BP America Production Company
200 Energy Court
Farmington, NM 87401
Phone: (505) 330-9179

July 19, 2017

Randy Bayliss
Senior Hydrologist
New Mexico Oil Conservation Division
Environmental Bureau
1220 St. Francis Drive
Santa Fe, NM 87505

Re: Request for Permanent Closure
McCoy Gas Com A 001A – 3RP–378
API No. 30-045-22782; Unit letter F, Section 18, T31N, R10W; GPS: 36.900625°, -107.927495°

Dear Mr. Bayliss:

BP America Production Company has retained Blagg Engineering, Inc. to conduct environmental monitoring of groundwater at the McCoy Gas Com A 001A, a currently active natural gas production pad. The site is located on private property.

After the initial pit closure in 1993, cleanup efforts at the site employed "trenching technology," where several trenches were excavated to expose groundwater and remove contamination. Later, in 2013, groundwater monitoring wells were installed and sampled for four quarters demonstrating the site meet closure criteria.

The attached report requesting site closure demonstrates groundwater contaminants below the New Mexico Water Quality Control Commission's standards for all required constituents for four consecutive quarters per the BP and NMOCD agreed Groundwater Management Plan of May 2013.

If you have any questions concerning this document, please contact myself at steven.moskal@bp.com or at the address or phone number listed above. Thank you for your cooperation and assistance.

Sincerely,

Steve Moskal
Field Environmental Coordinator

cc: Environmental Specialists, NMOCD District III Office via email

BP AMERICA PRODUCTION CO.

GROUNDWATER REMEDIATION REPORT

McCOY GC A # 1A
(F) SECTION 18, T31N, R10W, NMPM
SAN JUAN COUNTY, NEW MEXICO
3RP-378

PREPARED FOR:
NEW MEXICO OIL CONSERVATION DIVISION
1220 ST. FRANCIS DRIVE
SANTA FE, NEW MEXICO 87504

JULY 2017

PREPARED BY:
BLAGG ENGINEERING, INC.

Consulting Petroleum / Reclamation Services
P.O. Box 87
Bloomfield, New Mexico 87413

BP AMERICA PRODUCTION COMPANY

McCoy Gas Com A # 1A - Separator Pit

SE¼ NW¼, Sec. 18, T31N, R10W

Pit Closure Date: **July-September 1993**

Monitor Well Installation Date: **June 2013**

Monitor Well Sampling Dates: **6/27/2013, 7/25/2013, 12/12/2014, 3/3/14, 6/21/2014**

Pit Closure and Background:

The on-site pit closure was conducted in July through September 1993 and resides on private property. Groundwater impact was identified within the source area during the pit closure activity and was reported to the New Mexico Oil Conservation Division's (**NMOCD**) Santa Fe office. Documentation for this work and subsequent groundwater monitoring data for the site has been previously submitted for NMOCD review. The reporting herein is for site monitoring of four (4) groundwater monitor wells (Bore Logs attached) from June 2013 to June 2014 to address the off-site remedial effort (Figure 1). This pit was acknowledged by NMOCD in the initial reporting in February 2001 which can be reviewed online at NMOCD's Administrative/Environmental Order number 3RP-378-0 (filename: pwco0118658168_0001.pdf).

Groundwater Monitor Well Sampling Procedures:

A two (2) inch submersible electrical pump with new, clear vinyl tubing was utilized during all four (4) quarterly sampling events. The groundwater samples were collected following US EPA: SW-846 protocol, were placed into laboratory supplied containers with appropriate preservative, and stored in an ice chest for express delivery to an analytical laboratory for testing under strict chain-of-custody procedures. Analytical testing for BTEX per US EPA Method 8021B was conducted.

Fluids generated during monitor well purging was managed by discarding into BP's on-site above-grade tank (**AGT**). The AGT contents are eventually disposed through approved NMOCD operational procedures for removal of produced water and/or fluids.

Water Quality and Gradient Information:

BP initiated quarterly sampling and testing pursuant to BP's NMOCD approved Groundwater Management Plan (**GMP**) in June 2013. A historical summary of laboratory analytical BTEX results are included within the table on the following page. Field data sheets, laboratory reports, and laboratory quality assurance/quality control information are also included within this report.

A site map (Figure 1) shows the eight (8) monitor wells relative position to the previous remedial effort areas. Groundwater contour maps generated during previous site monitoring and sampling had predominantly demonstrated a southwest flow direction.

Summary and/or Recommendations:

Hydrocarbon impacted soils and groundwater at the site appear to have been remediated via the excavation method and possibly from natural attenuation.

All monitor wells tested at non-detectable levels during the four (4) consecutive sampling events and met the requirements of section 2.1 of BP's GMP. All monitor wells met section 2.2 of the GMP for anion constituents. Permanent closure of the separator pit is recommended. Site monitor wells are scheduled to be abandoned 60 days following receipt by NMOCD of this final report. Monitor well abandonment will adhere to section 6.2 of the GMP.

BP AMERICA PRODUCTION COMPANY

GROUNDWATER FIELD DATA & LAB BTEX / GENERAL CHEMISTRY RESULTS

McCOY GC A # 1A
UNIT F, SEC. 18, T31N, R10W

REVISED DATE: June 28 , 2017
Submitted by Blagg Engineering, Inc.

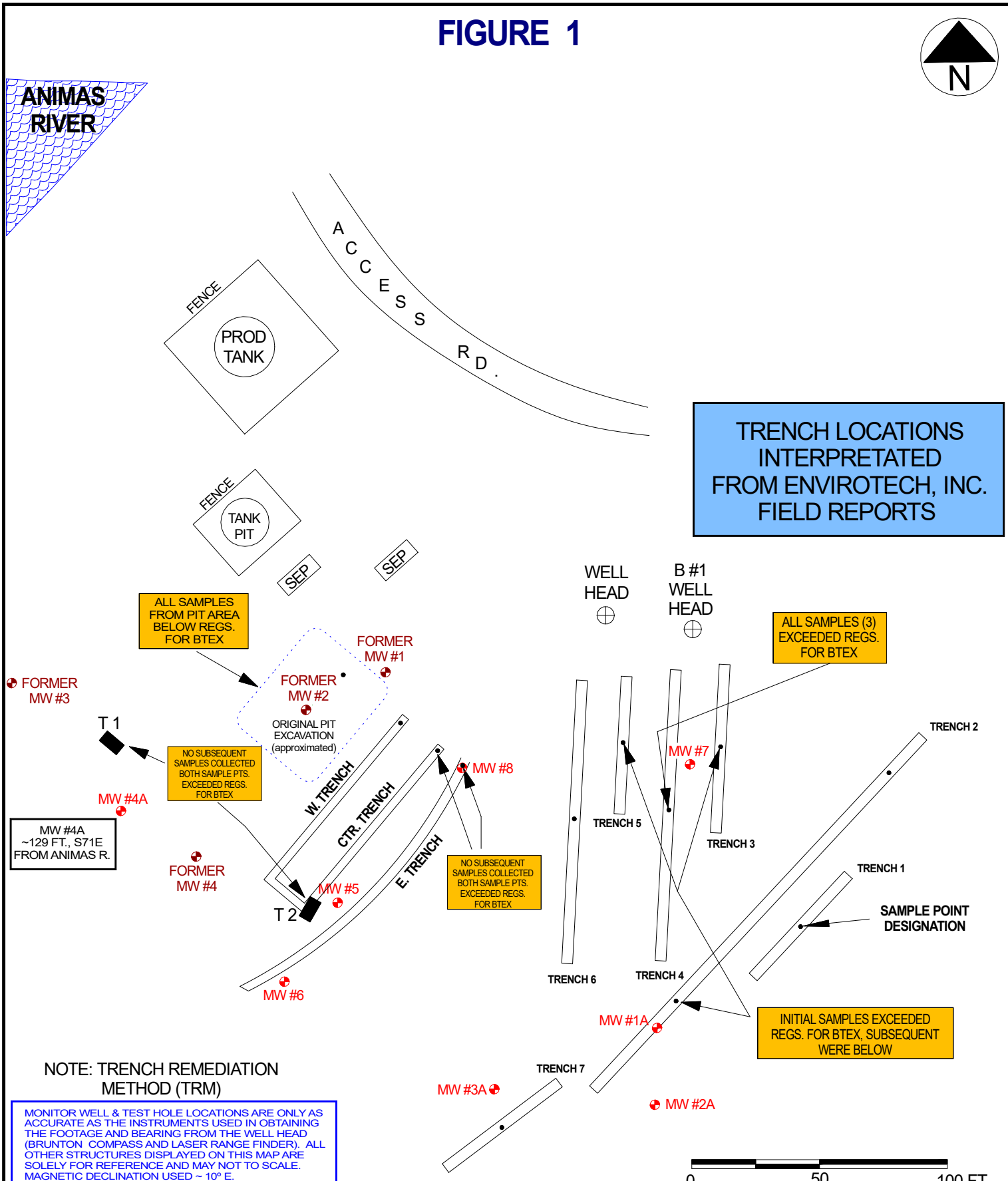
SAMPLE DATE	WELL NAME / NUMBER	DEPTH TO WATER (ft)	WELL DEPTH (ft)	TDS (mg/L)	CONDUCT. (umhos)	pH	FREE PHASE PRODUCT (ft)	BTEX US EPA METHOD 8021B or 8260B BENZENE (ppb)	TOLUENE (ppb)	ETHYL BENZENE (ppb)	TOTAL XYLENES (ppb)
27-Jun-13	MW #1A	9.91	18.70	see below	726	7.70		ND	ND	ND	ND
25-Jul-13		10.35			NA	NA		-	-	-	-
12-Dec-13		8.73			1,000	7.57		ND	ND	ND	ND
3-Mar-14		8.98			1,000	7.33		ND	ND	ND	ND
27-Jun-13	MW #2A	10.23	18.70	see below	473	7.50		ND	ND	ND	ND
27-Jun-13	MW #3A	10.04	17.50	see below	552	7.60		ND	ND	ND	ND
25-Jul-13	MW #4A	9.12	14.00	see below	800	7.47		ND	ND	ND	ND
12-Dec-13		8.13			1,200	7.51		ND	ND	ND	ND
3-Mar-14		8.26			1,200	7.23		ND	ND	ND	ND
21-Jun-14		7.20			900	7.22		ND	ND	ND	ND
25-Jul-13	MW #5	8.61	19.30	see below	900	7.47		ND	ND	ND	ND
12-Dec-13		7.36			1,000	7.53		ND	ND	ND	ND
3-Mar-14		7.54			1,400	7.39		ND	ND	ND	ND
21-Jun-14		6.69			800	7.26		ND	ND	ND	ND
25-Jul-13	MW #6	9.08	18.46	see below	1,400	7.57		ND	ND	ND	ND
25-Jul-13	MW #7	10.42	18.22	see below	700	7.56		ND	ND	ND	ND
12-Dec-13		8.87			1,400	7.47		ND	ND	ND	ND
3-Mar-14		9.10			2,000	7.41		ND	ND	ND	ND
21-Jun-14		8.38			600	7.51		ND	ND	ND	ND
25-Jul-13	MW #8	9.88	16.60	see below	1,100	7.47		ND	ND	ND	ND
12-Dec-13		8.52			1,100	7.50		ND	ND	ND	ND
3-Mar-14		8.71			1,300	7.27		ND	ND	ND	ND
21-Jun-14		7.83			900	7.30		ND	ND	ND	ND
					NMWQCC GROUNDWATER STANDARDS			10	750	750	620

SAMPLE DATE	WELL NAME /NUMBER	Fluoride (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Nitrate-N (mg/L)	Iron (mg/L)	TDS (mg/L)
06/27/13	MW #1A	0.43	73.0	340	ND	0.31	850
06/27/13	MW #2A	0.33	47	190	ND	0.1	650
06/27/13	MW #3A	0.45	83	360	ND	0.67	920
07/25/13	MW #4A	0.53	30	180	0.21	0.73	596
07/25/13	MW #5	0.42	47.0	240	ND	1.8	718
07/25/13	MW #6	0.34	140	690	ND	0.2	1460
07/25/13	MW #7	0.33	25	170	ND	0.034	352
07/25/13	MW #8	0.40	120	310	ND	0.96	952
NMWQCC GROUNDWATER STANDARDS		1.60	250	600	10	1.0	1,000

NOTES :

1) **ND INDICATES NOT DETECTED AT THE REPORTING LIMITS (less than regulatory standards of at least a magnitude of 10) .**
2) **NMWQCC INDICATES NEW MEXICO WATER QUALITY CONTROL COMMISSION.**
3) **pH NMWQCC standards range between 6 -9**
4) **TDS - Total Dissolved Solids**
5) **ppb - Parts per billion**
6) **mg/L - Milligrams per liter**

FIGURE 1



NOTE: TRENCH REMEDIATION METHOD (TRM)

MONITOR WELL & TEST HOLE LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THIS MAP ARE SOLELY FOR REFERENCE AND MAY NOT TO SCALE. MAGNETIC DECLINATION USED ~ 10° E.

