

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: August 12, 2011

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: 282401001
Matrix: Water
Collect Date: 18-JUL-11 15:00
Receive Date: 20-JUL-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	08/03/11	2206	1124207	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	AXG2	08/03/11	0720	1124206

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020A	

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

Client Sample ID: Outfall 001
Sample ID: 282401001
Matrix: Water
Collect Date: 18-JUL-11 15:00
Receive Date: 20-JUL-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	0.222	+/-12.4	20.5		pCi/L		KXG3	07/31/11	1211	1126675	1
Rad Gas Flow Proportional Counting												
GFPC, Gross Alpha Liquid "As Received"												
Alpha	U	74.2	+/-71.3	112	5.00	pCi/L		DXF3	07/31/11	1944	1124296	2
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		2.76	+/-0.532	0.306	1.00	pCi/L		KSD1	08/08/11	1205	1124172	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:

11G3003

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

Date Reported 08/09/2011
Date Received 07/19/2011
Order Number 11G3003
Account Number 000000016369



Purchase Order:

Subject: Weekly Wastewater Sample

			ANALYSIS			
SMP	TEST	METHOD	RESULT	UNITS	DATE TIME TECH	NOTES
01 Composite Sample						
Sample Date: 07/18/2011			Sample Time: 14:30			
Acidity		SM 2310 B	< 7	mg/L	07/20/11 13:10	CMF
Alkalinity As CaCO ₃		SM 2320B	110	mg CaCO ₃ /L	07/20/11 9:00	CMF
Chloride		ASTM D512-89A	44000	mg/L	07/20/11 15:40	CMF
Solids, Dissolved		SM 2540C	100000	mg/L	07/20/11 14:00	CMF
Solids, Suspended		SM 2540 D	10	mg/L	07/19/11 16:10	MAD
Sulfate		SM 4500-SO ₄ D	1500	mg/L	07/20/11 10:00	CMF
02 Grab Sample						
Sample Date: 07/18/2011			Sample Time: 12:00			
Oil & Grease		EPA 1664A	< 5	mg/L	07/29/11 8:30	CAP
03 Composite Sample						
Sample Date: 07/18/2011			Sample Time: 14:30			
Barium		EPA 200.7	2.69	mg/L	07/26/11 11:37	MWR
Copper		EPA 200.7	< 0.100	mg/L	07/26/11 11:40	MWR
Iron, Total		EPA 200.7	< 0.500	mg/L	07/26/11 11:37	MWR
Silver		EPA 200.7	< 0.100	mg/L	07/26/11 11:40	MWR
Strontium		EPA 200.7	540	mg/L	08/02/11 16:35	MWR
04 Composite Sample						
Sample Date: 07/18/2011			Sample Time: 14:30			
Bromide		EPA 300.0	460	mg/L	07/26/11 19:19	OST

Order Notes

The technician initials "OST" (Outside Testing) indicate that the Bromide analysis was sub-contracted to Microbac Laboratories, Inc./New York Division. PA DEP ID#68-01385. (W.O. 1107457).

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

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Certificate of Analysis

Report Date: *****

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: 283352001
Matrix: Water
Collect Date: 02-AUG-11 15:30
Receive Date: 04-AUG-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	1.34	4.00	ug/L	20	PRB	08/17/11	1559	1129214	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	LYHI	08/10/11	1338	1129213

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020A	

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Certificate of Analysis

Report Date: *****

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: 283352001
Matrix: Water
Collect Date: 02-AUG-11 15:30
Receive Date: 04-AUG-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	0.213	+/-16.3	21.0		pCi/L		KXG3	08/25/11	2029	1132154	1
Rad Gas Flow Proportional Counting												
GFPC, Gross Alpha Liquid "As Received"												
Alpha	U	-56	+/-76.7	158	5.00	pCi/L		DXF3	08/30/11	1928	1137568	2
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		4.30	+/-0.621	0.317	1.00	pCi/L		KSD1	08/22/11	1430	1129803	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:

11H1804

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

Date Reported 09/09/2011
Date Received 08/09/2011
Order Number 11H1804
Account Number 000000016369



Purchase Order:

Subject: Monthly Wastewater Samples

			ANALYSIS			
SMP	TEST	METHOD	RESULT	UNITS	DATE TIME TECH	NOTES
01	Composite Sample					
	Sample Date: 08/02/2011		Sample Time: 15:30			
	Chlorides by Titration, Water	ASTM D512-89A	37000	mg/L	08/11/11 13:45	CMF
	Solids, Suspended, Water	SM 2540 D	39.0	mg/L	08/10/11 15:00	CMF O-04
	Sulfate, Water	SM 4500-SO4 D	1410	mg/L	08/10/11 9:45	CMF
02	Grab Sample					
	Sample Date: 08/02/2011		Sample Time: 11:00			
	Oil & Grease, Water	EPA 1664A	<5.00	mg/L	08/11/11 7:00	CAP
03	Composite Sample					
	Sample Date: 08/02/2011		Sample Time: 15:30			
	Copper in mg/L by EPA 200.7	EPA 200.7	<0.100	mg/L	08/11/11 20:08	ICP
	Iron in mg/L by EPA 200.7	EPA 200.7	<0.500	mg/L	08/11/11 20:08	ICP
	Silver in mg/L by EPA 200.7	EPA 200.7	<0.100	mg/L	08/11/11 9:11	MWR
04	Composite Sample					
	Sample Date: 08/02/2011		Sample Time: 15:30			
	Bromide, Water	EPA 300.0	364	mg/L	08/11/11 19:07	OST

Order Notes

Sample was received in laboratory past hold time for total suspended solids. CMF

The technician initials "OST" (Outside Testing) indicate that the Bromide analysis was sub-contracted to Microbac Laboratories, Inc./New York Division. PA DEP ID#68-01385. (W.O. 1108296)

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

Notes and Definitions

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

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Certificate of Analysis

Report Date: September 20, 2011

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:	284404001	Client ID:	PABR001
Matrix:	Water		
Collect Date:	15-AUG-11 18:00		
Receive Date:	19-AUG-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	09/01/11	2025	1134411	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	LYHI	08/23/11	0930	1134410

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020A	

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Certificate of Analysis

Report Date: September 20, 2011

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: 284404001
 Matrix: Water
 Collect Date: 15-AUG-11 18:00
 Receive Date: 19-AUG-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		28.8	+/-22.4	20.2		pCi/L		KXG3	09/12/11	0942	1136819	1
Rad Gas Flow Proportional Counting												
GFPC, Gross Alpha Liquid "As Received"												
Alpha	U	95.3	+/-86.7	139	5.00	pCi/L		CAS2	09/07/11	1820	1139206	2
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		9.02	+/-1.22	0.326	1.00	pCi/L		KSD1	09/19/11	1400	1135129	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:

11H2181

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

Date Reported 08/31/2011
Date Received 08/16/2011
Order Number 11H2181
Account Number 000000016369



Purchase Order:

Subject: Weekly Wastewater Sample

			ANALYSIS			
SMP	TEST	METHOD	RESULT	UNITS	DATE TIME TECH	NOTES
01 Composite Sample						
Sample Date: 08/15/2011			Sample Time: 22:00			
Acidity, Water		SM 2310 B	< 7	mg/L	08/19/11 11:30	CMF
Alkalinity As CaCO ₃ to pH 4.5, Water		SM 2320B	97.0	mg CaCO ₃ /L	08/19/11 9:15	CMF
Chlorides by Titration, Water		ASTM D512-89A	43600	mg/L	08/25/11 9:15	CMF
Solids, Dissolved, Water		SM 2540C	87000	mg/L	08/22/11 11:15	CMF
Solids, Suspended, Water		SM 2540 D	39.0	mg/L	08/17/11 9:15	CMF
Sulfate, Water		SM 4500-SO ₄ D	853	mg/L	08/17/11 13:30	CMF
02 Grab Sample						
Sample Date: 08/15/2011			Sample Time: 16:00			
Oil & Grease, Water		EPA 1664A	< 6	mg/L	08/25/11 8:30	CAP
03 Composite Sample						
Sample Date: 08/15/2011			Sample Time: 22:00			
Barium in mg/L by EPA 200.7		EPA 200.7	6.53	mg/L	08/23/11 10:26	MWR
Copper in mg/L by EPA 200.7		EPA 200.7	< 0.100	mg/L	08/23/11 10:26	MWR
Iron, Total, Water		EPA 200.7	< 0.500	mg/L	08/23/11 10:26	MWR
Silver in mg/L by EPA 200.7		EPA 200.7	< 0.100	mg/L	08/23/11 10:26	MWR
Strontium in mg/L by EPA 200.7		EPA 200.7	310	mg/L	08/25/11 9:18	MWR
04 Composite Sample						
Sample Date: 08/15/2011			Sample Time: 22:00			
Bromide, Water		EPA 300.0	563	mg/L	08/18/11 15:45	OST

Order Notes

The technician initials "OST" (Outside Testing) indicate that the Bromide analysis was sub-contracted to Microbac Laboratories, Inc./New York Division. PA DEP ID#68-01385. (W.O. 1108465)

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