

From: Cepak, Mike
To: Fivecoate, Roberta; Haag, Gary; Lees, Michael; Keenihan, Mark;
CC: Cepak, Mike; Holm, Eric;
Subject: FW: Powertech sample results
Date: Monday, April 28, 2008 8:04:10 AM
Attachments: Powertech March 2008.xls

-----Original Message-----

From: Dean Aurand [mailto:dean@thechemistrylab.com]
Sent: Friday, April 25, 2008 5:19 PM
To: Cepak, Mike
Subject: Powertech sample results

Mike,

Attached is an Excel spreadsheet summary of the Powertech samples collected this week.

Dean Aurand

Mid Continent Testing Labs, Inc
ph: 605-348-0111
fax 605-721-0265
Dean@TheChemistryLab.com
www.TheChemistryLab.com

From: Michael Beshore
To: "Cory Conrad"; "Cory S. Foreman"; shea.valois@epa.gov;
Fivecoate, Roberta; "Paul Bergstrom";
CC: "Richard Blubaugh"; "Mark Hollenbeck";
flichnovsky@powertechuranium.com;
Subject: Dewey Burdock Pump Test
Date: Sunday, May 11, 2008 10:39:26 AM
Attachments:

Mark wanted me to let everyone know that we are ready to roll on Monday morning with the pump test activities. We will begin at the Dewey site with step-drawdown activities. May be a little muddy Monday morning, but the weather for the week looks stellar.

See you all there, Mike

Michael D. Beshore, P.G.
Senior Environmental Coordinator

Powertech (USA) Inc.
P.O. Box 1066
8305 6th Street
Wellington, CO 80549
(970) 282-7777 office
(970) 556-5988 cell
(970) 568-3423 fax

Email: mbeshore@powertechuranium.com
Website: www.powertechuranium.com

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From: Michael Beshore
To: Fivecoate, Roberta; shea.valois@epa.gov;
CC: "Richard Blubaugh"; "Paul Bergstrom"; "Cory Conrad";
Subject: Dewey Pump Test
Date: Wednesday, May 14, 2008 7:47:07 PM
Attachments:

Hi Bobbie & Valois, Just wanted to let you both know that we are planning to start the Dewey constant rate pump test on Thursday, May 15th between 10 AM and noon.

Mike

Michael D. Beshore, P.G.
Senior Environmental Coordinator

Powertech (USA) Inc.
P.O. Box 1066
8305 6th Street
Wellington, CO 80549
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From: Michael Beshore
To: Fivecoate, Roberta; shea.valois@epa.gov;
CC: "Richard Blubaugh"; "Cory Conrad"; "Paul Bergstrom";
Subject: Dewey-Burdock Pumping Test
Date: Sunday, May 18, 2008 8:57:20 AM
Attachments:

Hi Bobbie and Valois,

Just wanted to inform the SD DENR and EPA that we will be beginning the Burdock constant rate pumping test on Sunday, May 18, 2008. We plan to actually start the test between 1 Pm and 4 Pm. We will shut down the pump at Dewey at about 12:30 Pm on Sunday (today). There have been no episodes at the Dewey test what so ever to compromise our results. Mark Kennahan from the SD DENR has been inform to be present before we shut down the pump at Dewey so he can take a groundwater discharge sample. We spoke with him on Thursday, and he said he would be here before 12:30 Pm. Feel free to come on out if you all would like.

Thanks, Mike

Michael D. Beshore, P.G.
Senior Environmental Coordinator

Powertech (USA) Inc.
P.O. Box 1066
8305 6th Street
Wellington, CO 80549
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return e-mail and delete it from their computer.

From: Cepak, Mike
To: Haag, Gary; Fivecoate, Roberta; Lees, Michael; Keenihan, Mark;
CC: Cepak, Mike;
Subject: FW: sample results without RADs
Date: Wednesday, May 21, 2008 12:57:52 PM
Attachments: Sample Powertech Pump Tests May 18 2008.pdf

For wells DB08-32-3C and DB08-11-17 sampled on Sunday May 18.

-----Original Message-----

From: Greg McDougall [mailto:greg@thechemistrylab.com]
Sent: Wednesday, May 21, 2008 12:31 PM
To: Cepak, Mike
Subject: sample results without RADs

Greg McDougall

Mid Continent Testing Labs, Inc.
ph: 605-348-0111
fax 605-721-0265
Greg@TheChemistryLab.com



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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-32-3C
Sampled: 05/18/08 at 11:35 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080520101
Received: 05/19/08 at 08:10 AM
by Dana Smith
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1370	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	05/20/08
pH	7.91	SU	1			SM 4500-H+ B	JAM	05/20/08
Total Dissolved Solids	902	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	05/21/08
Non-Metallics								
Bicarbonate	211	mg/L	1	0.505	10.0	SM 2320 B	JAM	05/20/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	JAM	05/20/08
Chloride (Cl-)	17.0	mg/L	1	0.453	0.500	SM 4500-Cl B	NMA	05/20/08
Nitrogen, Ammonia (NH3)	0.116	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	05/20/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	05/20/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	05/20/08
Sulfate (SO4)	473	mg/L	4	10.5	40.0	EPA 375.2	DES	05/20/08
Metals - Dissolved								
Aluminum (Al)	0.053	mg/L	10	0.003	0.010	EPA 200.8	PAT	05/20/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	05/20/08
Calcium (Ca)	74.8	mg/L	1	0.219	1.00	SM 3111 B	SAC	05/21/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	05/20/08
Copper (Cu)	0.006	mg/L	10	0.000478	0.005	EPA 200.8	PAT	05/20/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	PAT	05/20/08
Magnesium (Mg)	21.3	mg/L	5	0.108	2.50	SM 3111 B	SAC	05/20/08
Molybdenum (Mo)	0.002	mg/L	10	0.000385	0.001	EPA 200.8	PAT	05/20/08
Potassium (K)	10.0	mg/L	5	0.890	2.50	SM 3111 B	SAC	05/20/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	05/20/08
Sodium (Na)	174	mg/L	10	1.48	5.00	SM 3111 B	SAC	05/20/08
Metals - Total								
Uranium	0.010	mg/L	10	0.000041	0.001	EPA 200.8	PAT	05/20/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Anion - Cation Balance							
Anions	13.8	meq/L	1			Calculation	GAM 05/21/08
Anion - Cation Balance	-1.71	%	1			Calculation	GAM 05/21/08
Cations	13.3	meq/L	1			Calculation	GAM 05/21/08
Radiological							
Radium-226	Pending	pCi/L	1			E903.0	
Radon-222	Pending	pCi/L	1			ASTM D5072-92	

Notes:

Dewey Pump Test- end sample

Approved By: _____



Approved On: 5/21/2008 11:11:50 AM



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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-11-17
Sampled: 05/18/08 at 03:15 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080520102
Received: 05/19/08 at 08:10 AM
by Dana Smith
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	2590	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	05/20/08
pH	7.78	SU	1			SM 4500-H+ B	JAM	05/20/08
Total Dissolved Solids	2240	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	05/21/08
Non-Metallics								
Bicarbonate	313	mg/L	1	0.505	10.0	SM 2320 B	JAM	05/20/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	JAM	05/20/08
Chloride (Cl-)	13.5	mg/L	1	0.453	0.500	SM 4500-Cl B	NMA	05/20/08
Nitrogen, Ammonia (NH3)	0.131	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	05/20/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	05/20/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	05/20/08
Sulfate (SO4)	1380	mg/L	10	26.2	100	EPA 375.2	DES	05/20/08
Metals - Dissolved								
Aluminum (Al)	0.048	mg/L	10	0.003	0.010	EPA 200.8	PAT	05/20/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	05/20/08
Calcium (Ca)	394	mg/L	5	1.10	5.00	SM 3111 B	SAC	05/21/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	05/20/08
Copper (Cu)	0.007	mg/L	10	0.000478	0.005	EPA 200.8	PAT	05/20/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	PAT	05/20/08
Magnesium (Mg)	116	mg/L	5	0.108	2.50	SM 3111 B	SAC	05/20/08
Molybdenum (Mo)	< 0.001	mg/L	10	0.000385	0.001	EPA 200.8	PAT	05/20/08
Potassium (K)	18.4	mg/L	5	0.890	2.50	SM 3111 B	SAC	05/20/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	05/20/08
Sodium (Na)	113	mg/L	5	0.741	2.50	SM 3111 B	SAC	05/20/08
Metals - Total								
Uranium	0.026	mg/L	10	0.000041	0.001	EPA 200.8	PAT	05/20/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Anion - Cation Balance							
Anions	34.2	meq/L	1			Calculation	GAM 05/21/08
Anion - Cation Balance	0.540	%	1			Calculation	GAM 05/21/08
Cations	34.6	meq/L	1			Calculation	GAM 05/21/08
Radiological							
Radium-226	Pending	pCi/L	1			E903.0	
Radon-222	Pending	pCi/L	1			ASTM D5072-92	

Notes:

Burdock Pump Test- start sample

Approved By: _____



Approved On: 5/21/2008 11:11:50 AM

From: Cepak, Mike
To: Haag, Gary; Fivecoate, Roberta; Lees, Michael; Keenihan, Mark;
CC: Cepak, Mike;
Subject: FW: PREMILIARY RESULTS
Date: Wednesday, May 28, 2008 9:54:55 AM
Attachments: Sample Powertech Pump Tests May 21 2008.pdf

For wells DB08-15-3 and DB08-11-11C sampled on May 21.

