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 6<sup>th</sup> 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

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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

# 237 (12)

### 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 lEI. 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

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. <u>Unsaturated Contaminated Soils</u>

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
<i>50 -</i> 99	10
>100	0

### Wellhead Protection Area

<1000 feet from a water source, or;

<200 feet from private domestic water source

200 jeee ji om private demestie water	DOU! C
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. Revegetation, 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 revegetated 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 of 19.15.30 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 of 19.15.30 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 <a href="http://164.64.110.239/nmac/index.htm">http://164.64.110.239/nmac/index.htm</a>.

- 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 <a href="http://www.ose.state.nm.us/WRAB/index.php">http://www.ose.state.nm.us/WRAB/index.php</a>

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





### ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION 2040 S. PACHECO

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

November 30, 1998

# PRO 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

Mr. Buddy Shaw Page 2 November 30, 1998

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.

notenberg

Sincerely,

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)

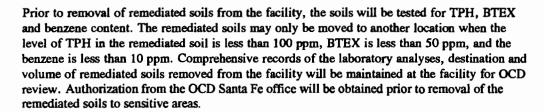
### LANDFARM AND COMPOST CONSTRUCTION

- The facility will be fenced and have a sign at the entrance. The sign will be legible from at least 1. 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

- Disposal will occur only when an attendant is on duty. The facility will be secured when no 1. attendant is present.
- All contaminated soils received at the facility for land farming will be spread and disked within 2. 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.

- 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.



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.

- 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

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

### WASTE ACCEPTANCE CRITERIA

- 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.
- The facility is authorized to accept only:
  - 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.
- 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.





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

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

### REPORTING AND RECORD KEEPING

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

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

- 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.
  - 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.

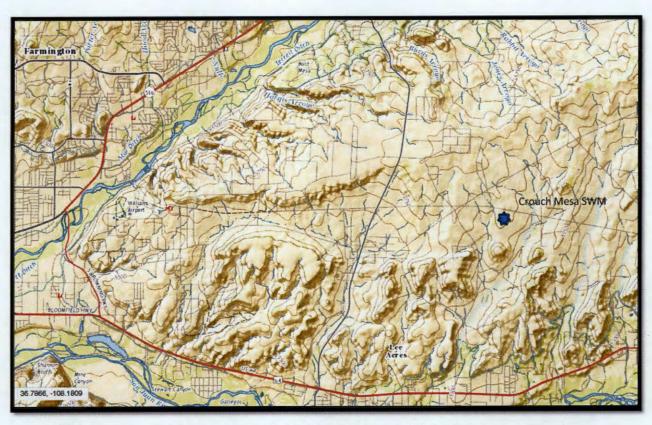
### **CERTIFICATION**

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:

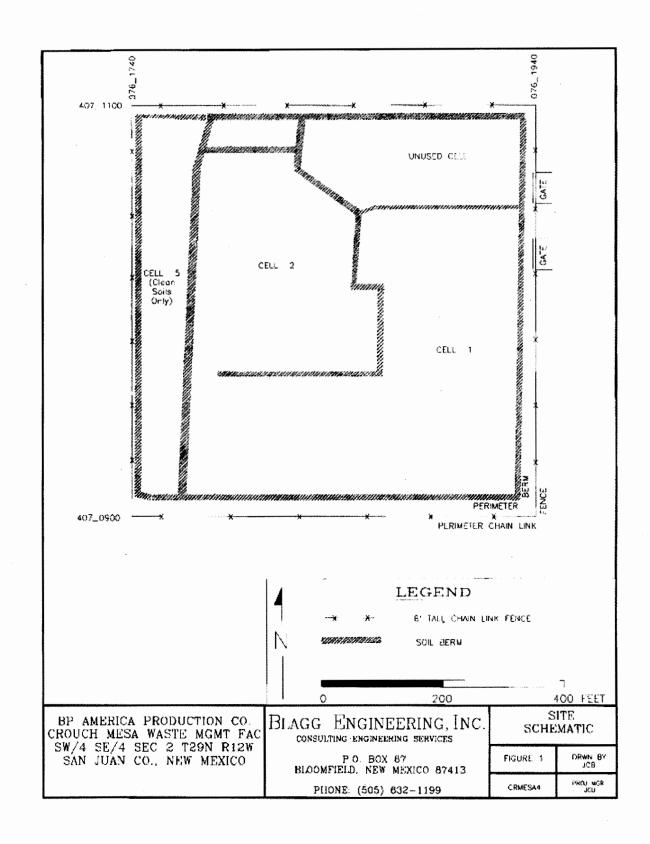
AMOCO PRODUCTION COMPANY

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



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	Water level (ft. bgs) post development		water bearing zone S		Top of Screen (ft. bgs)	COMMENTS	
POD No.						CM	Water well	relative to CM	Water well	relative to CM	Water well		
SJ01839	29N	12W	10	1	4	170-	175	345	207	377	192	~ 5J01036; drirs 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]

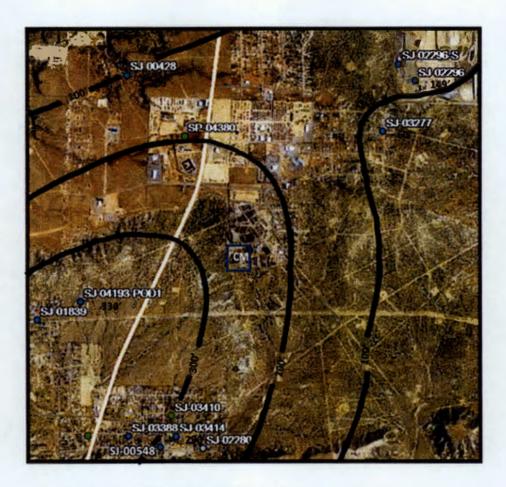


Figure 1: Estimated Depth to Water in Unconfined Aquifer(s)
Source: https://ose.maps.arceis.com/apps/webappviewer/index.html?id=b9784910dd3c497ebb1476e014c1a444
www.ose.state.nm.us

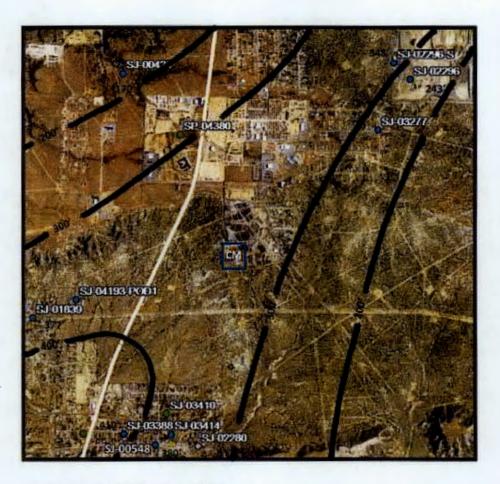


Figure 2: Estimated Depth to Confined Aquifer
Source: https://ose.maps.arcels.com/apps/webappviewer/index.html?id=b9784910dd3c497ebb1476e014c1a444
www.ose.state.nm.us

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, President

ames Hath

ATTACHMENT 6: Biopile Laboratory Analyses & Summary Table

May 2011 to 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')
			PERMIT LIMIT			100		n/a	10				50	n/a
000	1108156-02	7/29/2011	Hall Env. Analysis Lab	14	ND (PQL=4.9)	14	ND (PQL=51)	14						
890	1011748-06	11/16/2010	Hali 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
	1106662-06		Hall Env. Analysis Lab	21	ND (PQL=5.0)	21	57	78	,			( ,		
911	1011748-04		Hall Env. Analysis Lab		, , , , , , , , , , , , , , , , , , , ,				ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.10)	ND	87
	1108156-11	7/29/2011	Hall Env. Analysis Lab	62	ND (PQL=4.8)	62	280	342		, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,			
913	1106662-09		Hall Env. Analysis Lab						ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.10)	ND	7:
914	1106662-07	·	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		Hall Env. Analysis Lab	65	ND (PQL=4.7)	65		175	ND (PQL=0.047)	ND (PQL=0.047)	ND (PQL=0.047)	ND (PQL=0.047)	ND	3:
916	1106662-05		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		44		44		204	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND.	54
918	1203239-005		Hall Env. Analysis Lab	18		18		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		56	160	216	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)	ND ND	160
920	1108156-01	7/29/2011	Hall Env. Analysis Lab	20		20		98	ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.050)	ND (PQL=0.10)	ND ND	100
921	1209542-007	9/11/2012		38	ND (RL=4.8)	38		108	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)	ND ND	160
922	1205699-002	5/10/2012		49	ND (RL=4.8)	49		141	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	~ <del></del>	ND ND	93
923	1305716-003		Hall Env. Analysis Lab	34		34		204	ND (RL=0.047)	ND (RL=0.047)		ND (RL=0.097)	-	
924	1308D49-002		Hall Env. Analysis Lab	10			ND (PQL=50)		ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.095)	ND	100
925	1209542-006		Hall Env. Analysis Lab	ND (RL=10)	ND (RL=4.8)	ND		10 ND	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.097)	ND ND	92
926	1311148-004		Hall Env. Analysis Lab	17	, ,	ND	70	17		ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)		
926A	1311148-004		<del></del>	29		29		29	ND (RL=0.046)		ND (RL=0.046)	ND (RL=0.093)	ND	110
926A 927	1209542-008		Hall Env. Analysis Lab Hall Env. Analysis Lab	29		29	ND (PQL=49)	29	ND (RL=0.049) ND (RL=0.049)	ND (RL=0.049) ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.097)	ND	9:
	1409892-006			93		93		403			ND (RL=0.049)	ND (RL=0.097)	ND	48
928 928A	1403537-008		Hall Env. Analysis Lab Hall Env. Analysis Lab	62	ND (RL=4.7) ND (RL=4.7)	62	310 97	159	ND (RL=0.047) ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	83
929 929		5/10/2013				35				ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.095)	ND	39
930	1305716-001			35 64	ND (RL=4.7)			115	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.095)	ND	68
930	1311148-001		Hall Env. Analysis Lab	20		64 20		92	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.093)	ND	150
	1311148-002		Hall Env. Analysis Lab		(			20	ND (RL=0.048)	0.049	ND (RL=0.048)	ND (RL=0.096)	0.049	160
931A	1311148-003		Hall Env. Analysis Lab	ND (RL=10)	ND (RL=4.8)	ND		ND	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)	ND	10
932	1311148-006		Hall Env. Analysis Lab	14 ND (D) =10)		14		14	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.092)	ND	60
932A	1311148-007		Hall Env. Analysis Lab	ND (RL=10)	ND (RL=4.7)	ND	, ,	ND	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.095)	ND	30
933	1409892-009		Hall Env. Analysis Lab	17 51		17 51		17	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.095)	ND	ND (RL=30
	1311148-009		Hall Env. Analysis Lab		ND (RL=4.8)			121	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.095)	. ND	
935	1405024-007		Hall Env. Analysis Lab	14		14		14	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.099)	ND	10
936	1405024-005		Hall Env. Analysis Lab	19		19		24.7	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.093)	ND	4:
937	1308D49-005		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	6
938	1405764-005		Hall Env. Analysis Lab	38		38		158	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.095)	ND	26
939	1403537-005		Hall Env. Analysis Lab	24	ND (RL=4.7)	24		75	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	10
940	1403537-006	-	Hall Env. Analysis Lab	26			ND (PQL=50)	26	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.093)	ND	7:
941	1405024-004		Hall Env. Analysis Lab	ND (RL=9.9)	ND (RL=4.7)	ND		ND	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	10
942	1405764-006		Hall Env. Analysis Lab	46	, , ,	46		102	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	4
943	1405024-006		Hail Env. Analysis Lab	ND (RL=10)	ND (RL=4.9)	ND		ND	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.097)	ND	5
943A	1311148-008		Hall Env. Analysis Lab	12		12		12	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	11
944	1507544-001		Hall Env. Analysis Lab	90	, , , , , ,	90	92	182	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.099)	ND	7
945	1507963-001		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	4
946	1409892-010		Hall Env. Analysis Lab	41		41		511	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	441
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	3:





Pile Sample ID	Lah Sample ID	Sample date	Lab	DRO (mg/kg)	GRO	ТРН	MRO (mg/kg)	TPH+MRO	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene	Xylene, total	BTEX	Chloride (mg/kg)
Pile Sample ID	Lab Sample ID	(collected)	Lab	DRO (IIIg/kg)	(mg/kg)	(mg/kg)	IVINO (IIIg/ kg)	(mg/kg)	Delizerie (riig/ kg)	Totalene (mg/ kg)	(mg/kg)	(mg/kg)	(mg/kg)	cilioride (ilig/kg)
		(conected)			(1116/116)	(IIIE/ NE/		(1116/116)			(1118/ 18)	(1116/116)	(11)6/1/6/1	
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	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		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		64	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.093)	ND	100
959	1410B59-005		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		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 (PQL=48)	ND	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.097)	ND	150
962	1408032-008		Hall Env. Analysis Lab	26	ND (RL=4.8)		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		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	, ,	Hall Env. Analysis Lab	20	ND (RL=4.9)		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	_ , ,	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		Hall Env. Analysis Lab	ND (RL=9.5)	ND (RL=4.9)	ND	_	ND	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.098)	ND	98
967	1412597-007	- ' '	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		Hall Env. Analysis Lab	13	ND (RL=4.8)	13		13	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.097)	ND	
969	1512A94-003		Hall Env. Analysis Lab	ND (RL=9.4)	ND (RL=4.6)	ND		ND	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.092)	ND	120
970	1506E14-010		Hall Env. Analysis Lab	17	ND (RL=4.8)	17		267	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)	ND	89
971	1412597-004		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		Hall Env. Analysis Lab	ND (RL=9.5)	ND (RL=4.9)	ND	, ,	ND	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.098)	ND	47
973	1512183-004		Hall Env. Analysis Lab	ND (RL=9.7)	ND (RL=4.9)	ND		ND	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.098)	ND	56
974	1512A94-005		Hall Env. Analysis Lab	ND (RL=9.7)	ND (RL=4.9)	ND		ND	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.097)	ND	120
975	1412597-003	, ,	Hall Env. Analysis Lab	33	ND (RL=4.7)	33		87	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.095)	ND	50
976	1512A94-007		Hall Env. Analysis Lab	ND (RL=9.5)	ND (RL=4.8)	ND		50	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.097)	ND ND	370
977	1507544-003	7/10/2015		16	ND (RL=4.9)	16		16	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.097)	ND ND	92
978	1507544-004		Hall Env. Analysis Lab	ND (RL=9.8)	ND (RL=.049)	ND		49 ND	ND (RL=0.0049)	ND (RL=0.0049)	ND (RL=0.0049)	ND (RL=0.0099)	ND ND	190
980	1512A94-006		Hall Env. Analysis Lab	ND (RL=9.8)	ND (RL=4.6)	ND 19		19	ND (RL=0.048) ND (RL=0.050)	ND (RL=0.048) ND (RL=0.050)	ND (RL=0.048) ND (RL=0.050)	ND (RL=0.097)	ND ND	81
981	1502134-007		Hall Env. Analysis Lab	ND (RL=10)	ND (RL=5.0) ND (RL=4.8)	ND ND	(. ==/	ND ND	ND (RL=0.030) ND (RL=0.048)	ND (RL=0.030)	ND (RL=0.030)	ND (RL=0.10) ND (RL=0.096)	ND ND	140
982	1512A94-004 1412597-008		Hall Env. Analysis Lab	ND (RE=10)	ND (RL=4.8)	66	<u> </u>	66	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	76
983	1512A94-001	12/8/2014	Hall Env. Analysis Lab Hall Env. Analysis Lab	ND (RL=9.4)	ND (RL=4.7)	ND		ND.	ND (RL=0.048)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.095)	ND	110
984 985	1507963-006		Hall Env. Analysis Lab	ND (RL=9.7)	ND (RL=4.7)	ND	, , , , , , , , , , , , , , , , , , , ,	ND.	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	150
986	1412597-009		Hall Env. Analysis Lab	55	ND (RL=5.0)	55	, , ,	123	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.099)	ND	78
985	1412597-009 1506E14-009		Hall Env. Analysis Lab	28	ND (RL=3.0)	28		428	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.095)	ND	110
989	1502134-004	, ,	Hall Env. Analysis Lab	19	ND (RL=4.7)	19		70	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	73
990	1412597-001		Hall Env. Analysis Lab	ND (RL=10)	ND (RL=4.9)	ND		ND	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.099)	ND	74
991	1412597-005		Hall Env. Analysis Lab	47	ND (RL=4.9)			114	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.099)	ND	63
992	1507963-007		Hall Env. Analysis Lab	72	ND (RL=5.0)	72		143	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.099)	ND	59
993	1507544-005		Hall Env. Analysis Lab	ND (RL=9.4)	ND (RL=4.9)	-		ND.	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.098)	ND	100
994	1502134-002		Hall Env. Analysis Lab	ND (RL=10)	ND (RL=4.8)	ND		ND ND	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.097)	ND	79
996	1502134-006		Hall Env. Analysis Lab	41	ND (RL=4.7)	41	1	128	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.047)	ND (RL=0.094)	ND	140
997	1502134-001		Hall Env. Analysis Lab	17				77	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.097)	ND	290
998	1502134-003		Hall Env. Analysis Lab	11		11		11	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.050)	ND (RL=0.10)	ND	ND (RL=30)
999	1507544-006		Hall Env. Analysis Lab	100	ND (RL=.049)		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		Hall Env. Analysis Lab	28		28	<del></del>	96	<del></del>	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.097)	ND	ND (RL=30)
1001	1507963-008	7/22/2015		ND (RL=9.6)	ND (RL=4.6)	+	<del></del>	ND	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.046)	ND (RL=0.093)	ND	ND (RL=30)
1002	1507963-009		Hall Env. Analysis Lab	ND (RL=9.7)	ND (RL=4.8)			ND	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.048)	ND (RL=0.096)	ND	42
1003	1512183-006		Hall Env. Analysis Lab	ND (RL=9.9)		-	ND (PQL=49)	ND		ND (RL=0.049)	ND (RL=0.049)	ND (RL=0.098)	ND	ND (RL=30)



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

Pile Sample ID	Lab Sample ID	Sample date	Lab	DRO (mg/kg)	GRO	TPH	MRO (mg/kg)	TPH+MRO	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene	Xylene, total	BTEX	Chloride (mg/kg)
		(collected)			(mg/kg)	(mg/kg)		(mg/kg)			(mg/kg)	(mg/kg)	(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

Date: 23-Sep-16 Analytical Report

CLIENT:

Blagg Engineering

Lab Order:

1108156

1108156-02

Client Sample ID: PILE 890

Collection Date: 7/29/2011 9:15:00 AM

Project: Lab ID:

Crouch Mesa Landfarm

Date Received: 8/2/2011

Matrix: SOIL

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E 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 RA	NGE				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

- Value exceeds Maximum Contaminant Level
- Estimated value
- Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits

Date: 01-Dec-10

CLIENT:

Blagg Engineering

Lab Order:

1011748

Project:

Crouch Mesa L.F.

Lab ID:

1011748-06

Client Sample ID: PILE 890

Collection Date: 11/16/2010 8:55:00 AM

Date Received: 11/17/2010

Matrix: SOIL

Analyses	Result	PQL Q	ual Units	ÐF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE ORGANICS		***		Analyst: JB
Diesel Range Organics (DRO)	140	10	mg/Kg	1	11/22/2010 10:11:34 AM
Surr: DNOP	181	61.7-135	%REC	1	11/22/2010 10:11:34 AM
EPA METHOD 8015B; GASOLINE RA	ANGE				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 S	HORT 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

- 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

Date: 23-Sep-16
Analytical Report

CLIENT:

Blagg Engineering

Lab Order:

1106662

Crouch Mesa L.F.

Project: Lab ID:

1106662-06

Client Sample ID: Pile 911

Collection Date: 6/14/2011 11:05:00 AM

Date Received: 6/15/2011

Matrix: SOIL

Result	POL	Oual Units	DF	Date Analyzed
E ORGANICS		<b>X</b>		Analyst: JB
21	9.6	mg/Kg	1	6/17/2011 12:12:14 PM
57	48	mg/Kg	1	6/17/2011 12:12:14 PM
101	73.4-123	%REC	1	6/17/2011 12:12:14 PM
NGE				Analyst: RAA
ND	5.0	mg/Kg	1	6/17/2011 1:02:06 AM
82.7	75.2-136	%REC	1	6/17/2011 1:02:06 AM
	21 57 101 NGE	E ORGANICS 21 9.6 57 48 101 73.4-123  NGE ND 5.0	E ORGANICS  21 9.6 mg/Kg  57 48 mg/Kg  101 73.4-123 %REC  NGE  ND 5.0 mg/Kg	E ORGANICS  21 9.6 mg/Kg 1  57 48 mg/Kg 1  101 73.4-123 %REC 1  NGE  ND 5.0 mg/Kg 1

- \* 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

Date: 01-Dec-10

CLIENT:

Blagg Engineering

Lab Order:

1011748

Project:

Crouch Mesa L.F.

Lab ID:

1011748-04

Client Sample ID: PILE 911

Collection Date: 11/16/2010 8:35:00 AM

Date Received: 11/17/2010

Matrix: SOIL

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE 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 RA	ANGE				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 S	HORT 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

- 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

Date: 23-Sep-16
Analytical Report

CLIENT:

Blagg Engineering

Lab Order:

1108156

Project:

Crouch Mesa Landfarm

Lab ID:

1108156-11

Client Sample ID: PILE 913

Collection Date: 7/29/2011 10:25:00 AM

Date Received: 8/2/2011

Matrix: SOIL

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E 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 RA	ANGE				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

- \* 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

Date: 27-Jun-11 Analytical Report

CLIENT:

Blagg Engineering

Lab Order:

1106662

Client Sample ID: Pile 913

Collection Date: 6/14/2011 11:35:00 AM

Project:

Crouch Mesa L.F.

Date Received: 6/15/2011

Lab ID:	1106662-09				· Matri	x: SOIL	
Analyses	, •	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANG	E ORGANICS					Analyst: JB
Diesel Range C	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 RA	ANGE					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-Brome	ofluorobenzene	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
- Estimated value
- Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits

Page 9 of 10

Date: 23-Sep-16
Analytical Report

**CLIENT:** 

Blagg Engineering

Lab Order:

1106662

Project:

Crouch Mesa L.F.

Lab ID:

1106662-07

Client Sample ID: Pile 914

Collection Date: 6/14/2011 11:15:00 AM

Date Received: 6/15/2011

Matrix: SOIL

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E 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 RA	ANGE				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	<b>0</b> .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

- \* 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

Date: 23-Sep-16
Analytical Report

CLIENT:

Blagg Engineering

Lab Order:

1106662

Crouch Mesa L.F.

Project: Lab ID:

1106662-05

Client Sample ID: Pile 916

Collection Date: 6/14/2011 10:55:00 AM

Date Received: 6/15/2011

Matrix: SOIL

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E 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 RA	ANGE				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

- \* 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

Date: 23-Sep-16 Analytical Report

CLIENT:

Blagg Engineering

Lab Order:

1108156

Project:

Crouch Mesa Landfarm

Lab ID:

1108156-01

Client Sample ID: PILE 920

Collection Date: 7/29/2011 9:10:00 AM

Date Received: 8/2/2011

Matrix: SOIL

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E 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 RA	NGE				Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	8/7/2011 5:08:21 PM
Surr: BFB	97.9	75.2-1 <b>36</b>	%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
Chioride	100	30	mg/Kg	20	8/8/2011 9:18:34 PM

- Value exceeds Maximum Contaminant Level
- , E Estimated value
- Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- 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
- Spike recovery outside accepted recovery limits

Date: 23-Sep-16

# **QA/QC SUMMARY REPORT**

Client:

Blagg Engineering

Project:

Crouch Mesa Landfarm

Work Order:

1108156

Analyte	Result	Units	PQL	SPK Va S	PK ref	%Rec L	owLimit Hi	ghLimit %RPD	RPDLimit	Qual
Method: EPA Method 300.0: A	nions	14701.44	-			Batala IBa	27242	Augherte Date	0/0/0044	4.57.04.50
Sample ID: MB-27943		MBLK				Batch ID:	27943	Analysis Date:	8/8/2011	4:57:21 PN
Chloride	ND	mg/Kg	1.5						<b>A</b> ( <b>A</b> ( <b>B B A</b> )	
Sample ID: LCS-27943		LCS				Batch ID:	27943	Analysis Date:	8/8/2011	5:14:46 PN
Chloride	14.69	mg/Kg	1.5	15	0	97.9	90	110		
Method: EPA Method 8015B: D	iesel Range	Organics								
Sample ID: MB-27921		MBLK				Batch ID:	27921	Analysis Date:	8/8/2011	9:19:50 AN
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 AN
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: G	eoline Par	)(TA)						.,		
Sample ID: MB-27920	ABOIIIC Nai	MBLK				Batch ID:	27920	Analysis Date:	8/7/2011 1	2:47:05 PN
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 PN
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: V	olatiles									
Sample ID: MB-27920		MBLK				Batch ID:	27920	Analysis Date:	8/7/2011 1	2:47:05 PN
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:	<b>8/7/20</b> 11	3:11:45 PN
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	m <b>g</b> /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		

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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

Sample Receipt Checklist Client Name BLAGG Date Received: 8/2/2011 Work Order Number 1108156 Received by: LNM Sample ID labels checked by: Checklist completed by Calrier name: Courier Matrix: Yes 🔽 No 🗆 Not Present Shipping container/cooler in good condition? Yes 🗌 No 🗀 Not Present Custody seals intact on shipping container/cooler? Not Shipped No 🗌 V Custody seals intact on sample bottles? Yes 🔲 N/A Yes 🗹 No 🗔 Chain of custody present? Yes 🗸 No 🔲 Chain of custody signed when relinquished and received? Yes 🗸 No 🖂 Chain of custody agrees with sample labels? Samples in proper container/bottle? Yes 🗹 No 🗔 Yes 🔽 No 🗀 Sample containers intact? No 🗀 Yes 🗸 Sufficient sample volume for indicated test? Yes 🗌 No 🗹 Number of preserved All samples received within holding time? bottles checked for No VOA vials submitted Yes 🗌 No 🗀 Water - VOA vials have zero headspace? pH: Water - Preservation labels on bottle and cap match? Yes [] No 🗀 N/A 🔽 No 🗆 N/A 🔽 Yes 🗌 Water - pH acceptable upon receipt? <2 >12 unless noted below. Container/Temp Blank temperature? 2.9° <6° C Acceptable If given sufficient time to cool. **COMMENTS:** Date contacted: Client contacted Person contacted Contacted by: Regarding: Comments: Corrective Action

C	hah.	of-Cu	stody	Record	Turn-Around	Time:	( )	.			<b>■</b> □				NI X J					( ) NT	• • •	
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Mailing	Address:	Po	50× 8	37	CROCH ,	MESA LAA	DFARM		496	01 Ha									100			
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Phone #			632-							00							uest					
email or					Project Mana	ger:		`	(ylc	(leg					(4)							$\Box$
QA/QC F	7		□ Level	4 (Full Validation)	JEFF Sampler: J	BLALL		s (8021)	TPH (Gas only)	as/Die					PO4,SC	/ 8082 PCB's						
Accredi		□ Othe	r		Sampler: J	EPF BLAG	EN NO.		+ TPH	15B (G	418.1)	504.1)	AH)		) <sub>3</sub> ,NO <sub>2</sub> ,	/ 8082		<b>(</b> 4)				r N)
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Date	Time	Matrix	Samp	ole Request ID	Container Type and #	Preservative Type	TERS S	BTEX CMIE	BTEX + MTBE	TPH Method 8015B (Gas/Diesel)	TPH (Method	EDB (Method	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE			Air Bubbles (Y or N)
201/2011	0910	SOIL	PILE	920	402 X 1	COUL	1	X		×									×			
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Date: 23-Sep-16

# QA/QC SUMMARY REPORT

Client:

Blagg Engineering

Project:

Crouch Mesa L.F.

Work Order: 1104A12

Analyte	Result	Units	PQL	SPK V	SPK ref	%Rec L	owLimit Hi	ghLimit %RPD	RPDLImit	Qual
Method: EPA Method 300.0: A Sample ID: MB-26629	nions	MDIV				Batch ID:	26629	Analysis Date:	E/2/2011	1:43:20 PN
•	ND.	MBLK				Daten ID.	20029	Allalysis Date.	3/2/2011	1.43.20 PM
Chloride	ND	mg/Kg	1.5			Detail ID:	20020	Analysis Date:	E/0/0044	0.00.45 53
Sample ID: LCS-26629		LCS				Batch ID:	26629	Analysis Date:	5/2/2011	2:00:45 PN
Chloride	14.62	mg/Kg	1.5	15	0	97.5	90	110		
Method: EPA Method 8015B: D	Die <b>sel</b> Range	Organics								
Sample ID: MB-26622		MBLK				Batch ID:	26622	Analysis Date:	5/3/2011	B:43:37 AN
iesel Range Organics (DRO)	ND	mg/Kg	10							
lotor 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 1	1:32:05 AN
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: G	asoline Ran	nge .							,	
Sample ID: MB-26617		MBLK				Batch ID:	26617	Analysis Date:	5/2/2011	B:21:09 PN
Sasoline 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 PN
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: V	olatiles									
Sample ID: MB-26617		MBLK				Batch ID:	26617	Analysis Date:	5/2/2011	8:21:09 PN
Benzene	ND	mg/Kg	0.050							
oluene	ND	mg/Kg	0.050							
Ethylbenzene	ND	mg/Kg	0.050							
(ylenes, 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 PN
Benzene	0.8073	mg/Kg	0.050	1	0.0085	79.9	<b>83</b> .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		
Kylenes, Total	2. <b>57</b> 5	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		

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Estimated value

Analyte detected below quantitation limits

Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

NÇ Non-Chlorinated

RPD outside accepted recovery limits

### Sample Receipt Checklist

Client Name BLAGG	·			Date Receive	ed:		4/28/2011	
Work Order Number 1104A12				Received by	y: AMG		1	
Checklist completed by: Signature	1 Cparis	7	U Gate	Sample ID	abels checked	by	initials .	-
Matrix:	Carrier name:	Gre	y <b>ho</b> und					
Shipping container/cooler in good condition?		Yes	V	No 🗆	Not Present			
Custody seals intact on shipping container/coole	r?	Yes		No 🗀	Not Present		Not Shipped	_ ·
Custody seals intact on sample bottles?		Yes		No 🗆	N/A	V		•
Chain of custody present?		Yes	V	No 🗀				
Chain of custody signed when relinquished and	received?	Yes	$\checkmark$	No 🗆				
Chain of custody agrees with sample labels?		Yes	V	No 🗆				
Samples in proper container/bottle?		Yes	$\checkmark$	No 🗌				
Sample containers intact?		Yes	$\checkmark$	No 🗆				
Sufficient sample volume for indicated test?		Yes	$\checkmark$	No 🗀				
All samples received within holding time?		Yes	$\checkmark$	No 🗆			Number of	f preserved
Water - VOA vials have zero headspace?	No VOA vials subm	tted	V	Yes 🗀	No 🗀		pH:	ecked ioi
Water - Preservation labels on bottle and cap ma	itch?	Yes		No 🗆	N/A ☑			
Water - pH acceptable upon receipt?		Yes		No 🗀	N/A 🗹		<2 >12 uni below.	ess noted
Container/Temp Blank temperature?	÷	3.	.7°	<6° C Acceptab			20,011,	
COMMENTS:				lf given sufficient	t time to cool.			
	=====			<b>===</b> =	= <b>= =</b> =	==	<del>_</del>	====
Client contacted	Date contacted:	-		Pers	on contacted			
Contacted by:	Regarding:							
Comments:						<b>-</b>		
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Client:	BLAGE	ENGW	SERUL INC.	Standard	□ Rush				_										NT/		•
	BP A	MERIC	A	Project Name				i							nent				•		
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			TELD, NM 87413	Project #:	-		ŀ		i. 50								4107				
Phone #			632-1199	1											Req						
email or				Project Mana	ger:			(ylr	sel)					(7							
QA/QC F			☐ Level 4 (Full Validation)	J- Z Sampler: J	OLAG 6		TMB's (8021)	(Gas or	(Gas/Diesel)					PO4,SC	PCB's						
Accredit		☐ Othe	г	Sampler: J	BLALD			+ TPH		18.1)	04.1)	AH)		3,NO <sub>2</sub> ,	3 / 8082		€				2
□ EDD	(Type)_			Sample Teni	de tra		H	出	08 p	9d 4	90	5	stals	Σ, N	epi	æ	9	(a)			٤
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEALTH	BTEX + THEET	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082	8260B (VOA)	8270 (SemI-VOA)	CHLORIDE			Air Bubbles (Y or N)
126/11	1340	SOIL	Pue 903	402×1	COOL	-	1/		1									ノ	1	$\top$	
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Date: 4/27/ji	Time: ارکا	Relinquish	the Walters	Repetived by:  Date  Time  1010				ORK	CRIS RIE	er i	No	s [	j į	273	32. Ausi	2. TE		:	ol monet		

Date: 23-Sep-16

# **QA/QC SUMMARY REPORT**

Client:

Blagg Engineering

Project: Crouch Mesa L.F.

