com and to
marcella@industrialecosystems.com

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1410B59**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID	**MB-16119**	SampType: **MBLK**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID: **16119**			RunNo: **22200**					
Prep Date:	**10/28/2014**	Analysis Date: **10/28/2014**			SeqNo: **653970**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-16119**	SampType: **LCS**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID: **16119**			RunNo: **22200**					
Prep Date:	**10/28/2014**	Analysis Date: **10/28/2014**			SeqNo: **653971**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.9	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- I Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1410B59**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa LF

Sample ID **MB-16081**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **16081**	RunNo: **22124**
Prep Date: **10/24/2014**	Analysis Date: **10/24/2014**	SeqNo: **651178** 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	7.8		10.00		77.7	63.5	128			

Sample ID **LCS-16081**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **16081**	RunNo: **22124**
Prep Date: **10/24/2014**	Analysis Date: **10/24/2014**	SeqNo: **651179** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.9	68.6	130			
Surr: DNOP	3.6		5.000		71.3	63.5	128			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- 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
- P Sample pH Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1410B59**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-16088**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **16088**	RunNo: **22167**
Prep Date: **10/24/2014**	Analysis Date: **10/27/2014**	SeqNo: **652743** 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	880		1000		87.8	80	120			

Sample ID **LCS-16088**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **16088**	RunNo: **22167**
Prep Date: **10/24/2014**	Analysis Date: **10/27/2014**	SeqNo: **652744** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	116	65.8	139			
Surr: BFB	970		1000		97.2	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1410B59**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa LF

Sample ID **MB-16088**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **16088**	RunNo: **22167**
Prep Date: **10/24/2014**	Analysis Date: **10/27/2014**	SeqNo: **652767** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.89		1.000		89.3	80	120			

Sample ID **LCS-16088**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **16088**	RunNo: **22167**
Prep Date: **10/24/2014**	Analysis Date: **10/27/2014**	SeqNo: **652768** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	98.9	80	120			
Toluene	0.99	0.050	1.000	0	99.3	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.3	80	120			
Surr: 4-Bromofluorobenzene	0.98		1.000		98.1	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **BLAGG** Work Order Number: **1410B59** RcptNo: **1**

Received by/date: _____

Logged By: **Michelle Garcia** **10/24/2014 7:30:00 AM** Michelle Garcia

Completed By: **Michelle Garcia** **10/24/2014 9:04:22 AM** Michelle Garcia

Reviewed By: IO 10/24/14 @ 1045

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?	Courier		

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# 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	2.6	Good	Yes			

Client: BP America		☒ Standard ☐ Rush	**HALL ENVIRONMENTAL ANALYSIS LABORATORY**
Blagg Engineering Inc.		Project Name: Crouch Mesa LF	www.hallenvironmental.com
Mailing Address: P.O. Box 87			4901 Hawkins NE - Albuquerque, NM 87109
Bloomfield, NM 87413		Project #:	Tel. 505-345-3975 Fax 505-345-4107
Phone #: (505)320-1183			Analysis Request
email or Fax#:		Project Manager: Jeff Blagg	
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)			
☐ Other ☐ EDD (Type)		Sampler: Jeff Blagg On Ice: ☒ Yes ☐ No Sample Temperature: 2.6	

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1410B59	BTEX (8021)		TPH 8015B (GRO / DRO)									Chloride		Air Bubbles (Y or N)
10/21/2014	15:03	Soil	Pile 442	4oz x 1	cool	001	x		x									x		
10/21/2014	15:15	Soil	Pile 438	4oz x 1	cool	002	x		x									x		
10/21/2014	15:18	Soil	Pile 441	4oz x 1	cool	003	x		x									x		
10/21/2014	15:10	Soil	Pile 431	4oz x 1	cool	004	x		x									x		
10/21/2014	15:32	Soil	Pile 959	4oz x 1	cool	005	x		x									x		
10/21/2014	15:25	Soil	Pile 944	4oz x 1	cool	006	x		x									x		
10/21/2014	15:40	Soil	Pile 948	4oz x 1	cool	007	x		x									x		
10/21/2014	15:50	Soil	Pile 947	4oz x 1	cool	008	x		x									x		
10/21/2014	16:00	Soil	Pile 945	4oz x 1	cool	009	x		x									x		
10/21/2014	16:10	Soil	Pile 949	4oz x 1	cool	010	x		x									x		

Date	Time	Relinquished by	Received by	Date	Time
10/23/2014	1328	Jeff Blagg	Marcella Walker	10/23/14	1328
10/23/14	1830	Marcella Walker		10/24/14	0730

Remarks: Bill BP
BP Contact: Jeff Peace Please copy results to:
peace.jeffrey@bp.com and to
marcella@industrialecosystems.com

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1412597**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID	**MB-16822**	SampType: **MBLK**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID: **16822**			RunNo: **23162**					
Prep Date:	**12/15/2014**	Analysis Date: **12/15/2014**			SeqNo: **684006**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-16822**	SampType: **LCS**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID: **16822**			RunNo: **23162**					
Prep Date:	**12/15/2014**	Analysis Date: **12/15/2014**			SeqNo: **684007**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.1	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1412597**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa LF

Sample ID **MB-16790**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **16790**	RunNo: **23097**
Prep Date: **12/12/2014**	Analysis Date: **12/12/2014**	SeqNo: **682602** 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	9.0		10.00		89.8	63.5	128			

Sample ID **LCS-16790**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **16790**	RunNo: **23097**
Prep Date: **12/12/2014**	Analysis Date: **12/12/2014**	SeqNo: **682603** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.3	68.6	130			
Surr: DNOP	4.2		5.000		84.7	63.5	128			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1412597**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-16795**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **16795**	RunNo: **23146**
Prep Date: **12/12/2014**	Analysis Date: **12/15/2014**	SeqNo: **683854** 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	930		1000		92.6	80	120			

Sample ID **LCS-16795**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **16795**	RunNo: **23146**
Prep Date: **12/12/2014**	Analysis Date: **12/15/2014**	SeqNo: **683855** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	85.6	65.8	139			
Surr: BFB	1100		1000		109	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1412597**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa LF

Sample ID **MB-16795**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **16795**	RunNo: **23146**
Prep Date: **12/12/2014**	Analysis Date: **12/15/2014**	SeqNo: **683878** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID **LCS-16795**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **16795**	RunNo: **23146**
Prep Date: **12/12/2014**	Analysis Date: **12/15/2014**	SeqNo: **683879** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.050	1.000	0	90.1	80	120			
Toluene	0.92	0.050	1.000	0	91.6	80	120			
Ethylbenzene	0.94	0.050	1.000	0	93.8	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.5	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		112	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: BLAGG | Work Order Number: 1412597 | RcptNo: 1

Received by/date: AT 12/12/14

Logged By: Anne Thorne 12/12/2014 7:32:00 AM Anne Thorne

Completed By: Anne Thorne 12/12/2014 Anne Thorne

Reviewed By: 12/12/14

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?	Courier		

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# 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	1.3	Good	Yes			

Client:	BP America	☒ Standard ☐ Rush	
	Blagg Engineering Inc.	Project Name:	Crouch Mesa LF
Mailing Address:	P.O. Box 87	Project #:	
	Bloomfield, NM 87413		
Phone #:	(505)320-1183		
email or Fax#:		Project Manager:	Jeff Blagg
QA/QC Package:			
☒ Standard	☐ Level 4 (Full Validation)		
☐ Other		Sampler:	Jeff Blagg
☐ EDD (Type)		On Ice:	☒ Yes ☐ No
		Sample Temperature:	1.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1412597	BTEX (8021)	TPH 8015B (GRO / DRO)	Chloride	Air Bubbles (Y or N)
12/08/2014	12:10	Soil	Pile 990	4oz x 1	cool	-001	x	x	x	
12/08/2014	12:20	Soil	Pile 992	4oz x 1	cool	-002	x	x	x	
12/08/2014	12:30	Soil	Pile 975	4oz x 1	cool	-003	x	x	x	
12/08/2014	12:40	Soil	Pile 971	4oz x 1	cool	-004	x	x	x	
12/08/2014	12:50	Soil	Pile 991	4oz x 1	cool	-005	x	x	x	
12/08/2014	13:00	Soil	Pile 989	4oz x 1	cool	-006	x	x	x	
12/08/2014	13:10	Soil	Pile 967	4oz x 1	cool	-007	x	x	x	
12/08/2014	13:25	Soil	Pile 983	4oz x 1	cool	-008	x	x	x	
12/08/2014	13:40	Soil	Pile 986	4oz x 1	cool	-009	x	x	x	
12/08/2014	14:00	Soil	Pile 968	4oz x 1	cool	-010	x	x	x	

Date: 12/11/2014	Time: 1040	Relinquished by: Jeff Blagg	Received by: Christine Walls	Date: 12/11/14	Time: 1040
Date: 12/11/14	Time: 1849	Relinquished by: Christine Walls	Received by:	Date: 12/12/14	Time: 0732

Remarks: Bill BP
BP Contact: Jeff Peace Please copy results to:
peace.jeffrey@bp.com and to
marcella@industrialecosystems.com

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.

2015 Biopiles

Analytical Report
Lab Order **1507544**
Date Reported: **9/21/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1507544-001 **Matrix:** SOIL

Client Sample ID: Pile 944
Collection Date: 7/10/2015 2:32:00 PM
Received Date: 7/14/2015 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	70	30		mg/Kg	20	7/16/2015 1:02:56 PM	20289
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	90	9.8		mg/Kg	1	7/15/2015 8:32:14 PM	20236
Motor Oil Range Organics (MRO)	92	49		mg/Kg	1	7/15/2015 8:32:14 PM	20236
Surr: DNOP	103	70-130		%Rec	1	7/15/2015 8:32:14 PM	20236
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/15/2015 6:40:17 PM	20241
Surr: BFB	88.9	75.4-113		%Rec	1	7/15/2015 6:40:17 PM	20241
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050		mg/Kg	1	7/15/2015 6:40:17 PM	20241
Toluene	ND	0.050		mg/Kg	1	7/15/2015 6:40:17 PM	20241
Ethylbenzene	ND	0.050		mg/Kg	1	7/15/2015 6:40:17 PM	20241
Xylenes, Total	ND	0.099		mg/Kg	1	7/15/2015 6:40:17 PM	20241
Surr: 4-Bromofluorobenzene	92.8	80-120		%Rec	1	7/15/2015 6:40:17 PM	20241

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1507963**
Date Reported: **9/21/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa Landfarm
Lab ID: 1507963-001 **Matrix:** SOIL