-----Original Message-----

From: Greg McDougall [mailto:greg@thechemistrylab.com]
Sent: Tuesday, May 27, 2008 2:48 PM
To: Cepak, Mike
Subject: PREMILIARY RESULTS

Greg McDougall

Mid Continent Testing Labs, Inc.
ph: 605-348-0111
fax 605-721-0265
Greg@TheChemistryLab.com



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Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-15-3
Project Name: POWERTECH
Sampled: 05/21/08 at 12:00 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080523301
Received: 05/21/08 at 03:30 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1450	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	05/23/08
pH	8.30	SU	1			SM 4500-H+ B	JAM	05/23/08
Total Dissolved Solids	914	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	05/23/08
Non-Metallics								
Bicarbonate	219	mg/L	1	0.505	10.0	SM 2320 B	JAM	05/23/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	JAM	05/23/08
Chloride (Cl-)	13.0	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA	05/23/08
Nitrogen, Ammonia (NH3)	0.470	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	05/23/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	05/23/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	05/23/08
Sulfate (SO4)	495	mg/L	4	10.5	40.0	EPA 375.2	DES	05/23/08
Metals - Dissolved								
Aluminum (Al)	0.026	mg/L	10	0.003	0.010	EPA 200.8	PAT	05/23/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	05/23/08
Calcium (Ca)	33.3	mg/L	5	1.10	5.00	SM 3111 B	SAC	05/23/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	05/23/08
Copper (Cu)	0.006	mg/L	10	0.000478	0.005	EPA 200.8	PAT	05/23/08
Iron (Fe)	0.102	mg/L	10	0.009	0.050	EPA 200.8	PAT	05/23/08
Magnesium (Mg)	9.75	mg/L	5	0.108	2.50	SM 3111 B	SAC	05/23/08
Molybdenum (Mo)	0.003	mg/L	10	0.000385	0.001	EPA 200.8	PAT	05/23/08
Potassium (K)	11.6	mg/L	5	0.890	2.50	SM 3111 B	SAC	05/23/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	05/23/08
Sodium (Na)	253	mg/L	5	0.741	2.50	SM 3111 B	SAC	05/23/08
Metals - Total								
Uranium	< 0.001	mg/L	10	0.000041	0.001	EPA 200.8	PAT	05/23/08
Anion - Cation Balance								
Anions	14.3	meq/L	1			Calculation	GAM	05/27/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anion - Cation Balance	-1.65	%	1			Calculation	GAM	05/27/08
Cations	13.8	meq/L	1			Calculation	GAM	05/27/08
Radiological								
Radium-226	Pending	pCi/L	1			E903.0		
Radon-222	Pending	pCi/L	1			ASTM D5072-92		

Approved By: _____



Approved On: 5/27/2008 1:45:10 PM



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB07-11-11C
Sampled: 05/21/08 at 01:00 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080523302
Received: 05/21/08 at 03:30 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	2620	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	05/23/08
pH	7.50	SU	1			SM 4500-H+ B	JAM	05/23/08
Total Dissolved Solids	2280	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	05/23/08
Non-Metallics								
Bicarbonate	306	mg/L	1	0.505	10.0	SM 2320 B	JAM	05/23/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	JAM	05/23/08
Chloride (Cl-)	13.0	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA	05/23/08
Nitrogen, Ammonia (NH3)	0.119	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	05/23/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	05/23/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	05/23/08
Sulfate (SO4)	1420	mg/L	10	26.2	100	EPA 375.2	DES	05/23/08
Metals - Dissolved								
Aluminum (Al)	0.026	mg/L	10	0.003	0.010	EPA 200.8	PAT	05/23/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	05/23/08
Calcium (Ca)	400	mg/L	5	1.10	5.00	SM 3111 B	SAC	05/27/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	05/23/08
Copper (Cu)	0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	05/23/08
Iron (Fe)	0.276	mg/L	10	0.009	0.050	EPA 200.8	PAT	05/23/08
Magnesium (Mg)	120	mg/L	5	0.108	2.50	SM 3111 B	SAC	05/23/08
Molybdenum (Mo)	< 0.001	mg/L	10	0.000385	0.001	EPA 200.8	PAT	05/23/08
Potassium (K)	19.4	mg/L	5	0.890	2.50	SM 3111 B	SAC	05/23/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	05/23/08
Sodium (Na)	116	mg/L	5	0.741	2.50	SM 3111 B	SAC	05/23/08
Metals - Total								
Uranium	0.025	mg/L	10	0.000041	0.001	EPA 200.8	PAT	05/23/08
Anion - Cation Balance								
Anions	34.8	meq/L	1			Calculation	GAM	05/27/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anion - Cation Balance	0.763	%	1			Calculation	GAM	05/27/08
Cations	35.4	meq/L	1			Calculation	GAM	05/27/08
Radiological								
Radium-226	Pending	pCi/L	1			E903.0		
Radon-222	Pending	pCi/L	1			ASTM D5072-92		

Approved By: _____



Approved On: 5/27/2008 1:45:10 PM

From: Cepak, Mike
To: Fivecoate, Roberta; Lees, Michael; Keenihan, Mark; Haag, Gary; Holm, Eric;
CC: McQuay, Patty; Cepak, Mike;
Subject: FW: SAMPLE RESULTS - Powertech April 22, 2008 baseline with radionuclides
Date: Monday, July 07, 2008 4:04:03 PM
Attachments: Sample Powertech April 22 2008 with radionuclides.pdf

Old Powertech baseline wells that finally have radionuclide data.

-----Original Message-----

From: Greg McDougall [mailto:greg@thechemistrylab.com]

Sent: Monday, July 07, 2008 3:16 PM

To: Cepak, Mike

Subject: SAMPLE RESULTS

Greg McDougall

Mid Continent Testing Labs, Inc.

ph: 605-348-0111

fax 605-721-0265

Greg@TheChemistryLab.com



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TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-2-1
Project Name: POWERTECH
Sampled: 04/22/08 at 11:35 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080424101
Received: 04/23/08 at 07:55 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	2490	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM 04/24/08
pH	7.58	SU	1			SM 4500-H+ B	JAM 04/24/08
Total Dissolved Solids	2210	mg/L	100ml	8.28	50.0	SM 2540 D	TMN 04/25/08
Non-Metallics							
Alkalinity	117	mg/L	1	0.414	10.0	SM 2320 B	JAM 04/24/08
Bicarbonate	143	mg/L	1	0.505	10.0	SM 2320 B	JAM 04/24/08
Chloride (Cl-)	11.5	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA 04/24/08
Fluoride	0.288	mg/L	1	0.001	0.050	SM 4500 F-C	NMA 04/24/08
Nitrogen, Ammonia (NH3)	0.158	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM 04/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES 04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES 04/24/08
Sulfate (SO4)	1440	mg/L	10	26.2	100	EPA 375.2	TMN 04/24/08
Metals - Dissolved							
Aluminum (Al)	0.018	mg/L	10	0.003	0.010	EPA 200.8	PAT 04/24/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/24/08
Barium (Ba)	0.011	mg/L	10	0.000059	0.005	EPA 200.8	PAT 04/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT 04/24/08
Calcium (Ca)	370	mg/L	5	1.10	5.00	SM 3111 B	SAC 04/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT 04/24/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/24/08
Iron (Fe)	3.94	mg/L	10	0.009	0.050	EPA 200.8	PAT 04/24/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT 04/24/08
Magnesium (Mg)	122	mg/L	5	0.108	2.50	SM 3111 B	SAC 04/24/08
Manganese (Mn)	2.23	mg/L	10	0.000048	0.001	EPA 200.8	PAT 04/24/08
Potassium (K)	14.5	mg/L	5	0.890	2.50	SM 3111 B	SAC 04/24/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT 04/24/08
Sodium (Na)	79.6	mg/L	5	0.741	2.50	SM 3111 B	SAC 04/24/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT 04/24/08
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT 04/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/24/08
Uranium	0.118	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/24/08
Anion - Cation Balance								
Anions	32.7	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-0.372	%	1			Calculation	GAM	04/25/08
Cations	32.4	meq/L	1			Calculation	GAM	04/25/08
Radionuclides - Dissolved								
Gross Alpha	1540	pCi/L	1			E900.0	SYS	05/10/08
Gross Beta	425	pCi/L	1			E900.0	SYS	05/10/08
Gross Gamma	420	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/21/08
Radium 226	382	pCi/L	1			E903.0	SYS	05/14/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	04/28/08
Radionuclides - Suspended								
Lead 210	7.30	pCi/L	1			E909.0M	SYS	05/16/08
Radium 226	4.60	pCi/L	1			E903.0	SYS	05/16/08
Thorium 230	0.200	pCi/L	1			E907.0	SYS	05/01/08
Radionuclides - Total								
Radon 222	29100	pCi/L	1			ASTM D5072-92	SYS	04/24/08

Approved By: 