Work Order:

1106662

Analyte	Result	Units	PQL	SPK Va S	SPK ref	%Rec L	owLimit Hi	ghLimit %RPD	RPDLimit Qual
Method: EPA Method 300.0: A	nions								
Sample ID: MB-27346		MBLK				Batch ID:	27346	Analysis Date:	6/24/2011 11:21:01 AN
Chloride	ND	mg/Kg	1.5						
Sample ID: LCS-27346		LCS				Batch ID:	27346	Analysis Date:	6/24/2011 11:38:26 AN
Chloride	13.68	mg/Kg	1.5	15	0	91.2	90	110	
Method: EPA Method 8015B: E	Diesel Range	Organics							
Sample ID: MB-27237	_	MBLK				Batch ID:	27237	Analysis Date:	6/17/2011 9:53:11 AN
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 AN
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	
Wethod: EPA Method 8015B: G	asoline Rar	ıge							
Sample ID: MB-27222		MBLK				Batch ID:	27222	Analysis Date:	6/16/2011 11:32:02 PM
Basoline Range Organics (GRO)	ND	mg/Kg	5.0						
Surr: BFB	850.5	m <b>g/K</b> g	0	1000	0	85.1	75.2	136	
Sample ID: LCS-27222		LCS				Batch ID:	27222	Analysis Date:	6/17/2011 4:32:09 AN
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	
Wethod: EPA Method 8021B: V	olatiles								
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						
(ylenes, 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 AN
Benzene	1.032	mg/Kg	0.050	1	0	103	83.3	107	
l'olue <b>n</b> e	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	
Kylenes, 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:

Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

Estimated value

J Analyte detected below quantitation limits

Ή Holding times for preparation or analysis exceeded

NC Non-Chlorinated

## Sample Receipt Checklist

Client Name BLAGG		-Date Receive	od:	6/15/2011
Work Order Number 1108862		Received by	y: AMG	
Checklist completed by:	U 5	Sample ID I	abels checked by:	Initials
Matrix: Cerrier na	ame: <u>Greyhound</u>			
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
Water - VOA vials have zero headspace? No VOA vials	submitted 🗹	Yes 🗌	No 🗆	pH:
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		
COMMENTS:		If given sufficient	time to cool.	
·			•	
Client contacted Date contacted:		Pers	on contacted	
Contacted by: Regarding:				•
Comments:				
COHIMITATIO.				
Ourseller Ast				
Corrective Action				

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Client:	BLACE	ENGI	で記れいん	Inc.	Standard	□ Rush			<u> </u>		<u>-</u>									NT.		,
			CA		Project Name															•		
Mailing	Address:	Po.	Box 8	7	CROUCH 1	MESA L.F	•			490	11 Hs								100	·		
				87413	Project #:							5-345		RCRA 8 Metals  RCRA 8 Metals  Anlons (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )  8081 Pesticides / 8082 PCB's  8260B (VOA)  8270 (Semi-VOA)  CALOR DE						•		
Phone :			63Z- 11°		1						11 000	-	001									
email o					Project Mana	ger:	A.,			( <u>y</u>	<u>3e</u>				(4)							
QA/QC	Package:	_	□ Level 4	(Full Validation)	J. B	_A66			\$ (8021)	PH (Gas only)	(Gas/Diesel				PO4,SC	PCB's						
Accred	itation	-			Sampler: J	- BUAGE			E	표		=	ے اے	_	Ş	88			- 1			
□ NEL		☐ Othe	r		© 100 /		重/ <b>3.6</b> /~%			+	915	138	50 5	ه الح	ي ا	3/8		₹				5
	(Type)				Second stem	gabre			開	置	8 pc	g	g	5   5	N.	흥	<b>₹</b>	길	W			<u>≿</u>
Date	Time	Matrix	Sample	e Request ID	Container Type and #	Preservative Type		=	BTEX####	BTEX + MTBE	TPH Method 8015B	TPH (Method 418.1)	EDB (Method 504.1)	SSIO (PIN)	Anlons (F,	8081 Pesti	8260B (VC	3270 (Serr	CHLORI			Air Bubbies (Y or N)
14/2011	1015	Sorc	PILE	903	40221	COOL		1			×	1.				~		-		7		+
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2012 - Biopiles

Lab Order 1205699

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: PILE 895

Project: Crouch Mesa Landfarm Collection Date: 5/10/2012 2:00:00 PM

**Lab ID:** 1205699-003 **Matrix:** SOIL **Received Date:** 5/16/2012 10:00:00 AM

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

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

- 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 Page 3 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1203239

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project: Crouch Mesa L.F.

**Lab ID:** 1203239-003

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analysi	BRM
Chloride	720	30	mg/Kg	20	3/12/2012 7:24:50 PM	1046
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s			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 RAI	NGE				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

Matrix: SOIL

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

- 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 Page 3 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1203239

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project: Crouch Mesa L.F.

Lab ID: 1203239-004

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 Qu	al 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 RAN	IGE ORGANIC	s			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 RA	NGE				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

Matrix: SOIL

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

- 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 Page 4 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1207D22

Date Reported: 9/21/2016

### 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 Qu	al 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 RAN	GE 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 RAI	NGE				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.

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Η Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 8 J

- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1203239

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project:

Lab ID:

Crouch Mesa L.F.

Client Sample ID: PILE 908

Collection Date: 3/5/2012 10:20:00 AM

1203239-007 Matrix: SOIL Received Date: 3/7/2012 9:30:00 AM

Analyses	Result	PQL Qu	al 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 RAI	NGE ORGANIC	S			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 RA	NGE				Analyst	: RAA
Gasoline Range Organics (GRQ)	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.

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 7 of 11 J
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1203239

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Project: Crouch Mesa L.F.

**Lab ID:** 1203239-005

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 Un	iits	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	BRM
Chloride	280	30	m	g/Kg	20	3/12/2012 4:55:53 PM	1046
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s				Analyst	JMP
Diesel Range Organics (DRO)	18	9.7	m	g/Kg	1	3/9/2012 9:14:40 AM	988
Motor Oil Range Organics (MRO)	440	48	m	g/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 RAN	IGE					Analyst	RAA
Gasoline Range Organics (GRO)	ND	4.9	mg	g/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	g/Kg	1	3/8/2012 3:39:32 PM	990
Toluene	ND	0.049	mg	g/Kg	1	3/8/2012 3:39:32 PM	990
Ethylbenzene	ND	0.049	mg	g/Kg	1	3/8/2012 3:39:32 PM	990
Xylenes, Total	ND	0.099	mę	g/Kg	1	3/8/2012 3:39:32 PM	990
Surr: 4-Bromofluorobenzene	82.9	85.3-139	S %I	Rec	1	3/8/2012 3:39:32 PM	990

Matrix: SOIL

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

- 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 Page 5 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1203239

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project: Crouch Mesa L.F.

**Lab ID:** 1203239-002

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 RAN	GE ORGANIC	s				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 RAI	NGE					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

Matrix: SOIL

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

- 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 Page 2 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1209542

Date Reported: 9/21/2016

### 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 Qu	al 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 RAI	NGE 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 RA	NGE				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.

- 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 Page 7 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1205699

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: PILE 922

Project:

Crouch Mesa Landfarm

Collection Date: 5/10/2012 1:52:00 PM

Lab ID: 1205699-002

Matrix: SOIL

Received Date: 5/16/2012 10:00:00 AM

Analyses	Result	PQL Qu	al 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 RAN	GE ORGANIC	s			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 RAM	NGE				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.

- 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 Page 2 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1209542

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Pile 925

Project: Crouch Mesa Land Farm Collection Date: 9/11/2012 9:50:00 AM

Lab ID: 1209542-006 Matrix: SOIL Received Date: 9/13/2012 10:05:00 AM

Analyses	Result	PQL Qu	al 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 RAN	GE 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 RAN	IGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/18/2012 11:37:00 PM	3765
Surr: BFB	101	8 <b>4</b> -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.

- 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 Page 6 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1209542

Date Reported: 9/21/2016

### 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

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

- 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 Page 8 of 12
- 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#:

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: Prep Date:

PBS

3/12/2012

Batch ID: 1046

RunNo: 1421

SeqNo: 39891

Units: mg/Kg

Analyte

Analysis Date: 3/12/2012

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD

**RPDLimit** 

Qual

Chloride

Result ND

1.5

Sample ID LCS-1046

SampType: LCS

TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 1046

**PQL** 

RunNo: 1421

Prep Date: 3/12/2012 Analysis Date: 3/12/2012

SeqNo: 39892

Units: mg/Kg

Analyte

SPK value SPK Ref Val

HighLimit

%RPD

**RPDLimit** Qual

Page 8 of 11

Chloride

15.00

%REC

LowLimit

Result

1.5

#### Qualifiers:

R

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Not Detected at the Reporting Limit
- RPD outside accepted recovery limits S % Recovery outside of range due to dilution or matrix

Holding times for preparation or analysis exceeded

- В Analyte detected in the associated Method Blank
- Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RLReporting Detection Limit
- 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	SampT	ype: ME	BLK	Tes	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batcl	iD: 98	8	R	tunNo: 1	342					
Prep Date: 3/7/2012	Analysis D	ate: 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	SampT	ype: LC	s	TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch	ID: 98	8	F	RunNo: 1	342					
Prep Date: 3/7/2012	Analysis D	ate: 3/	8/2012	8	SeqNo: 3	8064	Units: mg/K	(g			
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				

- \* 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
- Page 9 of 11

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

1600

WO#:

1203239

21-Sep-16

S

Client:

Blagg Engineering

**Project:** 

Surr: BFB

Crouch Mesa L.F.

Sample ID MB-990	SampType: MBI	LK	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	je	
Client ID: PBS	Batch ID: 990		F	RunNo: 1	348				
Prep Date: 3/7/2012	Analysis Date: 3/8	/2012	5	SeqNo: 3	8690	Units: mg/K	(g		
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	3	Tes	8015D: Gaso	line Rang	e			
Client ID: LCSS	Batch ID: 990		F	RunNo: 1	348				
Prep Date: 3/7/2012	Analysis Date: 3/8	/2012	5	SeqNo: 3	8694	Units: mg/K			
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		Tes	tCode: El	PA Method	8015D: Gaso	line Rang	е	
Client ID: PILE 416	Batch ID: 990		F	lunNo: 1	348				
Prep Date: 3/7/2012	Analysis Date: 3/8	/2012	S	8695	Units: mg/K	g			
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			

Sample ID 1203239-001AN	<b>ISD</b> SampT	уре: М	SD	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	е	
Client ID: PILE 416	Batch	n ID: 99	0	F	RunNo: 1	348				
Prep Date: 3/7/2012	Analysis D	Analysis Date: 3/8/2012			SeqNo: 3	8696	Units: mg/k			
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

170

69.7

121

954.2

#### 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
  - ımıts

Page 10 of 11

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

1.0

WO#: 1203239

21-Sep-16

Client: Project:

Surr: 4-Bromofluorobenzene

Blagg Engineering Crouch Mesa L.F.

TestCode: EPA Method 8021B: Volatiles Sample ID MB-990 SampType: MBLK Client ID: **PBS** Batch ID: 990 RunNo: 1348 Analysis Date: 3/8/2012 SeqNo: 38712 Units: mg/Kg Prep Date: 3/7/2012 SPK value SPK Ref Val %REC LowLimit %RPD **RPDLimit** Result **PQL** HighLimit Qual Analyte ND 0.050 Benzene Toluene ND 0.050 ND 0.050 Ethylbenzene ND 0.10 Xylenes, Total

102

85.3

139

Sample ID LCS-990	Samp1	Type: LC	s	Tes	tCode: E	tiles				
Client ID: LCSS	Batc	h ID: 99	0	F	RunNo: 1	348				
Prep Date: 3/7/2012	Analysis [	Date: 3/	8/2012	5	SeqNo: 3	8717	Units: mg/k	(g		
Analyte	Result PQL SPK value SPK Ref Val %REC Lo					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			

1.000

- \* 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
- Page 11 of 11

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory 4901 Hawkins NI: Albuquerque, NA 87105

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name:	BLAGG			Wo	ork Ørd	der N	Numb	oer: '	1203239		
Received by	date:	03/0-	1/12								
Logged By:	Michelle G	iarcia	3/7/2012 9:30:	MA 00:				Mi	helle Gannie		
Completed B	y: Michelle G	arcia	3/7/2012 11:08	8:07 AM				mi	hell Garier		
Reviewed By		2 031	21/50								
Chain of C	ustody	0	- ••								
1. Were se	als intact?				Yes		No		Not Present	t 🗸	
<ol><li>Is Chain</li></ol>	of Custody comp	plete?			Yes	✓	No		Not Presen	t	
3. How was	s the sample deli	vered?			FedE	<u>x</u>					
<u>Log In</u>											
4. Coolers	are present? (see	e 19. for cooler sp	ecific informatio	n)	Yes	<b>~</b>	No		N.A	٨	
5. Was an	attempt made to	cool the samples	7		Yes	•	No		N.A	<b>\</b>	
6. Were all	samples receive	ed at a temperatur	e of >0° C to 6.0	0°C	Yes	<b>~</b>	No		NA	٨	
7. Sample	s) in proper conta	ainer(s)?			Yes	•	No				
8. Sufficier	nt sample volume	for indicated test	(s)?		Yes	•	No				
9. Are sam	ples (except VO		Yes	✓	No						
10. Was pre	servative added	to bottles?			Yes		No	<b>✓</b>	NA		
11 VOA via	ls have zero head	dspace?			Yes		No		No VOA Vials	s <b>•</b>	
		ners received brok	en?		Yes		No	✓			
	perwork match b screpancies on c				Yes	<b>~</b>	No			eserved checked	d
14. Are mat	rices correctly ide	entified on Chain o	of Custody?		Yes	•	No				(<2 or >12 unless noted)
15. Is it clea	r what analyses v	were requested?			Yes	✓	No		A	Adjusted	?
. •.	I holding times ab otify customer for				Yes	<b>~</b>	No		c	hecked I	by:
Special Ha	ndling (if app	olicable)									
17, Was clie	ent notified of all o	discrepancies with	this order?		Yes		No		N	٧ 🗸	
Pe	rson Notified:	STATE OF THE PARTY	and the state of t	Date:	Winds to re		in area	11.25			
Ву	Whom:			Via:	eMai	il	Ph	one	Fax I	n Persor	ı
Re	garding:										
Cli	ent Instructions:								,		
18. Addition	al remarks:										
19. Cooler	nformation										
Coole	r No   Temp °C		ieal Intact   Sea	INo Se	eal Da	te		Signe	ed By		
1	1.0	Good Ye	es .						}		

C	hain-	of-Cu	stody Record	Turn-Around	Time:		F	<b>=</b>			IAI		FI	NV	TE	20	N	MEI	NT	AL	
Client:	BLAG	G EN	GINETANG INC		□ Rush															RY	,
	ZP /	MERI	· A	Project Name									lenvi								
Mailing	Address:	Po	Box 87	CROICH	MESA	L.F.		490	)1 H	awkii								'109			
	Z014	F1511	NM 87413	Project #:	A. A					5-34				•	•	345-					
			632-1199										naly								
email or				Project Mana	ger:	., ., ., ., ., ., ., ., ., ., ., ., ., .	_	only)	(jg					)4)							Γ
QA/QC I	Package: dard		☐ Level 4 (Full Validation)	J.	Beace		s (8021)	(Gas or	(Gas/Diesel)					PO <sub>4</sub> ,S(	PCB's						
Accredi				Sampler: J	BLACE		S.GAT	표		=	E			NO <sub>2</sub> ,	/ 8082						5
□ NEL	AP	☐ Othe	or	<b>Par</b> ugia			<del> </del>	+	8015B	418,	504	A	S	03,1	} / Se		8				J. N.
	(Type)	<u> </u>				11-10/31/25 34/38	劃	MTBE	g	ğ	Б	þ	letal	Ci,N	icide	Æ	<u>-</u> -	202			٥
Date	Time	Matrix	Sample Request ID	Type and # Type			BTEX +±	BTEX + M	TPH Method	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	CHLURUDE			ir Ruhhlo
3/5/12	0950	SoIL	PILE 416	402 ×1	COUL	-	X		X					_	8	- &	8	×	$\top$		-
lt	0955		PILE 919	11 11		-2	X		X									X	$\top$		Γ
1(	1000	11	PILE 903	u	LI	-3	X		X									×			Γ
11	1005	и	PILE 905	u	V	~4	X		X									X			Γ
u	1010	u	PILE 918	i(	rt	-5	X		X									X			T
u	1015	Ч	PILE 910	i(	11	-6	X		X									X			T
<b>L</b> r	1020	ıf	PILE 908	16	t/	-1	У		×									x			F
																			$\pm$		ļ
																			_		$\perp$
Date:	Time:	Relinquish	ed by:	Received by:		_ Date Time	Ren	narks	s:	Getz	()	+1	Re		200	8	018	5 R			Γ
3/4/12 Date:	NS5	Relinquish	(18674) led by:	Received by:	Waren	3/4/12  155 Date Time	Wo	)	JI	27	33	ZZ			j						
3/6/12	البحا	Ivezi Christin Vallan		- Privile Browing 03/07/12 0930				ONT							E	atad c	a tha a	naha	<b></b>		
						U												C			

### 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:

Analysis Date: 5/17/2012 5/17/2012

SeqNo: 79261

SPK value SPK Ref Val %REC LowLimit

Units: mg/Kg

HighLimit

%RPD **RPDLimit** 

Qual

Analyte Chloride

Result **PQL** ND 1.5

Sample ID LCS-1992

SampType: LCS

TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 1992

**PQL** 

1.5

RunNo: 2857

Prep Date:

5/17/2012

Analysis Date: 5/17/2012

SeqNo: 79262

Units: mg/Kg

Analyte

Result

15.00

%REC 99.8

LowLimit 90 HighLimit

**RPDLimit** 

SPK value SPK Ref Val

110

%RPD

Chloride

15

Qual

### Qualifiers:

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

Analyte detected below quantitation limits

Page 8 of 11

# Hall Environmental Analysis Laboratory, Inc.

WO#:

Page 9 of 11

1205699

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa Landfarm

Sample ID MB-1986	SampT	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch	iD: 19	86	R	unNo: 28	869						
Prep Date: 5/17/2012	Analysis Date: 5/18/2012			S	eqNo: 79	9585	Units: mg/k	(g				
Analyte	Result	Result PQL SPK value SF			%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	SampT	ype: LC	s	TestCode: EPA Method 8015M/D: Diesel Range Organics									
Client ID: LCSS	Batch	ID: 19	86	F	lunNo: 2	869							
Prep Date: 5/17/2012	Analysis Date: 5/18/2012			S	eqNo: 7	9700	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						

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Н 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
- Analyte detected in the associated Method Blank В
- E Value above quantitation range
- Analyte detected below quantitation limits J
  - Sample pH Not In Range
- P RLReporting Detection Limit
- Sample container temperature is out of limit as specified W

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1205699

21-Sep-16

Client:

Blagg Engineering

Project:

Surr: BFB

Crouch Mesa Landfarm

1100

Sample ID MB-1988 Client ID: PBS	•	SampType: MBLK Batch ID: 1988			tCode: <b>E</b> l Run <b>N</b> o: <b>2</b>		8015D: Gaso	oline Rang	е	
Prep Date: 5/17/2012	Analysis D	ate: <b>5</b> /	18/2012	9	SeqNo: 8	0948	Units: mg/k	(g		
Analyte	Result				%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO) Surr: BFB	ND 1000	5.0	1000	00 103 69.7			121			
Sample ID LCS-1988	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	е	
Client ID: LCSS	Batch	i ID: <b>19</b>	88	F	RunNo: 2	915				
Prep Date: 5/17/2012	Analysis D	ate: <b>5/</b>	18/2012	8	SeqNo: 8	0949	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	2 <b>7</b>	5.0	25.00	0	107	98.5	133			

110

69.7

121

1000

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
  - 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
- Page 10 of 11

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1205699

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa Landfarm

Sample ID MB-1988	Samp1	уре: <b>м</b>	BLK	Test	Code: El	PA Method	8021B: Vola	tiles		
Client ID: PBS	Batcl	1D: <b>19</b>	88	R	unNo: 2	915				
Prep Date: 5/17/2012	Analysis Date: 5/18/2012			S	eqNo: 8	0975	Units: mg/K	(g		
nalyte Result PQL SPK valu			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	Batc	h ID: <b>19</b>	88	F	RunNo: 2	915							
Prep Date: 5/17/2012	Analysis Date: 5/18/2012			8	SeqNo: 8	0976	Units: mg/K	(g					
Analyte	alyte Result PQL SPK value S				%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.
- 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

Page 11 of 11



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105

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: 05/11/17	
Logged By: Ashley Gallegos 5/16/2012 10:00:00	AM A
Completed By: Ashley Gallegos 5/16/2012 1:16:33 F	AM AF
Reviewed By: 05/12/12	-
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
Chain of Custody	and the file and proceed of
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
<u>Log in</u>	
4. Coolers are present? (see 19. for cooler specific information)	Yes V 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
- a	Sec. Set Mark 1
7 Sample(s) in proper container(s)?	Yes ✔ No
8. Sufficient sample volume for indicated test(s)?	
Are samples (except VOA and ONG) properly preserved?	Yes V No V NA
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?	Yes ✓ No # of preserved bottles checked
(Note discrepancies on chain of custody)	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)	Official by.
17. Was client notified of all discrepancies with this order?	Yes No NA ✔
	enter the control of
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 Ves	: I

C	Chain-of-Custody Record  BLAGG ENGINEERWG INC.														_					
Client:	BLAGO	é ENG	WEERWL INC.	X Standard		National Control of the Parish Control of th											MEN RA			,
	BP A	1 MERL	r &	Project Name	<b>∋</b> :								nviror							
Mailing	Address	P.O.	Box 87	CROUCH	MESA L	LANDFARM		490	)1 H	awkin							'109			
			NM 87413	Project #:						5-345			Fax							
			-32-1199									Ana	alysis	Rec	ues	t				
email o	r Fax#:			Project Mana	iger:		)	only)	Sel)				(4)							Γ
QA/QC I	Package: dard		□ Level 4 (Full Validation)	J. B.			TMB's (8021)	(Gas o	(Gas/Diesel)				PO <sub>4</sub> ,S(	PCB's						
Accredi				Sampler: J	F. BLAGE			TPH	9)	<u> </u>	ر اج	_	Ş	/ 8082						=
□ NEL	AP	□ Othe	PF	Quige.	্য ুট্টি		H	+	8015B	418.1)	ğ   <u>ş</u>	₹  "	م کی	8 / 8		₹				2
	(Type)_		· · · · · · · · · · · · · · · · · · ·	Separate de am	generalistics area	The Control of the State of the	#	MTBE	8	0d 4	:   <del>g</del>	우   함	ž Ž	Side	<b>₹</b>	Ϋ́	W			>
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	n=7. ≟.pqo	BTEX +本件BE	BTEX + MT	TPH Method	TPH (Method	EDB (Method 504.1)	8310 (PNA of PAH) RCRA & Metals	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	CHONIDE			Air Buhhlas
5/10/2012	1345	SOIL	PILE 906	402x1	conc	-001	χ		X								X			Γ
11	1352	t(	PILE 92Z	Lţ.	11	-002	X		X								X			
£1	1400	Ħ	PILE 895	ij	Łί	-003	X		X								X			
13	1408	ış	PILE 910	ij	и	-004	X		X								X			
11	1415	ŧŗ	Piuz 416	15	ų	-005	X		X								X			
11	1425	- 11	PILE 420	t f	ı(	-006	X		X								X			
11	1435	Ħ	PILE 418	ii -	ef .	-007	X		X		-		+	-			x	_	-	_
																		+		_
													$oxed{\Box}$							L
<del></del>										_		-	-	-			<del>                                     </del>	+	+	-
Date: 5/15/12	Time: /317	Relinquish	ed by:  Slyg	Received by:					38	<b>→ 1</b>	)RO	01	80	15	<u>!</u>					
Date: 5/15/12	Time:	Relinquish	ed by:	Received by: Date T			26		CJ.	DEN	び									
	nec vy,	samples sub	mitted to Hall Environmental may be subc	contracted to other ac	ccredited laboratorie	os/iu/lo_1000 esOs serves as notice of this	<u> </u>				cted d	ata will	be clea	rly note	ated or	the a	nalytic	ort.		_

# "Iall Environmental Analysis Laboratory, Inc.

WO#:

**RPDLimit** 

Qual

1207D22

21-Sep-16

**Client:** 

Blagg Engineering

Project:

Analyte

Surr: DNOP

Diesel Range Organics (DRO)

Crouch Mesa Landfarm Piles

Result

35

4.1

**PQL** 

10

Sample ID MB-3117 Client ID: PBS	•	ype: <b>Mi</b> iID: <b>31</b>			tCode: El RunNo: 4		8015M/D: Die	esel Rang	e Organics	
Prep Date: 7/31/2012	Analysis D	ate: 8/	1/2012	5	SeqNo: 1	27853	Units: mg/K	(g		
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	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: LCSS	Batch ID: <b>3117</b>			F	RunNo: 4	554				
Prep Date: 7/31/2012	Analysis Date: 8/1/2012		5	SeqNo: 1:	27881	Units: mg/K	g			

%REC

70.6

81.1

LowLimit

52.6

77.6

HighLimit

130

140

SPK value SPK Ref Val

50.00

5.000

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits

Page 6 of 8

- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

### 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	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID: LCSS	Batch	ID: <b>31</b>	18	R	RunNo: 4	574				
Prep Date: 7/31/2012	Analysis Date: 8/1/2012 Se			SeqNo: 1	29324	Units: mg/k	(g			
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.

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

Page 7 of 8

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1207D22

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa Landfarm Piles

Sample ID MB-3118	Samp	Гуре: <b>М</b> Е	BLK	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: PBS	Batcl	h ID: <b>31</b>	18	F	RunNo: 4	574				
Prep Date: 7/31/2012	Analysis D	Date: 8/	1/2012	SeqNo: <b>129348</b> U			Units: mg/K	(g		
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	s	Tes	tCode: E	PA Method	8021B: Vola	tiles				
Client ID: LCSS	Batcl	h ID: <b>31</b>	18	F	RunNo: 4	574				
Prep Date: 7/31/2012	Analysis [	Date: 8/	1/2012	8	SeqNo: 1	29349	Units: mg/k	(g		
Analyte	Result					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	000 0 99.4 76.7			117			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			



### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

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

Page 8 of 8



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105 TEL: 505-345-3975 FAX: 505-345-410; Website: www.hallenvironmental.con

# Sample Log-In Check List

Clien	t Name: BLA	GG	. , w	ork Orde	er Numi	ber:	1207D	22		
Rece	ived by/date:	15	01/3/12							
Logg	ed By: Lind	Isay Mangin	7/31/2012 9:55:00 AM			0	y Allys	•		
Com	pleted By: Lind	Isay Mangin	7/31/2012 10:49:43 AM			1	411400	•		
Revie	ewed By:	ma_	07/81/12			0.				
Chai	n of Custody	7	0101							
1. \	Nere seals intact?	, 0		Yes [	□ No		Not	Present 🗹		
2. 1	s Chain of Custod	ly complete?		Yes [	<b>✓</b> No		Not	Present		
3. F	How was the samp	ole delivered?		Courie	<u>:r</u>					
Log	<u>In</u>									
4. (	Coolers are preser	nt? (see 19. for cooler	specific information)	Yes [	<b>√</b> No			na 🗌		
5. \	Was an attempt m	ade to cool the sampl	es?	Yes [	<b>✓</b> No			NA $\square$		
6. \	Were all samples i	received at a tempera	ture of >0° C to 6.0°C	Yes	<b>√</b> No			na 🗆		
7. 5	Sample(s) in prope	er container(s)?		Yes [	<b>✓</b> No					
8. 8	Sufficient sample v	volume for indicated to	est(s)?	Yes (	<b>✓</b> No					
9. 4	Are samples (exce	ept VOA and ONG) pro	operly preserved?	Yes E	<b>✓</b> No					
10.\	Was preservative	added to bottles?		Yes [	☐ No	V		NA 🗆		
11. \	VOA vials have ze	ro headspace?		Yes [	☐ No		No V	OA Vials 🗹		
		containers received b	roken?	Yes	□No	✓	Г	<b>9</b>		
		natch bottle labels? es on chain of custody	)	Yes	<b>✓</b> No			# of preserved bottles checked for pH:		
14.	Are matrices corre	ctly identified on Chai	n of Custody?	Yes 5	<b>✓</b> No				2 or >12	unless noted)
15.	s it clear what ana	alyses were requested	?		<b>✓</b> No			Adjusted?		
	-	mes able to be met? mer for authorization.)		Yes	<b>✓</b> No			Checked b	y:	
Spec	ial Handling (	(if applicable)					L			
17.	Was client notified	of all discrepancies v	vith this order?	Yes [	□ No			NA 🗹		
	Person Notific	ed:	Date:							
	By Whom:		Via:	eMail	☐ PI	hone	☐ Fa	ax In Person		
ļ	Regarding:									
	Client Instruc	tions:								
18.	Additional remarks	<b>3</b> :								
19. 9	Cooler Information           Cooler No         Text           1         2.9	emp °C   Condition	Seal Intact   Seal No   S	eal Date		Sign	ed By			

	1 )					<b>-</b>	٦.											•	<i>)</i>		
C	hain-	of-Cu	stody Record	Turn-Around	Time:	•				-	ΙΔΙ		F	v	TR	20	NP	ИF	NT	ΔI	
Client:	BLAG	66 EN	UGWEERING INC	Standard	□ Rush			511.5											\TO		<b>7</b>
	RP N	MED.	- A		MESA	LANDFARM				,	ww.	.hall	envi	ronn	nent	al.cc	m				
Mailing	Address:	P.O.	Box 87	PILES	( ) (0	_ ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		490	)1 Ha	awki	ns Ni	Ξ-	Albu	uque	rque	e, Ni	vi 87	109			
7	Bear	VFIELD	, NM 87413	Project #:				Te	l. 50	5-34	5-39	75	F	ax 5	505-	345-	4107	7			
Phone :			32-1199									Aı	naly	sis l	Requ	uest				Ļ	
email o	r Fax#:			Project Mana	-		1	(y	(les					0	<u>"</u>						
QA/QC I	Package: dard		☐ Level 4 (Full Validation)		Busca		's (8021)	(Gas c	sas/Die					,PO <sub>4</sub> ,S	PCB's						
Accredi		□ Othe	r	Sampler: J		2 (a)(a)(b)	± TMB	+ ТРН	)15B ((	18.1)	04.1)	ÀH)		03,NO2	\$ / 8082		₹	M			Ŝ.
□ EDD	(Type)_			Selvijais .	ial areije (A)		BE	盟	86	2d 4	2d 5	Ӹ	stals	Ĭ,	ğ	a	위	1			\
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	A HEALANDA	BTEX ± MT	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,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides /	8260B (VOA)	8270 (Semi-VOA)	CHLURADE			Air Bubbles (Y or N)
30/12	0810	SOIL	PLE 917	402×1 COOL		-001	X		X									X			Τ
ń	0918		PILE 906	ic	У	-002	X		X									X			T
N	0830	ч	PivE 910	ч	ւ(	-003	$\chi$		X							T		X			T
11	0839	t(	PILE 921	7)	1(	-004	X		X									X			$\top$
l/	0850	11	PILE 927	ıc	lt.	-005	X	į	X									X	$\Box$		
							$\vdash$				+	+	_	$\dashv$	$\dashv$		$\dashv$		+	+	+
					_				-	$\dashv$	+	+	$\dashv$				$\dashv$		+	+	+
			# 10 A 4 A A A A A A A A A A A A A A A A A																		
			4																		$\mathbb{L}$
										_		$\perp$									$\perp$
Date:   30   12   Date:	1544	Relinquishe	A Oley	Received by:	ubceter	Date Time 7/ /30/12 /544	1	narks O :	•	GR 15	06 c	√ 0 Z	RO B	C	מנ	2	<i>)1</i> 5	B			
Date:		Reling	ed by:	Received by:	> -0	Date Time	Pk	<b>=</b>	2,	PEA	ري	DE	ر 10	-	200						
712	necessary.	samples subr	mitted to Hall Environmental may be sub	entracted to other ac		This serves as notice of this	s possil	bility.	7 AC	b-cont	racted	data v	vill be				the ar	nalvtica	al 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

HighLimit

**RPDLimit** 

Qual

Analyte Chloride

Result

**PQL** 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

SPK value SPK Ref Val

96.4

LowLimit

Chloride

HighLimit 110

%RPD

**PQL** 1.5

15.00

%REC

SPK value SPK Ref Val %REC LowLimit

90

%RPD

**RPDLimit** 

Qual

### Qualifiers:

R

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Not Detected at the Reporting Limit

RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix

Holding times for preparation or analysis exceeded

- В Analyte detected in the associated Method Blank
- Value above quantitation range
- J Analyte detected below quantitation limits
- Page 9 of 12

- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

**PQL** 

10

Result

39

4.6

WO#: **1209542** 

21-Sep-16

Client:

Blagg Engineering

Project:

Analyte

Surr: DNOP

Diesel Range Organics (DRO)

Crouch Mesa Land Farm

Sample ID MB-3762	Samp	ype: M	BLK	Tes	tCode: E	PA Method	8015M/D: Die	esel Rang	e Organics		
Client ID: PBS	Batcl	h ID: <b>37</b>	62	F	RunNo: 5	559					
Prep Date: 9/14/2012	Analysis [	Date: 9/	17/2012	S	59035	Units: mg/K	(g				
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	Samp1	ype: LC	s	S TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 3762			F	RunNo: 5	559					
Prep Date: 9/14/2012	Analysis D	)ate: 9/	17/2012	S	SeqNo: 1	59036	Units: mg/K	ā			

%REC

78.4

92.0

LowLimit

52.6

77.6

HighLimit

130

140

%RPD

**RPDLimit** 

SPK value SPK Ref Val

50.00

5.000

#### 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
  - 111110

Page 10 of 12

- P Sample pH Not In Range RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1209542

21-Sep-16

Client:

Blagg Engineering

Project:

Surr: BFB

Crouch Mesa Land Farm

1000

Sample ID MB-3765	SampType: ME	BLK	Tes	tCode: <b>EP</b>	A Method	8015D: Gaso	oline Rang	е	
Client ID: PBS	Batch ID: 37	65	F	RunNo: <b>56</b>	12				
Prep Date: 9/14/2012	Analysis Date: 9/	18/2012	S	SeqNo: <b>16</b>	0814	Units: mg/F	(g		
Analyte	Result PQL	SPK value	lue SPK Ref Val %REC LowLimit Hig			HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND 5.0								
Surr: BFB	990	1000	99.3 84						
Sample ID LCS-3765	SampType: <b>LC</b>	S	Tes	Code: EP	A Method	8015D: Gaso	line Rang	e	
Client ID: LCSS	Batch ID: 370	35	F	tunNo: <b>56</b>	12				
Prep Date: 9/14/2012	Analysis Date: 9/	18/2012	SeqNo: <b>160815</b> U			Units: mg/K	(g		
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			

103

116

1000

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- 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
- D. Carrata II Nat In Danas

Page 11 of 12

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1209542

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa Land Farm

Sample ID MB-3765	SampT	ype: ME	BLK	Tes	Code: El	PA Method	8021B: Volat	iles		
Client ID: PBS	Batch	n ID: 37	65	F	unNo: 5	612				
Prep Date: 9/14/2012	Analysis D	oate: 9/	18/2012	SeqNo: 160837			Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	SPK Ref Val %REC LowLimit I			%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	Sample ID LCS-3765 SampType: LCS					PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batch	n ID: 37	65	F	RunNo: 5	612				
Prep Date: 9/14/2012	Analysis D	oate: 9/	18/2012	SeqNo: <b>160838</b> U			Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val				%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.
- 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

