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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

Update ☒ VR

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: BP	Contact: Steve Moskal
Address: 200 Energy Court, Farmington, NM 87401	Telephone No.: 505-326-9497
Facility Name: Gallegos Canyon Unit 264	Facility Type: Natural gas well

Surface Owner: Fee	Mineral Owner: Fee	API No. 3004520656

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: San Juan
E	17	28N	12W	1,630	North	1,150	West	

Latitude 36.66512° **Longitude** -108.14076°

OIL CONS. DIV DIST. 3

JAN 05 2017

NATURE OF RELEASE

Type of Release: Former earthen pit – condensate/produced water	Volume of Release: unknown	Volume Recovered: none
Source of Release: Former earthen pit	Date and Hour of Occurrence:	Date and Hour of Discovery: May 10, 2016
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom? Steve Moskal	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* Impacts were discovered beneath a below grade tank during closure sampling. Impacts may have been associated with tank integrity as a corrosion hole was identified during inspection of the tank. Laboratory results confirmed the release exceeded the BGT closure standard and the spill and release guidelines. Remedial excavation then followed with impacts determined to be off location beneath an adjacent ephemeral wash. The excavation was stopped per the landowner's request and a soil boring investigation was used to determine the extents of the remaining impacts. The attached report details the results and finding of the soil boring investigation.

Describe Area Affected and Cleanup Action Taken.* A total of 3,700 cubic yards of soil was excavated from the impact area. Approximately 2,531 cubic yards of soil was excavated and removed from the site for landfarm treatment. The excavation measured 75'x95'x18' maximum depth. A single portion of the excavation had remaining impacts along the SW wall at a depth of 15-16' which was on the edge of the well location and at the interface of a ephemeral wash. The area of remaining contaminants is off the pad disturbance area and required landowner approval for excavation. The excavation was backfilled per landowner approval. BP further delineated the area of remaining impacts beneath the ephemeral wash via a soil boring investigation. The investigation determined the extents of impacts both vertically and horizontally. The results of investigation determined a relatively small amount of impacts pinch out beneath the wash, estimated to be approximately 220 cubic yards beneath approximately 1,350 cubic yards of clean overburden. BP believes these impacts to be historical and have very little impact to vegetation; no impact to groundwater; and absolutely no impact to surface water (depth of impacts at 16-22'). BP request no further action at the site pending OCD and landowner approval.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature:	OIL CONSERVATION DIVISION
Printed Name: Steve Moskal	Approved by Environmental Specialist:
Title: Field Environmental Coordinator	Approval Date: 1/20/2017 Expiration Date:
E-mail Address: steven.moskal@bp.com	Conditions of Approval: nCS1613445286 See below Attached ☐
Date: December 7, 2016 Phone: 505-326-9497	

* Attach Additional Sheets If Necessary

* Please provide full delineation and remediation plan by 2-28-2017

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Geoprobe Investigation of Soil Impacts

GCU 264
(E) Sec 17 – T28N – R12W
API: 30-045-20656
San Juan County, New Mexico

Prepared for:
BP America Production Co.
Farmington, New Mexico

Prepared by:
Blagg Engineering, Inc.
P.O. Box 87
Bloomfield, New Mexico 87413
(505)632-1199

December 7, 2016

GEOPROBE INVESTIGATION OF SOIL IMPACTS
GCU 264

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APPENDICES

GEOPROBE INVESTIGATION
OF SOIL IMPACTS

BP: GCU 264

INTRODUCTION

Blagg Engineering Inc. (BEI) has been retained by BP America Production Co. (BP) to perform a geoprobe investigation of hydrocarbon soil impacts at the GCU 264, a natural gas well operated by BP, located in rural San Juan County, New Mexico at (E) Sec. 17 – T28N – R12W (Figure 1). Prior remedial work at the site, completed on May 30, 2016, included removal of approximately 3,700 cubic yards of soil that resulted from historical operations at the facility. This reclamation was terminated at the western edge of the site due to the presence of an ephemeral wash. The site geology was identified as recent loose sand deposits (ranging in thickness of 9' – 18') on top of dense sandstone, with groundwater estimated to be greater than 100' from ground surface. The site closure standard, pursuant to New Mexico Oil Conservation Division guidelines, was determined to be 100 ppm total petroleum hydrocarbons (TPH) based on the presence of the dry ephemeral wash. The geoprobe investigation was conducted to determine the extent of impacts exceeding 100 ppm TPH remaining in the dry wash (Figure 2). This investigation was conducted on October 12, 2016.

INVESTIGATIVE PROCEDURES

A track mounted Geoprobe 6620DT, operated by the Albuquerque, New Mexico firm Earth Worx, was used to advance 11 probe points. Probing locations were selected by beginning at the edge of know impacts and progressing in all directions to delineate the 3-dimensional limit of impacts exceeding site standards. Soil samples were collected using 1-inch diameter x 4 foot long clear plastic sleeves. Test holes were advanced vertically until field observations indicated non-impacted material had been reached, or until refusal by dense substrate. Select samples were placed into gallon sized Ziploc® baggies for field headspace analysis of organic vapors with a calibrated IonScience Tiger model photo-ionization detector (PID) containing a 11.2 eV lamp.

Following field PID analysis, select samples were chosen for additional laboratory testing. Each sample was placed into a 4-ounce laboratory supplied jar with Teflon® lid, labeled, placed on ice in an ice chest and same day hand delivered to a representative of Hall Environmental Analytical Laboratories for testing by U.S. EPA Method 8021B (volatile organics limited to benzene, toluene, ethyl benzene and total xylenes) and U.S. EPA Method 8015 (gasoline range (GRO), diesel range (DRO) and motor oil range (MRO) organics). A chain-of-custody followed the samples.

Each test hole was backfilled with bentonite hole plug to prevent surface water migration.

CONCLUSIONS

1. There are residual hydrocarbon impacts from historical well operations at the GCU 264 natural gas well site. The bulk of these impacts were removed in May, 2016 by excavation and removal of approximately 3,700 cubic yards of soil. Impacts not remove during the initial remedial effort, as characterized in October, 2016 using a geoprobe, included approximately 222 cubic yards of soil below a dry ephemeral wash abutting the western edge of the site. These impacts encompass an area of approximately 80' x 25' x 3' thick and begin at an average depth of approximately 16' bsg. There are approximately 1,370 cubic yards of clean overburden on top of these impacts.

2. There is very limited environmental risk to surface water, groundwater, plant life or animal life from the remaining impacts below the ephemeral wash. Groundwater has been estimated to exceed 100 feet from ground surface.

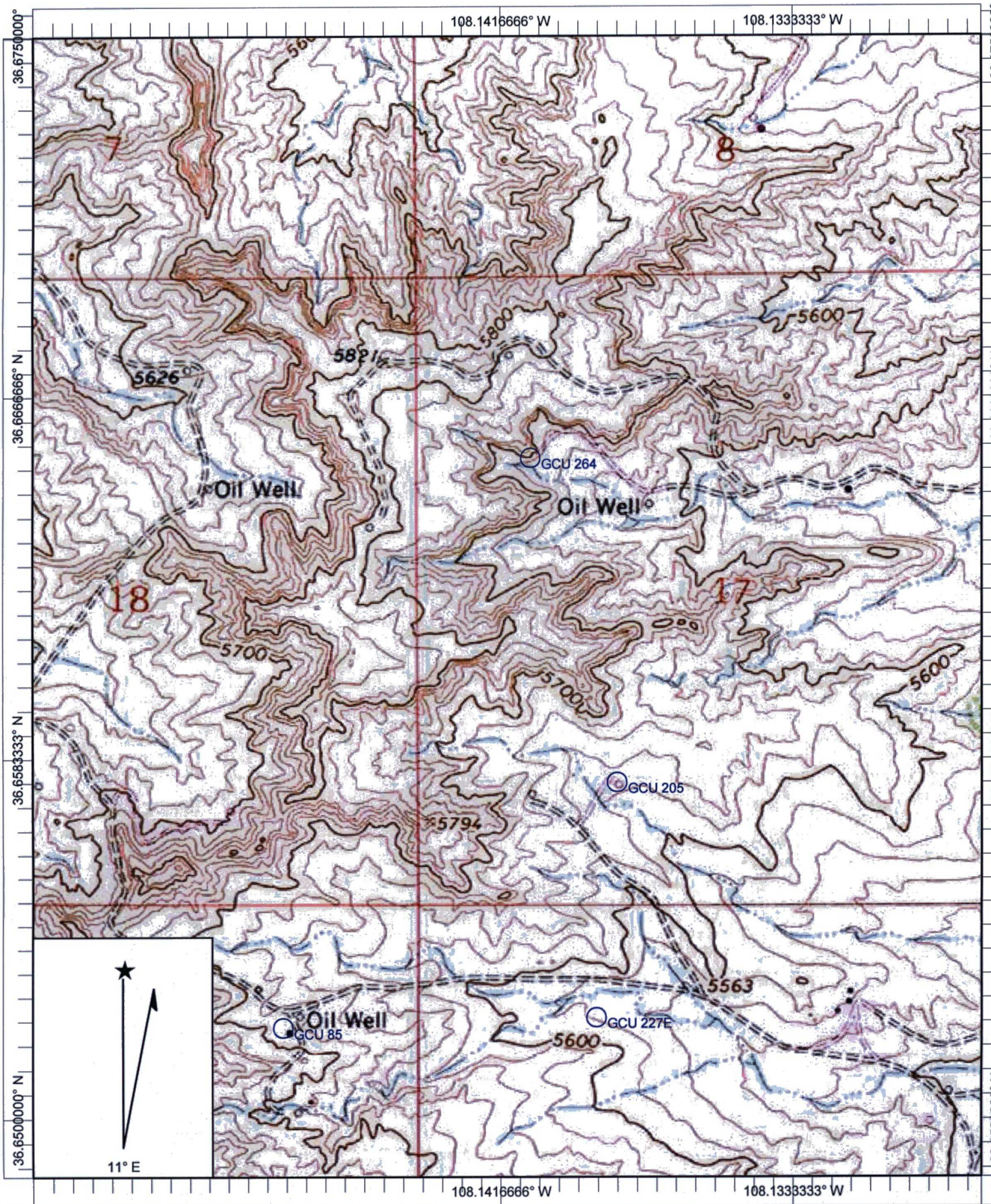
3. The ephemeral wash on top of the impacts has a relatively steep gradient of approximately 6%. During storm events this wash could exhibit strong erosional characterists. If the native soils are disturbed for impact removal, future storm events could result in accelerated erosion of the soils in the wash.

RECOMMENDATIONS

1. If the residual impacts below the dry ephemeral wash are removed by excavation, engagement of a civil engineer to design backfill and erosion controls should be considered to limit future accelerated erosion in the wash.

Appendix A

FIGURES



Name: FARMINGTON SOUTH
Date: 12/2/2016
Scale: 1 inch equals 1000 feet

Caption: BP - GCU 264

Figure 1
Site Location Map

Copyright (C) 1997, Maptech, Inc.

