bp

BP America Production Company
200 Energy Court
Farmington, NM 87401
Phone: (505) 326-9200

December 21, 2015

Glenn Von Gonten
Senior Hydrologist
New Mexico Oil Conservation Divisic
Environmental Bureau
1220 St. Francis Drive
Santa Fe, NM 87505

Re: Request for Permanent Closure
Gallegos Canyon Unit 93
API No. 3004507699; Unit letter E, Section 36, T29N, R12W; GPS: 36.68537°, -108.0568°

Dear Mr. Von Gonten :

BP America Production Company has retained Blagg Engineering, Inc. to conduct environmental remediation and groundwater monitoring at the Gallegos Canyon Unit (GCU) 93 associated with impacts from a historic earthen pit. The site is located on private property.

After the initial pit closure cleanup efforts at the site, an air sparge/vacuum extraction system was utilized in aggressively remediating on-site hydrocarbon contamination in groundwater. The system was designed to treat soils and groundwater that had not been remediated by excavation. The air sparge system was installed in 2000 and operated non-continuous for approximately 7 years to address groundwater contamination.

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 either John Ritchie (john.ritchie@bp.com) or myself (steven.moskal@bp.com) at the address or phone number listed above. Thank you for your cooperation and assistance.

Sincerely,

Steve Moskal
Field Environmental Coordinator

cc: Mr. Cory Smith, Environmental Specialist, NMOCD District III Office, 1000 Rio Brazos Road Aztec, NM

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OIL CONS. DIV DIST. 3

DEC 21 2015

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: BP	Contact: Steve Moskal
Address: 200 Energy Court, Farmington, NM 87401	Telephone No.: 505-326-9497
Facility Name: Gallegos Canyon Unit 93	Facility Type: Natural gas well

Surface Owner: Private	Mineral Owner: Federal	API No. 30045507699

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: San Juan
E	36	29N	12W	805	South	1,600	West	

Latitude 36.68537° **Longitude** -108.0568°

NATURE OF RELEASE

Type of Release: condensate	Volume of Release: Unknown	Volume Recovered: none
Source of Release: Historic earthen pit	Date and Hour of Occurrence: Unknown	Date and Hour of Discovery: Unknown, circa 2000
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* Soil and groundwater impacts found and suspected to be derived from a historic earthen pit closed in February of 1996. Remedial actions taken include excavation, air sparging and groundwater monitoring.

Describe Area Affected and Cleanup Action Taken.* Site remediation air sparge and groundwater monitoring. The air sparge system operated non-continuous from 2000-2007. Additional groundwater monitoring wells were installed in 2008 after discussion with the NMOCD required further delineation. BP request site closure based on 4 consecutive quarters of groundwater data below regulatory standards for BTEX. Constituents above closure standards include sulfates, cations and TDS are likely the result of background concentrations common in the San Juan Basin.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Steve Moskal	Approved by Environmental Specialist:	
Title: Field Environmental Coordinator	Approval Date:	Expiration Date:
E-mail Address: steven.moskal@bp.com	Conditions of Approval:	Attached ☐
Date: December 21, 2015 Phone: 505-326-9497		

* Attach Additional Sheets If Necessary

BP AMERICA PRODUCTION CO.

GROUNDWATER REMEDIATION REPORT

GCU # 093
(E) SECTION 36, T29N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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

NOVEMBER 2015

PREPARED BY:
BLAGG ENGINEERING, INC.

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

BP AMERICA PRODUCTION COMPANY
GCU # 093 - Blow Pit
SW¼ NW¼, Sec. 36, T29N, R12W

Pit Closure Date:	**February 1996**
Air Sparge Installation Date:	**September 2000**
Monitor Well Installation Date:	**February 14, 2012 (MW #7)**
Monitor Well Sampling Dates:	**March 27, 2012, November 8, 2012, January 9, 2013**

Pit Closure and Background:

The site's unlined earthen blow pit was located on-site and on private property. Specific closure information and succeeding monitoring activities to the end of 2007 was documented and submitted to the New Mexico Oil Conservation Division's (**NMOCD**) Santa Fe office in January 2008. BP elected to aggressively remediate the blow pit area with an air sparge system due to the elevated benzene levels revealed in monitor wells MW #3 and MW #6 from the previous quarterly monitoring between June 1996 and March 2004. In April 2000, upon review of the quarterly sampling data, five (5) air sparge points along with monitor well MW #6 were installed at the blow pit location (Figure 1). Between June 2000 and February 2003 the system became non-operational resulting from the temporarily shut in of the gas well (power source). The system regained operational status by May 2003 utilizing electricity available near the site. The reporting herein is for the on and off-site monitoring to address the blow pit source and its predominate northwest, down gradient flow direction areas after 2007.

Monitor Well Installation and Development Information:

Monitor well MW #7 was installed using a mobile CME-95 drill rig on February 14, 2012. A bore log showing the soil lithology, well completion, and other pertinent data is included in the report. MW #7 was initially developed on March 16, 2012 in order to remove accumulated sediment within the well bore introduced during the installation and to observe recovery tendencies during the purging operation. A two (2) inch dedicated submersible electrical pump with new, clear vinyl tubing was utilized for the initial well development.

Groundwater Monitor Well Sampling Procedures:

A two (2) inch dedicated submersible electrical pump with new, clear vinyl tubing was utilized during the sampling events. The groundwater sample was collected following US EPA: SW-846 protocol, was 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 the site's below-grade tank (**BGT**). The BGT contents was eventually disposed through approved NMOCD operational procedures for removal of produced fluids.

Water Quality and Gradient Information:

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

A site map (Figure 2) and aerial (Figure 3) shows the relative position of monitor wells MW #6 and MW #7. During the last two (2) sampling events, MW #6 was referred to as MW #A and MW #7 as MW #B. Groundwater contour maps generated during previous site monitoring and sampling had demonstrated, on average, a northwestern flow direction (approximately N22W direction).

Summary and/or Recommendations:

Following the recommendation in the 2008 report, the off-site monitor well (MW #7) northwest of MW #3 was installed to confirm that down gradient impacts were not present or were below the New Mexico Water Quality Controls Commission's (**NMWQCC**) groundwater closure standards. BP did adhere to the Landowner Notification Act and the private landowner granted approval to proceed with the off-site activities.

Hydrocarbon impacted soils and groundwater at the site appear to have been remediated via excavation, the utilization of an air sparge system, and possibly from natural attenuation. All on-site monitor wells tested at non-detectable or below the NMWQCC's groundwater BTEX standards for at least four (4) consecutive sampling events and met the requirements of section 2.1 of BP's GMP. MW #7 met the GMP requirements pursuant to section 2.3.

Permanent closure is recommended for the site. In early 2006, four (4) on-site monitor wells [WP #1, MW #2, MW #3, and MW #4R] were removed/grouted at the request of the current surface/property owner. Any remaining monitor wells will be abandoned at either the landowners request or when NMOCD's approves the requested permanent closure. Monitor well abandonment will adhere to section 6.2 of the GMP.

BP AMERICA PRODUCTION COMPANY

GROUNDWATER FIELD DATA & LAB BTEX RESULTS

GCU # 093
UNIT E, SEC. 36, T29N, R12W

REVISED DATE: November 14, 2015
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)
06/11/96	WP #1	13.96	18.00	1,750	1,700	6.5		288	102	557	5,644
06/24/97		13.39			1,700	6.7		587	111	389	840
09/17/97		13.20			1,700	6.9		ND	164	20.6	380.9
12/19/97		14.03			1,600	7.2		ND	0.4	3.8	55.1
02/24/98		14.58			1,500	7.1		6.5	ND	147	20.4
02/18/99		16.15			2,100	6.5		1.5	1.5	5.5	55.2
06/11/96	MW #2	12.43	17.50	650	800	7.4		ND	0.64	ND	3.52
06/11/96	MW #3	14.50	20.00	2,490	2,100	7.1		208	28.3	55.3	132.06
06/24/97		15.30			2,700	7.0		1,207	346	446	921
06/08/98		15.31			2,100	7.0		415	232	35.7	133.9
06/22/99		14.04			2,200	7.2		266	129	54.5	142.9
05/24/00		15.47			2,100	7.2		320	72	38	55
03/19/03		15.70			2,100	7.25		16	2.2	19	9.6
08/19/03		15.60			2,400	6.93		0.62	ND	0.81	ND
11/19/03		15.30			2,600	7.02		ND	ND	1.2	ND
03/29/04		15.65			2,500	7.06		4.4	0.86	8.1	3.0
06/24/04		15.42			2,600	6.96		1.5	ND	5	1.4
12/22/04		15.33			2,500	7.00		1.0	ND	2.8	ND
06/24/97	MW #4	13.67	18.00		2,600	7.1		15,300	5,380	809	6,590
06/08/98		13.89			2,800	7.0		201	37.3	91.4	367.8
06/22/99	MW #4R	15.30	20.00		1,600	6.9		1.9	3.2	0.9	9.2
08/30/99		13.99			1,500	7.2		1	0.8	ND	0.9
12/13/99		14.43			1,800	7.3		2.7	6.6	ND	13.7
02/25/00		14.56			1,800	7.6		ND	ND	ND	ND
06/24/97	MW #5	13.83	18.00		2,000	7.2		6.9	2.9	0.8	8.2
09/17/97		13.87			1,700	6.9		0.3	ND	0.2	0.8
12/19/97		14.46			1,900	7.3		ND	ND	0.3	0.4
02/24/98		14.56			1,700	7.2		10.5	4.0	ND	6.3
06/08/98		13.90			1,700	7.0		2.4	0.5	0.8	4.6
09/28/98		13.61			2,000	7.3		0.2	ND	ND	0.4
12/17/98		13.93			1,600	7.1		ND	0.4	0.3	3.5
02/18/99		14.38			1,700	7.3		5.6	6.5	3.8	11.3
							NMWQCC GROUNDWATER STANDARDS	10	750	750	620

