

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 13, 2012

Company : Pennsylvania Brine Treatment
Address : 5148 US 322

Franklin, Pennsylvania 16323
Contact: Mr. Sparky DeLong
Project: PA Brine Treatment - Franklin Facility

Client Sample ID: Outfall 001 Project: PABR00211
Sample ID: 291831001 Client ID: PABR001
Matrix: Water
Collect Date: 06-DEC-11 21:00
Receive Date: 12-DEC-11
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Uranium	U	ND	0.670	2.00	ug/L	10	SKJ	01/10/12	0937	1170396	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	LYHI	01/09/12	1200	1170395

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 3005A/6020A		

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 Sample ID: 291831001
 Matrix: Water
 Collect Date: 06-DEC-11 21:00
 Receive Date: 12-DEC-11
 Collector: Client

Project: PABR00211
 Client ID: PABR001

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis												
Gammascpec, Gamma, Liquid (Standard List) "As Received"												
Radium-228	U	15.6	+/-17.4	29.3		pCi/L		KXG3	01/04/12	1028	1172101	1
Rad Gas Flow Proportional Counting												
GFPC, Gross Alpha Liquid "As Received"												
Alpha	U	0.132	+/-0.159	0.267	5.00	pCi/L		DXF3	01/05/12	1936	1174413	2
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.75	+/-0.640	0.665	1.00	pCi/L		KSD1	01/13/12	1245	1169515	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 901.1	
2	EPA 900.0/SW846 9310	
3	EPA 903.1 Modified	

CERTIFICATE OF ANALYSIS

Work Order Number:

11L0789

Pennsylvania Brine Treatment
 Attn: Elton DeLong, Jr. (Sparky)
 5148 Us 322
 Franklin, PA 16323

Date Reported 12/19/2011
 Date Received 12/06/2011
 Account Number 000000016369



Purchase Order:

Subject: Weekly Wastewater Sample

SMP	TEST	METHOD	RESULT	UNITS	ANALYSIS			NOTES
					DATE	TIME	TECH	
01 Composite Sample								
Sample Date: 12/05/2011		Sample Time: 16:00						
Chloride		ASTM D512-89A	48600	mg/L	12/14/11	15:35	CMF	
Solids, Suspended		SM 2540 D	< 10	mg/L	12/06/11	12:36	MAD	
02 Grab Sample								
Sample Date: 12/05/2011		Sample Time: 10:00						
Oil & Grease		EPA 1664A	9	mg/L	12/07/11	7:00	CAP	
03 Composite Sample								
Sample Date: 12/05/2011		Sample Time: 16:00						
Copper		EPA 200.7	< 0.100	mg/L	12/07/11	12:09	MWR	
Iron, Total		EPA 200.7	0.519	mg/L	12/07/11	12:09	MWR	
Silver		EPA 200.7	< 0.100	mg/L	12/07/11	12:09	MWR	

All samples received in proper condition and results conform to ISO 17025 unless otherwise noted

Notes and Definitions

MG/KG = Milligram per Kilogram (PPM)	Negative = Bacteria or target analyte not detected
UG/L = Micrograms per Liter (PPB)	CFU = Colony Forming Unit
UG/KG = Micrograms per Kilogram (PPB)	ND = Not detected at or below the reporting limit
MG/L = Milligram per Liter (PPM)	TIC = Tentatively Identified Compound
1000 UG = 1 MG	"<" = Less than (also see "ND")
Positive = Bacteria or target analyte detected	">" = Greater than
E = Estimated, Bacteria counted outside the method counting range	



Cheri A. Estes
 Managing Director

For any feedback concerning our services, please contact Cheri Estes, Managing Director at Cheri.Estes@microbac.com. You may also contact Sean Hyde, Chief Operating Officer at sean.hyde@microbac.com or James Nokes, President at james.nokes@microbac.com.

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AIHA accredited for Environmental Lead. Visit our website to view our current AIHA LAP, LLC accreditation.



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Certificate of Analysis

Report Date: January 12, 2012

Company : Pennsylvania Brine Treatment
Address : 5148 US 322

Franklin, Pennsylvania 16323
Contact: Mr. Sparky DeLong
Project: PA Brine Treatment - Franklin Facility

Client Sample ID: Outfall 001
Sample ID: 292115001
Matrix: Water
Collect Date: 12-DEC-11 15:30
Receive Date: 15-DEC-11
Collector: Client

Project: PABR00211
Client ID: PABR001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Uranium	U	ND	0.670	2.00	ug/L	10	SKJ	01/11/12	2147	1171217	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	BXA1	01/10/12	1649	1171216

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020A	

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Certificate of Analysis

Report Date: January 12, 2012

Company : Pennsylvania Brine Treatment
Address : 5148 US 322

Franklin, Pennsylvania 16323

Contact: Mr. Sparky DeLong
Project: PA Brine Treatment - Franklin Facility

Client Sample ID: Outfall 001	Project: PABR00211
Sample ID: 292115001	Client ID: PABR001
Matrix: Water	
Collect Date: 12-DEC-11 15:30	
Receive Date: 15-DEC-11	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis												
Gammaspec, Gamma, Liquid (Standard List) "As Received"												
Radium-228	U	18.9	+/-15.5	33.2		pCi/L		KXG3	01/04/12	1029	1172101	1
Rad Gas Flow Proportional Counting												
GFPC, Gross Alpha Liquid "As Received"												
Alpha	U	0.105	+/-0.144	0.247	5.00	pCi/L		DXF3	01/05/12	1936	1174413	2
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		5.27	+/-0.898	0.498	1.00	pCi/L		KSD1	12/20/11	1315	1171094	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 901.1	
2	EPA 900.0/SW846 9310	
3	EPA 903.1 Modified	



Microbac Laboratories, Inc.

