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

# Certificate of Analysis

Report Date: February 8, 2012

PABR00211

PABR001

Project: Client ID:

Company:

Pennsylvania Brine Treatment

Address:

5148 US 322

Franklin, Pennsylvania 16323

Contact:

Mr. Sparky DeLong

Project:

PA Brine Treatment - Josephine Facility

Client Sample ID: Outfall 001

Sample ID:

291831001

Matrix:

Water

Collect Date:

06-DEC-11 21:00

Receive Date:

12-DEC-11

Collector:

Client

Parameter	Qualifier	Result	DL	, RL	Units	DF An	alyst Date	Time I	Batch 1	Method
Metals Analysis-I	CP-MS	SCALE Med AMADON	20024	19.105	SELECTION .				10.000	
SW846 3005A/60	20A Liquid "As Re	eceived"								
Uranium	U	ND	0.670	2.00	ug/L	10 SK	01/10/12	0937 117	70396	1
The following Pre	p Methods were pe	rformed:		20	X65 34 04 = 1025				26	999
Method	Description	1	73	Analyst	Date	Time	Prep Batch	İ		
SW846 3005A	ICP-MS 3005	A PREP	H(C)	LYHI	01/09/12	1200	1170395			
The following Ar	nalytical Methods v	vere performed:					15%			
Method	Description		Total Control of the	27 600154	An	alyst Comn	ents	LE SERVICE		0427007058977
1	SW846 3005A	V6020A				2				

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Mr. Sparky DeLong

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PA Brine Treatment - Josephine Facility

Client Sample ID;

Outfall 001

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Sample ID:

291831001

Matrix:

Water

Collect Date:

06-DEC-11 21:00

Receive Date:

12-DEC-11

Collector:

Client

EPA 903.1 Modified

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF Analys	t Date	Time	Batch	Method
Rad Gamma Spec An	alysis			a stance		×	33			2 11 31 31 31 17 17 17	19
Gammaspec, Gamma	, Liquid (Standa	ard List) "	As Received"								
Radium-228	U	15.6	+/-17.4	29.3		pCi/L	KXG3	01/04/12	1028	1172101	1
Rad Gas Flow Propor	rtional Counting	5									
GFPC, Gross Alpha I	Liquid "As Rece	eived"									
Alpha	Ū	0.132	+/-0.159	0.267	5.00	pCi/L	DXF3	01/05/12	1936	174413	2
Rad Radium-226											
Lucas Cell, Ra226, li	quid "As Receiv	/ed"									
Radium-226		1.75	+/-0.640	0.665	1.00	pCi/L	KSD1	01/13/12	1245	1169515	3
The following Analy	tical Methods v	vere perfo	rmed:								
Method	Description			000 W ARRING		Ana	alyst Comment	3			
1	EPA 901.1						255				1464223000
2	EPA 900.0/SV	V846 9310	u.								



Name:

Pennsylvania Brine - Franklin

5148 US 322

Franklin, PA 16323

Sample Start Date: Receipt Date: 12/6/2011 5:00 PM 12/7/2011 10:00 AM

Report Date:

12/15/2011

Sample ID#:

11 49235

Sample Type:

Waste Water

Sample Source:

Grab

Sampler:

CLIENT (Client)

Client Sample ID: 201

report Bates	12, 13, 2011						26 232	<u> </u>
Analyte	Analyst			Sample Result	Units	Data Qualifier	Method	RPL
		Date	Time	Result		Quantiti		
Oil and Grease - HEM	LAW	12/14	n/a	10.6	mg/l	n/a	1664A	5.0

Comments:

ND=Not Detected

Note:

DEP Certification #s 32-00382

Approved By:

Halul J 1gh



Name:

Pennsylvania Brine - Franklin

5148 US 322

Franklin, PA 16323

Sample Start Date: Sample End Date:

12/6/2011 3:00 PM 12/6/2011-9:00-PM

Receipt Date:

12/7/2011 10:00 AM

Report Date: 12/13/2011

Sample ID#:

11 49236

Sample Type:

Waste Water

Sample Source:

Composite

Sampler:

CLIENT (Client)

Client Sample ID:

Analyte	Analyst	Analysis Date	Analysis Time	Sample Result	Units	Data Qualifier	Method	RPL
Barium - ICP	GJT	12/12	n/a	13.800	mg/l	D	200.7/6010	0.500
Iron - ICP	GJT	12/12	n/a	ND	mg/I	a	200.7/6010	1.000

Comments:

ND=Not Detected

Note:

DEP Certification #s 32-00382

D - Indicates an identified compound in an analysis that has been diluted

Approved By:

Halal Jogh

Laboratory Supervisor



Name:

Pennsylvania Brine - Franklin

5148 US 322

Franklin, PA 16323

Sample Start Date: Sample End Date: 12/6/2011 3:00 PM 12/6/2011-9:00 PM

Receipt Date: Report Date:

12/7/2011 10:00 AM

12/29/2011

Sample ID#:

11 49237

Sample Type: Sample Source: Waste Water Composite

Sampler:

CLIENT (Client)

Client Sample ID:

203

Analyte	Analyst	Analysis Date	Analysis Time	Sample Result	Units	Data Qualifier	Method	RPL
Acidity to pH=8.3	BH	12/14	n/a	ND	mg/l as CaCO3	n/a	SM2310B	2
Alkalinity to pH=4.5	BH	12/15	n/a	197	mg/l as CaCO3	n/a	SM2320B	20
Bromide	AJD	12/28	n/a	1100.00	mg/l	D	D1246-99	100.00
Chloride	BH	12/21	n/a	65412.00	mg/l	D	SM4500CID	5.00
Sulfate ASTM	SR	12/27	n/a	1000	mg/l	D	D516-02	250
Osmotic Pressure	LL	12/13	n/a	3340	mOs/kg	n/a	OSP	1000
Total Dissolved Solids (TDS)	LMB	12/07	n/a	127400	mg/l	n/a	SM2540C	25

Comments:

ND=Not Detected

Note:

DEP Certification #s 32-00382

D - Indicates an identified compound in an analysis that has been diluted

Laboratory Supervisor

Approved By:

Gold John



Name:

Pennsylvania Brine - Franklin

5148 US 322

Franklin, PA 16323

12/6/2011 3:00 PM

Sample Start Date: Sample End Date:

12/6/2011 9:00 PM 12/7/2011 10:00 AM

Receipt Date: Report Date:

12/12/2011

Sample ID#:

11 49238

Sample Type: Sample Source: Waste Water Composite

Sampler:

CLIENT (Client)

Client Sample ID: 204

Analyte	Analyst	Analysis Date	Analysis Time	Sample Result	Units	Data Oualifier	Method	RPL
Total Suspended Solids	LMB	12/07	n/a	14	mg/l	n/a	SM2540D	5

Comments:

ND=Not Detected

Note:

DEP Certification #s 32-00382

Approved By:

Galal J John



Name:

Pennsylvania Brine - Franklin

5148 US 322

Franklin, PA 16323

Sample Start Date: Receipt Date: 12/15/2011 5:30 PM 12/16/2011 9:10 AM

Report Date: 12/30/2011

Sample ID#:

11 51155

Sample Type:

Soil/Solids/Oil

Sample Source:

Grab

Sampler: Client Sample ID: CLIENT (Client)

: Sludge Neat

Analyte	Analyst	Analysis Date	Analysis Time	Sample Result	Units	Data Qualifier	Method	RPL
Percent Total Solids	DMM	12/19	n/a	36.33	%	n/a	SM2540B	0.01

Comments:

ND=Not Detected

Note:

DEP Certification #s 32-00382

Approved By:

Page 1 of 1



Name:

Pennsylvania Brine - Franklin

5148 US 322

Franklin, PA 16323

Sample Start Date: Receipt Date:

12/15/2011 5:30 PM 12/16/2011.9:10 AM

Report Date:

12/21/2011

Sample ID#:

11 51156 Water

Sample Type: Sample Source:

Client Sample ID:

Leachate

Sampler:

CLIENT (Client)

Sludge TCLP Leach

Analyte	Analyst	Analysis Date	Analysis Time	Sample Result	Units	Data Qualifier	Method	RPL
Barium - ICP	GJT	12/21	n/a	0.910	mg/l	D	200.7/6010	0.050

Comments:

ND=Not Detected

Note:

DEP Certification #s 32-00382

D - Indicates an identified compound in an analysis that has been diluted

Approved By:

Habel 17gh

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

# **Certificate of Analysis**

Report Date: January 19, 2012 Company: Pennsylvania Brine Treatment Address: 5148 US 322 Franklin, Pennsylvania 16323 Contact: Mr. Sparky DeLong PA Brine Treatment - Josephine Facility Project: Client Sample ID: Outfall 001 Project: PABR00311 Sample ID: 292650001 Client ID: PABR001 Matrix: Water Collect Date: 20-DEC-11 13:30 Receive Date: 23-DEC-11 Collector: Client Qualifier Parameter Result DL RL Units DF Analyst Date Time Batch Method Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Uranium 0.670 2.00 ug/L 10 SKJ 01/11/12 2248 1174269 The following Prep Methods were performed: Method Description Analyst Date Prep Batch Time SW846 3005A ICP-MS 3005A PREP BXAI 01/10/12 1653 1174267 The following Analytical Methods were performed:

Analyst Comments

Description

SW846 3005 A/6020 A

Method

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

**Certificate of Analysis** 

Project:

Client ID:

PABR00311

PABR001

Report Date: January 19, 2012

Company:

Pennsylvania Brine Treatment

Address:

5148 US 322

Franklin, Pennsylvania 16323

Contact:

Mr. Sparky DeLong

Project:

PA Brine Treatment - Josephine Facility

Client Sample ID: Outfall 001

292650001

Sample ID: Matrix:

Water

Collect Date: Receive Date: 20-DEC-11 13:30

23-DEC-11

Collector:

Client

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF At	alyst	Date	Time	Batch	Method
Rad Gamma Spec	Analysis		-	1					31			
Gammaspec, Gan	nma, Liquid (Standa	ard List) "	As Received"									
Radium-228	U	8.39	+/-19.9	40.8		pCi/L	K	KG3 0	1/13/12	1305	1177527	1
Rad Gas Flow Pro	oportional Counting											
GFPC, Gross Alp	ha Liquid "As Rece	ived"										
Alpha	บ	-179	+/-232	463	5.00	pCi/L	D	KF3 0	1/12/12	1833	1173603	2
Rad Radium-226												
Lucas Cell, Ra22	6, liquid "As Receiv	/ed™										
Radium-226	0888000484 W 00104-24 W 0	2.23	+/-0.736	0.743	1.00	pCi/L	K!	SD1 0	1/06/12	1540	1173764	3
The following A	nalytical Methods w	vere perfo	rmed:									
Method	Description		* *			Ana	alyst Comr	nents				
1	EPA 901.1			380				11-			***************************************	
2	EPA 900.0/SW	V846 9310										

EPA 903.1 Modified



Name:

Pennsylvania Brine - Franklin

5148 US 322

Franklin, PA 16323

12/20/2011 11:30 AM

Receipt Date:

Sample Start Date:

12/21/2011 11:25 AM

Report Date: 1/4/2012 Sample ID#:

11 51919

Sample Type:

Waste Water

Sample Source:

Grab

Sampler:

CLIENT (Client)

Client Sample ID:

Analyte	Analyst		Analysis	Sample	Units	Data	Method	RPL
		Date	Time	Result	7.1	Qualifier		
Oil and Grease - HEM	RLG	01/03	n/a	5.5	mg/l	n/a	1664A	5.0

Comments:

ND=Not Detected

Note:

DEP Certification #s 32-00382

Approved By:

Galal J John Laboratory Supervisor



Name:

Pennsylvania Brine - Franklin

5148 US 322

Franklin, PA 16323

12/20/2011 7:30 AM

Sample Start Date: Sample End Date:

12/20/2011 1:30 PM 12/21/2011 11:25 AM

Receipt Date: Report Date:

1/13/2012

Sample ID#:

11 51920

Sample Type:

Waste Water

Sample Source:

Grab

Sampler:

CLIENT (Client)

Client Sample ID:

Analyte	Analyst	Analysis Date	Analysis Time	Sample Result	Units	Data Qualifier	Method	RPL
Barium - ICP	GJT	01/12	n/a	10,800	mg/l	D	200.7/6010	0.500
Iron - ICP	GJT	01/12	n/a	ND	mg/l	D	200.7/6010	1.000

Comments:

ND=Not Detected

Note:

DEP Certification #s 32-00382

D - Indicates an identified compound in an analysis that has been diluted

Approved By:

Laboratory Supervisor

Galal John



Name:

Pennsylvania Brine - Franklin

5148 US 322

Franklin, PA 16323

Sample Start Date: Sample End Date:

12/20/2011 7:30 AM 12/20/2011 1:30 PM

Receipt Date: Report Date:

12/21/2011 11:25 AM

1/17/2012

Sample ID#:

11 51922

Sample Type: Sample Source: Waste Water Grab

Sampler:

CLIENT (Client)

Client Sample ID:

203

Analyte	Analyst	Analysis Date	Analysis Time	Sample Result	Units	Data Qualifier	Method	RPL
Acidity to pH=8.3	RR	12/27	n/a	ND	mg/l as CaCO3	n/a	SM2310B	2
Alkalinity to pH=4.5	BH	01/03	n/a	172	mg/l as CaCO3	n/a	SM2320B	20
Bromide	AJD	01/16	n/a	8290.00	mg/l	D	D1246-99	100.00
Chloride	BF	01/04	n/a	63396.42	mg/l	n/a	SM4500C1D	5.00
Sulfate ASTM	SR	01/16	n/a	975	mg/l	D	D516-02	125
Osmotic Pressure	LL	12/27	n/a	3080	mOs/kg	n/a	OSP	1000
Total Dissolved Solids (TDS)	LMB	12/21	n/a	138700	mg/l	n/a	SM2540C	25

Comments:

ND=Not Detected

Note:

DEP Certification #s 32-00382

D - Indicates an identified compound in an analysis that has been diluted

Approved By:

Laboratory Supervisor

Yalul J Jgh



Name:

Pennsylvania Brine - Franklin

5148 US 322

Franklin, PA 16323

Sample Start Date: Sample End Date:

12/20/2011 7:30 AM 12/20/2011 1:30 PM

Receipt Date: Report Date:

12/21/2011 11:25 AM

12/23/2011

Sample ID#:

11 51923

Sample Type:

Waste Water

Sample Source:

Grab

Sampler:

CLIENT (Client)

Client Sample ID: 204

Analyte	Analyst Analysis A		Analysis	Sample	Units	Data	Method	RPL
	32	Date	Time	Result		Qualifier		
Total Suspended Solids	LMB	12/21	n/a	32	mg/l	n/a	SM2540D	5

Comments:

ND=Not Detected

Note:

DEP Certification #s 32-00382

Approved By:

Halul J Jgh

Laboratory Supervisor