BP AMERICA PRODUCTION COMPANY

GROUNDWATER FIELD DATA & LAB BTEX RESULTS

GCU # 093
UNIT E, SEC. 36, T29N, R12W

REVISED DATE: November 14, 2015
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)
05/24/00	MW #6	13.59	20.00		2,300	7.2		**19**	26	1.4	19.5
03/19/03		14.38			2,000	7.20		**7.2**	ND	ND	1.8
08/19/03		13.62			2,500	6.89		**ND**	ND	ND	ND
11/19/03		13.58			2,500	7.08		**160**	530	27	330
03/29/04		13.87			2,200	7.09		**37**	29	6.3	56
06/24/04		13.70			2,500	6.98		**7.5**	1.4	1.9	7.3
12/22/04		13.61			2,400	7.05		**6.2**	ND	2.2	1.1
03/29/05		13.72			2,400	7.02		**6.9**	1.8	3.1	14
06/27/05		13.68			2,300	7.07		**12**	2.0	4.3	30
09/27/05		13.01			2,500	6.95		**9.1**	ND	2.5	11
06/29/06		13.38			2,200	7.09		**1.5**	ND	1.1	6.0
10/30/06		12.91			2,400	7.05		**4.8**	ND	2.1	9.9
01/26/07		13.13			2,500	7.07		**5.2**	ND	3.0	17
03/27/12	MW #7	13.83	26.50		2,700	7.16		ND	ND	ND	ND
							NMWQCC GROUNDWATER STANDARDS	10	750	750	620

NOTES :

1) RESULTS IN BOLD RED TYPE INDICATE EXCEEDING NMWQCC STANDARDS .
2) RESULTS IN BOLD BLUE TYPE INDICATE BELOW NMWQCC STANDARDS AFTER PREVIOUS RESULTS IN BOLD RED TYPE EXCEEDED .
3) ND INDICATES NOT DETECTED AT THE REPORTING LIMITS (less than regulatory standards of at least a magnitude of 10) .
4) NMWQCC INDICATES NEW MEXICO WATER QUALITY CONTROL COMMISSION.
5) pH NMWQCC standards range between 6 -9
6) TDS - Total Dissolved Solids
7) ppb - Parts per billion

GENERAL WATER QUALITY

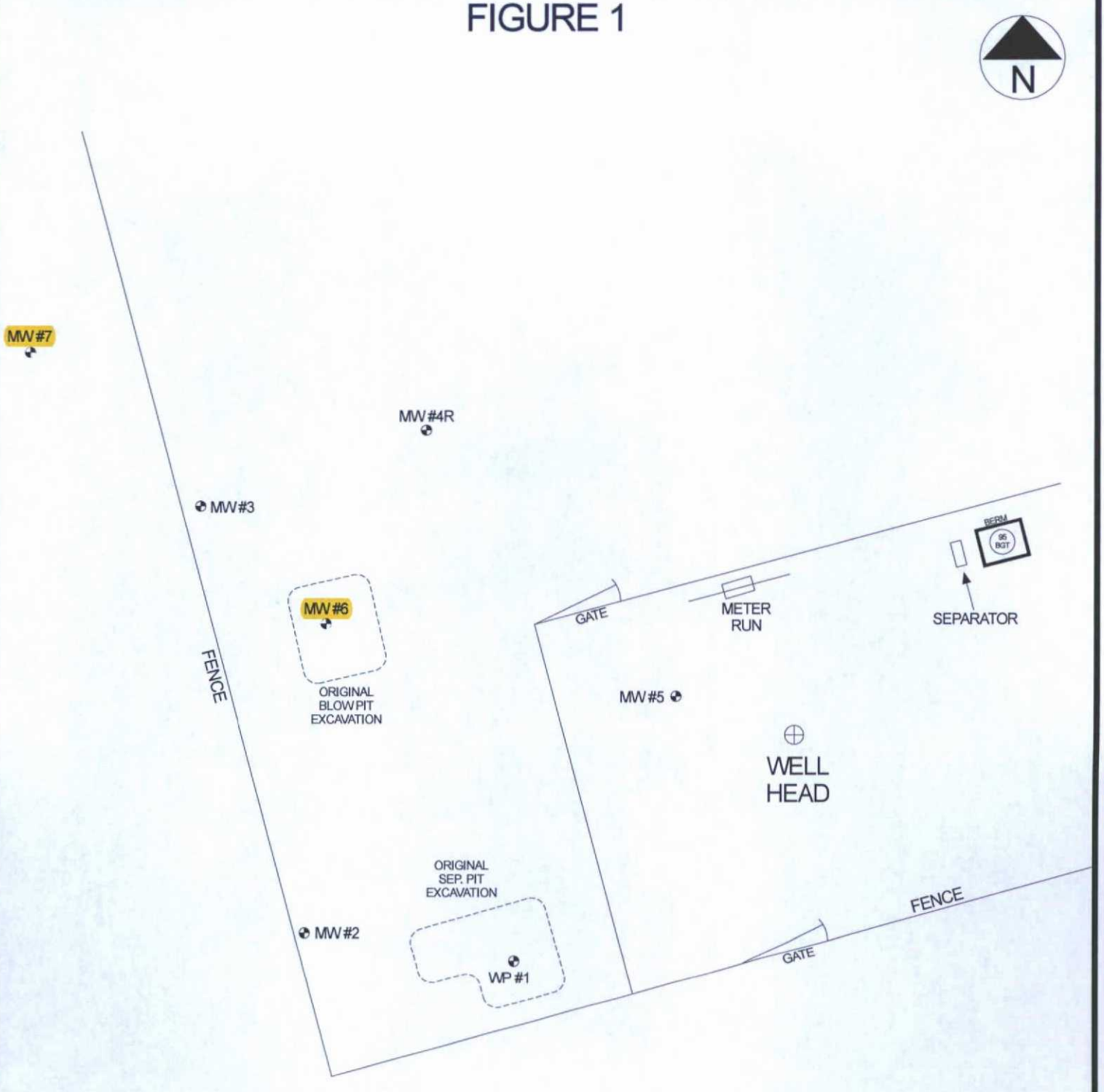
BP AMERICA PRODUCTION COMPANY

GCU # 93

SAMPLE DATES : 06/11/1996, 06/24/1997, 11/08/2012, 01/09/2013

PARAMETERS	WP # 1 06/11/96	MW # 2 06/11/96	MW # 3 06/11/96	MW # 4 06/27/97	MW # 5 06/27/97	MW # 6 11/08/12	MW # 7 01/09/13	Units
LAB pH	6.40	7.40	7.50	7.07	7.10	7.33	7.41	s. u.
LAB CONDUCTIVITY @ 25 C	2,240	1,010	3,680	4,765	3,410	3,100	2,200	umhos / cm
TOTAL DISSOLVED SOLIDS @ 180 C	1,750	650	2,490	2,380	1,700	NA	NA	mg / L
TOTAL DISSOLVED SOLIDS (Calc)	1,580	629	2,490	2,362	1,697	2,550	1,670	mg / L
SODIUM ABSORPTION RATIO	NA	NA	NA	4.0	0.6	NA	NA	ratio
TOTAL ALKALINITY AS CaCO3	263	310	545	548	348	500	370	mg / L
TOTAL HARDNESS AS CaCO3	1,080	244	726	1,152	1,204	NA	NA	mg / L
BICARBONATE as HCO3	263	310	545	548	348	NA	NA	mg / L
CARBONATE AS CO3	NA	NA	NA	< 1	< 1	ND	ND	mg / L
HYDROXIDE AS OH	NA	NA	NA	< 1	< 1	NA	NA	mg / L
NITRATE NITROGEN	NA	NA	NA	1.0	< 1	1.6	2.2	mg / L
NITRITE NITROGEN	NA	NA	NA	< 0.001	< 0.001	ND	ND	mg / L
CHLORIDE	90.0	15.0	25.0	96.0	42.0	43	22	mg / L
FLUORIDE	NA	NA	NA	2.20	1.82	0.40	0.47	mg / L
PHOSPHATE	NA	NA	NA	1.6	1.3	ND	ND	mg / L
SULFATE	868	198	1,370	1,190	930	1,400	910	mg / L
IRON	NA	NA	NA	NA	NA	NA	NA	mg / L
CALCIUM	243	89.7	259	368	413	380	350	mg / L
MAGNESIUM	116	4.84	19.3	56.6	42.0	44	31	mg / L
POTASSIUM	7.00	6.00	10.0	3.6	5.2	2.2	1.8	mg / L
SODIUM	100	130	490	310	50.2	370	190	mg / L
CATION / ANION DIFFERENCE	0.65	0.29	4.77	0.14	0.06	NA	NA	%

FIGURE 1



MONITOR WELL 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 THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

0 50 100 FT.