Approved On: 7/7/2008 2:12:17 PM

**MIDCONTINENT**

TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-32-13
Project Name: POWERTECH
Sampled: 04/22/08 at 01:00 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080424102
Received: 04/23/08 at 07:55 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1420	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	04/24/08
pH	8.17	SU	1			SM 4500-H+ B	JAM	04/24/08
Total Dissolved Solids	901	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	04/25/08
Non-Metallics								
Alkalinity	173	mg/L	1	0.414	10.0	SM 2320 B	JAM	04/24/08
Bicarbonate	211	mg/L	1	0.505	10.0	SM 2320 B	JAM	04/24/08
Chloride (Cl-)	12.5	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA	04/24/08
Fluoride	0.443	mg/L	1	0.001	0.050	SM 4500 F-C	NMA	04/24/08
Nitrogen, Ammonia (NH3)	0.206	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	04/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	04/24/08
Sulfate (SO4)	493	mg/L	4	10.5	40.0	EPA 375.2	TMN	04/24/08
Metals - Dissolved								
Aluminum (Al)	0.014	mg/L	10	0.003	0.010	EPA 200.8	PAT	04/24/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/24/08
Barium (Ba)	0.015	mg/L	10	0.000059	0.005	EPA 200.8	PAT	04/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	04/24/08
Calcium (Ca)	58.4	mg/L	1	0.219	1.00	SM 3111 B	SAC	04/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	04/24/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/24/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	PAT	04/24/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT	04/24/08
Magnesium (Mg)	17.0	mg/L	1	0.022	0.500	SM 3111 B	SAC	04/24/08
Manganese (Mn)	0.077	mg/L	10	0.000048	0.001	EPA 200.8	PAT	04/24/08
Potassium (K)	10.2	mg/L	1	0.178	0.500	SM 3111 B	SAC	04/24/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	04/24/08
Sodium (Na)	209	mg/L	5	0.741	2.50	SM 3111 B	SAC	04/24/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT	04/24/08
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT	04/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/24/08
Uranium	0.003	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/24/08
Anion - Cation Balance								
Anions	14.1	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-1.48	%	1			Calculation	GAM	04/25/08
Cations	13.7	meq/L	1			Calculation	GAM	04/25/08
Radionuclides - Dissolved								
Gross Alpha	21.6	pCi/L	1			E900.0	SYS	05/10/08
Gross Beta	8.80	pCi/L	1			E900.0	SYS	05/10/08
Gross Gamma	340	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/21/08
Radium 226	4.30	pCi/L	1			E903.0	SYS	05/14/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	04/28/08
Radionuclides - Suspended								
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/16/08
Radium 226	< 0.200	pCi/L	1			E903.0	SYS	05/16/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	05/01/08
Radionuclides - Total								
Radon 222	1340	pCi/L	1			ASTM D5072-92	SYS	04/24/08

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Sample Site: DB08-11-17
Project Name: POWERTECH
Sampled: 04/22/08 at 01:45 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080424103
Received: 04/23/08 at 07:55 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1110	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM 04/24/08
pH	9.18	SU	1			SM 4500-H+ B	JAM 04/24/08
Total Dissolved Solids	714	mg/L	100ml	8.28	50.0	SM 2540 D	TMN 04/25/08
Non-Metallics							
Alkalinity	90.4	mg/L	1	0.414	10.0	SM 2320 B	JAM 04/24/08
Bicarbonate	78.6	mg/L	1	0.505	10.0	SM 2320 B	JAM 04/24/08
Carbonate	15.6	mg/L	1	0.207	5.00	SM 2320 B	JAM 04/24/08
Chloride (Cl-)	12.0	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA 04/24/08
Fluoride	0.258	mg/L	1	0.001	0.050	SM 4500 F-C	NMA 04/24/08
Nitrogen, Ammonia (NH3)	0.397	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM 04/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES 04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES 04/24/08
Sulfate (SO4)	408	mg/L	4	10.5	40.0	EPA 375.2	TMN 04/24/08
Metals - Dissolved							
Aluminum (Al)	0.018	mg/L	10	0.003	0.010	EPA 200.8	PAT 04/24/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/24/08
Barium (Ba)	0.021	mg/L	10	0.000059	0.005	EPA 200.8	PAT 04/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT 04/24/08
Calcium (Ca)	40.5	mg/L	1	0.219	1.00	SM 3111 B	SAC 04/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT 04/24/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/24/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	PAT 04/24/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT 04/24/08
Magnesium (Mg)	12.7	mg/L	5	0.108	2.50	SM 3111 B	SAC 04/24/08
Manganese (Mn)	< 0.010	mg/L	10	0.000048	0.001	EPA 200.8	PAT 04/24/08
Potassium (K)	13.4	mg/L	5	0.890	2.50	SM 3111 B	SAC 04/24/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT 04/24/08
Sodium (Na)	164	mg/L	5	0.741	2.50	SM 3111 B	SAC 04/24/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT 04/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Dissolved								
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT	04/24/08
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/24/08
Uranium	< 0.001	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/24/08
Anion - Cation Balance								
Anions	10.6	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-0.391	%	1			Calculation	GAM	04/25/08
Cations	10.6	meq/L	1			Calculation	GAM	04/25/08
Radionuclides - Dissolved								
Gross Alpha	< 2.80	pCi/L	1			E900.0	SYS	05/10/08
Gross Beta	11.5	pCi/L	1			E900.0	SYS	05/10/08
Gross Gamma	< 20.0	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/21/08
Radium 226	0.200	pCi/L	1			E903.0	SYS	05/14/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	04/28/08
Radionuclides - Suspended								
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/16/08
Radium 226	< 0.200	pCi/L	1			E903.0	SYS	05/16/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	05/01/08
Radionuclides - Total								
Radon 222	271	pCi/L	1			ASTM D5072-92	SYS	04/24/08

Approved By: _____



Approved On: 7/7/2008 2:12:17 PM

From: Cepak, Mike
To: Fivecoate, Roberta;
CC:
Subject: Latest Powertech Analyses I have
Date: Tuesday, January 20, 2009 10:42:12 AM
Attachments: Sample Powertech August 14 2008 without radionuclides.pdf
Sample Powertech Sept 23 2008 without radionuclides.pdf
Sample Powertech October 21 2008 without radionuclides.pdf
Sample Powertech November 18 2008 without radionuclides.
pdf



MIDCONTINENT
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Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
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Sample Site: DB08-2-1
Project Name: POWERTECH
Sampled: 08/14/08 at 02:00 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080821101
Received: 08/20/08 at 09:00 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	2490	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM 08/21/08
pH	7.54	SU	1			SM 4500-H+ B	JAM 08/21/08
Total Dissolved Solids	2180	mg/L	100ml	8.28	50.0	SM 2540 C	TMN 08/21/08
Non-Metallics							
Alkalinity	113	mg/L	1	0.414	10.0	SM 2320 B	JAM 08/21/08
Bicarbonate	138	mg/L	1	0.505	10.0	SM 2320 B	JAM 08/21/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	JAM 08/21/08
Chloride (Cl-)	11.8	mg/L	1	0.453	0.500	SM 4500-Cl B	LAF 08/21/08
Nitrogen, Ammonia (NH3)	0.178	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM 08/21/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	BLL 08/21/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL 08/21/08
Sulfate (SO4)	1340	mg/L	10	26.2	100	EPA 375.2	BLL 08/21/08
Metals - Dissolved							
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC 08/21/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC 08/21/08
Calcium (Ca)	320	mg/L	10	2.19	10.0	SM 3111 B	NMA 08/21/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC 08/21/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC 08/21/08
Iron (Fe)	3.60	mg/L	10	0.009	0.050	EPA 200.8	SAC 08/21/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	SAC 08/21/08
Magnesium (Mg)	123	mg/L	10	0.217	5.00	SM 3111 B	NMA 08/21/08
Molybdenum (Mo)	< 0.001	mg/L	10	0.000385	0.001	EPA 200.8	SAC 08/21/08
Potassium (K)	14.2	mg/L	10	1.78	5.00	SM 3111 B	NMA 08/21/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC 08/21/08
Sodium (Na)	86.3	mg/L	10	1.48	5.00	SM 3111 B	NMA 08/21/08
Metals - Total							
Uranium	0.113	µg/L	10	0.041	1.00	EPA 200.8	SAC 08/21/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	30.5	meq/L	1			Calculation	GAM	08/26/08
Anion - Cation Balance	-0.429	%	1			Calculation	GAM	08/26/08
Cations	30.2	meq/L	1			Calculation	GAM	08/26/08
Radiological								
Radium-226	Pending	pCi/L	1			7500-Ra C		
Radium-228	Pending	pCi/L	1			7500-Ra C		
Radon-222	Pending	pCi/L	1			ASTM D5072-92 (SHL)		

Approved By: _____



Approved On: 8/26/2008 7:46:36 AM



MIDCONTINENT
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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-32-10
Project Name: POWERTECH
Sampled: 08/14/08 at 03:25 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080821102
Received: 08/20/08 at 09:00 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1110	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	08/21/08
pH	8.12	SU	1			SM 4500-H+ B	JAM	08/21/08
Total Dissolved Solids	701	mg/L	100ml	8.28	50.0	SM 2540 C	TMN	08/21/08
Non-Metallics								
Alkalinity	148	mg/L	1	0.414	10.0	SM 2320 B	JAM	08/21/08
Bicarbonate	180	mg/L	1	0.505	10.0	SM 2320 B	JAM	08/21/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	JAM	08/21/08
Chloride (Cl-)	7.00	mg/L	1	0.453	0.500	SM 4500-Cl B	LAF	08/21/08
Nitrogen, Ammonia (NH3)	0.119	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	08/21/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	BLL	08/21/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL	08/21/08
Sulfate (SO4)	344	mg/L	2	5.24	20.0	EPA 375.2	BLL	08/25/08
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	08/21/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC	08/21/08
Calcium (Ca)	57.3	mg/L	5	1.10	5.00	SM 3111 B	NMA	08/21/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC	08/21/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	08/21/08
Iron (Fe)	0.174	mg/L	10	0.009	0.050	EPA 200.8	SAC	08/21/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	SAC	08/21/08
Magnesium (Mg)	15.0	mg/L	10	0.217	5.00	SM 3111 B	NMA	08/25/08
Molybdenum (Mo)	0.008	mg/L	10	0.000385	0.001	EPA 200.8	SAC	08/21/08
Potassium (K)	7.71	mg/L	10	1.78	5.00	SM 3111 B	NMA	08/21/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	08/21/08
Sodium (Na)	148	mg/L	10	1.48	5.00	SM 3111 B	NMA	08/25/08
Metals - Total								
Uranium	0.004	µg/L	10	0.041	1.00	EPA 200.8	SAC	08/21/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	10.3	meq/L	1			Calculation	GAM	08/26/08
Anion - Cation Balance	2.04	%	1			Calculation	GAM	08/26/08
Cations	10.7	meq/L	1			Calculation	GAM	08/26/08
Radiological								
Radium-226	Pending	pCi/L	1			7500-Ra C		
Radium-228	Pending	pCi/L	1			7500-Ra C		
Radon-222	Pending	pCi/L	1			ASTM D5072-92 (SHL)		

