

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 Spill Report
Contact Name: Steve Moskal	Contact Telephone: (505) 330-9179	
Contact email: steven.moskal@bpx.com	Incident # (assigned by OCD) <u>NCS1822228702</u>	
Contact mailing address: 1199 Main St., Suite 101, Durango CO, 81301		

Location of Release Source

Latitude: 36.830422° Longitude: -107.606863°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: NORTHEAST BLANCO UNIT #032A	Site Type: Natural Gas Production Well Pad
Date Release Discovered: July 31, 2018	API#: 30-045-24991

Unit Letter	Section	Township	Range	County
H	7	T30N	R7W	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 bbls
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input checked="" type="checkbox"/> Condensate	Volume Released (bbls): Unknown	Volume Recovered (bbls): <u>0 bbls</u>
<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:
Release found during BGT Closure 7/31/2018.

State of New Mexico
Oil Conservation Division

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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? Greater than 25 bbls
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Steve Moskal to Cory Smith (cell phone – Voicemail) on October 14, 2019 at 2:00 PM	

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>October 18, 2019</u> email: <u>steven.moskal@bpx.com</u> Telephone: <u>(505) 330-9179</u>
<u>OCD Only</u> Received by: _____ Date: _____

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Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

<p>Characterization Report Checklist: <i>Each of the following items must be included in the report.</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. <input type="checkbox"/> Field data <input type="checkbox"/> Data table of soil contaminant concentration data <input type="checkbox"/> Depth to water determination <input type="checkbox"/> Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release <input type="checkbox"/> Boring or excavation logs <input type="checkbox"/> Photographs including date and GIS information <input type="checkbox"/> Topographic/Aerial maps <input type="checkbox"/> Laboratory data including chain of custody
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If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

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Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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Remediation Plan

Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- Detailed description of proposed remediation technique
- Scaled sitemap with GPS coordinates showing delineation points
- Estimated volume of material to be remediated
- Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- Extents of contamination must be fully delineated.
- Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

- Approved Approved with Attached Conditions of Approval Denied Deferral Approved

Signature: _____ 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: January 15, 2020

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

OCD Only

Received by: OCD Date: 1/15/2020

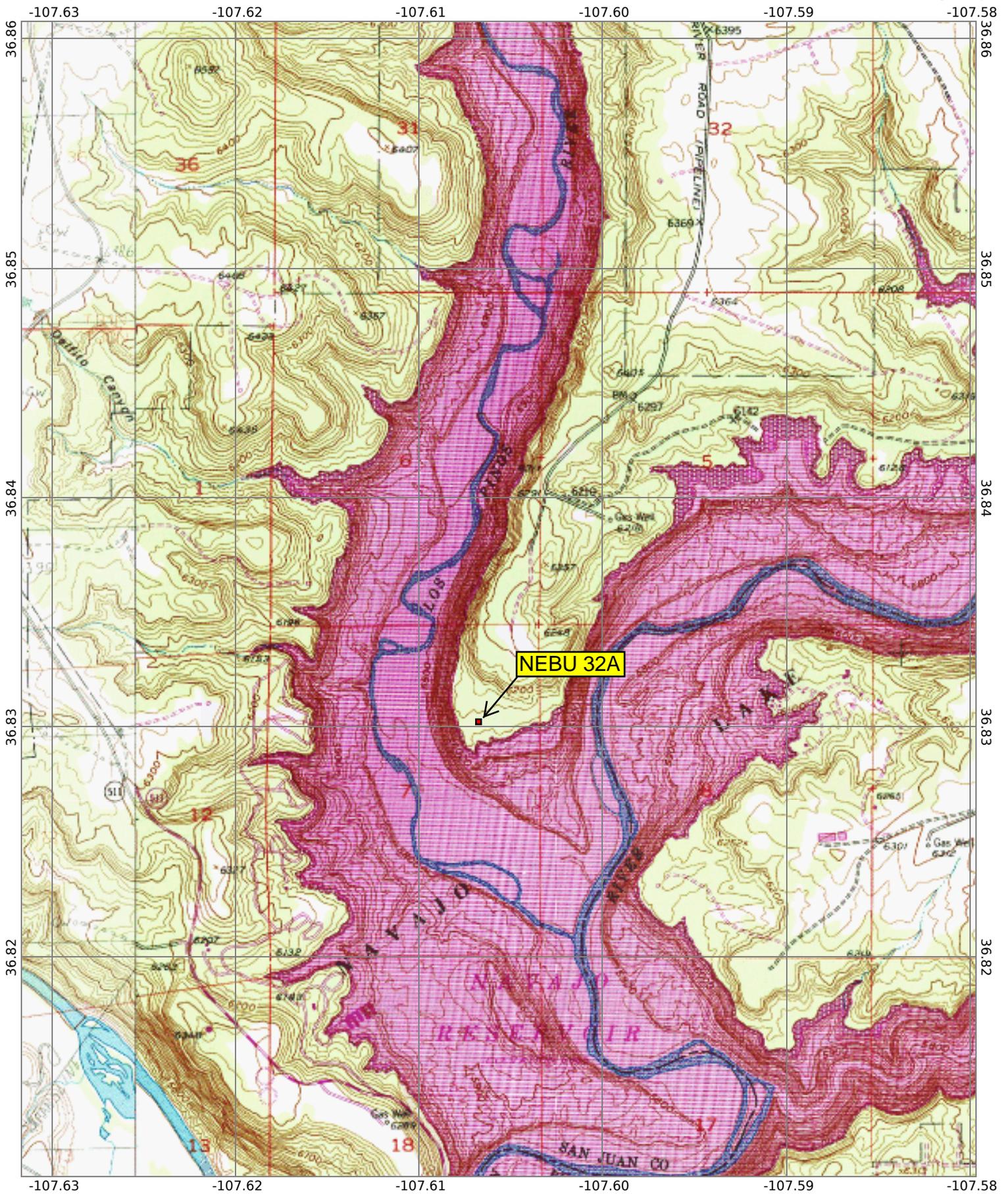
Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance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