BP AMERICA PRODUCTION COMPANY

GCU # 93

SW/4 NW/4 SEC. 36, T29N, R12W

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: MW INSTALLATION

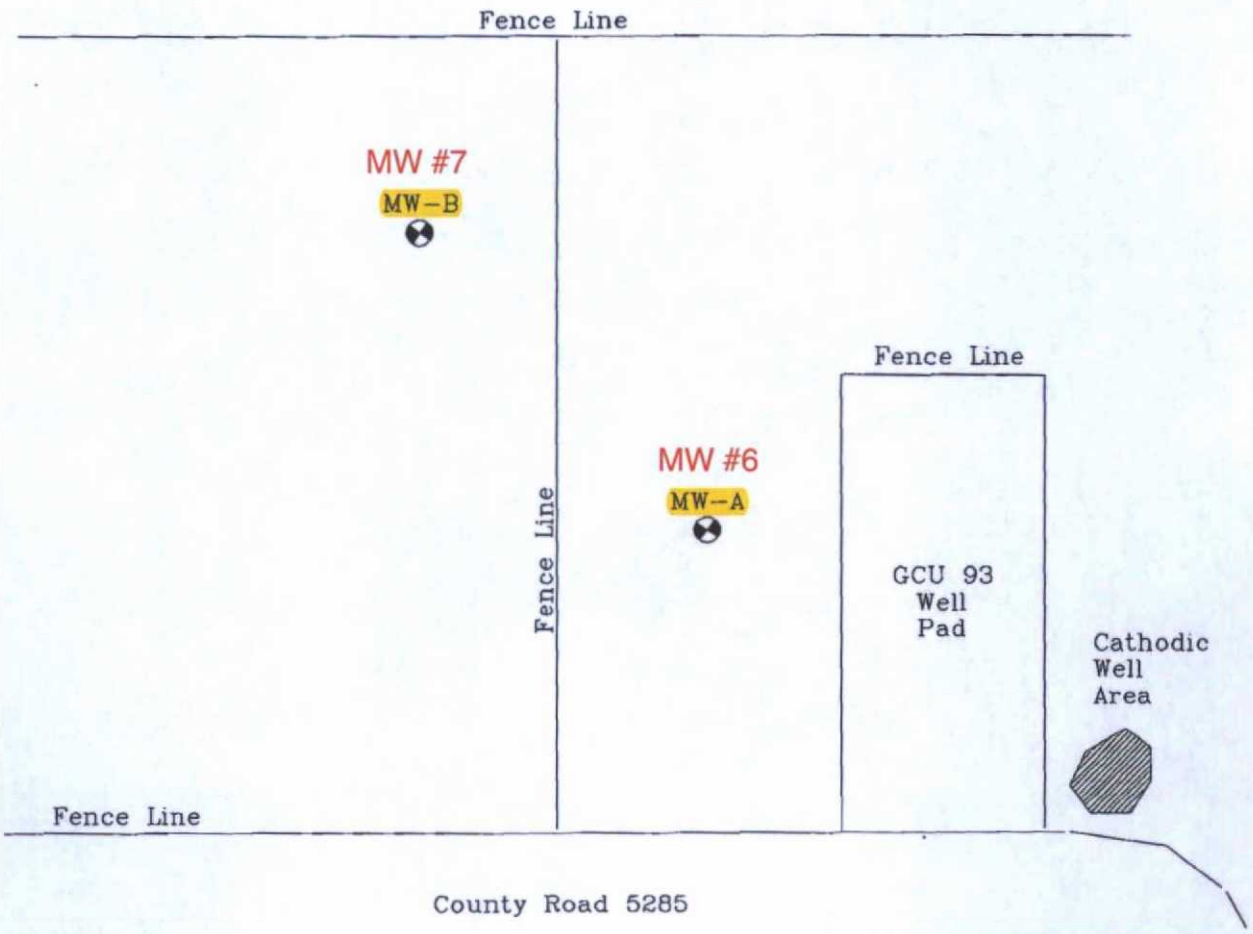
DRAWN BY: NJV

FILENAME: GCU 93-SM1.SKF

REVISED: 11/14/15 NJV

SITE MAP

02/12



LEGEND

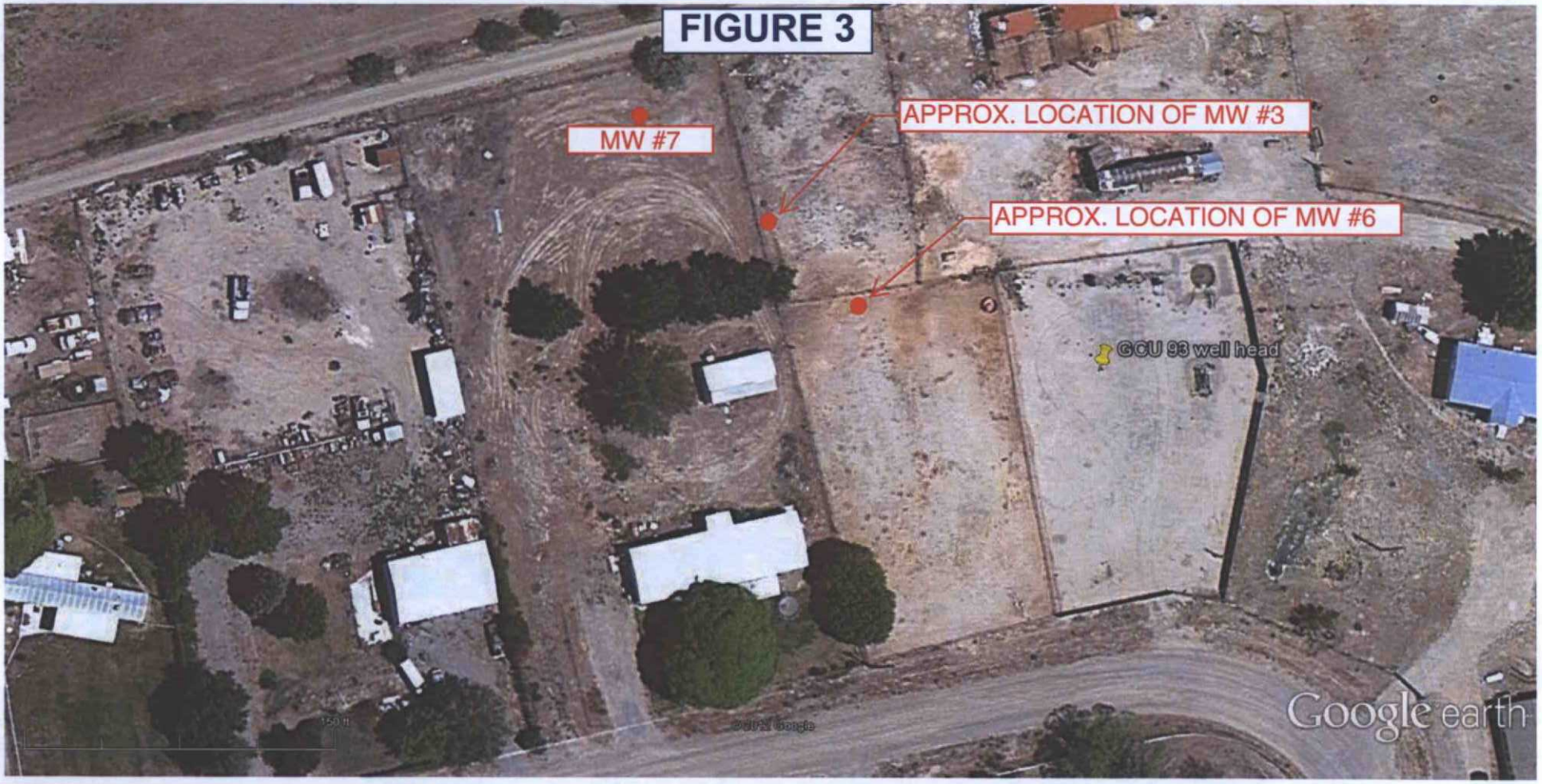
Groundwater Monitor Well

N

0 100 200 Feet

SITE FIGURE BP ** GCU 93 ** (E)36-T29N-R12W			BLAGG ENGINEERING, INC.
DATE: 08/2012	FIGURE 2	BY: JCB	P.O. BOX 87, BLOOMFIELD, NM PHONE: (505)632-1199

FIGURE 3



BP - GCU # 93
Unit E, Sec. 36, T29N, R9W
GPS Coord.: **36° 41' 7.90" / 108° 3' 27.50"**

N

BLAGG ENGINEERING, INC.