Approved By: _____



Approved On: 8/26/2008 7:46:36 AM



MIDCONTINENT
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Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
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Sample Site: DB08-1-6
Project Name: POWERTECH
Sampled: 08/14/08 at 04:30 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080821103
Received: 08/20/08 at 09:00 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	3030	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM 08/21/08
pH	7.29	SU	1			SM 4500-H+ B	JAM 08/21/08
Total Dissolved Solids	2750	mg/L	100ml	8.28	50.0	SM 2540 C	TMN 08/21/08
Non-Metallics							
Alkalinity	175	mg/L	1	0.414	10.0	SM 2320 B	JAM 08/21/08
Bicarbonate	213	mg/L	1	0.505	10.0	SM 2320 B	JAM 08/21/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	JAM 08/21/08
Chloride (Cl-)	17.0	mg/L	1	0.453	0.500	SM 4500-Cl B	LAF 08/21/08
Nitrogen, Ammonia (NH3)	0.470	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM 08/21/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	BLL 08/21/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL 08/21/08
Sulfate (SO4)	1760	mg/L	10	26.2	100	EPA 375.2	BLL 08/21/08
Metals - Dissolved							
Arsenic (As)	0.020	mg/L	10	0.000478	0.005	EPA 200.8	SAC 08/21/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC 08/21/08
Calcium (Ca)	471	mg/L	5	1.10	5.00	SM 3111 B	NMA 08/22/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC 08/21/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC 08/21/08
Iron (Fe)	19.0	mg/L	10	0.009	0.050	EPA 200.8	SAC 08/21/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	SAC 08/21/08
Magnesium (Mg)	130	mg/L	10	0.217	5.00	SM 3111 B	NMA 08/21/08
Molybdenum (Mo)	0.013	mg/L	10	0.000385	0.001	EPA 200.8	SAC 08/21/08
Potassium (K)	20.9	mg/L	10	1.78	5.00	SM 3111 B	NMA 08/21/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC 08/21/08
Sodium (Na)	153	mg/L	10	1.48	5.00	SM 3111 B	NMA 08/21/08
Metals - Total							
Uranium	0.012	µg/L	10	0.041	1.00	EPA 200.8	SAC 08/21/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	40.6	meq/L	1			Calculation	GAM	08/26/08
Anion - Cation Balance	0.955	%	1			Calculation	GAM	08/26/08
Cations	41.4	meq/L	1			Calculation	GAM	08/26/08
Radiological								
Radium-226	Pending	pCi/L	1			7500-Ra C		
Radium-228	Pending	pCi/L	1			7500-Ra C		
Radon-222	Pending	pCi/L	1			ASTM D5072-92 (SHL)		

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Approved On: 8/26/2008 7:46:36 AM



MIDCONTINENT
TESTING LABORATORIES, INC.

Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-15-3
Project Name: POWERTECH
Sampled: 09/23/08 at 09:10 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080924307
Received: 09/23/08 at 02:45 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1440	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	09/24/08
pH	8.16	SU	1			SM 4500-H+ B	JAM	09/24/08
Total Dissolved Solids	871	mg/L	100ml	8.28	50.0	SM 2540 C	TMN	09/24/08
Non-Metallics								
Alkalinity	182	mg/L	1	0.414	10.0	SM 2320 B	JAM	09/24/08
Bicarbonate	222	mg/L	1	0.505	10.0	SM 2320 B	JAM	09/24/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	JAM	09/24/08
Chloride (Cl-)	14.3	mg/L	1	0.453	0.500	SM 4500-Cl B	AJS	09/24/08
Nitrogen, Ammonia (NH3)	0.466	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	09/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	BLL	09/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL	09/24/08
Sulfate (SO4)	509	mg/L	5	13.1	50.0	EPA 375.2	BLL	09/24/08
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	09/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC	09/24/08
Calcium (Ca)	37.7	mg/L	5	1.10	5.00	SM 3111 B	NMA	09/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC	09/25/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	09/24/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	SAC	09/24/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	SAC	09/24/08
Magnesium (Mg)	10.7	mg/L	1	0.022	0.500	SM 3111 B	NMA	09/25/08
Molybdenum (Mo)	0.003	mg/L	10	0.000385	0.001	EPA 200.8	SAC	09/24/08
Potassium (K)	10.7	mg/L	5	0.890	2.50	SM 3111 B	NMA	09/25/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	09/24/08
Sodium (Na)	253	mg/L	10	1.48	5.00	SM 3111 B	NMA	09/24/08
Metals - Total								
Uranium	< 0.001	µg/L	10	0.041	1.00	EPA 200.8	SAC	09/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	14.6	meq/L	1			Calculation	GAM	09/25/08
Anion - Cation Balance	-2.04	%	1			Calculation	GAM	09/25/08
Cations	14.0	meq/L	1			Calculation	GAM	09/25/08
Radiological								
Radium-226	Pending	pCi/L	1			7500-Ra C		
Radium-228	Pending	pCi/L	1			7500-Ra C		
Radon-222	Pending	pCi/L	1			ASTM D5072-92 (SHL)		

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Approved On: 9/25/2008 2:15:01 PM



MIDCONTINENT
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Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-15-2
Project Name: POWERTECH
Sampled: 09/23/08 at 10:00 AM
by Mark Keenihan
Sample Matrix: Water

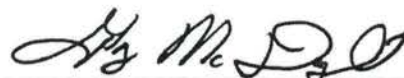
Lab ID#: 20080924308
Received: 09/23/08 at 02:45 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1420	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	09/24/08
pH	7.92	SU	1			SM 4500-H+ B	JAM	09/24/08
Total Dissolved Solids	898	mg/L	100ml	8.28	50.0	SM 2540 C	TMN	09/24/08
Non-Metallics								
Alkalinity	206	mg/L	1	0.414	10.0	SM 2320 B	JAM	09/24/08
Bicarbonate	252	mg/L	1	0.505	10.0	SM 2320 B	JAM	09/24/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	JAM	09/24/08
Chloride (Cl-)	10.3	mg/L	1	0.453	0.500	SM 4500-Cl B	AJS	09/24/08
Nitrogen, Ammonia (NH3)	0.304	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	09/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	BLL	09/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL	09/24/08
Sulfate (SO4)	474	mg/L	5	13.1	50.0	EPA 375.2	BLL	09/24/08
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	09/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC	09/24/08
Calcium (Ca)	95.6	mg/L	10	2.19	10.0	SM 3111 B	NMA	09/24/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC	09/25/08
Copper (Cu)	0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	09/24/08
Iron (Fe)	0.055	mg/L	10	0.009	0.050	EPA 200.8	SAC	09/24/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	SAC	09/24/08
Magnesium (Mg)	33.7	mg/L	5	0.108	2.50	SM 3111 B	NMA	09/25/08
Molybdenum (Mo)	0.001	mg/L	10	0.000385	0.001	EPA 200.8	SAC	09/24/08
Potassium (K)	12.6	mg/L	10	1.78	5.00	SM 3111 B	NMA	09/24/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	09/24/08
Sodium (Na)	158	mg/L	5	0.741	2.50	SM 3111 B	NMA	09/25/08
Metals - Total								
Uranium	< 0.001	µg/L	10	0.041	1.00	EPA 200.8	SAC	09/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	14.3	meq/L	1			Calculation	GAM	09/25/08
Anion - Cation Balance	1.63	%	1			Calculation	GAM	09/25/08
Cations	14.8	meq/L	1			Calculation	GAM	09/25/08
Radiological								
Radium-226	Pending	pCi/L	1			7500-Ra C		
Radium-228	Pending	pCi/L	1			7500-Ra C		
Radon-222	Pending	pCi/L	1			ASTM D5072-92 (SHL)		

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Approved On: 9/25/2008 2:15:01 PM



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB08-32-12
Project Name: POWERTECH
Sampled: 10/21/08 at 10:55 AM
by Mark Kennihan
Sample Matrix: Water