Client Sample ID: Pile 945
Collection Date: 7/21/2015 8:05:00 AM
Received Date: 7/22/2015 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	49	30		mg/Kg	20	7/27/2015 2:53:20 PM	20464
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	91	9.8		mg/Kg	1	7/27/2015 10:42:26 AM	20378
Motor Oil Range Organics (MRO)	140	49		mg/Kg	1	7/27/2015 10:42:26 AM	20378
Surr: DNOP	98.9	70-130		%Rec	1	7/27/2015 10:42:26 AM	20378
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/23/2015 11:01:10 AM	20385
Surr: BFB	85.2	75.4-113		%Rec	1	7/23/2015 11:01:10 AM	20385
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	7/23/2015 11:01:10 AM	20385
Toluene	ND	0.049		mg/Kg	1	7/23/2015 11:01:10 AM	20385
Ethylbenzene	ND	0.049		mg/Kg	1	7/23/2015 11:01:10 AM	20385
Xylenes, Total	ND	0.098		mg/Kg	1	7/23/2015 11:01:10 AM	20385
Surr: 4-Bromofluorobenzene	87.8	80-120		%Rec	1	7/23/2015 11:01:10 AM	20385

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1507963**
Date Reported: **9/21/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 947
Project: Crouch Mesa Landfarm
Collection Date: 7/21/2015 7:55:00 AM
Lab ID: 1507963-002 **Matrix:** SOIL **Received Date:** 7/22/2015 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	39	30		mg/Kg	20	7/27/2015 3:30:35 PM	20464
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	67	9.9		mg/Kg	1	7/27/2015 2:49:51 PM	20378
Motor Oil Range Organics (MRO)	110	49		mg/Kg	1	7/27/2015 2:49:51 PM	20378
Surr: DNOP	93.9	70-130		%Rec	1	7/27/2015 2:49:51 PM	20378
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/23/2015 12:27:34 PM	20385
Surr: BFB	86.2	75.4-113		%Rec	1	7/23/2015 12:27:34 PM	20385
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	7/23/2015 12:27:34 PM	20385
Toluene	ND	0.048		mg/Kg	1	7/23/2015 12:27:34 PM	20385
Ethylbenzene	ND	0.048		mg/Kg	1	7/23/2015 12:27:34 PM	20385
Xylenes, Total	ND	0.096		mg/Kg	1	7/23/2015 12:27:34 PM	20385
Surr: 4-Bromofluorobenzene	88.9	80-120		%Rec	1	7/23/2015 12:27:34 PM	20385

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1512183**
Date Reported: **9/21/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1512183-002 **Matrix:** SOIL

Client Sample ID: Pile 948
Collection Date: 11/30/2015 11:50:00 AM
Received Date: 12/4/2015 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	57	30		mg/Kg	20	12/9/2015 2:22:07 PM	22714
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	53	9.4		mg/Kg	1	12/8/2015 11:28:19 AM	22651
Motor Oil Range Organics (MRO)	100	47		mg/Kg	1	12/8/2015 11:28:19 AM	22651
Surr: DNOP	104	70-130		%Rec	1	12/8/2015 11:28:19 AM	22651
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2015 3:10:24 PM	22637
Surr: BFB	85.7	66.2-112		%Rec	1	12/7/2015 3:10:24 PM	22637
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	12/7/2015 3:10:24 PM	22637
Toluene	ND	0.049		mg/Kg	1	12/7/2015 3:10:24 PM	22637
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2015 3:10:24 PM	22637
Xylenes, Total	ND	0.098		mg/Kg	1	12/7/2015 3:10:24 PM	22637
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	12/7/2015 3:10:24 PM	22637

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1512183**
Date Reported: **9/21/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1512183-001 **Matrix:** SOIL

Client Sample ID: Pile 949
Collection Date: 11/30/2015 11:40:00 AM
Received Date: 12/4/2015 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	57	30		mg/Kg	20	12/9/2015 2:09:42 PM	22714
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	49	9.9		mg/Kg	1	12/8/2015 10:23:11 AM	22651
Motor Oil Range Organics (MRO)	89	50		mg/Kg	1	12/8/2015 10:23:11 AM	22651
Surr: DNOP	97.5	70-130		%Rec	1	12/8/2015 10:23:11 AM	22651
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2015 1:56:51 PM	22637
Surr: BFB	91.5	66.2-112		%Rec	1	12/7/2015 1:56:51 PM	22637
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	12/7/2015 1:56:51 PM	22637
Toluene	ND	0.049		mg/Kg	1	12/7/2015 1:56:51 PM	22637
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2015 1:56:51 PM	22637
Xylenes, Total	ND	0.098		mg/Kg	1	12/7/2015 1:56:51 PM	22637
Surr: 4-Bromofluorobenzene	116	80-120		%Rec	1	12/7/2015 1:56:51 PM	22637

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa Landfarm
Lab ID: 1508119-002 **Matrix:** SOIL

Client Sample ID: Pile 955
Collection Date: 8/3/2015 8:30:00 AM
Received Date: 8/4/2015 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	96	30		mg/Kg	20	8/7/2015 12:52:41 PM	20668
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/6/2015 3:24:44 PM	20611
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/6/2015 3:24:44 PM	20611
Surr: DNOP	91.4	70-130		%Rec	1	8/6/2015 3:24:44 PM	20611
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/6/2015 7:17:39 PM	20610
Surr: BFB	88.2	75.4-113		%Rec	1	8/6/2015 7:17:39 PM	20610
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.048		mg/Kg	1	8/6/2015 7:17:39 PM	20610
Toluene	ND	0.048		mg/Kg	1	8/6/2015 7:17:39 PM	20610
Ethylbenzene	ND	0.048		mg/Kg	1	8/6/2015 7:17:39 PM	20610
Xylenes, Total	ND	0.097		mg/Kg	1	8/6/2015 7:17:39 PM	20610
Surr: 4-Bromofluorobenzene	95.8	80-120		%Rec	1	8/6/2015 7:17:39 PM	20610

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa Landfarm
Lab ID: 1508119-003 **Matrix:** SOIL

Client Sample ID: Pile 956
Collection Date: 8/3/2015 8:10:00 AM
Received Date: 8/4/2015 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	97	30		mg/Kg	20	8/7/2015 1:05:06 PM	20668
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	37	9.6		mg/Kg	1	8/6/2015 4:07:47 PM	20611
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/6/2015 4:07:47 PM	20611
Surr: DNOP	92.3	70-130		%Rec	1	8/6/2015 4:07:47 PM	20611
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/6/2015 7:42:26 PM	20610
Surr: BFB	89.5	75.4-113		%Rec	1	8/6/2015 7:42:26 PM	20610
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.049		mg/Kg	1	8/6/2015 7:42:26 PM	20610
Toluene	ND	0.049		mg/Kg	1	8/6/2015 7:42:26 PM	20610
Ethylbenzene	ND	0.049		mg/Kg	1	8/6/2015 7:42:26 PM	20610
Xylenes, Total	ND	0.098		mg/Kg	1	8/6/2015 7:42:26 PM	20610
Surr: 4-Bromofluorobenzene	96.6	80-120		%Rec	1	8/6/2015 7:42:26 PM	20610

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa Landfarm
Lab ID: 1507963-005 **Matrix:** SOIL

Client Sample ID: Pile 961
Collection Date: 7/21/2015 8:25:00 AM
Received Date: 7/22/2015 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	150	30		mg/Kg	20	7/27/2015 4:07:49 PM	20464
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/24/2015 9:47:39 AM	20378
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/24/2015 9:47:39 AM	20378
Surr: DNOP	106	70-130		%Rec	1	7/24/2015 9:47:39 AM	20378
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/23/2015 2:51:10 PM	20385
Surr: BFB	87.9	75.4-113		%Rec	1	7/23/2015 2:51:10 PM	20385
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	7/23/2015 2:51:10 PM	20385
Toluene	ND	0.049		mg/Kg	1	7/23/2015 2:51:10 PM	20385
Ethylbenzene	ND	0.049		mg/Kg	1	7/23/2015 2:51:10 PM	20385
Xylenes, Total	ND	0.097		mg/Kg	1	7/23/2015 2:51:10 PM	20385
Surr: 4-Bromofluorobenzene	91.3	80-120		%Rec	1	7/23/2015 2:51:10 PM	20385

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 966
Project: Crouch Mesa LF
Collection Date: 11/30/2015 12:25:00 PM
Lab ID: 1512183-005
Matrix: SOIL
Received Date: 12/4/2015 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	98	30		mg/Kg	20	12/9/2015 3:49:00 PM	22714
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/8/2015 12:33:26 PM	22651
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2015 12:33:26 PM	22651
Surr: DNOP	100	70-130		%Rec	1	12/8/2015 12:33:26 PM	22651
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2015 8:28:28 PM	22637
Surr: BFB	87.9	66.2-112		%Rec	1	12/7/2015 8:28:28 PM	22637
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	12/7/2015 8:28:28 PM	22637
Toluene	ND	0.049		mg/Kg	1	12/7/2015 8:28:28 PM	22637
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2015 8:28:28 PM	22637
Xylenes, Total	ND	0.098		mg/Kg	1	12/7/2015 8:28:28 PM	22637
Surr: 4-Bromofluorobenzene	114	80-120		%Rec	1	12/7/2015 8:28:28 PM	22637

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 968
Project: Crouch Mesa LF
Collection Date: 12/22/2015 11:32:00 AM
Lab ID: 1512A94-002
Matrix: SOIL
Received Date: 12/23/2015 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	76	30		mg/Kg	20	1/7/2016 12:32:26 AM	23078
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	13	9.4		mg/Kg	1	12/29/2015 12:28:18 PM	22969
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/29/2015 12:28:18 PM	22969
Surr: DNOP	103	70-130		%Rec	1	12/29/2015 12:28:18 PM	22969
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/30/2015 12:32:37 AM	22972
Surr: BFB	81.9	66.2-112		%Rec	1	12/30/2015 12:32:37 AM	22972
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	12/30/2015 12:32:37 AM	22972
Toluene	ND	0.048		mg/Kg	1	12/30/2015 12:32:37 AM	22972
Ethylbenzene	ND	0.048		mg/Kg	1	12/30/2015 12:32:37 AM	22972
Xylenes, Total	ND	0.097		mg/Kg	1	12/30/2015 12:32:37 AM	22972
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	12/30/2015 12:32:37 AM	22972

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1512A94-003 **Matrix:** SOIL

Client Sample ID: Pile 969
Collection Date: 12/22/2015 11:40:00 AM
Received Date: 12/23/2015 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	120	30		mg/Kg	20	1/7/2016 12:44:51 AM	23078
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/29/2015 12:50:18 PM	22969
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/29/2015 12:50:18 PM	22969
Surr: DNOP	85.1	70-130		%Rec	1	12/29/2015 12:50:18 PM	22969
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/30/2015 12:57:13 AM	22972
Surr: BFB	82.1	66.2-112		%Rec	1	12/30/2015 12:57:13 AM	22972
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.046		mg/Kg	1	12/30/2015 12:57:13 AM	22972
Toluene	ND	0.046		mg/Kg	1	12/30/2015 12:57:13 AM	22972
Ethylbenzene	ND	0.046		mg/Kg	1	12/30/2015 12:57:13 AM	22972
Xylenes, Total	ND	0.092		mg/Kg	1	12/30/2015 12:57:13 AM	22972
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	12/30/2015 12:57:13 AM	22972