Erie Division

1962 Wager Road • Erie, PA 16509 • Phone: 814-825-8533 • Fax: 814-825-9254

Cheri Estes, Managing Director • E-mail: erie@microbac.com • http://www.microbac.com

CERTIFICATE OF ANALYSIS

Work Order Number:

11L1359

Pennsylvania Brine Treatment
Attn: Elton DeLong, Jr. (Sparky)
5148 US 322
Franklin, PA 16323

Date Reported 12/28/2011
Date Received 12/13/2011
Account Number 000000016369



Purchase Order:

Subject: Weekly Wastewater Sample

ANALYSIS

SMP	TEST	METHOD	RESULT	UNITS	DATE	TIME	TECH	NOTES
01 Composite Sample								
Sample Date: 12/12/2011			Sample Time: 4:00					
Acidity		SM 2310 B	< 7	mg/L	12/21/11	11:00	CMF	
Alkalinity As CaCO3		SM 2320B	95.0	mg CaCO3/L	12/15/11	9:00	CMF	
Chloride		ASTM D512-89A	54100	mg/L	12/14/11	15:35	CMF	
Solids, Dissolved		SM 2540C	108000	mg/L	12/20/11	12:15	CMF	O-04
Solids, Suspended		SM 2540 D	33.0	mg/L	12/14/11	12:00	CMF	
Sulfate		SM 4500-SO4 D	841	mg/L	12/20/11	9:00	CMF	
02 Grab Sample								
Sample Date: 12/12/2011			Sample Time: 15:30					
Oil & Grease		EPA 1664A	< 6	mg/L	12/19/11	7:00	CAP	
03 Composite Sample								
Sample Date: 12/12/2011			Sample Time: 15:30					
Barium		EPA 200.7	8.99	mg/L	12/15/11	16:26	MWR	
Copper		EPA 200.7	<0.100	mg/L	12/15/11	16:24	MWR	
Iron, Total		EPA 200.7	0.735	mg/L	12/15/11	16:24	MWR	
Silver		EPA 200.7	<0.100	mg/L	12/15/11	16:24	MWR	
Strontium		EPA 200.7	303	mg/L	12/27/11	8:29	MWR	
04 Composite Sample								
Sample Date: 12/12/2011			Sample Time: 15:30					
Bromide		EPA 300.0	727	mg/L	12/16/11	19:56	OST	

Order Notes

The Bromide analyses were sub-contracted to Microbac Laboratories, Inc./New York Division. PA DEP ID#68-01385. (W.O. 1112274)

All samples received in proper condition and results conform to ISO 17025 unless otherwise noted

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AIHA accredited for Environmental Lead. Visit our website to view our current AIHA LAP, LLC accreditation.

MEMBER



CERTIFICATE OF ANALYSIS

Work Order Number:

11L2269

Pennsylvania Brine Treatment
 Attn: Elton Delong, Jr. (Sparky)
 5148 Us 322
 Franklin, PA 16323

Date Reported 01/26/2012
 Date Received 12/28/2011
 Account Number 000000016369



Purchase Order:

Subject: Monthly Wastewater Samples

SMP	TEST	METHOD	RESULT	UNITS	ANALYSIS			NOTES
					DATE	TIME	TECH	
01 Grab Sample								
Sample Date: 12/27/2011		Sample Time: 9:30						
Oil & Grease		EPA 1664A	<6	mg/L	01/06/12	7:00	CAP	
02 Composite Sample								
Sample Date: 12/27/2011		Sample Time: 16:00						
Barium		EPA 200.7	6.78	mg/L	12/30/11	19:31	MWR	
Copper		EPA 200.7	<0.100	mg/L	12/30/11	19:29	MWR	
Iron		EPA 200.7	<0.500	mg/L	12/30/11	19:29	MWR	
Silver		EPA 200.7	<0.100	mg/L	12/30/11	19:29	MWR	
Strontium		EPA 200.7	299	mg/L	12/29/11	11:25	MWR	
03 Composite Sample								
Sample Date: 12/27/2011		Sample Time: 16:00						
Acidity		SM 2310 B	<7.00	mg/L	01/05/12	8:45	CMF	
Alkalinity As CaCO3		SM 2320B	57.0	mg CaCO3/L	01/04/12	13:30	CMF	
Chloride		ASTM D512-89A	54300	mg/L	01/05/12	10:00	CMF	
Solids, Dissolved		SM 2540C	91600	mg/L	01/03/12	10:15	CMF	
Solids, Suspended		SM 2540 D	21.0	mg/L	12/28/11	14:20	CMF	
Sulfate		SM 4500-SO4 D	634	mg/L	01/03/12	9:00	CMF	
04 Composite Sample								
Sample Date: 12/27/2011		Sample Time: 16:00						
Bromide		EPA 300.0	603	mg/L	12/30/11	11:00	OST	

Order Notes

The Bromide analyses were sub-contracted to Microbac Laboratories, Inc./New York Division. PA DEP ID#68-01385.
 (W.O. 11L2269-04)

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MEMBER