Lab ID#: 20081022601
Received: 10/21/08 at 03:05 PM
by Julie Muzzy
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1270	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	10/22/08
pH	7.96	SU	1			SM 4500-H+ B	JAM	10/22/08
Total Dissolved Solids	823	mg/L	100ml	8.28	50.0	SM 2540 C	TMN	10/21/08
Total Suspended Solids	< 10.0	mg/L	100ml	1.53	10.0	SM 2540 D	TMN	10/23/08
Non-Metallics								
Alkalinity	167	mg/L	1	0.414	10.0	SM 2320 B	JAM	10/22/08
Bicarbonate	204	mg/L	1	0.505	10.0	SM 2320 B	JAM	10/22/08
Chloride (Cl-)	9.25	mg/L	1	0.453	0.500	SM 4500-Cl B	AJS	10/22/08
Fluoride	0.539	mg/L	1	0.001	0.050	SM 4500 F-C	AJS	10/22/08
Nitrogen, Ammonia (NH3)	0.217	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	10/22/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	BLL	10/22/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL	10/22/08
Sulfate (SO4)	406	mg/L	4	10.5	40.0	EPA 375.2	BLL	10/22/08
Metals - Dissolved								
Aluminum (Al)	0.023	mg/L	10	0.003	0.010	EPA 200.8	SAC	10/22/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	10/22/08
Barium (Ba)	0.020	mg/L	10	0.000059	0.005	EPA 200.8	SAC	10/22/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC	10/22/08
Calcium (Ca)	56.6	mg/L	5	1.10	5.00	SM 3111 B	NMA	10/22/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC	10/22/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	10/22/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	SAC	10/22/08
Lead (Pb)	0.002	mg/L	10	0.000185	0.001	EPA 200.8	SAC	10/22/08
Magnesium (Mg)	16.3	mg/L	5	0.108	2.50	SM 3111 B	NMA	10/22/08
Manganese (Mn)	0.084	mg/L	10	0.000048	0.001	EPA 200.8	SAC	10/22/08
Potassium (K)	8.75	mg/L	5	0.890	2.50	SM 3111 B	NMA	10/22/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	10/22/08
Sodium (Na)	183	mg/L	5	0.741	2.50	SM 3111 B	NMA	10/22/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	SAC	10/22/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Dissolved								
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	SAC	10/22/08
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	NMA	10/22/08
Uranium	< 0.001	mg/L	10	0.000041	0.001	EPA 200.8	SAC	10/22/08
Anion - Cation Balance								
Anions	12.1	meq/L	1			Calculation	GAM	10/29/08
Anion - Cation Balance	1.16	%	1			Calculation	GAM	10/29/08
Cations	12.4	meq/L	1			Calculation	GAM	10/29/08
Radiological								
Gross Alpha	Pending	pCi/L	1			E900.0		
Radium-226	Pending	pCi/L	1			7500-Ra C		
Radium-228	Pending	pCi/L	1			7500-Ra C		
Radon-222	Pending	pCi/L	1			ASTM D5072-92 (SHL)		
Radionuclides - Dissolved								
Gross Beta	Pending	pCi/L	1			E900.0	BLL	
Gross Gamma	Pending	pCi/L	1			E901.1	BLL	

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Approved On: 10/29/2008 12:48:27 PM



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-32-13
Project Name: POWERTECH
Sampled: 10/21/08 at 11:15 AM
by Mark Kennihan
Sample Matrix: Water


MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20081022602
Received: 10/21/08 at 03:05 PM
by Julie Muzzy
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1410	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	10/22/08
pH	8.01	SU	1			SM 4500-H+ B	JAM	10/22/08
Total Dissolved Solids	899	mg/L	100ml	8.28	50.0	SM 2540 C	TMN	10/21/08
Total Suspended Solids	< 10.0	mg/L	100ml	1.53	10.0	SM 2540 D	TMN	10/23/08
Non-Metallics								
Alkalinity	177	mg/L	1	0.414	10.0	SM 2320 B	JAM	10/22/08
Bicarbonate	216	mg/L	1	0.505	10.0	SM 2320 B	JAM	10/22/08
Chloride (Cl-)	12.8	mg/L	1	0.453	0.500	SM 4500-Cl B	AJS	10/22/08
Fluoride	0.430	mg/L	1	0.001	0.050	SM 4500 F-C	AJS	10/22/08
Nitrogen, Ammonia (NH3)	0.219	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	10/22/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	BLL	10/22/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL	10/22/08
Sulfate (SO4)	484	mg/L	4	10.5	40.0	EPA 375.2	BLL	10/22/08
Metals - Dissolved								
Aluminum (Al)	0.016	mg/L	10	0.003	0.010	EPA 200.8	SAC	10/22/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	10/22/08
Barium (Ba)	0.020	mg/L	10	0.000059	0.005	EPA 200.8	SAC	10/22/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC	10/22/08
Calcium (Ca)	60.0	mg/L	1	0.219	1.00	SM 3111 B	NMA	10/23/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC	10/22/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	10/22/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	SAC	10/22/08
Lead (Pb)	0.002	mg/L	10	0.000185	0.001	EPA 200.8	SAC	10/22/08
Magnesium (Mg)	18.0	mg/L	1	0.022	0.500	SM 3111 B	NMA	10/23/08
Manganese (Mn)	0.078	mg/L	10	0.000048	0.001	EPA 200.8	SAC	10/22/08
Potassium (K)	9.21	mg/L	5	0.890	2.50	SM 3111 B	NMA	10/22/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	10/22/08
Sodium (Na)	213	mg/L	5	0.741	2.50	SM 3111 B	NMA	10/23/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	SAC	10/22/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Dissolved								
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	SAC	10/22/08
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	NMA	10/22/08
Uranium	0.003	mg/L	10	0.000041	0.001	EPA 200.8	SAC	10/22/08
Anion - Cation Balance								
Anions	14.0	meq/L	1			Calculation	GAM	10/29/08
Anion - Cation Balance	-0.007	%	1			Calculation	GAM	10/29/08
Cations	14.0	meq/L	1			Calculation	GAM	10/29/08
Radiological								
Gross Alpha	Pending	pCi/L	1			E900.0		
Radium-226	Pending	pCi/L	1			7500-Ra C		
Radium-228	Pending	pCi/L	1			7500-Ra C		
Radon-222	Pending	pCi/L	1			ASTM D5072-92 (SHL)		
Radionuclides - Dissolved								
Gross Beta	Pending	pCi/L	1			E900.0	BLL	
Gross Gamma	Pending	pCi/L	1			E901.1	BLL	

Approved By: _____



Approved On: 10/29/2008 12:48:27 PM



MIDCONTINENT
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Page 1 of 1

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: Peterson Stock Tank
Project Name: POWERTECH
Sampled: 10/21/08 at 12:45 PM
by Mark Kennihan
Sample Matrix: Water

Lab ID#: 20081022603
Received: 10/21/08 at 03:05 PM
by Julie Muzzy
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Total Suspended Solids	< 10.0	mg/L	100ml	1.53	10.0	SM 2540 D	TMN 10/23/08
Metals - Total							
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC 10/23/08
Barium (Ba)	0.021	mg/L	10	0.000059	0.005	EPA 200.8	SAC 10/23/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC 10/23/08
Calcium (Ca)	163	mg/L	5	1.10	5.00	SM 3111 B	NMA 10/23/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC 10/23/08
Iron (Fe)	3.06	mg/L	10	0.009	0.050	EPA 200.8	SAC 10/23/08
Lead (Pb)	0.002	mg/L	10	0.000185	0.001	EPA 200.8	SAC 10/23/08
Magnesium (Mg)	58.2	mg/L	5	0.108	2.50	SM 3111 B	NMA 10/23/08
Manganese (Mn)	0.319	mg/L	10	0.000048	0.001	EPA 200.8	SAC 10/23/08
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	NMA 10/23/08
Potassium (K)	14.7	mg/L	5	0.890	2.50	SM 3111 B	NMA 10/23/08
Sodium (Na)	98.4	mg/L	5	0.741	2.50	SM 3111 B	NMA 10/23/08
Uranium	0.010	mg/L	10	0.000041	0.001	EPA 200.8	SAC 10/23/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	SAC 10/23/08
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	SAC 10/23/08
Radiological							
Gross Alpha	Pending	pCi/L	1			E900.0	
Radium-226	Pending	pCi/L	1			7500-Ra C	
Radium-228	Pending	pCi/L	1			7500-Ra C	
Radon-222	Pending	pCi/L	1			ASTM D5072-92 (SHL)	
Radionuclides - Dissolved							
Gross Beta	Pending	pCi/L	1			E900.0	BLL
Gross Gamma	Pending	pCi/L	1			E901.1	BLL

Approved By: 

Approved On: 10/29/2008 12:48:27 PM



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-11-17
Project Name: POWERTECH
Sampled: 11/18/08 at 10:00 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20081120601
Received: 11/18/08 at 03:30 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1230	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM 11/20/08
pH	7.99	SU	1			SM 4500-H+ B	JAM 11/20/08
Total Dissolved Solids	773	mg/L	100ml	8.28	50.0	SM 2540 C	TMN 11/19/08
Total Suspended Solids	< 10.0	mg/L	100ml	1.53	10.0	SM 2540 D	TMN 11/19/08
Non-Metallics							
Alkalinity	163	mg/L	1	0.414	10.0	SM 2320 B	JAM 11/20/08
Bicarbonate	199	mg/L	1	0.505	10.0	SM 2320 B	JAM 11/20/08
Chloride (Cl-)	11.3	mg/L	1	0.453	0.500	SM 4500-Cl B	AJS 11/19/08
Fluoride	0.522	mg/L	1	0.001	0.050	SM 4500 F-C	AJS 11/19/08
Nitrogen, Ammonia (NH3)	0.425	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM 11/20/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	BLL 11/20/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL 11/20/08
Sulfate (SO4)	401	mg/L	2	5.24	20.0	EPA 375.2	BLL 11/20/08
Metals - Dissolved							
Aluminum (Al)	0.026	mg/L	10	0.003	0.010	EPA 200.8	SAC 11/20/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC 11/20/08
Barium (Ba)	0.010	mg/L	10	0.000059	0.005	EPA 200.8	SAC 11/20/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC 11/20/08
Calcium (Ca)	52.3	mg/L	5	1.10	5.00	SM 3111 B	NMA 11/20/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC 11/20/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC 11/20/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	SAC 11/20/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	SAC 11/20/08
Magnesium (Mg)	19.8	mg/L	5	0.108	2.50	SM 3111 B	NMA 11/20/08
Manganese (Mn)	0.062	mg/L	10	0.000048	0.001	EPA 200.8	SAC 11/20/08
Potassium (K)	12.0	mg/L	5	0.890	2.50	SM 3111 B	NMA 11/20/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC 11/20/08
Sodium (Na)	168	mg/L	5	0.741	2.50	SM 3111 B	NMA 11/20/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	SAC 11/20/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Dissolved								
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	SAC	11/20/08
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	NMA	11/20/08
Uranium	< 0.001	mg/L	10	0.000041	0.001	EPA 200.8	SAC	11/20/08
Anion - Cation Balance								
Anions	11.9	meq/L	1			Calculation	GAM	11/25/08
Anion - Cation Balance	-0.297	%	1			Calculation	GAM	11/25/08
Cations	11.9	meq/L	1			Calculation	GAM	11/25/08
Radiological								
Gross Alpha	Pending	pCi/L	1			EPA 900.0		
Gross Beta	Pending	pCi/L	1			EPA 900.0		
Radium-226	Pending	pCi/L	1			EPA 903.1		
Radium-228	Pending	pCi/L	1			Brooks-Blanchard		
Radon-222	Pending	pCi/L	1			ASTM D5072-92 (SHL)		