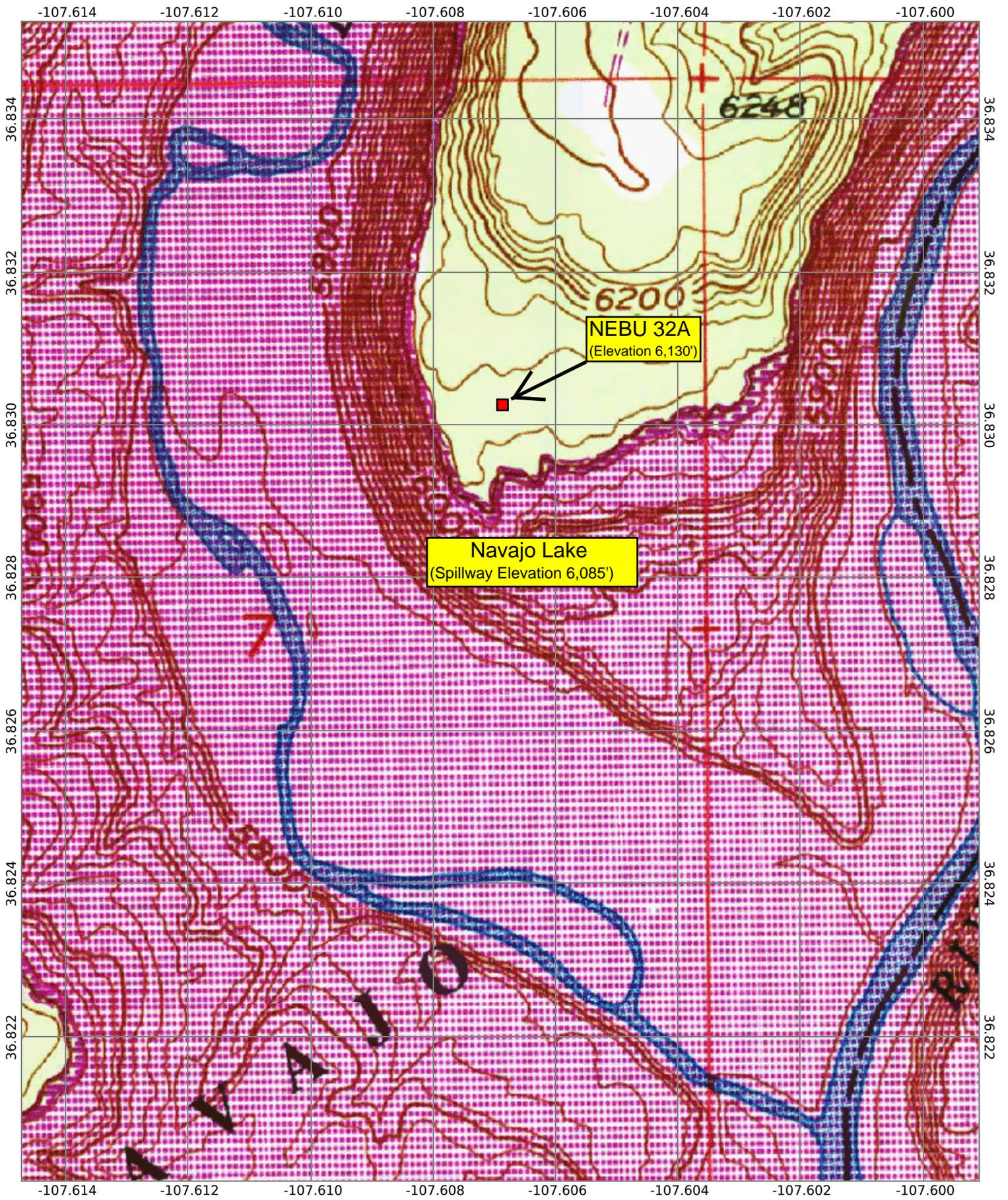
Closure Approved by:  Date: 3/27/2020

Printed Name: Cory Smith Title: Environmental Specialist

Site Characterization Information

- 1) Scaled USGS topographic sheets showing surface features
- 2) Scaled Google Earth overhead views showing distance to water sources and significant watercourses all exceeding 300' from impact remediation.
- 3) Depth to water determination: New Mexico Office of the State Engineer records search determined no water wells within 2,000 meters (1.24 miles) of the impact remediation. Depth to water estimated to exceed 45' based on surface elevation of wellpad (approximately 6,130' above MSL) and maximum lake elevation at top lake spillway (6,085' above MSL).
- 4) Additional site characterization information included in the closure documentation in the following sections of this document.





NEBU 32A

Water Sources within 1/2 Mile



NEBU 32A

1/2 Mile Radius

527

511



NEBU 32A

Water Courses within 300'





New Mexico Office of the State Engineer

Wells with Well Log Information

No wells found.

UTMNAD83 Radius Search (in meters):

Easting (X): 267514

Northing (Y): 4079213

Radius: 2000



New Mexico Office of the State Engineer

Wells Without Well Log Information

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

POD Number	POD Code	POD Subbasin	County	Source	q q q			Sec	Tws	Rng	X	Y	Distance
					64	16	4						
SP 02847 CLW319541	O		SJ		2	3	4	18	30N	07W	267967	4078379	948
SP 03453 6		SJM1	SJ		4	4	4	07	30N	07W	267685	4078166*	1060
SP 03873 6		SJM3	SJ		4	4	4	07	30N	07W	267685	4078166*	1060
SD 06419		SJPR	SJ		1	4	06	30N	07W	267239	4080285*	4078166*	1106
SP 03453 24		SJM1	SJ		2	3	05	30N	07W	268444	4080253*	4078166*	1395
SD 00210		SJM2	SJ		3	1	17	30N	07W	267967	4077452*	4078166*	1818
SP 02917		SJM3	SJ					18	30N	07W	267234	4077286*	1947

Record Count: 7

UTMNAD83 Radius Search (in meters):

Easting (X): 267514

Northing (Y): 4079213

Radius: 2000

Note: SP and SD designations are for surface diversion points, not water wells.

No water wells were found within 2,000 meters of the site remediation.

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

BP America

Northeast Blanco Unit 032A - API: 30-045-24991
(H) Sec 7 – T30N – R7W, San Juan County, New Mexico

Summary Record of Impact Remediation

July 31, 2018

1. Confirmation sampling conducted of a 45 barrel below grade tank (BGT). 5 point composite sample (5pcs) collected directly beneath the BGT at both 3 feet (ft.) and 5 ft. below grade (b.g).
2. New Mexico Oil Conservation Division (NMOCD) Spill & Release Guidelines site closure standard interpreted at 100 mg/kg TPH based on:
 - Distance to groundwater: > 45 ft. (bgt permit hydrogeological report)
 - Distance to nearest water source: >1,000 ft.
 - Distance to surface water: > 300 ft. & < 1,000 ft.
3. Federal mineral & surface lease.

August 3, 2018

Laboratory results received from BGT sampling. Test results listed below.

BGT Confirmation & Initial Delineation Sampling Laboratory Analytical Results

Sample ID (composites)	Field OVM (ppm)	TPH (GRO+DRO+MRO) (mg/Kg)	Total BTEX (mg/Kg)	Benzene (mg/Kg)	Chloride (mg/Kg)
5PC-TB @ 3' (45)	463	5,260	217.2	ND	ND
5PC-TB @ 5' (45)	378	11,590	550.9	1.9	ND

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

August 30, 2018

Initiate remediation via soil excavation and on-site shredding.

September 3, 2018

Complete excavation of impacted media. Final excavation 33'x 33'x 10' deep. Complete soil shredding.

September 4, 2018

Conduct closure sampling on excavation and treated soil piles.

September 5, 2018

Received 09/04/2018 closure samples final laboratory reports. Results listed below.

Excavation Closure Sample Laboratory Analytical Results

Sample ID	Field OVM (ppm)	TPH (GRO+DRO+MRO) (mg/Kg)	Total BTEX (mg/Kg)	Benzene (mg/Kg)	Chloride (mg/Kg)
Base 5-pt. @ 10'	1.3	ND	ND	ND	ND
North Wall 5-pt. (4'-8')	1.4	ND	ND	ND	ND
West Wall 5-pt. (4'-8')	1.2	ND	ND	ND	34
South Wall 5-pt. (4'-8')	0.7	ND	ND	ND	ND
East Wall 5-pt. (4'-8')	1.4	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.

Treated Soil Pile Laboratory Analytical Results

Treated Pile ID (5-pt Comps)	Field OVM (ppm)	TPH (GRO+DRO+MRO) (mg/Kg)	Total BTEX (mg/Kg)	Benzene (mg/Kg)	Chloride (mg/Kg)
TSP-1 (100 cy)	87	28	0.17	ND	ND
TSP-2 (100 cy)	48	8.8	ND	ND	ND
TSP-3 (100 cy)	127	20	ND	ND	ND
TSP-4 (100 cy)	131	28	ND	ND	ND
TSP-5 (50 cy)	61	19.6	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 7, 2018 Completed excavation backfilling.
- December 13, 2019 Conduct closure sampling on TSP vadose zones
- December 19, 2019 Receive vadose zone laboratory test reports. All zones pass site closure standard.

TSP Vadose Zone Laboratory Analytical Results

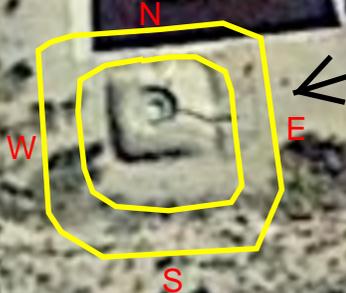
Vadose Zone ID (5-pt Comps)	Field OVM (ppm)	TPH (GRO+DRO+MRO) (mg/Kg)	Total BTEX (mg/Kg)	Benzene (mg/Kg)	Chloride (mg/Kg)
VD-1	1.4	ND	ND	ND	ND
VD-2	0.8	ND	ND	ND	ND
VD-3	1.9	51.0	ND	ND	ND
VD-4	0.6	ND	ND	ND	ND
VD-5	0.7	ND	ND	ND	ND

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

Reclamation will be performed at the time of final abandonment, as the well pad remains active and minimal off site disturbance has created during remediation activities.

NEBU 32A
(H) Sec 7 - T32N - R7W
API: 30-045-24991

Remedial Excavation
Top Perimeter: 33' x 33'
Base Perimeter: 25' x 25'
Depth: 10'



September 4, 2018 Closure Sampling

.