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa Landfarm
Lab ID: 1506E14-010 **Matrix:** SOIL

Client Sample ID: Pile 970
Collection Date: 6/26/2015 12:45:00 PM
Received Date: 6/30/2015 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	89	30		mg/Kg	20	7/7/2015 10:51:12 PM	20131
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/3/2015 6:48:23 AM	20032
Surr: BFB	95.6	67.4-150		%Rec	1	7/3/2015 6:48:23 AM	20032
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	17	9.9		mg/Kg	1	7/3/2015 7:48:57 AM	20028
Motor Oil Range Organics (MRO)	250	50		mg/Kg	1	7/3/2015 7:48:57 AM	20028
Surr: DNOP	96.0	70-130		%Rec	1	7/3/2015 7:48:57 AM	20028
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.048		mg/Kg	1	7/3/2015 6:48:23 AM	20032
Toluene	ND	0.048		mg/Kg	1	7/3/2015 6:48:23 AM	20032
Ethylbenzene	ND	0.048		mg/Kg	1	7/3/2015 6:48:23 AM	20032
Xylenes, Total	ND	0.096		mg/Kg	1	7/3/2015 6:48:23 AM	20032
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	7/3/2015 6:48:23 AM	20032
Surr: 4-Bromofluorobenzene	93.6	70-130		%Rec	1	7/3/2015 6:48:23 AM	20032
Surr: Dibromofluoromethane	110	70-130		%Rec	1	7/3/2015 6:48:23 AM	20032
Surr: Toluene-d8	95.2	70-130		%Rec	1	7/3/2015 6:48:23 AM	20032

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1512183-003 **Matrix:** SOIL

Client Sample ID: Pile 972
Collection Date: 11/30/2015 12:02:00 PM
Received Date: 12/4/2015 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	47	30		mg/Kg	20	12/9/2015 3:24:10 PM	22714
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/8/2015 11:49:58 AM	22651
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/8/2015 11:49:58 AM	22651
Surr: DNOP	100	70-130		%Rec	1	12/8/2015 11:49:58 AM	22651
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2015 4:23:51 PM	22637
Surr: BFB	88.1	66.2-112		%Rec	1	12/7/2015 4:23:51 PM	22637
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	12/7/2015 4:23:51 PM	22637
Toluene	ND	0.049		mg/Kg	1	12/7/2015 4:23:51 PM	22637
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2015 4:23:51 PM	22637
Xylenes, Total	ND	0.098		mg/Kg	1	12/7/2015 4:23:51 PM	22637
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	1	12/7/2015 4:23:51 PM	22637

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1512183-004 **Matrix:** SOIL

Client Sample ID: Pile 973
Collection Date: 11/30/2015 12:15:00 PM
Received Date: 12/4/2015 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	56	30		mg/Kg	20	12/9/2015 3:36:35 PM	22714
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/8/2015 12:11:43 PM	22651
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2015 12:11:43 PM	22651
Surr: DNOP	99.8	70-130		%Rec	1	12/8/2015 12:11:43 PM	22651
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2015 8:04:00 PM	22637
Surr: BFB	90.2	66.2-112		%Rec	1	12/7/2015 8:04:00 PM	22637
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	12/7/2015 8:04:00 PM	22637
Toluene	ND	0.049		mg/Kg	1	12/7/2015 8:04:00 PM	22637
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2015 8:04:00 PM	22637
Xylenes, Total	ND	0.098		mg/Kg	1	12/7/2015 8:04:00 PM	22637
Surr: 4-Bromofluorobenzene	114	80-120		%Rec	1	12/7/2015 8:04:00 PM	22637

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1512A94-005 **Matrix:** SOIL

Client Sample ID: Pile 974
Collection Date: 12/22/2015 11:58:00 AM
Received Date: 12/23/2015 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	120	30		mg/Kg	20	1/7/2016 1:09:41 AM	23078
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/29/2015 1:33:48 PM	22969
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/29/2015 1:33:48 PM	22969
Surr: DNOP	86.8	70-130		%Rec	1	12/29/2015 1:33:48 PM	22969
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/30/2015 1:46:08 AM	22972
Surr: BFB	84.0	66.2-112		%Rec	1	12/30/2015 1:46:08 AM	22972
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	12/30/2015 1:46:08 AM	22972
Toluene	ND	0.049		mg/Kg	1	12/30/2015 1:46:08 AM	22972
Ethylbenzene	ND	0.049		mg/Kg	1	12/30/2015 1:46:08 AM	22972
Xylenes, Total	ND	0.097		mg/Kg	1	12/30/2015 1:46:08 AM	22972
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	12/30/2015 1:46:08 AM	22972

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1512A94-007 **Matrix:** SOIL

Client Sample ID: Pile 976
Collection Date: 12/22/2015 12:20:00 PM
Received Date: 12/23/2015 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	370	30		mg/Kg	20	1/7/2016 1:34:30 AM	23078
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/29/2015 2:17:14 PM	22969
Motor Oil Range Organics (MRO)	50	48		mg/Kg	1	12/29/2015 2:17:14 PM	22969
Surr: DNOP	87.3	70-130		%Rec	1	12/29/2015 2:17:14 PM	22969
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/30/2015 2:35:01 AM	22972
Surr: BFB	84.4	66.2-112		%Rec	1	12/30/2015 2:35:01 AM	22972
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	12/30/2015 2:35:01 AM	22972
Toluene	ND	0.048		mg/Kg	1	12/30/2015 2:35:01 AM	22972
Ethylbenzene	ND	0.048		mg/Kg	1	12/30/2015 2:35:01 AM	22972
Xylenes, Total	ND	0.097		mg/Kg	1	12/30/2015 2:35:01 AM	22972
Surr: 4-Bromofluorobenzene	114	80-120		%Rec	1	12/30/2015 2:35:01 AM	22972

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1507544-003 **Matrix:** SOIL

Client Sample ID: Pile 977
Collection Date: 7/10/2015 1:37:00 PM
Received Date: 7/14/2015 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	82	30		mg/Kg	20	7/16/2015 1:52:35 PM	20289
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	16	9.6		mg/Kg	1	7/15/2015 9:15:10 PM	20236
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/15/2015 9:15:10 PM	20236
Surr: DNOP	94.2	70-130		%Rec	1	7/15/2015 9:15:10 PM	20236
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/15/2015 7:37:40 PM	20241
Surr: BFB	98.7	75.4-113		%Rec	1	7/15/2015 7:37:40 PM	20241
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	7/15/2015 7:37:40 PM	20241
Toluene	ND	0.049		mg/Kg	1	7/15/2015 7:37:40 PM	20241
Ethylbenzene	ND	0.049		mg/Kg	1	7/15/2015 7:37:40 PM	20241
Xylenes, Total	ND	0.097		mg/Kg	1	7/15/2015 7:37:40 PM	20241
Surr: 4-Bromofluorobenzene	97.7	80-120		%Rec	1	7/15/2015 7:37:40 PM	20241

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1507544-004 **Matrix:** SOIL

Client Sample ID: Pile 978
Collection Date: 7/10/2015 1:15:00 PM
Received Date: 7/14/2015 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	92	30		mg/Kg	20	7/16/2015 2:05:00 PM	20289
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/15/2015 9:36:38 PM	20236
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/15/2015 9:36:38 PM	20236
Surr: DNOP	102	70-130		%Rec	1	7/15/2015 9:36:38 PM	20236
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.049		mg/Kg	1	7/15/2015 8:06:30 PM	20241
Surr: BFB	90.7	75.4-113		%Rec	1	7/15/2015 8:06:30 PM	20241
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.00049		mg/Kg	1	7/15/2015 8:06:30 PM	20241
Toluene	ND	0.00049		mg/Kg	1	7/15/2015 8:06:30 PM	20241
Ethylbenzene	ND	0.00049		mg/Kg	1	7/15/2015 8:06:30 PM	20241
Xylenes, Total	ND	0.00099		mg/Kg	1	7/15/2015 8:06:30 PM	20241
Surr: 4-Bromofluorobenzene	95.2	80-120		%Rec	1	7/15/2015 8:06:30 PM	20241

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1512A94-006 **Matrix:** SOIL

Client Sample ID: Pile 980
Collection Date: 12/22/2015 12:10:00 PM
Received Date: 12/23/2015 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	190	30		mg/Kg	20	1/7/2016 1:22:06 AM	23078
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/29/2015 1:55:28 PM	22969
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/29/2015 1:55:28 PM	22969
Surr: DNOP	85.5	70-130		%Rec	1	12/29/2015 1:55:28 PM	22969
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/30/2015 2:10:36 AM	22972
Surr: BFB	84.5	66.2-112		%Rec	1	12/30/2015 2:10:36 AM	22972
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	12/30/2015 2:10:36 AM	22972
Toluene	ND	0.048		mg/Kg	1	12/30/2015 2:10:36 AM	22972
Ethylbenzene	ND	0.048		mg/Kg	1	12/30/2015 2:10:36 AM	22972
Xylenes, Total	ND	0.097		mg/Kg	1	12/30/2015 2:10:36 AM	22972
Surr: 4-Bromofluorobenzene	114	80-120		%Rec	1	12/30/2015 2:10:36 AM	22972

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1502134-007 **Matrix:** SOIL

Client Sample ID: Pile 981
Collection Date: 2/2/2015 9:33:00 AM
Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	81	30		mg/Kg	20	2/9/2015 3:09:17 PM	17637
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	19	10		mg/Kg	1	2/6/2015 3:15:44 PM	17564
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/6/2015 3:15:44 PM	17564
Surr: DNOP	99.6	70-130		%Rec	1	2/6/2015 3:15:44 PM	17564
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/5/2015 9:12:43 PM	17567
Surr: BFB	108	80-120		%Rec	1	2/5/2015 9:12:43 PM	17567
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050		mg/Kg	1	2/5/2015 9:12:43 PM	17567
Toluene	ND	0.050		mg/Kg	1	2/5/2015 9:12:43 PM	17567
Ethylbenzene	ND	0.050		mg/Kg	1	2/5/2015 9:12:43 PM	17567
Xylenes, Total	ND	0.10		mg/Kg	1	2/5/2015 9:12:43 PM	17567
Surr: 4-Bromofluorobenzene	119	80-120		%Rec	1	2/5/2015 9:12:43 PM	17567

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1512A94-004 **Matrix:** SOIL