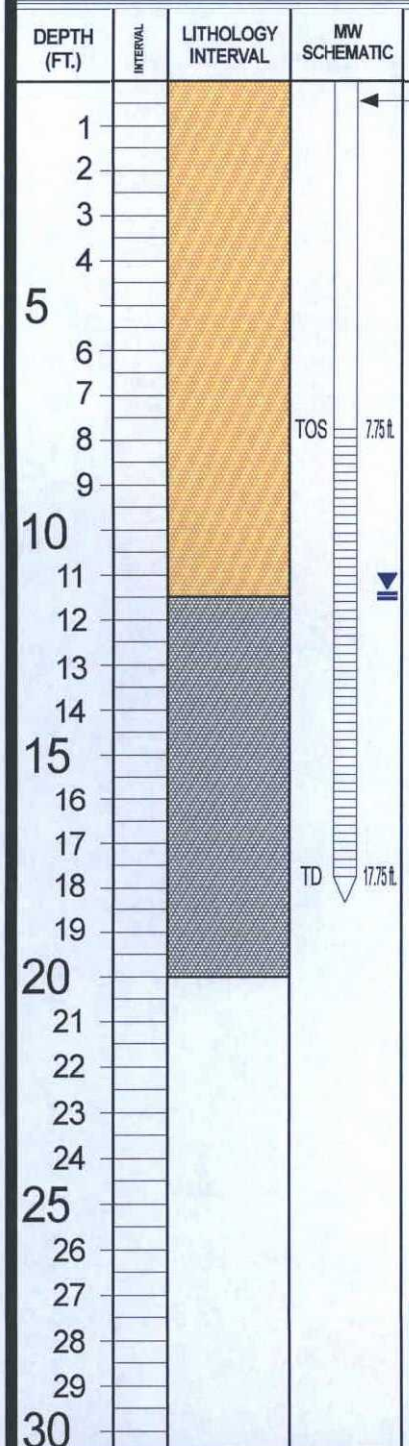
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 6

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	GCU # 93 API: 3004507699 UNIT E, SEC. 36, T29N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	172 FEET, N 77 W FROM WELL HEAD.

BORING #.....	BH - 6
MW #.....	6
PAGE #.....	1
DATE STARTED	04/28/00
DATE FINISHED	04/28/00
OPERATOR.....	JCB
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.25 FT. BELOW GRADE.

DARK YELLOWISH ORANGE SAND TO SILTY SAND, NON COHESIVE, DRY TO SLIGHTLY MOIST PHASING INTO SATURATED BELOW 12 FEET, FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 11.5 FT. BELOW GRADE).

GROUNDWATER ~ 11.34 FEET BELOW GRADE ; MEASURED 05/24/00.

SAME AS ABOVE EXCEPT LIGHT TO MEDIUM GRAY, SATURATED, APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (11.5 - 20.0 FEET BELOW GRADE).

TOTAL PIPING LENGTH APPROXIMATELY 20.00 FEET

NOTES: - SAND TO SILTY SAND. - SAND TO SILTY SAND (impacted).

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.
OVM - Organic vapor meter or photoionization detector (PID).
ppm - parts per million or milligram per kilogram (mg/Kg).

Monitor well consist of 2 inch PVC piping - casing from 2.25 feet above grade to 7.75 feet below grade, 0.010 slotted screen between 7.75 to 17.75 feet below grade, sand packed annular to grade. Steel well protector with padlock concreted at base to secure exposed casing top.

DRAWING: GCU 093 MW6 2000-04-28.SKF | DATE: 11/14/15 | DWN BY: NJV

BLAGG ENGINEERING, INC.

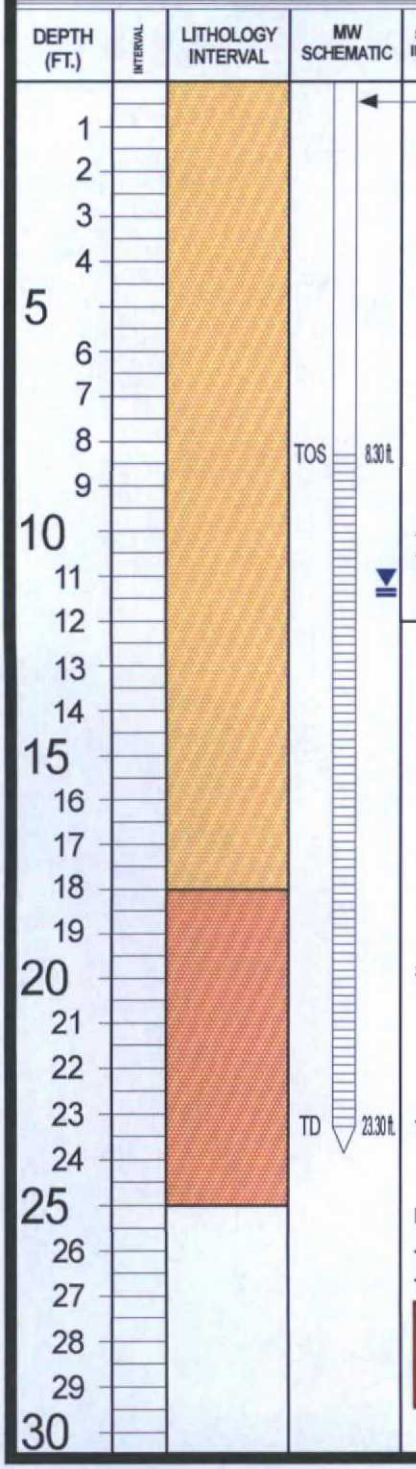
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 7

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	GCU # 93 API: 3004507699 UNIT E, SEC. 36, T29N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 95) - HOLLOW STEM AUGER
BORING LOCATION:	306 FEET, N 63.5 W FROM WELL HEAD.

BORING #.....	BH - 7
MW #.....	7
PAGE #.....	2
DATE STARTED	02/14/12
DATE FINISHED	02/14/12
OPERATOR.....	KP
LOGGED BY.....	JCB



SAMPLE INTERVAL	SAMPLE TIME	FIELD OVM (ppm)	BLOW COUNT PER 6" & RECOVERY
10.00 11.50	1253	0.0	6-5-3

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.70 FT. BELOW GRADE.

VERY PALE ORANGE SAND TO SILTY SAND, NON COHESIVE, DRY TO SLIGHTLY MOIST PHASING INTO SATURATED BELOW 12 FEET, FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 18.0 FT. BELOW GRADE).

GROUNDWATER ~ 10.95 FEET BELOW GRADE ; MEASURED 03/16/12.

SAME AS ABOVE EXCEPT SATURATED, PEBBLE SIZE GRAVEL, SLIGHTLY DARKER COLOR (18.0 - 25.0 FEET BELOW GRADE).

TOTAL PIPING LENGTH APPROXIMATELY 26.50 FEET

OVM CALIBRATION:
52.8 ppm; RF = 0.52 (RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 02/14/12.
Time - 1050.

NOTES: - SAND TO SILTY SAND. - SAND AND GRAVEL.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.
OVM - Organic vapor meter or photoionization detector (PID).
ppm - parts per million or milligram per kilogram (mg/Kg).

Monitor well consist of 2 inch PVC piping - casing from 2.70 feet above grade to 8.30 feet below grade, 0.010 slotted screen between 8.30 to 23.30 feet below grade, sand packed annular to 7.00 feet below grade, bentonite grout between 5.00 to 7.00 feet below grade, native clean soil surface. Steel well protector with padlock concreted at base to secure exposed casing top.

DRAWING: GCU 093 MW7 2012-02-14.SKF | DATE: 11/14/15 | DWN BY: NJV

BLAGG ENGINEERING, INC.

MONITOR / TEST WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 93
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : March 27, 2012
Filename : GCU 093 mw log 2012-03-27.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

Sample ID	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
MW #7	-	-	13.83	26.50	1145	7.16	2,700	15.5	6.25
					INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800		
					DATE & TIME =	02/14/12	0900		

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 ",

Good / fair recovery in MW # 7 . Murky brown in appearance. Purged approximately 4 gallons when water flow ceased, waited 5 minutes, then reinitiated pumping. Purged well using 2 inch submersible electrical pump , new / clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing. Collected sample for BTEX per US EPA Method 8021B from MW # 7 only.

Top of casing: MW # 7 ~ 2.70 feet above grade.

on-site	**10:45 AM**	temp	**43 F**
off-site	**12:00 PM**	temp	**42 F**
sky cond.		**Mostly cloudy**	
wind speed	**0 - 10**	direct.	**SW**

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1203B33**
Date Reported: **4/5/2012**

CLIENT: Blagg Engineering
Project: GCU # 93
Lab ID: 1203B33-001 **Matrix:** AQUEOUS

Client Sample ID: MW #7
Collection Date: 3/27/2012 4:30:00 PM
Received Date: 3/29/2012 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	2.0		µg/L	2	4/3/2012 4:54:46 AM
Toluene	ND	2.0		µg/L	2	4/3/2012 4:54:46 AM
Ethylbenzene	ND	2.0		µg/L	2	4/3/2012 4:54:46 AM
Xylenes, Total	ND	4.0		µg/L	2	4/3/2012 4:54:46 AM
Surr: 4-Bromofluorobenzene	80.3	55-140		%REC	2	4/3/2012 4:54:46 AM

Qualifiers:

*/X	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Analytical Report
Lab Order **1211399**
Date Reported: **11/28/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 93
Lab ID: 1211399-001 **Matrix:** AQUEOUS