Base 5-pt @ 10': OVM = 1.3 ppm TPH = ND
N Wall 5-pt (4'-8'): OVM = 1.4 ppm TPH = ND
W Wall 5-pt (4'-8'): OVM = 1.2 ppm TPH = ND
S Wall 5-pt (4'-8'): OVM = 0.7 ppm TPH = ND
E Wall 5-pt (4'-8'): OVM = 1.4 ppm TPH = ND



BP AMERICA PRODUCTION CO

(505) 326-9200

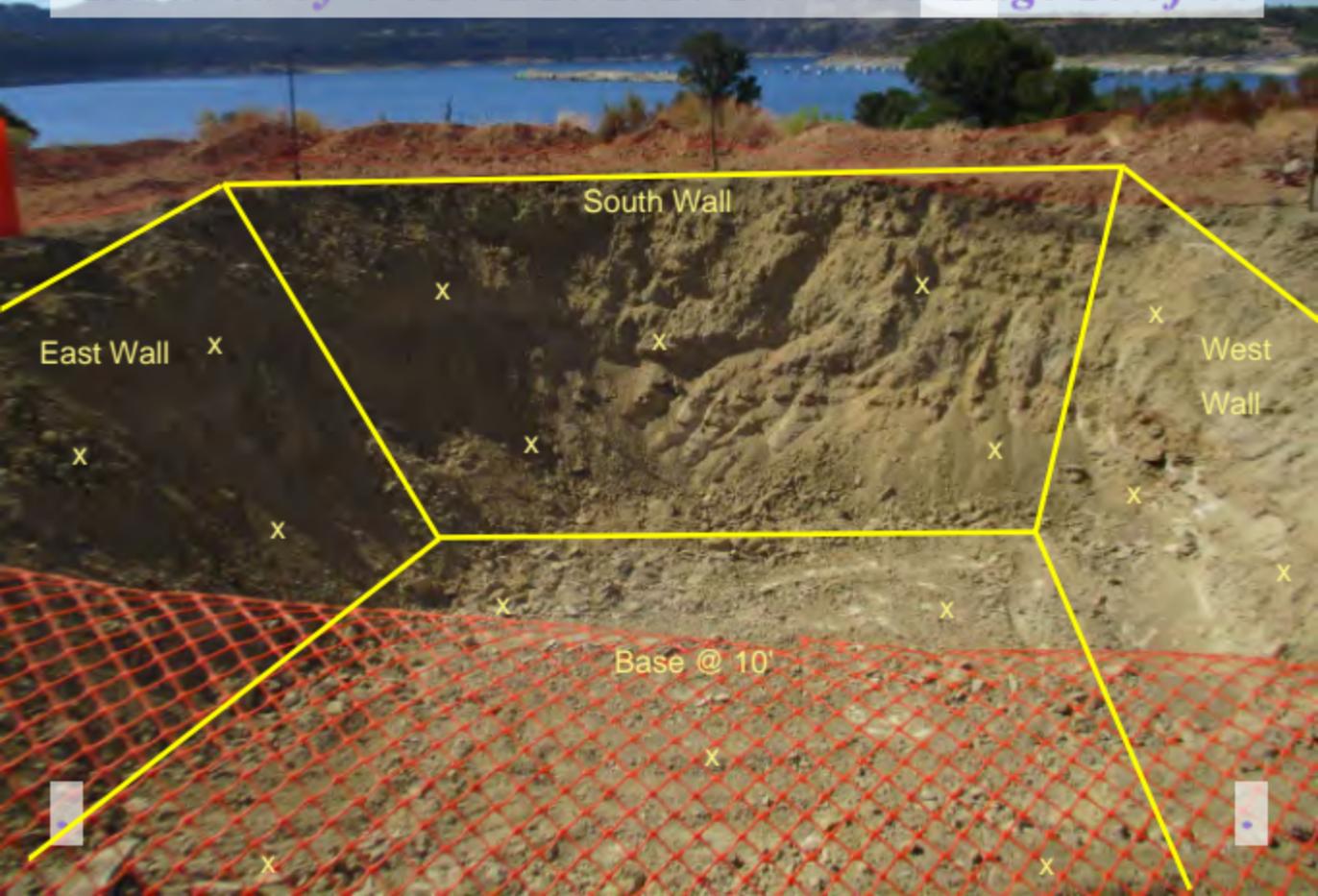
N.E.B.U. # 32A MV

API# 30-045-24991 FEE

Sec. 7, T- 30N, R- 7W Elev. 6132' GL

1450' FNL & 990 FEL

San Juan County, NM



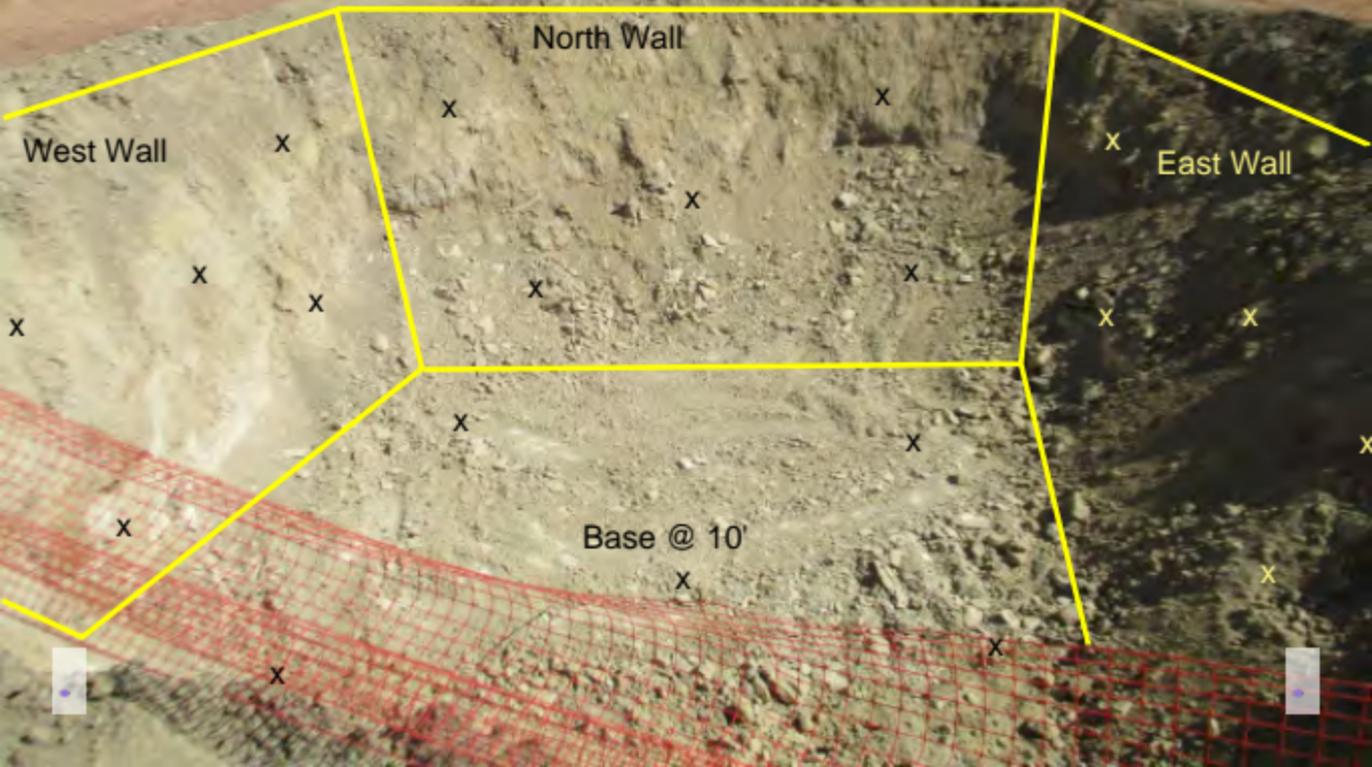
South Wall

East Wall

West Wall

Base @ 10'

NEBU 32A
September 4, 2018
Looking North



NEBU 32A
Excavation Closure
Lab Reports

Analytical Report

Lab Order **1809066**

Date Reported: **9/10/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: BASE @ 10'

Project: NEBU 32A

Collection Date: 9/4/2018 11:41:00 AM

Lab ID: 1809066-001

Matrix: SOIL

Received Date: 9/5/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	9/5/2018 11:19:47 AM	40144
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	9/5/2018 10:34:24 AM	G53926
Surr: BFB	104	70-130		%Rec	1	9/5/2018 10:34:24 AM	G53926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/5/2018 11:00:22 AM	40144
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/5/2018 11:00:22 AM	40144
Surr: DNOP	84.8	50.6-138		%Rec	1	9/5/2018 11:00:22 AM	40144
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.019		mg/Kg	1	9/5/2018 10:34:24 AM	R53926
Toluene	ND	0.037		mg/Kg	1	9/5/2018 10:34:24 AM	R53926
Ethylbenzene	ND	0.037		mg/Kg	1	9/5/2018 10:34:24 AM	R53926
Xylenes, Total	ND	0.074		mg/Kg	1	9/5/2018 10:34:24 AM	R53926
Surr: 4-Bromofluorobenzene	116	70-130		%Rec	1	9/5/2018 10:34:24 AM	R53926
Surr: Toluene-d8	93.4	70-130		%Rec	1	9/5/2018 10:34:24 AM	R53926

