

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

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: BP America Production Co.	OGRID: 778	Final Report
Contact Name: Steve Moskal	Contact Telephone: (505) 330-9179	
Contact email: steven.moskal@bpx.com	Incident # (assigned by OCD)	
Contact mailing address: 1199 Main Ave. Suite 101, Durango CO, 81301		

NMOC

Location of Release Source

FEB 04 2019

Latitude: 36.61512° Longitude: -108.11069°
(NAD 83 in decimal degrees to 5 decimal places)

DISTRICT III

Site Name: Gallegos Canyon Unit 186	Site Type: Natural Gas Production Well (Abandoned)
Date Release Discovered: June 19, 2018	API#: 30-045-06989

Unit Letter	Section	Township	Range	County
I	33	T28N	R12W	San Juan

Surface Owner: State Federal Tribal Private (Name: _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls): unknown	Volume Recovered (bbls): 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/> Condensate	Volume Released (bbls):	Volume Recovered (bbls):
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release:

BGT closure sampling indicated soil impacts. The BGT removed for closure and the impacted area remediated to NMAC 19.15.29 standards.

25

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.
If all the actions described above have <u>not</u> been undertaken, explain why:
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.
Printed Name: <u>Steve Moskal</u> Title: <u>Environmental Coordinator</u>
Signature:  Date: <u>February 1, 2019</u>
email: <u>steven.moskal@bpx.com</u> Telephone: <u>(505) 330-9179</u>
<u>OCD Only</u> Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

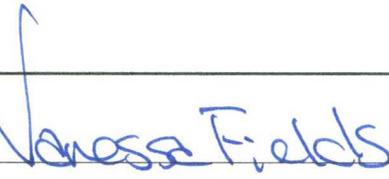
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Steve Moskal Title: Environmental Coordinator

Signature:  Date: February 1, 2019

email: steven.moskal@bpx.com Telephone: (505) 330-9179

OCD Only

Received by:  Date: 2/4/2019

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by:  Date: 2/4/2019
Printed Name: Vanessa Fields Title: Environmental Specialist

BP America

Gallegos Canyon Unit 186 - API: 30-045-06989
(I) Sec 33 – T28N – R12W, San Juan County, New Mexico

Summary Record of Impact Remediation

- June 19, 2018 1. Confirmation sampling conducted of a 95 barrel below grade tank (BGT). 5 point composite sample (5pcs) collected directly beneath BGT at 5 feet (ft.) below grade (b.g.).
2. BGT permit closure standard for total petroleum hydrocarbons (TPH) per US EPA Method 8015M/D of 100 mg/Kg.
4. Gas well to be plugged and abandoned.
5. Federal mineral lease; Navajo Indian surface lease.
- June 20, 2018 Preliminary lab results were as follows;
5pcs recorded TPH of 162 mg/Kg, benzene and total benzene, toluene, ethylbenzene, and total xylenes (BTEX) were not detected (ND) at the laboratory reporting limits.
- June 21, 2018 Received 06/19/2018 5pcs final laboratory reports. *Official date of impact discovery.*
- September 12, 2018 Initiated remediation via excavation and haul. Impacted media later transported to Envirotech landfarm.
- September 14, 2018 1. Conducted excavation closure sampling. Final dimensions: 15 x 14 x 10 ft. depth. Top five (5) ft. regarded as non-impacted soils and temporarily stockpiled [approximately 40 cubic yards (c.y.)]. Impacted soils calculated as approximately 40 c.y.
2. NMOCD 19.15.29 NMAC site closure standard determined at 100 mg/kg TPH based on:
Distance to groundwater: < 50'
Distance to nearest water source: > 1,000'
Distance to surface water (dry wash): > 300' & < 1,000'
- September 18, 2018 Received 09/14/2018 closure samples final laboratory report. Results listed below.

Excavation Closure Sample Laboratory Analytical Results

Sample ID (5 pt. composites)	Field OVM (ppm)	TPH (GRO+DRO+MRO) (mg/Kg)	Total BTEX (mg/Kg)	Benzene (mg/Kg)	Chloride (mg/Kg)
Base 5-pt @ 10'	1.8	ND	ND	ND	ND
N & E Walls (6-pt)	1.2	ND	ND	ND	ND
S & W Walls (6-pt)	1.8	ND	ND	ND	ND

OVM – Organic Vapor Meter, ppm – parts per million, GRO – Gasoline Range Organics, DRO – Diesel Range Organics, mg/Kg – milligram per kilogram.