Client Sample ID: MW-A (#6)
Collection Date: 11/8/2012 12:04:00 PM
Received Date: 11/9/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	0.40	0.10		mg/L	1	11/9/2012 3:08:51 PM
Chloride	43	10		mg/L	20	11/16/2012 12:39:15 AM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/9/2012 3:08:51 PM
Bromide	0.44	0.10		mg/L	1	11/9/2012 3:08:51 PM
Nitrogen, Nitrate (As N)	1.6	0.10		mg/L	1	11/9/2012 3:08:51 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/9/2012 3:08:51 PM
Sulfate	1400	25		mg/L	50	11/16/2012 12:51:40 AM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Calcium	380	10		mg/L	10	11/9/2012 7:55:53 PM
Magnesium	44	1.0		mg/L	1	11/9/2012 7:50:22 PM
Potassium	2.2	1.0		mg/L	1	11/9/2012 7:50:22 PM
Sodium	370	10		mg/L	10	11/16/2012 5:11:20 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **JML**
Conductivity	3100	0.010		µmhos/cm	1	11/9/2012 4:39:56 PM
SM4500-H+B: PH						Analyst: **JML**
pH	7.33	1.68	H	pH units	1	11/13/2012 1:17:34 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	500	20		mg/L CaCO3	1	11/9/2012 4:39:56 PM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/9/2012 4:39:56 PM
Total Alkalinity (as CaCO3)	500	20		mg/L CaCO3	1	11/9/2012 4:39:56 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JML**
Total Dissolved Solids	2550	40.0		mg/L	1	11/15/2012 12:29:00 PM

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
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-B (#7)
Project: GCU 93
Collection Date: 1/9/2013 1:40:00 PM
Lab ID: 1301335-003
Matrix: AQUEOUS
Received Date: 1/10/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	0.47	0.10		mg/L	1	1/10/2013 8:33:25 PM
Chloride	22	10		mg/L	20	1/10/2013 8:45:49 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	1/10/2013 8:33:25 PM
Bromide	0.13	0.10		mg/L	1	1/10/2013 8:33:25 PM
Nitrogen, Nitrate (As N)	2.2	0.10		mg/L	1	1/10/2013 8:33:25 PM
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	1/10/2013 8:45:49 PM
Sulfate	910	10		mg/L	20	1/10/2013 8:45:49 PM
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **ELS**
Calcium	350	5.0		mg/L	5	1/14/2013 10:49:57 AM
Magnesium	31	1.0		mg/L	1	1/14/2013 10:47:19 AM
Potassium	1.8	1.0		mg/L	1	1/14/2013 10:47:19 AM
Sodium	190	5.0		mg/L	5	1/14/2013 10:49:57 AM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **JML**
Conductivity	2200	0.010		µmhos/cm	1	1/11/2013 11:57:18 AM
SM4500-H+B: PH						Analyst: **JML**
pH	7.41	1.68	H	pH units	1	1/11/2013 11:57:18 AM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	370	20		mg/L CaCO3	1	1/11/2013 11:57:18 AM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	1/11/2013 11:57:18 AM
Total Alkalinity (as CaCO3)	370	20		mg/L CaCO3	1	1/11/2013 11:57:18 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	1670	40.0		mg/L	1	1/17/2013 8:55:00 AM

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
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: GCU # 93

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

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. 1203B33	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO3, NO2, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)				Air Bubbles (Y or N)
3/27/12	1630	WATER	MW #7	40 ml VOA - 2	HCl & Cool	-001	✓															

Remarks:

BILL DIRECTLY TO BP:
Jeff Peace, 200 Energy Court, Farmington, NM 87401

Work Order: N1520106 Paykey: ZPEACJDENV

Date	Time	Relinquished by:	Received by:	Date	Time
3/28/12	10:00		Christine Walters	3/28/12	1000
3/28/12	1624	Christine Walters		03/29/12	0900

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 ENGINEERING INC.
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: GCU 93
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. 1211399	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CATION/ANION BALANCE	pH, TDS, Cond.			Air Bubbles (Y or N)
11/8/12	1204	WATER	MW-A (#6)	2 x PVC	COOL/HNO_3	-001												X	X			
"	1230	"	SEDICO WELL	"	COOL/HNO_3	-002												X	X			
		11/07/12																				

HNO_3 CONTAINER FIELD FILTERED 0.45um

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/8/12	1322			11/8/12	1322
11/8/12	1718			11/09/12	1000

Remarks:
BILL BLAGG
BP CONTACT: JEFF PEACE

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 ENGINEERING INC.
BP AMERICA
Mailing Address: P.O. Box 87
BLOOMFIELD, NM 87413
Phone #: 505-632-1199
email or Fax#:
QA/QC Package:
[X] Standard [ ] Level 4 (Full Validation)
Accreditation
[ ] NELAP [ ] Other
[ ] EDD (Type)

Turn-Around Time:
[X] Standard [ ] Rush
Project Name: GCU 93
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: [X] Yes [ ] No
Sample Temperature: 1 °C

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. 1301335
1/9/2013	1235	Water	SEDILLO Well #1	3xPVC	HNO_3/H_2SO_4	-001
"	1310	"	SEDILLO Well #2	"	"	-002
"	1340	"	MW-B (#7)	"	"	-003

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CATION/ANION	pH/CONDUCTIVITY/TDS			Air Bubbles (Y or N)
											X	X			
											X	X			
											X	X			

Date:	Time:	Relinquished by:	Received by:	Date	Time
1/9/2013	1440	Jeff Blagg	Christine Walters	1/9/2013	1440
1/9/13	1724	Christine Walters		01/10/13	0957

Remarks: BILL BLAGG
BP CONTACT: JEFF PEACE

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#: **1203B33**

05-Apr-12

Client: Blagg Engineering

Project: GCU # 93

Sample ID: **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R1870**	RunNo: **1870**
Prep Date:	Analysis Date: **4/2/2012**	SeqNo: **52341** 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	16		20.00		80.5	55	140			

Sample ID: **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R1870**	RunNo: **1870**
Prep Date:	Analysis Date: **4/2/2012**	SeqNo: **52352** 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			
Toluene	21	1.0	20.00	0	107	80	120			
Ethylbenzene	22	1.0	20.00	0	109	80	120			
Xylenes, Total	65	2.0	60.00	0	108	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		103	55	140			

Qualifiers:

- */X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- 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: 1203B33

Received by/date: AG 03/29/12

Logged By: Michelle Garcia 3/29/2012 9:00:00 AM Michelle Garcia

Completed By: Michelle Garcia 3/29/2012 5:52:25 PM Michelle Garcia

Reviewed By: IO 03/30/12

Chain of Custody

1.	Were seals intact?	Yes	No	Not Present ✔
2.	Is Chain of Custody complete?	Yes ✔	No	Not Present
3.	How was the sample delivered?	FedEx		

Log In

4.	Coolers are present? (see 19. for cooler specific information)	Yes ✔	No	NA
5.	Was an attempt made to cool the samples?	Yes ✔	No	NA
6.	Were all samples received at a temperature of >0° C to 6.0°C	Yes ✔	No	NA
7.	Sample(s) in proper container(s)?	Yes ✔	No	
8.	Sufficient sample volume for indicated test(s)?	Yes ✔	No	
9.	Are samples (except VOA and ONG) properly preserved?	Yes ✔	No	
10.	Was preservative added to bottles?	Yes	No ✔	NA
11.	VOA vials have zero headspace?	Yes	No	No VOA Vials ✔
12.	Were any sample containers received broken?	Yes	No ✔	
13.	Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✔	No	# of preserved bottles checked for pH:
14.	Are matrices correctly identified on Chain of Custody?	Yes ✔	No	(<2 or >12 unless noted)
15.	Is it clear what analyses were requested?	Yes ✔	No	Adjusted?
16.	Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ✔	No	Checked by:

Special Handling (if applicable)

17. 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:

18. Additional remarks:

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Not Present			

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 93
Lab ID: 1211399-002 **Matrix:** AQUEOUS

Client Sample ID: Sedillo Well
Collection Date: 11/8/2012 12:30:00 PM
Received Date: 11/9/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	0.45	0.10		mg/L	1	11/9/2012 3:58:30 PM
Chloride	48	10		mg/L	20	11/9/2012 4:10:55 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/9/2012 3:58:30 PM
Bromide	0.54	0.10		mg/L	1	11/9/2012 3:58:30 PM
Nitrogen, Nitrate (As N)	4.4	0.10		mg/L	1	11/9/2012 3:58:30 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/9/2012 3:58:30 PM
Sulfate	1200	25		mg/L	50	11/13/2012 11:10:08 AM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Calcium	360	10		mg/L	10	11/9/2012 8:14:27 PM
Magnesium	34	1.0		mg/L	1	11/9/2012 7:59:38 PM
Potassium	1.8	1.0		mg/L	1	11/9/2012 7:59:38 PM
Sodium	200	10		mg/L	10	11/9/2012 8:14:27 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **JML**
Conductivity	2400	0.010		µmhos/cm	1	11/9/2012 5:00:13 PM
SM4500-H+B: PH						Analyst: **JML**
pH	7.56	1.68	H	pH units	1	11/13/2012 1:22:03 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	180	20		mg/L CaCO3	1	11/9/2012 5:00:13 PM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/9/2012 5:00:13 PM
Total Alkalinity (as CaCO3)	180	20		mg/L CaCO3	1	11/9/2012 5:00:13 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JML**
Total Dissolved Solids	1970	20.0		mg/L	1	11/15/2012 12:29:00 PM

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
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1211399**

28-Nov-12

Client: Blagg Engineering
Project: GCU 93

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R6815**	RunNo: **6815**
Prep Date:	Analysis Date: **11/9/2012**	SeqNo: **197083** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R6815**	RunNo: **6815**
Prep Date:	Analysis Date: **11/9/2012**	SeqNo: **197084** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	52	1.0	50.00	0	105	85	115			
Magnesium	53	1.0	50.00	0	106	85	115			
Potassium	51	1.0	50.00	0	101	85	115			
Sodium	52	1.0	50.00	0.07959	103	85	115			

