

Analytical Report**Report Summary**

Client: BP America Production Co.

Chain Of Custody Number:

Samples Received: 9/15/2015 2:14:00PM

Job Number: 03143-0424

Work Order: P509025

Project Name/Location: BH Testing

Entire Report Reviewed By:



Date: 9/22/15

Tim Cain, Laboratory Manager

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.

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

Project Name: BH Testing
Project Number: 03143-0424
Project Manager: Sabre Beebe

Reported:
22-Sep-15 16:04

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Russell 4E	P509025-01A	Aqueous	09/15/15	09/15/15	Poly 500mL

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Russell 4E
P509025-01 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Cation/Anion Analysis										
pH @°C	9.72		pH Units	1		1538009	09/15/15 14:29	09/15/15 14:30	150.1/4500H	H2
Electrical Conductivity	5180		umhos/cm	1		1538009	09/15/15 14:29	09/15/15 14:30	EPA 120.1	H2
Total Dissolved Solids	3980	10.0	mg/L	1		1538022	09/22/15	09/22/15	160.1/2540C	
Sodium Absorption Ratio	29.0		N/A	1		1538021	09/17/15	09/17/15	[CALC]	
Total Alkalinity as CaCO3	310	10.0	mg/L	1		1538020	09/17/15	09/17/15	Hach Method 8203	
Total Hardness as CaCO3	230	0.07	mg/L			[CALC]	09/17/15	09/17/15	[CALC]	
Bicarbonate as CaCO3	310	10.0	mg/L	1		1538020	09/17/15	09/17/15	Hach Method 8203	
Carbonate as CaCO3	ND	10.0	mg/L	1		1538020	09/17/15	09/17/15	Hach Method 8203	
Hydroxide as CaCO3	ND	10.0	mg/L	1		1538020	09/17/15	09/17/15	Hach Method 8203	
Nitrate-N	ND	1.00	mg/L	10		1538011	09/16/15 11:20	09/16/15 14:30	EPA 300.0	
Nitrite-N	ND	1.00	mg/L	10		1538011	09/16/15 11:20	09/16/15 14:30	EPA 300.0	
Chloride	25.0	10.0	mg/L	10		1538011	09/16/15	09/16/15	EPA 300.0	
Fluoride	1.90	1.00	mg/L	10		1538011	09/16/15	09/16/15	EPA 300.0	
o-Phosphate-P	ND	5.00	mg/L	10		1538011	09/16/15 11:20	09/16/15 14:30	EPA 300.0	
Sulfate	3570	20.0	mg/L	10		1538011	09/16/15	09/16/15	EPA 300.0	
Iron	0.03	0.01	mg/L	1		1538015	09/17/15	09/17/15	EPA 6010C	
Calcium	90.3	0.01	mg/L	1		1538015	09/17/15	09/17/15	EPA 6010C	
Magnesium	1.14	0.01	mg/L	1		1538015	09/17/15	09/17/15	EPA 6010C	
Potassium	8.77	0.01	mg/L	1		1538015	09/17/15	09/17/15	EPA 6010C	
Sodium	1010	0.01	mg/L	1		1538015	09/17/15	09/17/15	EPA 6010C	

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Cation/Anion Analysis - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1538011 - Anion Extraction EPA 300.0

Blank (1538011-BLK1)

Prepared & Analyzed: 16-Sep-15

Nitrate-N	ND	0.10	mg/L
Nitrite-N	ND	0.10	"
Chloride	ND	1.00	"
Fluoride	ND	0.10	"
o-Phosphate-P	ND	0.50	"
Sulfate	ND	2.00	"

LCS (1538011-BS1)

Prepared & Analyzed: 16-Sep-15

Nitrate-N	4.94	0.10	mg/L	5.00	98.7	90-110
Nitrite-N	4.80	0.10	"	5.00	96.0	90-110
Chloride	47.4	1.00	"	50.0	94.8	90-110
Fluoride	4.97	0.10	"	5.00	99.4	90-110
o-Phosphate-P	24.5	0.50	"	25.0	98.2	90-110
Sulfate	47.0	2.00	"	50.0	94.0	90-110

Matrix Spike (1538011-MS1)

Source: P509025-01

Prepared: 16-Sep-15 Analyzed: 17-Sep-15

Nitrate-N	49.3	1.00	mg/L	50.0	ND	98.5	80-120
Nitrite-N	48.8	1.00	"	50.0	ND	97.7	80-120
Chloride	500	10.0	"	500	25.0	95.0	80-120
Fluoride	51.5	1.00	"	50.0	1.90	99.1	80-120
o-Phosphate-P	249	5.00	"	250	ND	99.8	80-120
Sulfate	3010	20.0	"	500	3570	NR	80-120

SPK1

Matrix Spike Dup (1538011-MSD1)

Source: P509025-01

Prepared: 16-Sep-15 Analyzed: 17-Sep-15

Nitrate-N	49.2	1.00	mg/L	50.0	ND	98.4	80-120	0.0812	20
Nitrite-N	49.0	1.00	"	50.0	ND	97.9	80-120	0.225	20
Chloride	499	10.0	"	500	25.0	94.8	80-120	0.196	20
Fluoride	51.4	1.00	"	50.0	1.90	99.0	80-120	0.156	20
o-Phosphate-P	249	5.00	"	250	ND	99.7	80-120	0.0481	20
Sulfate	3000	20.0	"	500	3570	NR	80-120	0.240	20

SPK1

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Notes and Definitions

SPK1 The spike recovery is outside of quality control limits.

H2 Sample was analyzed after regulatory hold-time exceeded for target analyte.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

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