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Approved On: 11/25/2008 5:04:03 PM



MIDCONTINENT
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Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-11-11C
Project Name: POWERTECH
Sampled: 11/18/08 at 10:15 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20081120602
Received: 11/18/08 at 03:30 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	2660	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM 11/20/08
pH	7.70	SU	1			SM 4500-H+ B	JAM 11/20/08
Total Dissolved Solids	2380	mg/L	100ml	8.28	50.0	SM 2540 C	TMN 11/19/08
Total Suspended Solids	< 10.0	mg/L	100ml	1.53	10.0	SM 2540 D	TMN 11/19/08
Non-Metallics							
Alkalinity	252	mg/L	1	0.414	10.0	SM 2320 B	JAM 11/20/08
Bicarbonate	308	mg/L	1	0.505	10.0	SM 2320 B	JAM 11/20/08
Chloride (Cl-)	12.0	mg/L	1	0.453	0.500	SM 4500-Cl B	AJS 11/19/08
Fluoride	0.335	mg/L	1	0.001	0.050	SM 4500 F-C	AJS 11/19/08
Nitrogen, Ammonia (NH3)	0.117	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM 11/20/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	BLL 11/20/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL 11/20/08
Sulfate (SO4)	1370	mg/L	10	26.2	100	EPA 375.2	BLL 11/20/08
Metals - Dissolved							
Aluminum (Al)	0.011	mg/L	10	0.003	0.010	EPA 200.8	SAC 11/20/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC 11/20/08
Barium (Ba)	0.011	mg/L	10	0.000059	0.005	EPA 200.8	SAC 11/20/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC 11/20/08
Calcium (Ca)	347	mg/L	25	5.48	25.0	SM 3111 B	NMA 11/21/08
Chromium (Cr)	0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC 11/20/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC 11/20/08
Iron (Fe)	0.201	mg/L	10	0.009	0.050	EPA 200.8	SAC 11/20/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	SAC 11/20/08
Magnesium (Mg)	116	mg/L	5	0.108	2.50	SM 3111 B	NMA 11/20/08
Manganese (Mn)	0.431	mg/L	10	0.000048	0.001	EPA 200.8	SAC 11/20/08
Potassium (K)	18.5	mg/L	5	0.890	2.50	SM 3111 B	NMA 11/20/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC 11/20/08
Sodium (Na)	128	mg/L	5	0.741	2.50	SM 3111 B	NMA 11/20/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	SAC 11/20/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Dissolved								
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	SAC	11/20/08
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	NMA	11/20/08
Uranium	0.021	mg/L	10	0.000041	0.001	EPA 200.8	SAC	11/20/08
Anion - Cation Balance								
Anions	34.0	meq/L	1			Calculation	GAM	11/25/08
Anion - Cation Balance	-1.60	%	1			Calculation	GAM	11/25/08
Cations	32.9	meq/L	1			Calculation	GAM	11/25/08
Radiological								
Gross Alpha	Pending	pCi/L	1			EPA 900.0		
Gross Beta	Pending	pCi/L	1			EPA 900.0		
Radium-226	Pending	pCi/L	1			EPA 903.1		
Radium-228	Pending	pCi/L	1			Brooks-Blanchard		
Radon-222	Pending	pCi/L	1			ASTM D5072-92 (SHL)		

Approved By: 

Approved On: 11/25/2008 5:04:03 PM



MIDCONTINENT
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Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-6-1
Project Name: POWERTECH
Sampled: 11/18/08 at 11:35 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20081120603
Received: 11/18/08 at 03:30 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	2770	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	11/20/08
pH	7.42	SU	1			SM 4500-H+ B	JAM	11/20/08
Total Dissolved Solids	2370	mg/L	100ml	8.28	50.0	SM 2540 C	TMN	11/19/08
Total Suspended Solids	37.0	mg/L	100ml	1.53	10.0	SM 2540 D	TMN	11/19/08
Non-Metallics								
Alkalinity	187	mg/L	1	0.414	10.0	SM 2320 B	JAM	11/20/08
Bicarbonate	228	mg/L	1	0.505	10.0	SM 2320 B	JAM	11/20/08
Chloride (Cl-)	11.5	mg/L	1	0.453	0.500	SM 4500-Cl B	AJS	11/19/08
Fluoride	0.410	mg/L	1	0.001	0.050	SM 4500 F-C	AJS	11/19/08
Nitrogen, Ammonia (NH3)	0.365	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	11/20/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	BLL	11/20/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL	11/20/08
Sulfate (SO4)	1390	mg/L	10	26.2	100	EPA 375.2	BLL	11/20/08
Metals - Dissolved								
Aluminum (Al)	0.012	mg/L	10	0.003	0.010	EPA 200.8	SAC	11/20/08
Arsenic (As)	0.008	mg/L	10	0.000478	0.005	EPA 200.8	SAC	11/20/08
Barium (Ba)	0.013	mg/L	10	0.000059	0.005	EPA 200.8	SAC	11/20/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC	11/20/08
Calcium (Ca)	347	mg/L	5	1.10	5.00	SM 3111 B	NMA	11/20/08
Chromium (Cr)	0.002	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC	11/20/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	11/20/08
Iron (Fe)	13.8	mg/L	10	0.009	0.050	EPA 200.8	SAC	11/20/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	SAC	11/20/08
Magnesium (Mg)	116	mg/L	5	0.108	2.50	SM 3111 B	NMA	11/20/08
Manganese (Mn)	1.20	mg/L	10	0.000048	0.001	EPA 200.8	SAC	11/20/08
Potassium (K)	18.9	mg/L	5	0.890	2.50	SM 3111 B	NMA	11/20/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	11/20/08
Sodium (Na)	148	mg/L	5	0.741	2.50	SM 3111 B	NMA	11/20/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	SAC	11/20/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Dissolved								
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	SAC	11/20/08
Metals - Total								
Mercury (Hg)	0.0006	mg/L	1	0.000047	0.0002	EPA 245.1	NMA	11/25/08
Uranium	0.006	mg/L	10	0.000041	0.001	EPA 200.8	SAC	11/20/08
Anion - Cation Balance								
Anions	33.0	meq/L	1			Calculation	GAM	11/25/08
Anion - Cation Balance	1.22	%	1			Calculation	GAM	11/25/08
Cations	33.8	meq/L	1			Calculation	GAM	11/25/08
Radiological								
Gross Alpha	Pending	pCi/L	1			EPA 900.0		
Gross Beta	Pending	pCi/L	1			EPA 900.0		
Radium-226	Pending	pCi/L	1			EPA 903.1		
Radium-228	Pending	pCi/L	1			Brooks-Blanchard		
Radon-222	Pending	pCi/L	1			ASTM D5072-92 (SHL)		

Approved By: 

Approved On: 11/25/2008 5:04:03 PM



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-2-1
Project Name: POWERTECH
Sampled: 11/18/08 at 12:05 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20081120604
Received: 11/18/08 at 03:30 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	2470	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM 11/20/08
pH	7.43	SU	1			SM 4500-H+ B	JAM 11/20/08
Total Dissolved Solids	2190	mg/L	100ml	8.28	50.0	SM 2540 C	TMN 11/19/08
Total Suspended Solids	18.0	mg/L	100ml	1.53	10.0	SM 2540 D	TMN 11/19/08
Non-Metallics							
Alkalinity	114	mg/L	1	0.414	10.0	SM 2320 B	JAM 11/20/08
Bicarbonate	139	mg/L	1	0.505	10.0	SM 2320 B	JAM 11/20/08
Chloride (Cl-)	9.25	mg/L	1	0.453	0.500	SM 4500-Cl B	AJS 11/19/08
Fluoride	0.321	mg/L	1	0.001	0.050	SM 4500 F-C	AJS 11/19/08
Nitrogen, Ammonia (NH3)	0.141	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM 11/20/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	BLL 11/20/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL 11/20/08
Sulfate (SO4)	1300	mg/L	10	26.2	100	EPA 375.2	BLL 11/20/08
Metals - Dissolved							
Aluminum (Al)	0.012	mg/L	10	0.003	0.010	EPA 200.8	SAC 11/20/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC 11/20/08
Barium (Ba)	0.009	mg/L	10	0.000059	0.005	EPA 200.8	SAC 11/20/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC 11/20/08
Calcium (Ca)	314	mg/L	5	1.10	5.00	SM 3111 B	NMA 11/20/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC 11/20/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC 11/20/08
Iron (Fe)	3.42	mg/L	10	0.009	0.050	EPA 200.8	SAC 11/20/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	SAC 11/20/08
Magnesium (Mg)	123	mg/L	5	0.108	2.50	SM 3111 B	NMA 11/20/08
Manganese (Mn)	2.37	mg/L	10	0.000048	0.001	EPA 200.8	SAC 11/20/08
Potassium (K)	13.1	mg/L	5	0.890	2.50	SM 3111 B	NMA 11/20/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC 11/20/08
Sodium (Na)	74.1	mg/L	5	0.741	2.50	SM 3111 B	NMA 11/20/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	SAC 11/20/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Dissolved								
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	SAC	11/20/08
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	NMA	11/20/08
Uranium	0.107	mg/L	10	0.000041	0.001	EPA 200.8	SAC	11/20/08
Anion - Cation Balance								
Anions	29.7	meq/L	1			Calculation	GAM	11/25/08
Anion - Cation Balance	-0.386	%	1			Calculation	GAM	11/25/08
Cations	29.4	meq/L	1			Calculation	GAM	11/25/08
Radiological								
Gross Alpha	Pending	pCi/L	1			EPA 900.0		
Gross Beta	Pending	pCi/L	1			EPA 900.0		
Radium-226	Pending	pCi/L	1			EPA 903.1		
Radium-228	Pending	pCi/L	1			Brooks-Blanchard		
Radon-222	Pending	pCi/L	1			ASTM D5072-92 (SHL)		