Page 12 of 12

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105

TEL: 505-345-3975 FAX: 505-345-410; Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: BLAGG	, 1	Work Order Number: 1209	542
Received by/date: AC	09/13/12		
Logged By: Lindsay Mangi	n 9/13/2012 10:05:00 A	M Frightly	<b>3</b> 0
Completed By: Lindsay Mangi Reviewed By:	9/13/2012 2:22:07 PM	1 July May	⊋o
Chain of Custody			
1. Were seals intact?		Yes 🗌 No 🗀 N	ot Present 🗹
2. Is Chain of Custody complete	?	Yes 🗹 No 🗌 🛛 N	ot Present
3. How was the sample delivere	d?	Courier	
<u>Log In</u>			
4. Coolers are present? (see 19	, for cooler specific information)	Yes 🗹 No 🗌	na 🗀
5. Was an attempt made to coo	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	r(s)?	Yes 🗹 No 🗌	
8. Sufficient sample volume for	indicated test(s)?	Yes 🗹 No 🗌	•
9. Are samples (except VOA and	d ONG) properly preserved?	Yes 🗹 No 🗌	
10. Was preservative added to be	ottles?	Yes 🗌 No 🗹	NA 🗆
11. VOA vials have zero headspa	ice?		VOA Vials 🗹
12. Were any sample containers	received broken?	Yes I No 🗹	# of preserved
<ol><li>Does paperwork match bottle (Note discrepancies on chain</li></ol>		Yes 🗹 No 🗌	bottles checked for pH:
14. Are matrices correctly identifie	ed 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		Yes 🗹 No 🗌	On the state of
(If no, notify customer for auti			Checked by:
Special Handling (if application 17. Was client notified of all discrete for the second secon		Yes 🔲 No 🗀	NA 🗹
Person Notified:	Date:		
By Whom:	Via:	eMail Phone I	Fax In Person
Regarding:	V IV.		
Client Instructions:			
18. Additional remarks:			
40. Cooler Information			
19. Cooler Information Cooler No Temp °C C	Condition   Seal Intact   Seal No	Seal Date   Signed B	y
	od Yes		

Chain-of-Custody Record  Client: BLACK ENGLIERWE INC.		Tum-Around	Time:		▎▐			-	IA		FI	NV	TE	20	NK	a E	NT	Δı				
Client:	Busce	. iŽn61.	JEERWE	Iuc.	Standard				2/1												RY	7
•	70 A				Project Name	<b>:</b> :					,	АЛАЛА	v hal	lenvi	ironr	nent	al co	m				
Mailing	Address:	P.O.	4 Bor 97		Chouch ,	MESA LA	M FARM		490	01 H	awkiı								109			
			NM		Project #:				Te	l. 50	5-34	5-39							7			
Phone:	#: 50	5-6	32-119	9									Α	naly	/sis	Req	uest					
email o					Project Mana	ger:			only)	Sel)					SO <sub>4</sub> )							1
QA/QC I	Package:		□ I evel 4	(Full Validation)	Sampler: J	BLAGE		(8021)	+ TPH (Gas o	(Gas/Diesel)					PO4, S	PCB's						
Accredi				(ran vandadon)	Sampler:	FRIAC		iğ l	μ̈́	9			_		02,	8082						
□ NEL		□ Othe	r		Onless	350.62		+STIEL + TWB's	+	015B	418.1	504.1	PAH)	S	N <sub>s</sub> OI	)8 / Si		(AC	M			o S
	(Type) _				Samuellen	Marine St. St. Sec. 45			MTBE	B B	g	B	ō	etal	7.	cide	(¥	<u>}-</u> i	3			≿
Date	Time	Matrix	Sampl	e Request ID	Container Type and #	Preservative Type		BTEX +SE	BTEX + M	TPH Method 801	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	CHOCUN			Air Bubbles
Victor2	0905	Soil	PILE	407	40221	COOL	-001	X		X									X			
u	0915	ιţ	PILE	428	4	ις .	-002	X		X									幺	$\perp$	$\perp$	
.(	0925	1(	Pur	917	(1	ιc	-003	X		X									X			L
lς	0932	۱(	PILE	910	ι, ,	ų	-004	K		X									X	$\perp$		
11	0940	11	PILR	418	(1	'1	-005	X		X									X			_
ij	0950	15	PILE	925	19	lς	-000	X		X									X			
Lj	1005	Ιţ	PILE	921	ч	٠,	-007	X		X									×			L
	1020	1(	PILE	927	11	٧	-008	Y		X									시			$\perp$
																			$\vdash \vdash$	_		╀
								<u> </u>				_								_	$\perp$	╀
						_		<u> </u>												+	+	+
Date:	Time:	Relinquish	ed by:		Received by:		Date Time	Ren	narks		لمط		- N	00		1	200					Щ
3/2/12	1446		H Be	99	Metin	9/12/12 1446				150		_		Ü								
Date:	Time:	Relinquish	ed by:	*/	Received by: Date Time						PEA				,							
9/2/12	1740 Christin Whelen				ESA-	09/	13/12 1005	Co	vla	ct		Je	Ff	- Pe	eel	<u>e</u> _			4			

Lab Order 1305716

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Pile 910

Project:Crouch Mesa Land FarmCollection 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 Qı	ıal Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS	,				Analys	t: JRR
Chloride	140	30	mg/Kg	20	5/22/2013 1:00:05 PM	7553
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS	;			Analys	t: 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 RAN	GE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	5/21/2013 12:12:50 A	√ 7495
Surr: BFB	95.9	80-120	%Rec	1	5/21/2013 12:12:50 A	M 7495
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.046	mg/Kg	1	5/21/2013 12:12:50 AM	/I 7495
Toluene	ND	0.046	mg/Kg	1	5/21/2013 12:12:50 AM	/ 7 <b>4</b> 95
Ethylbenzene	ND	0.046	mg/Kg	1	5/21/2013 12:12:50 AM	/I 7495
Xylenes, Total	ND	0.092	mg/Kg	1	5/21/2013 12:12:50 AM	<i>l</i> 7495
Surr: 4-Bromofluorobenzene	102	80-120	%Rec	1	5/21/2013 12:12:50 AM	/I 7495

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

- 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 Page 5 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1305716

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: Pile 917

**CLIENT:** Blagg Engineering Crouch Mesa Land Farm Collection Date: 5/10/2013 1:45:00 PM Project:

Lab ID: 1305716-004 Matrix: SOIL Received Date: 5/16/2013 10:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: JRR
Chloride	54	7.5	mg/Kg	5	5/22/2013 12:22:51 PI	M 7553
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS	;			Analys	st: <b>JME</b>
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 RAN	GE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	5/20/2013 11:44:20 PM	M 7495
Surr: BFB	96.7	80-120	%Rec	1	5/20/2013 11:44:20 PM	<b>vi</b> 7495
EPA METHOD 8021B: VOLATILES					Analys	st: NSB
Benzene	ND	0.047	mg/Kg	1	5/20/2013 11:44:20 PM	<b>d</b> 7495
Toluene	ND	0.047	mg/Kg	1	5/20/2013 11:44:20 PM	<b>d</b> 7495
Ethylbenzene	ND	0.047	mg/Kg	1	5/20/2013 11:44:20 PM	vi 7495
Xylenes, Total	ND	0.094	mg/Kg	1	5/20/2013 11:44:20 PM	<b>d</b> 7495
Surr: 4-Bromofluorobenzene	102	80-120	%Rec	1	5/20/2013 11:44:20 PM	M 7495

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Н
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix S
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 4 of 9
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1305716

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: Pile 923

Project:

Crouch Mesa Land Farm

**Collection Date:** 5/10/2013 1:35:00 PM

Lab ID:

1305716-003

Matrix: SOIL

Received Date: 5/16/2013 10:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: JRR
Chloride	100	30	mg/Kg	20	5/22/2013 11:20:50 Af	M 7553
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	1			Analys	t: 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 RAN	IGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	5/20/2013 11:15:43 PM	M 7495
Surr: BFB	97.0	80-120	%Rec	1	5/20/2013 11:15:43 PI	И 7 <b>4</b> 95
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.047	mg/Kg	1	5/20/2013 11:15:43 PM	M 7495
Toluene	ND	0.047	mg/Kg	1	5/20/2013 11:15:43 PM	M 7495
Ethylbenzene	ND	0.047	mg/Kg	1	5/20/2013 11:15:43 PM	A 7495
Xylenes, Total	ND .	0.095	mg/Kg	1	5/20/2013 11:15:43 PM	<i>I</i> 7495
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	5/20/2013 11:15:43 PM	<i>I</i> 7495

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

- 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 Page 3 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1308D49

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Pile 924

 Project:
 Crouch Mesa L.F.
 Collection Date: 8/29/2013 1:12:00 PM

 Lab ID:
 1308D49-002
 Matrix: SOIL
 Received Date: 8/30/2013 10:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: JRR
Chloride	92	30	mg/Kg	20	9/4/2013 1:04:04 PM	9158
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analys	t: 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 RAI	NGE				Analys	t: 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					Analys	t: 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.

- 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 Page 2 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1311148

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Project: Crouch Mesa LF-Piles

**Lab ID:** 1311148-004

Client Sample ID: Pile 926

**Collection Date:** 10/31/2013 11:05:00 AM

Received Date: 11/5/2013 10:00:00 AM

Analyses	Result	PQL Qu	al 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 RA	NGE				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

Matrix: SOIL

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

- 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 Page 4 of 15
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1311148

Received Date: 11/5/2013 10:00:00 AM

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Pile 926A

Matrix: SOIL

Project: Crouch Mesa LF-Piles Collection Date: 10/31/2013 11:15:00 AM

DF Date Analyzed Result **PQL Qual Units** Batch **Analyses 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 11/7/2013 3:36:16 PM 10211 Motor Oil Range Organics (MRO) 78 11/7/2013 3:36:16 PM 10211 50 mg/Kg Surr: DNOP 11/7/2013 3:36:16 PM 95.4 70-130 %Rec 10211 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB ND 11/7/2013 9:57:31 PM 10207 Gasoline Range Organics (GRO) 4.9 mg/Kg 11/7/2013 9:57:31 PM 10207 Surr: BFB 102 74.5-129 %Rec **EPA METHOD 8021B: VOLATILES** Analyst: NSB 11/7/2013 9:57:31 PM Benzene ND 0.049 10207 mg/Kg 11/7/2013 9:57:31 PM Toluene ND 0.049 mg/Kg 10207 11/7/2013 9:57:31 PM 0.049 10207 Ethylbenzene ND mg/Kg Xylenes, Total ND 0.097 mg/Kg 11/7/2013 9:57:31 PM 10207 Surr: 4-Bromofluorobenzene 80-120 %Rec 11/7/2013 9:57:31 PM 10207 111

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

#### Qualifiers:

Lab ID:

1311148-005

- 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 Page 5 of 15
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	st: JRR
Chloride	68	30	mg/Kg	20	5/22/2013 10:31:11 A	M 7553
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analys	st: 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 RAN	IGE				Analys	st: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	5/20/2013 10:18:30 PI	M 7495
Surr: BFB	94.6	80-120	%Rec	1	5/20/2013 10:18:30 PI	M 7495
EPA METHOD 8021B: VOLATILES					Analys	st: NSB
Benzene	ND	0.047	mg/Kg	1	5/20/2013 10:18:30 PI	M 7495
Toluene	ND	0.047	mg/Kg	1	5/20/2013 10:18:30 PI	M 7495
Ethylbenzene	ND	0.047	mg/Kg	1	5/20/2013 10:18:30 PI	M 7495
Xylenes, Total	ND	0.095	mg/Kg	1	5/20/2013 10:18:30 PI	M 7495
Surr: 4-Bromofluorobenzene	98.4	80-120	%Rec	1	5/20/2013 10:18:30 PI	M 7495

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

- 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 Page 1 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1311148

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: Pile 930

Project: Crouch Mesa LF-Piles

**CLIENT:** Blagg Engineering

Collection Date: 10/31/2013 10:35:00 AM

Lab ID: 1311148-001

Matrix: SOIL

Received Date: 11/5/2013 10:00:00 AM

Analyses	Result	PQL (	Qual U	U <b>nits</b>	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 RANG	SE ORGANIC	s				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 RAN	GE					Analyst	: NSB
Gasoline Range Organics (GRO)	28	4.6	1	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	i	mg/Kg	1	11/7/2013 5:40:45 PM	10207
Toluene	<b>N</b> D	0.046	ı	mg/Kg	1	11/7/2013 5:40:45 PM	10207
Ethylbenzene	ND	0.046	1	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.

- 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 Page 1 of 15
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1311148

Date Reported: 9/21/2016

# 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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS		3 1411	112		Analyst	: JRR
Chloride	160	30	mg/Kg	20	11/8/2013 1:26:48 PM	10252
EPA METHOD 8015M/D: DIESEL RAM	PA METHOD 8015M/D: DIESEL RANGE ORGANICS					: 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 RA	NGE				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.

- 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 Page 2 of 15
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1311148

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Pile 931A

Project:

Collection Date: 10/31/2013 10:55:00 AM

Crouch Mesa LF-Piles

1311148-003 Lab ID:

Matrix: SOIL

Received Date: 11/5/2013 10:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>JRR</b>
Chloride	100	30	mg/Kg	20	11/8/2013 1:39:13 PM	10252
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	s			Analys	t: 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 RA	NGE				Analys	t: 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					Analys	t: 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.

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Н 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
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 15 J
- P Sample pH Not In Range
- RLReporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1311148

Date Reported: 9/21/2016

# 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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	: JRR
Chloride	66	30	mg/Kg	20	11/8/2013 2:41:16 PM	10252
EPA METHOD 8015M/D: DIESEL RANG	EPA METHOD 8015M/D: DIESEL RANGE ORGANICS				Analys	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 RANG	3E				Analys	: 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	I 10207
EPA METHOD 8021B: VOLATILES					Analys	: 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.

- 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 Page 6 of 15
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1311148

Date Reported: 9/21/2016

### 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 Qu	al 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 RANG	E ORGANIC	s			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 RAN	GE				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.

- 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 Page 7 of 15
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1311148

Date Reported: 9/21/2016

### 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 73 30 20 11/8/2013 3:18:30 PM 10252 mg/Kg EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: BCN Diesel Range Organics (DRO) 9.9 11/7/2013 5:26:02 PM 51 mg/Kg Motor Oil Range Organics (MRO) 77 11/7/2013 5:26:02 PM 10211 50 mg/Kg Surr: DNOP 104 70-130 %Rec 11/7/2013 5:26:02 PM 10211 Analyst: NSB **EPA METHOD 8015D: GASOLINE RANGE** Gasoline Range Organics (GRO) ND 4.8 mg/Kg 11/7/2013 11:51:32 PM 10207

#### %Rec 11/7/2013 11:51:32 PM 10207 Surr: BFB 99.7 74.5-129 **EPA METHOD 8021B: VOLATILES** Analyst: NSB ND 0.048 11/7/2013 11:51:32 PM 10207 Benzene mg/Kg Toluene ND 0.048 mg/Kg 11/7/2013 11:51:32 PM 10207 ND 0.048 mg/Kg 11/7/2013 11:51:32 PM 10207 Ethylbenzene Xylenes, Total ND 0.095 mg/Kg 11/7/2013 11:51:32 PM 10207 Surr: 4-Bromofluorobenzene 106 80-120 %Rec 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.

- 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 Page 9 of 15
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1308D49

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Project: Crouch Mesa L.F.

1308D49-005

Lab ID:

Matrix: SOIL

Client Sample ID: Pile 937

Collection Date: 8/29/2013 1:37:00 PM Received Date: 8/30/2013 10:00:00 AM

Analyses	Result	PQL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analys	t: JRR
Chloride	67	30		mg/Kg	20	9/4/2013 2:18:30 PM	9158
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analys	t: 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 RAI	NGE					Analys	t: 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						Analys	t: 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.

- 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 Page 5 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1311148

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

client Sample ID: Pile 943A
a LF-Piles
Collection Date: 11/1/2013 10:05:00 AM

Project: Crouch Mesa LF-Piles

Received Date: 11/5/2013 10:00:00 AM

**Lab ID:** 1311148-008 **Matrix:** SOIL **R**o

Analyses	Result	PQL Qu	al Units	DF Date Analyzed Ba	atch
EPA METHOD 300.0: ANIONS				Analyst: JR	₹R
Chloride	110	30	mg/Kg	20 11/8/2013 3:06:05 PM 10	0252
EPA METHOD 8015M/D: DIESEL RANG	E ORGANIC	s		Analyst: B0	CN
Diesel Range Organics (DRO)	12	10	mg/Kg	1 11/7/2013 5:04:04 PM 10	211
Motor Oil Range Organics (MRO)	ND	51	mg/Kg	1 11/7/2013 5:04:04 PM 10	211
Surr: DNOP	101	70-130	%Rec	1 11/7/2013 5:04:04 PM 10	211
EPA METHOD 8015D: GASOLINE RANG	SE .			Analyst: NS	SB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1 11/7/2013 11:23:04 PM 10	207
Surr: BFB	104	74.5-129	%Rec	1 11/7/2013 11:23:04 PM 10	207
EPA METHOD 8021B: VOLATILES				Analyst: NS	SB
Benzene	ND	0.047	mg/Kg	1 11/7/2013 11:23:04 PM 10	207
Toluene	ND	0.047	mg/Kg	1 · 11/7/2013 11:23:04 PM 10	207
Ethylbenzene	ND	0.047	mg/Kg	1 11/7/2013 11:23:04 PM 10	207
Xylenes, Total	ND	0.094	mg/Kg	1 11/7/2013 11:23:04 PM 10	207
Surr: 4-Bromofluorobenzene	109	80-120	%Rec	1 11/7/2013 11:23:04 PM 10	207

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

- 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 Page 8 of 15
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# 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

Result

ND

SeqNo: 305452

Units: mg/Kg

HighLimit

%RPD **RPDLimit** 

Qual

Analyte Chloride

1.5 SampType: LCS

PQL

RunNo: 10806

TestCode: EPA Method 300.0: Anions

Client ID: LCSS Prep Date: 5/22/2013

Sample ID LCS-7553

Batch ID: 7553

1.5

SeqNo: 305453

Units: mg/Kg

%RPD

Analyte

Analysis Date: 5/22/2013

SPK value SPK Ref Val **PQL** 

%REC 95.5

90

HighLimit

**RPDLimit** 

Qual

0

SPK value SPK Ref Val %REC LowLimit

110

Chloride

Result 14

15.00

LowLimit

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded Ŧ Not Detected at the Reporting Limit

RPD outside accepted recovery limits R

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

E Value above quantitation range

Analyte detected below quantitation limits

P Sample pH Not In Range

Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 6 of 9

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1305716

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa Land Farm

Sample ID LCS-7513	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch	ID: 75	13	F	tunNo: 1	0726				
Prep Date: 5/20/2013	Analysis D	ate: <b>5/</b>	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 Ra					TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch	ID: <b>75</b>	13	F	RunNo: 1	0726							
Prep Date: 5/20/2013	Analysis D	ate: 5/	20/2013	S	SeqNo: 3	03446	Units: mg/K	(g					
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						

- \* Value exceeds Maximum Contaminant Level.
- O 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
- Page 7 of 9

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1305716

21-Sep-16

Client:

Blagg Engineering

Project:

Surr: BFB

Gasoline Range Organics (GRO)

Crouch Mesa Land Farm

31

1100

5.0

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

125

113

62.6

80

136 120

25.00

1000

#### Qualifiers:

- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Value above quantitation range Е
- P Sample pH Not In Range RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

J Analyte detected below quantitation limits Page 8 of 9

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1305716

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa Land Farm

Sample ID MB-7495	SampT	ype: ME	BLK	TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch	1D: <b>74</b>	95	F	RunNo: 1	0738				
Prep Date: 5/17/2013	Analysis D	ate: 5/	20/2013	S	SeqNo: 3	03902	Units: mg/K	(g		
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	SampT	ype: LC	S	TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: <b>7495</b> RunNo: <b>10738</b>										
Prep Date: 5/17/2013	Analysis D	ate: 5/	20/2013	S	SeqNo: 3	03903	Units: mg/K	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLi <b>m</b> it	%RPD	RPDLi <b>m</b> it	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				

- \* 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
- Page 9 of 9

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: BLAGG	Work Order Number	er: 1305716		RcptNo:	1
Received by/date:	05/14/13				
Logged By: Michelle Garcia	5/16/2013 10:00:00 /	λM	Michell Ga	142	
Completed By: Michelle Garcia	5/17/2013 10:49:21 /	λM	Mirut Ga Mirut Ga		
Raviewed Rv	05/17/2013		January 94	·······	
Chain of Custody	05/1				
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					
Was an attempt made to cool the same	ples?	Yes 🗸	No	NA · ·	
5. Were all samples received at a temper	ature 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) p	roperly preserved?	Yes 🗸	<b>N</b> o :		
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	
12.Does paperwork match bottle labels?		Yes 🗸	No	for pH:	r >12 unless noted)
(Note discrepancies on chain of custod  13. Are matrices correctly identified on Cha		Yes 🗸	No .	Adjusted?	1 - 12 umess noted)
14. Is it clear what analyses were requeste	•	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:		ha a Maria and an extensive incoming the mariantee.		•
By Whom:	Via:	eMail I	Phone Fax	In Person	
Regarding:		Maria de la Companya			
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				

			stody Record	I urn-Around	i me:										TE	•	RIR	4 22 1	NTA	A I	
Client:	BLAGE	o ENGI	NEERING INC.	Standard	□ Rush		-		$\exists$										TO		,
		MERIC		Project Name												al.co					
Mailing	Address	P.O.	Box 87	CROUCH	MESA (	LAND FARM		490	)1 Ha	awkir								109			
			NM 87413	Project #:						5-34				-	-		4107				
Phone 7			632-1199									A	naly	sis	Req	uest					
email o	Fax#:			Project Mana	ger:		=	only)	8				- [	040	6						
QA/QC F	-			J.	BLAGE		(8021)	as c	<b>₹</b>		- {	SIMS)	ĺ	S,10	PCB						
Stan Accredi			□ Level 4 (Full Validation)		T, BLAG		8.8	9	/ DRO / <del>MRO</del> )					P,P	82 P						
□ NEL		☐ Othe	r	Sampler:	Z SCAG		Ħ	+ TPH (Gas	0	8.1	<del>7</del> .	8270		N,E	/ 8082		<u></u>				ź
□ EDD	(Type)_			Semple (Keim)	deratities/		#	MTBE -	9	4 b	22   22	0 0	stals	N,i	ides	<b>a</b>	Ş	3			
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type		BTEX +₩E	BTEX + MT	TPH 8015B (GRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	CHOPLIDE			Air Ruhhlae (Y
1:0/2013	1310	SOIL	PILE 929	402×1	COUL	-00	X		X									Х			Ĺ
11	1325	u	PILE 928	cf	ч	$-\infty2$	X		X									X			
Li	1335	(I	PILE 923	ц	41	-003	X		X									X			Γ
tj	1345	ч	PUT 917	Ħ	tr ·	-004	X		X			,						X			
Ч	1355	У	PILE 910	if	Ч	-005	×		X									X	$\perp$		L
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Date: 5/15/13	Time: 0848	Relinquish	ed by:  1 Slag 9	Received by:	udiagles	Date Time 5/13/13 0848		narks	s: E	SILL	Bf	٠:	6	Par	KE	Y: ż	ZPE	AC 150	DDE	NV B	
Date: 5/3/13	Time:	Reliriquish	ed by:	Received by:		Dette   Time							Ce	) N	TAE	T:	Ji	;;=F	FEA	CE	
<u>:</u>	necessary,	samples sub	mitted to Hall Environmental may be sub-	contracted to other a	ccredited laboratorie	1701	s possil	bility. A	Any su	b-cont	racted	data	will be	clear	y nota	ited on	the ar	nalytica	I report.		

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1308D49

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa L.F.

Sample ID MB-9124	Samp <sup>1</sup>	Гуре: МЕ	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics		
Client ID: PBS	Batc	h ID: 91	24	F	RunNo: 1	3058					
Prep Date: 9/3/2013	Analysis [	Date: 9/	4/2013	5	SeqNo: 3	72712	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	Samp	ype: LC	s	Tes	Code: El	PA Method	8015M/D: Di	esel Rang	e Organics		
Client ID: LCSS	Batcl	h ID: 91	24	F	tunNo: 1	3058					
Prep Date: 9/3/2013	Analysis [	Date: <b>9</b> /	4/2013	S	eqNo: 3	72713	Units: mg/K	(g			
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.
- D Sample Diluted Due to Matrix
  - Holding times for preparation or analysis exceeded
  - Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Ε Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Page 6 of 8

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1308D49

21-Sep-16

**Client:** 

Blagg Engineering

Project:

Crouch Mesa L.F.

Sample ID MB-9117

SampType: MBLK

Result

ND

920

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

PBS

Batch ID: 9117

RunNo: 13041

Analyte

Prep Date:

8/30/2013

Analysis Date: 9/3/2013

**PQL** 

5.0

SeqNo: 372358

LowLimit

80

Units: mg/Kg

HighLimit

%RPD **RPDLimit** 

Qual

Surr: BFB

Gasoline Range Organics (GRO)

SampType: LCS Batch ID: 9117

SPK value SPK Ref Val %REC

91.9

120

Sample ID LCS-9117

Prep Date: 8/30/2013

LCSS

TestCode: EPA Method 8015D: Gasoline Range

RunNo: 13041

SeqNo: 372359

Units: mg/Kg

Gasoline Range Organics (GRO)

Analysis Date: 9/3/2013 **PQL** 

SPK value SPK Ref Val %REC 106

HighLimit

%RPD

**RPDLimit** Qual

Page 7 of 8

Surr: BFB

Client ID:

26 1000

5.0

25.00 1000

1000

100

74.5 80

126 120

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

# 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 Me						flethod 8021B: Volatiles							
Client ID: PBS	Batcl	n ID: 91	17	R	lunNo: 1	3041								
Prep Date: 8/30/2013	Analysis D	ate: 9/	3/2013	S	eqNo: 3	72398	Units: mg/K	(g						
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	Samp <sup>-</sup>	Гуре: <b>LC</b>	s	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Client ID: LCSS Batch ID: 9117 RunNo: 13041											
Prep Date: 8/30/2013	Analysis [	Date: 9/	3/2013	S	SeqNo: 3	72399	Units: mg/F	(g				
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					



Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

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

Page 8 of 8



Hall Environmental Analysis Laborator, 4901 Hawkins NE

Albuquerque, NM 87105 TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

# Sample Log-In Check List

Client	Name:	BLAGG	,	Work Order N	lumber: 13	08D49		RcptNo:	1
Receiv	ed by/date	e: -		073013			-4-11		
Logged	d Bv:	Lindsay Ma	ingin	8/30/2013 10:00	0:00 AM		Juney Hayes		
	eted By:	Lindsay Ma		8/30/2013 1:01:			Shallethan		
Review		MA C	ang	(12/2 = 1	10		() -5" <del>0</del> 0		
	of Cus	tody		08/20/	حرا		10.37-20		
		V	mple bottles?		v	es 🗌	No 🗌	Not Present	
		custody compl				es 🗹	No 🗆	Not Present	
		sample deliv				ourier		Norvice L	
Log I	'n								
		mpt made to	cool the sample	es?	Y	es 🗹	No 🗆	NA $\Box$	
5. We	ere all san	nples received	l at a temperat	ure of >0° C to 6.0°	C Ye	es 🗹	No 🗆	NA 🗆	
6. Sa	ımple(s) ir	proper conta	iner(s)?		Y	es 🗹	No 🗌		
7. Su	fficient sa	mple volume i	for indicated te	st(s)?	Y	es 🗹	No 🗌		
8. Are	e samples	(except VOA	and ONG) pro	perly preserved?	Y	es 🗸	No 🗌		
9. Wa	as preserv	ative added to	bottles?		Y	es 🗌	No 🗹	NA $\square$	
10.vo	A vials ha	ive zero head	space?		Y	es 🗌	No 🗆	No VOA Vials <b></b> ✓	
			ers received br	oken?	Y	es 🗆	No 🗹		
							_	# of preserved bottles checked	
		vork match bo			Y	es 🗸	No 🗔	for pH: (<2 o	r >12 unless noted)
			ain of custody) ntified on Chain		Y	es 🗸	No 🗆	Adjusted?	i > 12 unioss noteu)
		-	ere requested?	-		es 🗹	No 🗆		
		ding times abl			Y	es 🗹	No 🗌	Checked by:	
(If i	no, notify	customer for a	authorization.)						
Specia	al H <u>and</u>	ling (if app	olicable)						
16.Wa	as client n	otified of all di	screpancies w	th this order?	Y	es 🗌	No 🗆	NA 🗹	
	Persor	Notified:		.	Date:				
	By Wh	om:		· · · · · · · · · · · · · · · · · · ·	,	Mail [	Phone  Fax	In Person	
	Regard	ding:							
	Client	Instructions:						<u> </u>	
17. Ac	dditional re	emarks:							
18. <u>Cc</u>	ooler Info	rmation							
- b	Cooler No	o Temp ℃			No Sea	Date	Signed By		
[1		4.9	Good	Yes				!	

C	hain-	, of-Cu	stody	Record	Turn-Around	Time:	<del>_</del> _			•					E R		ТЮ		ri m	4=	) Tia	<i>)</i>	
			NEERNO		Standard	□ Rush															NT \TC		
					Project Name								www.										_
lailing	Address:	Po.	Box 8	7	CROUCH	( MESA	L.F.			490	)1 Ha		ns NI							109			
				87413	Project #:								5-39			-	-	345-					
hono d			3Z- LI							10	1. 50	0-0-	0-00					uest					
	r Fax#:	05 0	<i>50</i> (0		Project Mana	ger:				<u>(</u>	Â				_								$\Box$
A/QC F	Package:		□ Level	4 (Full Validation)	JB	AG6			\$ (8021)	TPH (Gas only)	(O (Mark)			SIMS)		,PO <sub>4</sub> ,SC	PCB's						
ccredi	tation	- Oth-	_		Sampler: 2		enguatra e contacto de Proposição de Santo		TME	F	) / DRO	=	=	270 \$		No.	8082						Î
] NEL		U Otne	r		On lee, and		III No		H	+	終	418	502	2 8	<u>မ</u> ှု	ဇ္ဒီ	es/		Q A	W			্
Date	(Type) _	Matrix	Samp	ole Request ID		Preservative Type			BTEX + ₩EB	BTEX + MTBE	TPH 8015B (GRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)	CHERIDE			Air Bubbles (Y or N)
ha/13	1305	Soil	PILE.	928	402×1	cer	- 8	$\gamma \gamma_{l}$	X		7			-			ω,	- 3	<u> </u>	X	_	$\top$	$\dagger$
и	1312	и		924	ų	ц	-0	02_	X		X									X		十	
И	1319	L(		925	11	И	-Q	23	X		X									X	$\Box$		
4	1326	Ч	PILE		L(	11	-0	74	X		X									X			
r(	1337	ι/	PILE	_	Íſ	· y	-0	05	X		X							·		X		ightharpoons	
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Date: 29/13	Time: 1439	Relinguish	ed by: Blogg	,	Received by:	h Weele	8/29/13		Rer	nark:	s:		B	<u></u>	LI Bi	Abé	,			i			
29 13	Time:	Rel/Inquish	Tre We	ellen	Received by:	<del></del>	18 30 F						_								EA		
ı	f necessary,	amples sub	mitted to Hall	Environmental may be sub	contracted to other	ccredited laboratori	es. This serves	as notice of this	s possi	bility.	Any su	ıb-con	tracted	data v	vill be	cleari	iy nota	ated or	the a	nalytic	al repo	t.	