BP AMERICA PRODUCTION COMPANY

McCOY GC A1A

SE/4 NW/4 SEC. 18, T31N, R10W

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: REMEDIATION

DRAWN BY: NJV

FILENAME: McCOY GC A 1A-SM3.SKF

REVISED: 07/13/17 NJV

SITE MAP

06/13


BP - McCoy GC A 001A
(F) Section 18, T31N, R10W
API #: 3004522782
Imagery date: 3/15/2015
WH GPS: 36.900625,-107.927495
A 1A WH
MW-8
MW-7
MW-4A
MW-5
MW-6
MW-1A
MW-3A
MW-2A
Google earth
© 2017 Google
N
100 ft

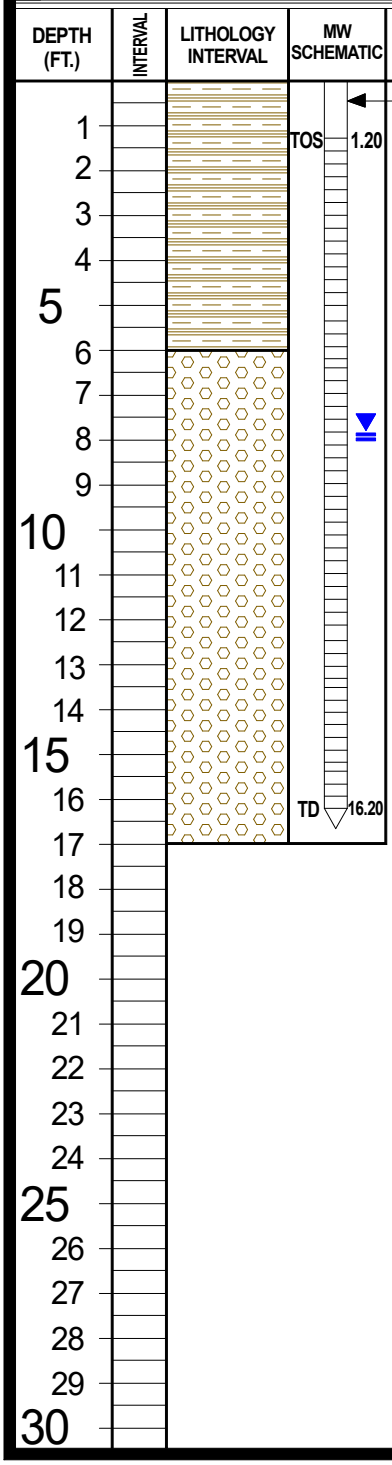
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 1A

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	McCOY GC A #1A API #: 3004522782 UNIT F, SEC. 18, T31N, R10W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK FIELD SERVICES
EQUIPMENT USED:	MOBILE DRILL RIG (CME 95) - TUBEX SYSTEM.
BORING LOCATION:	163 FEET, S7E FROM WELL HEAD. GPS COORD.: 36.900180,-107.927425

BORING #.....	BH - 9
MW #.....	1A
PAGE #.....	1
DATE STARTED	06/17/13
DATE FINISHED	06/25/13
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

TOP OF CASING APPROXIMATELY 2.50 FT. ABOVE GRADE.

MODERATE BROWN SILTY SAND TO SILTY CLAY, NON COHESIVE TO SLIGHTLY PLASTIC, DRY TO SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 6.0 FT. BELOW GRADE).

GROUNDWATER ~ 7.85 ft. BELOW GRADE ; MEASURED 07/27/2013.

MODERATE BROWN SAND & GRAVEL, NON COHESIVE, WET TO SATURATED, FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (6.0 - 17.0 FT. BELOW GRADE).

NOTES: - SILTY SAND TO SILTY CLAY. - SAND & GRAVEL.

TOS - Top of screen interval.

TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 2.50 ft. above grade to 1.20 ft. below grade, 0.010 slotted screen between 1.20 to 16.20 ft. below grade, sand packed annular to grade. Steel well protector with locking hinged lid encompass exposed casing, slip capped top end of casing, & secured with padlock.

DRAWING: McCOY GC A 1A MW1A-BH9. SKF | DATE: 06/24/17 | DWN BY: NJV

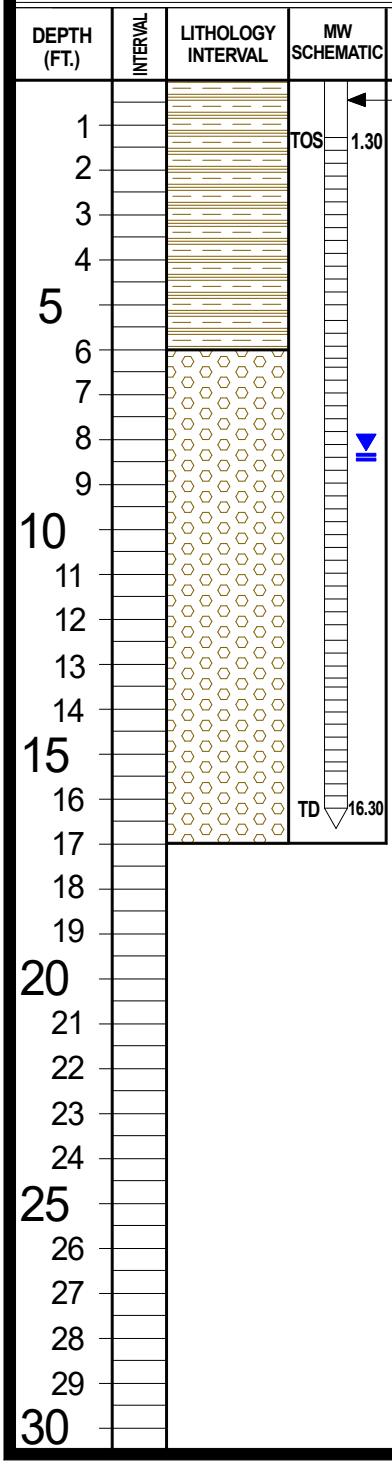
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 2A

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	McCOY GC A #1A API #: 3004522782 UNIT F, SEC. 18, T31N, R10W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK FIELD SERVICES
EQUIPMENT USED:	MOBILE DRILL RIG (CME 95) - TUBEX SYSTEM.
BORING LOCATION:	193 FEET, S6E FROM WELL HEAD. GPS COORD.: 36.900100,-107.927429

BORING #.....	BH - 8
MW #.....	2A
PAGE #.....	2
DATE STARTED	06/14/13
DATE FINISHED	06/14/13
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROXIMATELY 2.40 FT. ABOVE GRADE.

MODERATE BROWN SILTY SAND TO SILTY CLAY, NON COHESIVE TO SLIGHTLY PLASTIC, DRY TO SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 6.0 FT. BELOW GRADE).

GROUNDWATER ~ 8.25 ft. BELOW GRADE ; MEASURED 07/25/2013.

MODERATE BROWN SAND & GRAVEL, NON COHESIVE, WET TO SATURATED, FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (6.0 - 17.0 FT. BELOW GRADE).

NOTES: - SILTY SAND TO SILTY CLAY. - SAND & GRAVEL.

TOS - Top of screen interval.

TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 2.40 ft. above grade to 1.30 ft. below grade, 0.010 slotted screen between 1.30 to 16.30 ft. below grade, sand packed annular to grade. Steel well protector with locking hinged lid encompass exposed casing, slip capped top end of casing, & secured with padlock.

DRAWING: McCOY GC A 1A MW2A-BH8. SKF | DATE: 06/24/17 | DWN BY: NJV

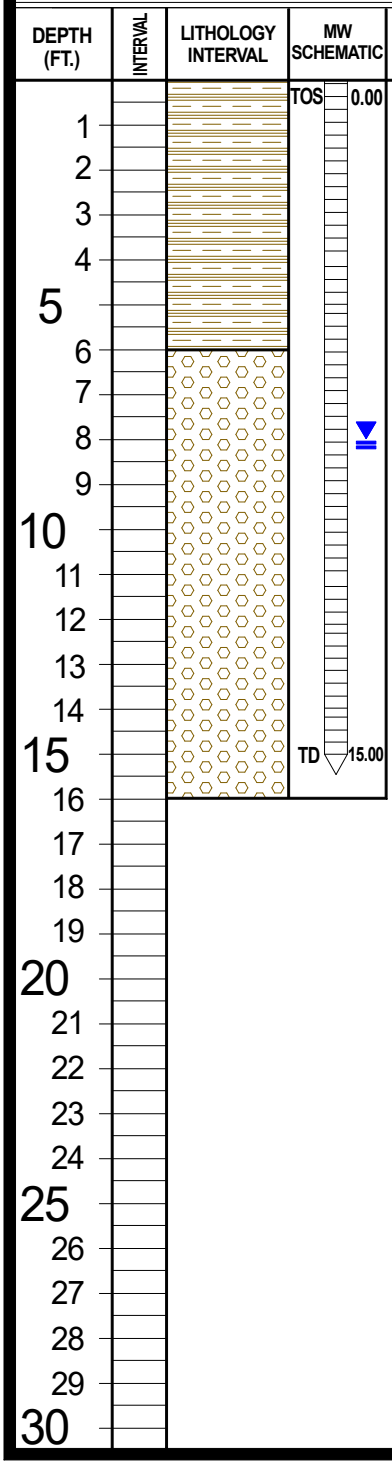
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 3A

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	McCOY GC A #1A API #: 3004522782 UNIT F, SEC. 18, T31N, R10W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK FIELD SERVICES
EQUIPMENT USED:	MOBILE DRILL RIG (CME 95) - TUBEX SYSTEM.
BORING LOCATION:	190.5 FEET, S13WE FROM WELL HEAD. GPS COORD.: 36.900116,-107.927645

BORING #.....	BH - 7
MW #.....	3A
PAGE #.....	3
DATE STARTED	06/14/13
DATE FINISHED	06/14/13
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROXIMATELY 2.50 FT. ABOVE GRADE.

MODERATE BROWN SILTY SAND TO SILTY CLAY, NON COHESIVE TO SLIGHTLY PLASTIC, DRY TO SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 6.0 FT. BELOW GRADE).

GROUNDWATER ~ 7.94 ft. BELOW GRADE ; MEASURED 07/25/2013.

MODERATE BROWN SAND & GRAVEL, NON COHESIVE, WET TO SATURATED, FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (6.0 - 16.0 FT. BELOW GRADE).

NOTES: - SILTY SAND TO SILTY CLAY. - SAND & GRAVEL.

TOS - Top of screen interval.

TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 2.50 ft. above grade to grade, 0.010 slotted screen between 0.00 to 15.00 ft. below grade, sand packed annular to grade. Steel well protector with locking hinged lid encompass exposed casing, slip capped top end of casing, & secured with padlock.