- September 18, 2018 Completed excavation backfilling.

SITING AND HYDRO-GEOLOGICAL REPORT FOR GALLEGOS CANYON UNIT 186

Siting Criteria 19.15.17.10 NMAC

Depth to groundwater at the site is estimated to be less than 50 feet. This estimation is based on proximity to local irrigation ditches visible on the topographic map and aerial photographs (Figures 1 through 8). A topographic map of the site is provided as Figure 2 and demonstrates that the below grade tank (BGT) is not within 300 feet of any continuously flowing watercourse or within 200 feet of any other significant watercourse, lakebed, sinkhole or playa lake as measured from the ordinary high water mark. Figure 3 demonstrates that the BGT is not within 300 feet of a permanent residence, school, hospital, institution or church. Figure 4 demonstrates, based on a search of the OSE database and USGS topographic maps, that there are no freshwater wells or springs within 1000 feet of the BGT. Figure 5 demonstrates that the BGT is not within a municipal boundary or a defined municipal freshwater well field. Figure 6 demonstrates that the BGT is not within 500 feet of a wetland. Figure 7 demonstrates that the BGT is not in an area overlying a subsurface mine. The BGT is not located in an unstable area. Figure 8 demonstrates that the BGT is not within the mapped FEMA 100-year floodplain.

Local Geology and Hydrology

This particular site is located on a relatively flat plateau in the Bisti Region of the San Juan Basin, in between irrigated fields associated with the Navajo Indian Irrigation Project. There are lined irrigation ditches associated with the project that supply water for the fields surrounding the BGT site. These are visible by center-pivot irrigation patterns on the aerial photographs. Depth to water is estimated to be less than 50 feet below ground surface (bgs) at this site. This is attributed to seasonal irrigation practices which often produce shallow perched aquifers which are not likely discussed in published literature. The predominant geologic formation is the Nacimiento Formation of Tertiary age, which underlies surface soils and is often exposed.

At this site, there appears to be no imminent threat to human health, safety, and welfare from either a surficial or subsurface release because it is unlikely to migrate horizontally to a wash, arroyo, or domestic well. The only potential impact would be to regional groundwater. In this case, a release would have to travel greater than 50 vertical feet to reach the regional water table. There is potential for sorption or biodegradation of hydrocarbons and in the case of extremely mobile pollutants there will be a time-lag before arrival at the groundwater. Should this occur, dissolved- or liquid-phase migration of contaminants would be limited to the immediate area and appears not likely to reach any public or private water source before remedial actions could be initiated.

The BGT subject to the attached application for a permit under 19.15.17 NMAC (New Mexico Administrative Code) was in existence prior to promulgation of 19.15.17 NMAC. A review of the best available data and a visual inspection of the siting criteria of 19.15.17 NMAC specific to the BGT in question demonstrate that the BGT does not appear to pose an imminent threat to public health and the environment.

Regional Geology and Hydrology

The San Juan Basin is situated in the Navajo section of the Colorado Plateau and is characterized by broad open valleys, mesas, buttes and hogbacks. Away from major valleys and canyons topographic relief is generally low. Native vegetation is sparse and shrubby. Drainage is mainly by the San Juan River, the only permanent stream in the Navajo Section of the Colorado Plateau. The San Juan River is a tributary of the Colorado River. Major tributaries include the Animas, Chaco and La Plata Rivers. Flow of the San Juan River across the basin is regulated by the Navajo Dam, located about 30 miles northeast of Farmington, New Mexico. The climate is arid to semiarid with an average annual precipitation of 8 to 10 inches. Soils within the basin consist of weathered parent rock derived from predominantly physical means mostly from eolian depositional system with fluvial having a lesser impact.