### 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

Units: mg/Kg

HighLimit

Analyte

Client ID:

Prep Date: 11/8/2013

Analysis Date: 11/8/2013

SeqNo: 422780

%RPD **RPDLimit**  Qual

Chloride

Result PQL

ND 1.5

Sample ID LCS-10252

LCSS

SampType: LCS Batch ID: 10252 TestCode: EPA Method 300.0: Anions

RunNo: 14687

Prep Date: 11/8/2013 Analysis Date: 11/8/2013

SeqNo: 422781

Units: mg/Kg

Qual

Analyte

Result

PQL SPK value SPK Ref Val 1.5

92.9

90

%RPD

%REC

LowLimit

Chloride

110

**RPDLimit** 

14

15.00

0

SPK value SPK Ref Val %REC LowLimit

HighLimit

Qualifiers:

D

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit RPD outside accepted recovery limits R

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

Sample container temperature is out of limit as specified

E Value above quantitation range

J Analyte detected below quantitation limits

Sample pH Not In Range

RL Reporting Detection Limit

P

Page 12 of 15

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1311148

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF-Piles

Sample ID MB-10211	SampT	ype: MI	BLK	Tes	tCode: E	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: PBS	Batch	1D: <b>10</b>	211	F	RunNo: 1	4643				
Prep Date: 11/6/2013	Analysis D	ate: 1	1/7/2013	5	SeqNo: 4	21178	Units: mg/K	ξg		
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	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: LCSS	Batch	1D: <b>10</b>	211	F	RunNo: 1	4643				
Prep Date: 11/6/2013	Analysis D	ate: 1	1/7/2013	5	SeaNo: 4	21183	Units: ma/K	(a		

Client ID: LCSS	Batch	ID: <b>10</b> :	211	F	RunNo: 1	4643				
Prep Date: 11/6/2013	Analysis D	ate: 11	1/7/2013	5	SeqNo: 4	21183	Units: mg/K	(g		
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			
Sum: DNOP	5.0		5.000		100	66	131			

Sample ID 1311148-001AMS	SampT	ype: MS	3	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: Pile 930	Batch	1D: 10	211	F	RunNo: 1	4643				
Prep Date: 11/6/2013	Analysis D	ate: 1	1/7/2013	S	SeqNo: 4	21211	Units: mg/K	(g		
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 1	1311148-001A <b>M</b> SD	SampTy	pe: MS	SD	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: F	Pile 930	Batch	ID: 10	211	R	RunNo: 1	4643				
Prep Date:	11/6/2013	Analysis Da	ate: 11	1/7/2013	S	SeqNo: 4	21243	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Or	rganics (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	

- \* 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
- Page 13 of 15

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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

#### Qualifiers:

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

Analyte detected below quantitation limits

Page 14 of 15

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1311148

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF-Piles

Sample ID MB-10207	SampType: MBLK			Tes	iles					
Client ID: PBS	Batch	h ID: 10	207	F	RunNo: 1	4650				
Prep Date: 11/6/2013	Analysis D	Date: 11	1/7/2013	8	SeqNo: 4	21547	Units: mg/K	(g		
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	SampT	Type: LC	s	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batcl	h ID: 10	207	F	RunNo: 1	4650				
Prep Date: 11/6/2013	Analysis D	Date: 1	1/7/2013	5	SeqNo: 4	21548	Units: mg/k	(g		
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.
- 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

Page 15 of 15

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



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 Num	ber: 1311148		RcptNo:	1
Received by/date:	N 11/05/13				
Logged By: Anne Thorne	e 11/5/2013 10:00:00	AM (	Ann II-		
Completed By: Anne Thorne	e 11/5/2013		aone Am	_	
Reviewed By:	106/13				
Chain of Custody					
1. Custody seals intact on san	nple bottles?	Yes 🗌	No 🗆	Not Present 🗹	
2. Is Chain of Custody comple	ite?	Yes 🗹	No 🗀	Not Present	
3. How was the sample delive	red?	Courier		*	
<u>Log In</u>					
4. Was an attempt made to o	ool 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 contain	ner(s)?	Yes 🗸	No 🗆		
7. Sufficient sample volume for	or indicated test(s)?	Yes 🗹	No 🗆		
8. Are samples (except VOA a	and ONG) properly preserved?	Yes 🗹	No 🗌		
9. Was preservative added to	bottles?	Yes 🗌	No 🗹	NA 🗆	
10.VOA vials have zero heads	pace?	Yes	No 🗆	No VOA Vials	
11. Were any sample containe	rs received broken?	$_{Yes}$	No 🗹 🛚	# of preserved	
			$\Box$	bottles checked	
12.Does paperwork match both (Note discrepancies on character)		Yes 🗹	No ∐	for pH:(<2 or	>12 unless noted)
13. Are matrices correctly ident		Yes 🗹	No 🗆	Adjusted?	
14. Is it clear what analyses we	ere requested?	Yes 🗹	No 🗆		
15. Were all holding times able		Yes 🗹	No 🗆	Checked by:	·
(If no, notify customer for a	uthorization.)			•	
Special Handling (if appl	licable)				
16. Was client notified of all dis		Yes 🗌	No 🗆	NA 🗹	
Person Notified:	Dat	e [			
By Whom:	Via	¥	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 ENGINEERUS INC					Turn-Around Time:				7							11 <i>7</i>	TP	_					
Client:	BLAGG	ENGIN	EERNG	INC	Standard	□ Rush					H										NT \TC		_
1	3P A	MERICA	4		Project Name	<b>:</b>								.halle					_	-		,,,	
Mailing	Address:	P.O.	Box 8	7	CROWN	MESA LF	- MIL	ES		49	01 H			E -						109			
				87413	Project#:					Te	el. 50	5-34	5-39	75	Fa	ах 5	05-3	345-	4107	7			
		05-6										Ę		Ar	alys	sis F	Requ	iest					
email o	r Fax#:	=			Project Mana	ger:			<del>-</del>	(ylu	8					(₹	[ س						
QA/QC I	Package:		□ Level	4 (Full Validation)	J	BL466	•		<b>TMES</b> (8021)	Gas o	DRO / MEC			SIMS)		20 <sub>4,S</sub>	PCB's						
Accredi				- (. an Fandadon)	Sampler:	T. BLAGG			ES	표	띰			S 0.		ο̈́	82						
□ NEL	AP	□ Othe	r		On ice walls	ENGLES NE	.a No∵s			+	2	418.1)	504.1)	8270		<u>ဒ</u> ္ဓ	8/8		₹				Z  b
	(Type)_				Sample Tem	gereitere 🚚 📶	9		量	盟	<u>©</u>	0d 4	od 5	00	eta	Ž	ge	8	3	30			چ
Date	Time	Matrix	Sami	ole Request ID		Preservative	HEAL		BTEX + MTBE	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO	TPH (Method	(Method	PAH's (8310 or	RCRA 8 Metals	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides / 8082 PCB	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE			Air Bubbles (Y or N)
					Type and #	Type	30.00	K	вте	вте	TPH	퓝	EDB	PAH	RCR LCR	Anio	8081	8260	8270	2			Air B
9/31/13	1035	SOIL	PILE	930	403×1	COOL		-001	X		X									×			
11	1045	ч	PILE	93i	A,	H.		-02	×		X									×			T
£Į.	l055	¥	PILE	931 A	ts	Eŧ		763	×		X									×			
l1	1105	<b>{</b> (	PILE	926	lı	и		-04	×		x				1					X			
C)	1115	u	PILE	926 A	t (	11		75	×		X									×			
1/13	0945		PILE	932	11	Įt		-colo	×		×									×			
it	0955	Ч	PILE	932A	11	l1		-207	X		×									X			
	1005	ti	PILE	943 A	ll	l (		-ciB	×		×									X			$\perp$
11	1012	Ц	PILE	934	11	<b>f</b> (		-009	×		X									X	ightharpoonup	$\perp$	$\bot$
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i(	1035	Ų	PILE	925	"	11		-011	×		×					_				Х	$\dashv$	$\bot$	$\bot$
Deter	<b>-</b>	D-Kish	A h. u		Descived by		. Data	Time	_														
Date: 1/2/2013	Time:	Relinquishe	d by. 1 Blee	74	Received by:  Chistia	Waste	11 4 /2013		Ren	nark		BIL	L	BL	466	g.,							
Date:	Time:	Relinguish	ed by:	2 4 / 4 .	Received by:		Date 175/17	Time			1	2 D	<i>p</i>			,	·		~		_		
1. 1 1 2 1	f necessary,	samples subr	nitted to Hall	Environmental may be subc	contracted to other ac	ccredited laboratorie	<del></del>	, , , , , ,	possil	bility.				wt.A data w								t.	

2014 Biopiles

Lab Order 1403537

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Crouch Mesa LF

Lab ID: 1403537-009

Project:

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>JRR</b>
Chloride	31	30	mg/Kg	20	3/17/2014 4:27:58 PM	12201
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analys	t: 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 RAI	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	3/17/2014 10:00:16 PM	1 12163
Surr: BFB	88.0	74.5-129	%Rec	1	3/17/2014 10:00:16 PM	1 12163
EPA METHOD 8021B: VOLATILES					Analys	t: <b>NSB</b>
Benzene	ND	0.047	mg/Kg	1	3/17/2014 10:00:16 PM	1 12163
Toluene	ND	0.047	mg/Kg	1	3/17/2014 10:00:16 PM	1 12163
Ethylbenzene	ND	0.047	mg/Kg	1	3/17/2014 10:00:16 PM	1 12163
Xylenes, Total	ND	0.093	mg/Kg	1	3/17/2014 10:00:16 PM	1 12163
Surr: 4-Bromofluorobenzene	100	80-120	%Rec	1	3/17/2014 10:00:16 PM	1 12163

Matrix: SOIL

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

- 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 Page 9 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1409892

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Crouch Mesa LF

**Lab ID:** 1409892-006

Project:

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 Qu	al 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 RAN	GE 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 RAN	NGE				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

Matrix: SOIL

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

- 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 Page 6 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1403537

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: Pile 928A

**CLIENT:** Blagg Engineering Project: Crouch Mesa LF

Collection Date: 3/7/2014 8:50:00 AM

Lab ID: 1403537-008 Matrix: SOIL

Received Date: 3/12/2014 10:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	: JRR
Chloride	39	30	mg/Kg	20	3/17/2014 4:15:33 PM	12201
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analys	: 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 RAN	NGE				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.

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 8 of 13 J
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Lab Order 1409892

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Pile 933

Project: Crouch Mesa LF

**Collection Date:** 9/16/2014 2:10:00 PM

**Lab ID:** 1409892-009 **Matrix:** SOIL

Received Date: 9/18/2014 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: JRR
Chloride	ND	30	mg/Kg	20	9/19/2014 6:11:05 PM	15404
EPA METHOD 8015M/D: DIESEL RA	PA METHOD 8015M/D: DIESEL RANGE ORGANICS				Analys	t: 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 RA	ANGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/23/2014 12:17:46 AM	<b>/</b> 15381
Surr: BFB	87.1	80-120	%Rec	1	9/23/2014 12:17:46 AM	<b>/</b> 15381
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.048	mg/Kg	1	9/23/2014 12:17:46 AM	/I 15381
Toluene	ND	0.048	mg/Kg	1	9/23/2014 12:17:46 AM	/I 15381
Ethylbenzene	ND	0.048	mg/Kg	1	9/23/2014 12:17:46 AM	/I 15381
Xylenes, Total	ND	0.095	mg/Kg	1	9/23/2014 12:17:46 AM	/I 15381
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	9/23/2014 12:17:46 AM	<i>l</i> l 15381

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

- 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 Page 9 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Lab Order 1405024

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Crouch Mesa LF

Lab ID: 1405024-007

Project:

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>JRR</b>
Chloride	100	30	mg/Kg	20	5/2/2014 2:11:29 PM	12983
EPA METHOD 8015M/D: DIESEL RANG	E ORGANIC	s			Analys	t: 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 RAN	EPA METHOD 8015D: GASOLINE RANGE				Analys	t: 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					Analys	t: 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

Matrix: SOIL

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

- 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 Page 7 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1405024

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: Pile 936

**CLIENT:** Blagg Engineering **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						Analys	t: JRR
Chloride	43	30		mg/Kg	20	5/2/2014 1:46:40 PM	12983
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s				Analys	t: 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 RAN	NGE					Analys	: 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						Analys	: 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.

- 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 Page 5 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1405764

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project: Crouch Mesa LF

Lab ID: 1405764-005 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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	st: JRR
Chloride	260	30	mg/Kg	20	5/20/2014 1:23:48 PM	13252
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANICS				Analys	st: BCN
Diesel Range Organics (DRO)	38	9.8	mg/Kg	1	5/20/2014 10:52:47 Al	M 13217
Motor Oil Range Organics (MRO)	120	49	mg/Kg	1	5/20/2014 10:52:47 Al	M 13217
Surr: DNOP	109	70-130	%Rec	1	5/20/2014 10:52:47 Al	M 13217
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	st: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	5/20/2014 10:28:13 PI	vi 13226
Surr: BFB	87.5	80-120	%Rec	1	5/20/2014 10:28:13 PI	M 13226
EPA METHOD 8021B: VOLATILES					Analys	st: NSB
Benzene	ND	0.048	mg/Kg	1	5/20/2014 10:28:13 PI	vi 13226
Toluene	ND	0.048	mg/Kg	1	5/20/2014 10:28:13 PI	M 13226
Ethylbenzene	ND	0.048	mg/Kg	1	5/20/2014 10:28:13 PI	M 13226
Xylenes, Total	ND	0.095	mg/Kg	1	5/20/2014 10:28:13 Pt	vi 13226
Surr: 4-Bromofluorobenzene	106	80-120	′%Rec	1	5/20/2014 10:28:13 PI	M 13226

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 5 of 14 J
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1403537

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Project: Crouch Mesa LF

**Lab ID:** 1403537-005

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>JRR</b>
Chloride	100	30	mg/Kg	20	3/17/2014 3:38:19 PM	12201
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANIC	S			Analys	t: 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 RA	EPA METHOD 8015D: GASOLINE RANGE				Analys	: 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					Analys	: 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

Matrix: SOIL

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

- 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 Page 5 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1403537

Date Reported: 9/21/2016

# 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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: JRR
Chloride	78	30	mg/Kg	20	3/17/2014 3:50:44 PM	12201
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	S			Analys	t: BCN
Diesel Range Organics (DRO)	26	10	mg/Kg	1	3/14/2014 10:34:58 PM	<b>/</b> 12165
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	3/14/2014 10:34:58 PM	<i>I</i> 12165
Surr: DNOP	115	70-130	%Rec	1	3/14/2014 10:34:58 PM	/ 12165
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: 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					Analys	t: 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.

- 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 Page 6 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1405024

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Pile 941

Project: Ci

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>JRR</b>
Chloride	100	30	mg/Kg	20	5/2/2014 1:34:16 PM	12983
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	S			Analys	t: 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 RA	NGE				Analys	t: 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					Analys	t: 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.

- 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 Page 4 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1405764

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: Pile 942

CLIENT: Blagg Engineering
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 Qu	al 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 RAN	IGE 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 RA	NGE				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.

- 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 Page 6 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1405024

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project: Crouch Mesa LF

**Lab ID:** 1405024-006

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>JRR</b>
Chloride	59	30	mg/Kg	20	5/2/2014 1:59:04 PM	12983
EPA METHOD 8015M/D: DIESEL RAI	PA METHOD 8015M/D: DIESEL RANGE ORGANICS					t: 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 RA	EPA METHOD 8015D: GASOLINE RANGE					t: 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					Analys	t: 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

Matrix: SOIL

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

- 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 Page 6 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1409892

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project: Crouch Mesa LF

**Lab ID:** 1409892-010

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>JRR</b>
Chloride	440	30	mg/Kg	20	9/19/2014 6:23:29 PM	15404
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analys	t: 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 RAI	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	9/23/2014 12:47:59 AM	M 15381
Surr: BFB	89.2	80-120	%Rec	1	9/23/2014 12:47:59 AM	M 15381
EPA METHOD 8021B: VOLATILES					Analys	t: 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	M 15381
Ethylbenzene	ND	0.047	mg/Kg	1	9/23/2014 12:47:59 AM	M 15381
Xylenes, Total	ND	0.094	mg/Kg	1	9/23/2014 12:47:59 AM	<i>I</i> 15381
Surr: 4-Bromofluorobenzene	110	80-120	%Rec	1	9/23/2014 12:47:59 AM	/ 15381

Matrix: SOIL

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

- 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 Page 10 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1408032

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Pile 951

 Project:
 Crouch Mesa LF
 Collection Date: 7/30/2014 10:45:00 AM

 Lab ID:
 1408032-004
 Matrix: SOIL
 Received Date: 7/30/2014 1:06:00 PM

Analyses	Result	PQL Qu	al 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 RAN	IGE 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 RAI	NGE				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.

- 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 Page 4 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1408032

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Project: Crouch Mesa LF

**Lab ID:** 1408032-005

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>LGT</b>
Chloride	61	30	mg/Kg	20	8/4/2014 2:53:20 PM	14585
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS	<b>;</b>			Analys	t: 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 RA	EPA METHOD 8015D: GASOLINE RANGE					t: 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					Analys	: 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

Matrix: SOIL

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

- 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 Page 5 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1408032

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Project: Crouch Mesa LF

**Lab ID:** 1408032-006

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 Qu	al 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	

Matrix: SOIL

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

- 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 Page 6 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1405764

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Crouch Mesa LF

**Lab ID:** 1405764-003

Project:

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: JRR
Chloride	54	30	mg/Kg	20	5/20/2014 12:58:59 PM	A 13252
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analys	t: BCN
Diesel Range Organics (DRO)	26	10	mg/Kg	1	5/21/2014 11:43:44 AM	A 13217
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	5/21/2014 11:43:44 AM	A 13217
Surr: DNOP	92.0	70-130	%Rec	1	5/21/2014 11:43:44 AM	A 13217
EPA METHOD 8015D: GASOLINE RANGE					Analys	t: 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					Analys	t: 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

Matrix: SOIL

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

- 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 Page 3 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1407373

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Crouch Mesa LF

1407373-006 Lab ID:

Project:

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: SRM
Chloride	100	30	mg/Kg	20	7/11/2014 11:07:51 AM	1 14177
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANICS	;			Analys	t: 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 RA	NGE				Analys	t: 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					Analys	: 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

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Ε Value above quantitation range
- Analyte detected below quantitation limits Page 6 of 11 J
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1405764

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering Client Sample ID: Pile 958

Project: Crouch Mesa LF **Collection Date:** 5/12/2014 8:05:00 AM 1405764-001 Lab ID: Matrix: SOIL Received Date: 5/17/2014 10:45:00 AM

Analyses	Result	PQL Q	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analysi	: JRR
Chloride	100	30		mg/Kg	20	5/20/2014 11:44:32 AM	1 13252
EPA METHOD 8015M/D: DIESEL RAN	GE 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 RAI	NGE					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.

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Ε Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 14 J
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1410B59

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: Pile 959

Project: Crouch Mesa LF Collection Date: 10/21/2014 3:32:00 PM

Lab ID: 1410B59-005 Matrix: SOIL Received Date: 10/24/2014 7:30:00 AM

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

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 5 of 14
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1409892

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample 1D: Pile 960

Project: Crouch Mesa LF Collection Date: 9/16/2014 1:55:00 PM

**Lab ID:** 1409892-008 **Matrix:** SOIL **Received Date:** 9/18/2014 7:30:00 AM

Analyses	Result	PQL Qu	al 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 RANG	E 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 RAN	GE				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.

- 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 Page 8 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1408032

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Pile 962

 Project:
 Crouch Mesa LF
 Collection Date: 7/30/2014 10:04:00 AM

 Lab ID:
 1408032-008
 Matrix: SOIL
 Received Date: 7/30/2014 1:06:00 PM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	36	30	mg/Kg	20	8/4/2014 3:30:34 PM	14585
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analys	t: 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 RAI	EPA METHOD 8015D: GASOLINE RANGE					t: 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		,			Analys	t: 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.

- 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 Page 8 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1407373

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Pile 963

Project: Crouch Mesa LF Collection Date: 7/8/2014 10:40:00 AM

Lab ID: 1407373-002 Matrix: SOIL Received Date: 7/9/2014 8:00:00 AM

Analyses	Result	PQL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analys	SRM
Chloride	90	30		mg/Kg	20	7/11/2014 9:53:23 AM	14177
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS					Analys	: 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 RANG	GE					Analys	:: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	٠ 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.

- 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 Page 2 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1408032

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

1408032-009

Client Sample ID: Pile 964

Project: Crouch Mesa LF

Lab ID:

**Collection Date:** 7/30/2014 10:20:00 AM **Received Date:** 7/30/2014 1:06:00 PM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	ND	30	mg/Kg	20	8/4/2014 3:42:59 PM	14585
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	6			Analys	t: 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 RAI	NGE				Analys	t: 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					Analys	t: 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

Matrix: SOIL

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

- 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 Page 9 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1408032

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Pile 965

Project: Crouch Mesa LF Collection Date: 7/30/2014 9:55:00 AM

Lab ID: 1408032-010 Matrix: SOIL Received Date: 7/30/2014 1:06:00 PM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	47	30	mg/Kg	20	8/4/2014 3:55:23 PM	14585
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analys	t: 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 RAM	NGE				Analys	t: 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					Analys	t: 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.

- 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 Page 10 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1412597

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

**Project:** Crouch Mesa LF

Lab ID: 1412597-007

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	st: LGT
Chloride	80	30	mg/Kg	20	12/15/2014 4:27:29 P	M 16822
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANICS				Analy	st: <b>JME</b>
Diesel Range Organics (DRO)	35	9.9	mg/Kg	1	12/15/2014 3:22:10 P	M 16790
Motor Oil Range Organics (MRO)	73	49	mg/Kg	1	12/15/2014 3:22:10 P	M 16790
Surr: DNOP	81.7	70-130	%Rec	1	12/15/2014 3:22:10 P	M 16790
EPA METHOD 8015D: GASOLINE RA	NGE				Analy	st: 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					Analy	st: 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

Matrix: SOIL

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

- 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 Page 7 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1412597

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Pile 971

 Project:
 Crouch Mesa LF
 Collection Date: 12/8/2014 12:40:00 PM

 Lab ID:
 1412597-004
 Matrix: SOIL
 Received Date: 12/12/2014 7:32:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	70	30	mg/Kg	20	12/15/2014 3:25:24 PM	16822
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANICS				Analys	t: JME
Diesel Range Organics (DRO)	100	9.9	mg/Kg	1	12/15/2014 2:17:22 PN	1 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	1 16790
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/15/2014 9:31:38 PN	1 16795
Surr: BFB	92.1	80-120	%Rec	1	12/15/2014 9:31:38 PM	1 16795
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.048	mg/Kg	1	12/15/2014 9:31:38 PM	1 16795
Toluene	ND	0.048	mg/Kg	1	12/15/2014 9:31:38 PM	1 16795
Ethylbenzene	ND	0.048	mg/Kg	1	12/15/2014 9:31:38 PM	1 16795
Xylenes, Total	ND	0.097	mg/Kg	1	12/15/2014 9:31:38 PM	1 16795
Surr: 4-Bromofluorobenzene	95.7	80-120	%Rec	1	12/15/2014 9:31:38 PM	1 16795

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

- 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 Page 4 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1412597

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Pile 975

 Project:
 Crouch Mesa LF
 Collection Date: 12/8/2014 12:30:00 PM

 Lab ID:
 1412597-003
 Matrix: SOIL
 Received Date: 12/12/2014 7:32:00 AM

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

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

- 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 Page 3 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1412597

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project: Crouch Mesa LF

**Lab ID:** 1412597-008

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

Matrix: SOIL

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

- 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 Page 8 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1412597

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

**Project:** Crouch Mesa LF

**Lab ID:** 1412597-009

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	st: <b>LGT</b>
Chloride	78	30	mg/Kg	20	12/15/2014 4:52:19 P	M 16822
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANICS	;			Analy	st: JME
Diesel Range Organics (DRO)	55	10	mg/Kg	1	12/15/2014 4:05:21 P	M 16790
Motor Oil Range Organics (MRO)	68	50	mg/Kg	1	12/15/2014 4:05:21 P	M 16790
Surr: DNOP	83.7	70-130	%Rec	1	12/15/2014 4:05:21 P	M 16790
EPA METHOD 8015D: GASOLINE RA	NGE				Analy	st: 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					Analy	st: 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

Matrix: SOIL

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

- 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 Page 9 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1412597

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: Pile 990

Project: Crouch Mesa LF

Collection Date: 12/8/2014 12:10:00 PM

**Lab ID:** 1412597-001

Matrix: SOIL Receiv

Received Date: 12/12/2014 7:32:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analysi	:: LGT
Chloride	74	30	mg/Kg	20	12/15/2014 2:48:09 PM	16822
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	;			Analyst	: JME
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	12/15/2014 1:12:36 PM	I 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 RAN	IGE				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.

- 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 Page 1 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1412597

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Crouch Mesa LF

Lab ID: 1412597-005

Project:

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

Matrix: SOIL

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

- 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 Page 5 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### 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

Units: mg/Kg

Prep Date: 3/17/2014

Analysis Date: 3/17/2014

SeqNo: 500913

HighLimit

%RPD **RPDLimit**  Qual

Analyte Chloride

Result **PQL** ND 1.5

Sample ID LCS-12201

SampType: LCS

Batch ID: 12201

**PQL** 

1.5

TestCode: EPA Method 300.0: Anions

RunNo: 17390

SPK value SPK Ref Val %REC LowLimit

Prep Date: 3/17/2014

Client ID: LCSS

Analysis Date: 3/17/2014

SeqNo: 500914

Units: mg/Kg

HighLimit LowLimit

**RPDLimit** 

Qual

Analyte

SPK value SPK Ref Val 15.00

%REC 94.2

110

Chloride

Result 14

0

90

%RPD

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded Not Detected at the Reporting Limit

RPD outside accepted recovery limits

Analyte detected in the associated Method Blank Е

P

Value above quantitation range Analyte detected below quantitation limits

Page 10 of 13

Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Qualifiers:

D

% Recovery outside of range due to dilution or matrix

# Hall Environmental Analysis Laboratory, Inc.

10

55

5.4

50.00

5.000

WO#:

1403537

21-Sep-16

Client:

Blagg Engineering

Project:

Diesel Range Organics (DRO)

Surr: DNOP

Crouch Mesa LF

Sample ID MB-12165	SampT	ype: Mi	BLK	Tes	tCode: E	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: PBS	Batch	ID: <b>12</b>	165	F	RunNo: 1	7309				
Prep Date: 3/13/2014	Analysis D	ate: 3/	14/2014	8	SeqNo: 4	99648	Units: mg/K	(g		
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	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: LCSS	Batch	ID: 12	165	R	RunNo: 1	7357				
Prep Date: 3/13/2014	Analysis D	ate: 3/	17/2014	S	SeqNo: 4	99909	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

109

107

60.8

66

145

131

- \* 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
- Page 11 of 13

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1403537

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-12163	SampT	ype: ME	BLK	TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch	ID: <b>12</b>	163	F	RunNo: 1	7371					
Prep Date: 3/13/2014	Analysis D	ate: 3/	17/2014	S	SeqNo: 5	00261	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	8 <b>7</b> 0		1000		87.2	74.5	129				

Sample ID LCS-12163	Samp1	ype: LC	s	TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batcl	n ID: <b>12</b>	163	R	RunNo: 1	7371				
Prep Date: 3/13/2014	Analysis D	)ate: 3/	17/2014	SeqNo: 500262			Units: mg/F			
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			

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ID 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
- Analyte detected below quantitation
- Page 12 of 13

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1403537

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-12163	SampT	ype: ME	BLK	Tes	tCode: El	iles				
Client ID: PBS	Batch	n ID: 12	163	F	RunNo: 1	7371				
Prep Date: 3/13/2014	Analysis D	)ate: 3/	17/2014	SeqNo: 500288			Units: mg/K	(g		
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	SampT	ype: LC	s	Tes	tCode: E	iles				
Client ID: LCSS	Batch	n ID: 12	163	F	RunNo: 1	7371				
Prep Date: 3/13/2014	Analysis D	)ate: 3/	17/2014	S	SeqNo: 5	00289	Units: mg/K	(g		
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.
- 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

Page 13 of 13

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: BLAGG	Work Order Numb	er: 1403537		RcptNo:	1
Received by/date:	63/12/14				
Logged By: Michelle Garcia	3/12/2014 10:00:00	AM ·	Minul Ga	· ·	
Completed By: Michelle Garcia	3/13/2014 11:02:14	AM	Michael Ga Michael Ga		
Reviewed By: 4 03/13/	14		' 7"		
Chain of Custody					
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			
<u>Log in</u>					
Was an attempt made to cool the samp	ae?	Yes 🗹	No 🗆	NA 🗆	
T. Was an attempt made to cool the samp	les r	169 ( )			
5. Were all samples received at a tempera	ture of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗆	
6 Sample/a) in proper container/a)?		Yes 🗹	No 🗆		
<ol><li>Sample(s) in proper container(s)?</li></ol>		162 🖭	140		
7. Sufficient sample volume for indicated to	est(s)?	Yes 🗹	No 🗆		
8. Are samples (except VOA and ONG) pro	pperly 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 b	roken?	Yes 🗔	No 🗹		
				# of preserved bottles checked	
12. Does paperwork match bottle labels?		Yes 🗹	No 🗆	for pH:	>12 unless noted)
(Note discrepancies on chain of custody		Yes 🗹	No 🗔	Adjusted?	>12 unless noted)
<ul><li>13. Are matrices correctly identified on Chai</li><li>14. Is it clear what analyses were requested</li></ul>		Yes 🗹	No 🗆	_	
15. Were all holding times able to be met?	•	Yes 🗹	No 🗆	Checked by:	
(If no, notify customer for authorization.)	,				
Special Handling (if applicable)					
16. Was client notified of all discrepancies w	rith this order?	Yes 🗆	No 🗆	NA 🗹	
Person Notified:	Date:				
By Whom:	Via:	eMail	Phone Fax	☐ In Person	
Regarding:		VALC. AF			
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 Engir	neering, In	С.	Standard	□ Rush				AN/	LY	SIS	LAI	3OF	LAS	OR	Y
	BP America	3		Project Name	e:							ironme				
Mailing Addr	ress:	P.O. Box	¢ 87	1	Crouch Mesa	LF	Ι.	4901 H				ouquero			109	
			eld, NM 87413	Project #:			1		)5-345 <sub>-</sub>			ax 50				
Phone #:		(505)320								واعترا استسبس	Color Billion	Reque				
email or Fax	<b>:#</b> :			Project Mana	ager:								T			
QA/QC Packs	age:				Jeff Blagg											
			☐ Level 4 (Full Validation	)				/ DRO)								
□ Other			A STATE OF THE STA	Sampler:	Jeff Blagg		]	10/0								<b>a</b>
□ EDD (Typ	oe)				`L <del>∕ Ye</del> s	□ No		(GRO								5
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	/ HEAL No. 140353 <del>で</del>	BTEX (8021)	TPH 8015B (0							Chloride	Air Bubbles (Y or N)
03/07/2014	8:05	Soil	Pile 410	40z x 1	cool	001	X	x						$\prod$	х	
03/07/2014	8:10	Soil	Pìle 417	40z x 1	cool	002	x	х							х	Irmbr Manashii
03/07/2014	8:15	Soil	Pile 431	40z x 1	cool	. 063	x	×		1					x	
03/07/2014	8:20	Soil	Pile 411	4oz x 1	cool	004	х	×			<b> </b>		-		×	
03/07/2014	8:30	Soil	Pile 939	40z x 1	cool	005	x	×			1				х	
03/07/2014	8:35	Soil	Pile 940	40z x 1	cool	006	х	×							х	
03/07/2014	8:40	Soil	Pile 928	40z x 1	cool	001	х	×			1				х	
03/07/2014	8:50	Soil	Pile 928A	40z x 1	cool	<b>०</b> ०४	x	×							x	
03/07/2014	9:00	Soil	Pile 915	4oz x 1	cool	009	х	×	J,						×	
		-			ļ						-		+			
																11 H 11
Date: 3/11/2014	Time: 1407	Relinquish	4 Bless	Received by:  Mistu	Walter	Date Time 3/11/14 1407	BP C	arks: E ontact: e.jeffre	Jeff P	eace	F	Please (	рору г	esults	s to:	
Date: 3	1744	Rellyfquish		Received by:	X	Date Time		,				-				
if nec	cessary, samples	submitted to F	iali Environmental may be subcontracti	ed to other accredite	ed laboratories. This	serves as notice of this possit	olity. Any	sub-contr	acted date	ed illw e	clearly	notated o	n the en	atytical r	eport.	

### 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:

Analysis Date: 5/2/2014 5/2/2014

SeqNo: 530932

Units: mg/Kg

Qual

Analyte

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD

**RPDLimit** 

Chloride

Result **PQL** 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

1.5

SeqNo: 530933

Units: mg/Kg

**PQL** 

15.00

%REC 90.9 LowLimit

Qual

110

14

Chloride

%RPD

**RPDLimit** 

Analyte

Result

SPK value SPK Ref Val

HighLimit

#### Qualifiers:

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

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# Hall Environmental Analysis Laboratory, Inc.

46

4.7

10

50.00

5.000

WO#:

Page 9 of 11

1405024

21-Sep-16

Client:

Blagg Engineering

Project:

Diesel Range Organics (DRO)

Surr: DNOP

Crouch Mesa LF

Sample ID MB-12956	SampTy	SampType: MBLK Batch ID: 12956			TestCode: EPA Method 8015M/D: Diesel Range C					
Client ID: PBS	Batch	ID: 12	956	F	tunNo: 1	8327				
Prep Date: 5/1/2014	Analysis Da	ate: <b>5</b> /	1/2014	8	eqNo: 5	29725	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	SampTy	/pe: LC	S	Tes	Code: E	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: LCSS	Batch	ID: 12	956	R	unNo: 1	8327				
Prep Date: 5/1/2014	Analysis Da	ate: <b>5/</b>	1/2014	S	eqNo: 5	29726	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

0

91.8

94.0

60.8

57.9

145

140

- 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

# Mall Environmental Analysis Laboratory, Inc.

WO#:

1405024

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-12961	SampT	уре: М	BLK	TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch	Batch ID: 12961			RunNo: 1	8363				
Prep Date: 5/1/2014	Analysis D	ate: 5/	2/2014	SeqNo: 530504			Units: mg/k			
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	SampT	ype: LC	s	TestCode: EPA Method 8015D: Gasoline Range						

Sample ID LCS-12961	SampT	ype: LC	s	TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch	ı ID: <b>12</b>	961	F	RunNo: 1	8363				
Prep Date: 5/1/2014	Analysis D	ate: 5/	2/2014	SeqNo: <b>530505</b>			Units: mg/F			
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.
- Sample Diluted Due to Matrix
  - Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Reporting Detection Limit
- P Sample pH Not In Range

RL

Sample container temperature is out of limit as specified

Page 10 of 11

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1405024

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-12961	SampT	Гуре: <b>М</b> Е	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: PBS	Batcl	h ID: 12	961	F	RunNo: 1	8363				
Prep Date: 5/1/2014	Analysis D	Date: 5/	2/2014	8	SeqNo: 5	30547	Units: mg/K	(g		
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	Samnī	ype: LC	•	Tes	tCode: El	PA Method	8021B: Vola	ilos		
Cample ID LC3-12901	Gampi	ype. Lo		163	loue. E	- A INIGUIOU	OUZID. VOIA	illes		
Client ID: LCSS	Batch	n ID: 12	961	F	RunNo: 1	8363				
Prep Date: 5/1/2014	Analysis D	oate: 5/	2/2014	8	SeqNo: 5	30548	Units: mg/k	(g		
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.
- 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

Page 11 of 11



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 Numbe	or: 1405024		RcptNo:	1
Received by/date:	05/01/14				
Logged By: Celina Sessa	5/1/2014 10:03:00 AM	A			
Completed By: Celina Sessa	5/1/2014 11:18:11 AM	A			
Reviewed By:	05/01/14				1
Chain of Custody	2				
Custody seals intact on sample bottle	es?	Yes 🗌	No $\square$	Not Present	
2. Is Chain of Custody complete?		Yes 🗹	No 🗌	Not Present	
3. How was the sample delivered?		Courier			
Log In					
Was an attempt made to cool the sa	mples?	Yes 🗹	No 🗌	NA 🗆	
, resulting made to our me					
5. Were all samples received at a temp	erature of >0° C to 6.0°C	Yes 🗹	No 🗌	NA 🗆	
6. Sample(s) in proper container(s)?		Yes 🗹	No 🗔		
		_			
7. Sufficient sample volume for indicate		Yes 🗹	No □	-	
8. Are samples (except VOA and ONG)	properly preserved?	Yes 🗹	No L	🗆	
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 receive	d broken?	Yes	No 🗹	# of preserved	
				bottles checked	
12. Does paperwork match bottle labels? (Note discrepancies on chain of customers)		Yes 🗹	No 🗆	for pH; (<2 o	r >12 unless noted)
13. Are matrices correctly identified on C		Yes 🗹	No 🗔	Adjusted?	
14. Is it clear what analyses were reques		Yes 🗹	No 🗆	_	
15. Were all holding times able to be me		Yes 🗹	No 🗆	Checked by:	
(If no, notify customer for authorization			•		
Special Handling (if applicable)					
16. Was client notified of all discrepancie	s 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 Date	Signed By		
1 2.2 Good	Yes				