Sample ID **1211252-007DMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **R6815**	RunNo: **6815**
Prep Date:	Analysis Date: **11/9/2012**	SeqNo: **197109** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	53	1.0	50.00	0	106	70	130			
Magnesium	53	1.0	50.00	0	106	70	130			
Potassium	51	1.0	50.00	0	102	70	130			

Sample ID **1211252-007DMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **R6815**	RunNo: **6815**
Prep Date:	Analysis Date: **11/9/2012**	SeqNo: **197110** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	55	1.0	50.00	0	111	70	130	4.56	20	
Magnesium	56	1.0	50.00	0	112	70	130	5.66	20	
Potassium	54	1.0	50.00	0	109	70	130	6.51	20	

Sample ID **1211252-007DMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **R6815**	RunNo: **6815**
Prep Date:	Analysis Date: **11/9/2012**	SeqNo: **197146** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	52	1.0	50.00	0.1442	105	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1211399**

28-Nov-12

Client: Blagg Engineering
Project: GCU 93

Sample ID	1211252-007DMSD	SampType:	MSD		TestCode:	EPA Method 200.7: Dissolved Metals				
Client ID:	BatchQC	Batch ID:	R6815		RunNo:	6815				
Prep Date:		Analysis Date:	11/9/2012		SeqNo:	197147	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	55	1.0	50.00	0.1442	110	70	130	4.91	20	

Sample ID	MB	SampType:	MBLK		TestCode:	EPA Method 200.7: Dissolved Metals				
Client ID:	PBW	Batch ID:	R6815		RunNo:	6815				
Prep Date:		Analysis Date:	11/9/2012		SeqNo:	197156	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID	LCS	SampType:	LCS		TestCode:	EPA Method 200.7: Dissolved Metals				
Client ID:	LCSW	Batch ID:	R6815		RunNo:	6815				
Prep Date:		Analysis Date:	11/9/2012		SeqNo:	197157	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	51	1.0	50.00	0	103	85	115			
Magnesium	53	1.0	50.00	0	106	85	115			
Potassium	51	1.0	50.00	0	103	85	115			
Sodium	53	1.0	50.00	0	105	85	115			

Sample ID	MB	SampType:	MBLK		TestCode:	EPA Method 200.7: Dissolved Metals				
Client ID:	PBW	Batch ID:	R6967		RunNo:	6967				
Prep Date:		Analysis Date:	11/16/2012		SeqNo:	201544	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID	LCS	SampType:	LCS		TestCode:	EPA Method 200.7: Dissolved Metals				
Client ID:	LCSW	Batch ID:	R6967		RunNo:	6967				
Prep Date:		Analysis Date:	11/16/2012		SeqNo:	201545	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	50	1.0	50.00	0	101	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1211399**

28-Nov-12

Client: Blagg Engineering
Project: GCU 93

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R6829**	RunNo: **6829**
Prep Date:	Analysis Date: **11/9/2012**	SeqNo: **197608** 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								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R6829**	RunNo: **6829**
Prep Date:	Analysis Date: **11/9/2012**	SeqNo: **197609** 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	95.5	90	110			
Chloride	4.8	0.50	5.000	0	95.2	90	110			
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	95.8	90	110			
Bromide	2.3	0.10	2.500	0	92.7	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.5	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	98.7	90	110			

Sample ID **1211349-001AMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC**	Batch ID: **R6829**	RunNo: **6829**
Prep Date:	Analysis Date: **11/9/2012**	SeqNo: **197612** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.1	0.10	0.5000	0.6322	87.4	76.6	110			
Nitrogen, Nitrite (As N)	1.1	0.10	1.000	0	107	72.5	111			
Bromide	2.7	0.10	2.500	0	106	83.3	107			
Nitrogen, Nitrate (As N)	4.4	0.10	2.500	1.616	113	90.4	113			
Phosphorus, Orthophosphate (As P	8.0	0.50	5.000	2.570	108	74.5	115			

Sample ID **1211349-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC**	Batch ID: **R6829**	RunNo: **6829**
Prep Date:	Analysis Date: **11/9/2012**	SeqNo: **197613** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.2	0.10	0.5000	0.6322	112	76.6	110	10.9	20	S
Nitrogen, Nitrite (As N)	1.1	0.10	1.000	0	108	72.5	111	0.903	20	
Bromide	2.7	0.10	2.500	0	110	83.3	107	3.40	20	S
Nitrogen, Nitrate (As N)	4.5	0.10	2.500	1.616	114	90.4	113	0.702	20	S
Phosphorus, Orthophosphate (As P	8.0	0.50	5.000	2.570	109	74.5	115	0.616	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1211399**

28-Nov-12

Client: Blagg Engineering
Project: GCU 93

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R6829**	RunNo: **6829**							
Prep Date:	Analysis Date: **11/9/2012**	SeqNo: **197692**	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								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R6829**	RunNo: **6829**							
Prep Date:	Analysis Date: **11/9/2012**	SeqNo: **197693**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	102	90	110			
Chloride	4.8	0.50	5.000	0	95.9	90	110			
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	96.3	90	110			
Bromide	2.4	0.10	2.500	0	94.9	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.9	90	110			
Phosphorus, Orthophosphate (As P	5.2	0.50	5.000	0	104	90	110			

Sample ID **1211400-004EMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **BatchQC**	Batch ID: **R6829**	RunNo: **6829**							
Prep Date:	Analysis Date: **11/9/2012**	SeqNo: **197695**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.1	0.10	0.5000	0.6205	97.8	76.6	110			
Nitrogen, Nitrite (As N)	1.9	0.10	1.000	0.8390	109	72.5	111			
Bromide	4.9	0.10	2.500	2.532	93.4	83.3	107			
Nitrogen, Nitrate (As N)	5.2	0.10	2.500	2.603	105	90.4	113			

Sample ID **1211400-004EMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **BatchQC**	Batch ID: **R6829**	RunNo: **6829**							
Prep Date:	Analysis Date: **11/9/2012**	SeqNo: **197696**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.1	0.10	0.5000	0.6205	99.6	76.6	110	0.817	20	
Nitrogen, Nitrite (As N)	1.9	0.10	1.000	0.8390	111	72.5	111	1.09	20	
Bromide	4.9	0.10	2.500	2.532	92.8	83.3	107	0.309	20	
Nitrogen, Nitrate (As N)	5.3	0.10	2.500	2.603	107	90.4	113	0.661	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1211399**

28-Nov-12

Client: Blagg Engineering
Project: GCU 93

Sample ID **1211406-001AMS**	SampType: **MS**			TestCode: **EPA Method 300.0: Anions**					
Client ID: **BatchQC**	Batch ID: **R6829**			RunNo: **6829**					
Prep Date:	Analysis Date: **11/9/2012**			SeqNo: **197699**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.55	0.10	0.5000	0.07520	94.9	76.6	110			
Chloride	6.6	0.50	5.000	1.783	95.5	87.8	111			
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	96.5	72.5	111			
Bromide	2.3	0.10	2.500	0	93.1	83.3	107			
Nitrogen, Nitrate (As N)	4.9	0.10	2.500	2.235	105	90.4	113			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	101	74.5	115			

Sample ID **1211406-001AMSD**	SampType: **MSD**			TestCode: **EPA Method 300.0: Anions**					
Client ID: **BatchQC**	Batch ID: **R6829**			RunNo: **6829**					
Prep Date:	Analysis Date: **11/9/2012**			SeqNo: **197700**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.55	0.10	0.5000	0.07520	94.5	76.6	110	0.292	20	
Chloride	6.6	0.50	5.000	1.783	95.4	87.8	111	0.0732	20	
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.3	72.5	111	2.36	20	
Bromide	2.3	0.10	2.500	0	91.4	83.3	107	1.81	20	
Nitrogen, Nitrate (As N)	4.9	0.10	2.500	2.235	105	90.4	113	0.0824	20	
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	101	74.5	115	0.0179	20	

Sample ID **MB**	SampType: **MBLK**			TestCode: **EPA Method 300.0: Anions**					
Client ID: **PBW**	Batch ID: **R6888**			RunNo: **6888**					
Prep Date:	Analysis Date: **11/13/2012**			SeqNo: **199330**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **LCS**			TestCode: **EPA Method 300.0: Anions**					
Client ID: **LCSW**	Batch ID: **R6888**			RunNo: **6888**					
Prep Date:	Analysis Date: **11/13/2012**			SeqNo: **199331**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	10	0.50	10.00	0	103	90	110			

Sample ID **MB**	SampType: **MBLK**			TestCode: **EPA Method 300.0: Anions**					
Client ID: **PBW**	Batch ID: **R6929**			RunNo: **6929**					
Prep Date:	Analysis Date: **11/15/2012**			SeqNo: **200593**		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								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1211399**

28-Nov-12

Client: Blagg Engineering
Project: GCU 93

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R6929**	RunNo: **6929**
Prep Date:	Analysis Date: **11/15/2012**	SeqNo: **200594** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.7	90	110			
Sulfate	9.5	0.50	10.00	0	95.0	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1211399**

28-Nov-12

Client: Blagg Engineering
Project: GCU 93

Sample ID	**1211376-001d dup**	SampType: **DUP**		TestCode: **EPA 120.1: Specific Conductance**					
Client ID:	**BatchQC**	Batch ID: **R6832**		RunNo: **6832**					
Prep Date:		Analysis Date: **11/9/2012**		SeqNo: **197899**		Units: **µmhos/cm**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	440	0.010						0.477	20	