Cretaceous and Tertiary sandstones, as well as Quaternary Alluvial deposits, serve as the primary aquifers in the San Juan Basin (Stone et al., 1983). In most of the proposed area, the Nacimiento Formation lies at the surface and grades into the Animas Formation to the west. The lower part of the Nacimiento Formation is composed of interbedded black, carbonaceous mudstones and white coarse-grained sandstones. The upper part is comprised of mudstone and sandstone. It is generally slope-forming, even within the sandstone units. Thickness of the Nacimiento ranges from 418 to 2232 feet (Stone et al., 1983). Aquifers within the coarser and continuous sandstone bodies of the Nacimiento Formation are between 0 and 1000 feet deep in this section of the basin. Wells within these bodies flow from 16 to 100 gallons per minute (gpm), and transmissivities are expected to be 100 ft²/d (Stone et al, 1983). Groundwater within these aquifers flows toward the San Juan River.

References

Circular 154—Guidebook to coal geology of northwest New Mexico By E. C. Beaumont, J. W. Shomaker, W. J. Stone, and others, 1976

Stone, et al., 1983, Hydrogeology and Water Resources of the San Juan Basin, New Mexico, Socorro, New Mexico Bureau of Mines and Mineral Resources Hydrologic Report 6, 70 p

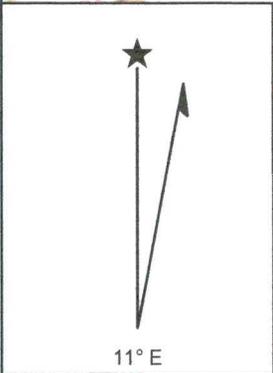
GALLEGOS CANYON UNIT 186 - API #: 3004506989

33

1,000 ft. radius
from 95 bgt center

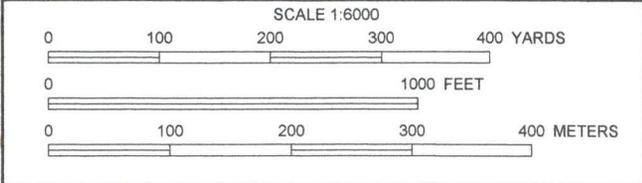
300 ft. radius
from 95 bgt center

95 bbl BGT
GPS Coordinates:
36.61512, -108.11069
Ground Level Elevation: 5,786 ft.



Surface gradient
direction: NW

Proximity to Watercourses



CLIENT: BP	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	API #: 3004506989 TANK ID (if applicable): A
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FIELD REPORT: (circle one): BGT CONFIRMATION / RELEASE INVESTIGATION / OTHER: _____

PAGE #: **1** of **1**

SITE INFORMATION:	SITE NAME: GCU # 186	DATE STARTED: 06/19/18
QUAD/UNIT: I SEC: 33 TWP: 28N RNG: 12W PM: NM CNTY: SJ ST: NM		DATE FINISHED: _____
1/4 -1/4/FOOTAGE: 1,460'S / 835'E NE/SE LEASE TYPE: <input checked="" type="checkbox"/> FEDERAL / <input type="checkbox"/> STATE / <input type="checkbox"/> INDIAN		ENVIRONMENTAL SPECIALIST(S): NJV
LEASE #: SF078903B PROD. FORMATION: PC CONTRACTOR: BP - J. GONZALES		

REFERENCE POINT:	WELL HEAD (W.H.) GPS COORD.: 36.61543 X 108.11089	GL ELEV.: 5,786'
1) 95 BGT (SW/DB)	GPS COORD.: 36.61512 X 108.11069	DISTANCE/BEARING FROM W.H.: 153', S26E
2) _____	GPS COORD.: _____	DISTANCE/BEARING FROM W.H.: _____
3) _____	GPS COORD.: _____	DISTANCE/BEARING FROM W.H.: _____
4) _____	GPS COORD.: _____	DISTANCE/BEARING FROM W.H.: _____