DRAWING: McCOY GC A 1A MW3A-BH7. SKF | DATE: 06/24/17 | DWN BY: NJV

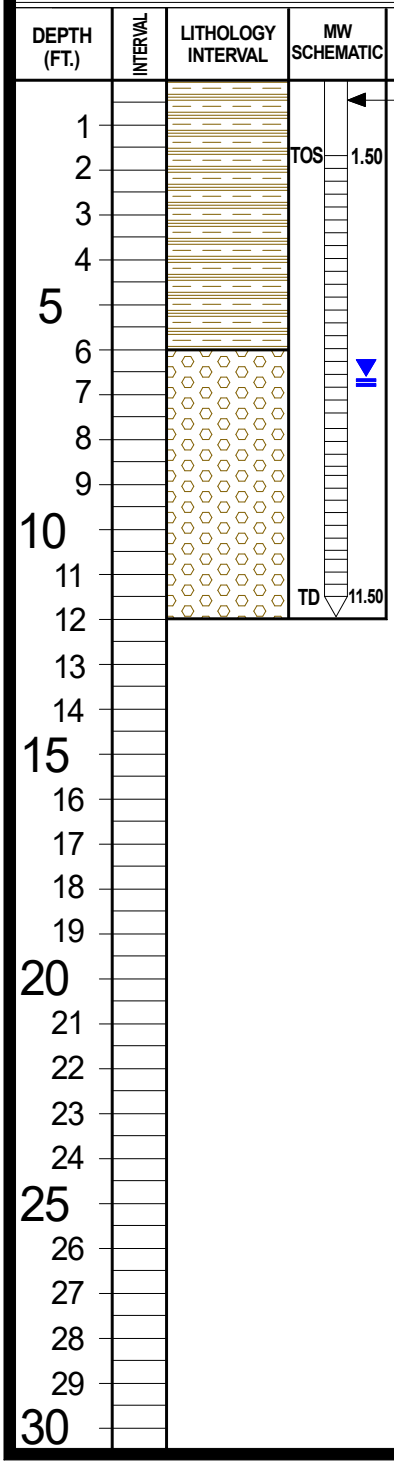
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 4A

BORE / TEST HOLE REPORT

BORING #.....	BH - 6
MW #.....	4A
PAGE #.....	4
DATE STARTED	06/13/13
DATE FINISHED	06/13/13
OPERATOR.....	KP
LOGGED BY.....	NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: McCOY GC A #1A API #: 3004522782 UNIT F, SEC. 18, T31N, R10W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK FIELD SERVICES
EQUIPMENT USED: MOBILE DRILL RIG (CME 95) - TUBEX SYSTEM.
BORING LOCATION: 204.5 FEET, S68W FROM WELL HEAD. GPS COORD.: 36.900416,-107.928144



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROXIMATELY 2.50 FT. ABOVE GRADE.

MODERATE BROWN SILTY SAND TO SILTY CLAY, NON COHESIVE TO SLIGHTLY PLASTIC, DRY TO SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 6.0 FT. BELOW GRADE).

GROUNDWATER ~ 6.62 ft. BELOW GRADE ; MEASURED 07/27/2013.

MODERATE BROWN SAND & GRAVEL, NON COHESIVE, WET TO SATURATED, FIRM TO DENSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (6.0 - 12.0 FT. BELOW GRADE).

AUGER REFUSAL AT 12 FT. BELOW GRADE.

NOTES: - SILTY SAND TO SILTY CLAY. - SAND & GRAVEL.

TOS - Top of screen interval.

TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 2.50 ft. above grade to 1.50 ft. below grade, 0.010 slotted screen between 1.50 to 11.50 ft. below grade, sand packed annular to 0.50 ft. below grade, bentonite grout remaining annular to grade. Steel well protector with locking hinged lid encompass exposed casing, slip capped top end of casing, & secured with padlock.

DRAWING: McCOY GC A 1A MW4A-BH6. SKF | DATE: 06/24/17 | DWN BY: NJV

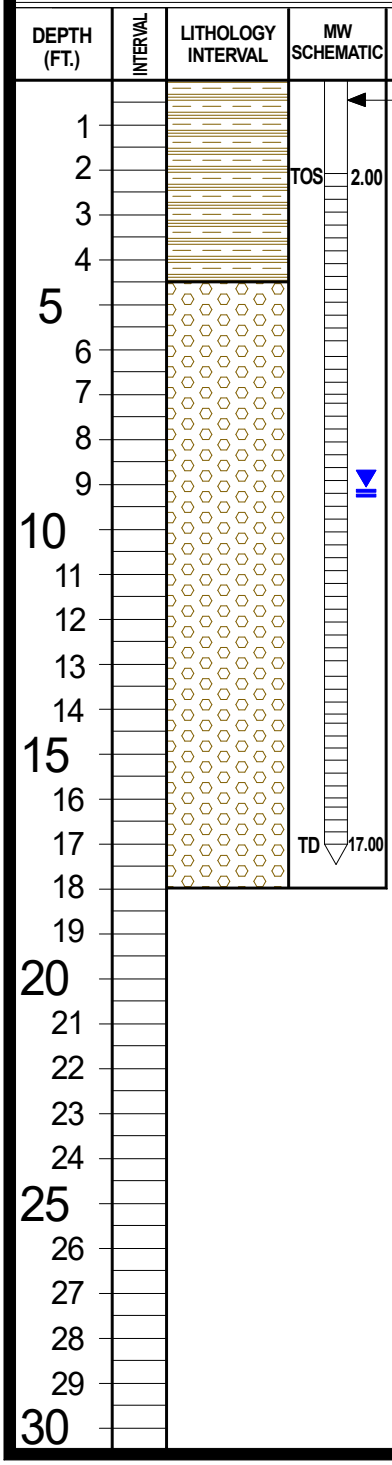
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 5

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	McCOY GC A #1A API #: 3004522782 UNIT F, SEC. 18, T31N, R10W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK FIELD SERVICES
EQUIPMENT USED:	MOBILE DRILL RIG (CME 95) - TUBEX SYSTEM.
BORING LOCATION:	154 FEET, S43W FROM WELL HEAD. GPS COORD.: 36.900318,-107.927854

BORING #.....	BH - 10
MW #.....	5
PAGE #.....	5
DATE STARTED	06/26/13
DATE FINISHED	06/26/13
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROXIMATELY 2.30 FT. ABOVE GRADE.

MODERATE BROWN SILTY SAND TO SILTY CLAY, NON COHESIVE TO SLIGHTLY PLASTIC, DRY TO SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 4.5 FT. BELOW GRADE).

GROUNDWATER ~ 8.25 ft. BELOW GRADE ; MEASURED 07/25/2013.

MODERATE BROWN SAND & GRAVEL, NON COHESIVE, WET TO SATURATED, FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (4.5 - 18.0 FT. BELOW GRADE).

NOTES: - SILTY SAND TO SILTY CLAY. - SAND & GRAVEL.

TOS - Top of screen interval.

TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 2.30 ft. above grade to 2.00 ft. below grade, 0.010 slotted screen between 2.00 to 15.00 ft. below grade, sand packed annular to 1.0 ft. below grade, bentonite grout remaining to grade. Steel well protector with locking hinged lid encompass exposed casing, slip capped top end of casing, & secured with padlock.

DRAWING: McCOY GC A 1A MW5-BH10. SKF | DATE: 06/24/17 | DWN BY: NJV

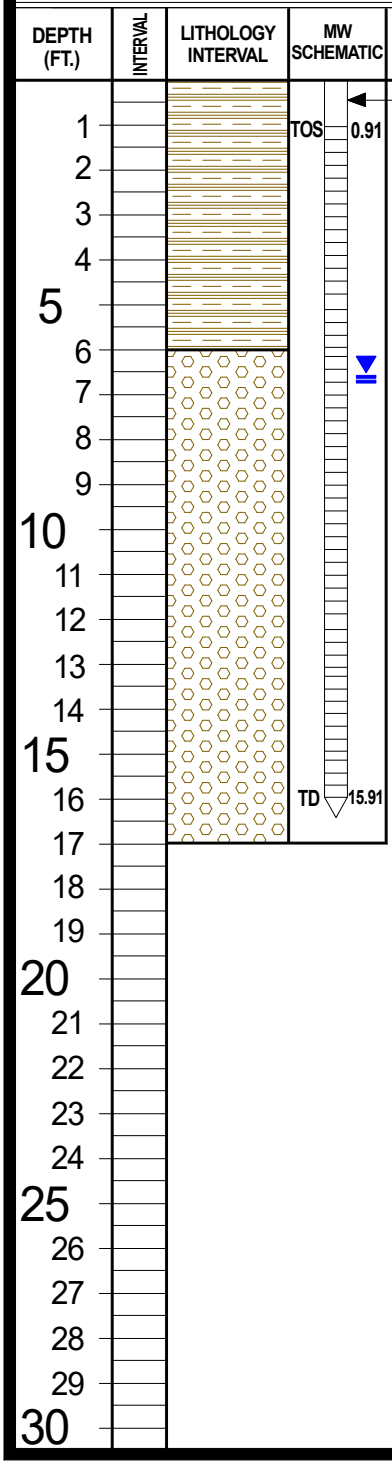
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 6

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	McCOY GC A #1A API #: 3004522782 UNIT F, SEC. 18, T31N, R10W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK FIELD SERVICES
EQUIPMENT USED:	MOBILE DRILL RIG (CME 95) - TUBEX SYSTEM.
BORING LOCATION:	191 FEET, S41W FROM WELL HEAD. GPS COORD.: 36.900232,-107.927926

BORING #.....	BH - 11
MW #.....	6
PAGE #.....	6
DATE STARTED	06/26/13
DATE FINISHED	06/26/13
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

TOP OF CASING APPROXIMATELY 2.55 FT. ABOVE GRADE.

MODERATE BROWN SILTY SAND TO SILTY CLAY, NON COHESIVE TO SLIGHTLY PLASTIC, DRY TO SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 6.0 FT. BELOW GRADE).

GROUNDWATER ~ 6.53 ft. BELOW GRADE ; MEASURED 07/25/2013.

MODERATE BROWN SAND & GRAVEL, NON COHESIVE, WET TO SATURATED, FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (6.0 - 17.0 FT. BELOW GRADE).

NOTES: - SILTY SAND TO SILTY CLAY. - SAND & GRAVEL.

TOS - Top of screen interval.

TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 2.55 ft. above grade to 0.91 ft. below grade, 0.010 slotted screen between 0.91 to 15.91 ft. below grade, sand packed annular to grade. Steel well protector with locking hinged lid encompass exposed casing, slip capped top end of casing, & secured with padlock.

DRAWING: McCOY GC A 1A MW6-BH11. SKF | DATE: 06/24/17 | DWN BY: NJV

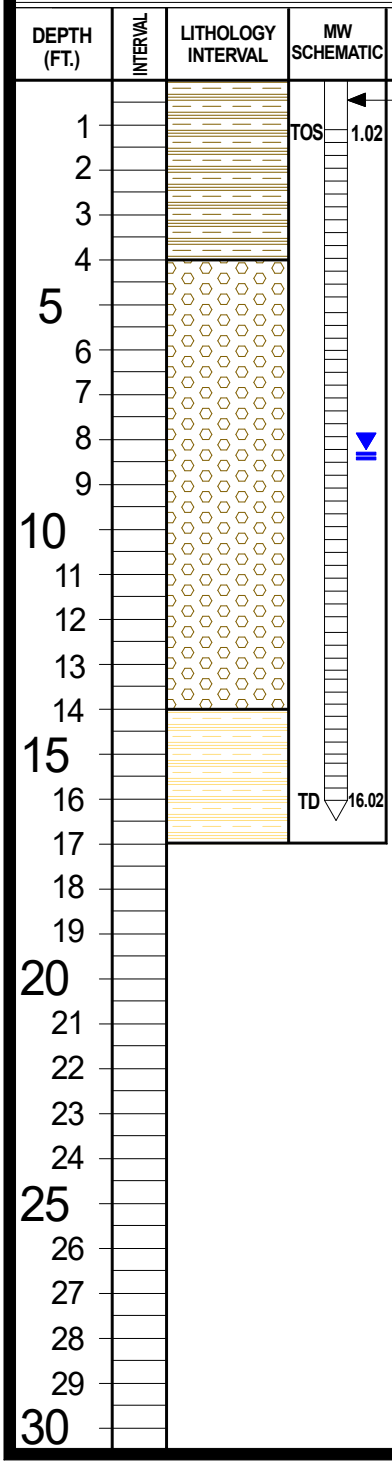
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 7

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	McCOY GC A #1A API #: 3004522782 UNIT F, SEC. 18, T31N, R10W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK FIELD SERVICES
EQUIPMENT USED:	MOBILE DRILL RIG (CME 95) - TUBEX SYSTEM.
BORING LOCATION:	67 FEET, S29.5E FROM WELL HEAD. GPS COORD.: 36.900464,-107.927381

BORING #.....	BH - 12
MW #.....	7
PAGE #.....	7
DATE STARTED	06/26/13
DATE FINISHED	06/26/13
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROXIMATELY 2.20 FT. ABOVE GRADE.

