



HART RESOURCE TECHNOLOGIES, INC.

P.O. BOX 232 • CREEKSIDE, PA 15732 • 724-349-8600 • FAX: 724-349-8601

E-MAIL: hrt8600@comcast.net • WEB PAGE: www.HartResourceTech.com

May 6, 2011

Ron Furlan, Manager
Division of Planning & Permits
PA Department of Environmental Resources
PO Box 8774
Harrisburg, PA 17105-8774

Dear Ron,

Enclosed are the analyses that the Department requested in your letter of March 18, 2011. The enclosed analyses are for Hart Resource Technologies' Outfall 401 (frac) and Outfall 501 (brine) for March 22, 2011 and April 5, 2011. I will forward the next set of monitoring when I receive my analyses from the analytical laboratory.

Please contact me if you have any questions.

Sincerely,

Becky Snyder
Operations Manager

RECEIVED
11 MAY 11 AM 10:46
WATER STANDARDS &
FACILITY REGULATION



Report of Analysis

Name: Hart Resource Technologies, Inc.
Po Box 232
Rt 110 West
Creekside, PA 15732
Sample ID#: 11 10897
Sample Type: Water
Sample Source: Grab
Sampler: CLIENT (Client)
Client Sample ID: 401
Sample Start Date: 3/22/2011 5:00 AM
Sample End Date: 3/22/2011 1:00 PM
Receipt Date: 3/22/2011 4:41 PM
Report Date: 4/1/2011

Analyte	Analyst	Analysis Date	Analysis Time	Sample Result	Units	Data Qualifier	Method	RPL
Bromide	AJD	03/30	n/a	96.20	mg/l	D	D1246-99	10.00

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



Report of Analysis

Name: Hart Resource Technologies, Inc.
Po Box 232
Rt 110 West
Creekside, PA 15732
Sample Start Date: 4/5/2011 5:00 AM
Sample End Date: 4/5/2011 1:00 PM
Receipt Date: 4/5/2011 2:17 PM
Report Date: 5/3/2011

Sample ID#: 11 12774
Sample Type: Waste Water
Sample Source: Composite
Sampler: CLIENT (Client)
Client Sample ID: Outfall 401 Composite

Analyte	Analyst	Analysis Date	Analysis Time	Sample Result	Units	Data Qualifier	Method	RPL
Acidity to pH=8.3	CLM	04/05	n/a	ND	mg/l as CaCO ₃	n/a	SM2310B	2
Alkalinity to pH=4.5	CLM	04/18	n/a	54	mg/l as CaCO ₃	n/a	SM2320B	20
Bromide	AJD	04/13	n/a	108.00	mg/l	D	D1246-99	10.00
Chloride	CLM	04/12	n/a	5879.4	mg/l	n/a	SM4500CIC	5.0
Sulfate ASTM	CLM	04/14	n/a	112	mg/l	n/a	D516-02	20
Barium - ICP	GJT	04/27	n/a	2.775	mg/l	n/a	200.7/6010	0.005
Iron - ICP	GJT	04/27	n/a	0.577	mg/l	n/a	200.7/6010	0.010
Osmotic Pressure	LL	04/12	n/a	389	mOs/kg	n/a	OSP	100
Total Dissolved Solids (TDS)	LAW	04/05	n/a	16600	mg/l	n/a	SM2540C	25
Total Suspended Solids	LAW	04/05	n/a	13	mg/l	n/a	SM2540D	5

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

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: May 6, 2011

Company : Hart Resource Technologies, Inc.
Address : PO Box 232

Creekside, Pennsylvania 15732
Contact: Ms. Becky Snyder
Project: Creekside Facility

Client Sample ID: Outfall 401
Sample ID: 275712001
Matrix: Water
Collect Date: 05-APR-11 13:00
Receive Date: 08-APR-11
Collector: Client

Project: HTRT00110
Client ID: HTRT001

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	05/04/11	1556	1091521	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	LYH1	04/13/11	0850	1091520

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020A	

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Certificate of Analysis

Report Date: May 6, 2011

Company : Hart Resource Technologies, Inc.