SAMPLING DATA:	CHAIN OF CUSTODY RECORD(S) # OR LAB USED: HALL	OVM READING (ppm)
1) SAMPLE ID: 5PC - TB @ 5' (95)	SAMPLE DATE: 06/19/18 SAMPLE TIME: 1300 LAB ANALYSIS: 8015B/8021B/300.0 (CI)	NA
2) SAMPLE ID: _____	SAMPLE DATE: _____ SAMPLE TIME: _____ LAB ANALYSIS: _____	_____
3) SAMPLE ID: _____	SAMPLE DATE: _____ SAMPLE TIME: _____ LAB ANALYSIS: _____	_____
4) SAMPLE ID: _____	SAMPLE DATE: _____ SAMPLE TIME: _____ LAB ANALYSIS: _____	_____
5) SAMPLE ID: _____	SAMPLE DATE: _____ SAMPLE TIME: _____ LAB ANALYSIS: _____	_____

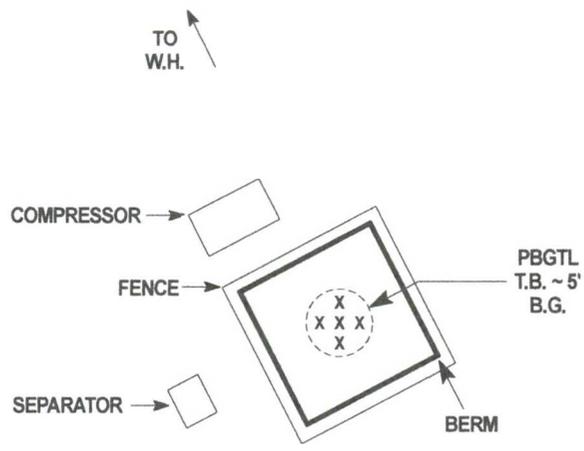
SOIL DESCRIPTION:	SOIL TYPE: <input checked="" type="checkbox"/> SAND / <input checked="" type="checkbox"/> SILTY SAND / <input type="checkbox"/> SILT / <input type="checkbox"/> SILTY CLAY / <input type="checkbox"/> CLAY / <input type="checkbox"/> GRAVEL / OTHER _____
SOIL COLOR: DARK YELLOWISH ORANGE	PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC
COHESION (ALL OTHERS): <input checked="" type="checkbox"/> NON COHESIVE / <input type="checkbox"/> SLIGHTLY COHESIVE / <input type="checkbox"/> COHESIVE / <input type="checkbox"/> HIGHLY COHESIVE	DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD
CONSISTENCY (NON COHESIVE SOILS): LOOSE / <input checked="" type="checkbox"/> FIRM / <input type="checkbox"/> DENSE / <input type="checkbox"/> VERY DENSE	HC ODOR DETECTED: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> EXPLANATION - _____
MOISTURE: DRY / <input checked="" type="checkbox"/> SLIGHTLY MOIST / <input type="checkbox"/> MOIST / <input type="checkbox"/> WET / <input type="checkbox"/> SATURATED / <input type="checkbox"/> SUPER SATURATED	ANY AREAS DISPLAYING WETNESS: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> EXPLANATION - _____
SAMPLE TYPE: GRAB / <input checked="" type="checkbox"/> COMPOSITE - # OF PTS. 5	DISCOLORATION/STAINING OBSERVED: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> EXPLANATION - _____

SITE OBSERVATIONS:	LOST INTEGRITY OF EQUIPMENT: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> EXPLANATION - _____
APPARENT EVIDENCE OF A RELEASE OBSERVED AND/OR OCCURRED: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> EXPLANATION: _____	
EQUIPMENT SET OVER RECLAIMED AREA: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> EXPLANATION - _____	
OTHER: NMOC D OR BLM REPS. NOT PRESENT TO WITNESS CONFIRMATION SAMPLING.	

EXCAVATION DIMENSION ESTIMATION: **NA** ft. X **NA** ft. X **NA** ft. EXCAVATION ESTIMATION (Cubic Yards): **NA**

DEPTH TO GROUNDWATER: **<50'** NEAREST WATER SOURCE: **>1,000'** NEAREST SURFACE WATER: **>1,000'** NMOC D TPH CLOSURE STD: **100** ppm

SITE SKETCH	BGT Located : off / <input checked="" type="checkbox"/> on site	PLOT PLAN circle: <input checked="" type="checkbox"/> attached	OVM CALIB. READ. = NA ppm RF=1.00
			OVM CALIB. GAS = NA ppm
			TIME: NA am/pm DATE: NA



X - S.P.D.