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

Analytical Report

Lab Order 1809066

Date Reported: 9/10/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: NORTH WALL

Project: NEBU 32A

Collection Date: 9/4/2018 11:45:00 AM

Lab ID: 1809066-002

Matrix: SOIL

Received Date: 9/5/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	9/5/2018 11:32:12 AM	40145
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	9/5/2018 10:57:29 AM	G53926
Surr: BFB	104	70-130		%Rec	1	9/5/2018 10:57:29 AM	G53926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/5/2018 11:24:34 AM	40144
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/5/2018 11:24:34 AM	40144
Surr: DNOP	85.6	50.6-138		%Rec	1	9/5/2018 11:24:34 AM	40144
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.019		mg/Kg	1	9/5/2018 10:57:29 AM	R53926
Toluene	ND	0.038		mg/Kg	1	9/5/2018 10:57:29 AM	R53926
Ethylbenzene	ND	0.038		mg/Kg	1	9/5/2018 10:57:29 AM	R53926
Xylenes, Total	ND	0.076		mg/Kg	1	9/5/2018 10:57:29 AM	R53926
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	1	9/5/2018 10:57:29 AM	R53926
Surr: Toluene-d8	95.6	70-130		%Rec	1	9/5/2018 10:57:29 AM	R53926

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

Analytical Report

Lab Order 1809066

Date Reported: 9/10/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: WEST WALL

Project: NEBU 32A

Collection Date: 9/4/2018 11:50:00 AM

Lab ID: 1809066-003

Matrix: SOIL

Received Date: 9/5/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	34	30		mg/Kg	20	9/5/2018 11:44:37 AM	40144
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	9/5/2018 11:20:40 AM	G53926
Surr: BFB	101	70-130		%Rec	1	9/5/2018 11:20:40 AM	G53926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/5/2018 11:49:02 AM	40144
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/5/2018 11:49:02 AM	40144
Surr: DNOP	97.3	50.6-138		%Rec	1	9/5/2018 11:49:02 AM	40144
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.018		mg/Kg	1	9/5/2018 11:20:40 AM	R53926
Toluene	ND	0.036		mg/Kg	1	9/5/2018 11:20:40 AM	R53926
Ethylbenzene	ND	0.036		mg/Kg	1	9/5/2018 11:20:40 AM	R53926
Xylenes, Total	ND	0.073		mg/Kg	1	9/5/2018 11:20:40 AM	R53926
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	1	9/5/2018 11:20:40 AM	R53926
Surr: Toluene-d8	96.1	70-130		%Rec	1	9/5/2018 11:20:40 AM	R53926

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

Analytical Report

Lab Order **1809066**

Date Reported: **9/10/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: SOUTH WALL

Project: NEBU 32A

Collection Date: 9/4/2018 11:54:00 AM

Lab ID: 1809066-004

Matrix: SOIL

Received Date: 9/5/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	9/5/2018 11:57:01 AM	40144
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	9/5/2018 11:43:46 AM	G53926
Surr: BFB	109	70-130		%Rec	1	9/5/2018 11:43:46 AM	G53926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/5/2018 12:13:26 PM	40144
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/5/2018 12:13:26 PM	40144
Surr: DNOP	98.2	50.6-138		%Rec	1	9/5/2018 12:13:26 PM	40144
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.019		mg/Kg	1	9/5/2018 11:43:46 AM	R53926
Toluene	ND	0.037		mg/Kg	1	9/5/2018 11:43:46 AM	R53926
Ethylbenzene	ND	0.037		mg/Kg	1	9/5/2018 11:43:46 AM	R53926
Xylenes, Total	ND	0.074		mg/Kg	1	9/5/2018 11:43:46 AM	R53926
Surr: 4-Bromofluorobenzene	122	70-130		%Rec	1	9/5/2018 11:43:46 AM	R53926
Surr: Toluene-d8	96.1	70-130		%Rec	1	9/5/2018 11:43:46 AM	R53926

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

Analytical Report

Lab Order **1809066**

Date Reported: **9/10/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: EAST WALL

Project: NEBU 32A

Collection Date: 9/4/2018 11:59:00 AM

Lab ID: 1809066-005

Matrix: SOIL

Received Date: 9/5/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	9/5/2018 12:34:14 PM	40145
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	9/5/2018 12:06:49 PM	G53926
Surr: BFB	102	70-130		%Rec	1	9/5/2018 12:06:49 PM	G53926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/5/2018 12:38:01 PM	40144
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/5/2018 12:38:01 PM	40144
Surr: DNOP	99.5	50.6-138		%Rec	1	9/5/2018 12:38:01 PM	40144
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.021		mg/Kg	1	9/5/2018 12:06:49 PM	R53926
Toluene	ND	0.042		mg/Kg	1	9/5/2018 12:06:49 PM	R53926
Ethylbenzene	ND	0.042		mg/Kg	1	9/5/2018 12:06:49 PM	R53926
Xylenes, Total	ND	0.084		mg/Kg	1	9/5/2018 12:06:49 PM	R53926
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	9/5/2018 12:06:49 PM	R53926
Surr: Toluene-d8	94.3	70-130		%Rec	1	9/5/2018 12:06:49 PM	R53926

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) 320-1103**

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:
NEBU 32A

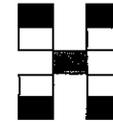
Project #:

Project Manager:
STEVE MOSKAL

Sampler: **JEFF BLAGG**

On Ice: Yes No

Sample Temperature: **23.0-21.0=1.3**



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE-TMBS'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)	CHLORINE	Air Bubbles (Y or N)
1/4/2018	1141	SOIL	BASE @ 10'	4 oz x 1	COOL	1809066	X		X									X	
	1145		NORTH WALL																
	1150		WEST WALL																
	1154		SOUTH WALL																
	1159		EAST WALL																

Date: 1/4/2018 Time: 1411 Relinquished by: **Jeff Blagg**

Date: 1/4/2018 Time: 1411 Received by: **Christ Walker**

Date: 1/4/18 Time: 1917 Relinquished by: **John Ware**

Date: 09/05/18 Time: 0706 Received by: **[Signature]**

Remarks: **Bill BA CONTACT: STEVE MOSKAL VID: VHX0NEVRM**

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#: 1809066

10-Sep-18

Client: Blagg Engineering

Project: NEBU 32A

Sample ID MB-40145	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBS	Batch ID: 40145		RunNo: 53927							
Prep Date: 9/5/2018	Analysis Date: 9/5/2018		SeqNo: 1781197		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID LCS-40145	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSS	Batch ID: 40145		RunNo: 53927							
Prep Date: 9/5/2018	Analysis Date: 9/5/2018		SeqNo: 1781198		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.4	90	110			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| 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 |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1809066

10-Sep-18

Client: Blagg Engineering
Project: NEBU 32A

Sample ID MB-40144	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 40144		RunNo: 53915							
Prep Date: 9/5/2018	Analysis Date: 9/5/2018		SeqNo: 1779402		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		106	50.6	138			

Sample ID LCS-40144	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 40144		RunNo: 53915							
Prep Date: 9/5/2018	Analysis Date: 9/5/2018		SeqNo: 1779424		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.8	70	130			
Surr: DNOP	4.8		5.000		96.2	50.6	138			

Sample ID MB-40111	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 40111		RunNo: 53915							
Prep Date: 9/4/2018	Analysis Date: 9/5/2018		SeqNo: 1780862		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		110	50.6	138			

Sample ID LCS-40111	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 40111		RunNo: 53915							
Prep Date: 9/4/2018	Analysis Date: 9/5/2018		SeqNo: 1780884		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.6		5.000		113	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#: 1809066

10-Sep-18

Client: Blagg Engineering
Project: NEBU 32A

Sample ID 100ng lcs	SampType: LCS4		TestCode: EPA Method 8260B: Volatiles Short List							
Client ID: BatchQC	Batch ID: R53926		RunNo: 53926							
Prep Date:	Analysis Date: 9/5/2018		SeqNo: 1781316		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	103	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	3.2	0.10	3.000	0	105	80	120			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

Sample ID 1809066-002ams	SampType: MS4		TestCode: EPA Method 8260B: Volatiles Short List							
Client ID: NORTH WALL	Batch ID: R53926		RunNo: 53926							
Prep Date:	Analysis Date: 9/5/2018		SeqNo: 1781339		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.73	0.019	0.7645	0	95.9	80	120			
Toluene	0.78	0.038	0.7645	0	101	80	120			
Ethylbenzene	0.79	0.038	0.7645	0	104	82	121			
Xylenes, Total	2.5	0.076	2.294	0.01614	106	80.2	120			
Surr: 4-Bromofluorobenzene	0.43		0.3822		112	70	130			
Surr: Toluene-d8	0.36		0.3822		95.3	70	130			