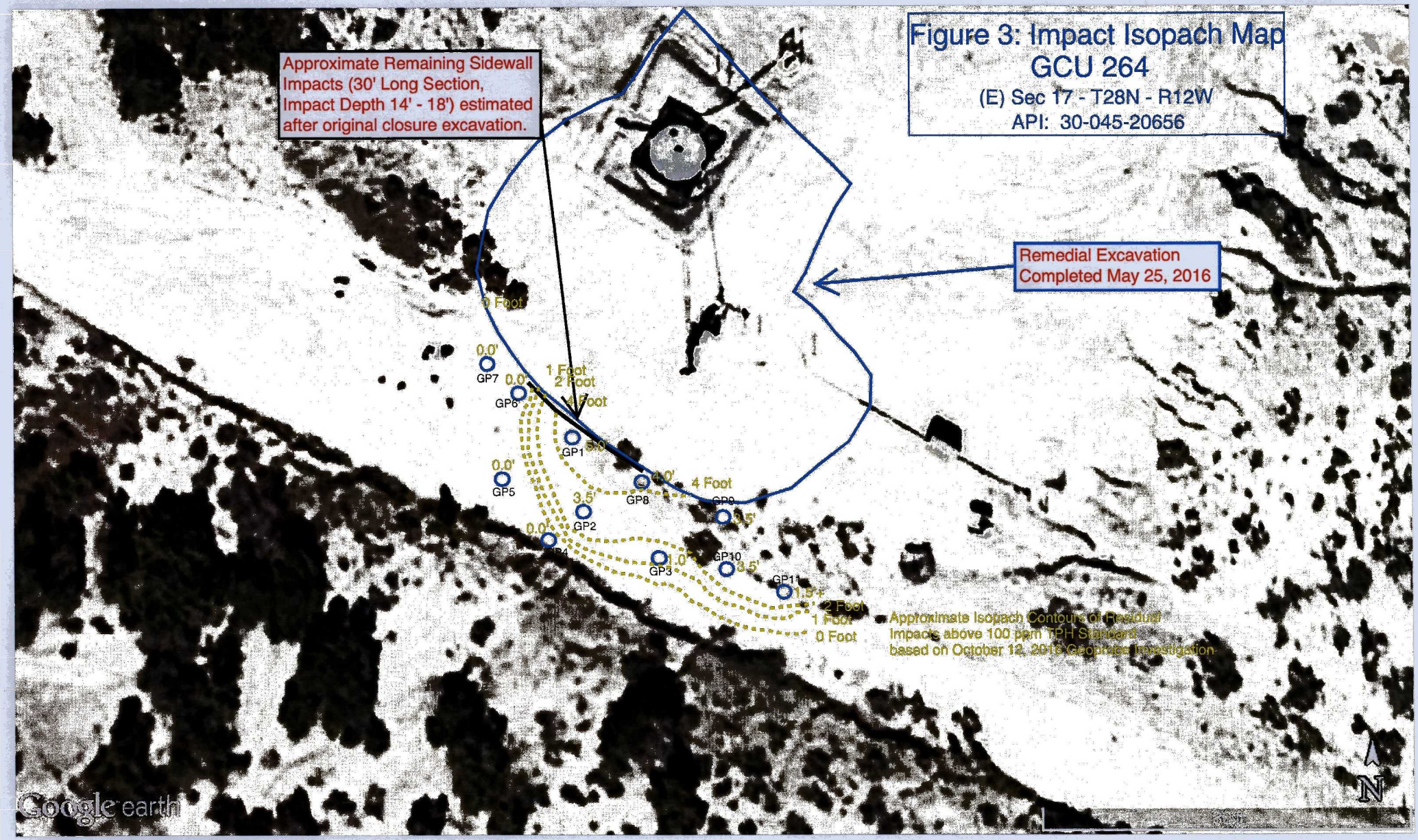


Figure 3: Impact Isopach Map
GCU 264
(E) Sec 17 - T28N - R12W
API: 30-045-20656
Approximate Remaining Sidewall Impacts (30' Long Section, Impact Depth 14' - 18') estimated after original closure excavation.
Remedial Excavation Completed May 25, 2016
0 Foot
1 Foot
2 Foot
4 Foot
GP1
GP2
GP3
GP4
GP5
GP6
GP7
GP8
GP9
GP10
GP11
0.0'
3.5'
4.0'
1.0'
1.5'
Approximate Isopach Contours of Residual Impacts above 100 ppm TPH Standard based on October 12, 2016 Geophysical Investigation
Google earth
N

INVESTIGATION FINDINGS

The initial probe point, GP-1, was placed at the edge of known residual impacts identified in the May 2016 excavation remediation (Figure 2). The impacts in this boring that exceeded the closure standard of 100 ppm TPH began at approximately 17 feet below surface grade (bsg) and extended to approximately 22 feet bsg (see: Boring Log for GP-1, Photo Log of GP-1 and laboratory report for GP-1 in appendices). Subsequent borings were advanced at approximately 15 foot horizontal steps from each other to delineate impacts. Summary data from these borings is presented below in Table 1. Boring logs, photographs and soil laboratory reports for each boring are presented in the appendices.

Table 1
Summary Impact
Depth and Thickness

Boring ID	Top of Impacts Exceeding 100 ppm TPH (Below Surface Grade)	Bottom of Impacts Exceeding 100 ppm TPH (Below Surface Grade)	Impact Thickness	Maximum Lab TPH (mg/Kg)
GP-1	17'	22'	5'	143
GP-2	18.5'	22'	3.5'	572
GP-3	21.5'	22.5'	1'	372
GP-4	None	None	0'	39.6
GP-5	None	None	0'	28
GP-6	None	None	0'	89
GP-7	None	None	0'	43
GP-8	18'	22'	4'	370
GP-9	16'	19'	3'	113
GP-10	18.5'	22'	3.5'	688
GP-11	21.5'	23'	1.5'	463

Note that the constituents benzene, toluene, ethyl-benzene and xylenes (BTEX) and chloride were all tested at below regulatory closure limits on all samples.

A visual depiction of the impact thickness and extent is presented in Figure 3, Impact Isopach Map. On average, impacts begin at a depth greater than 16' bsg and terminate at a depth no greater than 23' bsg. The areal footprint of the impacts is approximately 80' x 25', with an average thickness of 3'. The total volume of this is approximately 222 cubic yards. The clean overburden above the impacted zone contains a volume of approximately 1,370 cubic yards of soil.

The remaining impacted soils are below an ephemeral wash with a relatively steep gradient of approximately 6% grade towards the southeast. Inspection of the wash indicates it has high energy flow during certain storm events with strong erosional characteristics.

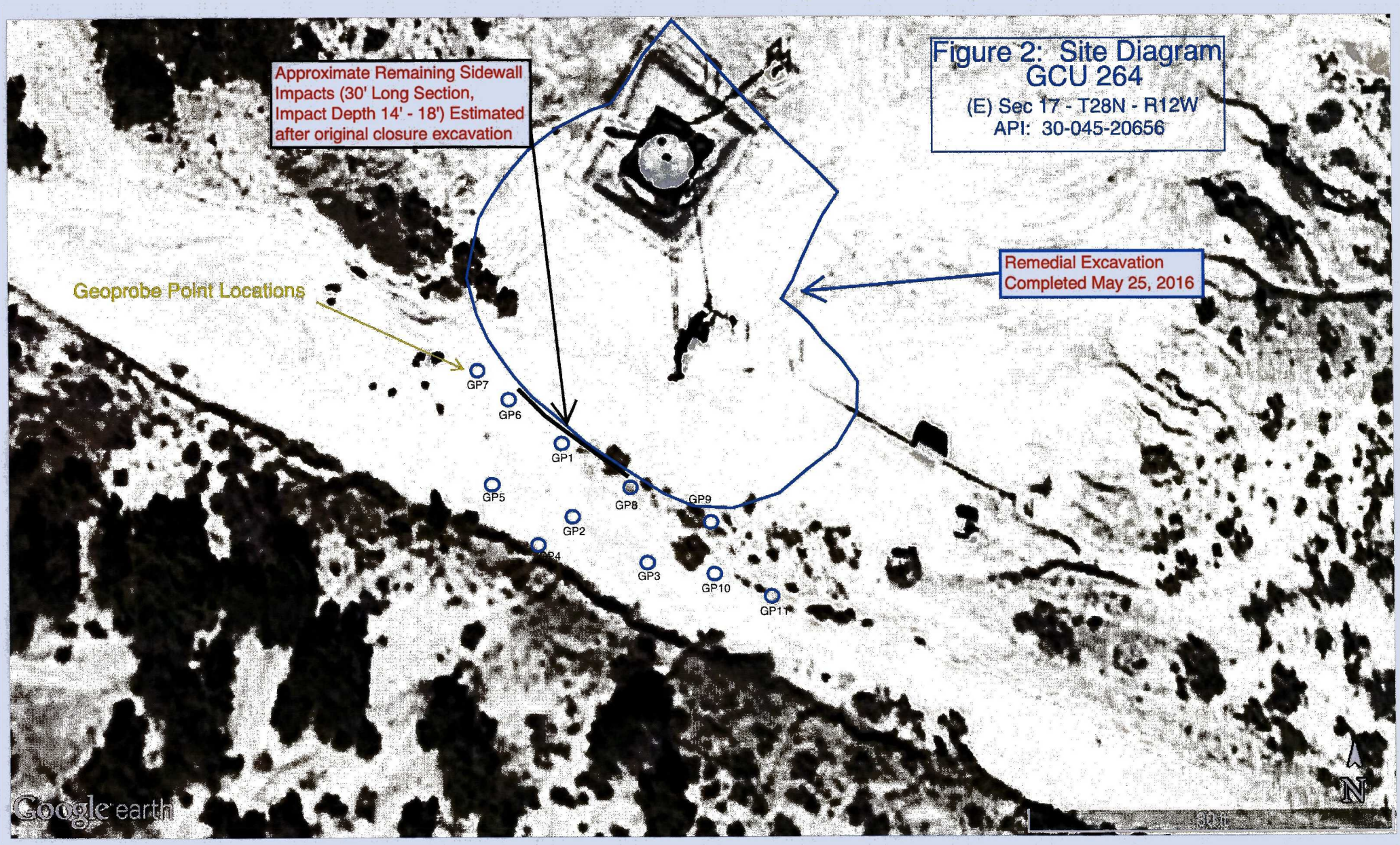
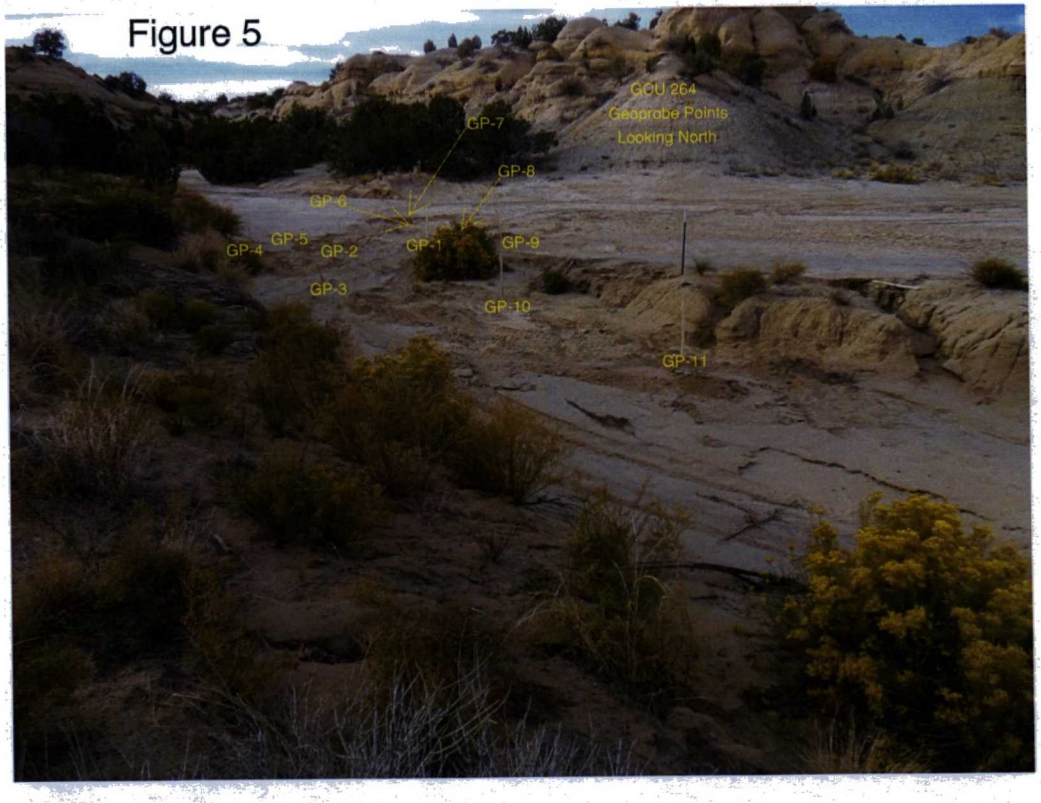