Sample ID	**1211406-002a dup**	SampType: **DUP**		TestCode: **EPA 120.1: Specific Conductance**					
Client ID:	**BatchQC**	Batch ID: **R6832**		RunNo: **6832**					
Prep Date:		Analysis Date: **11/9/2012**		SeqNo: **197913**		Units: **µmhos/cm**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	180	0.010						0.0560	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1211399**

28-Nov-12

Client: Blagg Engineering
Project: GCU 93

Sample ID	**1211376-001d dup**	SampType: **DUP**			TestCode: **SM4500-H+B: pH**					
Client ID:	**BatchQC**	Batch ID: **R6832**			RunNo: **6832**					
Prep Date:		Analysis Date: **11/9/2012**			SeqNo: **197922**		Units: **pH units**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.58	1.68								H

Sample ID	**1211406-002a dup**	SampType: **DUP**			TestCode: **SM4500-H+B: pH**					
Client ID:	**BatchQC**	Batch ID: **R6832**			RunNo: **6832**					
Prep Date:		Analysis Date: **11/9/2012**			SeqNo: **197951**		Units: **pH units**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.99	1.68								H

Sample ID	**1211501-001c dup**	SampType: **DUP**			TestCode: **SM4500-H+B: pH**					
Client ID:	**BatchQC**	Batch ID: **R6865**			RunNo: **6865**					
Prep Date:		Analysis Date: **11/13/2012**			SeqNo: **198754**		Units: **pH units**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	8.42	1.68								H

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1211399**

28-Nov-12

Client: Blagg Engineering
Project: GCU 93

Sample ID **mb-1**	SampType: **MBLK**			TestCode: **SM2320B: Alkalinity**					
Client ID: **PBW**	Batch ID: **R6832**			RunNo: **6832**					
Prep Date:	Analysis Date: **11/9/2012**			SeqNo: **197868**		Units: **mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID **lcs-1**	SampType: **LCS**			TestCode: **SM2320B: Alkalinity**					
Client ID: **LCSW**	Batch ID: **R6832**			RunNo: **6832**					
Prep Date:	Analysis Date: **11/9/2012**			SeqNo: **197869**		Units: **mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	81	20	80.00	0	101	88.1	104			

Sample ID **1211383-001b ms**	SampType: **MS**			TestCode: **SM2320B: Alkalinity**					
Client ID: **BatchQC**	Batch ID: **R6832**			RunNo: **6832**					
Prep Date:	Analysis Date: **11/9/2012**			SeqNo: **197872**		Units: **mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	200	20	80.00	127.9	90.6	62.6	110			

Sample ID **1211383-001b msd**	SampType: **MSD**			TestCode: **SM2320B: Alkalinity**					
Client ID: **BatchQC**	Batch ID: **R6832**			RunNo: **6832**					
Prep Date:	Analysis Date: **11/9/2012**			SeqNo: **197873**		Units: **mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	200	20	80.00	127.9	91.0	59.9	111	0.120	10	

Sample ID **mb-2**	SampType: **MBLK**			TestCode: **SM2320B: Alkalinity**					
Client ID: **PBW**	Batch ID: **R6832**			RunNo: **6832**					
Prep Date:	Analysis Date: **11/9/2012**			SeqNo: **197889**		Units: **mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID **lcs-2**	SampType: **LCS**			TestCode: **SM2320B: Alkalinity**					
Client ID: **LCSW**	Batch ID: **R6832**			RunNo: **6832**					
Prep Date:	Analysis Date: **11/9/2012**			SeqNo: **197890**		Units: **mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	81	20	80.00	0	101	88.1	104			

Sample ID **1211400-001e ms**	SampType: **MS**			TestCode: **SM2320B: Alkalinity**					
Client ID: **BatchQC**	Batch ID: **R6832**			RunNo: **6832**					
Prep Date:	Analysis Date: **11/9/2012**			SeqNo: **197892**		Units: **mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	390	20	80.00	325.0	86.3	62.6	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1211399**

28-Nov-12

Client: Blagg Engineering
Project: GCU 93

Sample ID	**1211400-001e msd**	SampType: **MSD**		TestCode: **SM2320B: Alkalinity**					
Client ID:	**BatchQC**	Batch ID: **R6832**		RunNo: **6832**					
Prep Date:		Analysis Date: **11/9/2012**		SeqNo: **197893**		Units: **mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	390	20	80.00	325.0	87.2	59.9	111	0.183	10	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1211399**

28-Nov-12

Client: Blagg Engineering
Project: GCU 93

Sample ID **MB-4820**	SampType: **MBLK**			TestCode: **SM2540C MOD: Total Dissolved Solids**					
Client ID: **PBW**	Batch ID: **4820**			RunNo: **6916**					
Prep Date: **11/14/2012**	Analysis Date: **11/15/2012**			SeqNo: **200217**		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-4820**	SampType: **LCS**			TestCode: **SM2540C MOD: Total Dissolved Solids**					
Client ID: **LCSW**	Batch ID: **4820**			RunNo: **6916**					
Prep Date: **11/14/2012**	Analysis Date: **11/15/2012**			SeqNo: **200218**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Sample ID **1211448-003AMS**	SampType: **MS**			TestCode: **SM2540C MOD: Total Dissolved Solids**					
Client ID: **BatchQC**	Batch ID: **4820**			RunNo: **6916**					
Prep Date: **11/14/2012**	Analysis Date: **11/15/2012**			SeqNo: **200238**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1380	20.0	1000	372.0	100	80	120			

Sample ID **1211448-003AMSD**	SampType: **MSD**			TestCode: **SM2540C MOD: Total Dissolved Solids**					
Client ID: **BatchQC**	Batch ID: **4820**			RunNo: **6916**					
Prep Date: **11/14/2012**	Analysis Date: **11/15/2012**			SeqNo: **200239**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1390	20.0	1000	372.0	102	80	120	0.868	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD 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: 1211399

Received by/date: 11/09/12

Logged By: Ashley Gallegos 11/9/2012 10:00:00 AM

Completed By: Ashley Gallegos 11/9/2012 11:30:46 AM

Reviewed By: 11/09/12

Chain of Custody

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

Log In

4. Coolers are present? (see 19. for cooler specific information)	Yes ☑	No ☐	NA ☐
5. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
7. Sample(s) in proper container(s)?	Yes ☑	No ☐	
8. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
9. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
10. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
11. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
12. Were any sample containers received broken?	Yes ☐	No ☑	
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
14. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
15. Is it clear what analyses were requested?	Yes ☑	No ☐	
16. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

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

Adjusted? _____

Checked by: IO

Special Handling (if applicable)

17. 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: _____

18. Additional remarks:

19. Cooler Information

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301335**

18-Jan-13

Client: Blagg Engineering

Project: GCU 93

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R7989**	RunNo: **7989**
Prep Date:	Analysis Date: **1/10/2013**	SeqNo: **231137** 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								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R7989**	RunNo: **7989**
Prep Date:	Analysis Date: **1/10/2013**	SeqNo: **231138** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.49	0.10	0.5000	0	98.4	90	110			
Chloride	4.8	0.50	5.000	0	95.0	90	110			
Nitrogen, Nitrite (As N)	0.92	0.10	1.000	0	92.3	90	110			
Bromide	2.4	0.10	2.500	0	96.3	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	99.8	90	110			
Phosphorus, Orthophosphate (As P	5.1	0.50	5.000	0	101	90	110			
Sulfate	9.5	0.50	10.00	0	95.0	90	110			

Sample ID **1301331-001CMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC**	Batch ID: **R7989**	RunNo: **7989**
Prep Date:	Analysis Date: **1/10/2013**	SeqNo: **231150** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.79	0.10	0.5000	0.3027	96.7	76.6	110			
Chloride	8.4	0.50	5.000	3.410	99.3	87.8	111			
Nitrogen, Nitrite (As N)	0.92	0.10	1.000	0	91.7	72.5	111			
Bromide	2.4	0.10	2.500	0	98.0	83.3	107			
Nitrogen, Nitrate (As N)	3.5	0.10	2.500	0.9124	103	90.4	113			
Phosphorus, Orthophosphate (As P	5.2	0.50	5.000	0.1975	101	74.5	115			
Sulfate	22	0.50	10.00	11.31	103	84.6	122			

Sample ID **1301331-001CMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC**	Batch ID: **R7989**	RunNo: **7989**
Prep Date:	Analysis Date: **1/10/2013**	SeqNo: **231151** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.78	0.10	0.5000	0.3027	96.1	76.6	110	0.395	20	
Chloride	8.3	0.50	5.000	3.410	98.5	87.8	111	0.479	20	
Nitrogen, Nitrite (As N)	0.91	0.10	1.000	0	91.3	72.5	111	0.415	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301335**

18-Jan-13

Client: Blagg Engineering
Project: GCU 93

Sample ID **1301331-001CMSD**	SampType: **MSD**			TestCode: **EPA Method 300.0: Anions**					
Client ID: **BatchQC**	Batch ID: **R7989**			RunNo: **7989**					
Prep Date:	Analysis Date: **1/10/2013**			SeqNo: **231151**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromide	2.4	0.10	2.500	0	97.4	83.3	107	0.528	20	
Nitrogen, Nitrate (As N)	3.5	0.10	2.500	0.9124	102	90.4	113	0.636	20	
Phosphorus, Orthophosphate (As P	5.2	0.50	5.000	0.1975	100	74.5	115	0.606	20	
Sulfate	21	0.50	10.00	11.31	101	84.6	122	0.830	20	