Sample ID 1809066-002amsd	SampType: MSD4		TestCode: EPA Method 8260B: Volatiles Short List							
Client ID: NORTH WALL	Batch ID: R53926		RunNo: 53926							
Prep Date:	Analysis Date: 9/5/2018		SeqNo: 1781340		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.69	0.019	0.7645	0	90.1	80	120	6.22	20	
Toluene	0.73	0.038	0.7645	0	95.0	80	120	6.49	20	
Ethylbenzene	0.76	0.038	0.7645	0	98.9	82	121	4.56	20	
Xylenes, Total	2.3	0.076	2.294	0.01614	101	80.2	120	5.12	20	
Surr: 4-Bromofluorobenzene	0.41		0.3822		108	70	130	0	0	
Surr: Toluene-d8	0.36		0.3822		93.9	70	130	0	0	

Sample ID lcs-40132	SampType: LCS4		TestCode: EPA Method 8260B: Volatiles Short List							
Client ID: BatchQC	Batch ID: 40132		RunNo: 53926							
Prep Date: 9/4/2018	Analysis Date: 9/5/2018		SeqNo: 1781359		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.55		0.5000		111	70	130			
Surr: Toluene-d8	0.47		0.5000		94.4	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#: 1809066

10-Sep-18

Client: Blagg Engineering

Project: NEBU 32A

Sample ID mb-40132	SampType: MBLK		TestCode: EPA Method 8260B: Volatiles Short List							
Client ID: PBS	Batch ID: 40132		RunNo: 53926							
Prep Date: 9/4/2018	Analysis Date: 9/5/2018		SeqNo: 1781360				Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.60		0.5000		120	70	130			
Surr: Toluene-d8	0.48		0.5000		96.9	70	130			

Sample ID rb	SampType: MBLK		TestCode: EPA Method 8260B: Volatiles Short List							
Client ID: PBS	Batch ID: R53926		RunNo: 53926							
Prep Date:	Analysis Date: 9/5/2018		SeqNo: 1781361				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	0.52		0.5000		105	70	130			
Surr: Toluene-d8	0.50		0.5000		99.7	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#: 1809066

10-Sep-18

Client: Blagg Engineering
Project: NEBU 32A

Sample ID	ics-40132		SampType:	LCS		TestCode:	EPA Method 8015D Mod: Gasoline Range				
Client ID:	LCSS		Batch ID:	40132		RunNo:	53926				
Prep Date:	9/4/2018		Analysis Date:	9/5/2018		SeqNo:	1781407		Units: %Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: BFB	510		500.0		103	70	130				

Sample ID	mb-40132		SampType:	MBLK		TestCode:	EPA Method 8015D Mod: Gasoline Range				
Client ID:	PBS		Batch ID:	40132		RunNo:	53926				
Prep Date:	9/4/2018		Analysis Date:	9/5/2018		SeqNo:	1781408		Units: %Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: BFB	530		500.0		107	70	130				

Sample ID	rb		SampType:	MBLK		TestCode:	EPA Method 8015D Mod: Gasoline Range				
Client ID:	PBS		Batch ID:	G53926		RunNo:	53926				
Prep Date:			Analysis Date:	9/5/2018		SeqNo:	1781409		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	470		500.0		93.3	70	130				

Sample ID	2.5ug gro ics		SampType:	LCS		TestCode:	EPA Method 8015D Mod: Gasoline Range				
Client ID:	LCSS		Batch ID:	G53926		RunNo:	53926				
Prep Date:			Analysis Date:	9/5/2018		SeqNo:	1781674		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	98.2	70	130				
Surr: BFB	470		500.0		93.1	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



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: 1809066

RcptNo: 1

Received By: 9/5/2018 7:00:00 AM

Completed By: Anne Thorne 9/5/2018 7:59:34 AM

Reviewed By: JO 09/05/18

Handwritten signature of Anne Thorne

Labeled by: AT 09/05/18

Chain of Custody

1. Is Chain of Custody complete? Yes [checked] No [] Not Present []

2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes [checked] No [] NA []

4. Were all samples received at a temperature of >0° C to 6.0°C Yes [checked] No [] NA []

5. Sample(s) in proper container(s)? Yes [checked] No []

6. Sufficient sample volume for indicated test(s)? Yes [checked] No []

7. Are samples (except VOA and ONG) properly preserved? Yes [checked] No []

8. Was preservative added to bottles? Yes [] No [checked] NA []

9. VOA vials have zero headspace? Yes [] No [] No VOA Vials [checked]

10. Were any sample containers received broken? Yes [] No [checked]

11. Does paperwork match bottle labels? Yes [checked] No []

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes [checked] No []

13. Is it clear what analyses were requested? Yes [checked] No []

14. Were all holding times able to be met? Yes [checked] 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 [checked]

Person Notified: Date: By Whom: Via: [] eMail [] Phone [] Fax [] In Person Regarding: Client Instructions:

16. Additional remarks:

17. Cooler Information

Table with 7 columns: Cooler No, Temp °C, Condition, Seal Intact, Seal No, Seal Date, Signed By. Row 1: 3, 1.3, Good, Yes, , ,

NEBU 32A
TSP Pile Sampling
Lab Reports

Analytical Report

Lab Order **1809067**

Date Reported: **9/10/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: TSP-1

Project: NEBU 32A

Collection Date: 9/4/2018 11:22:00 AM

Lab ID: 1809067-001

Matrix: SOIL

Received Date: 9/5/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	9/5/2018 12:46:39 PM	40144
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	28	4.5		mg/Kg	1	9/5/2018 12:29:51 PM	G53926
Surr: BFB	120	70-130		%Rec	1	9/5/2018 12:29:51 PM	G53926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/5/2018 11:07:13 AM	40144
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/5/2018 11:07:13 AM	40144
Surr: DNOP	112	50.6-138		%Rec	1	9/5/2018 11:07:13 AM	40144
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.022		mg/Kg	1	9/5/2018 12:29:51 PM	R53926
Toluene	ND	0.045		mg/Kg	1	9/5/2018 12:29:51 PM	R53926
Ethylbenzene	ND	0.045		mg/Kg	1	9/5/2018 12:29:51 PM	R53926
Xylenes, Total	0.17	0.090		mg/Kg	1	9/5/2018 12:29:51 PM	R53926
Surr: 4-Bromofluorobenzene	134	70-130	S	%Rec	1	9/5/2018 12:29:51 PM	R53926
Surr: Toluene-d8	96.0	70-130		%Rec	1	9/5/2018 12:29:51 PM	R53926

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

Analytical Report

Lab Order **1809067**

Date Reported: **9/10/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: TSP-2

Project: NEBU 32A

Collection Date: 9/4/2018 11:27:00 AM

Lab ID: 1809067-002

Matrix: SOIL

Received Date: 9/5/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	9/5/2018 12:59:03 PM	40144
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	8.8	4.2		mg/Kg	1	9/5/2018 12:52:54 PM	G53926
Surr: BFB	115	70-130		%Rec	1	9/5/2018 12:52:54 PM	G53926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/5/2018 11:29:26 AM	40144
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/5/2018 11:29:26 AM	40144
Surr: DNOP	112	50.6-138		%Rec	1	9/5/2018 11:29:26 AM	40144
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.021		mg/Kg	1	9/5/2018 12:52:54 PM	R53926
Toluene	ND	0.042		mg/Kg	1	9/5/2018 12:52:54 PM	R53926
Ethylbenzene	ND	0.042		mg/Kg	1	9/5/2018 12:52:54 PM	R53926
Xylenes, Total	ND	0.085		mg/Kg	1	9/5/2018 12:52:54 PM	R53926
Surr: 4-Bromofluorobenzene	129	70-130		%Rec	1	9/5/2018 12:52:54 PM	R53926
Surr: Toluene-d8	97.5	70-130		%Rec	1	9/5/2018 12:52:54 PM	R53926

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	Page 2 of 9
	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	

Analytical Report

Lab Order **1809067**

Date Reported: **9/10/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: TSP-3