Approved By: 

Approved On: 11/25/2008 5:04:03 PM

From: Cepak, Mike
To: Fivecoate, Roberta; Lees, Michael; Haag, Gary; Holm, Eric; Hicks, Matt;
CC: Cepak, Mike; Keenihan, Mark;
Subject: FW: SAMPLE RESULTS
Date: Friday, January 23, 2009 8:48:23 AM
Attachments: Sample Powertech Jan 20 2009 without radionuclides.pdf

For sample taken January 20 for short list.

-----Original Message-----

From: Greg McDougall [mailto:greg@thechemistrylab.com]
Sent: Thursday, January 22, 2009 9:51 AM
To: Cepak, Mike
Subject: SAMPLE RESULTS

Greg McDougall

Mid Continent Testing Labs, Inc.
ph: 605-348-0111
fax 605-721-0265
Greg@TheChemistryLab.com



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: #622
Project Name: POWERTECH
Sampled: 01/20/09 at 10:45 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20090121109
Received: 01/20/09 at 03:10 PM
by Bobbie Laurenz
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1360	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM 01/21/09
pH	7.92	SU	1			SM 4500-H+ B	JAM 01/21/09
Total Dissolved Solids	916	mg/L	100ml	8.28	50.0	SM 2540 C	TMN 01/21/09
Non-Metallics							
Alkalinity	180	mg/L	1	0.414	10.0	SM 2320 B	JAM 01/21/09
Bicarbonate	220	mg/L	1	0.505	10.0	SM 2320 B	JAM 01/21/09
Chloride (Cl-)	10.5	mg/L	1	0.453	0.500	SM 4500-Cl B	AJS 01/22/09
Sulfate (SO4)	476	mg/L	4	20.9	40.0	EPA 375.2	BLL 01/21/09
Metals - Dissolved							
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC 01/21/09
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC 01/21/09
Molybdenum (Mo)	0.002	mg/L	10	0.000385	0.001	EPA 200.8	SAC 01/21/09
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC 01/21/09
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	SAC 01/21/09
Metals - Total							
Uranium	0.006	mg/L	10	0.000041	0.001	EPA 200.8	SAC 01/21/09
Radiological							
Gross Alpha	Pending	pCi/L	1			EPA 900.0	
Gross Beta	Pending	pCi/L	1			EPA 900.0	
Radium-226	Pending	pCi/L	1			EPA 903.1	
Radon-222	Pending	pCi/L	1			SM 7500-Rn B	

Approved By: _____

Approved On: 1/22/2009 8:40:04 AM

From: Cepak, Mike
To: Haag, Gary; Hicks, Matt; Fivecoate, Roberta; Lees, Michael;
CC: Cepak, Mike;
Subject: FW: Sample Results
Date: Thursday, February 12, 2009 2:02:47 PM
Attachments: Sample Powertech July and Aug 2008 with radionuclides.pdf

Powertech baseline samples for July and August 2008 - with radionuclide results.

-----Original Message-----

From: Eric Fuehrer [mailto:eric@thechemistrylab.com]
Sent: Thursday, February 12, 2009 1:51 PM
To: Cepak, Mike
Subject: Sample Results



MIDCONTINENT
TESTING LABORATORIES, INC.

Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: #615
Project Name: POWERTECH
Sampled: 07/14/08 at 12:00 PM
by Mark Keeniman
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080716101
Received: 07/14/08 at 05:30 PM
by Dean Aurand
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1070	µmhos/cm	1	0.299	5.00	EPA 120.1	EJF	07/16/08
pH	7.84	SU	1			SM 4500-H+ B	EJF	07/16/08
Total Dissolved Solids	748	mg/L	100ml	11.0	50.0	SM 2540 C	NDM	07/16/08
Non-Metallics								
Alkalinity	139	mg/L	1	0.510	10.0	SM 2320 B	EJF	07/16/08
Bicarbonate	169	mg/L	1	0.622	10.0	SM 2320 B	EJF	07/16/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	EJF	07/16/08
Chloride (Cl-)	6.25	mg/L	1	0.453	0.500	SM 4500-Cl B	BLL	07/16/08
Nitrogen, Ammonia (NH3)	< 0.050	mg/L	1	0.005	0.050	SM 4500-NH3 D	LAF	07/16/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	07/16/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	07/16/08
Sulfate (SO4)	374	mg/L	4	20.9	40.0	EPA 375.2	BLL	07/16/08
Metals - Dissolved								
Arsenic (As)	0.020	mg/L	10	0.000478	0.005	EPA 200.8	PAT	07/16/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	07/16/08
Calcium (Ca)	76.4	mg/L	5	0.312	5.00	SM 3111 B	SAC	07/16/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	07/16/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	07/16/08
Iron (Fe)	0.878	mg/L	10	0.009	0.050	EPA 200.8	PAT	07/16/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT	07/16/08
Magnesium (Mg)	20.8	mg/L	5	0.487	2.50	SM 3111 B	SAC	07/16/08
Molybdenum (Mo)	0.002	mg/L	10	0.000385	0.001	EPA 200.8	PAT	07/16/08
Potassium (K)	9.72	mg/L	5	0.524	2.50	SM 3111 B	SAC	07/16/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	07/16/08
Sodium (Na)	122	mg/L	5	0.810	2.50	SM 3111 B	SAC	07/16/08
Metals - Total								
Uranium	0.003	mg/L	10	0.000041	0.001	EPA 200.8	PAT	07/16/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	10.7	meq/L	1			Calculation	GAM	07/17/08
Anion - Cation Balance	1.61	%	1			Calculation	GAM	07/17/08
Cations	11.1	meq/L	1			Calculation	GAM	07/17/08
Radiological								
Radium-226	1.4	pCi/L	1			EPA 903.1	SYS	02/10/09
Radium-228	1.0	pCi/L	1			Brooks-Blanchard	SYS	02/10/09
Radon-222	3080	pCi/L	1			SM 7500-Rn B	GAM	08/20/08

Approved By: 

Approved On: 2/12/2009 9:54:32 AM



MIDCONTINENT
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Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: #622
Project Name: POWERTECH
Sampled: 07/14/08 at 12:30 PM
by Mark Keeniman
Sample Matrix: Water


MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080716102
Received: 07/14/08 at 05:30 PM
by Dean Aurand
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1360	µmhos/cm	1	0.299	5.00	EPA 120.1	EJF	07/16/08
pH	7.91	SU	1			SM 4500-H+ B	EJF	07/16/08
Total Dissolved Solids	952	mg/L	100ml	11.0	50.0	SM 2540 C	NDM	07/16/08
Non-Metallics								
Alkalinity	182	mg/L	1	0.510	10.0	SM 2320 B	EJF	07/16/08
Bicarbonate	222	mg/L	1	0.622	10.0	SM 2320 B	EJF	07/16/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	EJF	07/16/08
Chloride (Cl-)	11.5	mg/L	1	0.453	0.500	SM 4500-Cl B	BLL	07/16/08
Nitrogen, Ammonia (NH3)	< 0.050	mg/L	1	0.005	0.050	SM 4500-NH3 D	LAF	07/16/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	07/16/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	07/16/08
Sulfate (SO4)	503	mg/L	4	20.9	40.0	EPA 375.2	BLL	07/16/08
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	07/16/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	07/16/08
Calcium (Ca)	92.5	mg/L	5	0.312	5.00	SM 3111 B	SAC	07/16/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	07/16/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	07/16/08
Iron (Fe)	0.141	mg/L	10	0.009	0.050	EPA 200.8	PAT	07/16/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT	07/16/08
Magnesium (Mg)	29.0	mg/L	5	0.487	2.50	SM 3111 B	SAC	07/16/08
Molybdenum (Mo)	0.001	mg/L	10	0.000385	0.001	EPA 200.8	PAT	07/16/08
Potassium (K)	11.7	mg/L	5	0.524	2.50	SM 3111 B	SAC	07/16/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	07/16/08
Sodium (Na)	162	mg/L	5	0.810	2.50	SM 3111 B	SAC	07/16/08
Metals - Total								
Uranium	0.006	mg/L	10	0.000041	0.001	EPA 200.8	PAT	07/16/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	14.4	meq/L	1			Calculation	GAM	07/17/08
Anion - Cation Balance	-0.283	%	1			Calculation	GAM	07/17/08
Cations	14.3	meq/L	1			Calculation	GAM	07/17/08
Radiological								
Radium-226	1.8	pCi/L	1			EPA 903.1	SYS	02/10/09
Radium-228	3.5	pCi/L	1			Brooks-Blanchard	SYS	02/10/09
Radon-222	2110	pCi/L	1			SM 7500-Rn B	GAM	08/20/08