Figure 2: Site Diagram
GCU 264
(E) Sec 17 - T28N - R12W
API: 30-045-20656
Approximate Remaining Sidewall Impacts (30' Long Section, Impact Depth 14' - 18') Estimated after original closure excavation
Remedial Excavation Completed May 25, 2016
Geoprobe Point Locations
GP7
GP6
GP1
GP5
GP8
GP9
GP2
GP4
GP3
GP10
GP11
Google earth
N

Figure 4


GCU 264
Geoprobe Points
Looking South
GP-11
GP-10
GP-9
GP-8
GP-3
GP-2
GP-4
GP-5
GP-1
GP-6
GP-7

Figure 5


GCU 264
Geoprobe Points
Looking North
GP-7
GP-8
GP-6
GP-5
GP-4
GP-2
GP-1
GP-9
GP-3
GP-10
GP-11

Appendix B

BORING LOGS

BLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199

FIELD BORING LOG

BORING ID: GP-1

PROJECT: BP: GCU 264
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Earth Worx
EQUIPMENT USED: Geoprobe 6620DT
DATE START: 10/12/16 DATE FINISH: 10/12/16 DRILLER: LT LOGGED BY: JCB
TOTAL DEPTH: 24' CASING TYPE & SIZE: None SLOT SIZE:
COMMENTS:

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	OVM	SAMPLE DESCRIPTION
1'	0825			START ✓ No odor No Stain.
2'				Recover 12" Likely Moist Coarse SAND, NO/SN
3'				
4'	0827			
5'				
6'				Recover 18" SAA (NO/NS)
7'				
8'	0829			
9'				
10				
11'				Recover 18" SAA (NO/NS)
12'	0831		1.5	
13'				
14'				Recover 22" SAA (NO/NS)
15'				
16'	0835		1.6	
17'			1.6	16'-17' SAA
18'			2,106	Recover 42" 17'-20' Fine/Medium SAND Gray Stain, HC ODOR & STAIN Likely Moist P1
19'				V. Dense @ 20'
20	0838		755	
21'				Soft Shalestone, ODOR/Stain to 23'
22'			1,102	Recover 36" P2
23'				
24'	0845		60.6	
25'				Refusal @ 24'
26'				Submit: 5-pt from 17'-22'
27'				GRAB from 23'-24'
28'				
29'				
30				

23'-24': GRO=ND, DRO=10 ppm, MRO = ND

17' - 22' 5- pt Composite:
GRO=71 ppm, DRO=72 ppm, MRO = ND

BLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199

Page 1 of 1

15'SSE of GP-1 [15'S10°E of GP-1]

FIELD BORING LOG

BORING ID: GP-2

PROJECT: BP: GCU 264
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Earth Worx
EQUIPMENT USED: Geoprobe 6620DT
DATE START: 10/12/2016 DATE FINISH: 10/12/16 DRILLER: LT LOGGED BY: JCB
TOTAL DEPTH: 22' CASING TYPE & SIZE: None SLOT SIZE:
COMMENTS:

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	OVM	SAMPLE DESCRIPTION	
1'	0935			START	
2'				Recover 30" Coarse Sand, Tan, Lite moist NO/NS	
3'					
4'	0936				
5'					
6'					
7'				Recover 24" SAA, NO/NS	
8'	0835				
9'					
10				Recover 30" SAA, NO/NS	
11'					
12'	0841				
13'					
14'				Recover 30" SAA, NO/NS	
15'					
16'	0844		1.3		
17'				16'-18½' SAA	
18'			2.0	Recover 36" 18½'-20' Gray silt to shalestone HC ODOR & Stain.	ALM
19'					
20	0847		2,673		
21'			3,360		
22'	0855		1,845	Recover 24" silt to Clay Stone or Shalestone, Lite HC ODOR & Stain.	PM
23'				Refusal @ 22'	
24'					
25'				Submit: 5-pt 18½'-21'	
26'				GRAB 21'-22'	
27'					
28'					
29'					
30					

21'-22': GRO=69 ppm, DRO=140 ppm, MRO = ND

18.5' - 21' 5- pt Composite:
GRO=230 ppm, DRO=280 ppm, MRO = 62 ppm

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P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199

Page 1 of 1

15' SE of GP-2 [28.5' S26E of GP-1]

FIELD BORING LOG

BORING ID: GP-3

PROJECT: BP: GCU 264
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Earth Worx
EQUIPMENT USED: Geoprobe 6620DT
DATE START: 10/12/16 DATE FINISH: 10/12/16 DRILLER: LT LOGGED BY: JCB
TOTAL DEPTH: 24' CASING TYPE & SIZE: NONE SLOT SIZE:
COMMENTS:

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	OVM	SAMPLE DESCRIPTION
1'	1017			START
2'				
3'				Recover 30" coarse Sand, lite Moist, TAN (NO/NS)
4'	1018			
5'				—
6'				
7'				Recover 24" SAA
8'	1020			
9'				—
10 11'				Recover 18" SAA
12'	1022			—
13'				
14'				Recover 20" SAA
15'				
16'	1026			—
17'				
18'				Recover 12", SAA, V minor HC odor, No Stain
19'				
20 21'	1029		1.0	—
22'			3.0	20'-21½' SAA, minor odor
23'			1,241	Recover 34" 21½'-22½', Silt to Shalestone, Gray, odor & Stain
24'	1032		4.5	— 22½'-24' Silt to shalestone, Brown, VV Minor HC odor only.
25'				
26'				Submit: 3-pt 21½'-23'
27'				GRAB 23'-24'
28'				
29'				
30				

P-5

23'-24': GRO=ND, DRO=ND, MRO = ND

21.5' - 23' 3- pt Composite:
GRO=74 ppm, DRO=240 ppm, MRO = 58 ppm

BLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199

8' west of GP-2 [20.7' S8°W of GP-1]

FIELD BORING LOG

BORING ID: GP-4

PROJECT: BP: GCU 264
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Earth Worx
EQUIPMENT USED: Geoprobe 6620DT
DATE START: 10/12/16 DATE FINISH: 10/12/16 DRILLER: LT LOGGED BY: JCB
TOTAL DEPTH: 25.5' CASING TYPE & SIZE: NONE SLOT SIZE:
COMMENTS:

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	OVM	SAMPLE DESCRIPTION
1'	1101			START
2'				Recover 26" Coarse SAND, lite Moisture, NO/NS
3'				
4'	1102			
5'				
6'				Recover 24" SAA
7'				
8'	1104			
9'				
10				
11'				Recover 32" SAA
12'	1107			
13'				
14'				Recover 16" SAA
15'				
16'	1110			
17'				
18'				Recover 30" SAA
19'				
20	1113		2.5	
21'				20'-22½ SAA
22'			2.2	22½-23 Grey/Black Silt to Shalestone HC odor & stain
23'			2,088	
24'	1116			23'-24' Brown Shalestone, V lite odor.
25'			408	Recover 18", Brown shale sion 24'-25' Gray with odor 25-25½
26'	1125			Refusal @ 25½'
27'				
28'				Submit 3-pt 20'-24'
29'				GRAB 24½-25½
30				

24'-25': GRO=33 ppm, DRO=48 ppm, MRO = ND

21' - 24' 3- pt Composite:
GRO=6.6 ppm, DRO=33 ppm, MRO = ND

BLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199

Page 1 of 1

15' W of GP-1 [14.7' S53W]

FIELD BORING LOG

BORING ID: GP-5

PROJECT: BP: GCU 264
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Earth Worx
EQUIPMENT USED: Geoprobe 6620DT
DATE START: 10/12/16 DATE FINISH: 10/12/16 DRILLER: LT LOGGED BY: JCB
TOTAL DEPTH: 24' CASING TYPE & SIZE: NONE SLOT SIZE:
COMMENTS:

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE		SAMPLE DESCRIPTION
1'	1141			START
2'				Recover 24" coarse TAN SAND, Lite Moisture, NO/NS
3'				
4'	1143			
5'				
6'				Recover 24" SAA
7'				
8'	1145			
9'				
10				Recover 18" SAA
11'				
12'	1147			
13'				
14'				Recover 18" SAA
15'				
16'	1149			
17'				
18'			2.9	Recover 24" SAA, V.V. Minor ODOR @ 19½'-20'
19'				
20	1154		6.2	
21'		21		20'-22' coarse Sand, TAN & Rusty, moist
22'			3.0	22'-24' Shalestone, Dark Brown, No ODOR.
23'		22	6.1	Recover 36"
24'	1158	23 24	14.7	PID TO
25'				
26'				Submit
27'				3-pt 19'-23'
28'				GRO/DRO 23-24'
29'				
30				

23'-24': GRO=ND, DRO=ND, MRO = ND

19' - 23' 3- pt Composite:
GRO= ND, DRO=28 ppm, MRO = ND

BLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199 15'NW of GP-1 [15'N46½°W of GP-1]

FIELD BORING LOG

BORING ID: GP-6

PROJECT: BP: GCU 264
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Earth Worx
EQUIPMENT USED: Geoprobe 6620DT
DATE START: 10/12/16 DATE FINISH: 10/12/16 DRILLER: LT LOGGED BY: JCB
TOTAL DEPTH: 20' CASING TYPE & SIZE: None SLOT SIZE:
COMMENTS:

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	OVM	SAMPLE DESCRIPTION
1'	1308			START
2'				Recover 20" Tan Coarse SAND, litely moist
3'	1310			
4'				
5'				—
6'				Recover 12" SAA
7'				
8'	1320			
9'				—
10				Recover 18" SAA
11'				
12'	1324			—
13'				
14'				Recover 24" SAA
15'				
16'	1328		1.2	— 16'-17' SAA 17'-18½' Gray Black Silty SAND HC Odor & Stain
17'			2.5	
18'		17 18½	3,061	Recover 48" 18½'-20' Silt to Shale stone Brown
19'				
20	1331	19 20	16.4	
21'				
22'				
23'				
24'				
25'				
26'				
27'				
28'				
29'				
30				

PH TD

19'-20': GRO=ND, DRO=ND, MRO = ND

16' - 18.5' 2- pt Composite:
GRO= 38 ppm, DRO=51 ppm, MRO = ND

BLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199

Page 1 of 1

10' NW of GP-6 [25.2' N47W of GP-1]

FIELD BORING LOG

BORING ID: GP-7

PROJECT: BP: GCU 264
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Earth Worx
EQUIPMENT USED: Geoprobe 6620DT
DATE START: 10/12/16 DATE FINISH: 10/12/16 DRILLER: LT LOGGED BY: JCB
TOTAL DEPTH: 20' CASING TYPE & SIZE: NONE SLOT SIZE:
COMMENTS:

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE		SAMPLE DESCRIPTION
1'	1352			START
2'				Recover 24" TAN, Lite Moist, Coarse SAND NO/NS
3'				
4'	1353			—
5'				
6'				Recover 14" SAA
7'				
8'	1355			
9'				—
10				Recover 34" SAA
11'				
12'	1358			—
13'				
14'				Recover 28" SAA
15'				
16'	1400	15	1.7	PID
17'		16	0.7	— 16-17' SAA 17'-17½' Gray/Black SAND.
18'		17	1,820	Recover 48" 17½'-18½' TAN
19'		18½		18½'-19' Gray sand
20	1407	19	1.6	19'-20' TAN
21'		20		—
22'				
23'				Submit
24'				3-pt 16'-19'
25'				GRAB 19-20'
26'				
27'				
28'				
29'				
30				

19'-20': GRO=ND, DRO=ND, MRO = ND

16' - 19' 3- pt Composite:
GRO= 5.4 ppm, DRO=38 ppm, MRO = ND

BLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199 [15' ± SE of GP-1] [15.5 S66°E of GP-1]

Page 1 of 1

FIELD BORING LOG

BORING ID: GP-8

PROJECT: BP: GCU 264
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Earth Worx
EQUIPMENT USED: Geoprobe 6620DT
DATE START: 10/12/16 DATE FINISH: 10/12/16 DRILLER: LT LOGGED BY: JCB
TOTAL DEPTH: 23' CASING TYPE & SIZE: NONE SLOT SIZE:
COMMENTS:

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE		SAMPLE DESCRIPTION
1'	1430			START
2'				Recover 24" Moist tan Coarse SAND, NO/NS
3'				
4'	1432			
5'				
6'				Recover 18" SAA
7'				
8'	1438			
9'				
10				Recover 18" SAA
11'				
12'	1438			
13'				
14'				Recover 16" SAA
15'		15		
16'	1440	16	0.7	
17'		16	1.3	16'-17½' SAA
18'		17		Recover 36" 17½'-20' Gray silt to Shale stone HC odor & stain. PID
19'		19		
20	1444	20	4,294	
21'		20	1,040	20'-22' SAA
22'		21		Recover 36" 22'-23' shalestone, lite Brown Lite HC odor PID
23'	1448	22	516	
24'		23		Refusal @ 23'
25'				
26'				Submit:
27'				5-pt 18'-22'
28'				GRAB 22'-23'
29'				
30				

22'-23': GRO=37 ppm, DRO=30 ppm, MRO = ND

18' - 22' 5- pt Composite:
GRO= 180 ppm, DRO=190 ppm, MRO = ND

BLAGG ENGINEERING, INC. Page 1 of 1

P.O. BOX 87, BLOOMFIELD, NM 87413

(505) 632-1199 15' ± SE of GP 8 [29.2' S73.5°E of GP 1]

FIELD BORING LOG BORING ID: GP-9

PROJECT: BP: GCU 264

CLIENT: BP America Production Co.

DRILLING CONTRACTOR: Earth Worx

EQUIPMENT USED: Geoprobe 6620DT

DATE START: 10/12/16 DATE FINISH: 10/12/16 DRILLER: LT LOGGED BY: JCB

TOTAL DEPTH: 20' CASING TYPE & SIZE: NONE SLOT SIZE:

COMMENTS:

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE		SAMPLE DESCRIPTION
1'	1509			START
2'				Recover 24" TAN, Lite. Moist, Coarse SAND NO/NS
3'				
4'	1510			
5'				
6'				Recover 12" SAA
7'				
8'	1513			
9'				
10				Recover 12" SAA
11'				
12'	1515			
13'				
14'				Recover 16" SAA to 15' 15'-16' silt to shalestone. V. Lite HC odor.
15'		15		
16'	1518	16	2.8	
17'		17		16'-19' shalestone, lite Grey, HC odor
18'		18	1,008	Recover 40" 19'-20' shalestone, TAN, HC odor
19'		19		
20	1522	20	833	Refusal @ 20
21'				
22'				
23'				Submit:
24'				3-pt 16'-19'
25'				GRAB 19'-20'
26'				
27'				
28'				
29'				
30				

PMO TC?

19'-20': GRO=44 ppm, DRO=66 ppm, MRO = ND

16' - 19' 3- pt Composite:
GRO= 44 ppm, DRO=69 ppm, MRO = ND

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P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199

Page 1 of 1

(36.5' S47.5°E From GP-1)

FIELD BORING LOG

BORING ID: GP-10

PROJECT: BP: GCU 264
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Earth Worx
EQUIPMENT USED: Geoprobe 6620DT
DATE START: 10/12/16 DATE FINISH: 10/12/16 DRILLER: LT LOGGED BY: JCB
TOTAL DEPTH: 23' CASING TYPE & SIZE: NONE SLOT SIZE:
COMMENTS: In ~~East~~ East side of Wash, SE of

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE		SAMPLE DESCRIPTION
1'	1542			START
2'				Recover 24" TAN lite Moist Course Sand, NO/NS
3'				
4'	1544			
5'				
6'				Recover 28" SAA
7'				
8'	1547			
9'				
10				Recover 30" SAA
11'				
12'	1552			
13'				~~SAA~~
14'				Recover 30" SAA
15'				
16'	1555		1.05	16'-18½' SAA
17'				
18'			0.66	Recover 36", 18½'-20' Silt to Shalestone Grav, HC ODOR
19'				
20	1558		1,333	
21'				20'-22' SAA
22'				Recover 38" 22'-23' TAN/Gray Streaks, V Lite odor.
23'	1605		5.57	Refusal @ 23'
24'				
25'				
26'				Submit: 5-pt 18½-22
27'				GRAB 22-23
28'				
29'				
30				

PHOTO

PHOTO

22'-23': GRO=9.9 ppm, DRO=77 ppm, MRO = ND

18.5' - 22' 5- pt Composite:
GRO= 290 ppm, DRO=330 ppm, MRO = 68 ppm

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(505) 632-1199

Further South in Wash, East side (48.8' S 55 E of GP-1)

FIELD BORING LOG

BORING ID: GP-11

PROJECT: BP: GCU 264
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Earth Worx
EQUIPMENT USED: Geoprobe 6620DT
DATE START: 10/12/2016 DATE FINISH: 10/12/16 DRILLER: LT LOGGED BY: JCB
TOTAL DEPTH: 23' CASING TYPE & SIZE: None SLOT SIZE:
COMMENTS:

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE		SAMPLE DESCRIPTION
1'	1620			START
2'				Recover 12", TAN, lite Moist, Coarse Sand, NO/NS
3'				
4'	1621			
5'				
6'				Recover 24" SAA
7'				
8'	1623			
9'				
10				
11'				Recover 24" SAA
12'	1625			
13'				
14'				Recover 32" SAA
15'				
16'	1627			
17'				16 - 18½ SAA
18'				
19'			1.1	Recover 30" 18½ - 20 Tan Silt to Shalestone, NO HC ODOR or Stain
20	1630			
21'			0.7	20' - 21½ SAA
22'				Recover 36"
23'	1635		2,276	21½ - 23': Gray Shalestone, HC ODOR & Stain Photo
24'				Refusal @ 23'
25'				
26'				
27'				
28'				
29'				
30				

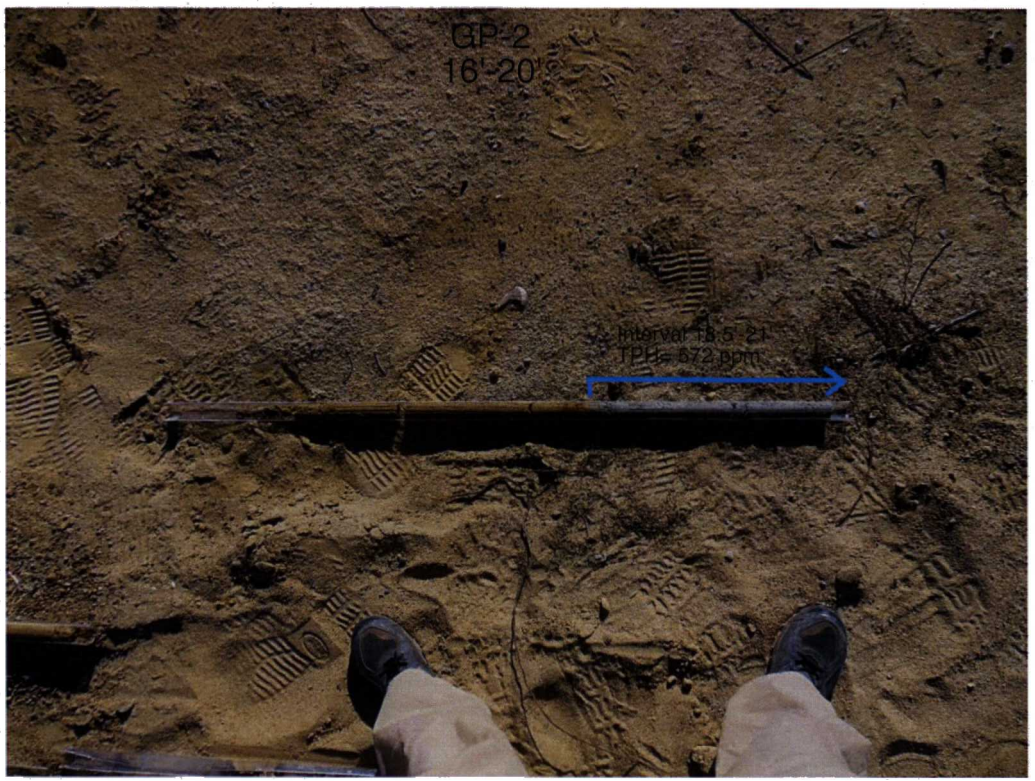
21.5'-23': GRO=130 ppm, DRO=280 ppm, MRO = 53 ppm