Project: NEBU 32A

Collection Date: 9/4/2018 11:30:00 AM

Lab ID: 1809067-003

Matrix: SOIL

Received Date: 9/5/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	9/5/2018 1:11:28 PM	40145
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	20	3.8		mg/Kg	1	9/5/2018 1:16:05 PM	G53926
Surr: BFB	120	70-130		%Rec	1	9/5/2018 1:16:05 PM	G53926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/5/2018 11:51:24 AM	40144
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/5/2018 11:51:24 AM	40144
Surr: DNOP	107	50.6-138		%Rec	1	9/5/2018 11:51:24 AM	40144
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.019		mg/Kg	1	9/5/2018 1:16:05 PM	R53926
Toluene	ND	0.038		mg/Kg	1	9/5/2018 1:16:05 PM	R53926
Ethylbenzene	ND	0.038		mg/Kg	1	9/5/2018 1:16:05 PM	R53926
Xylenes, Total	ND	0.076		mg/Kg	1	9/5/2018 1:16:05 PM	R53926
Surr: 4-Bromofluorobenzene	135	70-130	S	%Rec	1	9/5/2018 1:16:05 PM	R53926
Surr: Toluene-d8	96.0	70-130		%Rec	1	9/5/2018 1:16:05 PM	R53926

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

Analytical Report

Lab Order 1809067

Date Reported: 9/10/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: TSP-4

Project: NEBU 32A

Collection Date: 9/4/2018 11:33:00 AM

Lab ID: 1809067-004

Matrix: SOIL

Received Date: 9/5/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	9/5/2018 1:23:53 PM	40145
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	28	4.3		mg/Kg	1	9/5/2018 1:39:17 PM	G53926
Surr: BFB	126	70-130		%Rec	1	9/5/2018 1:39:17 PM	G53926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/5/2018 12:13:34 PM	40144
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/5/2018 12:13:34 PM	40144
Surr: DNOP	109	50.6-138		%Rec	1	9/5/2018 12:13:34 PM	40144
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.021		mg/Kg	1	9/5/2018 1:39:17 PM	R53926
Toluene	ND	0.043		mg/Kg	1	9/5/2018 1:39:17 PM	R53926
Ethylbenzene	ND	0.043		mg/Kg	1	9/5/2018 1:39:17 PM	R53926
Xylenes, Total	ND	0.086		mg/Kg	1	9/5/2018 1:39:17 PM	R53926
Surr: 4-Bromofluorobenzene	139	70-130	S	%Rec	1	9/5/2018 1:39:17 PM	R53926
Surr: Toluene-d8	101	70-130		%Rec	1	9/5/2018 1:39:17 PM	R53926

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

Analytical Report

Lab Order **1809067**

Date Reported: **9/10/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: TSP-5

Project: NEBU 32A

Collection Date: 9/4/2018 11:36:00 AM

Lab ID: 1809067-005

Matrix: SOIL

Received Date: 9/5/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	9/5/2018 1:36:17 PM	40145
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	8.6	3.9		mg/Kg	1	9/5/2018 2:02:29 PM	G53926
Surr: BFB	123	70-130		%Rec	1	9/5/2018 2:02:29 PM	G53926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	11	9.5		mg/Kg	1	9/5/2018 12:35:35 PM	40144
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/5/2018 12:35:35 PM	40144
Surr: DNOP	114	50.6-138		%Rec	1	9/5/2018 12:35:35 PM	40144
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.019		mg/Kg	1	9/5/2018 2:02:29 PM	R53926
Toluene	ND	0.039		mg/Kg	1	9/5/2018 2:02:29 PM	R53926
Ethylbenzene	ND	0.039		mg/Kg	1	9/5/2018 2:02:29 PM	R53926
Xylenes, Total	ND	0.078		mg/Kg	1	9/5/2018 2:02:29 PM	R53926
Surr: 4-Bromofluorobenzene	137	70-130	S	%Rec	1	9/5/2018 2:02:29 PM	R53926
Surr: Toluene-d8	99.4	70-130		%Rec	1	9/5/2018 2:02:29 PM	R53926

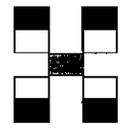
Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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:
NEBU 32A
Project #:
Project Manager:
STEVE MOSKAL
Sampler: **JEFF BLAGG**
On Ice: Yes No
Sample Temperature **3 Coolers**



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 + THMs (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)
4/4/2018	1122	SOIL	TSP-1	4 oz x 1	COOL	1809067	X		X									X	
	1127		TSP-2																
	1130		TSP-3																
	1133		TSP-4																
	1136		TSP-5																

Date: 4/4/2018 Time: 1411 Relinquished by: **JH Blagg**
Date: 9/4/18 Time: 1917 Relinquished by: **Christina Warr**

Received by: **Christina Warr** Date: 9/4/2018 Time: 1411
Received by: **Chris** Date: 9/10/18 Time: 0700

Remarks: **Bill BP CONTACT: STEVE MOSKAL VID: VHIXONEVRM**
NOTE: SAMPLES TREATED WITH H₂O₂

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.

Received by OCD: 1/15/2020 1:07:06 PM

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1809067

10-Sep-18

Client: Blagg Engineering

Project: NEBU 32A

Sample ID MB-40145	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBS	Batch ID: 40145		RunNo: 53927							
Prep Date: 9/5/2018	Analysis Date: 9/5/2018		SeqNo: 1781197	Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID LCS-40145	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSS	Batch ID: 40145		RunNo: 53927							
Prep Date: 9/5/2018	Analysis Date: 9/5/2018		SeqNo: 1781198	Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.4	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- 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#: 1809067

10-Sep-18

Client: Blagg Engineering
Project: NEBU 32A

Sample ID MB-40144	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 40144		RunNo: 53915							
Prep Date: 9/5/2018	Analysis Date: 9/5/2018		SeqNo: 1779402		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		106	50.6	138			

Sample ID LCS-40144	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 40144		RunNo: 53915							
Prep Date: 9/5/2018	Analysis Date: 9/5/2018		SeqNo: 1779424		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.8	70	130			
Surr: DNOP	4.8		5.000		96.2	50.6	138			

Sample ID MB-40111	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 40111		RunNo: 53915							
Prep Date: 9/4/2018	Analysis Date: 9/5/2018		SeqNo: 1780862		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		110	50.6	138			

Sample ID LCS-40111	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 40111		RunNo: 53915							
Prep Date: 9/4/2018	Analysis Date: 9/5/2018		SeqNo: 1780884		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.6		5.000		113	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#: 1809067

10-Sep-18

Client: Blagg Engineering
Project: NEBU 32A

Sample ID 100ng Ics	SampType: LCS4		TestCode: EPA Method 8260B: Volatiles Short List							
Client ID: BatchQC	Batch ID: R53926		RunNo: 53926							
Prep Date:	Analysis Date: 9/5/2018		SeqNo: 1781316		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	103	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	3.2	0.10	3.000	0	105	80	120			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

Sample ID Ics-40132	SampType: LCS4		TestCode: EPA Method 8260B: Volatiles Short List							
Client ID: BatchQC	Batch ID: 40132		RunNo: 53926							
Prep Date: 9/4/2018	Analysis Date: 9/5/2018		SeqNo: 1781359		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.55		0.5000		111	70	130			
Surr: Toluene-d8	0.47		0.5000		94.4	70	130			

Sample ID mb-40132	SampType: MBLK		TestCode: EPA Method 8260B: Volatiles Short List							
Client ID: PBS	Batch ID: 40132		RunNo: 53926							
Prep Date: 9/4/2018	Analysis Date: 9/5/2018		SeqNo: 1781360		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.60		0.5000		120	70	130			
Surr: Toluene-d8	0.48		0.5000		96.9	70	130			

Sample ID rb	SampType: MBLK		TestCode: EPA Method 8260B: Volatiles Short List							
Client ID: PBS	Batch ID: R53926		RunNo: 53926							
Prep Date:	Analysis Date: 9/5/2018		SeqNo: 1781361		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	0.52		0.5000		105	70	130			
Surr: Toluene-d8	0.50		0.5000		99.7	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#: 1809067

10-Sep-18

Client: Blagg Engineering

Project: NEBU 32A

Sample ID	ics-40132		SampType:	LCS		TestCode:	EPA Method 8015D Mod: Gasoline Range				
Client ID:	LCSS		Batch ID:	40132		RunNo:	53926				
Prep Date:	9/4/2018		Analysis Date:	9/5/2018		SeqNo:	1781407		Units: %Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: BFB	510		500.0		103	70	130				

Sample ID	mb-40132		SampType:	MBLK		TestCode:	EPA Method 8015D Mod: Gasoline Range				
Client ID:	PBS		Batch ID:	40132		RunNo:	53926				
Prep Date:	9/4/2018		Analysis Date:	9/5/2018		SeqNo:	1781408		Units: %Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: BFB	530		500.0		107	70	130				