Client Sample ID: Pile 982
Collection Date: 12/22/2015 11:50:00 AM
Received Date: 12/23/2015 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	140	30		mg/Kg	20	1/7/2016 12:57:16 AM	23078
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/29/2015 1:12:00 PM	22969
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/29/2015 1:12:00 PM	22969
Surr: DNOP	87.7	70-130		%Rec	1	12/29/2015 1:12:00 PM	22969
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/30/2015 1:21:40 AM	22972
Surr: BFB	90.2	66.2-112		%Rec	1	12/30/2015 1:21:40 AM	22972
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	12/30/2015 1:21:40 AM	22972
Toluene	ND	0.048		mg/Kg	1	12/30/2015 1:21:40 AM	22972
Ethylbenzene	ND	0.048		mg/Kg	1	12/30/2015 1:21:40 AM	22972
Xylenes, Total	ND	0.096		mg/Kg	1	12/30/2015 1:21:40 AM	22972
Surr: 4-Bromofluorobenzene	114	80-120		%Rec	1	12/30/2015 1:21:40 AM	22972

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1512A94**
Date Reported: **9/21/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1512A94-001 **Matrix:** SOIL

Client Sample ID: Pile 984
Collection Date: 12/22/2015 11:25:00 AM
Received Date: 12/23/2015 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	110	30		mg/Kg	20	1/6/2016 9:57:45 PM	23078
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/29/2015 12:06:30 PM	22969
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/29/2015 12:06:30 PM	22969
Surr: DNOP	84.9	70-130		%Rec	1	12/29/2015 12:06:30 PM	22969
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/29/2015 10:54:34 PM	22972
Surr: BFB	86.4	66.2-112		%Rec	1	12/29/2015 10:54:34 PM	22972
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	12/29/2015 10:54:34 PM	22972
Toluene	ND	0.048		mg/Kg	1	12/29/2015 10:54:34 PM	22972
Ethylbenzene	ND	0.048		mg/Kg	1	12/29/2015 10:54:34 PM	22972
Xylenes, Total	ND	0.095		mg/Kg	1	12/29/2015 10:54:34 PM	22972
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	12/29/2015 10:54:34 PM	22972

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 985
Project: Crouch Mesa Landfarm
Collection Date: 7/21/2015 8:40:00 AM
Lab ID: 1507963-006
Matrix: SOIL
Received Date: 7/22/2015 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	150	30		mg/Kg	20	7/27/2015 4:20:13 PM	20464
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/27/2015 1:24:04 PM	20378
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/27/2015 1:24:04 PM	20378
Surr: DNOP	94.5	70-130		%Rec	1	7/27/2015 1:24:04 PM	20378
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/23/2015 3:19:53 PM	20385
Surr: BFB	87.6	75.4-113		%Rec	1	7/23/2015 3:19:53 PM	20385
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	7/23/2015 3:19:53 PM	20385
Toluene	ND	0.047		mg/Kg	1	7/23/2015 3:19:53 PM	20385
Ethylbenzene	ND	0.047		mg/Kg	1	7/23/2015 3:19:53 PM	20385
Xylenes, Total	ND	0.094		mg/Kg	1	7/23/2015 3:19:53 PM	20385
Surr: 4-Bromofluorobenzene	88.6	80-120		%Rec	1	7/23/2015 3:19:53 PM	20385

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa Landfarm
Lab ID: 1506E14-009 **Matrix:** SOIL

Client Sample ID: Pile 987
Collection Date: 6/26/2015 12:55:00 PM
Received Date: 6/30/2015 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	110	30		mg/Kg	20	7/7/2015 10:38:46 PM	20131
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/3/2015 6:20:56 AM	20032
Surr: BFB	103	67.4-150		%Rec	1	7/3/2015 6:20:56 AM	20032
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	28	9.8		mg/Kg	1	7/3/2015 6:54:55 AM	20028
Motor Oil Range Organics (MRO)	400	49		mg/Kg	1	7/3/2015 6:54:55 AM	20028
Surr: DNOP	107	70-130		%Rec	1	7/3/2015 6:54:55 AM	20028
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.048		mg/Kg	1	7/3/2015 6:20:56 AM	20032
Toluene	ND	0.048		mg/Kg	1	7/3/2015 6:20:56 AM	20032
Ethylbenzene	ND	0.048		mg/Kg	1	7/3/2015 6:20:56 AM	20032
Xylenes, Total	ND	0.095		mg/Kg	1	7/3/2015 6:20:56 AM	20032
Surr: 1,2-Dichloroethane-d4	96.6	70-130		%Rec	1	7/3/2015 6:20:56 AM	20032
Surr: 4-Bromofluorobenzene	93.5	70-130		%Rec	1	7/3/2015 6:20:56 AM	20032
Surr: Dibromofluoromethane	104	70-130		%Rec	1	7/3/2015 6:20:56 AM	20032
Surr: Toluene-d8	98.6	70-130		%Rec	1	7/3/2015 6:20:56 AM	20032

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1502134-004 **Matrix:** SOIL

Client Sample ID: Pile 989
Collection Date: 2/2/2015 9:05:00 AM
Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	73	30		mg/Kg	20	2/9/2015 2:07:15 PM	17637
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	19	9.9		mg/Kg	1	2/6/2015 2:10:37 PM	17564
Motor Oil Range Organics (MRO)	51	50		mg/Kg	1	2/6/2015 2:10:37 PM	17564
Surr: DNOP	103	70-130		%Rec	1	2/6/2015 2:10:37 PM	17564
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/5/2015 3:56:46 PM	17567
Surr: BFB	99.1	80-120		%Rec	1	2/5/2015 3:56:46 PM	17567
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	2/5/2015 3:56:46 PM	17567
Toluene	ND	0.047		mg/Kg	1	2/5/2015 3:56:46 PM	17567
Ethylbenzene	ND	0.047		mg/Kg	1	2/5/2015 3:56:46 PM	17567
Xylenes, Total	ND	0.094		mg/Kg	1	2/5/2015 3:56:46 PM	17567
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	2/5/2015 3:56:46 PM	17567

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa Landfarm
Lab ID: 1507963-007 **Matrix:** SOIL

Client Sample ID: Pile 992
Collection Date: 7/21/2015 7:10:00 AM
Received Date: 7/22/2015 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	59	30		mg/Kg	20	7/27/2015 4:32:38 PM	20464
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	72	9.9		mg/Kg	1	7/27/2015 2:06:54 PM	20378
Motor Oil Range Organics (MRO)	71	50		mg/Kg	1	7/27/2015 2:06:54 PM	20378
Surr: DNOP	94.2	70-130		%Rec	1	7/27/2015 2:06:54 PM	20378
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/23/2015 3:48:42 PM	20385
Surr: BFB	87.5	75.4-113		%Rec	1	7/23/2015 3:48:42 PM	20385
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050		mg/Kg	1	7/23/2015 3:48:42 PM	20385
Toluene	ND	0.050		mg/Kg	1	7/23/2015 3:48:42 PM	20385
Ethylbenzene	ND	0.050		mg/Kg	1	7/23/2015 3:48:42 PM	20385
Xylenes, Total	ND	0.099		mg/Kg	1	7/23/2015 3:48:42 PM	20385
Surr: 4-Bromofluorobenzene	89.4	80-120		%Rec	1	7/23/2015 3:48:42 PM	20385

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1507544-005 **Matrix:** SOIL

Client Sample ID: Pile 993
Collection Date: 7/10/2015 2:00:00 PM
Received Date: 7/14/2015 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	100	30		mg/Kg	20	7/16/2015 2:17:24 PM	20289
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/15/2015 9:58:10 PM	20236
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/15/2015 9:58:10 PM	20236
Surr: DNOP	103	70-130		%Rec	1	7/15/2015 9:58:10 PM	20236
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/15/2015 8:35:13 PM	20241
Surr: BFB	89.7	75.4-113		%Rec	1	7/15/2015 8:35:13 PM	20241
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	7/15/2015 8:35:13 PM	20241
Toluene	ND	0.049		mg/Kg	1	7/15/2015 8:35:13 PM	20241
Ethylbenzene	ND	0.049		mg/Kg	1	7/15/2015 8:35:13 PM	20241
Xylenes, Total	ND	0.098		mg/Kg	1	7/15/2015 8:35:13 PM	20241
Surr: 4-Bromofluorobenzene	93.8	80-120		%Rec	1	7/15/2015 8:35:13 PM	20241

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1502134-002 **Matrix:** SOIL

Client Sample ID: Pile 994
Collection Date: 2/2/2015 8:42:00 AM
Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	79	30		mg/Kg	20	2/9/2015 1:42:26 PM	17637
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/6/2015 1:27:18 PM	17564
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/6/2015 1:27:18 PM	17564
Surr: DNOP	98.3	70-130		%Rec	1	2/6/2015 1:27:18 PM	17564
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/5/2015 2:01:50 PM	17567
Surr: BFB	98.2	80-120		%Rec	1	2/5/2015 2:01:50 PM	17567
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	2/5/2015 2:01:50 PM	17567
Toluene	ND	0.048		mg/Kg	1	2/5/2015 2:01:50 PM	17567
Ethylbenzene	ND	0.048		mg/Kg	1	2/5/2015 2:01:50 PM	17567
Xylenes, Total	ND	0.097		mg/Kg	1	2/5/2015 2:01:50 PM	17567
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	2/5/2015 2:01:50 PM	17567

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1502134-006 **Matrix:** SOIL

Client Sample ID: Pile 996
Collection Date: 2/2/2015 9:24:00 AM
Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	140	30		mg/Kg	20	2/9/2015 2:32:03 PM	17637
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	41	10		mg/Kg	1	2/6/2015 2:53:57 PM	17564
Motor Oil Range Organics (MRO)	87	50		mg/Kg	1	2/6/2015 2:53:57 PM	17564
Surr: DNOP	105	70-130		%Rec	1	2/6/2015 2:53:57 PM	17564
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/5/2015 4:54:17 PM	17567
Surr: BFB	97.3	80-120		%Rec	1	2/5/2015 4:54:17 PM	17567
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	2/5/2015 4:54:17 PM	17567
Toluene	ND	0.047		mg/Kg	1	2/5/2015 4:54:17 PM	17567
Ethylbenzene	ND	0.047		mg/Kg	1	2/5/2015 4:54:17 PM	17567
Xylenes, Total	ND	0.094		mg/Kg	1	2/5/2015 4:54:17 PM	17567
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	2/5/2015 4:54:17 PM	17567

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1502134**
Date Reported: **9/21/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1502134-001 **Matrix:** SOIL