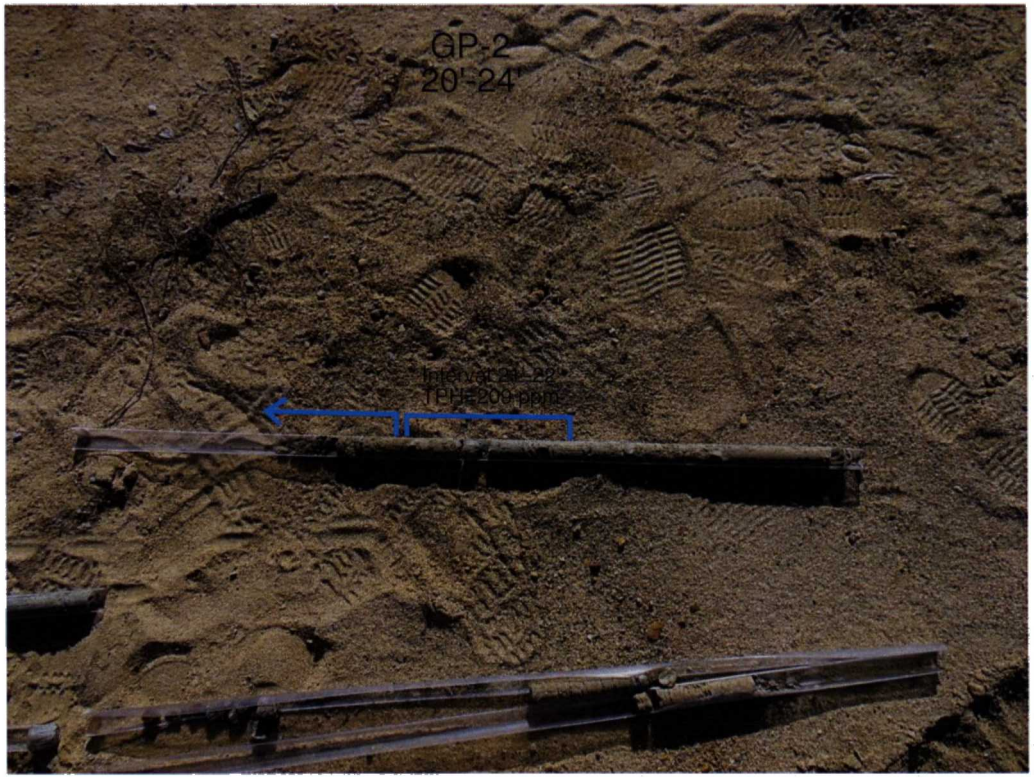
Appendix C

PHOTOGRAPHS


GP-1
16'-20'
Interval 17'-22'
TPH= 143 ppm


GP-1
20'-24'
Interval 23'-24'
TPH=10 ppm


GP-2
16'-20'
Interval 18.5' 21'
TPH= 572 ppm

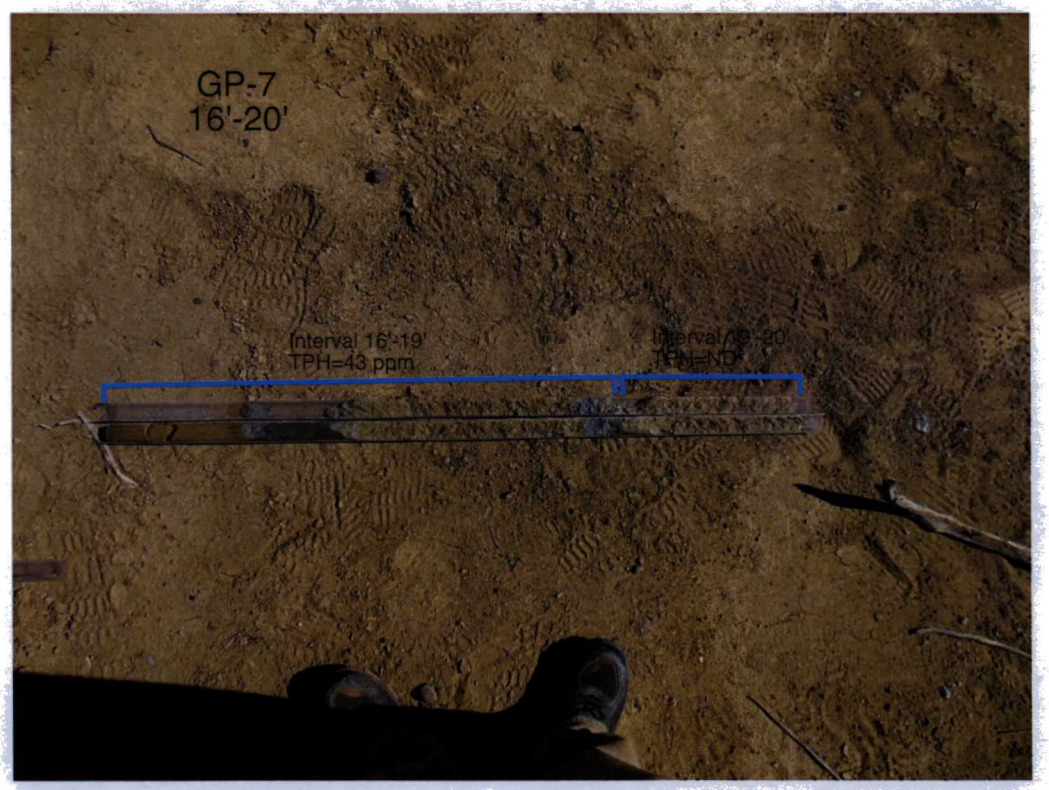

GP-2
20'-24'
Interval 21'-22'
TPH=200ppm


GP-3
20'-24'
Interval 21.5-23'
TPH-372 ppm
Interval 23'-24'
TPH-ND


GP-4
20'-24'
Interval 21'-24'
TPH= 39.6 ppm

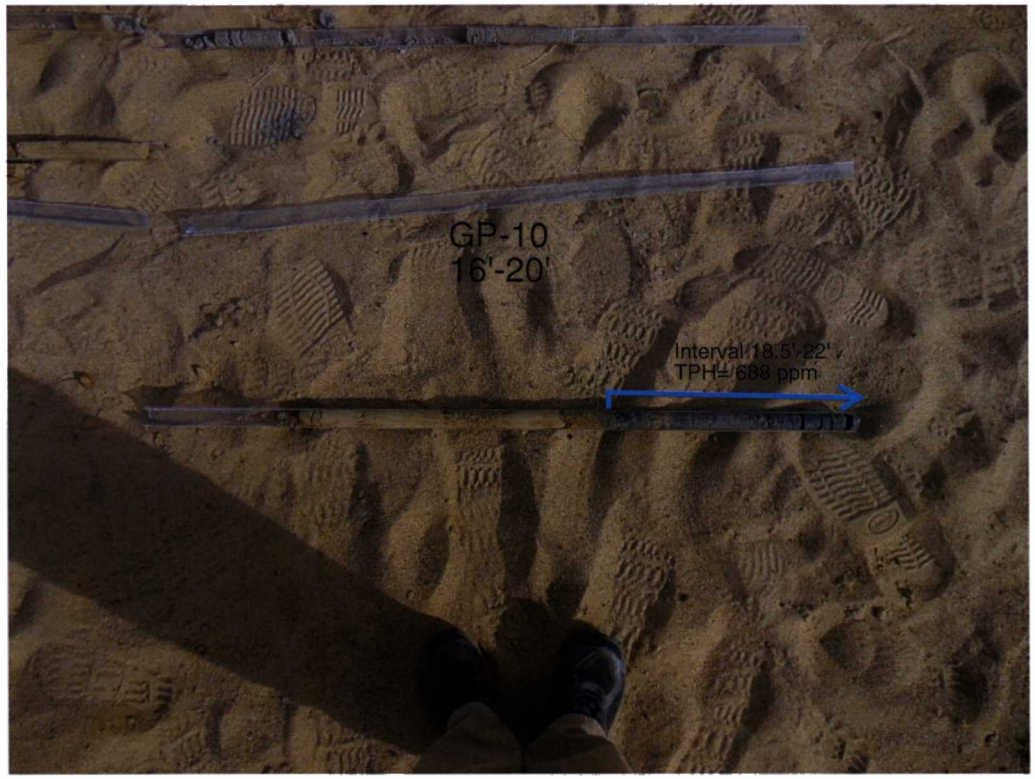

GP-5
20'-24'
Interval 19'-23'
TPH= 28 ppm
Interval 23'-24'
TPH=ND

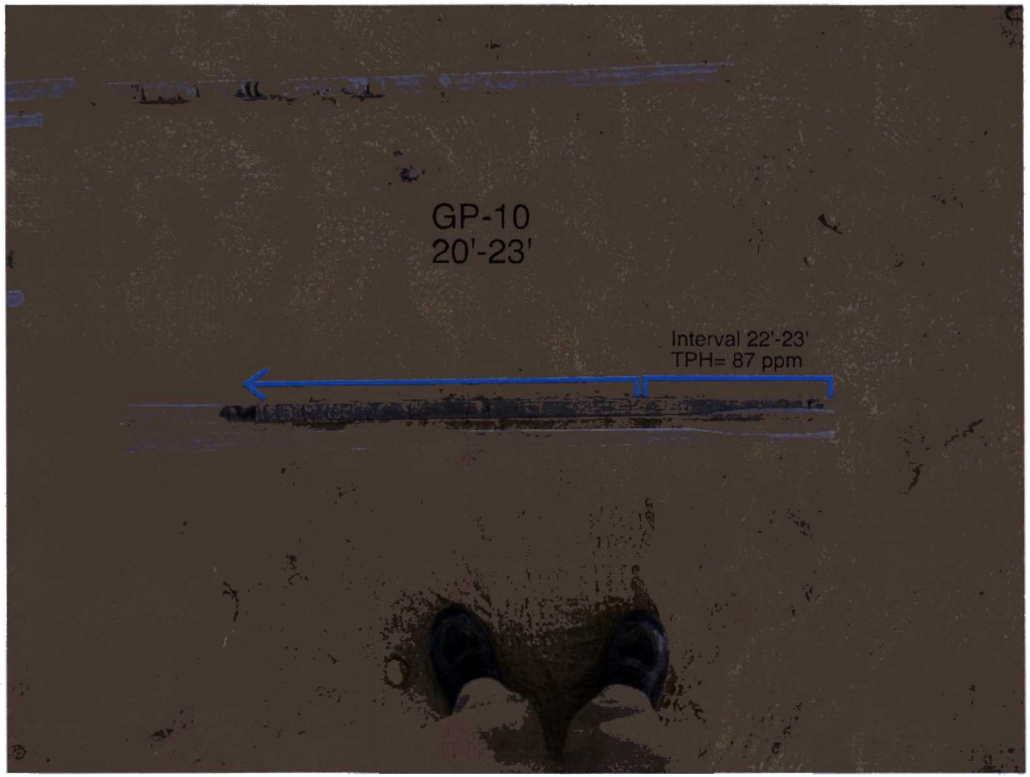

GP-6
16'-20'
Interval 16'-18'5
TPH=89 ppm
Interval 19'-20'
TPH=ND


GP-7
16'-20'
Interval 16'-19'
TPH=43 ppm
Interval 19'-20'
TPH=ND

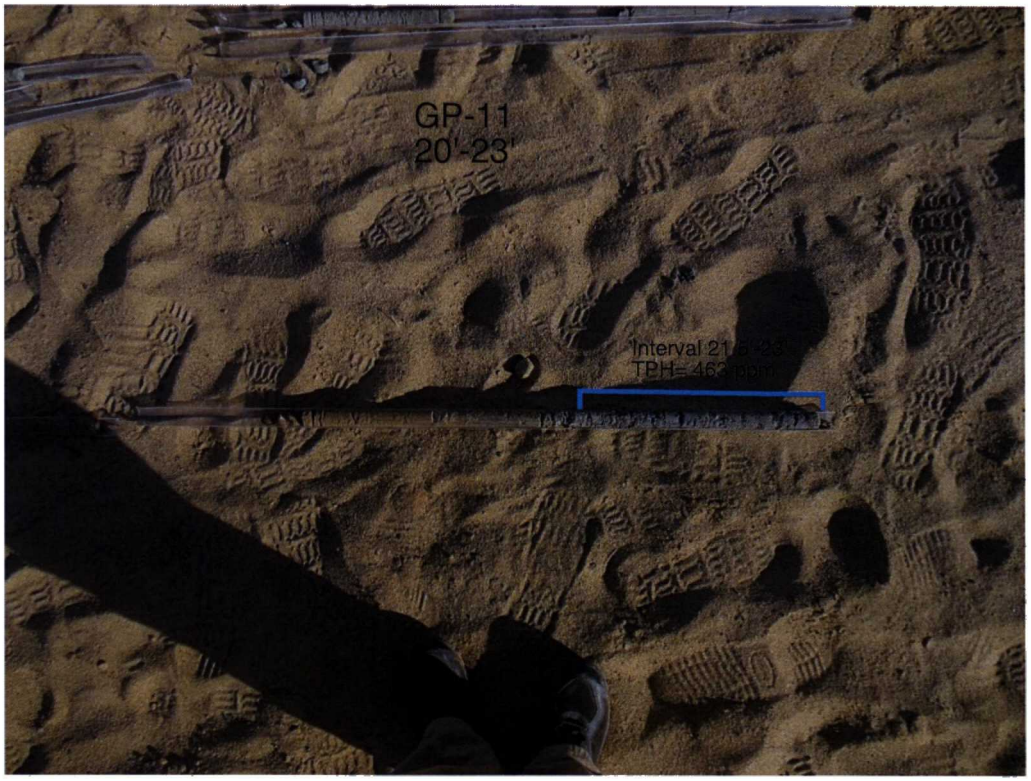

GP-8
16'-20'
Interval 16'-22'
PPH=370 ppm


GP-8
20'-23'
Interval 22'-23'
TPH= 67 ppm


GP-10
16'-20'
Interval 18.5'-22'
TPH= 688 ppm


GP-10
20'-23'
Interval 22'-23'
TPH= 87 ppm


GP-11
16'-20'