MODERATE BROWN SILTY SAND TO SILTY CLAY, NON COHESIVE TO SLIGHTLY PLASTIC, DRY TO SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 6.0 FT. BELOW GRADE).

GROUNDWATER ~ 8.22 ft. BELOW GRADE ; MEASURED 07/25/2013.

MODERATE BROWN SAND & GRAVEL, NON COHESIVE, WET TO SATURATED, FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (4.0 - 14.0 FT. BELOW GRADE).

PALE YELLOWISH BROWN SILTY SAND TO SILTY CLAY, SLIGHTLY TO MEDIUM PLASTIC, WET, FIRM TO STIFF, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (14.0 - 17.0 FT. BELOW GRADE).

NOTES: - SILTY SAND TO SILTY CLAY. - SAND & GRAVEL.

TOS - Top of screen interval.

TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 2.55 ft. above grade to 0.91 ft. below grade, 0.010 slotted screen between 0.91 to 15.91 ft. below grade, sand packed annular to grade. Steel well protector with locking hinged lid encompass exposed casing, slip capped top end of casing, & secured with padlock.

DRAWING: McCOY GC A 1A MW7-BH12. SKF | DATE: 06/24/17 | DWN BY: NJV

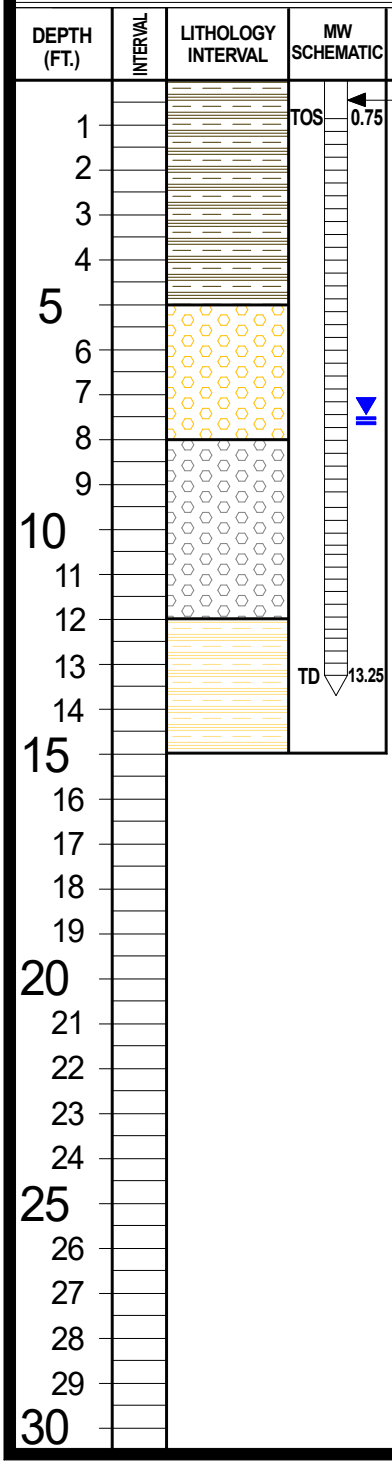
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 8

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	McCOY GC A #1A API #: 3004522782 UNIT F, SEC. 18, T31N, R10W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK FIELD SERVICES
EQUIPMENT USED:	MOBILE DRILL RIG (CME 95) - TUBEX SYSTEM.
BORING LOCATION:	82 FEET, S43W FROM WELL HEAD. GPS COORD.: 36.900462,-107.927687

BORING #.....	BH - 5
MW #.....	8
PAGE #.....	8
DATE STARTED	06/12/13
DATE FINISHED	06/12/13
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

TOP OF CASING APPROXIMATELY 2.45 FT. ABOVE GRADE.

DARK YELLOWISH BROWN SILTY SAND TO SILTY CLAY (FILL MATERIAL), NON COHESIVE TO SLIGHTLY PLASTIC, DRY TO SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 5.0 FT. BELOW GRADE).

DARK YELLOWISH ORANGE TO BROWN SAND & GRAVEL, NON COHESIVE, WET TO SATURATED, FIRM TO DENSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (5.0 - 8.0 FT. BELOW GRADE).

GROUNDWATER ~ 7.43 ft. BELOW GRADE ; MEASURED 07/27/2013.

SAME AS ABOVE EXCEPT DARK GRAY & SATURATED THROUGHOUT (8.0 - 12.0 FT. BELOW GRADE).

PALE YELLOWISH BROWN SILTY SAND TO SILTY CLAY, SLIGHTLY TO MEDIUM PLASTIC, WET, FIRM TO STIFF, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (12.0 - 15.0 FT. BELOW GRADE).

AUGER REFUSAL AT 15 FT. BELOW GRADE.

NOTES: - SILTY SAND TO SILTY CLAY. - SAND & GRAVEL.

TOS - Top of screen interval.

TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 2.45 ft. above grade to 0.75 ft. below grade, 0.010 slotted screen between 0.75 to 13.25 ft. below grade, sand packed annular to grade. Steel well protector with locking hinged lid encompass exposed casing, slip capped top end of casing, & secured with padlock.

DRAWING: McCOY GC A 1A MW8-BH5. SKF | DATE: 06/24/17 | DWN BY: NJV

Analytical Report
Lab Order **1306C41**
Date Reported: **7/9/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW-1A
Project: McCoy GC A 1A
Collection Date: 6/27/2013 9:09:00 AM
Lab ID: 1306C41-001
Matrix: AQUEOUS
Received Date: 6/28/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/1/2013 3:48:15 PM	R11690
Toluene	ND	1.0		µg/L	1	7/1/2013 3:48:15 PM	R11690
Ethylbenzene	ND	1.0		µg/L	1	7/1/2013 3:48:15 PM	R11690
Xylenes, Total	ND	2.0		µg/L	1	7/1/2013 3:48:15 PM	R11690
Surr: 4-Bromofluorobenzene	109	69.4-129		%REC	1	7/1/2013 3:48:15 PM	R11690
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.43	0.10		mg/L	1	7/1/2013 10:30:22 PM	R11696
Chloride	73	10		mg/L	20	7/1/2013 11:07:35 PM	R11696
Sulfate	340	10		mg/L	20	7/1/2013 11:07:35 PM	R11696
Nitrate+Nitrite as N	ND	1.0		mg/L	5	7/2/2013 5:07:29 AM	R11696
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**	
Iron	0.31	0.020	*	mg/L	1	7/3/2013 9:50:13 AM	R11729
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	850	100	*	mg/L	1	7/2/2013 5:11:00 PM	8185

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW-2A
Project: McCoy GC A 1A
Collection Date: 6/27/2013 9:51:00 AM
Lab ID: 1306C41-002
Matrix: AQUEOUS
Received Date: 6/28/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/1/2013 4:18:37 PM	R11690
Toluene	ND	1.0		µg/L	1	7/1/2013 4:18:37 PM	R11690
Ethylbenzene	ND	1.0		µg/L	1	7/1/2013 4:18:37 PM	R11690
Xylenes, Total	ND	2.0		µg/L	1	7/1/2013 4:18:37 PM	R11690
Surr: 4-Bromofluorobenzene	107	69.4-129		%REC	1	7/1/2013 4:18:37 PM	R11690
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.33	0.10		mg/L	1	7/1/2013 11:20:01 PM	R11696
Chloride	47	10		mg/L	20	7/1/2013 11:32:25 PM	R11696
Sulfate	190	10		mg/L	20	7/1/2013 11:32:25 PM	R11696
Nitrate+Nitrite as N	ND	1.0		mg/L	5	7/2/2013 5:57:08 AM	R11696
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**	
Iron	0.061	0.020		mg/L	1	7/3/2013 10:04:53 AM	R11729
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	605	100	*	mg/L	1	7/2/2013 5:11:00 PM	8185

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW-3A
Project: McCoy GC A 1A
Collection Date: 6/27/2013 10:29:00 AM
Lab ID: 1306C41-003
Matrix: AQUEOUS
Received Date: 6/28/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/1/2013 4:48:52 PM	R11690
Toluene	ND	1.0		µg/L	1	7/1/2013 4:48:52 PM	R11690
Ethylbenzene	ND	1.0		µg/L	1	7/1/2013 4:48:52 PM	R11690
Xylenes, Total	ND	2.0		µg/L	1	7/1/2013 4:48:52 PM	R11690
Surr: 4-Bromofluorobenzene	108	69.4-129		%REC	1	7/1/2013 4:48:52 PM	R11690
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.45	0.10		mg/L	1	7/1/2013 11:44:49 PM	R11696
Chloride	83	10		mg/L	20	7/1/2013 11:57:14 PM	R11696
Sulfate	360	10		mg/L	20	7/1/2013 11:57:14 PM	R11696
Nitrate+Nitrite as N	ND	1.0		mg/L	5	7/2/2013 6:09:32 AM	R11696
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**	
Iron	0.67	0.020	*	mg/L	1	7/3/2013 10:09:49 AM	R11729
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	920	100	*	mg/L	1	7/2/2013 5:11:00 PM	8185

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Chain-of-Custody Record

Client: Blagg Engineering / BP America

Mailing Address: P.O. Box 87 Bloomfield NM 87413

Phone #: 505-632-1199

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: McCoy GC A 1A

Project #:

Project Manager: J. Blagg

Sampler: J. Blagg

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1306641	BTEX + ~~MTBE~~ + TMBs (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, NO3, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	TDS	Iron, Ferrous	Nitrate/Nitrite		Air Bubbles (Y or N)
6/27/13	0909	Water	MW-1A	3 VOA 3 PVC	HCL/HNO3/H2SO4	-001	X							X				X	X	X		
"	0951	"	MW-2A	"	"	-002	X							X				X	X	X		
"	1029	"	MW-3A	"	"	-003	X							X				X	X	X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/27/13	1149	Jeff Blagg	Christine Walker	6/27/13	1149
6/27/13	1756	Christine Walker		6/28/13	1000

Remarks: Bill Blagg

BP contact: Jeff Peace

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1306C41**

09-Jul-13

Client: Blagg Engineering

Project: McCoy GC A 1A

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R11729**	RunNo: **11729**
Prep Date:	Analysis Date: **7/3/2013**	SeqNo: **333269** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R11729**	RunNo: **11729**
Prep Date:	Analysis Date: **7/3/2013**	SeqNo: **333270** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.53	0.020	0.5000	0	106	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1306C41**

09-Jul-13

Client: Blagg Engineering

Project: McCoy GC A 1A

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R11696**	RunNo: **11696**
Prep Date:	Analysis Date: **7/1/2013**	SeqNo: **332106** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R11696**	RunNo: **11696**
Prep Date:	Analysis Date: **7/1/2013**	SeqNo: **332107** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	95.9	90	110			
Chloride	4.5	0.50	5.000	0	90.6	90	110			
Sulfate	9.2	0.50	10.00	0	92.2	90	110			
Nitrate+Nitrite as N	3.3	0.20	3.500	0	94.1	90	110			