Client:	Blagg Engir	neering, In	C.	Standard	☐ Rush								LAE				
	BP America	1		Project Name	<b>e</b> :								onme				
Mailing Add	ess:	P.O. Box	¢ 87		Crouch Mesa	LF		4901					ıquerq			7109	
			eld, NM 87413	Project #:					505-3				ax 50				
Phone #:		(505)320	D-1183	1									Reque				
email or Fax	<b>;#</b> :			Project Mana	ager:												
QA/QC Packa	age:				Jeff Blagg			_									
<b>★</b> Standard			☐ Level 4 (Full Validation	)													
□ Other				Sampler:	Jeff Blagg												Ê
□ EDD (Ty	oe)				X Yes			ğ					.				ō
	<u> </u>	1	<u> </u>	Sample I em	perature: 😞		23	8									ح ا
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO: 1405024	BTEX (8021)	(OBO / OBO) REMO								Chloride	Air Bubbles (Y or N)
04/28/2014	10:58	Soil	Pile 949	4oz x 1	cool	-001	×	×	┪							×	
04/28/2014	11:08	Soil	Pile 947	4oz x 1	cool	-002	х	×								х	
04/28/2014	11:15	Soil	Pile 945	40z x 1	cool	-003	х	×								х	
04/28/2014	11:24	Soil	Pile 941	40z x 1	cool	-004	х	×								х	
04/28/2014	11:33	Soil	Pile 936	40z x 1	cool	-005	х	×								х	
04/28/2014	11:45	Soil	Pile 943	4oz x 1	cool	-006	x	×								x	
04/28/2014	11:54	Soil	Pile 935	4oz x 1	cool	-007	х	х						1		х	
								-						+		$\vdash \vdash$	
			·														
Date:	Time:	Relinquish	led by:	Received by:		Date Time	Rem	arks:	Bill Bi	agg				<u>ا</u>	<u> </u>	Ш	
4/30/2014	1400	Ju	4 Blogy	Mriste	ملعملا	n 4/30/14 1400	BP C	Contac ce.jeffr	:: Jef	f Pea		Ple	ease c	ору г	esult	s to:	ĺ
Date:	Time:	Relinquish	ned by:	Received by:		Date Time		o.jemi	. <del>, </del>	p.50							
4/30/14	1735	1/ The	waterlibelan	Celina	Jun	05/01/14 10:03	<u></u>										
' If ne	cessary, samples	submitted to H	iall Environmental may be subcontract	ed to other accredite	ed laboratories. This	serves as notice of this possib	ility. An	ıy sub-coı	tracted	data w	/ill be cl	early n	otated or	ı the an	alytical	report.	ı

### 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

HighLimit

%RPD **RPDLimit** 

Qual

Analyte Chloride

Result **PQL** ND

1.5

SampType: LCS

**PQL** 

1.5

TestCode: EPA Method 300.0: Anions RunNo: 18762

Client ID: LCSS Prep Date: 5/20/2014

Sample ID LCS-13252

Batch ID: 13252

Analysis Date: 5/20/2014

SeqNo: 541700

Units: mg/Kg

HighLimit LowLimit

**RPDLimit** %RPD

15.00

0

SPK value SPK Ref Val %REC LowLimit

90

110

Analyte Chloride

Result 14

SPK value SPK Ref Val

%REC 96.1

Qual

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

RPD outside accepted recovery limits R

% Recovery outside of range due to dilution or matrix

В 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 Sample container temperature is out of limit as specified Page 11 of 14

# Hall Environmental Analysis Laboratory, Inc.

**PQL** 

10

Result

54

4.4

WO#:

1405764

21-Sep-16

Client:

Blagg Engineering

Project:

Analyte

Surr: DNOP

Diesel Range Organics (DRO)

Crouch Mesa LF

Sample ID MB-13217	SampTy	rpe: MBLK	TestCo	le: EPA Method	1 8015M/D: Die	esel Rang	e Organics	
Client ID: PBS	Batch	ID: <b>13217</b>	Run	lo: <b>18691</b>				
Prep Date: 5/19/2014	Analysis Da	ate: 5/19/2014	Seq	lo: <b>540085</b>	Units: mg/K	g		
Analyte	Result	PQL SPK value	SPK Ref Val %I	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	SampTy	pe: LCS	TestCoo	e: EPA Method	1 8015M/D: Die	sel Rang	e Organics	
Client ID: LCSS	Batch	ID: <b>13217</b>	Run	lo: <b>18691</b>				
Prep Date: 5/19/2014	Analysis Da	ite: 5/19/2014	Seal	o: <b>540086</b>	Units: ma/K	a		

0

%REC

108

87.1

LowLimit

60.8

57.9

HighLimit

145

140

%RPD

**RPDLimit** 

Qual

SPK value SPK Ref Val

50.00

5.000

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- 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

Page 12 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1405764

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-13226	Samp	Гуре: <b>М</b> Е	BLK	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	е	
Client ID: PBS	Batc	h ID: 13	226	F	RunNo: 1	8746				
Prep Date: 5/19/2014	Analysis [	Date: 5/	20/2014	8	SeqNo: 5	41337	Units: mg/K	(g		
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			
Camala ID. 1 00 4000	C1	I 0		Tan	Codo: El		904ED: Coop	line Dene		

Sample ID LCS-13226	SampT	ype: LC	s	Test	Code: E	PA Method	8015D: Gaso	oline Rang	е	
Client ID: LCSS	Batch	ID: <b>13</b>	226	R	lunNo: 1	8746				
Prep Date: 5/19/2014	Analysis D	sis 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.
- D Sample Diluted Due to Matrix
  - Holding times for preparation or analysis exceeded
- D 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

Page 13 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1405764

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-13226 Client ID: PBS	•	ype: <b>ME</b>		-	tCode: El		8021B: Volat	iles		
Prep Date: 5/19/2014	Analysis D	)ate: <b>5</b> /	20/2014	S	eqNo: 5	41368	Units: mg/K	g		
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	Samp	Гуре: <b>L</b> C	s	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batcl	h ID: 13	226	F	RunNo: 1	8746				
Prep Date: 5/19/2014	Analysis [	Date: <b>5/</b>	20/2014	5	SeqNo: 5	41370	Units: mg/K	(g		
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.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Sample pH Not In Range

Page 14 of 14

- P
- RLReporting Detection Limit
- WSample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: BLAGG	Work Order Numbe	r: 1405764		RcptNo:	1
Received by/date:	nostration	1			
	5/17/2014 10:45:00 A	<del>- )</del>	A		
			4	,	
Completed By: Ashley Gallegos Reviewed By:	5/17/2014 11:32:19 A	,	Step	:	
	02/12/	4			
Chain of Custody	,	V []	No 🗆	Not Present ✓	
Custody seals intact on sample both     Is Chain of Custody complete?	iles?	Yes └┘ Yes ☑	No 🗆	Not Present	
3. How was the sample delivered?		Courier		Not Flooring Ed	
3. How was the sample delivered?		Counter	•		
<u>Log In</u>				•	
4. Was an attempt made to cool the s	amples?	Yes 🗹	No 🗌	na 🗆	
<b>-</b>				· 🗆	
5. Were all samples received at a tem	perature of >0° C to 6.0°C	Yes 🗹	No 📙	NA 🗌	
6. Sample(s) in proper container(s)?		Yes 🗹	No 🗌		
7. Autorian and the colours for ladical		v 🗖	No 🗆		
<ol> <li>Sufficient sample volume for indicate</li> <li>Are samples (except VOA and ONG</li> </ol>		Yes ✔ Yes ✔	No 🗆		
9. Was preservative added to bottles?		Yes $\square$	No 🗹	NA 🗆	
J. Was preservative added to bottles:		103			
10.VOA vials have zero headspace?		Yes 🗌	No 🗆	No VOA Vials 🗹	
11. Were any sample containers receive	red broken?	Yes 🗆	No 🗹	# of preserved	
12. Does paperwork match bottle labels	.9	Yes 🗹	No 🗆	bottles checked for pH:	
(Note discrepancies on chain of cus	· · · · · · · · · · · · · · · · · · ·	ies 🖭		(<2 0	r >12 unless noted)
13. Are matrices correctly identified on	Chain of Custody?	Yes 🗹	No 🗆	Adjusted?	-
14. Is it clear what analyses were reque		Yes ✓	No 📙	Checked by:	
15. Were all holding times able to be m (If no, notify customer for authorizat		Yes 🗹	No □	Checked by.	
Special Handling (if applicable	<u>}</u>				
16. Was client notified of all discrepanc	ies with this order?	Yes	No 🗆	· NA 🗹	_
Person Notified:	Date:			4	
By Whom:	Via:	☐ eMail ☐	Phone 🔲 Fax	In Person	
Regarding:					
Client Instructions:	· · · · · · · · · · · · · · · · · · ·	·			]
17. Additional remarks:					
18. Cooler Information	العربوان سيستوأ	'n(n 1	01 I		
Cooler No Temp °C Condit	ion Seal Intact Seal No	Seal Date	Signed By		
<u> </u>					

	BP America		ay Itoola						HA	LL E	NVI	RON	IME	NTA	L
CHETT.	DF America			Standard			▎□		AN	ALY	SIS	LAB	ORA	TOP	ĽΥ
	Blagg Engir	neering Ind	<b>c</b> .	Project Name	9:				W	ww.ha	allenviro	nment	al.com		
Mailing Addr	ess:	P.O. Box	x 87	]	Crouch Mesa	LF		4901 F	lawkin	s NE	- Albuq	uerqu	e, NM (	87109	
		Bloomfie	eld, NM 87413	Project #:				Tel. 5	5-345	-3975	Fax	505-	345-41	07	
Phone #:		(505)320	0-1183	1							ysis Re				
email or Fax	<b>;#</b> :			Project Mana	iger:		Π								
QA/QC Packa	age:			}	Jeff Blagg		.								
<b>⋉</b> Standard			☐ Level 4 (Full Validation	)				2							
□ Other				Sampler:	Jeff Blagg			ē							9
☐ EDD (Typ	oe)			7.7.400.000.0100.000.000.000.000		□ No		2							<u></u> 6
		.,		Sample Tem	perature:		5	(9)							ح ا
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 14057(04)	BTEX (8021)	TPH 8015B (GRO / DRO)						Chloride	Air Bubbles (Y or N)
05/12/2014	8:05	Soil	Pile 958	40z x 1	cool	-001	х	х						х	
05/12/2014	8:15	Soil	Pile 957	4oz x 1	cool	-002	x	×						x	
05/12/2014	8:22	Soil	Pile 954	4oz x 1	cool	-003	х	x						x	
05/12/2014	8:30	Soil	Pile 945	40z x 1	cool	-004	х	х						х.	
05/12/2014	8:37	Soil	Pile 938	40z x 1	cool	-005	x	х						x	
05/12/2014	8:45	Soil	Pile 942	4oz x 1	cool	-006	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						×	
05/12/2014	9:15	Soil	Pile 438	4oz x 1	cool	-009	x	x						×	
05/12/2014	9:25	Soil	Pile 441	4oź x 1	cool	-DID	x	x		$\bot$				×	
														$\perp$	
			·									Ш.			
Date: 5/16/2014	Time:	Relinquish	ned by: Blogg	Received by:	Ly Labele	Date Time 5/16/14/104	BP C	arks: E ontact:	Jeff I		Plea	ase co	py resu	ults to:	
Date:	Time:	Relinquist	ned by:	Received by:		Date Time	1	e.jeffre	y@op.	COM			•		
5/14/14	1735	M	little Walley	Ashle	or bal	10:45 Le 20 205/17									
If ne	cessary, samples	s submitted to I	Hall Environmental may be subcontract	to other accredite	ed poratories. This	serves notice of this possil	ility. Any	sub-cont	acted da	ta wili be	clearly not	ated on t	ne analytic	cal report.	
					O										

### 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

TestCode: EPA Method 300.0: Anions

LowLimit

Client ID:

**PBS** 

Batch ID: 14177

RunNo: 19846

HighLimit

Units: mg/Kg

Client ID:

Prep Date: 7/11/2014

Analysis Date: 7/11/2014

SeqNo: 576755

**RPDLimit** 

Qual

Analyte Chloride

Result ND

SPK value SPK Ref Val %REC LowLimit **PQL** 1.5

Sample ID LCS-14177

LCSS

SampType: LCS

Batch ID: 14177

PQL

RunNo: 19846

Prep Date: 7/11/2014 Analysis Date: 7/11/2014

SeqNo: 576756

Units: mg/Kg HighLimit

%RPD **RPDLimit** 

Qual

Analyte

Result

15.00

0

%REC 92.9

90

110

Chloride

14

1.5

SPK value SPK Ref Val

%RPD

# Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
  - Holding times for preparation or analysis exceeded

% Recovery outside of range due to dilution or matrix

- Not Detected at the Reporting Limit
- RPD outside accepted recovery limits

- В Analyte detected in the associated Method Blank
- E
- Analyte detected below quantitation limits
- Sample pH Not In Range
- Reporting Detection Limit RLSample container temperature is out of limit as specified

Value above quantitation range Page 8 of 11

# Hall Environmental Analysis Laboratory, Inc.

3.6

WO#:

1407373

21-Sep-16

Client:

Blagg Engineering

Project:

Surr: DNOP

Crouch Mesa LF

Sample ID MB-14125		SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics  Batch ID: 14125 RunNo: 19793						·		
Client ID: PBS Prep Date: 7/9/2014	Analysis Da		10/2014		SeqNo: 5		Units: mg/K	ζg		
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	SampTy	pe: LC	s	Tes	Code: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: LCSS	Batch	ID: <b>14</b>	125	R	lunNo: 1	9793				
Prep Date: 7/9/2014	Analysis Da	ate: 7/	10/2014	S	SeqNo: 5	75252	Units: mg/K	ζg		
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			

71.1

57.9

140

5.000

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- В 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 Sample container temperature is out of limit as specified

Page 9 of 11

# 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			R	9853					
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	SampT	ype: LC	s	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				

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Ε Value above quantitation range
- J Analyte detected below quantitation limits
- Page 10 of 11

- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1407373

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-14134	Samp	ype: ME	BLK	Tes	tCode: El	tiles				
Client ID: PBS	Batcl	h ID: 14	134	F	RunNo: 1	9798				
Prep Date: 7/9/2014	Analysis [	Date: 7/	10/2014	8	SeqNo: 5	75755	Units: mg/K	(g		
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	Samp	ype: LC	s	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: LCSS	Batcl	h ID: 14	134	RunNo: 19798						
Prep Date: 7/9/2014	Analysis [	Date: 7/	10/2014	8	SeqNo: 5	75756	Units: mg/K	(g		
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.
- 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

Page 11 of 11

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



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 Numbe	er: 1407373		RcptNo:	1
Received by/date:	07/09/14				7
Logged By: Michelle Garcia	7/9/2014 8:00:00 AM		Mille Ca	raie)	
Completed By: Michelle Garcia	7/9/2014 9:00:26 AM		Michille Go Michille Go	, ,	
Reviewed By:	07/09/19		, r		
Chain of Custody	0.70.71				
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 sample	s?	Yes 🗹	No 🗆	na 🗆	
5. Were all samples received at a temperatu	re 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 tes	t(s)?	Yes 🗹	No 🗆		
8. Are samples (except VOA and ONG) prop	erly 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 bro	ken?	Yes	No 🗹	# of preserved	
				bottles checked	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗹	No 📙	for pH: (<2 o	r >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?		Yes 🗹	No 🗆	Checked by:	
(If no, notify customer for authorization.)					
Special Handling (if applicable)					
16. Was client notified of all discrepancies wit	h 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					
	Seal Intact   Seal No	Seal Date	Signed By		
1 1.0 Good Y	es				

Blagg Engin	eering Inc		Standard □ Rush_														
ess:		•	Project Name	<b>)</b> :					ww	w.hal	llenv	rironn	nenta	al.cor	n		
	P.O. Box	87		Crouch Mesa	LF		490	1 Hav	kins	NE -	Alb	ouque	rque	, NM	871	09	
			Project #:				Tel	505-	345-3	975	ŀ	Fax 5	05-3	345-4	107		
	(505)320	-1183							ļ	analy	sis	Requ	est				
¥:.			Project Mana	ger:													1 1
-		☐ Level 4 (Full Validation)	•	Jeff Blagg				<u>@</u>									
			Sampler:	Jeff Blagg											1		E
			On ice: Sample Tem					(GRO									(Y or
Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	FICALINO.	BTEX (8021		TPH 8015B								Chloride	Air Bubbles (Y or N)
10:32	Soil	Pile 949	4oz x 1	cool	- 001	х									$\neg$		
10:40	Soil	Pile 963	40z x 1	cool	- 002	х		x								x	
10:48	Soil	Pile 410	4oz x 1	cool	-003	х		×								x	
10:56	Soil	Pile 430	40z x 1	cool	-004	x		x								x	
11:04	Soil	Pile 928	40z x 1	cool	-005	х		x								x	
11:15	Soil	Pile 957	4oz x 1	cool	-00L	x		x								x	
11:22	Soil	Pile 933	40z x 1	cool	-001	х		х	-						_	x	_
· · · · · · · · · · · · · · · · · · ·								_									
								+	-		_	-		4	+	$\dashv$	+
Time: 1400 Time:	Jeff	Blagg	Received by:  Date Time  78/14/1400  Received by:  Date Time  67/69/14  CBCO				Conta ce.jet	ct: J frey@	eff Pe bp.co	m ai	nd to	)	•	by re	sults	to:	
	Time  10:32 10:40 10:48 10:56 11:04 11:15 11:22	(505)320 #: ge:  Time Matrix  10:32 Soil 10:40 Soil 10:48 Soil 10:56 Soil 11:04 Soil 11:05 Soil 11:22 Soil  Time: Relinquish (HOO) Time: Relinquish 2660	(505)320-1183  E: ge:    Level 4 (Full Validation)   Level	(505)320-1183   Project Mana   Pro	(505)320-1183   Project Manager:   Jeff Blagg	(505)320-1183							Company   Comp		Figure   Project Manager:   Jeff Blagg   Jeff		

## **Yall 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

Client ID:

Prep Date:

Result

SPK value SPK Ref Val %REC LowLimit **PQL** 

HighLimit

%RPD **RPDLimit**  Qual

Chloride

ND

1.5

Sample ID LCS-14585

8/4/2014

SampType: LCS

TestCode: EPA Method 300.0: Anions RunNo: 20370

Batch ID: 14585 Analysis Date: 8/4/2014

SPK value SPK Ref Val

SeqNo: 592456

Units: mg/Kg

%RPD

**RPDLimit** 

**LCSS** 

14

15.00

HighLimit

110

Chloride

Result

**PQL** 1.5

0

90

LowLimit

Analyte

%REC 92.9

Qual

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

% Recovery outside of range due to dilution or matrix

Not Detected at the Reporting Limit

RPD outside accepted recovery limits

В

Analyte detected in the associated Method Blank

Value above quantitation range E

Analyte detected below quantitation limits

Page 11 of 14

Р Sample pH Not In Range

Reporting Detection Limit

Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

Page 12 of 14

1408032

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-14572	SampT	ype: ME	BLK	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch	ID: 14	572	F	RunNo: 2	0327				
Prep Date: 8/4/2014	Analysis D	ate: 8/4	4/2014	S	SeqNo: 5	91198	Units: mg/K	(g		
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	SampT	ype: LC	S	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch	ID: <b>14</b>	572	F	RunNo: 2	0327				
Prep Date: 8/4/2014	Analysis D	ate: 8/	4/2014	S	SeqNo: 5	91199	Units: mg/h	(g		
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			

- \* 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, Inc.

WO#:

1408032

21-Sep-16

Client:

Blagg Engineering

**Project:** 

Crouch Mesa LF

Sample ID MB-14556	SampT	уре: МЕ	BLK	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	е	
Client ID: PBS	Batch	Batch ID: 14556			RunNo: 2	0336				
Prep Date: 8/1/2014	Analysis D	ate: 8/	4/2014	S	SeqNo: 5	91835	Units: mg/K	(g		
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	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015D: Gaso	oline Rang	е	
Client ID: LCSS	Batch	ID: <b>14</b>	556	F	RunNo: 2	0336				
Prep Date: 8/1/2014	Analysis D	ate: 8/	4/2014	S	SeqNo: 5	91836	Units: mg/k	(g		
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.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Ε Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Analyte detected in the associated Method Blank

Page 13 of 14

## 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

80

TestCode: EPA Method 8021B: Volatiles

Client ID: PBS

Batch ID: 14556

RunNo: 20336

Prep Date: 8/1/2014

Analysis Date: 8/4/2014

SPK value SPK Ref Val %REC LowLimit

SeqNo: 591883

Units: mg/Kg

HighLimit

%RPD

**RPDLimit** Qual

Qual

Analyte Benzene Toluene Ethylbenzene

Xylenes, Total

Result PQL ND 0.050 ND 0.050 ND 0.050 ND

0.10 1.0

1.000

105

120

Sample ID LCS-14556 Client ID:

LCSS

Surr: 4-Bromofluorobenzene

Prep Date: 8/1/2014

SampType: LCS Batch ID: 14556

Analysis Date: 8/4/2014

RunNo: 20336 SeqNo: 591884

Units: mg/Kg

**RPDLimit** %RPD

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
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

### **Oualifiers:**

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

Value above quantitation range

Page 14 of 14



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105 TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: BLAGG Work Orde	er Number: 1408032		RcptNo: 1	
Received by/date: AT 08/01	114			!
Logged By: Celina Sessa 7/30/2014 1	:06:00 PM	Celin S Celin S	ma	'
Completed By: Celina Sessa 8/1/2014 2:1	1:44 PM	Celin S	ma	
Reviewed By:	01/14			
Chain of Custody	l			
1. Custody seals intact on sample bottles?	Yes 🗌	No 🗆	Not Present <b>✓</b>	
2. Is Chain of Custody complete?	Yes 🗹	No 🗆	Not Present	
3. How was the sample delivered?	<u>Courier</u>			
<u>Log In</u>				
4. Was an attempt made to cool the samples?	Yes 🗹	No 🗆	NA $\square$	
5. Were all samples received at a temperature of >0° C to 6	5.0°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 $\square$	
10.VOA vials have zero headspace?	Yes 🗹	No 🗆	No VOA Vials	s 08/01/11
11. Were any sample containers received broken?	Yes	No 🗹		<del></del>
			# of preserved bottles checked	
12.Does paperwork match bottle labels?	Yes 🗹	No 🗌	for pH:	2 unless noted)
(Note discrepancies on chain of custody)	Yes 🗸	No 🗆	Adjusted?	z uniess noteu)
<ul><li>13. Are matrices correctly identified on Chain of Custody?</li><li>14. Is it clear what analyses were requested?</li></ul>	Yes ✓	No 🗆		
15. Were all holding times able to be met?  (If no, notify customer for authorization.)	Yes <b>✓</b>	No 🗆	Checked by:	
(ii no, notify customer for authorization.)				
Special Handling (if applicable)			B	
16. Was client notified of all discrepancies with this order?	Yes 🗀	No 🗆	NA 🗹	
Person Notified:	Date:			
By Whom:	Via: ☐ eMail ☐ I	Phone 🗌 Fax	n Person	
Regarding:				
Client Instructions:				
17. Additional remarks:				
18. Cooler Information				
	eal No Seal Date	Signed By		
	eal No Seal Date	Signed By		

Client:	BP America			Standard	🗅 Rush							SL	ABO	RA7	roi	SA
	Blagg Engin	eering Inc	·	Project Name	3;				,	NWW.	haller	wiron	menta	com		
Mailing Addr	ess:	P.O. Box	87		Crouch Mesa	LF		4901 i	-lawkii	ns N	: . <i>f</i>	ָר מַנוּב	erque.	VI:5 8	7 : 79	
AND DESCRIPTION OF THE PROPERTY OF THE PROPERT			id, NM 87413	Project #:				Tel. 5	C5-34	5-39	î Ç	E av	505-34	45-410	i.	
Phone #:		(505)320	)-1183							An	alysi	s Req	uest			
email or Fax	#:			Project Mana	iger:							Saciliona Corp. 178		Manage of School of		-
QA/QC Packa	ige:				Jeff Blagg			-				Contact the Strange of Con-		Ì		
<b>★</b> Standard			☐ Level 4 (Full Validation	)				DRO)				and the same of th	The state of the s			71.
☐ Other				Sampler:	Jeff Blagg								The second second second		Professional and Prints	2
☐ EDD (Typ	œ)			On ice:		□ No		180								¥ .
				Sample Tem	perature.	J.A.	2		o damen attack	-						111
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX (8021)	PH 8015B (CRO	s or asserve resolution As a different M				A transmission of the control of the		3	5-4,1314,164
						1408032	10	II.		_						
07/30/2014	10:36	Soil	Pile 928	40z x 1	coo)	-001	×	×						<u>;</u>		
07/30/2014	10:27	Soil	Pile 945	4oz x 1	cool	-007	х	×								
07/30/2014	10:12	Soil	Pile 949	40z x 1	cool	-003	×	×			C. C					
07/30/2014	10:45	Soil	Pile 951	40z x 1	COO	-004	x	×				WILL STATE	and had all different			
07/30/2014	10:55	Soil	Pile 952	40z x 1	Icao	-005	×	х					A L. CERT		×.	111111111111111111111111111111111111111
07/30/2014	11:05	Soil	Pile 953	40z x 1	cool	-006	×	Х	A. vintermann, 54, 175				A very land of the			
07/30/2014	11:15	Soil	Pile 959	40z x 1	coci	-007	х	х	ALL THERMOOF					-f		
07/30/2014	10:04	Soil	Pile 962	40z x 1	cocl	-008	×	ж	, , , , , , , , , , , , , , , , , , , ,							
07/30/2014	10:20	Soil	Pile 964	4oz x 1	coci	-009	×	×					madding.			
07/30/2014	9:55	Soil	Pile 965	40z x 1	cocl	-010	×	×				MANAGED CO.				
		-							Adversor as	-			fluctuary of the control of the cont			
Date:	Time:	Relinquish	ned by:	Received by:		Date Time	Rem	arks	L B∥BF	,		<u>L</u>	design of the second		1	
7/3/2014	1228	Jul	1 Blogg	Minte	ablade	1/3/14 1228		contect e.jeffre				Pleas	डास द्धाःप्रां	រ្យៈ១២	ts. E	
Date:	Time:	Relinquis	red by:	Received by:	1 /	Date Time		æli @				⊬ M5,∪	117			
131/14	1840	1/10	ofu linites	1	ford	08/0//4			****							
i ii ne	cessary, samples	submitted to I	dall Environmental may be subcontract	ted to other accredit	ed laboratories. This	serves as notice of this possi	Daily, An	y se incor	muhri :	ુાલ પ્ય	1 (16)	a : POB.H	erige ,NE	aming oda	#1: 53°	

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## 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

Units: mg/Kg

Prep Date:

Client ID:

9/19/2014

Analysis Date: 9/19/2014

SeqNo: 623059

**RPDLimit** 

Analyte Chloride

Result ND

SPK value SPK Ref Val %REC LowLimit **PQL** 1.5

HighLimit

%RPD

Qual

Sample ID LCS-15404

LCSS

SampType: LCS

Batch ID: 15404

1.5

RunNo: 21343

TestCode: EPA Method 300.0: Anions

LowLimit

Prep Date: 9/19/2014

Analysis Date: 9/19/2014

SeqNo: 623060

Units: mg/Kg

HighLimit %RPD

Qual

Chloride

**PQL** Result

15.00

0

90

**RPDLimit** 

Page 11 of 14

Analyte

14

SPK value SPK Ref Val

%REC 94.5

110

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

## Hall Environmental Analysis Laboratory, Inc.

WO#:

**RPDLimit** 

**RPDLimit** 

Page 12 of 14

1409892

21-Sep-16

Qual

Qual

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

57.9

LowLimit

SPK value SPK Ref Val %REC LowLimit HighLimit %RPD Result **PQL** Analyte Diesel Range Organics (DRO) 56 10 50.00 0 111 68.6 130 5.000

Surr: DNOP

SampType: MBLK

5.1

TestCode: EPA Method 8015M/D: Diesel Range Organics

%RPD

Client ID: PBS

Analyte

Sample ID MB-15372

Prep Date: 9/18/2014

Diesel Range Organics (DRO)

Batch ID: 15372

RunNo: 21309 SeqNo: 622131

%REC

102

Units: mg/Kg

HighLimit

140

Analysis Date: 9/19/2014 **PQL** SPK value SPK Ref Val

ND 10

Motor Oil Range Organics (MRO) Surr: DNOP

50 ND 9.1

10.00

90.8

57.9

140

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

## Hall Environmental Analysis Laboratory, Inc.

Result

27

1000

5.0

WO#:

%RPD

HighLimit

139

120

LowLimit

65.8

80

109

100

**RPDLimit** 

Qual

1409892

21-Sep-16

Client:

Blagg Engineering

Project:

Analyte

Surr: BFB

Gasoline Range Organics (GRO)

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: <b>622637</b>	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: <b>LCS</b>	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

SPK value SPK Ref Val %REC

25.00

1000

$\boldsymbol{\cap}$	ua	1:	r:	_		
.,	เเฉ	н	11	e	rs	

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E
- J Analyte detected below quantitation limits
- P Sample pH Not In Range

RL

Sample container temperature is out of limit as specified

Value above quantitation range

Reporting Detection Limit

Page 13 of 14

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1409892

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-15381	SampT	уре: М	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID: PBS	Batch	h ID: <b>15</b>	381	F	RunNo: 2	1331				
Prep Date: 9/18/2014	Analysis D	Date: 9/	19/2014	8	SeqNo: 6	22658	Units: mg/K	g		
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	SampT	ype: LC	s	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batcl	n ID: <b>15</b>	381	F	RunNo: 2	1331				
Prep Date: 9/18/2014	Analysis D	)ate: 9/	19/2014	5	SeqNo: 6	22659	Units: mg/h	(g		
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.
- 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

Page 14 of 14



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Nan	ne: BLAGG		Work Order	Number: 1	409892			RcptNo	: 1
Received b	y/date:	AT	09/18/1	4	;				
Logged By	Lindsay N	•	9/18/2014 7:3	) 0:00 AM		July	Hayo		
Completed	_	-	9/18/2014 10:			Amelia	HLO.	ı	
Reviewed I	· \		onlie	14		00	0		
Chain of	T	$\overline{}$	- 1/10	1-1-					
	y seals intact on s	ample bottles?			Yes 🗌	No		Not Present 🗹	
	n of Custody com				Yes 🗹	No		Not Present	
	as the sample deli				Courier				
Log In									
	n attempt made to	cool the samples	2		Yes 🗹	No		na 🗆	
T. VVAS A	ii attompt made to	COOT the samples	•	1	103 🗷	110			, .
5. Were a	III samples receive	ed at a temperatur	e of >0° C to 6.0	o°C ·	Yes 🗹	No		na 🗆	
6. Sample	e(s) in proper cont	ainer(s)?			Yes 🔽	No			
7. Sufficie	nt sample volume	for indicated test	(s)?		Yes 🗹	No			
8. Are sar	nples (except VO/	A and ONG) prope	erly preserved?		Yes 🗹	No			
9. Was pr	eservative added	to bottles?			Yes 🗌	No	V	NA $\square$	
10 VOA vi	als have zero head	depace?			Yes 🗌	No	П	No VOA Vials ☑	
	ans nave zero nead any sample contait		ran?		Yes $\Box$		<u> </u>	110 107, 1100 =	
II, Weller	my sample contain	iers received bron	ion:		103			# of preserved bottles checked	
12.Does p	aperwork match b	ottle labels?			Yes 🛂	No		for pH:	
-	iscrepancies on c	-						(<2 Adjusted?	or >12 unless noted)
	trices correctly ide		f Custody?		Yes 🗹	No		Adjusted	
	ar what analyses \				Yes ☑ Yes ☑	No No		Checked by:	
	II holding times ab notify customer for				Yes ⊻	140		0,100,111	
•	•								
Special H	landling (if ap	plicable)							
16. Was cl	ient notified of all o	discrepancies with	this order?		Yes 🗌	No		NA 🗹	
P	erson Notified:			Date:	· · · · · · · · · · · · · · · · · · ·				
E	y Whom:			Via:	eMail [	Phone _	Fax	In Person	
F	tegarding:		2			F. 1 10 10 10 10 10 10 10 10 10 10 10 10 1			
C	ellent Instructions:								
17. Additio	onal remarks:								
18. <u>Coole</u>	r Information								
Coc	ler No Temp °C		Seal Intact   Sea	No Se	eal Date	Signed	Ву	·	
1	1.0	Good Ye	∌8			!		1	

Client:	BP America			Standard	□ Rush				ANA								
	Blagg Engin	eering Inc	).	Project Name									menta				•
Mailing Addr	ess:	P.O. Box	¢ 87		Crouch Mesa	ı LF		4901 ⊦	 lawkins							09	
			eld, NM 87413	Project #:			7		)5-345-			-	505-3				
Phone #:		(505)320	D-1183	,									uest				
email or Fax	<b>#</b> :			Project Mana	ger:											T	
QA/QC Packa	age:				Jeff Blagg												
<b>≭</b> Standard			☐ Level 4 (Full Validation	)			4	8									
□ Other				Sampler:	Jeff Blagg			12					1				Î
□ EDD (Typ	oe)		· ·	On ice: [ Sample Tem		□ No <u> </u>		(GRO / DRO)									ح و
Date	Time	Matrix	Sample Request ID	The state of the s	Preservative Type		BTEX (8021)	TPH 8015B								Chloride	Air Bubbles (Y or N)
09/16/2014	13:00	Soil	Pile 959	40z x 1.	cool	-001	х	х								x	
09/16/2014	13:08	Soil	Pile 950	4oz x 1	cool	-002	х	х								x	
09/16/2014	13:15	Soil	Pile 948	40z x 1	cool	-003	х	×							7	x	
09/16/2014	13:23	Soil	Pile 947	40z x 1	cool	-004	х	×								x	
09/16/2014	13:30	6 Soil	Pile 945	4oz x 1	cool	-005	х	х								x	
09/16/2014	13:387	Soil	Pile 928	40z x 1	cool	-006	x	х								x	
09/16/2014	13:45	Soil	Pile 949	4oz x 1	cool	-007	x	×								x	
09/16/2014	13:55	Soil	Pile 960	40z x 1	cool	-008	x	×							] :	x	
09/16/2014	14:10	Soil	Pile 933	40z x 1	cool	-009	x	x							;	x	
09/16/2014	14:22	Soil	Pile 946	4oz x 1	cool	-010	x	×		$\perp$			Ц	$\perp$	;	×	
										┸	1_			$\dashv$		$\perp$	
Date: 2014 Date:	Time: 1506 Time:	Relinquish	1 Blogg	Received by:  Received by:	ytikale	/ Date Time	peace	ntact: .jeffrey	⊪ BP Jeff Po /@bp.c dustrial	om a	and to	)	ie cop	y res	sults 1	to:	
9/17/14	2046	Mu	stu Wasters		but	09/18/14	, i lai CE	a@iii	augu idi	500	-yale		J111				

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.