Client Sample ID: Pile 997
Collection Date: 2/2/2015 8:30:00 AM
Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	290	30		mg/Kg	20	2/9/2015 1:05:11 PM	17637
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	17	10		mg/Kg	1	2/6/2015 12:22:34 PM	17564
Motor Oil Range Organics (MRO)	60	50		mg/Kg	1	2/6/2015 12:22:34 PM	17564
Surr: DNOP	100	70-130		%Rec	1	2/6/2015 12:22:34 PM	17564
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/5/2015 12:35:39 PM	17567
Surr: BFB	127	80-120	S	%Rec	1	2/5/2015 12:35:39 PM	17567
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	2/5/2015 12:35:39 PM	17567
Toluene	ND	0.048		mg/Kg	1	2/5/2015 12:35:39 PM	17567
Ethylbenzene	ND	0.048		mg/Kg	1	2/5/2015 12:35:39 PM	17567
Xylenes, Total	ND	0.097		mg/Kg	1	2/5/2015 12:35:39 PM	17567
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	1	2/5/2015 12:35:39 PM	17567

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1502134-003 **Matrix:** SOIL

Client Sample ID: Pile 998
Collection Date: 2/2/2015 8:54:00 AM
Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	2/9/2015 1:54:50 PM	17637
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	11	10		mg/Kg	1	2/6/2015 1:49:01 PM	17564
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/6/2015 1:49:01 PM	17564
Surr: DNOP	94.1	70-130		%Rec	1	2/6/2015 1:49:01 PM	17564
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/5/2015 3:27:59 PM	17567
Surr: BFB	99.0	80-120		%Rec	1	2/5/2015 3:27:59 PM	17567
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050		mg/Kg	1	2/5/2015 3:27:59 PM	17567
Toluene	ND	0.050		mg/Kg	1	2/5/2015 3:27:59 PM	17567
Ethylbenzene	ND	0.050		mg/Kg	1	2/5/2015 3:27:59 PM	17567
Xylenes, Total	ND	0.10		mg/Kg	1	2/5/2015 3:27:59 PM	17567
Surr: 4-Bromofluorobenzene	112	80-120		%Rec	1	2/5/2015 3:27:59 PM	17567

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1507544-006 **Matrix:** SOIL

Client Sample ID: Pile 999
Collection Date: 7/10/2015 1:50:00 PM
Received Date: 7/14/2015 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	7/16/2015 2:29:49 PM	20289
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	100	99		mg/Kg	10	7/16/2015 3:39:36 PM	20236
Motor Oil Range Organics (MRO)	ND	490		mg/Kg	10	7/16/2015 3:39:36 PM	20236
Surr: DNOP	0	70-130	S	%Rec	10	7/16/2015 3:39:36 PM	20236
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.049		mg/Kg	1	7/15/2015 9:03:57 PM	20241
Surr: BFB	91.5	75.4-113		%Rec	1	7/15/2015 9:03:57 PM	20241
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.00049		mg/Kg	1	7/15/2015 9:03:57 PM	20241
Toluene	ND	0.00049		mg/Kg	1	7/15/2015 9:03:57 PM	20241
Ethylbenzene	ND	0.00049		mg/Kg	1	7/15/2015 9:03:57 PM	20241
Xylenes, Total	ND	0.00099		mg/Kg	1	7/15/2015 9:03:57 PM	20241
Surr: 4-Bromofluorobenzene	95.9	80-120		%Rec	1	7/15/2015 9:03:57 PM	20241

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1502134-005 **Matrix:** SOIL

Client Sample ID: Pile 1000
Collection Date: 2/2/2015 9:15:00 AM
Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	2/9/2015 2:19:39 PM	17637
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	28	9.9		mg/Kg	1	2/6/2015 2:32:17 PM	17564
Motor Oil Range Organics (MRO)	68	50		mg/Kg	1	2/6/2015 2:32:17 PM	17564
Surr: DNOP	97.5	70-130		%Rec	1	2/6/2015 2:32:17 PM	17564
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/5/2015 4:25:34 PM	17567
Surr: BFB	102	80-120		%Rec	1	2/5/2015 4:25:34 PM	17567
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	2/5/2015 4:25:34 PM	17567
Toluene	ND	0.048		mg/Kg	1	2/5/2015 4:25:34 PM	17567
Ethylbenzene	ND	0.048		mg/Kg	1	2/5/2015 4:25:34 PM	17567
Xylenes, Total	ND	0.097		mg/Kg	1	2/5/2015 4:25:34 PM	17567
Surr: 4-Bromofluorobenzene	112	80-120		%Rec	1	2/5/2015 4:25:34 PM	17567

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa Landfarm
Lab ID: 1507963-008 **Matrix:** SOIL

Client Sample ID: Pile 1001
Collection Date: 7/21/2015 7:20:00 AM
Received Date: 7/22/2015 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	7/27/2015 4:45:03 PM	20464
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/24/2015 1:56:47 AM	20378
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/24/2015 1:56:47 AM	20378
Surr: DNOP	128	70-130		%Rec	1	7/24/2015 1:56:47 AM	20378
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	7/23/2015 4:17:29 PM	20385
Surr: BFB	87.0	75.4-113		%Rec	1	7/23/2015 4:17:29 PM	20385
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.046		mg/Kg	1	7/23/2015 4:17:29 PM	20385
Toluene	ND	0.046		mg/Kg	1	7/23/2015 4:17:29 PM	20385
Ethylbenzene	ND	0.046		mg/Kg	1	7/23/2015 4:17:29 PM	20385
Xylenes, Total	ND	0.093		mg/Kg	1	7/23/2015 4:17:29 PM	20385
Surr: 4-Bromofluorobenzene	88.3	80-120		%Rec	1	7/23/2015 4:17:29 PM	20385

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Pile 1002
Project: Crouch Mesa Landfarm
Collection Date: 7/21/2015 7:30:00 AM
Lab ID: 1507963-009
Matrix: SOIL
Received Date: 7/22/2015 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	42	30		mg/Kg	20	7/27/2015 5:22:17 PM	20464
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/24/2015 2:18:19 AM	20378
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/24/2015 2:18:19 AM	20378
Surr: DNOP	109	70-130		%Rec	1	7/24/2015 2:18:19 AM	20378
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/23/2015 4:46:12 PM	20385
Surr: BFB	86.3	75.4-113		%Rec	1	7/23/2015 4:46:12 PM	20385
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	7/23/2015 4:46:12 PM	20385
Toluene	ND	0.048		mg/Kg	1	7/23/2015 4:46:12 PM	20385
Ethylbenzene	ND	0.048		mg/Kg	1	7/23/2015 4:46:12 PM	20385
Xylenes, Total	ND	0.096		mg/Kg	1	7/23/2015 4:46:12 PM	20385
Surr: 4-Bromofluorobenzene	88.1	80-120		%Rec	1	7/23/2015 4:46:12 PM	20385

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1512183-006 **Matrix:** SOIL

Client Sample ID: Pile 1003
Collection Date: 11/30/2015 12:37:00 PM
Received Date: 12/4/2015 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	12/9/2015 4:01:25 PM	22714
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/8/2015 12:55:20 PM	22651
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2015 12:55:20 PM	22651
Surr: DNOP	96.1	70-130		%Rec	1	12/8/2015 12:55:20 PM	22651
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2015 8:52:58 PM	22637
Surr: BFB	87.2	66.2-112		%Rec	1	12/7/2015 8:52:58 PM	22637
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	12/7/2015 8:52:58 PM	22637
Toluene	ND	0.049		mg/Kg	1	12/7/2015 8:52:58 PM	22637
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2015 8:52:58 PM	22637
Xylenes, Total	ND	0.098		mg/Kg	1	12/7/2015 8:52:58 PM	22637
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	12/7/2015 8:52:58 PM	22637

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa LF
Lab ID: 1507544-007 **Matrix:** SOIL

Client Sample ID: Pile 1004
Collection Date: 7/10/2015 2:15:00 PM
Received Date: 7/14/2015 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	7/16/2015 3:07:02 PM	20289
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	73	10		mg/Kg	1	7/15/2015 10:41:01 PM	20236
Motor Oil Range Organics (MRO)	84	50		mg/Kg	1	7/15/2015 10:41:01 PM	20236
Surr: DNOP	100	70-130		%Rec	1	7/15/2015 10:41:01 PM	20236
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/15/2015 9:32:39 PM	20241
Surr: BFB	98.1	75.4-113		%Rec	1	7/15/2015 9:32:39 PM	20241
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	7/15/2015 9:32:39 PM	20241
Toluene	ND	0.049		mg/Kg	1	7/15/2015 9:32:39 PM	20241
Ethylbenzene	ND	0.049		mg/Kg	1	7/15/2015 9:32:39 PM	20241
Xylenes, Total	ND	0.098		mg/Kg	1	7/15/2015 9:32:39 PM	20241
Surr: 4-Bromofluorobenzene	96.5	80-120		%Rec	1	7/15/2015 9:32:39 PM	20241

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa Landfarm
Lab ID: 1506E14-003 **Matrix:** SOIL

Client Sample ID: Pile 1005
Collection Date: 6/26/2015 12:25:00 PM
Received Date: 6/30/2015 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	48	30		mg/Kg	20	7/7/2015 8:59:28 PM	20131
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/3/2015 3:36:01 AM	20032
Surr: BFB	107	67.4-150		%Rec	1	7/3/2015 3:36:01 AM	20032
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	42	9.7		mg/Kg	1	7/3/2015 4:14:07 AM	20028
Motor Oil Range Organics (MRO)	140	49		mg/Kg	1	7/3/2015 4:14:07 AM	20028
Surr: DNOP	107	70-130		%Rec	1	7/3/2015 4:14:07 AM	20028
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.047		mg/Kg	1	7/3/2015 3:36:01 AM	20032
Toluene	ND	0.047		mg/Kg	1	7/3/2015 3:36:01 AM	20032
Ethylbenzene	ND	0.047		mg/Kg	1	7/3/2015 3:36:01 AM	20032
Xylenes, Total	ND	0.094		mg/Kg	1	7/3/2015 3:36:01 AM	20032
Surr: 1,2-Dichloroethane-d4	97.3	70-130		%Rec	1	7/3/2015 3:36:01 AM	20032
Surr: 4-Bromofluorobenzene	94.0	70-130		%Rec	1	7/3/2015 3:36:01 AM	20032
Surr: Dibromofluoromethane	100	70-130		%Rec	1	7/3/2015 3:36:01 AM	20032
Surr: Toluene-d8	98.1	70-130		%Rec	1	7/3/2015 3:36:01 AM	20032

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa Landfarm
Lab ID: 1506E14-004 **Matrix:** SOIL

Client Sample ID: Pile 1006
Collection Date: 6/26/2015 12:35:00 PM
Received Date: 6/30/2015 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	53	30		mg/Kg	20	7/7/2015 9:11:53 PM	20131
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/3/2015 4:03:30 AM	20032
Surr: BFB	103	67.4-150		%Rec	1	7/3/2015 4:03:30 AM	20032
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	24	10		mg/Kg	1	7/3/2015 4:40:53 AM	20028
Motor Oil Range Organics (MRO)	130	50		mg/Kg	1	7/3/2015 4:40:53 AM	20028
Surr: DNOP	95.0	70-130		%Rec	1	7/3/2015 4:40:53 AM	20028
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.049		mg/Kg	1	7/3/2015 4:03:30 AM	20032
Toluene	ND	0.049		mg/Kg	1	7/3/2015 4:03:30 AM	20032
Ethylbenzene	ND	0.049		mg/Kg	1	7/3/2015 4:03:30 AM	20032
Xylenes, Total	ND	0.098		mg/Kg	1	7/3/2015 4:03:30 AM	20032
Surr: 1,2-Dichloroethane-d4	94.8	70-130		%Rec	1	7/3/2015 4:03:30 AM	20032
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	7/3/2015 4:03:30 AM	20032
Surr: Dibromofluoromethane	105	70-130		%Rec	1	7/3/2015 4:03:30 AM	20032
Surr: Toluene-d8	101	70-130		%Rec	1	7/3/2015 4:03:30 AM	20032

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502134**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID	**MB-17637**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**17637**	RunNo:	**24209**					
Prep Date:	**2/9/2015**	Analysis Date:	**2/9/2015**	SeqNo:	**713556**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-17637**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**17637**	RunNo:	**24209**					
Prep Date:	**2/9/2015**	Analysis Date:	**2/9/2015**	SeqNo:	**713557**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

WO#: **1502134**

Hall Environmental Analysis Laboratory, Inc.