Sample ID: **1306C15-007AMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC**	Batch ID: **R11696**	RunNo: **11696**
Prep Date:	Analysis Date: **7/1/2013**	SeqNo: **332119** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	18	0.50	5.000	12.63	108	89.9	119			

Sample ID: **1306C15-007AMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC**	Batch ID: **R11696**	RunNo: **11696**
Prep Date:	Analysis Date: **7/1/2013**	SeqNo: **332120** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	18	0.50	5.000	12.63	105	89.9	119	0.793	20	

Sample ID: **1306C41-001BMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **MW-1A**	Batch ID: **R11696**	RunNo: **11696**
Prep Date:	Analysis Date: **7/1/2013**	SeqNo: **332155** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.91	0.10	0.5000	0.4280	96.6	76.9	114			

Sample ID: **1306C41-001BMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**
Client ID: **MW-1A**	Batch ID: **R11696**	RunNo: **11696**
Prep Date:	Analysis Date: **7/1/2013**	SeqNo: **332156** Units: **mg/L**

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1306C41**

09-Jul-13

Client: Blagg Engineering

Project: McCoy GC A 1A

Sample ID: **1306C41-001BMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**
Client ID: **MW-1A**	Batch ID: **R11696**	RunNo: **11696**
Prep Date:	Analysis Date: **7/1/2013**	SeqNo: **332156** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.91	0.10	0.5000	0.4280	97.0	76.9	114	0.219	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1306C41**

09-Jul-13

Client: Blagg Engineering

Project: McCoy GC A 1A

Sample ID: **B9**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R11690**	RunNo: **11690**
Prep Date:	Analysis Date: **7/1/2013**	SeqNo: **331778** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	22		20.00		110	69.4	129			

Sample ID: **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R11690**	RunNo: **11690**
Prep Date:	Analysis Date: **7/1/2013**	SeqNo: **331779** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	80	120			
Toluene	21	1.0	20.00	0	104	80	120			
Ethylbenzene	21	1.0	20.00	0	104	80	120			
Xylenes, Total	63	2.0	60.00	0	105	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		112	69.4	129			

Sample ID: **1306C42-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **R11690**	RunNo: **11690**
Prep Date:	Analysis Date: **7/1/2013**	SeqNo: **331784** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.5	80	120			
Toluene	20	1.0	20.00	0	97.8	80	120			
Ethylbenzene	20	1.0	20.00	0	99.4	80	120			
Xylenes, Total	60	2.0	60.00	0	100	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		110	69.4	129			

Sample ID: **1306C42-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **R11690**	RunNo: **11690**
Prep Date:	Analysis Date: **7/1/2013**	SeqNo: **331785** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	80	120	1.25	20	
Toluene	20	1.0	20.00	0	100	80	120	2.46	20	
Ethylbenzene	20	1.0	20.00	0	101	80	120	1.18	20	
Xylenes, Total	61	2.0	60.00	0	102	80	120	2.11	20	
Surr: 4-Bromofluorobenzene	22		20.00		111	69.4	129	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1306C41**

09-Jul-13

Client: Blagg Engineering

Project: McCoy GC A 1A

Sample ID: **MB-8185**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **8185**	RunNo: **11709**
Prep Date: **7/1/2013**	Analysis Date: **7/2/2013**	SeqNo: **332553** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: **LCS-8185**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **8185**	RunNo: **11709**
Prep Date: **7/1/2013**	Analysis Date: **7/2/2013**	SeqNo: **332554** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1020	20.0	1000	0	102	80	120			

Sample ID: **1306C26-003AMS**	SampType: **MS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **BatchQC**	Batch ID: **8185**	RunNo: **11709**
Prep Date: **7/1/2013**	Analysis Date: **7/2/2013**	SeqNo: **332566** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	12400	40.0	2000	10530	93.7	80	120			

Sample ID: **1306C26-003AMSD**	SampType: **MSD**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **BatchQC**	Batch ID: **8185**	RunNo: **11709**
Prep Date: **7/1/2013**	Analysis Date: **7/2/2013**	SeqNo: **332567** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	12800	40.0	2000	10530	112	80	120	2.86	5	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1306C41 | RcptNo: 1

Received by/date: AT 06/28/13

Logged By: **Anne Thorne** 6/28/2013 10:00:00 AM Anne Thorne

Completed By: **Anne Thorne** 6/29/2013 Anne Thorne

Reviewed By: IO 07/01/13

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: 4 (<2 or >12 unless noted)

Adjusted? NO

Checked by:

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

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

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **BP AMERICA PROD. CO.**

CHAIN-OF-CUSTODY # : **N / A**

McCOY GC A # 1A - BLOW & SEP. PITS
UNIT F, SEC. 18, T31N, R10W

LABORATORY (S) USED : **HALL ENVIRONMENTAL**

Date : **July 25, 2013**

Filename : **McCoy GC A 1A mw log 2013-07-25.xls**

DEVELOPER / SAMPLER : **N J V**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1A	101.82	91.47	10.35	18.70	-	-	-	-	-
2A	101.97	91.32	10.65	18.70	-	-	-	-	-
3A	101.63	91.19	10.44	17.50	-	-	-	-	-
4A	100.33	91.21	9.12	14.00	1130	7.47	800	15.9	2.50
5	99.82	91.21	8.61	19.30	1045	7.47	900	16.0	5.25
6	100.20	91.12	9.08	18.46	1000	7.57	1,400	14.8	4.50
7	102.32	91.90	10.42	18.22	0830	7.56	700	16.0	4.00
8	101.44	91.56	9.88	16.60	0915	7.47	1,100	18.5	3.25
			INSTRUMENT CALIBRATIONS =			4.01/7.00/10.00	2,800		
			DATE & TIME =			07/25/13	0600		

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes: 2.00 " well diameter = 0.49 gal. / ft. of water.

Comments or note well diameter if not standard 2 ".

Installations: MW #8 - 6/12/13; #4A - 6/13/13; #2A & #3A - 6/14/13; #1A - 6/25/13; #5, #6, & #7 - 6/26/13.
Initially developed MW #'s 1A, 2A, 3A, 4A, & 8 on 6/21/13 . Excellent recovery in all wells.
Initially developed MW # 1A on 6/26/13. Excellent recovery (purged 25 gallons).
Initially developed MW #'s 5, 6, & 7 on 7/24/13. Excellent recovery in all wells.
Monitor well top survey conducted on 7/23/13.

Used submersible pump and vinyl clear tubing for purging & sampling . Collected samples from MW #'s 4A, 5, 6, 7, & 8
for BTEX per US EPA Method 8021B & general chemistry parameters.

Top of casing: MW #1A ~ 2.50 ft., #2A ~ 2.50 ft., # 3A ~ 2.50 ft., #4A ~ 2.50 ft., #5 ~ 2.30 ft., #6 ~ 2.55 ft.,
#7 ~ 2.20 ft., #8 ~ 2.45 ft. above grade.

on-site	**7:30 AM**	temp.	**65 F**
off-site	**11:30 AM**	temp.	**79 F**
sky cond.		**Mostly sunny**	
wind speed	**0 - 5**	direct.	**E - ENE**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #4A
Project: McCoy GC A #1A
Collection Date: 7/25/2013 11:30:00 AM
Lab ID: 1307C32-001
Matrix: AQUEOUS
Received Date: 7/26/2013 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/30/2013 4:47:28 PM	R12296
Toluene	ND	1.0		µg/L	1	7/30/2013 4:47:28 PM	R12296
Ethylbenzene	ND	1.0		µg/L	1	7/30/2013 4:47:28 PM	R12296
Xylenes, Total	ND	2.0		µg/L	1	7/30/2013 4:47:28 PM	R12296
Surr: 4-Bromofluorobenzene	98.9	69.4-129		%REC	1	7/30/2013 4:47:28 PM	R12296
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.53	0.10		mg/L	1	7/29/2013 12:33:01 PM	R12280
Chloride	30	10		mg/L	20	7/29/2013 12:45:26 PM	R12280
Sulfate	180	10		mg/L	20	7/29/2013 12:45:26 PM	R12280
Nitrate+Nitrite as N	0.21	1.0		mg/L	5	7/30/2013 1:59:41 AM	R12280
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**	
Iron	0.73	0.020	*	mg/L	1	7/29/2013 2:49:59 PM	R12249
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	596	40.0	*	mg/L	1	7/31/2013 7:05:00 PM	8626

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #5
Project: McCoy GC A #1A
Collection Date: 7/25/2013 10:45:00 AM
Lab ID: 1307C32-002
Matrix: AQUEOUS
Received Date: 7/26/2013 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/30/2013 5:17:33 PM	R12296
Toluene	ND	1.0		µg/L	1	7/30/2013 5:17:33 PM	R12296
Ethylbenzene	ND	1.0		µg/L	1	7/30/2013 5:17:33 PM	R12296
Xylenes, Total	ND	2.0		µg/L	1	7/30/2013 5:17:33 PM	R12296
Surr: 4-Bromofluorobenzene	97.5	69.4-129		%REC	1	7/30/2013 5:17:33 PM	R12296
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.42	0.10		mg/L	1	7/29/2013 1:35:03 PM	R12280
Chloride	47	10		mg/L	20	7/29/2013 1:47:28 PM	R12280
Sulfate	240	10		mg/L	20	7/29/2013 1:47:28 PM	R12280
Nitrate+Nitrite as N	ND	1.0		mg/L	5	7/30/2013 2:12:05 AM	R12280
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**	
Iron	1.8	0.10	*	mg/L	5	7/29/2013 2:56:59 PM	R12249
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	718	40.0	*	mg/L	1	7/31/2013 7:05:00 PM	8626

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #6
Project: McCoy GC A #1A
Collection Date: 7/25/2013 10:00:00 AM
Lab ID: 1307C32-003
Matrix: AQUEOUS
Received Date: 7/26/2013 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/30/2013 5:47:50 PM	R12296
Toluene	ND	1.0		µg/L	1	7/30/2013 5:47:50 PM	R12296
Ethylbenzene	ND	1.0		µg/L	1	7/30/2013 5:47:50 PM	R12296
Xylenes, Total	ND	2.0		µg/L	1	7/30/2013 5:47:50 PM	R12296
Surr: 4-Bromofluorobenzene	97.5	69.4-129		%REC	1	7/30/2013 5:47:50 PM	R12296
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.34	0.10		mg/L	1	7/29/2013 1:59:53 PM	R12280
Chloride	140	10		mg/L	20	7/29/2013 2:12:17 PM	R12280
Sulfate	690	10		mg/L	20	7/29/2013 2:12:17 PM	R12280
Nitrate+Nitrite as N	ND	1.0		mg/L	5	7/30/2013 2:24:30 AM	R12280
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**	
Iron	0.24	0.020		mg/L	1	7/29/2013 2:59:29 PM	R12249
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	1460	40.0	*	mg/L	1	7/31/2013 7:05:00 PM	8626

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #7
Project: McCoy GC A #1A
Collection Date: 7/25/2013 8:30:00 AM
Lab ID: 1307C32-004
Matrix: AQUEOUS
Received Date: 7/26/2013 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/30/2013 6:18:10 PM	R12296
Toluene	ND	1.0		µg/L	1	7/30/2013 6:18:10 PM	R12296
Ethylbenzene	ND	1.0		µg/L	1	7/30/2013 6:18:10 PM	R12296
Xylenes, Total	ND	2.0		µg/L	1	7/30/2013 6:18:10 PM	R12296
Surr: 4-Bromofluorobenzene	96.7	69.4-129		%REC	1	7/30/2013 6:18:10 PM	R12296
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.33	0.10		mg/L	1	7/29/2013 2:24:42 PM	R12280
Chloride	25	10		mg/L	20	7/29/2013 2:37:07 PM	R12280
Sulfate	170	10		mg/L	20	7/29/2013 2:37:07 PM	R12280
Nitrate+Nitrite as N	ND	1.0		mg/L	5	7/30/2013 2:36:54 AM	R12280
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**	
Iron	0.034	0.020		mg/L	1	7/29/2013 3:13:04 PM	R12249
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	552	40.0	*	mg/L	1	7/31/2013 7:05:00 PM	8626