## 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

SPK value SPK Ref Val %REC LowLimit

0

Prep Date:

10/28/2014

Analysis Date: 10/28/2014

SeqNo: 653970

Units: mg/Kg

%RPD **RPDLimit** 

Qual

Analyte Chloride

Result **PQL** ND 1.5

Sample ID LCS-16119

SampType: LCS

PQL

1.5

TestCode: EPA Method 300.0: Anions

HighLimit

Client ID:

LCSS

Batch ID: 16119

RunNo: 22200

Prep Date: 10/28/2014 Analysis Date: 10/28/2014

SeqNo: 653971

Units: mg/Kg

%RPD

Qual

Result

15.00

HighLimit LowLimit 90

Analyte Chloride

14

SPK value SPK Ref Val

%REC 90.9

110

**RPDLimit** 

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

Ε Value above quantitation range

Analyte detected below quantitation limits

P Sample pH Not In Range

Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 11 of 14

## 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

Result

7.8

Prep Date:

Sun: DNOP

10/24/2014

Analysis Date: 10/24/2014

**PQL** 

SeqNo: 651178

63.5

Units: mg/Kg

HighLimit

**RPDLimit** 

%RPD

Qual

Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)

ND 10 ND 50

10.00

77.7

128

Sample ID LCS-16081

Client ID: LCSS

SampType: LCS

Batch ID: 16081

PQL

TestCode: EPA Method 8015M/D: Diesel Range Organics

RunNo: 22124

Prep Date: 10/24/2014

Analysis Date: 10/24/2014

SeqNo: 651179 %REC

Units: mg/Kg

Analyte Diesel Range Organics (DRO)

Result

SPK value SPK Ref Val 10

SPK value SPK Ref Val %REC LowLimit

68.6

LowLimit

130

HighLimit

%RPD **RPDLimit** 

Qual

Page 12 of 14

Surr: DNOP

50 3.6

50.00 5.000 99.9 71.3

63.5

128

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

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1410B59

21-Sep-16

**Client:** 

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-16088	SampT	ype: ME	3LK	Tes	tCode: E	PA Method	8015D: Gaso	oline Rang	e	
Client ID: PBS	Batch	n ID: 16	088	F	RunNo: 2	2167				
Prep Date: 10/24/2014	Analysis D	ate: 10	0/27/2014	S	SeqNo: 6	52743	Units: mg/l	(g		
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	Samp?	ype: LC	S	Tes	tCode: E	PA Method	8015D: Gaso	oline Rang	е	
Client ID: LCSS	Batcl	n ID: 16	088	F	RunNo: 2	2167				
Prep Date: 10/24/2014	Analysis D	ate: 10	0/27/2014	14 SeqNo: 652744 Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qu <b>a</b> l
Gasoline Range Organics (GRO)	29	5.0	25.00	0	116	65.8	139			
Surr: BFB	970		1000		97.2	80	120			

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
  - Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Ε Value above quantitation range
- Analyte detected below quantitation limits
- Page 13 of 14

- P Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

## 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 PBS Client ID: Batch ID: 16088 RunNo: 22167 Prep Date: 10/24/2014 Analysis Date: 10/27/2014 SeqNo: 652767 Units: mg/Kg PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Analyte Result Qual ND 0.050 Benzene Toluene ND 0.050 Ethylbenzene ND 0.050 Xylenes, Total ND 0.10 0.89 1.000 Surr: 4-Bromofluorobenzene 89.3 80 120

Sample ID LCS-16088	Samp1	ype: LC	s	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batcl	n ID: 16	088	F	RunNo: 2	2167				
Prep Date: 10/24/2014	Analysis D	oate: 10	)/27/2014	8	SeqNo: 6	52768	Units: mg/K	(g		
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	ene 0.98 1.000				98.1	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

Page 14 of 14



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 N	lumber:	1410	359		RcptNo	1
Received by/dat	te:								
Logged By:	Michelle G	arcia	10/24/2014 7:3	0:00 AM	l		Mitalle C	pruis	
Completed By:	Michelle G	Sarcia	10/24/2014 9:0	4:22 AM	l		Mirul G	hrue)	
Reviewed By:	TO	"	10/24/14	,@	10	40	, , , , ,		
Chain of Cus	stody		101011		!0				
1. Custody sea		ample bottles?			Yes		No 🗆	Not Present	
2. Is Chain of	Custody comp	plete?			Yes		No 🗌	Not Present	
3. How was the	e sample deli	vered?			Cour	er			
Log In									
	empt made to	cool the samples	?		Yes		No 🗆	na 🗆	
5. Were all sa	mples receive	d at a temperatur	e of >0° C to 6.0°	С	Yes		No 🗆	na 🗆	
6. Sample(s) i	in proper cont	ainer(s)?			Yes		No 🗆		
7. Sufficient sa	ample volume	for indicated test	(s)?	٠	Yes		No 🗆		
8. Are samples	s (except VOA	and ONG) prope	rly preserved?		Yes		No 🗌		
9. Was presen	vative added t	to bottles?			Yes		No 🗷	NA 🗆	
10.VOA vials h	ave zero head	dspace?			Yes		No 🗆	No VOA Vials	
11. Were any s	ample contair	ners received brok	en?		Yes		No 🛃	# - 5	
								# of preserved bottles checked	
12. Does paper		ottle labels? hain of custody)			Yes		No 🗔	for pH:	or >12 unless noted)
		ntified on Chain o	f Custody?		Yes		No 🗆	Adjusted?	
14. Is it clear wh			1011-17		Yes		No 🗔		
15. Were all hol	lding times ab	le to be met?			Yes		No 🗆	Checked by:	
(If no, notify	customer for	authorization.)						AND P	
Special Hand	dina (if an	nlionhla)							
		discrepancies with	this order?		Yes		No 🗆	NA 🗹	
		iscrepancies with		gunom	1.05	ALL STATES	INO L.	NA E	$\neg$
	n Notified:		Marie South of the State of the	Date					
By Wi				Via:	eMa		Phone Fax	( In Person	
Regar	-				*************	***************************************		order All Markey words (Markey Markey Markey Art and America)	
	Instructions:								
17. Additional r	remarks:								
18. <u>Cooler Info</u>		Condition   S	eal intact   Seal	No S	Seal Da	te	Signed By		
1	2.6	Good Ye	15						

Client	BP America	3		▼ Standard	□ Rush							LABO			
	Blagg Engi	neering ind	C.	Project Name	<b>9</b> :							nmenta			
Mailing Add		P.O. Box			Crouch Mesa	LF		4901 H							
			eld, NM 87413	Project #:			7	Tel. 50				505-3			
Phone #:		(505)320	0-1183								ysis Re				
email or Fax	<u> </u>			Project Mana	ger:										
QA/QC Pack	age:				Jeff Blagg										
<b>Standard</b>	l		☐ Level 4 (Full Validation	)			_	/ DRO)							
□ Other			•	Sampler:	Jeff Blagg		]	0							2
☐ EDD (Ty	pe)			On Ice:	Yes Yes	□ Nó	3 22 32	잃	1						٥
		<del></del>		Sample Tem	perature:	<b>.</b>	<b>1</b> $\mathfrak{S}$	9							<u>ح</u>
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1410359	BTEX (8021)	TPH 8015B (GRO						Chloride	Air Bubbles (Y or N)
10/21/2014	15:03	Soil	Pile 442	40z x 1	cool	∞1	×	×						×	1
10/21/2014	15:15	Soil	Pile 438	40z x 1	cool	002	x	x						×	
10/21/2014	15:18	Soil	Pile 441	4oz x 1	cool	003	x	х						×	
10/21/2014	15:10	Soil	Pile 431	40z x 1	cool	604	x	x						х	
10/21/2014	15:32	Soil	Pile 959	4oz x 1	cool	005	x	х						x	
10/21/2014	15:25	Soil	Pile 944	4oz x 1	cool	006	×	x						×	
10/21/2014	15:40	Soil	Pile 948	40z x 1	cool	007	x	x				$\perp \perp$		×	
10/21/2014	15:50	Soil	Pile 947	4oz x 1	cool	008	x	x				$\perp \downarrow$		×	
10/21/2014	16:00	Soil	Pile 945	4oz x 1	cool	009	×	x	_					×	
10/21/2014	16:10	Soil	Pile 949	4oz x 1	cool	010	x	×	_	$\bot$	-	+-+	+	X	+
	!					<u> </u>	++		+			++	+	++	+
Date: 10/23/2014	Time: 1328	Relinquish	led by: Blegg	Received by:	h)alter	Date Time 10/23/14 1328	BP C	arks: B ontact: e.jeffrey	Jeff Pe			ase cop	y resu	ılts to:	<u></u>
Date:	Time: 1830	Relinquist	ned by:	Received by:	X	Date Time	1.	ella@in				com			
If ne		submitted to I	iali Environmental may be subcontract	ed to other accredite	nd laboratories. This		ibility. Am	sub-contra	ected data	will be	clearly note	ited on the	analytic	al report.	

O

## **Yall 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** 

Prep Date: 12/15/2014

Batch ID: 16822

RunNo: 23162 SeqNo: 684006

Units: mg/Kg

Analyte

Analysis Date: 12/15/2014

SPK value SPK Ref Val %REC LowLimit

%RPD

**RPDLimit** 

Qual

Chloride

Result ND **PQL** 1.5

TestCode: EPA Method 300.0: Anions

HighLimit

Sample ID LCS-16822

Client ID: LCSS

SampType: LCS Batch ID: 16822

RunNo: 23162

Units: mg/Kg

Prep Date:

12/15/2014

Analysis Date: 12/15/2014

SeqNo: 684007

LowLimit

%RPD

Qual

Analyte

**PQL** 

SPK value SPK Ref Val

%REC 95.1

90

**RPDLimit** 

Chloride

Result

0

HighLimit 110

14

1.5

15.00

### Qualifiers:

Value exceeds Maximum Contaminant Level.

Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit ND RPD outside accepted recovery limits

Sample Diluted Due to Matrix

- % Recovery outside of range due to dilution or matrix
- Е Value above quantitation range J
- P Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Analyte detected in the associated Method Blank

Analyte detected below quantitation limits

Page 11 of 14

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1412597

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-16790	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: PBS	Batch	ID: 16	790	F	RunNo: 2	3097				
Prep Date: 12/12/2014	Analysis D	ate: 12	2/12/2014	S	SeqNo: 6	82602	Units: mg/K	(g		
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	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch	ID: <b>16</b>	790	F	RunNo: 2	3097				
Prep Date: 12/12/2014	Analysis D	ate: 12	2/12/2014	S	SeqNo: 6	82603	Units: mg/K	(g		
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

Page 12 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## **Yall Environmental Analysis Laboratory, Inc.**

Result

21

1100

5.0

WO#:

**RPDLimit** 

Qual

1412597

21-Sep-16

Client:

Blagg Engineering

Project:

Analyte

Surr: BFB

Gasoline Range Organics (GRO)

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	e		
Client ID: LCSS	Batch ID: 16795	RunNo: 23146				
Prep Date: 12/12/2014	Analysis Date: 12/15/2014	SeqNo: <b>683855</b>	Units: mg/Kg			

%REC

85.6

109

LowLimit

65.8

80

HighLimit

139 120

SPK value SPK Ref Val

25.00

1000

#### **Qualifiers:**

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Ε Value above quantitation range
- J Analyte detected below quantitation limits

Page 13 of 14

- Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1412597

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-16795	Sampl	Гуре: М	BLK	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: PBS	Batcl	h ID: 16	795	RunNo: 23146						
Prep Date: 12/12/2014	Analysis [	Date: 12	2/15/2014	S	SeqNo: 6	83878	Units: mg/K	(g		
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	Samp1	ype: LC	s	Tes	PA Method	8021B: Vola	tiles			
Client ID: LCSS	Batcl	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

Page 14 of 14



нин инчичнитения лишум имочиты у

4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107

## Sample Log-In Check List

Website: www.hallenvironmental.com RcptNo: 1 Client Name: **BLAGG** Work Order Number: 1412597 Received by/date: an Ilm 12/12/2014 7:32:00 AM Logged By: Anne Thorne 12/12/2014 Completed By: Anne/Thorne Reviewed By Chain of Custody Yes No 🗀 Not Present 1. Custody seals intact on sample bottles? No 🗌 Not Present Yes 🔽 2. Is Chain of Custody complete? Courier 3. How was the sample delivered? Log In No 🗔 NA 🖂 Yes 🗹 4. Was an attempt made to cool the samples? NA 🗆 No 🗌 Yes 🗸 5. Were all samples received at a temperature of >0° C to 6.0°C No 🗆 Yes 🗸 6. Sample(s) in proper container(s)? No 🗔 7. Sufficient sample volume for indicated test(s)? Yes 🗸 No 🗔 8. Are samples (except VOA and ONG) properly preserved? NA 🗌 No 🗹 Yes 🗌 9. Was preservative added to bottles? No 🗍 No VOA Vials Yes 🗌 10. VOA vials have zero headspace? Yes No 🗹 11, Were any sample containers received broken? # of preserved bottles checked No 🗌 for pH: Yes 🗸 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 🗆 Yes 🔽 13. Are matrices correctly identified on Chain of Custody? No 🗆 Yes 🗹 14, is it clear what analyses were requested? Checked by: Yes 🗸 No 🗌 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) Yes 🗌 No 🗌 NA 🗹 16. Was client notified of all discrepancies with this order? Date Person Notified: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person By Whom: Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date Signed By

Good

Client:	BP America		·	Standard	□ Rush		ANALYSIS LABORATOR				ξΥ					
	Blagg Engin	eering Inc		Project Name	<b>)</b> ;				W	hww.h	nallen	vironm	ental.	com		
Mailing Addre		P.O. Box			Crouch Mesa	LF		4901 H							7109	
			id, NM 87413	Project #:					05-346			-	05-34			
Phone #:		(505)320								1000		Requ				
email or Fax	#:	, ,		Project Mana	ger:											
QA/QC Packa			Control of the suite of the state of the sta		Jeff Blagg											
Standard			☐ Level 4 (Full Validation)					(GRO / DRO)								
□ Other				Sampler:	Jeff Blagg											Î
□ EDD (Typ	e)			On Ice: Sample Tem	XYes	□No 1/3		88			1					JO >
		1	I	Sample 1 em	perature:	// 5										) se
Date	Time	Matrix	Sample Request ID	Container	Preservative	HEAL No.	BTEX (8021)	TPH 8015B							g	Air Bubbles (Y or N)
			•	Type and #	Туре	1412597	BTE	₹							Chloride	Air E
12/08/2014	12:10	Soil	Pile 990	40z x 1	cool	-001	×	×							×	
12/08/2014	12:20	Soil	Pile 992	402 x 1	cool	-02	×	х							х	
12/08/2014	12:30	Soil	Pile 975	40z x 1	coal	-co3	x	×							x	
12/08/2014	12:40	Soil	Pile 971	40z x 1	cool	-a4	x	×		十					x	
12/08/2014	12:50	Soil	Pile 991	40z x 1	cool	-005	×	×							×	
12/08/2014	13:00	Soil	Pile 989	40z x 1	cool	-00b	×	×							х	
12/08/2014	13:10	Soil	Pile 967	40z x 1	cool	7007	×	×							×	
12/08/2014	13:25	Soil	Pile 983	40z x 1	cool	-008	x	×							x	
12/08/2014	13:40	Soil	Pile 986	40z x 1	cool	-009	×	×							x	
12/08/2014	14:00	Soil	Pile 968	40z x 1	cool	7010	×	×							х	
						Data Tena				$\bot$						
12/	Time:	Relinquish	ied by:	Received by:	1 last	Date Time 12/11/14 /040		narks: 1 Contact			:e	Please	е сору	resul	ts to:	
Date:	Time:	Reinquish	ned by:	Received by	avier !	Date Time	pead	ce.jeffre	y@bp	.com	and t	0				
		M	H. While	/11	L.	2/12/14	mar	cella@i	ROUST	alec	osysie	IITIS.CC	ITT			
411/14	1849	JULU -	All Environmental may be subcontract	ad in other secretifi	AUSIC This	= 1/732 s serves as notice of this possib	HETY A	ny sub-con	racted di	ata will	ba clear	ly notated	on the s	nalytics	i report	

2015 Biopiles

Lab Order 1507544

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project:

Lab ID:

Crouch Mesa LF

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS			-		Analys	:: LGT
Chloride	70	30	mg/Kg	20	7/16/2015 1:02:56 PM	20289
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			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 RAI	NGE				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.

- 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 Page 1 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1507963

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Pile 945

Project:

Crouch Mesa Landfarm

Collection Date: 7/21/2015 8:05:00 AM

Lab ID:

1507963-001

Matrix: SOIL

Received Date: 7/22/2015 7:00:00 AM

Analyses	Result	PQL Qu	al 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 RANG	E ORGANIC	S			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 RANG	SE .				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.

- 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 Page 1 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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 Qu	al 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 RANG	E ORGANIC	s			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 RAN	GE				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. <b>4</b> -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.

- 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 Page 2 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1512183

12/7/2015 3:10:24 PM

22637

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Surr: 4-Bromofluorobenzene

Client Sample ID: Pile 948

 Project:
 Crouch Mesa LF
 Collection Date: 11/30/2015 11:50:00 AM

 Lab ID:
 1512183-002
 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 57 30 12/9/2015 2:22:07 PM mg/Kg 22714 **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: KJH Diesel Range Organics (DRO) 12/8/2015 11:28:19 AM 22651 53 9.4 mg/Kg 12/8/2015 11:28:19 AM 22651 Motor Oil Range Organics (MRO) 100 47 mg/Kg Surr: DNOP 104 70-130 %Rec 12/8/2015 11:28:19 AM 22651 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 4.9 mg/Kg 12/7/2015 3:10:24 PM 22637 Surr: BFB 85.7 66.2-112 %Rec 12/7/2015 3:10:24 PM 22637 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 0.049 12/7/2015 3:10:24 PM 22637 mg/Kg Toluene ND 0.049 mg/Kg 12/7/2015 3:10:24 PM 22637 Ethylbenzene ND 0.049 mg/Kg 12/7/2015 3:10:24 PM 22637 Xylenes, Total ND 0.098 mg/Kg 12/7/2015 3:10:24 PM 22637

80-120

%Rec

108

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

- 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 Page 2 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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 Qu	al 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 RAN	IGE ORGANIC	S			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 RA	NGE				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.

- 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 Page 1 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1508119

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Pile 955

Project: Crouch Mesa Landfarm Collection Date: 8/3/2015 8:30:00 AM

**Lab ID:** 1508119-002 **Matrix:** SOIL **Received Date:** 8/4/2015 7:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analysi	: LGT
Chloride	96	30	mg/Kg	20	8/7/2015 12:52:41 PM	20668
EPA METHOD 8015M/D: DIESEL RANG	E ORGANIC	S			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 RANG	GE				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.

- 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 Page 2 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1508119

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Pile 956

Project:

Crouch Mesa Landfarm

Collection Date: 8/3/2015 8:10:00 AM

Lab ID:

1508119-003

Matrix: SOIL

Received Date: 8/4/2015 7:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>LGT</b>
Chloride	97	30	mg/Kg	20	8/7/2015 1:05:06 PM	20668
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	S			Analys	t: <b>KJH</b>
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 RAN	IGE				Analys	t: <b>RAA</b>
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					Analys	t: <b>RAA</b>
Benzene	ND	0.049	mg/Kg	1	8/6/2015 7:42:26 PM	20610
Toluene	<b>N</b> D	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	<b>N</b> D	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.

- 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 Page 3 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1507963

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Pile 961

Project: Crouch Mesa Landfarm

h Mesa Landfarm Collection Date: 7/21/2015 8:25:00 AM

Matrix: SOIL

**Lab ID:** 1507963-005

Received Date: 7/22/2015 7:00:00 AM

Analyses	Result	PQL Qu	al 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 RAN	IGE ORGANIC	S			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 RA	NGE				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.

- 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 Page 5 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1512183

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project: Crouch Mesa LF

**Lab ID:** 1512183-005

Client Sample ID: Pile 966

Collection Date: 11/30/2015 12:25:00 PM

Received Date: 12/4/2015 8:00:00 AM

Analyses	Result	PQL Qu	al Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Analys	t: LGT
Chloride	98	30	mg/Kg	20 12/9/2015 3:49:00 PM	22714
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S		Analys	t: <b>KJH</b>
Diesel Range Organics (DRO)	ND .	9.5	mg/Kg	1 12/8/2015 12:33:26 PM	A 22651
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1 12/8/2015 12:33:26 PM	A 22651
Surr: DNOP	100	70-130	%Rec	1 12/8/2015 12:33:26 PM	<i>I</i> 22651
EPA METHOD 8015D: GASOLINE RAN	NGE			Analys	t: 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				Analys	t: 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

Matrix: SOIL

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

- 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 Page 5 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1512A94

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: Pile 968

**CLIENT:** Blagg Engineering **Project:** Crouch Mesa LF

**Collection Date:** 12/22/2015 11:32:00 AM

Lab ID: 151

1512A94-002

Matrix: SOIL

Received Date: 12/23/2015 8:05:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	st: SRM
Chloride	76	30	mg/Kg	20	1/7/2016 12:32:26 AM	23078
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	S			Analys	st: <b>KJH</b>
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 RAN	IGE				Analys	st: 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					Analys	st: 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.

- 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 Page 2 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1512A94

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Lab ID:

Crouch Mesa LF Project: 1512A94-003

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 Qu	al Units	DF I	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	st: SRM
Chloride	120	30	mg/Kg	20	1/7/2016 12:44:51 AM	23078
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s	•		Analys	st: <b>KJH</b>
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 RAI	NGE				Analys	st: 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					Analys	st: 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

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 11 J
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1506E14

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Crouch Mesa Landfarm

**Lab ID:** 1506E14-010

Project:

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	89	30	mg/Kg	20	7/7/2015 10:51:12 PM	20131
EPA METHOD 8015D MOD: GASOL	INE RANGE				Analys	t: <b>RAA</b>
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 RA	NGE ORGANIC	S			Analys	t: 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 S	SHORT LIST				Analyst	t: 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

Matrix: SOIL

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

- 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 Page 10 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1512183

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Pile 972

Project: Crouch Mesa LF Collection Date: 11/30/2015 12:02:00 PM

**Lab ID:** 1512183-003 **Matrix:** SOIL **Received Date:** 12/4/2015 8:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>LGT</b>
Chloride	47	30	mg/Kg	20	12/9/2015 3:24:10 PM	22714
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analys	t: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	12/8/2015 11:49:58 AM	1 22651
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	12/8/2015 11:49:58 AM	1 22651
Surr: DNOP	100	70-130	%Rec	1	12/8/2015 11:49:58 AM	1 22651
EPA METHOD 8015D: GASOLINE RANG	3E				Analys	t: 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					Analys	t: 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.

- \* 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 Page 3 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1512183

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Project: Crouch Mesa LF

Lab ID: 1512183-004

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 Qu	al 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 RAN	GE ORGANIC	s			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 RAI	NGE				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

Matrix: SOIL

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

- 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 Page 4 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1512A94

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project: Crouch Mesa LF

Lab ID:

1512A94-005

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 Qu	al 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 RANG	GE ORGANIC	s			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 RAN	IGE				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

Matrix: SOIL

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

- 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 Page 5 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1512A94

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Pile 976

 Project:
 Crouch Mesa LF
 Collection Date: 12/22/2015 12:20:00 PM

 Lab ID:
 1512A94-007
 Matrix: SOIL
 Received Date: 12/23/2015 8:05:00 AM

Result **PQL Qual Units DF** Date Analyzed Batch Analyses **EPA METHOD 300.0: ANIONS** Analyst: SRM 30 Chloride mg/Kg 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 12/29/2015 2:17:14 PM 22969 Motor Oil Range Organics (MRO) 12/29/2015 2:17:14 PM 22969 50 48 mg/Kg Surr: DNOP %Rec 12/29/2015 2:17:14 PM 22969 87.3 70-130 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 4.8 mg/Kg 12/30/2015 2:35:01 AM 22972 Surr: BFB %Rec 12/30/2015 2:35:01 AM 22972 84.4 66.2-112 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 0.048 mg/Kg 12/30/2015 2:35:01 AM 22972 Toluene ND 0.048 mg/Kg 12/30/2015 2:35:01 AM 22972 Ethylbenzene ND 0.048 12/30/2015 2:35:01 AM 22972 mg/Kg Xylenes, Total mg/Kg ND 0.097 12/30/2015 2:35:01 AM 22972 1 Surr: 4-Bromofluorobenzene 80-120 %Rec 12/30/2015 2:35:01 AM 22972 114

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

- 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 Page 7 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1507544

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project: Crouch Mesa LF

Lab ID: 1507544-003

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS		-10-10			Analys	t: LGT
Chloride	82	30	mg/Kg	20	7/16/2015 1:52:35 PM	20289
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANIC	S			Analys	t: 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 RA	NGE				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

Matrix: SOIL

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

- 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 Page 3 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1507544

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Pile 978

 Project:
 Crouch Mesa LF
 Collection Date: 7/10/2015 1:15:00 PM

 Lab ID:
 1507544-004
 Matrix: SOIL
 Received Date: 7/14/2015 7:55:00 AM

Result **PQL Qual Units DF** Date Analyzed Batch **Analyses** Analyst: LGT **EPA METHOD 300.0: ANIONS** 7/16/2015 2:05:00 PM 20289 Chloride 92 30 mg/Kg EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: KJH 7/15/2015 9:36:38 PM 20236 Diesel Range Organics (DRO) ND 9.8 mg/Kg 20236 ND 7/15/2015 9:36:38 PM Motor Oil Range Organics (MRO) mg/Kg 49 Surr: DNOP 102 70-130 %Rec 7/15/2015 9:36:38 PM 20236 Analyst: NSB **EPA METHOD 8015D: GASOLINE RANGE** Gasoline Range Organics (GRO) ND 0.049 mg/Kg 7/15/2015 8:06:30 PM 20241 %Rec 7/15/2015 8:06:30 PM 20241 Surr: BFB 90.7 75.4-113 **EPA METHOD 8021B: VOLATILES** Analyst: NSB 0.00049 7/15/2015 8:06:30 PM 20241 Benzene ND mg/Kg ND 0.00049 mg/Kg 7/15/2015 8:06:30 PM 20241 Toluene ND 0.00049 mg/Kg 7/15/2015 8:06:30 PM 20241 Ethylbenzene Xylenes, Total ND 0.00099 mg/Kg 7/15/2015 8:06:30 PM 20241 Surr: 4-Bromofluorobenzene 95.2 80-120 %Rec 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.

- 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 Page 4 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1512A94

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Pile 980

Project:

Lab ID:

Crouch Mesa LF

Collection Date: 12/22/2015 12:10:00 PM

1512A94-006 Matrix: SOIL

Received Date: 12/23/2015 8:05:00 AM

Analyses	Result	PQL Qu	al 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 RANG	EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					
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 RAN	GE				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.

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Н
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 6 of 11 J
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1502134

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project: Crouch Mesa LF

**Lab ID:** 1502134-007

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	81	30	mg/Kg	20	2/9/2015 3:09:17 PM	17637
EPA METHOD 8015M/D: DIESEL RAN	NGE ORGANICS	;			Analys	t: 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 RA	NGE				Analys	t: 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					Analys	t: 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

Matrix: SOIL

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

- 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 Page 7 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1512A94

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Pile 982

Project: Crouch Mesa LF Collection Date: 12/22/2015 11:50:00 AM

Lab ID: 1512A94-004 Matrix: SOIL Received Date: 12/23/2015 8:05:00 AM

Analyses	Result	PQL Qu	al 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 RANG		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 RAN	IGE				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.

- 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 Page 4 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1512A94

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: Pile 984

**CLIENT:** Blagg Engineering Project: Crouch Mesa LF

Collection Date: 12/22/2015 11:25:00 AM

Lab ID: 1512A94-001 Matrix: SOIL Received Date: 12/23/2015 8:05:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	110	30	mg/Kg	20	1/6/2016 9:57:45 PM	23078
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANIC	S			Analys	t: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	12/29/2015 12:06:30 F	M 22969
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	12/29/2015 12:06:30 F	M 22969
Surr: DNOP	84.9	70-130	%Rec	1	12/29/2015 12:06:30 F	M 22969
EPA METHOD 8015D: GASOLINE RAN	GE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/29/2015 10:54:34 F	M 22972
Surr: BFB	86.4	66.2-112	%Rec	1	12/29/2015 10:54:34 F	M 22972
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.048	mg/Kg	1	12/29/2015 10:54:34 P	M 22972
Toluene	ND	0.048	mg/Kg	1	12/29/2015 10:54:34 F	M 22972
Ethylbenzene	ND	0.048	mg/Kg	1	12/29/2015 10:54:34 F	M 22972
Xylenes, Total	ND	0.095	mg/Kg	1	12/29/2015 10:54:34 F	M 22972
Surr: 4-Bromofluorobenzene	113	80-120	%Rec	1	12/29/2015 10:54:34 P	M 22972

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 11
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1507963

Date Reported: 9/21/2016

## 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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	: LGT
Chloride	150	30	mg/Kg	20	7/27/2015 4:20:13 PM	20464
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analys	: 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 RAN	NGE				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.

- 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 Page 6 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1506E14

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

**Project:** 

Crouch Mesa Landfarm

Lab ID: 1506E14-009 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 Qu	al 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: GASOLI	NE 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 S	HORT 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

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 9 of 14 J
- P Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1502134

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Pile 989

 Project:
 Crouch Mesa LF
 Collection Date: 2/2/2015 9:05:00 AM

 Lab ID:
 1502134-004
 Matrix: SOIL
 Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>LGT</b>
Chloride	73	30	mg/Kg	20	2/9/2015 2:07:15 PM	17637
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	;			Analys	t: 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 RAN	NGE				Analys	t: 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					Analys	t: 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.

- 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 Page 4 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1507963

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Pile 992

Project:

Crouch Mesa Landfarm

**Collection Date:** 7/21/2015 7:10:00 AM

Lab ID:

1507963-007

Matrix: SOIL

Received Date: 7/22/2015 7:00:00 AM

Analyses	Result	PQL Qu	al 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 RAI	NGE				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.

- 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 Page 7 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1507544

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project:

Lab ID:

Crouch Mesa LF 1507544-005

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 Qu	al 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 RAN	IGE				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	<b>N</b> D	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

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 5 of 11 J
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1502134

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Project:

Lab ID:

Crouch Mesa LF

1502134-002

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>LGT</b>
Chloride	79	30	mg/Kg	20	2/9/2015 1:42:26 PM	17637
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analys	t: 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 RA	ANGE				Analys	t: 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					Analys	t: 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

Matrix: SOIL

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

- 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 Page 2 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1502134

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Lab ID:

**Project:** Crouch Mesa LF

1502134-006

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	140	30	mg/Kg	20	2/9/2015 2:32:03 PM	17637
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analys	t: 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 RA	NGE				Analys	t: 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					Analys	t: 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

Matrix: SOIL

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

- 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 Page 6 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1502134

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project: Crouch Mesa LF

**Lab ID:** 1502134-001

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 RA	NGE					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

Matrix: SOIL

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

- 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 Page 1 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1502134

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Pile 998

 Project:
 Crouch Mesa LF
 Collection Date: 2/2/2015 8:54:00 AM

 Lab ID:
 1502134-003
 Matrix: SOIL
 Received Date: 2/4/2015 8:30:00 AM

**PQL Qual Units Analyses** Result **DF** Date Analyzed Batch **EPA METHOD 300.0: ANIONS** Analyst: LGT Chloride ND 30 mg/Kg 2/9/2015 1:54:50 PM 17637 EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: JME 2/6/2015 1:49:01 PM Diesel Range Organics (DRO) 11 10 mg/Kg 17564 Motor Oil Range Organics (MRO) ND mg/Kg 2/6/2015 1:49:01 PM 17564 50 Surr: DNOP 94.1 70-130 %Rec 2/6/2015 1:49:01 PM 17564 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB 2/5/2015 3:27:59 PM 17567 Gasoline Range Organics (GRO) ND 5.0 mg/Kg Surr: BFB 99.0 80-120 %Rec 2/5/2015 3:27:59 PM 17567 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 0.050 mg/Kg 2/5/2015 3:27:59 PM 17567 17567 Toluene ND 0.050 mg/Kg 2/5/2015 3:27:59 PM Ethylbenzene ND 0.050 mg/Kg 2/5/2015 3:27:59 PM 17567 Xylenes, Total ND 0.10 mg/Kg 2/5/2015 3:27:59 PM 17567 Surr: 4-Bromofluorobenzene 112 80-120 %Rec 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.

- 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 Page 3 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1507544

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

gineering

**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 RAI	NGE					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.

- 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 Page 6 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1502134

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Crouch Mesa LF

**Lab ID:** 1502134-005

Project:

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	ND	30	mg/Kg	20	2/9/2015 2:19:39 PM	17637
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analys	t: 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 RA	NGE				Analys	t: 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					Analys	t: 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

Matrix: SOIL

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

- 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 Page 5 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1507963

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Pile 1001

**Project:** 

Crouch Mesa Landfarm

Collection Date: 7/21/2015 7:20:00 AM

Lab ID:

1507963-008

Matrix: SOIL

Received Date: 7/22/2015 7:00:00 AM

Analyses	Result	PQL Qu	al 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 RA	ANGE				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.

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 8 of 13 J
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1507963

Date Reported: 9/21/2016

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Crouch Mesa Landfarm

1507963-009

Project:

Lab ID:

Client Sample ID: Pile 1002

Collection Date: 7/21/2015 7:30:00 AM

Received Date: 7/22/2015 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	:: LGT
Chloride	42	30	mg/Kg	20	7/27/2015 5:22:17 PM	20464
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analys	t: 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 RAN	IGE				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

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Ε Value above quantitation range
- Analyte detected below quantitation limits Page 9 of 13 J
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1512183

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project: Crouch Mesa LF

**Lab ID:** 1512183-006

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>LGT</b>
Chloride	ND	30	mg/Kg	20	12/9/2015 4:01:25 PM	22714
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	s			Analys	t: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	12/8/2015 12:55:20 PM	1 22651
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/8/2015 12:55:20 PM	1 22651
Surr: DNOP	96.1	70-130	%Rec	1	12/8/2015 12:55:20 PM	1 22651
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: 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					Analys	t: 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

Matrix: SOIL

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

- 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 Page 6 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1507544

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Project: Crouch Mesa LF

**Lab ID:** 1507544-007

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 Qu	al 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 RANG	E ORGANIC	S			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 RAN	GE .				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

Matrix: SOIL

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

- 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 Page 7 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1506E14

Date Reported: 9/21/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project:

Lab ID:

Crouch Mesa Landfarm

1506E14-003

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	48	30	mg/Kg	20	7/7/2015 8:59:28 PM	20131
EPA METHOD 8015D MOD: GASOL	INE RANGE				Analys	t: 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 RA	NGE ORGANIC	S			Analys	t: <b>KJH</b>
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 S	SHORT LIST				Analys	t: 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

Matrix: SOIL

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

- \* 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 Page 3 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1506E14

Date Reported: 9/21/2016

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Pile 1006

Project:

Crouch Mesa Landfarm

Collection Date: 6/26/2015 12:35:00 PM

Lab ID:

1506E14-004

Matrix: SOIL

Received Date: 6/30/2015 7:00:00 AM

Analyses	Result	PQL Qu	al 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 RANG	E ORGANIC	S			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 SHO	RT 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.