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-17564**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **17564**	RunNo: **24136**
Prep Date: **2/4/2015**	Analysis Date: **2/6/2015**	SeqNo: **712630** 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	9.0		10.00		89.7	63.5	128			

Sample ID **LCS-17564**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **17564**	RunNo: **24136**
Prep Date: **2/4/2015**	Analysis Date: **2/6/2015**	SeqNo: **712631** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.8	67.8	130			
Surr: DNOP	4.9		5.000		98.2	63.5	128			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502134**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-17567**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **17567**	RunNo: **24122**
Prep Date: **2/4/2015**	Analysis Date: **2/5/2015**	SeqNo: **711439** 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	940		1000		94.1	80	120			

Sample ID **LCS-17567**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **17567**	RunNo: **24122**
Prep Date: **2/4/2015**	Analysis Date: **2/5/2015**	SeqNo: **711440** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	64	130			
Surr: BFB	1100		1000		106	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502134**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa LF

Sample ID **MB-17567**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **17567**	RunNo: **24122**
Prep Date: **2/4/2015**	Analysis Date: **2/5/2015**	SeqNo: **711478** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID **LCS-17567**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **17567**	RunNo: **24122**
Prep Date: **2/4/2015**	Analysis Date: **2/5/2015**	SeqNo: **711479** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	112	80	120			
Toluene	1.1	0.050	1.000	0	108	80	120			
Ethylbenzene	1.1	0.050	1.000	0	113	80	120			
Xylenes, Total	3.4	0.10	3.000	0	112	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		122	80	120			S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: BLAGG Work Order Number: 1502134 RcptNo: 1

Received by/date: KM 02/04/2015

Logged By: **Ashley Gallegos** 2/4/2015 8:30:00 AM

Completed By: **Ashley Gallegos** 2/4/2015 9:42:57 AM

Reviewed By: AG 02/04/15

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? _____
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	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	2.4	Good	Not Present			

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Client: BP America	☒ Standard ☐ Rush
Blagg Engineering Inc.	Project Name: Crouch Mesa LF
Mailing Address: P.O. Box 87	
Bloomfield, NM 87413	Project #:
Phone #: (505)320-1183	
email or Fax#:	Project Manager: Jeff Blagg
QA/QC Package:	
☒ Standard ☐ Level 4 (Full Validation)	
☐ Other ☐ EDD (Type)	Sampler: Jeff Blagg
	On Ice: ☒ Yes ☐ No
	Sample Temperature: 2.4

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1502134	BTEX (8021)		TPH 8015B (GRO / DRO)								Chloride		Air Bubbles (Y or N)
02/02/2015	8:30	Soil	Pile 997	4oz x 1	cool	-001	x		x								x		
02/02/2015	8:42	Soil	Pile 994	4oz x 1	cool	-002	x		x								x		
02/02/2015	8:54	Soil	Pile 998	4oz x 1	cool	-003	x		x								x		
02/02/2015	9:05	Soil	Pile 989	4oz x 1	cool	-004	x		x								x		
02/02/2015	9:15	Soil	Pile 1000	4oz x 1	cool	-005	x		x								x		
02/02/2015	9:24	Soil	Pile 996	4oz x 1	cool	-006	x		x								x		
02/02/2015	9:33	Soil	Pile 981	4oz x 1	cool	-007	x		x								x		

Date	Time	Relinquished by	Received by	Date	Time
2/3/2015	1034	Jeff Blagg	Christine Walls	2/3/15	1033
2/3/15	1747	Christine Walls		02/04/15	0830

Remarks: Bill BP

BP Contact: Jeff Peace Please copy results to: peace.jeffrey@bp.com and to marcella@industrialecosystems.com

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1506E14**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa Landfarm

Sample ID	**MB-20131**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**20131**	RunNo:	**27343**					
Prep Date:	**7/7/2015**	Analysis Date:	**7/7/2015**	SeqNo:	**819861**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-20131**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**20131**	RunNo:	**27343**					
Prep Date:	**7/7/2015**	Analysis Date:	**7/7/2015**	SeqNo:	**819862**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.7	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1506E14**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa Landfarm

Sample ID **MB-20028**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **20028**	RunNo: **27182**
Prep Date: **6/30/2015**	Analysis Date: **7/2/2015**	SeqNo: **816327** 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	10		10.00		101	57.9	140			

Sample ID **LCS-20028**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **20028**	RunNo: **27182**
Prep Date: **6/30/2015**	Analysis Date: **7/2/2015**	SeqNo: **816328** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	57.4	139			
Surr: DNOP	6.1		5.000		121	57.9	140			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

WO#: **1506E14**

Hall Environmental Analysis Laboratory, Inc.

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa Landfarm

Sample ID **lcs-20032**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS**	Batch ID: **20032**	RunNo: **27296**
Prep Date: **6/30/2015**	Analysis Date: **7/2/2015**	SeqNo: **818016** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	99.5	70	130			
Toluene	1.0	0.050	1.000	0	102	70	130			
Ethylbenzene	1.0	0.050	1.000	0	103	70	130			
Xylenes, Total	3.1	0.10	3.000	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		99.0	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.7	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		107	70	130			
Surr: Toluene-d8	0.48		0.5000		96.9	70	130			

Sample ID **mb-20032**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **20032**	RunNo: **27296**
Prep Date: **6/30/2015**	Analysis Date: **7/2/2015**	SeqNo: **818017** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.6	70	130			
Surr: Dibromofluoromethane	0.55		0.5000		109	70	130			
Surr: Toluene-d8	0.46		0.5000		92.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1506E14**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa Landfarm

Sample ID	**lcs-20032**	SampType: **LCS**		TestCode: **EPA Method 8015D Mod: Gasoline Range**						
Client ID:	**LCSS**	Batch ID: **20032**		RunNo: **27296**						
Prep Date:	**6/30/2015**	Analysis Date: **7/2/2015**		SeqNo: **817959**		Units: **mg/Kg**				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		24	5.0	25.00	0	96.4	79.9	135			
Surr: BFB		510		500.0		102	67.4	150			

Sample ID	**mb-20032**	SampType: **MBLK**		TestCode: **EPA Method 8015D Mod: Gasoline Range**						
Client ID:	**PBS**	Batch ID: **20032**		RunNo: **27296**						
Prep Date:	**6/30/2015**	Analysis Date: **7/2/2015**		SeqNo: **817960**		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		460		500.0		92.7	67.4	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: BLAGG Work Order Number: 1506E14 RcptNo: 1

Received by/date: LM 06/30/15

Logged By: Anne Thorne 6/30/2015 7:00:00 AM Anne Thorne

Completed By: Anne Thorne 6/30/2015 Anne Thorne

Reviewed By: AG 06/30/15

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?	Courier		

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# 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	2.3	Good	Yes			

Chain-of-Custody Record

Client: BP AMERICA
BLAGG
Mailing Address: P.O BOX 87
BLOOMFIELD, NM
Phone #: 505-320-1183
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: CROUCH MESA LANDFARM
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 3.3-1.0CF = 2.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1506E14	BTEX + ~~MTBE~~ + ~~TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / ~~DRO~~ / ~~MRO~~)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
6/26/15	1215	SOIL	PILE 992	4 oz x 1	COOL	-001	X		X									X				
"	1205	"	PILE 991	"	"	-002	X		X									X				
"	1225	"	PILE 1005	"	"	-003	X		X									X				
"	1235	"	PILE 1006	"	"	-004	X		X									X				
"	1340	"	PILE 949	"	"	-005	X		X									X				
"	1330	"	PILE 945	"	"	-006	X		X									X				
"	1320	"	PILE 947	"	"	-007	X		X									X				
"	1310	"	PILE 948	"	"	-008	X		X									X				
"	1255	"	PILE 987	"	"	-009	X		X									X				
"	1245	"	PILE 970	"	"	-010	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/29/15	1050	Jeff Blagg	Christie Walker	6/29/15	1050
6/29/15	1754	Christie Walker			
				06/30/15	0700

Remarks: BILL BP
P.O. ON FILE
CONTACT: JEFF PEACE

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1507544**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID	**MB-20289**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**20289**	RunNo:	**27581**					
Prep Date:	**7/16/2015**	Analysis Date:	**7/16/2015**	SeqNo:	**827975**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-20289**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**20289**	RunNo:	**27581**					
Prep Date:	**7/16/2015**	Analysis Date:	**7/16/2015**	SeqNo:	**827976**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.5	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1507544**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-20236**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **20236**	RunNo: **27509**
Prep Date: **7/14/2015**	Analysis Date: **7/15/2015**	SeqNo: **826590** 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	12		10.00		119	57.9	140			

Sample ID **LCS-20236**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **20236**	RunNo: **27509**
Prep Date: **7/14/2015**	Analysis Date: **7/15/2015**	SeqNo: **826591** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	105	57.4	139			
Surr: DNOP	5.0		5.000		99.8	57.9	140			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1507544**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID	**MB-20241**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**20241**	RunNo:	**27518**					
Prep Date:	**7/14/2015**	Analysis Date:	**7/15/2015**	SeqNo:	**826392**	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	900		1000		89.6	75.4	113			

Sample ID	**LCS-20241**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**20241**	RunNo:	**27518**					
Prep Date:	**7/14/2015**	Analysis Date:	**7/15/2015**	SeqNo:	**826393**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	102	64	130			
Surr: BFB	1000		1000		103	75.4	113			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1507544**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-20241**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **20241**	RunNo: **27518**
Prep Date: **7/14/2015**	Analysis Date: **7/15/2015**	SeqNo: **826409** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.96		1.000		95.8	80	120			

Sample ID **LCS-20241**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **20241**	RunNo: **27518**
Prep Date: **7/14/2015**	Analysis Date: **7/15/2015**	SeqNo: **826410** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	104	76.6	128			
Toluene	0.99	0.050	1.000	0	99.3	75	124			
Ethylbenzene	1.0	0.050	1.000	0	102	79.5	126			
Xylenes, Total	3.1	0.10	3.000	0	102	78.8	124			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: BLAGG | Work Order Number: 1507544 | RcptNo: 1

Received by/date: AT 07/14/15

Logged By: Anne Thorne 7/14/2015 7:55:00 AM

Completed By: Anne Thorne 7/14/2015

Reviewed By: CS 07/14/15

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?	Courier		

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# 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	2.3	Good	Yes			

Chain-of-Custody Record

Client: BP AMERICA

BLAGG ENGINEERING

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
CROUCH MESA L.F.