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #8
Project: McCoy GC A #1A
Collection Date: 7/25/2013 9:15:00 AM
Lab ID: 1307C32-005
Matrix: AQUEOUS
Received Date: 7/26/2013 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/30/2013 10:19:55 PM	R12296
Toluene	ND	1.0		µg/L	1	7/30/2013 10:19:55 PM	R12296
Ethylbenzene	ND	1.0		µg/L	1	7/30/2013 10:19:55 PM	R12296
Xylenes, Total	ND	2.0		µg/L	1	7/30/2013 10:19:55 PM	R12296
Surr: 4-Bromofluorobenzene	99.9	69.4-129		%REC	1	7/30/2013 10:19:55 PM	R12296
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.40	0.10		mg/L	1	7/29/2013 2:49:31 PM	R12280
Chloride	120	10		mg/L	20	7/30/2013 11:19:17 PM	R12299
Sulfate	310	10		mg/L	20	7/30/2013 11:19:17 PM	R12299
Nitrate+Nitrite as N	ND	1.0		mg/L	5	7/30/2013 2:49:19 AM	R12280
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**	
Iron	0.96	0.020	*	mg/L	1	7/29/2013 3:17:58 PM	R12249
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	952	40.0	*	mg/L	1	7/31/2013 7:05:00 PM	8626

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Chain-of-Custody Record

Client: **BLAGG ENGR. / BP AMERICA**

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

Phone #: **(505) 632-1199**

email or Fax#:

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

Accreditation:
☐ NELAP ☐ Other_____
☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name:
McCoy GC A # 1A

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ** NV

On Ice: ☑ Yes ☐ No

Sample Temperature: 2.3

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1307032	BTEX ~~+ MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,~~NO3~~,~~NO2~~,~~PO4~~,SO4)	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N ~~+ Nitrite N~~ NV			Grab sample	5 pt. composite sample
7/25/13	1130	WATER	MW # 4A	40 ml VOA - 2	HCl & Cool	-001	✓													✓	
7/25/13	1130	WATER	MW # 4A	500 ml - 1	Cool	-001								✓	✓					✓	
7/25/13	1130	WATER	MW # 4A NV 125	~~250~~ ml - 1	HNO_3 & Cool	-001										✓				✓	
7/25/13	1130	WATER	MW # 4A NV 125	~~250~~ ml - 1	H_2SO_4	-001											✓			✓	
7/25/13	1045	WATER	MW # 5	40 ml VOA - 2	HCl & Cool	-002	✓													✓	
7/25/13	1045	WATER	MW # 5	500 ml - 1	Cool	-002								✓	✓					✓	
7/25/13	1045	WATER	MW # 5 NV 125	~~250~~ ml - 1	HNO_3 & Cool	-002										✓				✓	
7/25/13	1045	WATER	MW # 5 NV 125	~~250~~ ml - 1	H_2SO_4	-002											✓			✓	
7/25/13	1000	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-003	✓													✓	
7/25/13	1000	WATER	MW # 6	500 ml - 1	Cool	-003								✓	✓					✓	
7/25/13	1000	WATER	MW # 6 NV 125	~~250~~ ml - 1	HNO_3 & Cool	-003										✓				✓	
7/25/13	1000	WATER	MW # 6 NV 125	250 ml - 1	H_2SO_4	-003											✓			✓	

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/25/13	1155		Christine Walters	7/25/13	1155
Date:	Time:	Relinquished by:	Received by:	Date	Time
7/25/13	1750	Christine Walters		07/26/13	1010

Remarks:

Send invoice to :
Blagg Engineering, Inc.
P.O. Box 87
Bloomfield, NM 87413

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: **BLAGG ENGR. / BP AMERICA**

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

Phone #: **(505) 632-1199**

email or Fax#:

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

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
McCoy GC A # 1A

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ** NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.3

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1307132	BTEX + ~~MTBE~~ + ~~TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,~~NO3~~,NO2,PO4,SO4)	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N / ~~Nitrite N~~			Grab sample	5 pt. composite sample
7/25/13	0830	WATER	MW # 7	40 ml VOA - 2	HCl & Cool	-004	✓													✓	
7/25/13	0830	WATER	MW # 7	500 ml - 1	Cool	-004								✓	✓					✓	
7/25/13	0830	WATER	MW # 7	125 ~~250~~ ml - 1	HNO_3 & Cool	-004										✓				✓	
7/25/13	0830	WATER	MW # 7	125 ~~250~~ ml - 1	H_2SO_4	-004											✓			✓	
7/25/13	0915	WATER	MW # 8	40 ml VOA - 2	HCl & Cool	-005	✓													✓	
7/25/13	0915	WATER	MW # 8	500 ml - 1	Cool	-005								✓	✓					✓	
7/25/13	0915	WATER	MW # 8	125 ~~250~~ ml - 1	HNO_3 & Cool	-005										✓				✓	
7/25/13	0915	WATER	MW # 8	125 ~~250~~ ml - 1	H_2SO_4	-005											✓			✓	

Analysis Request

Date	Time	Relinquished by:	Received by:	Date	Time
7/25/13	1155			7/25/13	1155
7/25/13	1750			07/26/13	1010

Remarks:
Send invoice to :
Blagg Engineering, Inc.
P.O. Box 87
Bloomfield, NM 87413

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#: **1307C32**

08-Aug-13

Client: Blagg Engineering

Project: McCoy GC A #1A

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**R12249**	RunNo:	**12249**					
Prep Date:		Analysis Date:	**7/29/2013**	SeqNo:	**348395**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**R12249**	RunNo:	**12249**					
Prep Date:		Analysis Date:	**7/29/2013**	SeqNo:	**348396**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.52	0.020	0.5000	0	104	85	115			

Sample ID	**1307C06-002AMS**	SampType:	**MS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**R12249**	RunNo:	**12249**					
Prep Date:		Analysis Date:	**7/29/2013**	SeqNo:	**348606**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.51	0.020	0.5000	0	102	70	130			

Sample ID	**1307C06-002AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**R12249**	RunNo:	**12249**					
Prep Date:		Analysis Date:	**7/29/2013**	SeqNo:	**348607**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.51	0.020	0.5000	0	101	70	130	0.189	20	

Sample ID	**MB2**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**R12249**	RunNo:	**12249**					
Prep Date:		Analysis Date:	**7/29/2013**	SeqNo:	**348643**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								

Sample ID	**LCS2**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**R12249**	RunNo:	**12249**					
Prep Date:		Analysis Date:	**7/29/2013**	SeqNo:	**348644**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.49	0.020	0.5000	0	98.5	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1307C32**

08-Aug-13

Client: Blagg Engineering

Project: McCoy GC A #1A

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R12280**	RunNo: **12280**
Prep Date:	Analysis Date: **7/29/2013**	SeqNo: **349184** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS-b**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R12280**	RunNo: **12280**
Prep Date:	Analysis Date: **7/29/2013**	SeqNo: **349186** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	95.1	90	110			
Chloride	4.6	0.50	5.000	0	91.9	90	110			
Sulfate	9.6	0.50	10.00	0	96.4	90	110			
Nitrate+Nitrite as N	3.3	0.20	3.500	0	94.9	90	110			

Sample ID **1307C42-001BMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC**	Batch ID: **R12280**	RunNo: **12280**
Prep Date:	Analysis Date: **7/29/2013**	SeqNo: **349188** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	4.2	0.20	3.500	0.7739	99.2	90	110			

Sample ID **1307C42-001BMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC**	Batch ID: **R12280**	RunNo: **12280**
Prep Date:	Analysis Date: **7/29/2013**	SeqNo: **349189** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	4.2	0.20	3.500	0.7739	97.6	90	110	1.27	20	

Sample ID **1307C06-001AMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC**	Batch ID: **R12280**	RunNo: **12280**
Prep Date:	Analysis Date: **7/29/2013**	SeqNo: **349211** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.2	0.10	0.5000	0.7415	94.3	76.9	114			
Chloride	11	0.50	5.000	5.837	104	89.9	119			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1307C32**

08-Aug-13

Client: Blagg Engineering

Project: McCoy GC A #1A

Sample ID	**1307C06-001AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**BatchQC**	Batch ID:	**R12280**		RunNo:	**12280**				
Prep Date:		Analysis Date:	**7/29/2013**		SeqNo:	**349212**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.2	0.10	0.5000	0.7415	93.1	76.9	114	0.479	20	
Chloride	11	0.50	5.000	5.837	104	89.9	119	0.0543	20	

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBW**	Batch ID:	**R12299**		RunNo:	**12299**				
Prep Date:		Analysis Date:	**7/30/2013**		SeqNo:	**349762**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSW**	Batch ID:	**R12299**		RunNo:	**12299**				
Prep Date:		Analysis Date:	**7/30/2013**		SeqNo:	**349763**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.5	0.50	5.000	0	90.9	90	110			
Sulfate	9.3	0.50	10.00	0	92.7	90	110			

Sample ID	**1307D14-001AMS**	SampType:	**MS**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**BatchQC**	Batch ID:	**R12299**		RunNo:	**12299**				
Prep Date:		Analysis Date:	**7/30/2013**		SeqNo:	**349765**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	11	0.50	5.000	5.341	103	89.9	119			

Sample ID	**1307D14-001AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**BatchQC**	Batch ID:	**R12299**		RunNo:	**12299**				
Prep Date:		Analysis Date:	**7/30/2013**		SeqNo:	**349766**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10	0.50	5.000	5.341	102	89.9	119	0.792	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1307C32**

08-Aug-13

Client: Blagg Engineering

Project: McCoy GC A #1A

Sample ID	**5ML RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBW**	Batch ID:	**R12296**	RunNo:	**12296**					
Prep Date:		Analysis Date:	**7/30/2013**	SeqNo:	**349720**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		104	69.4	129			

Sample ID	**100NG BTEX LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSW**	Batch ID:	**R12296**	RunNo:	**12296**					
Prep Date:		Analysis Date:	**7/30/2013**	SeqNo:	**349721**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.9	80	120			
Toluene	19	1.0	20.00	0	96.8	80	120			
Ethylbenzene	19	1.0	20.00	0	96.8	80	120			
Xylenes, Total	60	2.0	60.00	0	100	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		102	69.4	129			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1307C32**

08-Aug-13

Client: Blagg Engineering

Project: McCoy GC A #1A

Sample ID	**MB-8626**	SampType:	**MBLK**		TestCode:	**SM2540C MOD: Total Dissolved Solids**				
Client ID:	**PBW**	Batch ID:	**8626**		RunNo:	**12322**				
Prep Date:	**7/30/2013**	Analysis Date:	**7/31/2013**		SeqNo:	**350334**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	**LCS-8626**	SampType:	**LCS**		TestCode:	**SM2540C MOD: Total Dissolved Solids**				
Client ID:	**LCSW**	Batch ID:	**8626**		RunNo:	**12322**				
Prep Date:	**7/30/2013**	Analysis Date:	**7/31/2013**		SeqNo:	**350335**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1020	20.0	1000	0	102	80	120			

Sample ID	**1307C41-002BMS**	SampType:	**MS**		TestCode:	**SM2540C MOD: Total Dissolved Solids**				
Client ID:	**BatchQC**	Batch ID:	**8626**		RunNo:	**12322**				
Prep Date:	**7/30/2013**	Analysis Date:	**7/31/2013**		SeqNo:	**350353**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1350	20.0	1000	337.0	102	80	120			

Sample ID	**1307C41-002BMSD**	SampType:	**MSD**		TestCode:	**SM2540C MOD: Total Dissolved Solids**				
Client ID:	**BatchQC**	Batch ID:	**8626**		RunNo:	**12322**				
Prep Date:	**7/30/2013**	Analysis Date:	**7/31/2013**		SeqNo:	**350354**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1360	20.0	1000	337.0	102	80	120	0.295	5	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1307C32 | RcptNo: 1