GP-11
20'-23'

Appendix D

LABORATORY ANALYTICAL REPORTS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 26, 2016

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL:
FAX

RE: GCU 264 OrderNo.: 1610690

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 21 sample(s) on 10/14/2016 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1610690**
Date Reported: **10/26/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-001 **Matrix:** SOIL

Client Sample ID: GP-1 @ 23'-24'
Collection Date: 10/12/2016 8:45:00 AM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	33	30		mg/Kg	20	10/19/2016 5:21:39 PM	28171
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	10	9.3		mg/Kg	1	10/17/2016 4:57:49 PM	28076
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/17/2016 4:57:49 PM	28076
Surr: DNOP	86.0	70-130		%Rec	1	10/17/2016 4:57:49 PM	28076
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/18/2016 8:04:07 PM	28071
Surr: BFB	103	68.3-144		%Rec	1	10/18/2016 8:04:07 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	10/19/2016 12:48:57 PM	28071
Toluene	ND	0.046		mg/Kg	1	10/19/2016 12:48:57 PM	28071
Ethylbenzene	ND	0.046		mg/Kg	1	10/19/2016 12:48:57 PM	28071
Xylenes, Total	0.14	0.093		mg/Kg	1	10/19/2016 12:48:57 PM	28071
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	10/19/2016 12:48:57 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-002 **Matrix:** SOIL

Client Sample ID: GP-1 (5-pt) 17'-22'
Collection Date: 10/12/2016 9:30:00 AM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	ND	30		mg/Kg	20	10/19/2016 6:23:43 PM	28171
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	72	10		mg/Kg	1	10/17/2016 5:21:03 PM	28076
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/17/2016 5:21:03 PM	28076
Surr: DNOP	86.2	70-130		%Rec	1	10/17/2016 5:21:03 PM	28076
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	71	9.4		mg/Kg	2	10/18/2016 9:14:37 PM	28071
Surr: BFB	275	68.3-144	S	%Rec	2	10/18/2016 9:14:37 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	2	10/19/2016 1:59:03 PM	28071
Toluene	ND	0.094		mg/Kg	2	10/19/2016 1:59:03 PM	28071
Ethylbenzene	0.26	0.094		mg/Kg	2	10/19/2016 1:59:03 PM	28071
Xylenes, Total	0.38	0.19		mg/Kg	2	10/19/2016 1:59:03 PM	28071
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	2	10/19/2016 1:59:03 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-003 **Matrix:** SOIL

Client Sample ID: GP-2 @ 21'-22'
Collection Date: 10/12/2016 8:55:00 AM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	ND	30		mg/Kg	20	10/19/2016 6:36:07 PM	28171
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	140	9.7		mg/Kg	1	10/18/2016 3:33:38 PM	28102
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/18/2016 3:33:38 PM	28102
Surr: DNOP	95.8	70-130		%Rec	1	10/18/2016 3:33:38 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	69	9.5		mg/Kg	2	10/18/2016 10:24:35 PM	28071
Surr: BFB	287	68.3-144	S	%Rec	2	10/18/2016 10:24:35 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	2	10/19/2016 2:22:32 PM	28071
Toluene	ND	0.095		mg/Kg	2	10/19/2016 2:22:32 PM	28071
Ethylbenzene	0.61	0.095		mg/Kg	2	10/19/2016 2:22:32 PM	28071
Xylenes, Total	0.93	0.19		mg/Kg	2	10/19/2016 2:22:32 PM	28071
Surr: 4-Bromofluorobenzene	116	80-120		%Rec	2	10/19/2016 2:22:32 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-004 **Matrix:** SOIL

Client Sample ID: GP-2 (5-pt) 18.5'-21'
Collection Date: 10/12/2016 10:10:00 AM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	ND	30		mg/Kg	20	10/19/2016 6:48:31 PM	28171
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	280	9.8		mg/Kg	1	10/18/2016 3:56:42 PM	28102
Motor Oil Range Organics (MRO)	62	49		mg/Kg	1	10/18/2016 3:56:42 PM	28102
Surr: DNOP	107	70-130		%Rec	1	10/18/2016 3:56:42 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	230	9.4		mg/Kg	2	10/18/2016 10:47:56 PM	28071
Surr: BFB	648	68.3-144	S	%Rec	2	10/18/2016 10:47:56 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	0.14	0.12		mg/Kg	5	10/19/2016 2:46:01 PM	28071
Toluene	ND	0.24		mg/Kg	5	10/19/2016 2:46:01 PM	28071
Ethylbenzene	1.2	0.24		mg/Kg	5	10/19/2016 2:46:01 PM	28071
Xylenes, Total	2.4	0.47		mg/Kg	5	10/19/2016 2:46:01 PM	28071
Surr: 4-Bromofluorobenzene	122	80-120	S	%Rec	5	10/19/2016 2:46:01 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-005 **Matrix:** SOIL

Client Sample ID: GP-3 @ 23'-24'
Collection Date: 10/12/2016 10:32:00 AM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	110	30		mg/Kg	20	10/19/2016 7:00:55 PM	28171
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	10/18/2016 4:19:52 PM	28102
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/18/2016 4:19:52 PM	28102
Surr: DNOP	89.6	70-130		%Rec	1	10/18/2016 4:19:52 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/17/2016 4:36:10 PM	28071
Surr: BFB	89.8	68.3-144		%Rec	1	10/17/2016 4:36:10 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	10/17/2016 4:36:10 PM	28071
Toluene	ND	0.049		mg/Kg	1	10/17/2016 4:36:10 PM	28071
Ethylbenzene	ND	0.049		mg/Kg	1	10/17/2016 4:36:10 PM	28071
Xylenes, Total	ND	0.097		mg/Kg	1	10/17/2016 4:36:10 PM	28071
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	10/17/2016 4:36:10 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-006 **Matrix:** SOIL

Client Sample ID: GP-3 (3-pt) 21.5'-23'
Collection Date: 10/12/2016 11:00:00 AM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	ND	30		mg/Kg	20	10/19/2016 7:13:20 PM	28171
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	240	9.9		mg/Kg	1	10/18/2016 4:42:58 PM	28102
Motor Oil Range Organics (MRO)	58	49		mg/Kg	1	10/18/2016 4:42:58 PM	28102
Surr: DNOP	100	70-130		%Rec	1	10/18/2016 4:42:58 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	74	9.4		mg/Kg	2	10/18/2016 11:11:21 PM	28071
Surr: BFB	314	68.3-144	S	%Rec	2	10/18/2016 11:11:21 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	2	10/19/2016 3:09:28 PM	28071
Toluene	ND	0.094		mg/Kg	2	10/19/2016 3:09:28 PM	28071
Ethylbenzene	ND	0.094		mg/Kg	2	10/19/2016 3:09:28 PM	28071
Xylenes, Total	0.28	0.19		mg/Kg	2	10/19/2016 3:09:28 PM	28071
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	2	10/19/2016 3:09:28 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-007 **Matrix:** SOIL

Client Sample ID: GP-4 @ 24'-25'
Collection Date: 10/12/2016 11:25:00 AM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	230	30		mg/Kg	20	10/19/2016 7:25:44 PM	28171
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	48	9.6		mg/Kg	1	10/18/2016 5:06:05 PM	28102
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/18/2016 5:06:05 PM	28102
Surr: DNOP	92.4	70-130		%Rec	1	10/18/2016 5:06:05 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	33	4.7		mg/Kg	1	10/17/2016 5:24:28 PM	28071
Surr: BFB	330	68.3-144	S	%Rec	1	10/17/2016 5:24:28 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	10/17/2016 5:24:28 PM	28071
Toluene	ND	0.047		mg/Kg	1	10/17/2016 5:24:28 PM	28071
Ethylbenzene	0.16	0.047		mg/Kg	1	10/17/2016 5:24:28 PM	28071
Xylenes, Total	0.11	0.094		mg/Kg	1	10/17/2016 5:24:28 PM	28071
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	1	10/17/2016 5:24:28 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-008 **Matrix:** SOIL

Client Sample ID: GP-4 (3-pt) 21'-24'
Collection Date: 10/12/2016 11:45:00 AM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	68	30		mg/Kg	20	10/19/2016 7:38:08 PM	28171
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	33	9.3		mg/Kg	1	10/18/2016 5:29:05 PM	28102
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/18/2016 5:29:05 PM	28102
Surr: DNOP	93.9	70-130		%Rec	1	10/18/2016 5:29:05 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	6.6	4.7		mg/Kg	1	10/17/2016 5:48:34 PM	28071
Surr: BFB	130	68.3-144		%Rec	1	10/17/2016 5:48:34 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	10/17/2016 5:48:34 PM	28071
Toluene	ND	0.047		mg/Kg	1	10/17/2016 5:48:34 PM	28071
Ethylbenzene	ND	0.047		mg/Kg	1	10/17/2016 5:48:34 PM	28071
Xylenes, Total	ND	0.093		mg/Kg	1	10/17/2016 5:48:34 PM	28071
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	10/17/2016 5:48:34 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-009 **Matrix:** SOIL

Client Sample ID: GP-5 @ 23'-24'
Collection Date: 10/12/2016 11:58:00 AM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	ND	30		mg/Kg	20	10/19/2016 7:50:32 PM	28171
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/18/2016 5:52:11 PM	28102
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/18/2016 5:52:11 PM	28102
Surr: DNOP	89.9	70-130		%Rec	1	10/18/2016 5:52:11 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/17/2016 6:12:40 PM	28071
Surr: BFB	92.7	68.3-144		%Rec	1	10/17/2016 6:12:40 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	10/17/2016 6:12:40 PM	28071
Toluene	ND	0.048		mg/Kg	1	10/17/2016 6:12:40 PM	28071
Ethylbenzene	ND	0.048		mg/Kg	1	10/17/2016 6:12:40 PM	28071
Xylenes, Total	ND	0.097		mg/Kg	1	10/17/2016 6:12:40 PM	28071
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	10/17/2016 6:12:40 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-010 **Matrix:** SOIL

Client Sample ID: GP-5 (3-pt) 19'-23'
Collection Date: 10/12/2016 12:20:00 PM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	10/20/2016 10:51:06 AM	28205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	28	9.7		mg/Kg	1	10/18/2016 6:15:13 PM	28102
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/18/2016 6:15:13 PM	28102
Surr: DNOP	100	70-130		%Rec	1	10/18/2016 6:15:13 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/17/2016 6:36:45 PM	28071
Surr: BFB	85.1	68.3-144		%Rec	1	10/17/2016 6:36:45 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	10/17/2016 6:36:45 PM	28071
Toluene	ND	0.049		mg/Kg	1	10/17/2016 6:36:45 PM	28071
Ethylbenzene	ND	0.049		mg/Kg	1	10/17/2016 6:36:45 PM	28071
Xylenes, Total	ND	0.098		mg/Kg	1	10/17/2016 6:36:45 PM	28071
Surr: 4-Bromofluorobenzene	96.3	80-120		%Rec	1	10/17/2016 6:36:45 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-011 **Matrix:** SOIL