Project #:

Project Manager:
J. BLAGG

Sampler: J. BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 3.3 - 1.7 - 2.3

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www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1507544	BTEX + ~~MTBE + TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / ~~MRO~~)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
7/10/2015	1432	SOIL	PILE 944	4oz x 1	COOL	-001	X		X									X				
"	1325	"	PILE 950	"	"	-002	X		X									X				
"	1337	"	PILE 977	"	"	-003	X		X									X				
"	1315	"	PILE 978	"	"	-004	X		X									X				
"	1400	"	PILE 993	"	"	-005	X		X									X				
"	1350	"	PILE 999	"	"	-006	X		X									X				
"	1415	"	PILE 1004	"	"	-007	X		X									X				

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/13/2015	1545			07/14/15	0755
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: BILL BP
P.O. ON FILE
CONTACT: Jeff Peace

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1507963**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa Landfarm

Sample ID	**MB-20464**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**20464**	RunNo:	**27773**					
Prep Date:	**7/27/2015**	Analysis Date:	**7/27/2015**	SeqNo:	**835871**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-20464**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**20464**	RunNo:	**27773**					
Prep Date:	**7/27/2015**	Analysis Date:	**7/27/2015**	SeqNo:	**835872**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.3	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1507963**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa Landfarm

Sample ID **MB-20378**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **20378**	RunNo: **27701**
Prep Date: **7/22/2015**	Analysis Date: **7/23/2015**	SeqNo: **833319** 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		109	57.9	140			

Sample ID **LCS-20378**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **20378**	RunNo: **27701**
Prep Date: **7/22/2015**	Analysis Date: **7/23/2015**	SeqNo: **833320** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	71	10	50.00	0	143	57.4	139			S
Surr: DNOP	7.3		5.000		147	57.9	140			S

Sample ID **MB-20424**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **20424**	RunNo: **27764**
Prep Date: **7/24/2015**	Analysis Date: **7/27/2015**	SeqNo: **834737** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
esel Range Organics (DRO)	ND	10								
Surr: DNOP	11		10.00		107	57.9	140			

Sample ID **LCS-20424**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **20424**	RunNo: **27764**
Prep Date: **7/24/2015**	Analysis Date: **7/27/2015**	SeqNo: **834738** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	101	57.4	139			
Surr: DNOP	5.1		5.000		102	57.9	140			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1507963**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa Landfarm

Sample ID **MB-20385**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **20385**	RunNo: **27716**
Prep Date: **7/22/2015**	Analysis Date: **7/23/2015**	SeqNo: **833100** 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	870		1000		86.8	75.4	113			

Sample ID **LCS-20385**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **20385**	RunNo: **27716**
Prep Date: **7/22/2015**	Analysis Date: **7/23/2015**	SeqNo: **833101** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.3	79.6	122			
Surr: BFB	910		1000		91.4	75.4	113			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1507963**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa Landfarm

Sample ID **MB-20385**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **20385**	RunNo: **27716**
Prep Date: **7/22/2015**	Analysis Date: **7/23/2015**	SeqNo: **833126** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.92		1.000		91.9	80	120			

Sample ID **LCS-20385**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **20385**	RunNo: **27716**
Prep Date: **7/22/2015**	Analysis Date: **7/23/2015**	SeqNo: **833127** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	101	76.6	128			
Toluene	1.0	0.050	1.000	0	99.9	75	124			
Ethylbenzene	1.1	0.050	1.000	0	107	79.5	126			
Xylenes, Total	3.3	0.10	3.000	0	110	78.8	124			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: BLAGG | Work Order Number: 1507963 | RcptNo: 1

Received by/date: 07/22/15

Logged By: Lindsay Mangin 7/22/2015 7:00:00 AM

Completed By: Lindsay Mangin 7/22/2015 8:13:30 AM

Reviewed By: CS 07/22/15

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?	Courier		

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	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	1.9	Good	Yes			

Chain-of-Custody Record

Client: BP AMERICA
BLAGG
Mailing Address:

Phone #: 505-320-1183
Email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: CROUCH MESA LANDFARM
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1507963	BTEX + ~~MTBE + TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / ~~MRO~~)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
7/21/15	0805	SOIL	PILE #945	4oz x 1	COOL	-001	X		X									X				
"	0755	"	PILE 947	"	"	-002	X		X									X				
"	0745	"	PILE 948	"	"	-003	X		X									X				
"	0815	"	PILE 949	"	"	-004	X		X									X				
"	0825	"	PILE 961	"	"	-005	X		X									X				
"	0840	"	PILE 985	"	"	-006	X		X									X				
"	0710	"	PILE 992	"	"	-007	X		X									X				
"	0720	"	PILE 1001	"	"	-008	X		X									X				
"	0730	"	PILE 1002	"	"	-009	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/21/2015	1449	Jeff Blagg	Courtney Walker	7/21/15	1449
7/21/15	1830	Courtney Walker		07/22/15	0700

Remarks: BILL BP
P.O. ON FILE

CONTACT: JEFF PEACE

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1508119**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa Landfarm

Sample ID	**MB-20668**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**20668**	RunNo:	**28069**					
Prep Date:	**8/7/2015**	Analysis Date:	**8/7/2015**	SeqNo:	**845462**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-20668**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**20668**	RunNo:	**28069**					
Prep Date:	**8/7/2015**	Analysis Date:	**8/7/2015**	SeqNo:	**845463**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	100	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1508119**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa Landfarm

Sample ID **MB-20611**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **20611**	RunNo: **27998**
Prep Date: **8/5/2015**	Analysis Date: **8/6/2015**	SeqNo: **843188** 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	12		10.00		117	57.9	140			

Sample ID **LCS-20611**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **20611**	RunNo: **27998**
Prep Date: **8/5/2015**	Analysis Date: **8/6/2015**	SeqNo: **843210** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	101	57.4	139			
Surr: DNOP	4.9		5.000		98.9	57.9	140			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1508119**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa Landfarm

Sample ID	**LCS-20610**	SampType: **LCS**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID: **20610**			RunNo: **28000**					
Prep Date:	**8/5/2015**	Analysis Date: **8/6/2015**			SeqNo: **843531**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	102	79.6	122			
Surr: BFB	1000		1000		102	75.4	113			

Sample ID	**MB-20610**	SampType: **MBLK**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID: **20610**			RunNo: **28000**					
Prep Date:	**8/5/2015**	Analysis Date: **8/6/2015**			SeqNo: **843532**		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	910		1000		90.6	75.4	113			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1508119**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa Landfarm

Sample ID **LCS-20610**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **20610**	RunNo: **28000**
Prep Date: **8/5/2015**	Analysis Date: **8/6/2015**	SeqNo: **843552** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	109	76.6	128			
Toluene	1.1	0.050	1.000	0	107	75	124			
Ethylbenzene	1.1	0.050	1.000	0	107	79.5	126			
Xylenes, Total	3.5	0.10	3.000	0	116	78.8	124			
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Sample ID **MB-20610**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **20610**	RunNo: **28000**
Prep Date: **8/5/2015**	Analysis Date: **8/6/2015**	SeqNo: **843553** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **BLAGG** Work Order Number: **1508119** RcptNo: 1

Received by/date: 08/04/15

Logged By: **Lindsay Mangin** **8/4/2015 7:45:00 AM**

Completed By: **Lindsay Mangin** **8/5/2015 8:18:40 AM**

Reviewed By: 08/05/15

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?	Courier		

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	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	1.8	Good	Yes			

Chain-of-Custody Record

Client: BP AMERICA
BLAGG ENGINEERING INC.
Mailing Address:
Phone #: 505-320-1183
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: CROUCH MESA LANDFARM
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: ☑ Yes ☐ No
Sample Temperature: 1.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No 1508149	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / ~~MRO~~)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
8/3/15	0850	SOIL	PILE 950	4 oz x 1	COOL	-001	X		X									X				
"	0830	"	PILE 955	"	"	-002	X		X									X				
"	0810	"	PILE 956	"	"	-003	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
8/3/15	1057	Jeff Blagg	Christine Walters	8/3/15	1057	BILL BP P.O. ON FILE CONTACT: J. PEACE
8/3/15	1932	Christine Walters		08/04/15	0745	

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512183**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID	**MB-22714**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**22714**	RunNo:	**30760**					
Prep Date:	**12/9/2015**	Analysis Date:	**12/9/2015**	SeqNo:	**939545**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-22714**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**22714**	RunNo:	**30760**					
Prep Date:	**12/9/2015**	Analysis Date:	**12/9/2015**	SeqNo:	**939546**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.0	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512183**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-22651**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **22651**	RunNo: **30678**
Prep Date: **12/7/2015**	Analysis Date: **12/8/2015**	SeqNo: **936993** 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	9.2		10.00		91.8	70	130			

Sample ID **LCS-22651**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **22651**	RunNo: **30678**
Prep Date: **12/7/2015**	Analysis Date: **12/8/2015**	SeqNo: **936994** 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	91.3	57.4	139			
Surr: DNOP	4.8		5.000		95.5	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512183**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-22637**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **22637**	RunNo: **30653**
Prep Date: **12/4/2015**	Analysis Date: **12/7/2015**	SeqNo: **936696** 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	770		1000		77.2	66.2	112			

Sample ID **LCS-22637**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **22637**	RunNo: **30653**
Prep Date: **12/4/2015**	Analysis Date: **12/7/2015**	SeqNo: **936697** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.9	79.6	122			
Surr: BFB	1100		1000		108	66.2	112			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512183**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-22637**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **22637**	RunNo: **30653**
Prep Date: **12/4/2015**	Analysis Date: **12/7/2015**	SeqNo: **936732** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.97		1.000		97.0	80	120			