Received by/date: AG 07/26/13

Logged By: **Michelle Garcia** 7/26/2013 10:10:00 AM Michelle Garcia

Completed By: **Michelle Garcia** 7/26/2013 3:29:18 PM Michelle Garcia

Reviewed By: 07/29/13

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: 10 (<2 or >12 unless noted)

Adjusted? No

Checked by: MG

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.3	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **BP AMERICA PROD. CO.**

CHAIN-OF-CUSTODY # : **N / A**

McCOY GC A # 1A - BLOW & SEP. PITS
UNIT F, SEC. 18, T31N, R10W

LABORATORY (S) USED : **HALL ENVIRONMENTAL**

Date : **December 12, 2013**

Filename : **McCoy GC A 1A mw log 2013-12-12.xls**

DEVELOPER / SAMPLER : **N J V**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1A	101.82	93.09	8.73	18.70	1025	7.57	1,000	11.5	5.00
2A	101.97	92.93	9.04	18.70	-	-	-	-	-
3A	101.63	92.70	8.93	17.50	-	-	-	-	-
4A	100.33	92.20	8.13	14.00	1125	7.51	1,200	12.8	2.75
5	99.82	92.46	7.36	19.30	1420	7.53	1,000	13.4	5.75
6	100.20	-	-	18.46	-	-	-	-	-
7	102.32	93.45	8.87	18.22	1230	7.47	1,400	13.7	4.50
8	101.44	92.92	8.52	16.60	1325	7.50	1,100	15.5	4.00
			INSTRUMENT CALIBRATIONS =			4.01/7.00/10.00	2,800		
			DATE & TIME =			12/09/13	0600		

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes: 2.00 " well diameter = 0.49 gal. / ft. of water.

Comments or note well diameter if not standard 2 ".

Installations: MW #8 - 6/12/13; #4A - 6/13/13; #2A & #3A - 6/14/13; #1A - 6/25/13; #5, #6, & #7 - 6/26/13.
Monitor well top survey conducted on 7/23/13.

Used submersible pump and vinyl clear tubing for purging & sampling . Collected samples from MW #'s 4A, 5, 6, 7, & 8
for BTEX per US EPA Method 8021B & general chemistry parameters.

Top of casing: MW #1A ~ 2.50 ft., #2A ~ 2.50 ft., # 3A ~ 2.50 ft., #4A ~ 2.50 ft., #5 ~ 2.30 ft., #6 ~ 2.55 ft.,
#7 ~ 2.20 ft., #8 ~ 2.45 ft. above grade.

on-site	**9:30 AM**	temp.	**22 F**
off-site	**2:30 PM**	temp.	**42 F**
sky cond.		**Sunny**	
wind speed	**0 - 5**	direct.	**E - ESE**

Analytical Report
Lab Order **1312581**
Date Reported: **12/18/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #1A
Project: McCoy GC A #1A
Collection Date: 12/12/2013 10:25:00 AM
Lab ID: 1312581-001
Matrix: AQUEOUS
Received Date: 12/13/2013 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/17/2013 2:35:45 PM	R15572
Toluene	ND	1.0		µg/L	1	12/17/2013 2:35:45 PM	R15572
Ethylbenzene	ND	1.0		µg/L	1	12/17/2013 2:35:45 PM	R15572
Xylenes, Total	ND	2.0		µg/L	1	12/17/2013 2:35:45 PM	R15572
Surr: 4-Bromofluorobenzene	96.2	85-136		%REC	1	12/17/2013 2:35:45 PM	R15572

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #4A
Project: McCoy GC A #1A
Collection Date: 12/12/2013 11:25:00 AM
Lab ID: 1312581-002
Matrix: AQUEOUS
Received Date: 12/13/2013 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/17/2013 3:06:10 PM	R15572
Toluene	ND	1.0		µg/L	1	12/17/2013 3:06:10 PM	R15572
Ethylbenzene	ND	1.0		µg/L	1	12/17/2013 3:06:10 PM	R15572
Xylenes, Total	ND	2.0		µg/L	1	12/17/2013 3:06:10 PM	R15572
Surr: 4-Bromofluorobenzene	95.6	85-136		%REC	1	12/17/2013 3:06:10 PM	R15572

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #5
Project: McCoy GC A #1A
Collection Date: 12/12/2013 2:20:00 PM
Lab ID: 1312581-003
Matrix: AQUEOUS
Received Date: 12/13/2013 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/17/2013 3:36:26 PM	R15572
Toluene	ND	1.0		µg/L	1	12/17/2013 3:36:26 PM	R15572
Ethylbenzene	ND	1.0		µg/L	1	12/17/2013 3:36:26 PM	R15572
Xylenes, Total	ND	2.0		µg/L	1	12/17/2013 3:36:26 PM	R15572
Surr: 4-Bromofluorobenzene	95.1	85-136		%REC	1	12/17/2013 3:36:26 PM	R15572

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #7
Project: McCoy GC A #1A
Collection Date: 12/12/2013 12:30:00 PM
Lab ID: 1312581-004
Matrix: AQUEOUS
Received Date: 12/13/2013 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/17/2013 4:06:43 PM	R15572
Toluene	ND	1.0		µg/L	1	12/17/2013 4:06:43 PM	R15572
Ethylbenzene	ND	1.0		µg/L	1	12/17/2013 4:06:43 PM	R15572
Xylenes, Total	ND	2.0		µg/L	1	12/17/2013 4:06:43 PM	R15572
Surr: 4-Bromofluorobenzene	92.0	85-136		%REC	1	12/17/2013 4:06:43 PM	R15572

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #8
Project: McCoy GC A #1A
Collection Date: 12/12/2013 1:25:00 PM
Lab ID: 1312581-005
Matrix: AQUEOUS
Received Date: 12/13/2013 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/17/2013 4:36:57 PM	R15572
Toluene	ND	1.0		µg/L	1	12/17/2013 4:36:57 PM	R15572
Ethylbenzene	ND	1.0		µg/L	1	12/17/2013 4:36:57 PM	R15572
Xylenes, Total	ND	2.0		µg/L	1	12/17/2013 4:36:57 PM	R15572
Surr: 4-Bromofluorobenzene	96.5	85-136		%REC	1	12/17/2013 4:36:57 PM	R15572

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Chain of Custody Record

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

☑ Standard ☐ Rush

Project Name: **McCoy GC A # 1A**

Project #:

Project Manager: **NELSON VELEZ**

Sampler: **NELSON VELEZ** NV

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1312581	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	Total Dissolved Solids	Iron, Ferrous (**filtered**)	Nitrate N / Nitrite N			Grab sample	5 pt. composite sample
12/12/13	1025	WATER	MW # 1A	40 ml VOA - 2	HCl & Cool	-001	✓													✓	
12/12/13	1125	WATER	MW # 4A	40 ml VOA - 2	HCl & Cool	-002	✓													✓	
~~12/12/13~~		~~WATER~~	~~MW # 6~~	~~40 ml VOA - 2~~	~~HCl & Cool~~		✓													✓	
12/12/13	1420	WATER	MW # 5	40 ml VOA - 2	HCl & Cool	-003	✓													✓	
12/12/13	1230	WATER	MW # 7	40 ml VOA - 2	HCl & Cool	-004	✓													✓	
12/12/13	1325	WATER	MW # 8	40 ml VOA - 2	HCl & Cool	-005	✓													✓	

Date: 12/12/13	Time: 1453	Relinquished by:	Received by:	Date 12/12/13	Time 1453
Date: 12/12/13	Time: 1747	Relinquished by:	Received by:	Date 12/13/13	Time 1046

Remarks:

BILL DIRECTLY TO BP:

Jeff Peace, 200 Energy Court, Farmington, NM 87401

Find Purchase Order in email from BP.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1312581**

18-Dec-13

Client: Blagg Engineering

Project: McCoy GC A #1A

Sample ID	**5ML RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBW**	Batch ID:	**R15572**	RunNo:	**15572**					
Prep Date:		Analysis Date:	**12/17/2013**	SeqNo:	**448255**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	20		20.00		97.8	85	136			

Sample ID	**100NG BTEX LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSW**	Batch ID:	**R15572**	RunNo:	**15572**					
Prep Date:		Analysis Date:	**12/17/2013**	SeqNo:	**448256**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	80	120			
Toluene	21	1.0	20.00	0	105	80	120			
Ethylbenzene	21	1.0	20.00	0	103	80	120			
Xylenes, Total	63	2.0	60.00	0	105	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		102	85	136			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1312581 RcptNo: 1

Received by/date: RM 12/13/13

Logged By: Ashley Gallegos 12/13/2013 10:40:00 AM

Completed By: Ashley Gallegos 12/13/2013 11:04:05 AM

Reviewed By: RM

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by:

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

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

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **BP AMERICA PROD. CO.**

CHAIN-OF-CUSTODY # : **N / A**

McCOY GC A # 1A - BLOW & SEP. PITS
UNIT F, SEC. 18, T31N, R10W

LABORATORY (S) USED : **HALL ENVIRONMENTAL**

Date : **March 3, 2014**

Filename : **McCoy GC A 1A mw log 2014-03-03.xls**

DEVELOPER / SAMPLER : **N J V**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1A	101.82	92.84	8.98	18.70	1040	7.33	1,000	9.9	4.75
2A	101.97	92.67	9.30	18.70	-	-	-	-	-
3A	101.63	92.47	9.16	17.50	-	-	-	-	-
4A	100.33	92.07	8.26	14.00	1145	7.23	1,200	11.0	2.75
5	99.82	92.28	7.54	19.30	1240	7.39	1,400	11.8	5.75
6	100.20	92.13	8.07	18.46	-	-	-	-	-
7	102.32	93.22	9.10	18.22	1340	7.41	2,000	9.8	4.50
8	101.44	92.73	8.71	16.60	1435	7.27	1,300	11.4	4.00
			INSTRUMENT CALIBRATIONS =			4.01/7.00/10.00	2,800		
			DATE & TIME =			02/24/14	0600		

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes: 2.00 " well diameter = 0.49 gal. / ft. of water.

Comments or note well diameter if not standard 2 ".

Used submersible pump and vinyl clear tubing for purging & sampling . Collected samples from MW #'s 4A, 5, 6, 7, & 8 for BTEX per US EPA Method 8021B & general chemistry parameters.