MISCELL. NOTES	
WO:	REF #: P-982
VID: VHIXONEVB2	PJ #: _____
Permit date(s): 06/14/10	OCD Appr. date(s): 02/26/18
Tank ID: A	OVM = Organic Vapor Meter ppm = parts per million
BGT Sidewalls Visible: Y / (N)	BGT Sidewalls Visible: Y / N
BGT Sidewalls Visible: Y / N	BGT Sidewalls Visible: Y / N
Magnetic declination: 10° E	

NOTES: BGT = BELOW-GRADE TANK; E.D. = EXCAVATION DEPRESSION; B.G. = BELOW GRADE; B = BELOW; T.H. = TEST HOLE; ~ = APPROX.; W.H. = WELL HEAD; T.B. = TANK BOTTOM; PBGTL = PREVIOUS BELOW-GRADE TANK LOCATION; SP D = SAMPLE POINT DESIGNATION; R.W. = RETAINING WALL; NA - NOT APPLICABLE OR NOT AVAILABLE; SW - SINGLE WALL; DW - DOUBLE WALL; SB - SINGLE BOTTOM; DB - DOUBLE BOTTOM.

NOTES: **GOOGLE EARTH IMAGERY DATE: 3/15/2015.** ONSITE: **06/19/18**

Analytical Report

Lab Order **1806B84**

Date Reported: 6/21/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: 5PC-TB@5 (95)

Project: GCU #186

Collection Date: 6/19/2018 1:00:00 PM

Lab ID: 1806B84-001

Matrix: MEOH (SOIL)

Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	130	30		mg/Kg	20	6/20/2018 12:12:31 PM	38787
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	52	9.4		mg/Kg	1	6/20/2018 9:38:57 AM	38781
Motor Oil Range Organics (MRO)	110	47		mg/Kg	1	6/20/2018 9:38:57 AM	38781
Surr: DNOP	118	70-130		%Rec	1	6/20/2018 9:38:57 AM	38781
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	6/20/2018 10:07:49 AM	38762
Surr: BFB	76.8	15-316		%Rec	1	6/20/2018 10:07:49 AM	38762
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	6/20/2018 10:07:49 AM	38762
Toluene	ND	0.034		mg/Kg	1	6/20/2018 10:07:49 AM	38762
Ethylbenzene	ND	0.034		mg/Kg	1	6/20/2018 10:07:49 AM	38762
Xylenes, Total	ND	0.068		mg/Kg	1	6/20/2018 10:07:49 AM	38762
Surr: 4-Bromofluorobenzene	97.8	80-120		%Rec	1	6/20/2018 10:07:49 AM	38762

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

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

**BP AMERICA PRODUCTION COMPANY
IN CASE OF EMERGENCY CALL
505-326-9200
OR
505-947-9900**

**BP AMERICA PRODUCTION COMPANY
GALLEGOS CANYON UNIT 186
API 3004506989 LEASE NMSF078903B
1460 FSL 835 FEL (II) SEC 33 T28N R12W
San Juan County ELEV 5786
LAT 36° 36' 55.728"
LONG 108° 6' 39.312"**

Previous 95 bbl BGT
Position (Tank ID: A)

A

GCU 186
(I) Sec 33 - T28N - R12W
API: 30-045-06989



Remediation Sampling - September 14, 2018
Excavation: 15' x 14' x 10' Deep

Base 5-pt @ 10':	OVM = 1.8 ppm	TPH = ND
N & E Sidewalls (6-pt):	OVM = 1.2 ppm	TPH = ND
S & W Sidewalls (6-pt):	OVM = 1.8 ppm,	TPH = ND