Sample ID **LCS-22637**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **22637**	RunNo: **30653**
Prep Date: **12/4/2015**	Analysis Date: **12/7/2015**	SeqNo: **936733** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.050	1.000	0	94.7	80	120			
Toluene	0.93	0.050	1.000	0	92.8	80	120			
Ethylbenzene	0.98	0.050	1.000	0	98.1	80	120			
Xylenes, Total	2.8	0.10	3.000	0	93.6	80	120			
Surr: 4-Bromofluorobenzene	1.3		1.000		131	80	120			S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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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: BLAGG | Work Order Number: 1512183 | RcptNo: 1

Received by/date: JA 12/04/15

Logged By: Celina Sessa 12/4/2015 8:00:00 AM Celina Sessa

Completed By: Celina Sessa 12/4/2015 9:24:29 AM Celina Sessa

Reviewed By: 12/04/15

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?	Courier		

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# 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	1.3	Good	Yes			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Client: BP America	Turn-Around Time: ☒ Standard ☐ Rush
Blagg Engineering Inc.	Project Name: Crouch Mesa LF
Mailing Address: P.O. Box 87 Bloomfield, NM 87413	Project #:
Phone #: (505)320-1183	
email or Fax#:	Project Manager: Jeff Blagg
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)	
☐ Other ☐ EDD (Type)	Sampler: Jeff Blagg On Ice: ☒ Yes ☐ No Sample Temperature: 1.3

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1512183	BTEX (8021)		TPH 8015B (GRO / DRO)								Chloride		Air Bubbles (Y or N)
11/30/2015	11:40	Soil	Pile 949	4oz x 1	cool	-001	x		x								x		
11/30/2015	11:50	Soil	Pile 948	4oz x 1	cool	-002	x		x								x		
11/30/2015	12:02	Soil	Pile 972	4oz x 1	cool	-003	x		x								x		
11/30/2015	12:15	Soil	Pile 973	4oz x 1	cool	-004	x		x								x		
11/30/2015	12:25	Soil	Pile 966	4oz x 1	cool	-005	x		x								x		
11/30/2015	12:37	Soil	Pile 1003	4oz x 1	cool	-006	x		x								x		
11/30/2015	12:52	Soil	Pile 950	4oz x 1	cool	-007	x		x								x		

Date	Time	Relinquished by	Received by	Date	Time
12/3/2015	1340	Jeff Blagg	Chantel Walt	12/3/15	1340
12/3/15	1741	Chantel Walt	[illegible]	12/04/15	0800

Remarks: Bill BP PO On File

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.

QC SUMMARY REPORT

WO#: **1512A94**

Hall Environmental Analysis Laboratory, Inc.

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID	**MB-23078**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**23078**	RunNo:	**31319**					
Prep Date:	**1/5/2016**	Analysis Date:	**1/6/2016**	SeqNo:	**958680**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-23078**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**23078**	RunNo:	**31319**					
Prep Date:	**1/5/2016**	Analysis Date:	**1/6/2016**	SeqNo:	**958681**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.0	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512A94**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa LF

Sample ID **MB-22969**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **22969**	RunNo: **31107**
Prep Date: **12/28/2015**	Analysis Date: **12/29/2015**	SeqNo: **951981** 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	10		10.00		102	70	130			

Sample ID **LCS-22969**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **22969**	RunNo: **31107**
Prep Date: **12/28/2015**	Analysis Date: **12/29/2015**	SeqNo: **951987** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	50.00	0	115	65.8	136			
Surr: DNOP	4.9		5.000		98.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512A94**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID **MB-22972**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **22972**	RunNo: **31129**
Prep Date: **12/28/2015**	Analysis Date: **12/29/2015**	SeqNo: **952416** 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	900		1000		89.9	66.2	112			

Sample ID **LCS-22972**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **22972**	RunNo: **31129**
Prep Date: **12/28/2015**	Analysis Date: **12/29/2015**	SeqNo: **952417** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	100	79.6	122			
Surr: BFB	860		1000		85.9	66.2	112			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512A94**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa LF

Sample ID **MB-22972**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **22972**	RunNo: **31129**
Prep Date: **12/28/2015**	Analysis Date: **12/29/2015**	SeqNo: **952441** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.2		1.000		125	80	120			S

Sample ID **LCS-22972**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **22972**	RunNo: **31129**
Prep Date: **12/28/2015**	Analysis Date: **12/29/2015**	SeqNo: **952442** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.050	1.000	0	96.5	80	120			
Toluene	0.99	0.050	1.000	0	98.7	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	1.3		1.000		131	80	120			S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: BLAGG | Work Order Number: 1512A94 | RcptNo: 1

Received by/date: JA 12/23/15

Logged By: Ashley Gallegos 12/23/2015 6:05:00 AM

Completed By: Ashley Gallegos 12/23/2015 12:27:32 PM

Reviewed By: JO 12/23/15

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?	Courier		

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	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	1.2	Good	Yes			

Chain-of-Custody Record

Client:	BP America
	Blagg Engineering Inc.
Mailing Address:	P.O. Box 87
	Bloomfield, NM 87413
Phone #:	(505)320-1183
Email or Fax#:	
QA/QC Package:	
☒ Standard	☐ Level 4 (Full Validation)
☐ Other	
☐ EDD (Type)	

☒ Standard ☐ Rush

Project Name: Crouch Mesa LF

Project #:

Project Manager: Jeff Blagg

Sampler: Jeff Blagg

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.2

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1512A94	BTEX (8021)	TPH 8015B (GRO / DRO)	Chloride	Air Bubbles (Y or N)
12/22/2015	11:25	Soil	Pile 984	4oz x 1	cool	-001	x	x	x	
12/22/2015	11:32	Soil	Pile 968	4oz x 1	cool	-002	x	x	x	
12/22/2015	11:40	Soil	Pile 969	4oz x 1	cool	-003	x	x	x	
12/22/2015	11:50	Soil	Pile 982	4oz x 1	cool	-004	x	x	x	
12/22/2015	11:58	Soil	Pile 974	4oz x 1	cool	-005	x	x	x	
12/22/2015	12:10	Soil	Pile 980	4oz x 1	cool	-006	x	x	x	
12/22/2015	12:20	Soil	Pile 976	4oz x 1	cool	-007	x	x	x	

Date:	Time:	Relinquished by:	Received by:	Date Time
12/22/2015	1340	Jeff Blagg	Cindy Walls	12/22/2015 1340
12/22/15	1750	Cindy Walls		12/23/15 0805

Remarks: Bill BP PO On File

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.

Analytical Report
Lab Order **1605989**
Date Reported: **9/21/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Crouch Mesa L F
Lab ID: 1605989-001 **Matrix:** SOIL

Client Sample ID: Pile 950
Collection Date: 5/18/2016 10:15:00 AM
Received Date: 5/20/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	5/25/2016 9:52:57 PM	25511
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	23	9.6		mg/Kg	1	5/24/2016 12:18:11 PM	25449
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/24/2016 12:18:11 PM	25449
Surr: DNOP	119	70-130		%Rec	1	5/24/2016 12:18:11 PM	25449
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/24/2016 2:14:10 PM	25441
Surr: BFB	90.0	80-120		%Rec	1	5/24/2016 2:14:10 PM	25441
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	5/24/2016 2:14:10 PM	25441
Toluene	ND	0.049		mg/Kg	1	5/24/2016 2:14:10 PM	25441
Ethylbenzene	ND	0.049		mg/Kg	1	5/24/2016 2:14:10 PM	25441
Xylenes, Total	ND	0.099		mg/Kg	1	5/24/2016 2:14:10 PM	25441
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	5/24/2016 2:14:10 PM	25441

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1605989**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa L F

Sample ID	**MB-25511**	SampType: **mblk**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID: **25511**			RunNo: **34490**					
Prep Date:	**5/25/2016**	Analysis Date: **5/25/2016**			SeqNo: **1063785**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-25511**	SampType: **lcs**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID: **25511**			RunNo: **34490**					
Prep Date:	**5/25/2016**	Analysis Date: **5/25/2016**			SeqNo: **1063786**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.5	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1605989**

21-Sep-16

Client: Blagg Engineering

Project: Crouch Mesa L F

Sample ID **LCS-25449**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **25449**	RunNo: **34433**
Prep Date: **5/23/2016**	Analysis Date: **5/24/2016**	SeqNo: **1061812** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	109	62.6	124			
Surr: DNOP	5.5		5.000		109	70	130			

Sample ID **MB-25449**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **25449**	RunNo: **34433**
Prep Date: **5/23/2016**	Analysis Date: **5/24/2016**	SeqNo: **1061813** 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	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

WO#: **1605989**

Hall Environmental Analysis Laboratory, Inc.

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa L F

Sample ID **MB-25441**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **25441**	RunNo: **34440**
Prep Date: **5/23/2016**	Analysis Date: **5/24/2016**	SeqNo: **1062221** 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	1100		1000		106	80	120			

Sample ID **LCS-25441**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **25441**	RunNo: **34440**
Prep Date: **5/23/2016**	Analysis Date: **5/24/2016**	SeqNo: **1062222** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	90.0	80	120			
Surr: BFB	1200		1000		118	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1605989**

21-Sep-16

Client: Blagg Engineering
Project: Crouch Mesa L F

Sample ID **MB-25441**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **25441**	RunNo: **34440**
Prep Date: **5/23/2016**	Analysis Date: **5/24/2016**	SeqNo: **1062259** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID **LCS-25441**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **25441**	RunNo: **34440**
Prep Date: **5/23/2016**	Analysis Date: **5/24/2016**	SeqNo: **1062260** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	109	75.3	123			
Toluene	1.1	0.050	1.000	0	106	80	124			
Ethylbenzene	1.0	0.050	1.000	0	102	82.8	121			
Xylenes, Total	3.0	0.10	3.000	0	102	83.9	122			
Surr: 4-Bromofluorobenzene	1.2		1.000		117	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: BLAGG | Work Order Number: 1605989 | RcptNo: 1

Received by/date: [illegible] 05/20/16

Logged By: Lindsay Mangin 5/20/2016 8:00:00 AM

Completed By: Lindsay Mangin 5/20/2016 1:35:20 PM

Reviewed By: IO 05/20/16

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?	Courier		

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	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	Yes			

Chain-of-Custody Record

Client: BP America

Blagg Engineering Inc.

Mailing Address:

Phone #: 505-320-1183

Email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
NELAP ☐ Other

EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Crouch Mesa L.F.

Project #:

Project Manager: J. Blagg

Sampler: J. Blagg

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1605989	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
5/2016	1015	SOIL	PILE 950	4 oz x 1	COOL	-001	X		X									X				

Date	Time	Relinquished by:	Received by:	Date	Time
5/2016	1635			5/19/2016	1635
5/16	2621			05/20/16	0900

Remarks: Bill BP
P.O. ON File
Contact: Steve Moscal

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.