Sample ID	rb		SampType:	MBLK		TestCode:	EPA Method 8015D Mod: Gasoline Range				
Client ID:	PBS		Batch ID:	G53926		RunNo:	53926				
Prep Date:			Analysis Date:	9/5/2018		SeqNo:	1781409		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	470		500.0		93.3	70	130				

Sample ID	2.5ug gro ics		SampType:	LCS		TestCode:	EPA Method 8015D Mod: Gasoline Range				
Client ID:	LCSS		Batch ID:	G53926		RunNo:	53926				
Prep Date:			Analysis Date:	9/5/2018		SeqNo:	1781674		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	98.2	70	130				
Surr: BFB	470		500.0		93.1	70	130				

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| 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
 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: **1809067**

RcptNo: **1**

Received By: **Anne Thome** 9/5/2018 7:00:00 AM

Anne Thome

Completed By: **Anne Thome** 9/5/2018 8:05:19 AM

Anne Thome

Reviewed By: **JO** 09/05/18

Labeled by: *09/05/18 AT*

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
3	1.3	Good	Yes			

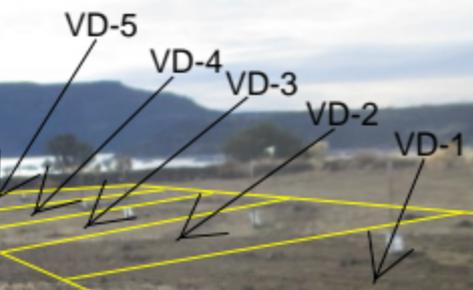
NEBU 32A

TPS Vadose Zone Sampling
Photographs and Lab Reports

NEBU 32A

Dec 13, 2019

Received by OCD: 1/13/2020 1:07:06 PM Page 46 of 64



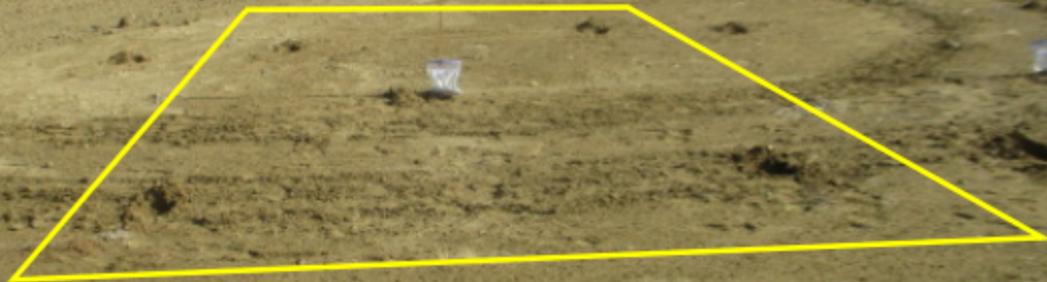
Vadose Zone 1



Vadose Zone 2



Vadose Zone 3



Vadose Zone 4



Vadose Zone 5





Analytical Report

Report Summary

Client: BP America Production Co.

Samples Received: 12/13/2019

Job Number: 03143-0424

Work Order: P912039

Project Name/Location: NEBU 32A

Report Reviewed By:

A handwritten signature in black ink that reads 'Walter Hinchman'.

Date: 12/18/19

Walter Hinchman, Laboratory Director



Envirotech Inc. certifies the test results meet all requirements of TNi unless footnoted otherwise.
 Statement of Data Authenticity: Envirotech, Inc, attests the data reported has not been altered in any way.
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 Envirotech, Inc, holds the Utah TNi certification NM009792018-1 for the data reported.
 Envirotech, Inc, holds the Texas TNi certification T104704557-19-2 for the data reported.



BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: NEBU 32A
Project Number: 03143-0424
Project Manager: Steve Moskal

Reported:
12/18/19 17:03

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
VD-1	P912039-01A	Soil	12/13/19	12/13/19	Glass Jar, 4 oz.
VD-2	P912039-02A	Soil	12/13/19	12/13/19	Glass Jar, 4 oz.
VD-3	P912039-03A	Soil	12/13/19	12/13/19	Glass Jar, 4 oz.
VD-4	P912039-04A	Soil	12/13/19	12/13/19	Glass Jar, 4 oz.
VD-5	P912039-05A	Soil	12/13/19	12/13/19	Glass Jar, 4 oz.

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BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: NEBU 32A Project Number: 03143-0424 Project Manager: Steve Moskal	Reported: 12/18/19 17:03
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VD-1
P912039-01 (Solid)

Analyte	Result	Reporting			Batch	Prepared	Analyzed	Method	Notes
		Limit	Units	Dilution					
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		<i>101 %</i>		<i>50-150</i>	<i>1951004</i>	<i>12/16/19</i>	<i>12/16/19</i>	<i>EPA 8021B</i>	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1951006	12/16/19	12/16/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1951006	12/16/19	12/16/19	EPA 8015D	
<i>Surrogate: n-Nonane</i>		<i>96.7 %</i>		<i>50-200</i>	<i>1951006</i>	<i>12/16/19</i>	<i>12/16/19</i>	<i>EPA 8015D</i>	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8015D	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		<i>85.1 %</i>		<i>50-150</i>	<i>1951004</i>	<i>12/16/19</i>	<i>12/16/19</i>	<i>EPA 8015D</i>	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	1951005	12/16/19	12/16/19	EPA 300.0/9056A	

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BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: NEBU 32A Project Number: 03143-0424 Project Manager: Steve Moskal	Reported: 12/18/19 17:03
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VD-2
P912039-02 (Solid)

Analyte	Result	Reporting			Batch	Prepared	Analyzed	Method	Notes
		Limit	Units	Dilution					
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		100 %		50-150	1951004	12/16/19	12/16/19	EPA 8021B	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1951006	12/16/19	12/16/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1951006	12/16/19	12/16/19	EPA 8015D	
<i>Surrogate: n-Nonane</i>		94.5 %		50-200	1951006	12/16/19	12/16/19	EPA 8015D	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8015D	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		86.2 %		50-150	1951004	12/16/19	12/16/19	EPA 8015D	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	1951005	12/16/19	12/16/19	EPA 300.0/9056A	

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BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: NEBU 32A Project Number: 03143-0424 Project Manager: Steve Moskal	Reported: 12/18/19 17:03
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VD-3**P912039-03 (Solid)**

Analyte	Result	Reporting							
		Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Volatile Organics by EPA 8021

Benzene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		101 %		50-150	1951004	12/16/19	12/16/19	EPA 8021B	

Nonhalogenated Organics by 8015 - DRO/ORO

Diesel Range Organics (C10-C28)	51.0	25.0	mg/kg	1	1951006	12/16/19	12/16/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1951006	12/16/19	12/16/19	EPA 8015D	
<i>Surrogate: n-Nonane</i>		88.7 %		50-200	1951006	12/16/19	12/16/19	EPA 8015D	

Nonhalogenated Organics by 8015 - GRO

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8015D	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		85.4 %		50-150	1951004	12/16/19	12/16/19	EPA 8015D	

Anions by 300.0/9056A

Chloride	ND	20.0	mg/kg	1	1951005	12/16/19	12/16/19	EPA 300.0/9056A	
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VD-4
P912039-04 (Solid)

Analyte	Result	Reporting			Batch	Prepared	Analyzed	Method	Notes
		Limit	Units	Dilution					
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8021B	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		100 %		50-150	1951004	12/16/19	12/16/19	EPA 8021B	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1951006	12/16/19	12/16/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1951006	12/16/19	12/16/19	EPA 8015D	
<i>Surrogate: n-Nonane</i>		92.1 %		50-200	1951006	12/16/19	12/16/19	EPA 8015D	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1951004	12/16/19	12/16/19	EPA 8015D	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		85.3 %		50-150	1951004	12/16/19	12/16/19	EPA 8015D	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	1951005	12/16/19	12/16/19	EPA 300.0/9056A	

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BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: NEBU 32A Project Number: 03143-0424 Project Manager: Steve Moskal	Reported: 12/18/19 17:03
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VD-5
P912039-05 (Solid)

Analyte	Result	Reporting			Batch	Prepared	Analyzed	Method	Notes
		Limit	Units	Dilution					
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/17/19	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/17/19	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/17/19	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	1951004	12/16/19	12/17/19	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	1951004	12/16/19	12/17/19	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	1951004	12/16/19	12/17/19	EPA 8021B	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		100 %		50-150	1951004	12/16/19	12/17/19	EPA 8021B	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1951006	12/16/19	12/16/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1951006	12/16/19	12/16/19	EPA 8015D	
<i>Surrogate: n-Nonane</i>		94.3 %		50-200	1951006	12/16/19	12/16/19	EPA 8015D	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1951004	12/16/19	12/17/19	EPA 8015D	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		85.3 %		50-150	1951004	12/16/19	12/17/19	EPA 8015D	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	1951005	12/16/19	12/16/19	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	NEBU 32A	Reported: 12/18/19 17:03
PO Box 22024	Project Number:	03143-0424	
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	