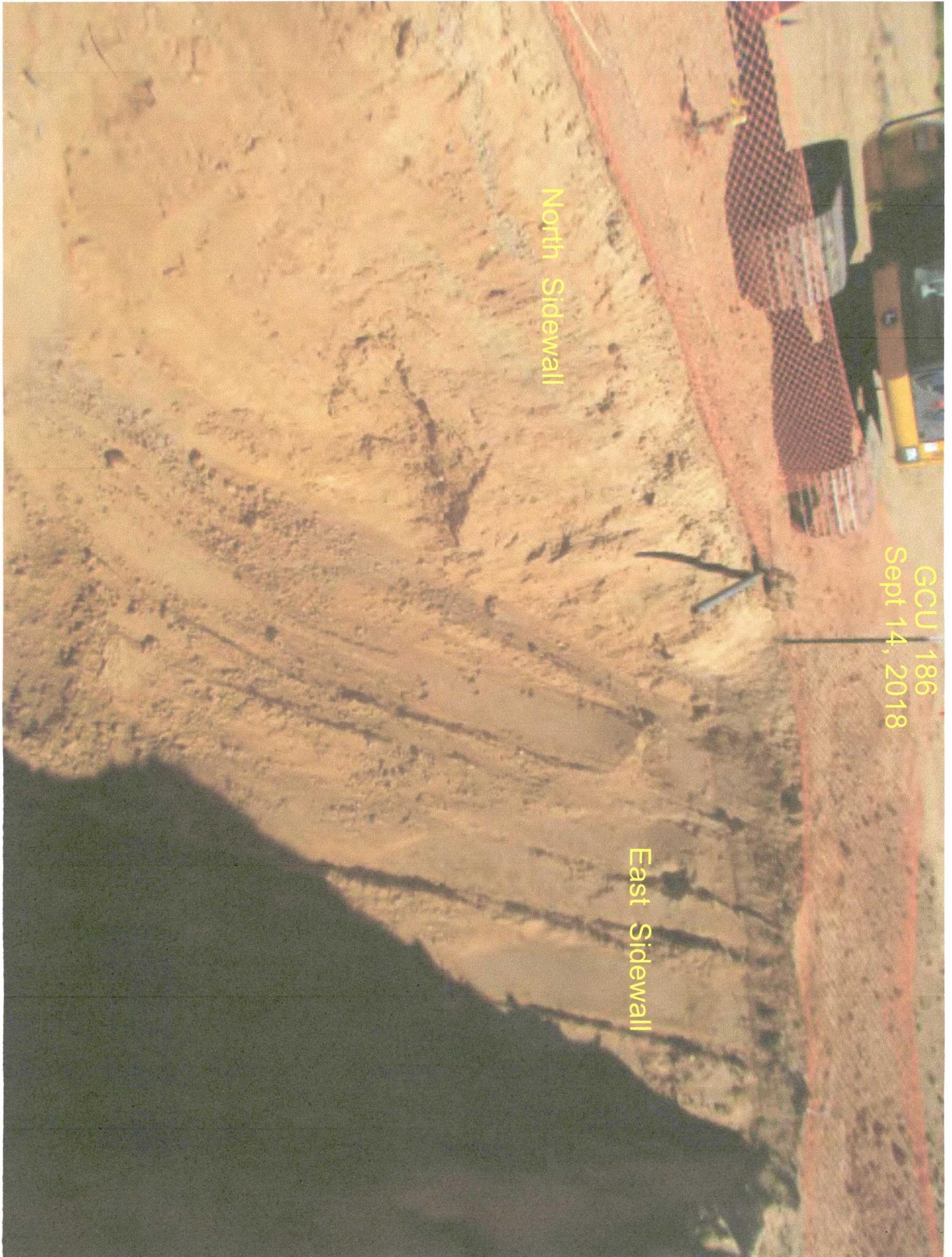
ND - Not detected at laboratory reporting limit.



GCU 186
Sept 14, 2018

North Sidewall

East Sidewall



GCU 186
Sept 14, 2018

West Sidewall

South Sidewall

Base @ 10'



Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 186
Lab ID: 1809901-001

Matrix: SOIL

Client Sample ID: Base 5-pt @ 10'
Collection Date: 9/14/2018 11:11:00 AM
Received Date: 9/15/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: ymb
Chloride	ND	30		mg/Kg	20	9/17/2018 10:37:12 AM	40376
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	9/17/2018 10:34:18 AM	40351
Surr: BFB	103	70-130		%Rec	1	9/17/2018 10:34:18 AM	40351
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: irm
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/17/2018 10:23:18 AM	40369
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/17/2018 10:23:18 AM	40369
Surr: DNOP	83.5	50.6-138		%Rec	1	9/17/2018 10:23:18 AM	40369
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.018		mg/Kg	1	9/17/2018 10:34:18 AM	40351
Toluene	ND	0.037		mg/Kg	1	9/17/2018 10:34:18 AM	40351
Ethylbenzene	ND	0.037		mg/Kg	1	9/17/2018 10:34:18 AM	40351
Xylenes, Total	ND	0.074		mg/Kg	1	9/17/2018 10:34:18 AM	40351
Surr: 4-Bromofluorobenzene	116	70-130		%Rec	1	9/17/2018 10:34:18 AM	40351
Surr: Toluene-d8	94.6	70-130		%Rec	1	9/17/2018 10:34:18 AM	40351

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: N & E Walls (6-pt)

Project: GCU 186

Collection Date: 9/14/2018 11:15:00 AM

Lab ID: 1809901-002

Matrix: SOIL

Received Date: 9/15/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: smb
Chloride	ND	30		mg/Kg	20	9/17/2018 10:49:37 AM	40376
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	9/17/2018 10:57:18 AM	40351
Surr: BFB	107	70-130		%Rec	1	9/17/2018 10:57:18 AM	40351
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: irm
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/17/2018 10:45:18 AM	40369
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/17/2018 10:45:18 AM	40369
Surr: DNOP	79.1	50.6-138		%Rec	1	9/17/2018 10:45:18 AM	40369
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.017		mg/Kg	1	9/17/2018 10:57:18 AM	40351
Toluene	ND	0.034		mg/Kg	1	9/17/2018 10:57:18 AM	40351
Ethylbenzene	ND	0.034		mg/Kg	1	9/17/2018 10:57:18 AM	40351
Xylenes, Total	ND	0.067		mg/Kg	1	9/17/2018 10:57:18 AM	40351
Surr: 4-Bromofluorobenzene	120	70-130		%Rec	1	9/17/2018 10:57:18 AM	40351
Surr: Toluene-d8	96.6	70-130		%Rec	1	9/17/2018 10:57:18 AM	40351

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order **1809901**
 Date Reported: **9/19/2018**

CLIENT: Blagg Engineering
Project: GCU 186
Lab ID: 1809901-003

Matrix: SOIL

Client Sample ID: S & W Walls (6-pt)
Collection Date: 9/14/2018 11:19:00 AM
Received Date: 9/15/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: smb
Chloride	ND	30		mg/Kg	20	9/17/2018 11:02:02 AM	40376
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	9/17/2018 11:20:14 AM	40351
Surr: BFB	104	70-130		%Rec	1	9/17/2018 11:20:14 AM	40351
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: irm
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/17/2018 11:07:26 AM	40369
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/17/2018 11:07:26 AM	40369
Surr: DNOP	72.8	50.6-138		%Rec	1	9/17/2018 11:07:26 AM	40369
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.019		mg/Kg	1	9/17/2018 11:20:14 AM	40351
Toluene	ND	0.038		mg/Kg	1	9/17/2018 11:20:14 AM	40351
Ethylbenzene	ND	0.038		mg/Kg	1	9/17/2018 11:20:14 AM	40351
Xylenes, Total	ND	0.076		mg/Kg	1	9/17/2018 11:20:14 AM	40351
Surr: 4-Bromofluorobenzene	116	70-130		%Rec	1	9/17/2018 11:20:14 AM	40351
Surr: Toluene-d8	94.8	70-130		%Rec	1	9/17/2018 11:20:14 AM	40351

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

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

Chain-of-Custody Record

Client: BP America
Blagg Engineering Inc.
 Mailing Address:
 Phone #: 505-320-1193
 email or Fax#:
 QA/QC Package:
 Standard Level 4 (Full Validation)
 Accreditation
 NELAP Other _____
 EDD (Type) _____

Turn-Around Time:
 Standard Rush SAME DAY
 Project Name:
GCU 196
 Project #:
 Project Manager:
SABRE BEEBE
 Sampler: JEFF BLAGG
 On Ice: Yes No
 Sample Temperature: 14



HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE	Air Bubbles (Y or N)
9/14/2018	1111	SOIL	BASE 5-PE @ 10'	403 x 1	COOL	201	X	X										X	
	1115		N + E Walls (6-PE)			202													
	1119		S + W Walls (6-PE)			203													

Date: 9/14/2018 Time: 1408 Relinquished by: Jeff Blagg
 Date: 9/14/18 Time: 1408 Received by: Christi Walter
 Date: 9/14/18 Time: 1816 Relinquished by: Christi Walter
 Date: 9/15/18 Time: 1050 Received by: IOA courier

Remarks: Bill BP
Contact: SABRE Beebe

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1809901
19-Sep-18

Client: Blagg Engineering
Project: GCU 186

Sample ID MB-40376	SampType: mbk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 40376	RunNo: 54192								
Prep Date: 9/17/2018	Analysis Date: 9/17/2018	SeqNo: 1792974	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID LCS-40376	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 40376	RunNo: 54192								
Prep Date: 9/17/2018	Analysis Date: 9/17/2018	SeqNo: 1792975	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.5	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1809901

19-Sep-18

Client: Blagg Engineering

Project: GCU 186

Sample ID	LCS-40369	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	40369	RunNo:	54191					
Prep Date:	9/17/2018	Analysis Date:	9/17/2018	SeqNo:	1791974	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	101	70	130			
Surr: DNOP	4.0		5.000		79.4	50.6	138			

Sample ID	MB-40369	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	40369	RunNo:	54191					
Prep Date:	9/17/2018	Analysis Date:	9/17/2018	SeqNo:	1791975	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	8.9		10.00		88.8	50.6	138			

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
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1809901
 19-Sep-18

Client: Blagg Engineering
 Project: GCU 186

Sample ID	Ics-40351		SampType: LCS4	TestCode: EPA Method 8260B: Volatiles Short List						
Client ID:	BatchQC		Batch ID: 40351	RunNo: 54189						
Prep Date:	9/14/2018		Analysis Date: 9/17/2018	SeqNo: 1791958		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	99.5	80	120			
Toluene	1.0	0.050	1.000	0	103	80	120			
Ethylbenzene	1.1	0.050	1.000	0	107	80	120			
Xylenes, Total	3.2	0.10	3.000	0	106	80	120			
Surr: 4-Bromofluorobenzene	0.53		0.5000		107	70	130			
Surr: Toluene-d8	0.47		0.5000		93.4	70	130			

Sample ID	mb-40351		SampType: MBLK	TestCode: EPA Method 8260B: Volatiles Short List						
Client ID:	PBS		Batch ID: 40351	RunNo: 54189						
Prep Date:	9/14/2018		Analysis Date: 9/17/2018	SeqNo: 1791959		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.59		0.5000		117	70	130			
Surr: Toluene-d8	0.49		0.5000		97.0	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
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1809901

19-Sep-18

Client: Blagg Engineering
Project: GCU 186

Sample ID	Ics-40351	SampType:	LCS	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	LCSS	Batch ID:	40351	RunNo:	54189					
Prep Date:	9/14/2018	Analysis Date:	9/17/2018	SeqNo:	1791938	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	100	70	130			
Surr: BFB	500		500.0		99.1	70	130			

Sample ID	mb-40351	SampType:	MBLK	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	PBS	Batch ID:	40351	RunNo:	54189					
Prep Date:	9/14/2018	Analysis Date:	9/17/2018	SeqNo:	1791939	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	520		500.0		105	70	130			

Qualifiers:

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

Sample Log-In Check List

Client Name: **BLAGG**

Work Order Number: **1809901**

RcptNo: **1**

Received By: **Isaiah Ortiz** 9/15/2018 10:50:00 AM

IO

Completed By: **Anne Thorne** 9/17/2018 7:09:14 AM

Anne Thorne

Reviewed By: **IO** 9/17/18

Labeled by: *At 09/17/18*

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? Courier

Log In

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

of preserved bottles checked for pH: _____
 (<2 or >12 unless noted)
 Adjusted? _____
 Checked by: _____

Special Handling (if applicable)

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

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.4	Good	Yes			