Sample ID **1301335-001AMS**	SampType: **MS**			TestCode: **EPA Method 300.0: Anions**					
Client ID: **Sedillo Well #1**	Batch ID: **R7989**			RunNo: **7989**					
Prep Date:	Analysis Date: **1/10/2013**			SeqNo: **231154**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.71	0.10	0.5000	0.2787	85.5	76.6	110			
Nitrogen, Nitrite (As N)	0.88	0.10	1.000	0	88.3	72.5	111			
Bromide	2.6	0.10	2.500	0.2979	93.0	83.3	107			
Nitrogen, Nitrate (As N)	6.4	0.10	2.500	3.665	108	90.4	113			

Sample ID **1301335-001AMSD**	SampType: **MSD**			TestCode: **EPA Method 300.0: Anions**					
Client ID: **Sedillo Well #1**	Batch ID: **R7989**			RunNo: **7989**					
Prep Date:	Analysis Date: **1/10/2013**			SeqNo: **231156**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.74	0.10	0.5000	0.2787	92.1	76.6	110	4.55	20	
Nitrogen, Nitrite (As N)	0.89	0.10	1.000	0	89.5	72.5	111	1.36	20	
Bromide	2.6	0.10	2.500	0.2979	93.8	83.3	107	0.748	20	
Nitrogen, Nitrate (As N)	6.4	0.10	2.500	3.665	109	90.4	113	0.243	20	

Sample ID **MB**	SampType: **MBLK**			TestCode: **EPA Method 300.0: Anions**					
Client ID: **PBW**	Batch ID: **R7989**			RunNo: **7989**					
Prep Date:	Analysis Date: **1/11/2013**			SeqNo: **231196**		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								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301335**

18-Jan-13

Client: Blagg Engineering
Project: GCU 93

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R7989**	RunNo: **7989**							
Prep Date:	Analysis Date: **1/11/2013**	SeqNo: **231197**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	105	90	110			
Chloride	4.6	0.50	5.000	0	92.1	90	110			
Nitrogen, Nitrite (As N)	0.90	0.10	1.000	0	90.4	90	110			
Bromide	2.3	0.10	2.500	0	93.9	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	96.9	90	110			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	99.7	90	110			
Sulfate	9.2	0.50	10.00	0	92.4	90	110			

Sample ID **1301316-001BMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **BatchQC**	Batch ID: **R7989**	RunNo: **7989**							
Prep Date:	Analysis Date: **1/11/2013**	SeqNo: **231206**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.88	0.10	0.5000	0.4093	94.0	76.6	110			
Nitrogen, Nitrite (As N)	1.3	0.10	1.000	0.4091	87.7	72.5	111			
Bromide	2.4	0.10	2.500	0	94.4	83.3	107			

Sample ID **1301316-001BMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **BatchQC**	Batch ID: **R7989**	RunNo: **7989**							
Prep Date:	Analysis Date: **1/11/2013**	SeqNo: **231207**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.88	0.10	0.5000	0.4093	94.5	76.6	110	0.318	20	
Nitrogen, Nitrite (As N)	1.3	0.10	1.000	0.4091	87.8	72.5	111	0.0777	20	
Bromide	2.4	0.10	2.500	0	94.5	83.3	107	0.0720	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301335**

18-Jan-13

Client: Blagg Engineering

Project: GCU 93

Sample ID	**1301358-003c dup**	SampType: **DUP**		TestCode: **EPA 120.1: Specific Conductance**					
Client ID:	**BatchQC**	Batch ID: **R8022**		RunNo: **8022**					
Prep Date:		Analysis Date: **1/11/2013**		SeqNo: **232168**		Units: **µmhos/cm**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	5100	0.010						1.22	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301335**

18-Jan-13

Client: Blagg Engineering
Project: GCU 93

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R8039**	RunNo: **8039**
Prep Date:	Analysis Date: **1/14/2013**	SeqNo: **232515** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R8039**	RunNo: **8039**
Prep Date:	Analysis Date: **1/14/2013**	SeqNo: **232516** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	58	1.0	50.00	0	117	80	120			
Magnesium	58	1.0	50.00	0	117	80	120			
Potassium	56	1.0	50.00	0	113	80	120			
Sodium	58	1.0	50.00	0	116	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301335**

18-Jan-13

Client: Blagg Engineering

Project: GCU 93

Sample ID	**1301358-003c dup**	SampType: **DUP**		TestCode: **SM4500-H+B: pH**					
Client ID:	**BatchQC**	Batch ID: **R8022**		RunNo: **8022**					
Prep Date:		Analysis Date: **1/11/2013**		SeqNo: **232240**		Units: **pH units**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	8.41	1.68								H

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
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301335**

18-Jan-13

Client: Blagg Engineering
Project: GCU 93

Sample ID **mb-1**	SampType: **MBLK**			TestCode: **SM2320B: Alkalinity**					
Client ID: **PBW**	Batch ID: **R8022**			RunNo: **8022**					
Prep Date:	Analysis Date: **1/11/2013**			SeqNo: **232128**		Units: **mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID **lcs-1**	SampType: **LCS**			TestCode: **SM2320B: Alkalinity**					
Client ID: **LCSW**	Batch ID: **R8022**			RunNo: **8022**					
Prep Date:	Analysis Date: **1/11/2013**			SeqNo: **232129**		Units: **mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	84	20	80.00	0	105	95	105			

Sample ID **1301347-001b ms**	SampType: **MS**			TestCode: **SM2320B: Alkalinity**					
Client ID: **BatchQC**	Batch ID: **R8022**			RunNo: **8022**					
Prep Date:	Analysis Date: **1/11/2013**			SeqNo: **232135**		Units: **mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	190	20	80.00	111.0	96.2	65.3	113			

Sample ID **1301347-001b msd**	SampType: **MSD**			TestCode: **SM2320B: Alkalinity**					
Client ID: **BatchQC**	Batch ID: **R8022**			RunNo: **8022**					
Prep Date:	Analysis Date: **1/11/2013**			SeqNo: **232136**		Units: **mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	190	20	80.00	111.0	93.4	65.3	113	1.18	10	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301335**

18-Jan-13

Client: Blagg Engineering

Project: GCU 93

Sample ID	**MB-5675**	SampType: **MBLK**			TestCode: **SM2540C MOD: Total Dissolved Solids**					
Client ID:	**PBW**	Batch ID: **5675**			RunNo: **8099**					
Prep Date:	**1/15/2013**	Analysis Date: **1/17/2013**			SeqNo: **234230**		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-5675**	SampType: **LCS**			TestCode: **SM2540C MOD: Total Dissolved Solids**					
Client ID:	**LCSW**	Batch ID: **5675**			RunNo: **8099**					
Prep Date:	**1/15/2013**	Analysis Date: **1/17/2013**			SeqNo: **234231**		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	103	80	120			

Sample ID	**1301380-003AMS**	SampType: **MS**			TestCode: **SM2540C MOD: Total Dissolved Solids**					
Client ID:	**BatchQC**	Batch ID: **5675**			RunNo: **8099**					
Prep Date:	**1/15/2013**	Analysis Date: **1/17/2013**			SeqNo: **234250**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	5310	20.0	1000	4266	105	80	120			

Sample ID	**1301380-003AMSD**	SampType: **MSD**			TestCode: **SM2540C MOD: Total Dissolved Solids**					
Client ID:	**BatchQC**	Batch ID: **5675**			RunNo: **8099**					
Prep Date:	**1/15/2013**	Analysis Date: **1/17/2013**			SeqNo: **234251**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	5320	20.0	1000	4266	105	80	120	0.150	5	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD 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: 1301335

Received by/date: 01/10/13

Logged By: Ashley Gallegos 1/10/2013 9:50:00 AM

Completed By: Ashley Gallegos 1/10/2013 1:28:47 PM

Reviewed By: JB 1/10/13

Chain of Custody

		Yes	No	Not Present
1.	Were seals intact?			✓
2.	Is Chain of Custody complete?	✓		
3.	How was the sample delivered?	Courier		

Log In

		Yes	No	NA
4.	Coolers are present? (see 19. for cooler specific information)	✓		
5.	Was an attempt made to cool the samples?	✓		
6.	Were all samples received at a temperature of >0° C to 6.0°C	✓		
7.	Sample(s) in proper container(s)?	✓		
8.	Sufficient sample volume for indicated test(s)?	✓		
9.	Are samples (except VOA and ONG) properly preserved?	✓		
10.	Was preservative added to bottles?		✓	
11.	VOA vials have zero headspace?			No VOA Vials ✓
12.	Were any sample containers received broken?		✓	
13.	Does paperwork match bottle labels? (Note discrepancies on chain of custody)	✓		# of preserved bottles checked for pH: 6
14.	Are matrices correctly identified on Chain of Custody?	✓		(2 or >12 unless noted)
15.	Is it clear what analyses were requested?	✓		Adjusted?
16.	Were all holding times able to be met? (If no, notify customer for authorization.)	✓		Checked by: JO

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

By Whom: _____ Via: eMail Phone Fax In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. Cooler Information

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