Address : PO Box 232

Creekside, Pennsylvania 15732

Contact: Ms. Becky Snyder

Project: Creekside Facility

Client Sample ID: Outfall 401

Project: HTRT00110

Sample ID: 275712001

Client ID: HTRT001

Matrix: Water

Collect Date: 05-APR-11 13:00

Receive Date: 08-APR-11

Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis											
Gammascpec, Gamma, Liquid (Standard List) "As Received"											
Radium-228	U	-3.53 +/-24.8	41.9		pCi/L	KXG3	05/05/11	2050	1097659		1
Rad Gas Flow Proportional Counting											
GFPC, Gross Alpha Liquid "As Received"											
Alpha		18.0 +/-9.36	12.8	5.00	pCi/L	VXC2	05/03/11	1922	1093492		2
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226	U	-0.0679 +/-0.211	0.489	1.00	pCi/L	KSD1	04/22/11	1315	1091818		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	



Report of Analysis

Name: Hart Resource Technologies, Inc.
Po Box 232
Rt 110 West
Creekside, PA 15732
Sample ID#: 11 10898
Sample Type: Water
Sample Source: Grab
Sampler: CLIENT (Client)
Client Sample ID: 501
Sample Start Date: 3/22/2011 5:00 AM
Sample End Date: 3/22/2011 1:00 PM
Receipt Date: 3/22/2011 4:41 PM
Report Date: 4/1/2011

Analyte	Analyst	Analysis Date	Analysis Time	Sample Result	Units	Data Qualifier	Method	RPL
Bromide	AJD	03/30	n/a	2070.00	mg/l	D	D1246-99	100.00

Comments:

ND=Not Detected

Note:

DEP Certification #s 32-00382

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

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Laboratory Supervisor



Report of Analysis

Name: Hart Resource Technologies, Inc.
Po Box 232
Rt 110 West
Creekside, PA 15732
Sample Start Date: 4/5/2011 5:00 AM
Sample End Date: 4/5/2011 1:00 PM
Receipt Date: 4/5/2011 2:17 PM
Report Date: 5/3/2011

Sample ID#: 11 12776
Sample Type: Waste Water
Sample Source: Composite
Sampler: CLIENT (Client)
Client Sample ID: Outfall 501 Composite

Analyte	Analyst	Analysis Date	Analysis Time	Sample Result	Units	Data Qualifier	Method	RPL
Acidity to pH=8.3	CLM	04/05	n/a	ND	mg/l as CaCO3	n/a	SM2310B	2
Alkalinity to pH=4.5	CLM	04/18	n/a	263	mg/l as CaCO3	n/a	SM2320B	20
Bromide	AJD	04/13	n/a	1820.00	mg/l	D	D1246-99	100.00
Chloride	CLM	04/12	n/a	81200.7	mg/l	n/a	SM4500CIC	5.0
Sulfate ASTM	CLM	04/14	n/a	600	mg/l	n/a	D516-02	500
Barium - ICP	GJT	04/27	n/a	5.604	mg/l	n/a	200.7/6010	0.005
Iron - ICP	GJT	04/27	n/a	0.119	mg/l	n/a	200.7/6010	0.010
Osmotic Pressure	LL	04/12	n/a	3660	mOs/kg	n/a	OSP	1000
Total Dissolved Solids (TDS)	LAW	04/05	n/a	178100	mg/l	n/a	SM2540C	25
Total Suspended Solids	LAW	04/05	n/a	25	mg/l	n/a	SM2540D	5

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

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Report Date: May 6, 2011

Project: HTRT00110
Client ID: HTRT001

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Certificate of Analysis

Report Date: May 6, 2011

Company: Hart Resource Technologies, Inc.
Address: PO Box 232

Contact: Creekside, Pennsylvania 15732
Ms. Becky Snyder
Project: Creekside Facility

Client Sample ID: Outfall 501
Sample ID: 275712002
Matrix: Water
Collect Date: 05-APR-11 13:00
Receive Date: 08-APR-11
Collector: Client

Project: HTRT00110
Client ID: HTRT001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis											
Gammascpec, Gamma, Liquid (Standard List) "As Received"											
Radium-228	U	-6.45 +/-19.8	32.1		pCi/L		KXG3	05/05/11	2050	1097659	1
Rad Gas Flow Proportional Counting											
GFPC, Gross Alpha Liquid "As Received"											
Alpha	U	92.9 +/-157	275	5.00	pCi/L		VXC2	05/03/11	1922	1093492	2
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.71 +/-0.548	0.399	1.00	pCi/L		KSD1	04/22/11	1315	1091818	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	