Client Sample ID: GP-6 @ 19'-20'
Collection Date: 10/12/2016 1:31:00 PM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	98	30		mg/Kg	20	10/20/2016 11:28:21 AM	28205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/18/2016 6:38:17 PM	28102
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/18/2016 6:38:17 PM	28102
Surr: DNOP	99.4	70-130		%Rec	1	10/18/2016 6:38:17 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/17/2016 8:13:51 PM	28071
Surr: BFB	91.4	68.3-144		%Rec	1	10/17/2016 8:13:51 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	10/17/2016 8:13:51 PM	28071
Toluene	ND	0.049		mg/Kg	1	10/17/2016 8:13:51 PM	28071
Ethylbenzene	ND	0.049		mg/Kg	1	10/17/2016 8:13:51 PM	28071
Xylenes, Total	ND	0.098		mg/Kg	1	10/17/2016 8:13:51 PM	28071
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	10/17/2016 8:13:51 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-012 **Matrix:** SOIL

Client Sample ID: GP-6 (2-pt) 16'-18.5'
Collection Date: 10/12/2016 1:55:00 PM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	10/20/2016 11:40:45 AM	28205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	51	9.8		mg/Kg	1	10/18/2016 7:24:19 PM	28102
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/18/2016 7:24:19 PM	28102
Surr: DNOP	104	70-130		%Rec	1	10/18/2016 7:24:19 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	38	4.9		mg/Kg	1	10/19/2016 12:45:22 AM	28071
Surr: BFB	238	68.3-144	S	%Rec	1	10/19/2016 12:45:22 AM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	10/19/2016 5:06:27 PM	28071
Toluene	ND	0.049		mg/Kg	1	10/19/2016 5:06:27 PM	28071
Ethylbenzene	0.094	0.049		mg/Kg	1	10/19/2016 5:06:27 PM	28071
Xylenes, Total	0.21	0.098		mg/Kg	1	10/19/2016 5:06:27 PM	28071
Surr: 4-Bromofluorobenzene	112	80-120		%Rec	1	10/19/2016 5:06:27 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-013 **Matrix:** SOIL

Client Sample ID: GP-7 @ 19'-20'
Collection Date: 10/12/2016 2:07:00 PM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	10/20/2016 11:53:10 AM	28205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/18/2016 7:47:12 PM	28102
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/18/2016 7:47:12 PM	28102
Surr: DNOP	93.5	70-130		%Rec	1	10/18/2016 7:47:12 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/17/2016 9:01:56 PM	28071
Surr: BFB	89.5	68.3-144		%Rec	1	10/17/2016 9:01:56 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	10/17/2016 9:01:56 PM	28071
Toluene	ND	0.046		mg/Kg	1	10/17/2016 9:01:56 PM	28071
Ethylbenzene	ND	0.046		mg/Kg	1	10/17/2016 9:01:56 PM	28071
Xylenes, Total	ND	0.092		mg/Kg	1	10/17/2016 9:01:56 PM	28071
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	10/17/2016 9:01:56 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-014 **Matrix:** SOIL

Client Sample ID: GP-7 (3-pt) 16'-19'
Collection Date: 10/12/2016 2:40:00 PM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	10/20/2016 12:05:34 PM	28205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	38	9.4		mg/Kg	1	10/18/2016 8:10:09 PM	28102
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/18/2016 8:10:09 PM	28102
Surr: DNOP	99.4	70-130		%Rec	1	10/18/2016 8:10:09 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	5.4	4.7		mg/Kg	1	10/17/2016 9:25:59 PM	28071
Surr: BFB	118	68.3-144		%Rec	1	10/17/2016 9:25:59 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	10/17/2016 9:25:59 PM	28071
Toluene	ND	0.047		mg/Kg	1	10/17/2016 9:25:59 PM	28071
Ethylbenzene	ND	0.047		mg/Kg	1	10/17/2016 9:25:59 PM	28071
Xylenes, Total	ND	0.094		mg/Kg	1	10/17/2016 9:25:59 PM	28071
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	10/17/2016 9:25:59 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-015 **Matrix:** SOIL

Client Sample ID: GP-8 @ 22'-23'
Collection Date: 10/12/2016 2:48:00 PM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	10/20/2016 12:17:58 PM	28205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	30	10		mg/Kg	1	10/18/2016 8:33:05 PM	28102
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/18/2016 8:33:05 PM	28102
Surr: DNOP	90.2	70-130		%Rec	1	10/18/2016 8:33:05 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	37	4.9		mg/Kg	1	10/19/2016 1:08:53 AM	28071
Surr: BFB	247	68.3-144	S	%Rec	1	10/19/2016 1:08:53 AM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	10/19/2016 5:29:49 PM	28071
Toluene	ND	0.049		mg/Kg	1	10/19/2016 5:29:49 PM	28071
Ethylbenzene	0.24	0.049		mg/Kg	1	10/19/2016 5:29:49 PM	28071
Xylenes, Total	0.44	0.099		mg/Kg	1	10/19/2016 5:29:49 PM	28071
Surr: 4-Bromofluorobenzene	117	80-120		%Rec	1	10/19/2016 5:29:49 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-016 **Matrix:** SOIL

Client Sample ID: GP-8 (5-pt) 18'-22'
Collection Date: 10/12/2016 3:05:00 PM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	34	30		mg/Kg	20	10/20/2016 12:55:12 PM	28205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	190	10		mg/Kg	1	10/18/2016 8:56:05 PM	28102
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/18/2016 8:56:05 PM	28102
Surr: DNOP	104	70-130		%Rec	1	10/18/2016 8:56:05 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	180	9.7		mg/Kg	2	10/19/2016 5:53:12 PM	28071
Surr: BFB	534	68.3-144	S	%Rec	2	10/19/2016 5:53:12 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	0.053	0.048		mg/Kg	2	10/19/2016 5:53:12 PM	28071
Toluene	ND	0.097		mg/Kg	2	10/19/2016 5:53:12 PM	28071
Ethylbenzene	0.90	0.097		mg/Kg	2	10/19/2016 5:53:12 PM	28071
Xylenes, Total	2.4	0.19		mg/Kg	2	10/19/2016 5:53:12 PM	28071
Surr: 4-Bromofluorobenzene	141	80-120	S	%Rec	2	10/19/2016 5:53:12 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-017 **Matrix:** SOIL

Client Sample ID: GP-9 @ 19'-20'
Collection Date: 10/12/2016 3:22:00 PM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	140	30		mg/Kg	20	10/20/2016 1:07:37 PM	28205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	66	9.7		mg/Kg	1	10/18/2016 9:19:04 PM	28102
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/18/2016 9:19:04 PM	28102
Surr: DNOP	92.7	70-130		%Rec	1	10/18/2016 9:19:04 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	44	4.7		mg/Kg	1	10/19/2016 6:16:36 PM	28071
Surr: BFB	399	68.3-144	S	%Rec	1	10/19/2016 6:16:36 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	10/19/2016 6:16:36 PM	28071
Toluene	ND	0.047		mg/Kg	1	10/19/2016 6:16:36 PM	28071
Ethylbenzene	0.14	0.047		mg/Kg	1	10/19/2016 6:16:36 PM	28071
Xylenes, Total	0.40	0.094		mg/Kg	1	10/19/2016 6:16:36 PM	28071
Surr: 4-Bromofluorobenzene	121	80-120	S	%Rec	1	10/19/2016 6:16:36 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-018 **Matrix:** SOIL

Client Sample ID: GP-9 (3-pt) 16'-19'
Collection Date: 10/12/2016 3:40:00 PM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	86	30		mg/Kg	20	10/20/2016 1:20:02 PM	28205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	69	9.9		mg/Kg	1	10/18/2016 9:42:05 PM	28102
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/18/2016 9:42:05 PM	28102
Surr: DNOP	87.7	70-130		%Rec	1	10/18/2016 9:42:05 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	44	4.9		mg/Kg	1	10/19/2016 6:39:57 PM	28071
Surr: BFB	344	68.3-144	S	%Rec	1	10/19/2016 6:39:57 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	10/19/2016 6:39:57 PM	28071
Toluene	ND	0.049		mg/Kg	1	10/19/2016 6:39:57 PM	28071
Ethylbenzene	0.11	0.049		mg/Kg	1	10/19/2016 6:39:57 PM	28071
Xylenes, Total	0.37	0.099		mg/Kg	1	10/19/2016 6:39:57 PM	28071
Surr: 4-Bromofluorobenzene	117	80-120		%Rec	1	10/19/2016 6:39:57 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-019 **Matrix:** SOIL

Client Sample ID: GP-10 @ 22'-23'
Collection Date: 10/12/2016 4:05:00 PM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	10/20/2016 1:32:26 PM	28205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	77	10		mg/Kg	1	10/18/2016 10:04:56 PM	28102
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	10/18/2016 10:04:56 PM	28102
Surr: DNOP	100	70-130		%Rec	1	10/18/2016 10:04:56 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	9.9	4.9		mg/Kg	1	10/17/2016 11:26:27 PM	28071
Surr: BFB	227	68.3-144	S	%Rec	1	10/17/2016 11:26:27 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	10/17/2016 11:26:27 PM	28071
Toluene	ND	0.049		mg/Kg	1	10/17/2016 11:26:27 PM	28071
Ethylbenzene	0.087	0.049		mg/Kg	1	10/17/2016 11:26:27 PM	28071
Xylenes, Total	ND	0.099		mg/Kg	1	10/17/2016 11:26:27 PM	28071
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	10/17/2016 11:26:27 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-020 **Matrix:** SOIL

Client Sample ID: GP-10 (5-pt) 18.5'-22'
Collection Date: 10/12/2016 4:30:00 PM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	10/20/2016 1:44:51 PM	28205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	330	10		mg/Kg	1	10/18/2016 10:27:56 PM	28102
Motor Oil Range Organics (MRO)	68	50		mg/Kg	1	10/18/2016 10:27:56 PM	28102
Surr: DNOP	108	70-130		%Rec	1	10/18/2016 10:27:56 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	290	9.9		mg/Kg	2	10/19/2016 7:03:19 PM	28071
Surr: BFB	839	68.3-144	S	%Rec	2	10/19/2016 7:03:19 PM	28071
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050		mg/Kg	2	10/19/2016 7:03:19 PM	28071
Toluene	ND	0.099		mg/Kg	2	10/19/2016 7:03:19 PM	28071
Ethylbenzene	1.2	0.099		mg/Kg	2	10/19/2016 7:03:19 PM	28071
Xylenes, Total	2.2	0.20		mg/Kg	2	10/19/2016 7:03:19 PM	28071
Surr: 4-Bromofluorobenzene	149	80-120	S	%Rec	2	10/19/2016 7:03:19 PM	28071

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 264
Lab ID: 1610690-021 **Matrix:** SOIL