- 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 Page 4 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## 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

Sample ID LCS-17637

Analysis Date: 2/9/2015

SeqNo: 713556

Units: mg/Kg

**RPDLimit** 

Qual

Analyte

Result **PQL** 

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD

Chloride

ND

1.5

TestCode: EPA Method 300.0: Anions RunNo: 24209

Prep Date:

Client ID: LCSS

2/9/2015

SampType: LCS Batch ID: 17637 Analysis Date: 2/9/2015

**PQL** 

SeqNo: 713557

0

Units: mg/Kg

Analyte

Result

1.5 15.00

SPK value SPK Ref Val

%REC 91.4

LowLimit

**RPDLimit** 

Qual

Chloride

14

HighLimit

%RPD

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е
- J Analyte detected below quantitation limits
- Sample pH Not In Range
- Reporting Detection Limit Sample container temperature is out of limit as specified

Value above quantitation range Page 8 of 11

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1502134

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-17564	SampT	ype: ME	BLK	TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch	Batch ID: 17564 RunNo: 24136									
Prep Date: 2/4/2015	Analysis D	ate: 2/	6/2015	SeqNo: 712630			Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%ŖEC	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	Samp	ype: LC	S	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics		
Client ID: LCSS	Batcl	n ID: <b>17</b>	564	F	RunNo: 2	4136					
Prep Date: 2/4/2015	Date: <b>2/4/2015</b> Analysis Date: <b>2/6/2015</b> SeqNo:					o: 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	9 <b>7</b> .8	67.8	130				
Surr: DNOP	4.9		5.000		98.2	63.5	128				

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

E E

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

Page 9 of 11

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1502134

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-17567	SampT	ype: ME	3LK	TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch	ID: <b>17</b>	567	RunNo: 24122						
Prep Date: 2/4/2015	Analysis D	ate: 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	SampT	ype: LC	s	Tes	TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch	Batch ID: 17567 RunNo: 24122									
Prep Date: 2/4/2015	Analysis D	pate: 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
- Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits
  - Sample pH Not In Range

Page 10 of 11

- P
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1502134

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-17567	Samp <sup>-</sup>	Туре: М	BLK	Tes						
Client ID: PBS	Batch ID: 17567			F	RunNo: 24122					
Prep Date: 2/4/2015	Analysis [	Date: 2/	5/2015	8	SeqNo: 7	11478	Units: mg/K			
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	Samp <sup>-</sup>	Гуре: <b>LC</b>	s	Tes	TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batc	h ID: <b>17</b>	567	F	RunNo: 2						
Prep Date: 2/4/2015	Analysis [	Date: 2/	5/2015	5	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	



\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

D 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

Page 11 of 11

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory 4901 Hawkins NE

Albuquerque, NIA 87105 TEL: 505-345-3975 FAX: 505-345-4107 Website, www.hallenvironmental.com

## Sample Log-In Check List

Work Order/Number: 1502134 ReptNo: 1 Client Name: BLAGG Received by/date: 2/4/2015 8:30:00 AM Logged By: **Ashley Gallegos** Completed By: **Ashley Gallegos** 2/4/2015 9:42:57 AM Reviewed By: A 02/04/15 Chain of Custody Yes No 🗌 Not Present 1. Custody seals intact on sample bottles? Yes 🗹 No 🗌 Not Present 🔲 2. Is Chain of Custody complete? 3. How was the sample delivered? Client Log In NA 🗌 4. Was an attempt made to cool the samples? Yes V No 🗌 NA | Were all samples received at a temperature of >0° C to 6.0°C Yes 🗸 Yes 🗸 No 🗌 6. Sample(s) in proper container(s)? Yes 🔽 No Sufficient sample volume for indicated test(s)? No 🗆 8. Are samples (except VOA and ONG) properly preserved? Yes NA 🔲 Yes 📗 No 🔽 9. Was preservative added to bottles? Yes No 🗍 No VOA Vials 🗹 10. VOA vials have zero headspace? Yes No 🔽 11. Were any sample containers received broken? # of preserved bottles checked No 🗌 Yes 🗸 for pH: 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 🗀 13. Are matrices correctly identified on Chain of Custody? Yes No 🖂 14 is it clear what analyses were requested? No 🗌 Yes 🗹 Checked by 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (If applicable) Yes No 🗌 NA 🗹 16. Was client notified of all discrepancies with this order? Person Notified: Date By Whom: ☐ eMail ☐ Phone ☐ Fax ☐ In Person Via: Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact | Seal No Seal Date Signed By Not Present

Client:	BP America			Standard	□ Rush			=				IS L			•		•
	Blagg Engine	socina Inc		Project Name													
		Sering inc			Crouch Mesa	NE						enviror					
Mailing Addr	ess.	P.O. Box	And the same of th	Desired #	Olough Mess	· L·	l	4901 I	Hawk	ins N	Æ -	Albuq	nerque	∋, NM.	87109	9	
		Bloomfie	ld, NM 87413	Project #:				Tel. 5	05-34			Fax			107		
Phone #:		(505)320	)-1183							A	nalys	sis Re	quest			,	
email or Fax	#:			Project Mana	ger:												
QA/QC Packs	age:				Jeff Blagg			=									
Standard			☐ Level 4 (Full Validation)		7,225			/ DRO)									
				Sampler:	Jeff Blagg			100							-		Î
□ EDD (Typ	oe)		The state of the s	On Ice: Sample Tem	A Yes	□ No		(GRO									ğ
		William Control		Sample read	perature. Z		2	98									Se
Data	Time	Matrix	Sample Request ID	Container	Preservative	HEAL No.	8	80158							je je		\$
Date	Time	Medix	Sample Request ib	Type and #	Туре	[H. [[[ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [	BTEX (8021)	HAL							Chloride		Air Bubbles (Y or N)
00/00/00/5	0.00	0.5	Pile 997	4	2001	150a134	_			$\vdash$			+	+			4
02/02/2015		Soil		40z x 1	cool	- <i>DC1</i>	×	×			-		+		X	+	$\vdash$
02/02/2015	8:42	Soll	Pile 994	40z x 1	cool	-00a	X	×						<u> </u>	×		
02/02/2015	8:54	Soil	Pile 998	402 x 1	cool	- 003	×	×					100		×	$oxed{oxed}$	
02/02/2015	9:05	Soil	Pile 989	4oz x 1	cool	-004	×	x			·				×		
02/02/2015	9:15	Soil	Pile 1000	4oz x 1	cool	-D05	x	х							x		
02/02/2015	9:24	Soil	Pile 996	40z x 1	cool	-00 La	x	×							x		
02/02/2015	9:33	Soil	Pile 981	40z x 1	cool	-007	×	х							×		
1070																	
							П										
																T	
									1								Г
Date:	Time:	Relinquist	ned by:	Received by:	1	Date Time		arks:									
13/2015	1034	بلعل ا	(Blogg	Mistre	Woole	2/3/15 1033		Contac ce.jeffn					se co	py res	ults to	):	
Date:	Time:	Relinquisi	ned by:	Received by	/	Date Time		cella@					.com				
43/15	1747	Char	otu Waste	Y (E)	17	MILE 0830		_			Í						
If ne	cessary, samples s		fall Environmental may be subcontract	ed to other accredit			ollity. Ar	y sub-cor	tracted	data w	ili be ci	early not	ated on t	ne enalyt	ica: repo	xt.	_

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1506E14

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa Landfarm

Sample ID MB-20131

Sample ID LCS-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 Chloride

Result ND

SPK value SPK Ref Val %REC LowLimit **PQL** 1.5

HighLimit

%RPD **RPDLimit**  Qual

Client ID:

Prep Date:

SampType: Ics Batch ID: 20131

1.5

RunNo: 27343 SeqNo: 819862

TestCode: EPA Method 300.0: Anions

Units: mg/Kg

Analyte

7/7/2015

LCSS

Analysis Date: 7/7/2015

SPK value SPK Ref Val

%REC

HighLimit

%RPD

Chloride

14

**RPDLimit** 

Page 11 of 14

Qual

#### Qualifiers:

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

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1506E14

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa Landfarm

Sample ID MB-20028	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: PBS	Batch	n ID: <b>20</b>	028	F	RunNo: 2	7182				
Prep Date: 6/30/2015	Analysis D	nalysis Date: <b>7/2/2015</b> SeqNo: <b>816327</b> Units: <b>mg/Kg</b>								
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	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch	n ID: 20	028	F	RunNo: 2	7182				
Prep Date: 6/30/2015	Analysis D	ate: 7/	2/2015	9	SeqNo: 8	16328	Units: mg/k	ζg		
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.
- Sample Diluted Due to Matrix
  - Holding times for preparation or analysis exceeded
  - Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits

Page 12 of 14

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

## "Hall Environmental Analysis Laboratory, Inc.

WO#:

1506E14

21-Sep-16

**Client:** 

Blagg Engineering

Project:

Crouch Mesa Landfarm

Sample ID Ics-20032	SampT	ype: LC	s	Tes	tCode: El	PA Method	8260B: Vola	tiles Short	List	
Client ID: LCSS	Batch	h ID: <b>20</b>	032	F	RunNo: 2	7296				
Prep Date: 6/30/2015	Analysis D	Date: 7/	2/2015	5	SeqNo: 8	18016	Units: mg/h	(g		
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	Samp	уре: МЕ	BLK	Tes	tCode: El	PA Method	8260B: Vola	iles Short	List	
Client ID: PBS	Batcl	h ID: <b>20</b>	032	F	RunNo: 2	7296				
Prep Date: 6/30/2015	Analysis [	Date: <b>7/</b>	2/2015	8	SeqNo: 8	18017	Units: mg/K	(g		
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								
lenes, 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.
- Sample Diluted Due to Matrix
  - Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits

Page 13 of 14

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1506E14

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa Landfarm

Sample ID Ics-20032	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015D Mod:	Gasoline	Range		
Client ID: LCSS	Batch	1D: <b>20</b>	032	F	RunNo: 2	7296					
Prep Date: 6/30/2015	Analysis D	ate: 7/	2/2015	S	SeqNo: 8	o: 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	SampT	уре: <b>МЕ</b>	BLK	Tes	tCode: El	PA Method	8015D Mod:	Gasoline	Range	
Client ID: PBS	Batch	ID: 20	032	R	tunNo: 2	7296				
Prep Date: 6/30/2015	Analysis D	ate: 7/	2/2015	S	SeqNo: 8	17960	Units: mg/K	(g		
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.
- D Sample Diluted Due to Matrix
  - Holding times for preparation or analysis exceeded
  - 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

;

Page 14 of 14



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 Num	ber: 1506E	14		RcptNo:	1
Received by/da	te: LZ	n 06/301	115					
Logged By:	Anne Thor	ne	6/30/2015 7:00:00	AM		an Am	_	
Completed By:	Anne Thor	ne	6/30/2015 /			an Am	_	
Reviewed By:	, 10	$\sim$ $\Omega$	0/20/15	-		Cana Jica		,
Chain of Cus	tody		7501.0					i
1. Custody sea	•	ample bottles?		Yes		No 🗆	Not Present <b>✓</b>	
2. Is Chain of (		•		Yes	$\checkmark$	No 🗌	Not Present	
3. How was the	e sample deliv	vered?		Cour	<u>er</u>			
Log In								
	empt made to	cool the samples?		Yes	✓	No 🗆	NA 🗌	
5. Were all sar	mples received	d at a temperature o	of >0° C to 6.0°C	Yes	<b>✓</b>	No 🗆	NA $\square$	
6. Sample(s) i	n proper conta	ainer(s)?		Yes	✓	No 🗆		
7. Sufficient sa	ample volume	for indicated test(s)	?	Yes	✓	No 🗆		
8. Are samples	s (except VOA	and ONG) properly	preserved?	Yes	<b>✓</b>	No 🗆		
9. Was presen	vative added to	o bottles?		Yes		No 🗹	NA 🗆	
10.VOA vials h	ave zero head	space?		Yes		No 🗔	No VOA Vials 🗹	
		ers received broker	1?	Yes		No 🗹		
	,						# of preserved bottles checked	
12. Does paper				Yes	V	No 🗆	for pH:	- 10 inless sated)
		ain of custody) ntified on Chain of C	Cuetodu?	Yes	<b>✓</b>	No 🗆	Adjusted?	r >12 unless noted)
14. Is it clear wh			oustody!		<b>✓</b>	No 🗆	-	
15. Were all hol					<b>✓</b>	No 🗆	Checked by:	
(If no, notify	customer for	authorization.)						
Special Hand	lling (if app	olicable)						
		iscrepancies with th	is order?	Yes		No 🗆	NA 🗹	
Person	n Notified:		Date			r		7
By Wh			Via:	ົງ ∏ eMa	il Pho	ne 🗍 Fax	In Person	
Regar	1						THE TOTAL PROPERTY.	
Client	Instructions:							
17. Additional r	emarks:					The second secon		
18. Cooler Info Cooler N		Condition Sea	al Intact   Seal No	Seal Da	te S	igned By		

C	hain-	of-Cu	stody	/ Record	Turn-Around	Time:					<b>s</b> -	IA.		FI	NV	TE	20	NN	1F	NT.	ΔI	
Client:	BB	AME	RIC A		Standard	□ Rush		 		_	_									TO		
	<del></del>		-10/1		Project Name								v.hali									
Mailing A	Address:	es POE	30v 8		CROUGH	MESA L	ANDFARM		490	01 H			v.1121 1E -						109			
	7	>			Project #:					I. 50					-	•	345-					
		NFIELD			1					ii. 00	J-J-	.0.0.					uest					
		<u>15 - 32</u>	<u> </u>	05	Project Mana	got:			3	<b>a</b>												
email or					1	_		21)	o	₹		ľ			SO,	3,8						
⊋A/QC P <b>S</b> Stand	_		□ Level	4 (Full Validation)	J.B			+ MIBE + IMB'S (8021)	(Gas only)	(DRO) **Re)			SIMS)		,PO4	2 PCI		İ				
Accredit	· · · · · · · · · · · · · · · · · · ·		,211.1111		Sampler: J	- BLAGE		B	표		8.1)	<del>(</del>	8270		NO	808						2
□ NELA	₹P	□ Othe	r			z/Yes		<i>T</i>	+	( <u>%</u>	418.	504	r 82	s	03,	/ 8		8	,,\			ō
□ EDD	(Type)				Sample Temp	perature: 3,	3-1,0cf = 2,3		푎	9	po	po	0	etal	N.	cide	(A)	<u> </u>	9			\ <u>\</u>
Date	Time	Matrix	Sam	ple Request ID	Container Type and #	Preservative Type	HEAL NO. 1506E14	BTEX + 14	BTEX + MTBE	TPH 8015B (GRO	TPH (Method	EDB (Method 504.1)	PAH's (8310 or	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORUDE			Air Bubbles (Y or N)
26/5	[215	Soc	PILE	992	402 21	COOL	-101	×		×									×			
u	[205	11		44 (	(1	u	7002	×		×									×			
11	lzzs	11		1005	11	ti.	7.03	×		×									×			
Ιt	1235	11		1006	(1	ų	-co+	×		×									×			
ţţ	1340	Ц	AUE	949	11	V.	-45	×		×									×		$\perp$	
(t	(330	11	PLE	945	41	11	-ode			×									×			
11	1320	11	PILE	947	11	"	7007	×		×									×	$\perp$		
Ħ	1310	11	PILE	948	- u	"(	-008	×		×									×			
ш	1255	11		987	ı	Ħ	-009	×		×									×			
11	1245	11		970	Ч	11	-010	×		×									×			
														<u> </u>	<u> </u>	ļ				$\dashv$	$\perp$	_
									L_	L_ <u>_</u>		<u> </u>				<u> </u>						
Date: 1/29/15 Date:	Time:	Relinquish Relipquish	4 31	049	Received by:  Received by:	Walte	Date Time 0/29/15 1050 Date Time	Rer	nark	s: 13 7 0	2.0.	01	s   Fi   Je	LE EE	PEA	Œ						
29/15	1754	/ h	ustin	delle	4		1/3d15 0700															
' If	necessary,	samples sub	mitted to Hal	Environmental may be sub	contracted to other a	ccredited laboratori	es. This serves as notice of this	s possi	bility.	Any s	ub-cor	tracte	d data	will b	e clea	dy not	ated or	n the a	nalytic	ai repor	t.	

## "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

TestCode: EPA Method 300.0: Anions

Units: mg/Kg

Qual

Analyte

Result ND PQL 1.5

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD

%RPD

**RPDLimit** 

Chloride

Sample ID LCS-20289

LCSS

SampType: Ics Batch ID: 20289

RunNo: 27581

SeqNo: 827976

Units: mg/Kg

Qual

Analyte

Client ID:

Prep Date: 7/16/2015

Analysis Date: 7/16/2015

**PQL** 

SPK value SPK Ref Val 0

%REC 97.5

LowLimit

HighLimit

**RPDLimit** 

Chloride

Result 15

1.5 15.00

110

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded ŀ

- Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E
- Analyte detected below quantitation limits J
- P Sample pH Not In Range

Reporting Detection Limit

Sample container temperature is out of limit as specified

Value above quantitation range

Page 8 of 11

## Hall Environmental Analysis Laboratory, Inc.

Result

53

5.0

WO#:

1507544

21-Sep-16

Client:

Blagg Engineering

Project:

Diesel Range Organics (DRO)

Surr: DNOP

Crouch Mesa LF

Sample ID MB-20236	SampT	ype: MI	BLK	Tes	tCode: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: PBS	Batch	n ID: 20	236	F	RunNo: 2	7509				
Prep Date: 7/14/2015	Analysis D	15/2015	S	SeqNo: 8	26590	Units: mg/K	g			
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	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: LCSS Batch ID: 20236			F	RunNo: 2	7509					
Prep Date: 7/14/2015 Analysis Date: 7/15/2015			S	eqNo: 8	26591	Units: mg/K	(g			

SPK value SPK Ref Val

50.00

5.000

LowLimit

57.4

57.9

%REC

105

99.8

HighLimit

140

%RPD

**RPDLimit** 

Qual

### 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
- Page 9 of 11

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### 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 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 Analysis Date: 7/15/2015 Prep Date: 7/14/2015 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 25.00 102 64 130 Surr: BFB 1000 1000 103 . 75.4 113

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- 4 Holding times for preparation or analysis exceeded
- D 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

Page 10 of 11

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1507544

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-20241	SampT	уре: МЕ	BLK	Tes	tCode: E	PA Method	8021B: Volat	tiles		
Client ID: PBS	Batch	h ID: <b>20</b> :	241	F	RunNo: 2	7518				
Prep Date: 7/14/2015	Analysis E	Date: <b>7</b> /	15/2015	S	SeqNo: 8	26409	Units: mg/K	(g		
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	SampT	ype: LC	s	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batcl	h ID: 20	241	F	RunNo: 2	7518				
Prep Date: 7/14/2015	Analysis D	ate: 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.
- 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

Page 11 of 11



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 Numb	er: 1507544		RcptNo:	1
Received by/dat	te: AT 07/14	4/5				
Logged By:	Anne Thome	7/14/2015 7:55:00 A	М	aone Am		
Completed By:	Anne Thome	7/14/2015		ans Ilm	_	
Reviewed By:	(s	07/14/15				
Chain of Cus	stody	(**(***				
1. Custody sea	als intact on sample bott	les?	Yes	No 🗆	Not Present	
2. is Chain of (	Custody complete?		Yes 🗹	No 🗆	Not Present	
3. How was the	e sample delivered?		<u>Courier</u>			
Log In						
4. Was an atte	empt made to cool the sa	amples?	Yes 🗹	No 🗆	NA $\square$	
5. Were all sar	mples received at a tem	perature of >0° C to 6.0°C	Yes 🗸	No 🗆	na 🗆	
6. Sample(s) is	n proper container(s)?		Yes 🗹	No 🗆		
7. Sufficient sa	ample volume for indicate	ed test(s)?	Yes 🗹	No 🗆		
8. Are samples	(except VOA and ONG	) properly preserved?	Yes 🗹	No 🗆		
9. Was preserv	vative added to bottles?		Yes 🗌	No 🗹	NA $\square$	
10.VOA vials ha	ave zero headspace?		Yes 🗌	No 🗆	No VOA Vials 🗹	
11, Were any sa	ample containers receive	ed broken?	Yes	No 🗹	# of preserved	-
					bottles checked	
	work match bottle labels pancies on chain of cust		Yes 🗸	No 🗀	for pH: (<2 o	r >12 unless noted)
•	s correctly identified on (	• *	Yes 🗸	No 🗆	Adjusted?	
14. Is it clear wh	nat analyses were reque	sted?	Yes 🗹	No 🗆		
	ding times able to be me customer for authorizati		Yes 🗹	No 🗌	Checked by:	
Special Hand	lling (if applicable)					
16. Was client n	otified of all discrepance	es with this order?	Yes 🗌	No 🗌	NA 🗹	
Persor	n Notified:	Date				
By Wh	nom:	Via:	eMail E	Phone T Fax	☐ In Person	
Regard	ding:	Alternative Processing and a section of the section	oth an experience of the experience of	. The State of the Control of State of	and the state of t	
Client	Instructions:	and the second second				
17. Additional re	emarks:					
18. Cooler Info Cooler No	<del> </del>	on Seal Intact Seal No Yes	Seal Date	Signed By		

С	hain-	of-Cu	stody Record	Turn-Around	Time:		HALL ENVIRONMENTA				'AI										
Client:	BPA.	MERICA	4	Standard	□ Rush														\TC		
	$\overline{\mathcal{L}}$	. 5.15	ISSEL AILE	Project Name	<b>9</b> :											tal.co					
Mailing .	Address	i cho	INEERI NU	CROUC	M MESA	L.F.		49	01 H								м 87	109			
				Project #:			1			5-34				-			4107				
Phone #	<del></del>	-										Α	naly	/sis	Req	uest					
email or	Fax#:			Project Mana	iger:		] _	<u>الح</u>	<b>Q</b>	İ	Ì			04)				Ì			
QA/QC F	Package:		☐ Level 4 (Full Validation)	J.	BLAGE		(802	+ TPH (Gas only)	DRO <del>/ IMRC</del> )		į	MS)		2O4,S	PCB's					Ì	
Accredit			Level 4 (I dis validation)	Sampler: >	T. BLAGE		層	Ĭ.	R			0 S		02,1	382					1	
□ NEL/		□ Othe	er	On Ice	XYSLA		Ħ		8	18.1	2.	827		O3,N	s / 8(		æ				ᅵ
□ EDD	(Type)_			Sample Jem	ogawe 3	Berige Re	1 #	BE	<u>0</u>	bd 4	g	0 0	stals	Ž	ige	₹	) 	Ž			
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEALING!	BTEX + MTBE= TMB's (8021)	BTEX + MTBE	TPH 8015B (GRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)	CHWR.\⊅E			Air Bubbles (Y or N)
10/2015	1432	SOIL	PILE 944	402×1	COC	-01	X		X						_			Х			
ί۱	1325	10	Pilé 950	11	ij.	-002	×		×									χ			
it	1337	it.	PILE 977	ч	11	7003	×		×									×			
ų.	1315	I(	PLE 978	lį	l,	-004	×		X									X			
ų	1400	И	PILE 993	Ч	T(	-005	×		×									×			
ι(	1350	16	PILE 999	11	11	-006	×		×									¥			
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	l																				
Date:	Time:	Relinquish	ed by: U Blegg	Received by:		Date Time	Rei	nark		Biu	B	P V F	ili								
Date: Time: Relinquished by:				Received by:		Date Time			•	CON	raci	N F	Jį	ŧt.	Pec	ace					
							_							_					<del></del>		

### 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

SeqNo: 835871

Units: mg/Kg

Analysis Date: 7/27/2015

SPK value SPK Ref Val %REC LowLimit

%RPD

%RPD

**RPDLimit** 

Qual

Analyte Chloride

Result

ND 1.5

Sample ID LCS-20464

SampType: LCS

TestCode: EPA Method 300.0: Anions

Client ID: LCSS

Batch ID: 20464

**PQL** 

RunNo: 27773

HighLimit

Prep Date: 7/27/2015

Analysis Date: 7/27/2015

SeqNo: 835872

Units: mg/Kg

HighLimit

Result

SPK value SPK Ref Val 15.00

96.3

LowLimit 90

110

**RPDLimit** 

Page 10 of 13

Qual

Analyte Chloride

14

1.5

%REC

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- J
- P Sample pH Not In Range

Reporting Detection Limit

Sample container temperature is out of limit as specified

Е Value above quantitation range

Analyte detected below quantitation limits

# "Hall Environmental Analysis Laboratory, Inc.

WO#:

1507963

21-Sep-16

Client:

Blagg Engineering

Project: Crouch	Mesa Landfarm							
Sample ID MB-20378	SampType: MBLK		TestCode: El	PA Method	8015M/D: Die	sel Range	e Organics	
Client ID: PBS	Batch ID: 20378		RunNo: 2	7701				
Prep Date: 7/22/2015	Analysis Date: 7/23/2	015	SeqNo: 8	33319	Units: mg/K	g		
Analyte	Result PQL SP	K value SPK Re	ef 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: EF	PA Method	8015M/D: Die	sel Range	Organics	
Client ID: LCSS	Batch ID: 20378		RunNo: 2	7701				
Prep Date: 7/22/2015	Analysis Date: 7/23/2	015	SeqNo: 8	33320	Units: mg/K	g		
Analyte -	Result PQL SP	K value SPK Re	ef Val %REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	71 10	50.00	0 143	<b>57.4</b>	139			S
Surr: DNOP	7.3	5.000	147	57.9	140			S
Sample ID MB-20424	SampType: MBLK		TestCode: El	PA Method	8015M/D: Die	sel Range	Organics	
Client ID: PBS	Batch ID: 20424		RunNo: 2	7764				
Prep Date: 7/24/2015	Analysis Date: 7/27/2	015	SeqNo: 8	34737	Units: mg/K	g		
Analyte	Result PQL SP	Cyalua SDK D			Little Little	%RPD	RPDLimit	0
	1100an 1 a - 01	N value SPN N	ef Val %REC	LowLimit	HighLimit	%RPD	RPDLIMIL	Qual
esel Range Organics (DRO)	ND 10	N value SPN Ri	ef Val %REC		HighLimit	%RPD	RPDLIIII	Quai
		10.00	ef Val %REC	57.9	140	%RPD	KPDLIIIIĮL	Qual
esel Range Organics (DRO)	ND 10			57.9	140			Qual
esel Range Organics (DRO) Surr: DNOP	ND 10 11		107	57.9 PA Method	140			Quai
esel Range Organics (DRO) Surr: DNOP	ND 10 11 SampType: LCS	10.00	107 TestCode: <b>EF</b>	57.9 PA Method 7764	140	esel Range		Quai
esel Range Organics (DRO) Surr: DNOP  Sample ID LCS-20424 Client ID: LCSS	ND 10 11  SampType: LCS Batch ID: 20424  Analysis Date: 7/27/2	10.00	TestCode: EF RunNo: 2: SeqNo: 8:	57.9 PA Method 7764	140 8015M/D: Die	esel Range		Qual
esel Range Organics (DRO) Surr: DNOP  Sample ID LCS-20424 Client ID: LCSS Prep Date: 7/24/2015	ND 10 11  SampType: LCS Batch ID: 20424  Analysis Date: 7/27/2	10.00	TestCode: EF RunNo: 2: SeqNo: 8:	57.9 PA Method 7764 34738	140 <b>8015M/D: Die</b> Units: <b>mg/K</b>	esel Rango	o Organics	

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits
- Page 11 of 13

- P Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

### -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

**PQL** 

5.0

RunNo: 27716

Prep Date: 7/22/2015

Analysis Date: 7/23/2015

SeqNo: 833100

LowLimit

Units: mg/Kg

HighLimit

Qual

Analyte Gasoline Range Organics (GRO)

ND 870

86.8

%RPD

%RPD

**RPDLimit** 

Surr: BFB

Result

1000

SPK value SPK Ref Val

75.4

Sample ID LCS-20385

SampType: LCS

SPK value SPK Ref Val %REC

TestCode: EPA Method 8015D: Gasoline Range

113

Client ID: LCSS

Batch ID: 20385

RunNo: 27716

Prep Date: 7/22/2015

Analysis Date: 7/23/2015

**PQL** 

5.0

SeqNo: 833101

Units: mg/Kg

%REC

LowLimit

HighLimit

Page 12 of 13

**RPDLimit** Qual

Analyte Gasoline Range Organics (GRO) Surr: BFB

24 910

Result

25.00 1000

91.4

95.3 79.6 75.4 122 113

### **Qualifiers:**

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

### "Hall Environmental Analysis Laboratory, Inc.

WO#:

1507963

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa Landfarm

Sample ID MB-20385 TestCode: EPA Method 8021B: Volatiles SampType: MBLK 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 ND 0.050 Benzene Toluene ND 0.050 ND 0.050 Ethylbenzene Xylenes, Total ND 0.10 0.92 1.000 91.9 80 120 Surr: 4-Bromofluorobenzene

Sample ID LCS-20385	SampT	ype: LC	s	Tes	tCode: El	PA Method	8021B: Vola	tiles			
Client ID: LCSS	Batch	1D: <b>20</b>	385	F	RunNo: 2	7716					
Prep Date: 7/22/2015	23/2015	8	SeqNo: 8	33127	Units: mg/k	(g					
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.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits

Page 13 of 13

- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified



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 C	Order Number	15079	963		R	cptNo: 1
Received by/dat	(a. )	6 07/22	15					
Logged By:	Lindsay Ma	ngin 7/22/2019	5 7:00:00 AM			J JAH	90	
Completed By:	Lindsay Ma	ngin 7/22/201	5 8:13:30 AM			July 1	ço	
Reviewed By:	C	s 07/2:	15					
Chain of Cus	itody	-,	•					
1, Custody sea	als intact on sai	mple bottles?		Yes		No 🗀	Not Preser	nt 🗹
2. Is Chain of C	Custody comple	ete?		Yes	Y	No _	Not Presen	nl 🗆
3. How was the	e sample delive	ered?		Cour	i <del>e</del> r			
Log In								
4. Was an atte	empt made to c	eool the samples?		Yes	Z	No [	) N	IA 🗍
5. Were all san	mples received	at a temperature of >0° C	to 6.0°C	Yes	Z	No	N/	A 🗆
6. Sample(s) i	n proper contai	ner(s)?		Yes	<b>y</b>	No [	]	
7. Sufficient sa	imple volume f	or indicated test(s)?		Yes	V	No 🗆	a. corrections of the correction of the corrections of the corrections of the corrections of the correction of th	
8. Are samples	(except VOA	and ONG) properly preserve	ed?	Yes	7	No [		
9. Was present	vative added to	bottles?		Yeş	Yang Yang	No 🔀	N/	1
10. VOA vials h	ave zero heads	space?		Yes		No [	No VOA Vial	s 🗹
11. Were any s	ample containe	as received broken?		Yes		No 🗹		
		•			-	x =	# of preserve bottles check	
12. Does paper	work match bot pancies on cha			Yes	¥	No	for pH:	(<2 or >12 unless noted)
•	•	tified on Chain of Custody?		Yes	Z	No .	Adjust	ed?
14 Is it clear wh				Yes		No 🗔	pron many	
15. Were all ho				Yes	✓	No	Checke	d by:
(If no, notify	customer for a	uthorization.)						
Special Hand	fling (if app	licable)						
16, Was dient r	notified of all dis	crepancies with this order?		Yes		No [	N	A 🗹
Perso	n Notified:		Date [		-		-	
By Wi	nom:		Via:	eMa	il [] F	hone 🗍 Fa	x In Person	
Regar	ding:							The state of the s
Client	Instructions							
17. Additional a	emarks;	<u> </u>						
18. <u>Cooler Info</u>								
Cooler N	Manager Victor	Condition Seal Intact	Seal No S	Seal Da	ite	Signed By	_	
ļí	1.9	Good Yes					1	

_	ا ا	, -f C	-4- du	Poperd	Turn-Around	Time:		HALL ENVIRONMENTAL					,									
				Record	-						H	A	LL	E	NV	IF	10	NP	1E	NT	AL	
ment.	RP A	MERICA	۹ .		★Standard	☐ Rush		[			A	N	AL	YS	SIS	i L	AE	30	RA	TC	R	Y
	BLAG	elan.			Project Name						,	www	ı.hall	envi	ironr	nent	al.co	m				
1ailing	Address:		.,		CROUCH	MESA LA	NDFARM		490	01 H	awki	ns N	IE -	Alb	uque	erque	e, Ni	M 87	109			
					Project #:			1		el. 50					•			4107				
hone 7	#: 505	- 328	D- 118'	3	1												uest					
	r Fax#:				Project Mana	ger:			only)	<u>Q</u>					74)							
A/QC	Package:				$\mathcal{T} = \mathcal{T}$	3c466		(8021)	IS OI	/MED)	-		(S)		Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	PCB's						
<b>≾</b> Stan	dard		□ Level	4 (Full Validation)				3) 9	(Gas	DRO			SIMS)		5	2 P(						
ccredi					Sampler: 🗸				TPH	/ D	=	=	023		Š.	/ 8082						î
) NEL		□ Othe	r		On Ice:		□ No	11	+	(GRO/	418	504	r 82	S	ō,	) Se		8				ō
] EDD	(Type)_		T		Sample Tem	perature: /	$\boldsymbol{q}$	Ħ	MTBE	B (G	bo	ğ	100	eta	2,	cide	द्व	<u>-</u>	Š			λ) s
					Container	Preservative		拝	<b>≥</b>	8015B	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	, (F,	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE			Air Bubbles (Y or N)
Date	Time	Matrix	Samp	ole Request ID	Type and #	Туре	HEAL NO. 1507913	ď	втех	Н 8	Ī	) B	Y,	Ϋ́	ions	81	60B	02	3			Bn
						<u>=</u>	В	TPH	브	岀	4	쮼	An	8	82	82		$\perp$	$\perp$	<u> </u>		
21/15	<b>0</b> 805	SOIL	PILE	0945	402×1	$-\infty1$	×		×									*				
lı	0755	ic	PILE	947	٤(	и	-002	х		×									×			
11	0745	"	PILE	<u> ૧</u> 48	K	ı(	-003	<b>×</b>		×									×			
11	0815	1\	Piuz	949	1(	ıı	-004	×		×									×			
ц	0825	K	PILE	961	1(	1(	-005	×		×									×			
l (	0840	١(	PILE	985	£C	ι(	-000	×		X									×			
11	0710	Ιζ	Piliz	<u> </u>	11	11	-007	×		X									×		$\neg$	
11	0720	<b>,</b> (	PILE		i(	ц	-008	×		×									×			
11	0730	3 (	PILE	1002	11	ч	-009	х		×									×			
ate:	Time:	Relinquish	ed by:		Received by:	)	Date Time	Rei	mark	s:	BILL	£	3P									
21/2015	1449	Jul.	1 5 la	94	mutel	laelz	7/2/15 1449	Me Remarks: BILL BP 1449 PO. ON FILE														
ate:	Time:	Relinquish	ed by:		Received by:	\ \[ \lambda_{\lambda} = {\lambda}	Date Time															
2/15	1830	I Will	HULLA	lle	1	X 07	72/5 070				نده	ታ <del>ለ</del> ረ	<b>+</b> :	J	- Efr	= <del>7</del>	<b>E</b> AC	Ž.				
	f necessary,	samples sub	mitted to Hail	Environmental may be sub	contracted to other a	ccredited laboratori	es. This serves as notice of thi	s poss	ibility.										nalytic	al repor	t.	