Volatile Organics by EPA 8021 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1951004 - Purge and Trap EPA 5030A

Blank (1951004-BLK1)

Prepared & Analyzed: 12/16/19 1

Benzene	ND	0.0250	mg/kg							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
p,m-Xylene	ND	0.0500	"							
o-Xylene	ND	0.0250	"							
Total Xylenes	ND	0.0250	"							
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	7.96		"	8.00		99.4	50-150			

LCS (1951004-BS1)

Prepared & Analyzed: 12/16/19 1

Benzene	4.89	0.0250	mg/kg	5.00		97.8	70-130			
Toluene	5.02	0.0250	"	5.00		100	70-130			
Ethylbenzene	4.94	0.0250	"	5.00		98.8	70-130			
p,m-Xylene	9.84	0.0500	"	10.0		98.4	70-130			
o-Xylene	4.88	0.0250	"	5.00		97.6	70-130			
Total Xylenes	14.7	0.0250	"	15.0		98.1	70-130			
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	7.94		"	8.00		99.2	50-150			

Matrix Spike (1951004-MS1)

Source: P912039-01

Prepared & Analyzed: 12/16/19 1

Benzene	4.91	0.0250	mg/kg	5.00	ND	98.2	54.3-133			
Toluene	5.01	0.0250	"	5.00	ND	100	61.4-130			
Ethylbenzene	4.94	0.0250	"	5.00	ND	98.7	61.4-133			
p,m-Xylene	9.83	0.0500	"	10.0	ND	98.3	63.3-131			
o-Xylene	4.88	0.0250	"	5.00	ND	97.6	63.3-131			
Total Xylenes	14.7	0.0250	"	15.0	ND	98.1	63.3-131			
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	7.97		"	8.00		99.6	50-150			

Matrix Spike Dup (1951004-MSD1)

Source: P912039-01

Prepared: 12/16/19 1 Analyzed: 12/16/19 2

Benzene	4.69	0.0250	mg/kg	5.00	ND	93.8	54.3-133	4.62	20	
Toluene	4.80	0.0250	"	5.00	ND	96.0	61.4-130	4.28	20	
Ethylbenzene	4.74	0.0250	"	5.00	ND	94.9	61.4-133	3.99	20	
p,m-Xylene	9.44	0.0500	"	10.0	ND	94.4	63.3-131	4.07	20	
o-Xylene	4.68	0.0250	"	5.00	ND	93.6	63.3-131	4.21	20	
Total Xylenes	14.1	0.0250	"	15.0	ND	94.1	63.3-131	4.12	20	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	8.05		"	8.00		101	50-150			

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BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: NEBU 32A Project Number: 03143-0424 Project Manager: Steve Moskal	Reported: 12/18/19 17:03
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Nonhalogenated Organics by 8015 - DRO/ORO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1951006 - DRO Extraction EPA 3570

Blank (1951006-BLK1)

Prepared & Analyzed: 12/16/19 1

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40)	ND	50.0	"							
Surrogate: n-Nonane	50.1		"	50.0		100	50-200			

LCS (1951006-BS1)

Prepared & Analyzed: 12/16/19 1

Diesel Range Organics (C10-C28)	454	25.0	mg/kg	500		90.8	38-132			
Surrogate: n-Nonane	48.3		"	50.0		96.5	50-200			

Matrix Spike (1951006-MS1)

Source: P912039-01

Prepared: 12/16/19 1 Analyzed: 12/16/19 2

Diesel Range Organics (C10-C28)	477	25.0	mg/kg	500	ND	95.3	38-132			
Surrogate: n-Nonane	47.3		"	50.0		94.6	50-200			

Matrix Spike Dup (1951006-MSD1)

Source: P912039-01

Prepared: 12/16/19 1 Analyzed: 12/16/19 2

Diesel Range Organics (C10-C28)	481	25.0	mg/kg	500	ND	96.2	38-132	0.919	20	
Surrogate: n-Nonane	48.4		"	50.0		96.7	50-200			

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BP America Production Co.	Project Name:	NEBU 32A	Reported: 12/18/19 17:03
PO Box 22024	Project Number:	03143-0424	
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	

Nonhalogenated Organics by 8015 - GRO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1951004 - Purge and Trap EPA 5030A

Blank (1951004-BLK1)

Prepared & Analyzed: 12/16/19 1

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.84		"	8.00		85.5	50-150			

LCS (1951004-BS2)

Prepared: 12/16/19 1 Analyzed: 12/16/19 2

Gasoline Range Organics (C6-C10)	45.6	20.0	mg/kg	50.0		91.2	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.88		"	8.00		86.0	50-150			

Matrix Spike (1951004-MS2)

Source: P912039-01

Prepared: 12/16/19 1 Analyzed: 12/16/19 2

Gasoline Range Organics (C6-C10)	48.4	20.0	mg/kg	50.0	ND	96.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.87		"	8.00		85.9	50-150			

Matrix Spike Dup (1951004-MSD2)

Source: P912039-01

Prepared: 12/16/19 1 Analyzed: 12/16/19 2

Gasoline Range Organics (C6-C10)	46.1	20.0	mg/kg	50.0	ND	92.2	70-130	4.89	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.88		"	8.00		86.0	50-150			

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BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: NEBU 32A Project Number: 03143-0424 Project Manager: Steve Moskal	Reported: 12/18/19 17:03
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Anions by 300.0/9056A - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1951005 - Anion Extraction EPA 300.0/9056A

Blank (1951005-BLK1)

Prepared & Analyzed: 12/16/19 1

Chloride	ND	20.0	mg/kg							
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LCS (1951005-BS1)

Prepared & Analyzed: 12/16/19 1

Chloride	253	20.0	mg/kg	250		101	90-110			
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Matrix Spike (1951005-MS1)

Source: P912039-01

Prepared & Analyzed: 12/16/19 1

Chloride	251	20.0	mg/kg	250	ND	100	80-120			
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Matrix Spike Dup (1951005-MSD1)

Source: P912039-01

Prepared & Analyzed: 12/16/19 1

Chloride	248	20.0	mg/kg	250	ND	99.2	80-120	1.14	20	
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QC Summary Report

Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

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BP America Production Co.	Project Name:	NEBU 32A	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/18/19 17:03

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

** Methods marked with ** are non-accredited methods.

Soil data is reported on an "as received" weight basis, unless reported otherwise.

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Received by: OCD-1/15/2020 1:07:06 PM
31 fo 31 aed

Client: <u>BPX ENERGY</u> Project: <u>NEBU 32A</u> Project Manager: <u>STEVE MOSKAL</u> Address: _____ City, State, Zip _____ Phone: _____ Email: _____	Report Attention Report due by: <u>STANDARD TAT</u> Attention: <u>STEVE MOSKAL / JEFF BLAGG</u> Address: _____ City, State, Zip _____ Phone: _____ Email: _____	Lab Use Only Lab WO# <u>P 912039</u> Job Number <u>03143-0424</u>	TAT 1D <input type="checkbox"/> 3D <input type="checkbox"/>	EPA Program RCRA <input type="checkbox"/> CWA <input type="checkbox"/> SDWA <input type="checkbox"/>										
			Analysis and Method		State									
			DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	6010 Total P	1D	3D	RCRA	CWA	SDWA
			X	X	X			X						
			X	X	X			X						
			X	X	X			X						
			X	X	X			X						
			X	X	X			X						
			X	X	X			X						

Time Sampled	Date Sampled	Matrix	No Containers	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	6010 Total P	1D	3D	RCRA	CWA	SDWA	Remarks	
1105	12/13/19	SOIL	1	VD-1	1	X	X	X			X								
1110			1	VD-2	2	X	X	X			X								
1115			1	VD-3	3	X	X	X			X								
1120			1	VD-4	4	X	X	X			X								
1125			1	VD-5	5	X	X	X			X								

Additional Instructions: Bill BPX P.O. To be issued

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: <u>Jeff Blagg</u>						Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6°C on subsequent days.					
Relinquished by: (Signature) <u>Jeff Blagg</u>	Date <u>12/13/19</u>	Time <u>1438</u>	Received by: (Signature) <u>Raina Lopez</u>	Date <u>12/13/19</u>	Time <u>14:39</u>	Lab Use Only Received on ice: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>					
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time						
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time						

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____ Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.



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