Client Sample ID: GP-11 @ 21.5'-23'
Collection Date: 10/12/2016 4:35:00 PM
Received Date: 10/14/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	42	30		mg/Kg	20	10/20/2016 1:57:16 PM	28205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	280	9.5		mg/Kg	1	10/18/2016 10:50:54 PM	28102
Motor Oil Range Organics (MRO)	53	47		mg/Kg	1	10/18/2016 10:50:54 PM	28102
Surr: DNOP	102	70-130		%Rec	1	10/18/2016 10:50:54 PM	28102
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	130	24		mg/Kg	5	10/19/2016 7:26:39 PM	28072
Surr: BFB	266	68.3-144	S	%Rec	5	10/19/2016 7:26:39 PM	28072
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.12	D	mg/Kg	5	10/19/2016 7:26:39 PM	28072
Toluene	ND	0.24	D	mg/Kg	5	10/19/2016 7:26:39 PM	28072
Ethylbenzene	0.55	0.24	D	mg/Kg	5	10/19/2016 7:26:39 PM	28072
Xylenes, Total	ND	0.47	D	mg/Kg	5	10/19/2016 7:26:39 PM	28072
Surr: 4-Bromofluorobenzene	117	80-120	D	%Rec	5	10/19/2016 7:26:39 PM	28072

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610690**

26-Oct-16

Client: Blagg Engineering
Project: GCU 264

Sample ID	**MB-28171**	SampType: **MBLK**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID: **28171**			RunNo: **38070**					
Prep Date:	**10/19/2016**	Analysis Date: **10/19/2016**			SeqNo: **1187539**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-28171**	SampType: **LCS**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID: **28171**			RunNo: **38070**					
Prep Date:	**10/19/2016**	Analysis Date: **10/19/2016**			SeqNo: **1187540**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.9	90	110			

Sample ID	**MB-28205**	SampType: **MBLK**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID: **28205**			RunNo: **38119**					
Prep Date:	**10/20/2016**	Analysis Date: **10/20/2016**			SeqNo: **1189347**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-28205**	SampType: **LCS**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID: **28205**			RunNo: **38119**					
Prep Date:	**10/20/2016**	Analysis Date: **10/20/2016**			SeqNo: **1189348**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.7	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610690**

26-Oct-16

Client: Blagg Engineering
Project: GCU 264

Sample ID **MB-28076**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **28076**	RunNo: **37981**
Prep Date: **10/14/2016**	Analysis Date: **10/17/2016**	SeqNo: **1184449** 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	8.6		10.00		85.7	70	130			

Sample ID **LCS-28076**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **28076**	RunNo: **38007**
Prep Date: **10/14/2016**	Analysis Date: **10/18/2016**	SeqNo: **1184792** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	89.2	62.6	124			
Surr: DNOP	4.4		5.000		88.8	70	130			

Sample ID **LCS-28102**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **28102**	RunNo: **38007**
Prep Date: **10/17/2016**	Analysis Date: **10/18/2016**	SeqNo: **1185574** 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	96.2	62.6	124			
Surr: DNOP	4.5		5.000		90.0	70	130			

Sample ID **MB-28102**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **28102**	RunNo: **38007**
Prep Date: **10/17/2016**	Analysis Date: **10/18/2016**	SeqNo: **1185575** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		96.5	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610690**

26-Oct-16

Client: Blagg Engineering
Project: GCU 264

Sample ID **MB-28071**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **28071**	RunNo: **38021**
Prep Date: **10/14/2016**	Analysis Date: **10/18/2016**	SeqNo: **1185957** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	840		1000		83.9	68.3	144			

Sample ID **LCS-28071**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **28071**	RunNo: **38021**
Prep Date: **10/14/2016**	Analysis Date: **10/18/2016**	SeqNo: **1185958** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	106	74.6	123			
Surr: BFB	930		1000		93.2	68.3	144			

Sample ID **1610690-002AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **GP-1 (5-pt) 17'-22'**	Batch ID: **28071**	RunNo: **38021**
Prep Date: **10/14/2016**	Analysis Date: **10/18/2016**	SeqNo: **1185967** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	73	9.8	24.53	71.36	8.50	61.3	150			S
Surr: BFB	4800		1963		244	68.3	144			S

Sample ID **1610690-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **GP-1 (5-pt) 17'-22'**	Batch ID: **28071**	RunNo: **38021**
Prep Date: **10/14/2016**	Analysis Date: **10/18/2016**	SeqNo: **1185970** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	91	9.6	24.11	71.36	81.4	61.3	150	21.3	20	R
Surr: BFB	5100		1929		262	68.3	144	0	0	S

Sample ID **MB-28072**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **28072**	RunNo: **38021**
Prep Date: **10/14/2016**	Analysis Date: **10/18/2016**	SeqNo: **1185981** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	840		1000		84.1	68.3	144			

Sample ID **LCS-28072**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **28072**	RunNo: **38021**
Prep Date: **10/14/2016**	Analysis Date: **10/18/2016**	SeqNo: **1185995** Units: **mg/Kg**

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610690**

26-Oct-16

Client: Blagg Engineering
Project: GCU 264

Sample ID **LCS-28072**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **28072**	RunNo: **38021**
Prep Date: **10/14/2016**	Analysis Date: **10/18/2016**	SeqNo: **1185995** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	106	74.6	123			
Surr: BFB	930		1000		92.8	68.3	144			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610690**

26-Oct-16

Client: Blagg Engineering
Project: GCU 264

Sample ID **MB-28071**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **28071**	RunNo: **38021**
Prep Date: **10/14/2016**	Analysis Date: **10/18/2016**	SeqNo: **1186006** 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	0.96		1.000		96.4	80	120			

Sample ID **LCS-28071**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **28071**	RunNo: **38021**
Prep Date: **10/14/2016**	Analysis Date: **10/18/2016**	SeqNo: **1186008** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	86.6	75.2	115			
Toluene	0.93	0.050	1.000	0	93.3	80.7	112			
Ethylbenzene	0.98	0.050	1.000	0	97.9	78.9	117			
Xylenes, Total	2.9	0.10	3.000	0	98.0	79.2	115			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID **MB-28072**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **28072**	RunNo: **38021**
Prep Date: **10/14/2016**	Analysis Date: **10/18/2016**	SeqNo: **1186010** 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	0.98		1.000		97.7	80	120			

Sample ID **LCS-28072**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **28072**	RunNo: **38021**
Prep Date: **10/14/2016**	Analysis Date: **10/18/2016**	SeqNo: **1186011** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	92.0	75.2	115			
Toluene	0.93	0.050	1.000	0	93.5	80.7	112			
Ethylbenzene	0.96	0.050	1.000	0	95.9	78.9	117			
Xylenes, Total	2.8	0.10	3.000	0	94.9	79.2	115			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610690**

26-Oct-16

Client: Blagg Engineering
Project: GCU 264

Sample ID	**1610690-001AMS**	SampType: **MS**		TestCode: **EPA Method 8021B: Volatiles**						
Client ID:	**GP-1 @ 23'-24'**	Batch ID: **28071**		RunNo: **38051**						
Prep Date:	**10/14/2016**	Analysis Date: **10/19/2016**		SeqNo: **1186927**		Units: **mg/Kg**				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.95	0.025	0.9804	0.006929	96.2	71.5	122			
Toluene		0.95	0.049	0.9804	0.01087	95.6	71.2	123			
Ethylbenzene		1.0	0.049	0.9804	0.03530	98.2	75.2	130			
Xylenes, Total		3.0	0.098	2.941	0.1448	96.4	72.4	131			
Surr: 4-Bromofluorobenzene		1.0		0.9804		105	80	120			

Sample ID	**1610690-001AMSD**	SampType: **MSD**		TestCode: **EPA Method 8021B: Volatiles**						
Client ID:	**GP-1 @ 23'-24'**	Batch ID: **28071**		RunNo: **38051**						
Prep Date:	**10/14/2016**	Analysis Date: **10/19/2016**		SeqNo: **1186928**		Units: **mg/Kg**				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.94	0.024	0.9625	0.006929	97.1	71.5	122	0.949	20	
Toluene		0.94	0.048	0.9625	0.01087	96.4	71.2	123	0.988	20	
Ethylbenzene		0.99	0.048	0.9625	0.03530	98.9	75.2	130	1.09	20	
Xylenes, Total		2.9	0.096	2.887	0.1448	96.3	72.4	131	1.84	20	
Surr: 4-Bromofluorobenzene		1.0		0.9625		104	80	120	0	0	

Qualifiers:

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

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: 1610690 RcptNo: 1

Received by/date: RM 10/14/16

Logged By: Ashley Gallegos 10/14/2016 7:15:00 AM AG

Completed By: Ashley Gallegos 10/14/2016 9:20:28 AM AG

Reviewed By: JC 10/14/16

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good	Yes			

Chain-of-Custody Record

Client: BP AMERICA

BLAGG ENGINEERING INC.

Mailing Address:

Phone #: (505) 320-1183

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: ~~[redacted]~~ GCU 264

Project #:

Project Manager: J. BLAGG

Sampler: J. BLAGG

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1610C090	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
10/12/2016	1407	SOIL	GP7 @ 19'-20'	4 oz x 1	COOL	-013	X		X									X				
"	1440	"	GP7 (3-pt) 16'-19'	"	"	-014	X		X									X				
"	1448	"	GP8 @ 22'-23'	"	"	-015	X		X									X				
"	1505	"	GP8 (5-pt) 18'-22'	"	"	-016	X		X									X				
"	1522	"	GP9 @ 19'-20'	"	"	-017	X		X									X				
"	1540	"	GP9 (3-pt) 16'-19'	"	"	-018	X		X									X				
"	1605	"	GP10 @ 22'-23'	"	"	-019	X		X									X				
"	1630	"	GP10 (5-pt) 18.5'-22'	"	"	-020	X		X									X				
"	1635	"	GP11 @ 21.5'-23'	"	"	-021	X		X									X				
"		"		"	"	~~-022~~	"		"									"				
"		"		"	"	~~-023~~	"		"									"				
"		"		"	"	/	"		"									"				

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/13/2016	1518	Jeff Blagg	Christen Walls	10/13/2016	1518
10/13/16	2040	Christen Walls		10/14/16	0715

Remarks: BILL BP
CONTACT: STEVE MOSKAL
VID: VMOSGHQFEC

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.

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

Project Name: GCU 264

Project #:

Project Manager: J. BLAGG

Sampler: J. BLAGG

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1610090	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)
3/2016	0845	SOIL	GP-1@ 23'-24'	4 oz x1	COOL	-001	X		X									X				
"	0930	"	GP-1 (5-pt) 17'-22'	"	"	-002	X		X									X				
"	0855	"	GP-2 @ 21'-22'	"	"	-003	X		X									X				
"	1010	"	GP-2 (5-pt) 18.5'-21'	"	"	-004	X		X									X				
"	1032	"	GP-3 @ 23'-24'	"	"	-005	X		X									X				
"	1100	"	GP-3 (3-pt) 21.5'-23'	"	"	-006	X		X									X				
"	1125	"	GP-4 @ 24'-25'	"	"	-007	X		X									X				
"	1145	"	GP-4 (3-pt) 21'-24'	"	"	-008	X		X									X				
"	1158	"	GP-5 @ 23'-24'	"	"	-009	X		X									X				
"	1220	"	GP-5 (3-pt) 19'-23'	"	"	-010	X		X									X				
"	1331	"	GP-6 @ 19'-20'	"	"	-011	X		X									X				
"	1355	"	GP-6 (2-pt) 16'-18.5'	"	"	-012	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/13/16	1518	Jeff Blagg	Christine Walsh	10/13/16	1518
10/13/16	2040	Christine Walsh		10/14/16	0715

Remarks: BILL BP
CONTACT: STEVE MOLKAL
VIP: VMOS6HQFEC

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