Top of casing: MW #1A ~ 2.50 ft., #2A ~ 2.50 ft., # 3A ~ 2.50 ft., #4A ~ 2.50 ft., #5 ~ 2.30 ft., #6 ~ 2.55 ft., #7 ~ 2.20 ft., #8 ~ 2.45 ft. above grade.

on-site	**9:45 AM**	temp.	**43 F**
off-site	**2:45 PM**	temp.	**56 F**
sky cond.		**Sunny**	
wind speed	**0 - 10**	direct.	**E - SSE**

Analytical Report
Lab Order **1403156**
Date Reported: **3/12/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW # 1A
Project: McCoy GC A # 1A
Collection Date: 3/3/2014 10:40:00 AM
Lab ID: 1403156-001
Matrix: AQUEOUS
Received Date: 3/5/2014 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **JMP**	
Benzene	ND	1.0		µg/L	1	3/10/2014 2:34:29 PM	R17212
Toluene	ND	1.0		µg/L	1	3/10/2014 2:34:29 PM	R17212
Ethylbenzene	ND	1.0		µg/L	1	3/10/2014 2:34:29 PM	R17212
Xylenes, Total	ND	2.0		µg/L	1	3/10/2014 2:34:29 PM	R17212
Surr: 4-Bromofluorobenzene	108	82.9-139		%REC	1	3/10/2014 2:34:29 PM	R17212

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW # 4A
Project: McCoy GC A # 1A
Collection Date: 3/3/2014 11:45:00 AM
Lab ID: 1403156-002
Matrix: AQUEOUS
Received Date: 3/5/2014 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **JMP**	
Benzene	ND	1.0		µg/L	1	3/10/2014 3:04:32 PM	R17212
Toluene	ND	1.0		µg/L	1	3/10/2014 3:04:32 PM	R17212
Ethylbenzene	ND	1.0		µg/L	1	3/10/2014 3:04:32 PM	R17212
Xylenes, Total	ND	2.0		µg/L	1	3/10/2014 3:04:32 PM	R17212
Surr: 4-Bromofluorobenzene	94.9	82.9-139		%REC	1	3/10/2014 3:04:32 PM	R17212

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW # 5
Project: McCoy GC A # 1A
Collection Date: 3/3/2014 12:40:00 PM
Lab ID: 1403156-003
Matrix: AQUEOUS
Received Date: 3/5/2014 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **JMP**	
Benzene	ND	1.0		µg/L	1	3/10/2014 3:34:37 PM	R17212
Toluene	ND	1.0		µg/L	1	3/10/2014 3:34:37 PM	R17212
Ethylbenzene	ND	1.0		µg/L	1	3/10/2014 3:34:37 PM	R17212
Xylenes, Total	ND	2.0		µg/L	1	3/10/2014 3:34:37 PM	R17212
Surr: 4-Bromofluorobenzene	110	82.9-139		%REC	1	3/10/2014 3:34:37 PM	R17212

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW # 7
Project: McCoy GC A # 1A
Collection Date: 3/3/2014 1:40:00 PM
Lab ID: 1403156-004
Matrix: AQUEOUS
Received Date: 3/5/2014 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **JMP**	
Benzene	ND	1.0		µg/L	1	3/10/2014 4:04:56 PM	R17212
Toluene	ND	1.0		µg/L	1	3/10/2014 4:04:56 PM	R17212
Ethylbenzene	ND	1.0		µg/L	1	3/10/2014 4:04:56 PM	R17212
Xylenes, Total	ND	2.0		µg/L	1	3/10/2014 4:04:56 PM	R17212
Surr: 4-Bromofluorobenzene	111	82.9-139		%REC	1	3/10/2014 4:04:56 PM	R17212

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW # 8
Project: McCoy GC A # 1A
Collection Date: 3/3/2014 2:35:00 PM
Lab ID: 1403156-005
Matrix: AQUEOUS
Received Date: 3/5/2014 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **JMP**	
Benzene	ND	1.0		µg/L	1	3/10/2014 4:35:09 PM	R17212
Toluene	ND	1.0		µg/L	1	3/10/2014 4:35:09 PM	R17212
Ethylbenzene	ND	1.0		µg/L	1	3/10/2014 4:35:09 PM	R17212
Xylenes, Total	ND	2.0		µg/L	1	3/10/2014 4:35:09 PM	R17212
Surr: 4-Bromofluorobenzene	94.1	82.9-139		%REC	1	3/10/2014 4:35:09 PM	R17212

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Chain-of-Custody Record

Client: **BLAGG ENGR. / BP AMERICA**

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

Phone #: **(505) 632-1199**

email or Fax#:

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

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
McCoy GC A # 1A

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ** NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1403156	BTEX + ~~MTBE~~ + ~~TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	Total Dissolved Solids	Iron, Ferrous (**filtered**)	Nitrate N / Nitrite N			Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
3/3/14	1040	WATER	MW # 1A	40 ml VOA - 2	HCl & Cool	-001	√													√		
3/3/14	1145	WATER	MW # 4A	40 ml VOA - 2	HCl & Cool	-002	√													√		
3/3/14	1240	WATER	MW # 5	40 ml VOA - 2	HCl & Cool	-003	√													√		
3/3/14	1340	WATER	MW # 7	40 ml VOA - 2	HCl & Cool	-004	√													√		
3/3/14	1435	WATER	MW # 8	40 ml VOA - 2	HCl & Cool	-005	√													√		

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/4/14	1430			3/4/14	1430
3/4/14	1734			03/05/14	1020

Remarks:

BILL DIRECTLY TO BP:

Jeff Peace, 200 Energy Court, Farmington, NM 87401

Find Purchase Order in email from BP.

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#: **1403156**

12-Mar-14

Client: Blagg Engineering

Project: McCoy GC A # 1A

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R17212**	RunNo: **17212**
Prep Date:	Analysis Date: **3/10/2014**	SeqNo: **495257** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		105	82.9	139			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R17212**	RunNo: **17212**
Prep Date:	Analysis Date: **3/10/2014**	SeqNo: **495258** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.3	80	120			
Toluene	19	1.0	20.00	0	97.4	80	120			
Ethylbenzene	20	1.0	20.00	0	98.4	80	120			
Xylenes, Total	59	2.0	60.00	0	98.3	80	120			
Surr: 4-Bromofluorobenzene	18		20.00		89.2	82.9	139			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1403156 | RcptNo: 1

Received by/date: 03/05/14

Logged By: **Lindsay Mangin** 3/5/2014 10:20:00 AM

Completed By: **Lindsay Mangin** 3/5/2014 2:07:43 PM

Reviewed By: MG 03/05/14 @1545

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

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

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **BP AMERICA PROD. CO.**

CHAIN-OF-CUSTODY # : **N / A**

McCOY GC A # 1A - BLOW & SEP. PITS
UNIT F, SEC. 18, T31N, R10W

LABORATORY (S) USED : **HALL ENVIRONMENTAL**

Date : **June 21, 2014**

Filename : **McCoy GC A 1A mw log 2014-06-21.xls**

DEVELOPER / SAMPLER : **N J V**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1A	101.82	93.39	8.43	18.70	-	-	-	-	-
2A	101.97	93.21	8.76	18.70	-	-	-	-	-
3A	101.63	93.09	8.54	17.50	-	-	-	-	-
4A	100.33	93.13	7.20	14.00	0935	7.22	900	15.0	3.50
5	99.82	93.13	6.69	19.30	1035	7.26	800	14.6	6.25
6	100.20	93.01	7.19	18.46	-	-	-	-	-
7	102.32	93.94	8.38	18.22	0840	7.51	600	14.8	5.00
8	101.44	93.61	7.83	16.60	1140	7.30	900	15.2	4.25
				INSTRUMENT CALIBRATIONS =		4.01/7.00/10.00	2,800		
				DATE & TIME =		06/21/14	0600		

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes: 2.00 " well diameter = 0.49 gal. / ft. of water.

Comments or note well diameter if not standard 2 ".

Used submersible pump and vinyl clear tubing for purging & sampling . Collected samples from MW #'s 4A, 5, 6, 7, & 8 for BTEX per US EPA Method 8021B & general chemistry parameters.

Top of casing: MW #1A ~ 2.50 ft., #2A ~ 2.50 ft., # 3A ~ 2.50 ft., #4A ~ 2.50 ft., #5 ~ 2.30 ft., #6 ~ 2.55 ft., #7 ~ 2.20 ft., #8 ~ 2.45 ft. above grade.

on-site	**7:45 AM**	temp.	**60 F**
off-site	**11:45 AM**	temp.	**80 F**
sky cond.		**Sunny**	
wind speed	**5 - 10**	direct.	**E**

Analytical Report
Lab Order **1406A66**
Date Reported: **6/26/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #4A
Project: McCoy GC A #1A
Collection Date: 6/21/2014 9:35:00 AM
Lab ID: 1406A66-001
Matrix: AQUEOUS
Received Date: 6/24/2014 7:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0	P	µg/L	1	6/24/2014 2:23:31 PM	R19462
Toluene	ND	1.0	P	µg/L	1	6/24/2014 2:23:31 PM	R19462
Ethylbenzene	ND	1.0	P	µg/L	1	6/24/2014 2:23:31 PM	R19462
Xylenes, Total	ND	2.0	P	µg/L	1	6/24/2014 2:23:31 PM	R19462
Surr: 4-Bromofluorobenzene	110	82.9-139	P	%REC	1	6/24/2014 2:23:31 PM	R19462

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #5
Project: McCoy GC A #1A
Collection Date: 6/21/2014 10:35:00 AM
Lab ID: 1406A66-002
Matrix: AQUEOUS
Received Date: 6/24/2014 7:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	6/24/2014 2:52:16 PM	R19462
Toluene	ND	1.0		µg/L	1	6/24/2014 2:52:16 PM	R19462
Ethylbenzene	ND	1.0		µg/L	1	6/24/2014 2:52:16 PM	R19462
Xylenes, Total	ND	2.0		µg/L	1	6/24/2014 2:52:16 PM	R19462
Surr: 4-Bromofluorobenzene	106	82.9-139		%REC	1	6/24/2014 2:52:16 PM	R19462

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #7
Project: McCoy GC A #1A
Collection Date: 6/21/2014 8:40:00 AM
Lab ID: 1406A66-003
Matrix: AQUEOUS
Received Date: 6/24/2014 7:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	6/24/2014 3:20:55 PM	R19462
Toluene	ND	1.0		µg/L	1	6/24/2014 3:20:55 PM	R19462
Ethylbenzene	ND	1.0		µg/L	1	6/24/2014 3:20:55 PM	R19462
Xylenes, Total	ND	2.0		µg/L	1	6/24/2014 3:20:55 PM	R19462
Surr: 4-Bromofluorobenzene	108	82.9-139		%REC	1	6/24/2014 3:20:55 PM	R19462

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #8
Project: McCoy GC A #1A
Collection Date: 6/21/2014 11:40:00 AM
Lab ID: 1406A66-004
Matrix: AQUEOUS
Received Date: 6/24/2014 7:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	6/24/2014 3:49:36 PM	R19462
Toluene	ND	1.0		µg/L	1	6/24/2014 3:49:36 PM	R19462
Ethylbenzene	ND	1.0		µg/L	1	6/24/2014 3:49:36 PM	R19462
Xylenes, Total	ND	2.0		µg/L	1	6/24/2014 3:49:36 PM	R19462
Surr: 4-Bromofluorobenzene	109	82.9-139		%REC	1	6/24/2014 3:49:36 PM	R19462

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Chain-of-Custody Record

Client: **BLAGG ENGR. / BP AMERICA**

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

Phone #: **(505) 632-1199**

email or Fax#:

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

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
McCoy GC A # 1A

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ** NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.3

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1401A66	BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N / Nitrite N			Grab sample	5 pt. composite sample
6/21/14	0935	WATER	MW # 4A	40 ml VOA - 2	HCl & Cool	-001	✓													✓	
6/21/14	1035	WATER	MW # 5	40 ml VOA - 2	HCl & Cool	-002	✓													✓	
6/21/14	0840	WATER	MW # 7	40 ml VOA - 2	HCl & Cool	-003	✓													✓	
6/21/14	1140	WATER	MW # 8	40 ml VOA - 2	HCl & Cool	-004	✓													✓	

Date	Time	Relinquished by:	Received by:	Date	Time
6/23/14	1610			6/23/14	1610
6/23/14	1700	Christie Walters		06/24/14	0744

Remarks:
BILL DIRECTLY TO BP:
Jeff Peace, 200 Energy Court, Farmington, NM 87401
Find Purchase Order in email from BP.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1406A66**

26-Jun-14

Client: Blagg Engineering

Project: McCoy GC A #1A

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R19462**	RunNo: **19462**
Prep Date:	Analysis Date: **6/24/2014**	SeqNo: **563622** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	22		20.00		110	82.9	139			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R19462**	RunNo: **19462**
Prep Date:	Analysis Date: **6/24/2014**	SeqNo: **563623** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	80	120			
Toluene	21	1.0	20.00	0	105	80	120			
Ethylbenzene	21	1.0	20.00	0	105	80	120			
Xylenes, Total	63	2.0	60.00	0	105	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		117	82.9	139			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1406A66 | RcptNo: 1

Received by/date: LM 06/24/14

Logged By: **Michelle Garcia** 6/24/2014 7:46:00 AM Michelle Garcia

Completed By: **Michelle Garcia** 6/24/2014 8:51:25 AM Michelle Garcia

Reviewed By: JO 06/24/14

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

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