### 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

Sample ID LCS-20668

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

SampType: LCS

RunNo: 28069

TestCode: EPA Method 300.0: Anions

Client ID: Prep Date: 8/7/2015

LCSS

Batch ID: 20668 Analysis Date: 8/7/2015

0

SeqNo: 845463

LowLimit

Units: mg/Kg

HighLimit

%RPD **RPDLimit**  Qual

SPK value SPK Ref Val 1.5

%REC 100

90

110

Analyte

15

15.00

Chloride

**Oualifiers:** 

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

Value above quantitation range

J Analyte detected below quantitation limits

Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 4 of 7

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1508119

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa Landfarm

Sample ID MB-20611	SampT	уре: <b>МЕ</b>	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: PBS	Batch	1D: 20	611	F	RunNo: 2	7998				
Prep Date: 8/5/2015	Analysis D	)ate: 8/	6/2015	5	SeqNo: 8	43188	Units: mg/k	ζg		
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	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch	1D: 20	611	F	RunNo: 2	7998				
Prep Date: 8/5/2015	Analysis D	ate: 8/	6/2015	5	SeqNo: 8	43210	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	101	5 <b>7</b> .4	139			
Surr: DNOP	4.9		5.000		98.9	57.9	140			

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
  - 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
- Page 5 of 7

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1508119

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa Landfarm

Sample ID LCS-20610	SampT	ype: LC	s	TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch	ID: <b>20</b>	610	F	lunNo: 2	8000					
Prep Date: 8/5/2015	Analysis D	ate: 8/	6/2015	S	SeqNo: 8	43531	Units: mg/k	(g			
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	SampT	ype: Mi	BLK	TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch	ID: <b>20</b>	610	R	RunNo: 2	8000					
Prep Date: 8/5/2015	Analysis D	ate: 8/	6/2015	S	SeqNo: 8	43532	Units: mg/K	g			
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
- Holding times for preparation or analysis exceeded
- 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

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## Hall Environmental Analysis Laboratory, Inc.

WO#:

1508119

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa Landfarm

Sample ID LCS-20610	Samp1	Type: LC	s	Tes	tCode: E	tiles				
Client ID: LCSS	Batc	h ID: 20	610	F	RunNo: 2	8000				
Prep Date: 8/5/2015	Analysis [	Date: 8/	6/2015	8	SeqNo: 8	43552	Units: mg/k	(g		
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	SampT	ype: ME	BLK	TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch	1D: 20	610	F	RunNo: 2	8000				
Prep Date: <b>8/5/2015</b> Analysis Date: <b>8/6/2015</b> SeqNo:							Units: mg/K	ίg		
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			



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

Page 7 of 7



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 Nar	me: <b>BLAGG</b>		Work Order Number	er: <b>1508</b>	11 <del>9</del>		RcptN	o: 1
Received I	7	àngin	08/04/15 8/4/2015 7:45:00 AM			Jundy Makiji	D	
Completed	IBy: Lind <mark>say_M</mark>	angin	8/5/2015 8:18:40 AM			Juney Allego	מ	
Reviewed	ву:	10	06/05/15			$V \circ V$		
Chain of	Custody		<b>V</b>	•	•			.!
1. Custoo	ly seals intact on sa	ample bottles?		Yes		No 🗌	Not Present	3
2. Is Cha	in of Custody comp	lete?		Yes		No 🗌	Not Present	]
3. How w	as the sample deliv	vered?		Cour	<u>rier</u>			
<u>Log In</u>								
4. Was a	in attempt made to	cool the samples	?	Yes		No 🗌	NA [	
5. Were	all samples received	d at a temperature	e of >0° C to 6.0°C	Yes		No 🗌	NA 🗆	]
6. Sampl	le(s) in proper conta	ainer(s)?		Yes		No 🗆		
7. Sufficie	ent sample volume	for indicated test(	s)?	Yes		No 🗌		
8. Are sa	mples (except VOA	and ONG) prope	rly preserved?	Yes		No 🗌		
9. Was p	reservative added to	o bottles?		Yes		No 🗹	na [	
10.VOA v	ials have zero head	Ispace?		Yes		No 🗆	No VOA Vials	
11, Were	any sample contain	ers received brok	en?	Yes		No 🗹	# of preserved	
					_		bottles checked	
	paperwork match bo			Yes		No 🗀	for pH:	2 or >12 unless noted)
	discrepancies on ch atrices correctly idei		f Custody?	Yes		No 🗌	Adjusted?	
	ear what analyses w		· Cubicay .	Yes		No 🗆		•
15. Were a	all holding times abl notify customer for	e to be met?		Yes		No 🗆	Checked by	<b>r</b> .
Special I	landling (if app	olicable)						
16, Was c	lient notified of all d	iscrepancies with	this order?	Yes		No 🗌	NA 🖪	
F	Person Notified:	***************************************	Date:		MATHOMA DANA	CHANGE TO THE PERSON OF THE PE	•	
E	By Whom:		Via:	¯	ail 🗀	] Phone 🗌 Fax	In Person	
F	Regarding:			A CASA TANGKA TANKA	g, g, grownskiel kiel, b	n de per de la persona de la companio de la companio de la companio de la companio de la companio de la compan	Market Andrews Commission Commission and Advanced Market Market Strategy	
C	Client Instructions:	100000000000000000000000000000000000000	/		***********			•
17. Additio	onal remarks:							•
18. <u>Cools</u>	r Information							
	oler No Temp °C		eal Intact   Seal No	Seal D	ate	Signed By	_1	
11	1.8	Good Ye	s				1	

C	hain-	) -of-Cu	stody Record	Turn-Around	Time:	()	7 _											()	1240	n'
Client:	BP P	AMERIC G ENGL	LA NEERING INC	Standard Project Name	<b>e:</b>	LAJBFARM		490	D1 H	Al	<b>VA</b> ww.h	LY allen	SI: viron	S L	AE tal.co	<b>30</b> om	RA	NT/		
Phone:	#: 50	05-32	10-1183	Project #:				Te	el. 50	5-345			Fax lysis			_	7			
email o	r Fax#:			Project Mana	ger:		£	only)	(CARC)				Ç <sup>†</sup> O	S		i			ं प्रस्	
QA/QC I <b>≰</b> Stan	Package: dard		☐ Level 4 (Full Validation)		BLAGG		- - - - - - - - - - - - - - - - - - -	(Gas	RO /∄		SIMS		PO4,S	2 PCB'						
Accredi	AP	□ Othe	r		Zeres - en	w No		: + TPH (Gas only)	RO/DRO	418.1)			O3,NO2	ss / 808		(A)	1	,,9 19	Asia	or N)
□ EDD	(Type) _	Matrix	Sample Request ID	Container Type and #	Preservative Type		BTEX + WIBE = IMB's (8021)	BTEX + MTBE	трн 8015В (GRO	TPH (Method	EDB (Melinou 504.1)	RCRA 8 Metals	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides / 8082 PCB'	8260B (VOA)	8270 (Semi-VOA)	CHLOPEN DE			Air Bubbles (Y or N)
3/15	0850	SOIL	PILE 950	402×1	COOL	-001	х		x								x			
1)	0830	u	PILE 955	15	i¢	-002	x		×								×			
i(	0810	и	PILE 956	ι(	и —	-003	×		x								×			
											ļ								_	
Date:	1657 Time: 1932	Relinquishe Relinquishe	H Blegg	Received by:  Received by:		Date Time  \$   3 15   1057  Date Time    Date Time   Date Time   Date Time		mark	f	PO. (	3N F	FILE J			atod or	o the a	a h dies	al recort		

### 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

1.5

1.5

RunNo: 30760

Prep Date: 12/9/2015

Analysis Date: 12/9/2015

SeqNo: 939545

Units: mg/Kg

%RPD **RPDLimit** 

Qual

Analyte Chloride

Result PQL ND

Sample ID LCS-22714

SampType: LCS

TestCode: EPA Method 300.0: Anions

RunNo: 30760

LowLimit

HighLimit

Client ID: Prep Date: 12/9/2015

LCSS

Batch ID: 22714

Analysis Date: 12/9/2015

SeqNo: 939546

Units: mg/Kg

%RPD **RPDLimit** 

Analyte

15.00

0

93.0

Qual

Chloride

%REC

90

HighLimit 110

14

SPK value SPK Ref Val

SPK value SPK Ref Val %REC LowLimit

### **Oualifiers:**

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

Page 8 of 11

## -Hall Environmental Analysis Laboratory, Inc.

WO#:

1512183

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-22651	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: PBS	Batch	ID: 22	651	F	RunNo: 3	0678				
Prep Date: 12/7/2015	Analysis D	ate: 12	2/8/2015	8	SeqNo: 9	36993	Units: mg/F	<b>(</b> g		
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	SampT	ype: LC	s	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Olivert ID: 1 000										

Sample ID LCS-22651	Samp1	ype: LC	S	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch	1D: 22	651	F	RunNo: 3	0678				
Prep Date: 12/7/2015	Analysis D	ate: 12	2/8/2015	8	SeqNo: 9	36994	Units: mg/k	<b>(</b> g		
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
- Holding times for preparation or analysis exceeded
- 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

Page 9 of 11

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## -Hall Environmental Analysis Laboratory, Inc.

WO#:

1512183

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-22637	SampT	уре: МЕ	BLK	Test	Code: El	PA Method	8015D: Gaso	line Rang	е	
Client ID: PBS	Batch	1D: 22	637	R	tunNo: 3	0653				
Prep Date: 12/4/2015	Analysis D	ate: 12	2/7/2015	S	eqNo: 9	36696	Units: mg/K	(g		
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		7 <b>7</b> .2	66.2	112			

Sample ID LCS-22637	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	е	
Client ID: LCSS	Batch	ID: <b>22</b>	637	F	tunNo: 3	0653				
Prep Date: 12/4/2015	Analysis D	ate: 12	2/7/2015	S	SeqNo: 9	36697	Units: mg/K	(g		
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.
- D Sample Diluted Due to Matrix
- 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
- n C 1 III I D
- Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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## **Ч**all Environmental Analysis Laboratory, Inc.

WO#:

1512183

21-Sep-16

Client:

Blagg Engineering

**Project:** 

Crouch Mesa LF

Sample ID MB-22637	SampT	Гуре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBS	Batci	h ID: 22	637	F	RunNo: 3	0653				
Prep Date: 12/4/2015	Analysis E	Date: 12	2/7/2015	8	SeqNo: 9	36732	Units: mg/K	(g		
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	Samp	ype: LC	S	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batcl	h ID: 22	637	F	RunNo: 3	0653				
Prep Date: 12/4/2015	Analysis [	Date: 12	2/7/2015	8	SeqNo: 9	36733	Units: mg/K	(g		
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.
- Sample Diluted Due to Matrix
  - Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits
- Sample pH Not In Range Reporting Detection Limit
- Sample container temperature is out of limit as specified

Page 11 of 11



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 N	ame:	BLAGG		Work Order	Number:	1512	183			Rep	No: 1
Received	d by/date	e:	At	12/04/15	>					_	
Logged E	Ву:	Celina S	essa	12/4/2015 8:00	MA 00:			Celia	کر ہے	-	
Complete	ed By:	Celina S	<del>9</del> 888	12/4/2015 9:24	:29 AM			Celi	~ 5	m	
Reviewed	d By:		Oa	12/04/	15						
Chain o	f Cust	tody		, , ,				/2. /24//			
1 Custo	ody seal	ls intact on	sample bottles?			Yes		No		Not Present	<b>&gt;</b>
2. Is Ch	ain of C	ustody con	nplete?			Yes	Y	No		Not Present	, P. P. P. P. P. P. P. P. P. P. P. P. P.
3. How	was the	sample de	tivered?			Cour	<u>ler</u>				
Log In											
4. Was	an atter	mpt made t	to cool the samples?	7		Yes	$\mathbf{Z}$	No		NA	
5. Were	e all sam	ples receiv	ved at a temperature	of >0° C to 6.0	°C	Yes	₩.	No		NA [	
6. Sam	ple(s) in	proper cor	ntainer(s)?			Yes	$\mathbf{\Sigma}$	No			
7 Suffic	cient san	nple volum	e for indicated test(:	s)?		Yes	~	No			
8. Are s	amples	(except VC	A and ONG) proper	ny preserved?		Yes	_	No			
9. Was	preserva	ative added	to bottles?			Yes		No	Y	NA	in the second se
10.VOA	vials ha	ve zero hea	adspace?			Yes		No		No VOA Vials	<b>⊽</b>
11, Were	a any sa	mple conta	iners received broke	en?		Yes	and the	No	82	# of preserved	
12.Does	oacerw	ork match	bottle tabels?			Yes	<b>~</b> i	No		bottles checked for pH:	
			chain of custody)								<2 or >12 unless noted)
13. Are m	natrices	correctly id	lentified on Chain of	Custody?		Yes	<b>Y</b>	No		Adjusted	2 x2) 211 cm 211 211 cm 211 211 cm 211 211 cm 211 1 x 444 4440 1441 1441 1441 1441 1441
• • •			were requested?			Yes	W No.	No		Čhankani i	<b></b>
		-	ible to be met? or authorization.)			Yes	<b>X</b> )	No	L	Checked I	<b>**</b>
Special	Handi	ling (if a	oplicable)								
16. Was	client no	otified of all	discrepancies with	this order?		Yes	-	No	L	NA	<b>X</b>
	Person	Notified:			Date				-		
	By Who	om:			Via:	eMa	u ( ) P	hone [	Fax	In Person	
	Regard	_		and the control of th						,	
-	Client I	ristructions	<u> </u>								
17. Addi	itional re	marks:									
18. <u>Cool</u>		1			. i -		, 1				
	ooler No	1.3	C Condition S Good Ye	eal Intact Seal	No S	eal Da	ite	Signed I	Зу		
<b>1</b> 1		1.5	300d 16	J							

U	In-ot-	Custo	ау кесога		( )			<b>—</b>	141	FNV	TRO	NMI	:( )	'ΔI	
Client:	BP America			Standard	□ Rush						S LAE				•
	Blagg Engin	eering Inc		Project Name							rironme	1		,,,,	
Malling Addr	ess:	P.O. Box	. 87		Crouch Mesa	LF	1.	4901 Ha						19	
				Project #:				Tel. 505			Fax 50				
Phone #:		(505)320						1 200			Reques				
email or Fax	#:			Project Mana	iger:								of Charles		
QA/QC Packa	ige:			]	Jeff Blagg										
Standard			☐ Level 4 (Full Validation	)			1 1	(GRO / DRO)							
□ Other				Sampler:	Jeff Blagg		.								Î
□ EDD (Typ	)			On Ice:		□ No 3	4	<u>  %  </u>							ŏ
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1512183	BTEX (8021)	TPH 8015B (					Chicolan	CIIOSIGE	Air Bubbles (Y or N)
11/30/2015	11:40	Soil	Pile 949	402 x 1	cool	-001	x	х					,	<	
11/30/2015	11:50	Soil	Pile 948	40z x 1	cool	-002	×	х					,	<	
11/30/2015	12:02	Soil	Pile 972	40z x 1	cool	-003	x	х					,	(	
11/30/2015	12:15	Soil	Pile 973	40z x 1	cool	-204	x	x					,	4	
11/30/2015	12:25	Soil	Pile 966	40z x 1	cool	-005	x	x					,	(	
11/30/2015	12:37	Soil	Pile 1003	40z x 1	cool	-006	х	x					,	(	
11/30/2015	12:52	Soil	Pile 950	40z x 1	cool	-007	х	х					)	۲	
												$\perp$			$\bot$
								44	$\perp \perp \downarrow$			$\bot \bot$	$\perp$		$\sqcup$
		<u> </u>					1-1		$\dashv$			+		_	+
							4-4-		_		<del></del>	$\dashv$		_	$\dashv$
Dote:	Time:	Relinquish	ari hw	Regeived by:		Date Time	Rema	rks: Bil			PO Or	L L			Щ
Date: 3/2015	1340		4 Buy	Mrst	Walt	12/3/15 1340	1	ins. Dii	Ui		F O OI				
Date: \2 3 15	Time:	Relinguish	ot Walls	Received by:	Aest.	Date Time 12/04/15 0800									The state of the s

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1512A94

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

Units: mg/Kg

1.5

SeqNo: 958680 SPK value SPK Ref Val %REC LowLimit

**RPDLimit** 

Qual

Analyte Chloride

Result **PQL** 

Sample ID LCS-23078

SampType: LCS

**PQL** 

TestCode: EPA Method 300.0: Anions RunNo: 31319

HighLimit

Client ID: LCSS Prep Date: 1/5/2016 Batch ID: 23078

Units: mg/Kg

Analysis Date: 1/6/2016

SeqNo: 958681 %REC

Qual

Analyte

Result

15.00

95.0

HighLimit

**RPDLimit** 

Chloride

LowLimit

%RPD

14

%RPD

1.5

SPK value SPK Ref Val

0

90

110

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

Holding times for preparation or analysis exceeded

- Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits
- Reporting Detection Limit

Sample pH Not In Range

Р

Sample container temperature is out of limit as specified

Page 8 of 11

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1512A94

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-22969	Samp1	уре: <b>М</b> Е	BLK	Tes	tCode: E	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: PBS	Batch	h ID: 22	969	F	RunNo: 3	1107		%RPD RPDLimit		
Prep Date: 12/28/2015	Analysis D	Date: 12	2/29/2015	S	SeqNo: 9	51981	Units: mg/K	(g		
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	SampT	ype: LC	s	TestCode: EPA Method 8015M/D: Diesel Range Organics						

Sample ID LC3-22969	Sampi	ype. LC	· S	168	icode. E	PA Metriou	OUTSWI/D: DI	esei Kang	e Organics	
Client ID: LCSS	Batch	1D: 22	969	F	RunNo: 3	1107				
Prep Date: 12/28/2015	Analysis D	ate: 12	2/29/2015	8	SeqNo: 9	51987	Units: mg/k	<b>(</b> g		
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.
- D Sample Diluted Due to Matrix
  - Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Trinaryte detected below quantitation
- P Sample pH Not In Range RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 9 of 11

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1512A94

21-Sep-16

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-22972	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	е	
Client ID: PBS	ep Date: 12/28/2015 Analysis Date: 12/29/201					1129				
Prep Date: 12/28/2015	Analysis D	ate: 12	2/29/2015	8	SeqNo: 9	52416	Units: mg/K	ζg		
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	SampT	ype: LC	CS TestCode: EPA Method 8015D: Gasoline Range							

Sample ID LCS-22972	Sampi	ype: LC	S	res	(Code: E	PA Method	8015D: Gaso	nne Kang	е	
Client ID: LCSS	Batch	n ID: 22	972	F	RunNo: 3	1129	•			
Prep Date: 12/28/2015	Analysis D	ate: 12	2/29/2015	8	SeqNo: 9	52417	Units: mg/F	(g		
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: RER	860		1000		85.9	66.2	112			

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- 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
  - ....

Page 10 of 11

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## 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 8			8021B: Vola	tiles				
Client ID: PBS	Batch	1 ID: 22	972	RunNo: <b>31129</b>						
Prep Date: 12/28/2015	Analysis D	ate: 12	2/29/2015	S	SeqNo: 9	52441	Units: mg/F	<b>(</b> g		
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	Samp	SampType: LCS TestCode: EPA Met				PA Method	8021B: Vola	iles		
Client ID: LCSS	Batc	h ID: 22	972	RunNo: 31129						
Prep Date: 12/28/2015	Analysis [	Date: 12	2/29/2015	8	SeqNo: 9	52442	Units: mg/K	(g		
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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- D 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

Page 11 of 11



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 Numb	er: 1512A94	ReptNo: 1						
Received by/date:	12/23/15			** ************************************					
Logged By: Ashley Gallegos	12/23/2015 8:05:00	AM	A F						
Completed By: Ashley Gallegos	12/23/2015 12:27:32	PM	*						
Reviewed By:	17 73 15		*)						
Chain of Custody	* IV A historial district of the commence of the	4 *************************************	22	to be commented as the commented and the commented as the					
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 sample	s?	Yes 🗹	No 🗔	NA []					
5. Were all samples received at a temperatu	re 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 tes	l(s)?	Yes 🗹	No 🗆						
8. Are samples (except VOA and ONG) prop	erly 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 bro	ken?	Yes	No 🗹	# of preserved bottles checked					
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗹	No 🗆	for pH:	>12 unless noted)				
13. Are matrices correctly identified on Chain	of Custody?	Yes 🗹	No 🗆	Adjusted?	6-Sun				
14. Is it clear what analyses were requested?		Yes 🗹	No 🔲						
<ol> <li>Wore all holding times able to be met? (If no, notify customer for authorization.)</li> </ol>		Yes 🗹	No L	Checked by:	MATTER STATE OF THE STATE OF TH				
Special Handling (if applicable)									
16, Was client notified of all discrepancies with	this order?	Yes L	No 🗆	NA 🔽					
Person Notified:	Date								
By Whom:	Via:	eMailF	hone 🔲 Fax	in Person					
Regarding									
Client Instructions:			with the second						
17. Additional remarks:									
18. Cooler Information									
10 mm 1 mm 1 mm 1 mm 1 mm 1 mm 1 mm 1 m	Seal Intact   Seal No	Seal Date	Signed By						
1 1.2 Good Y	es		1						

ኔ./ነ-of-(	Custo	dy Recora	•	(	)	1 1	1 1	MAL	. Er		LV15	1 * E B s	11	_
3P America			Standard	☐ Rush				AN/	LYS	IS L	ABC	RA'	<b>POF</b>	₹Y
Blagg Engine	ering Inc		Project Name	:										
ver.				Crouch Mesa	LF		4901 H						7109	
			Project #:											
						2								
			Project Mana	gen										
ge:														
		☐ Level 4 (Full Validation	)				RO							
			Sampler:									2		
e)				· · · · · · · · · · · · · · · · · · ·	The state of the s		SRC							ō
Time	Matrix	Sample Request ID	Container Type and #			BTEX (8021)	TPH 8015B (						Chloride	Air Bubbles (Y or N)
11:25	Soil	Pile 984	40z x 1	cool	- 001	х	×						х	
11:32	Soil	Pile 968	40z x 1	cool	- 002	х	×						x	
11:40	Soil	Pile 969	40z x 1	cool	-003	x	x						х	
11:50	Soil	Pile 982	40z x 1	cool	-004	х	×						x	
11:58	Soil	Pile 974	40z x 1	cool	-005	х	×						х	
12:10	Soil	Pile 980	40z x 1	cool	- 00io	x	x						x	i.
12:20	Soil	Pile 976	402 x 1	cool	-007	x	×						X	
Time: 1340 Time:	Jef	Bagg	Received by:	) <del>ce 15</del>	12/2015   34 (c) Date Time		arks: E	Bill BP		PC	On F	ile		
	i at bestimplue	Half Environmental may be subcontrac	ted to other accredit	ed laboratories. Thi			y sub-cont	rected dai	ta will be c	learly nota	eted on th	e analytic	neger tex	I,
	Blagg Engine ess:  Time  Time  11:25  11:32  11:40  11:50  11:58  12:10  12:20  Time:  13:4 U  Time:  17:50	### Blagg Engineering Inc. ### P.O. Box ### Bloomfie	Blagg Engineering Inc.  P.O. Box 87  Bloomfield, NM 87413  (505)320-1183  E. ge:  Level 4 (Full Validation)  Time Matrix Sample Request ID  11:25 Soil Pile 984  11:32 Soil Pile 968  11:40 Soil Pile 969  11:50 Soil Pile 982  11:58 Soil Pile 982  11:58 Soil Pile 974  12:10 Soil Pile 980  12:20 Soil Pile 976  Time: Relinguished by:  1340 Falinguished by:  1750 Falinguished by:	Blagg Engineering Inc.  Blagg Engineering Inc.  Bloomfield, NM 87413  (505)320-1183  Enge:  Level 4 (Full Validation)  Sampler: On Ice: Sample Term  Time Matrix Sample Request ID Container Type and #  11:25 Soil Pile 984 4oz x 1  11:32 Soil Pile 969 4oz x 1  11:50 Soil Pile 969 4oz x 1  11:50 Soil Pile 982 4oz x 1  11:58 Soil Pile 984 4oz x 1  11:58 Soil Pile 980 4oz x 1  12:10 Soil Pile 980 4oz x 1  12:20 Soil Pile 976 4oz x 1  Time: Relinguished by:   Standard Rush Project Name:  Project Name:  Crouch Mesa Blagg Engineering Inc.  Project Name:  Crouch Mesa  Crouch Mesa  Project #:  Crouch Mesa  Project #:  Project #:  Project Manager  Jeff Blagg On Ice: Yes Sample Temperature:  Time Matrix Sample Request ID  Time Matrix Sample Request ID  Container Type and #  Type  11:25 Soil Pile 984 4oz x 1 cool  11:32 Soil Pile 989 4oz x 1 cool  11:40 Soil Pile 989 4oz x 1 cool  11:50 Soil Pile 989 4oz x 1 cool  11:58 Soil Pile 980 4oz x 1 cool  11:58 Soil Pile 974 4oz x 1 cool  12:10 Soil Pile 980 4oz x 1 cool  12:20 Soil Pile 976 4oz x 1 cool  12:20 Soil Pile 976 4oz x 1 cool  Time: Relinguished by:  Tim	Standard   Rush   Project Name:   Crouch Mesa LF	Standard	Standard   Rush   Project Name:   Project Name:   Standard   Rush   Rus	Standard	Standard	Standard	Standard	Standard	Standard	

#### **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

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>LGT</b>
Chloride	ND	30	mg/Kg	20	5/25/2016 9:52:57 PM	25511
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANICS				Analys	t: <b>KJH</b>
Diesel Range Organics (DRO)	23	9.6	mg/Kg	1	5/24/2016 12:18:11 PM	1 25449
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	5/24/2016 12:18:11 PM	1 25449
Surr: DNOP	119	70-130	%Rec	1	5/24/2016 12:18:11 PM	1 25449
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: 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					Analys	t: 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

Matrix: SOIL

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

#### 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 Page 1 of 5
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### 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

1.5

RunNo: 34490

Prep Date:

5/25/2016

Analysis Date: 5/25/2016

Units: mg/Kg

SeqNo: 1063785

**RPDLimit** 

Qual

Chloride

Result

SPK value SPK Ref Val %REC LowLimit **PQL** 

HighLimit

%RPD

Analyte

Client ID:

Prep Date:

ND

Sample ID LCS-25511 LCSS

SampType: Ics Batch ID: 25511 TestCode: EPA Method 300.0: Anions

RunNo: 34490 SeqNo: 1063786

Units: mg/Kg

5/25/2016

Analysis Date: 5/25/2016

SPK value SPK Ref Val

93.5

LowLimit

HighLimit 90

%RPD

**RPDLimit** 

Page 2 of 5

Qual

Analyte Chloride

Result 14 **PQL** 1.5

15.00

%REC

110

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix Ч

Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

- RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Value above quantitation range
- J Analyte detected below quantitation limits P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Qualifiers:

ND

R

## 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: Di	esel Rang	e Organics		
Client ID: LCSS	Batch	ID: <b>25</b>	449	R	RunNo: 3	4433				
Prep Date: 5/23/2016	Analysis Da	ate: <b>5/</b>	24/2016	S	SeqNo: 1	061812	Units: mg/F	(g		
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	SampT	SampType: MBLK			tCode: El	PA Method				
Client ID: PBS	Batch	ID: <b>25</b>	449	F	RunNo: 3	4433				
Prep Date: 5/23/2016	Analysis D	ate: 5/	24/2016	S	SeqNo: 1	061813	Units: mg/K	(g		
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.
- 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

Page 3 of 5

## 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 8015D: Gasoline Range Client ID: **PBS** Batch ID: 25441 RunNo: 34440 Analysis Date: 5/24/2016 SeqNo: 1062221 Units: mg/Kg Prep Date: 5/23/2016 Analyte Result **PQL** SPK value SPK Ref Vai %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) ND 5.0 106 80 120 Surr: BFB 1100 1000

TestCode: EPA Method 8015D: Gasoline Range Sample ID LCS-25441 SampType: LCS LCSS Batch ID: 25441 RunNo: 34440 Client ID: Units: mg/Kg Analysis Date: 5/24/2016 SeqNo: 1062222 Prep Date: 5/23/2016 SPK value SPK Ref Val Analyte Result **PQL** %REC HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 22 5.0 25.00 90.0 80 120 120 Surr: BFB 1200 1000 118 80

### 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

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## Hall Environmental Analysis Laboratory, Inc.

1.1

WO#:

1605989

21-Sep-16

Client:

Blagg Engineering

Project:

Surr: 4-Bromofluorobenzene

Crouch Mesa L F

Sample ID MB-25441 SampType: MBLK TestCode: EPA Method 8021B: Volatiles Client ID: **PBS** Batch ID: 25441 RunNo: 34440 Units: mg/Kg Prep Date: 5/23/2016 Analysis Date: 5/24/2016 SeqNo: 1062259 SPK value SPK Ref Val **RPDLimit** Analyte Result **PQL** %REC LowLimit HighLimit %RPD Qual 0.025 ND Benzene Toluene ND 0.050 Ethylbenzene ND 0.050 Xylenes, Total ND 0.10

110

80

120

1.000

Sample ID LCS-25441	Sampl	SampType: LCS TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	•	Batch ID: <b>25441</b> RunNo: <b>34440</b>								
Prep Date: 5/23/2016	Analysis [	Date: 5/	24/2016	5	SeqNo: 1	062260	Units: mg/k	(g		
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.
- 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

Page 5 of 5



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4197

Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name:	BLAGG		Work On	der Numbe	r: <b>1605</b> 9	989			RoptNo: 1	
Received by/dat	e: , ,	A	65/201	16						
Logged By:	Lindsay Ma	ıngin	5/20/2016	8:00:00 AN	ñ		J-tythe	<del>p</del> o		
Completed By:	Lindsay Ma	ngin	5/20/2016	1:35:20 PN	4		of to the	go.		
Reviewed By:	IO		05/70	116						
Chain of Cus	tody			1						
1. Custody sea	ils intact on sa	mple bottles?			Yes		No 🗆	Not Pre	senl 🗹	
2. Is Chain of C	Custody compl	ete?			Yes	Y	No .	Not Pre	sent	
3. How was the	sample delive	ored?			Cour	er				
Log In										
4. Was an atte	impt made to o	ool the sample	<b>s</b> ?		Yes	<b>Ø</b>	No L	J	NA L	
5. Were all san	nples received	at a temperati	ire of >0° C to	6.0°C	Yes	~	No 🗔		NA 🗔	
6. Sample(s) in	n proper contai	iner(s)?			Yes	✓	No			
7. Sufficient sa	mple volume f	or indicated tes	t(s)?		Yes	Y	No 🗆	у		
8. Are samples	(except VOA	and ONG) prop	erly preserved	1?	Yes	•	No	Sobrement		
9. Was preserv	rative added to	bottles?			Yes		No 🗹	#U) acone,	NA 🗔	
10.VOA vials ha	ave zero heads	space?			Yes	CARLO MA	No 🗔	No VOA	Vials 🗸	
11. Were any sa			ken?		Yes		No 🗹			
(1, 773,5 2)								# of prese bottles ch		
12. Does paperv					Yes	<b>Y</b>	No _	for pH:	(<2 or >12 unle	ee natadi
		ain of custody)	of Purhadus		Yes		No	Adj	usted?	33 1101607
13, Are matrices 14, is it clear with			Of Custody?		Yes		No [	_		
15. Were all hold	ding times able	to be met?			Yes		No 🗌	Che	cked by:	
(If no, notify	customer for a	uthorization.)								
Special Hand	llina (if aop	licable)								
16, Was client n			h this order?		Yes		No .	E myseles	NA 🗸	
	n Natified:		· · · · · · · · · · · · · · · · · · ·	Date [	e:caanaattii.c.aastii.	halota a Milli II II II II il albahili a	ill with the highest residence and the second			
By Wh		The surface of the state of the surface of the surf		Via:	. ∈Ma	at ( ) :	Phone []] Fa	x Tin Pers	on.	
Regard			NAC SECURE CONTRACTOR OF THE SECURE CONTRACTOR	V 10 :	L. CINE			and the contract of the contra	industrial programme	
-	Instructions:	NA LANGUERA		***	RECEIPTED CONTRACTOR ACTION AC	A STATE OF THE STA			AND AND AND AND AND AND AND AND AND AND	
17. Additional re	•									
18. Cooler Info	rmation									
Cooler No	1	Condition	Seal Intact	Seal No	Seal Da	te	Signed By			
1	1.0	Good	/es							

Chain-of-Custody Record	Turn-Around Time:	HALL ENVIRONMENTAL							
BLAGG Engineerly Inc. ailing Address:	Standard □ Rush	ANALYSIS LABORATORY							
72, ACL Frank To	Project Name:	www.hallenvironmental.com							
ailing Address:	- CRouch Mesa L.F.	4901 Hawkins NE - Albuquerque, NM 87109							
	Project #:	Tel. 505-345-3975 Fax 505-345-4107							
hone #: 505 - 320 - [183		Analysis Request							
nail or Fax#:	Project Manager:								
A/QC Package:	<u> </u>	TIME'S (8021)  TPH (Gas only)  1 DRO (HMEC)  3.1)  270 SIMS)  8082 PCB'S  8082 PCB'S							
(Standard ☐ Level 4 (Full Valida	tion) J. BUAGG	H (Gas c DRO (41)							
ccreditation	Sampler: J. Brad	# TPH ((C + TPH (C +							
NELAP Other	On Ice: X Yes □ No	BE + TP BE + TP GGRO / GGRO / Ind 418.1) Sor 827( Indos / 80 Indos							
EDD (Type)	Sample Temperature: /, O	MATBE MTBE 15B (GF 15B							
Date Time Matrix Sample Reques	t ID   Container   Preservative   HEAL No.   1605989	X + X3 + X8 + X8 + X8 + X8 + X8 + X8 + X							
3/2014 1015 SOIL PILE 950	402×1 COV -001	X X X							
ste: Time: Relinquished by:  1/2014 1635 All Sog;	Received by: Date Time 5/19/2016 163	Remarks: BILL BP P.O. ON FILE							
ite: Time: Relinquished by:	Received by: Date Time  Art. Clint 05/20/16 0300	Contact: STEVE MUSCAL							
		f this possibility. Any sub-contracted data will be clearly notated on the analytical report.							
O									