Approved By: _____



Approved On: 2/12/2009 9:54:32 AM



MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-32-13
Project Name: POWERTECH
Sampled: 07/14/08 at 01:30 PM
by Mark Keeniman
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080716103
Received: 07/14/08 at 05:30 PM
by Dean Aurand
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1410	µmhos/cm	1	0.299	5.00	EPA 120.1	EJF	07/16/08
pH	8.08	SU	1			SM 4500-H+ B	EJF	07/16/08
Total Dissolved Solids	915	mg/L	100ml	11.0	50.0	SM 2540 C	NDM	07/16/08
Non-Metallics								
Alkalinity	176	mg/L	1	0.510	10.0	SM 2320 B	EJF	07/16/08
Bicarbonate	215	mg/L	1	0.622	10.0	SM 2320 B	EJF	07/16/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	EJF	07/16/08
Chloride (Cl-)	13.3	mg/L	1	0.453	0.500	SM 4500-Cl B	BLL	07/16/08
Nitrogen, Ammonia (NH3)	0.192	mg/L	1	0.005	0.050	SM 4500-NH3 D	LAF	07/16/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	07/16/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	07/16/08
Sulfate (SO4)	510	mg/L	4	20.9	40.0	EPA 375.2	BLL	07/16/08
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	07/16/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	07/16/08
Calcium (Ca)	56.4	mg/L	5	0.312	5.00	SM 3111 B	SAC	07/16/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	07/16/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	07/16/08
Iron (Fe)	0.496	mg/L	10	0.009	0.050	EPA 200.8	PAT	07/16/08
Magnesium (Mg)	17.3	mg/L	5	0.487	2.50	SM 3111 B	SAC	07/16/08
Molybdenum (Mo)	0.004	mg/L	10	0.000385	0.001	EPA 200.8	PAT	07/16/08
Potassium (K)	10.8	mg/L	5	0.524	2.50	SM 3111 B	SAC	07/16/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	07/16/08
Sodium (Na)	221	mg/L	5	0.810	2.50	SM 3111 B	SAC	07/16/08
Metals - Total								
Uranium	0.003	mg/L	10	0.000041	0.001	EPA 200.8	PAT	07/16/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	14 . 5	meq/L	1			Calculation	GAM	07/17/08
Anion - Cation Balance	-1 . 29	%	1			Calculation	GAM	07/17/08
Cations	14 . 1	meq/L	1			Calculation	GAM	07/17/08
Radiological								
Radium-226	6 . 3	pCi/L	1			EPA 903.1	SYS	02/10/09
Radium-228	1 . 4	pCi/L	1			Brooks-Blanchard	SYS	02/10/09
Radon-222	3460	pCi/L	1			SM 7500-Rn B	GAM	08/20/08

Approved By: _____



Approved On: 2/12/2009 9:54:32 AM



MIDCONTINENT
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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-32-12
Project Name: POWERTECH
Sampled: 07/14/08 at 02:00 PM
by Mark Keeniman
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080716104
Received: 07/14/08 at 05:30 PM
by Dean Aurand
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1260	µmhos/cm	1	0.299	5.00	EPA 120.1	EJF	07/16/08
pH	8.13	SU	1			SM 4500-H+ B	EJF	07/16/08
Total Dissolved Solids	801	mg/L	100ml	11.0	50.0	SM 2540 C	NDM	07/16/08
Non-Metallics								
Alkalinity	163	mg/L	1	0.510	10.0	SM 2320 B	EJF	07/16/08
Bicarbonate	199	mg/L	1	0.622	10.0	SM 2320 B	EJF	07/16/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	EJF	07/16/08
Chloride (Cl-)	9.25	mg/L	1	0.453	0.500	SM 4500-Cl B	BLL	07/16/08
Nitrogen, Ammonia (NH3)	0.217	mg/L	1	0.005	0.050	SM 4500-NH3 D	LAF	07/16/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	07/16/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	07/16/08
Sulfate (SO4)	452	mg/L	4	20.9	40.0	EPA 375.2	BLL	07/16/08
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	07/16/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	07/16/08
Calcium (Ca)	51.5	mg/L	5	0.312	5.00	SM 3111 B	SAC	07/16/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	07/16/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	07/16/08
Iron (Fe)	0.111	mg/L	10	0.009	0.050	EPA 200.8	PAT	07/16/08
Magnesium (Mg)	15.3	mg/L	5	0.487	2.50	SM 3111 B	SAC	07/16/08
Molybdenum (Mo)	0.003	mg/L	10	0.000385	0.001	EPA 200.8	PAT	07/16/08
Potassium (K)	9.82	mg/L	5	0.524	2.50	SM 3111 B	SAC	07/16/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	07/16/08
Sodium (Na)	190	mg/L	5	0.810	2.50	SM 3111 B	SAC	07/17/08
Metals - Total								
Uranium	< 0.001	mg/L	10	0.000041	0.001	EPA 200.8	PAT	07/16/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	12.9	meq/L	1			Calculation	GAM	07/17/08
Anion - Cation Balance	-2.26	%	1			Calculation	GAM	07/17/08
Cations	12.4	meq/L	1			Calculation	GAM	07/17/08
Radiological								
Radium-226	1.1	pCi/L	1			EPA 903.1	SYS	02/10/09
Radium-228	< 0.60	pCi/L	1			Brooks-Blanchard	SYS	02/10/09
Radon-222	3.00	pCi/L	1			SM 7500-Rn B	GAM	08/20/08

Approved By: _____



Approved On: 2/12/2009 9:54:32 AM



MIDCONTINENT
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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB08-2-1
Project Name: POWERTECH
Sampled: 08/14/08 at 02:00 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080821101
Received: 08/20/08 at 09:00 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	2490	µmhos/cm	1	0.299	5.00	EPA 120.1	JAM	08/21/08
pH	7.54	SU	1			SM 4500-H+ B	JAM	08/21/08
Total Dissolved Solids	2180	mg/L	100ml	11.0	50.0	SM 2540 C	TMN	08/21/08
Non-Metallics								
Alkalinity	113	mg/L	1	0.510	10.0	SM 2320 B	JAM	08/21/08
Bicarbonate	138	mg/L	1	0.622	10.0	SM 2320 B	JAM	08/21/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	JAM	08/21/08
Chloride (Cl-)	11.8	mg/L	1	0.453	0.500	SM 4500-Cl B	LAF	08/21/08
Nitrogen, Ammonia (NH3)	0.178	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	08/21/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	08/21/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	08/21/08
Sulfate (SO4)	1340	mg/L	10	52.3	100	EPA 375.2	BLL	08/21/08
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	08/21/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC	08/21/08
Calcium (Ca)	320	mg/L	10	0.624	10.0	SM 3111 B	NMA	08/21/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC	08/21/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	08/21/08
Iron (Fe)	3.60	mg/L	10	0.009	0.050	EPA 200.8	SAC	08/21/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	SAC	08/21/08
Magnesium (Mg)	123	mg/L	10	0.974	5.00	SM 3111 B	NMA	08/21/08
Molybdenum (Mo)	< 0.001	mg/L	10	0.000385	0.001	EPA 200.8	SAC	08/21/08
Potassium (K)	14.2	mg/L	10	1.05	5.00	SM 3111 B	NMA	08/21/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	08/21/08
Sodium (Na)	86.3	mg/L	10	1.62	5.00	SM 3111 B	NMA	08/21/08
Metals - Total								
Uranium	0.113	µg/L	10	0.041	1.00	EPA 200.8	SAC	08/21/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	30.5	meq/L	1			Calculation	GAM	08/26/08
Anion - Cation Balance	-0.429	%	1			Calculation	GAM	08/26/08
Cations	30.2	meq/L	1			Calculation	GAM	08/26/08
Radiological								
Gross Alpha	1030	pCi/L	1			EPA 900.0	SYS	02/10/09
Radium-226	400	pCi/L	1			EPA 903.1	SYS	02/10/09
Radium-228	4.7	pCi/L	1			Brooks-Blanchard	SYS	02/10/09
Radon-222	230000	pCi/L	1			ASTM D5072-92 (SHL)	SYS	12/05/08

Approved By: 

Approved On: 2/12/2009 9:55:31 AM



MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB08-32-10
Project Name: POWERTECH
Sampled: 08/14/08 at 03:25 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080821102
Received: 08/20/08 at 09:00 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1110	µmhos/cm	1	0.299	5.00	EPA 120.1	JAM	08/21/08
pH	8.12	SU	1			SM 4500-H+ B	JAM	08/21/08
Total Dissolved Solids	701	mg/L	100ml	11.0	50.0	SM 2540 C	TMN	08/21/08
Non-Metallics								
Alkalinity	148	mg/L	1	0.510	10.0	SM 2320 B	JAM	08/21/08
Bicarbonate	180	mg/L	1	0.622	10.0	SM 2320 B	JAM	08/21/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	JAM	08/21/08
Chloride (Cl-)	7.00	mg/L	1	0.453	0.500	SM 4500-Cl B	LAF	08/21/08
Nitrogen, Ammonia (NH3)	0.119	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	08/21/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	08/21/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	08/21/08
Sulfate (SO4)	344	mg/L	2	10.5	20.0	EPA 375.2	BLL	08/25/08
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	08/21/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC	08/21/08
Calcium (Ca)	57.3	mg/L	5	0.312	5.00	SM 3111 B	NMA	08/21/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC	08/21/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	08/21/08
Iron (Fe)	0.174	mg/L	10	0.009	0.050	EPA 200.8	SAC	08/21/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	SAC	08/21/08
Magnesium (Mg)	15.0	mg/L	10	0.974	5.00	SM 3111 B	NMA	08/25/08
Molybdenum (Mo)	0.008	mg/L	10	0.000385	0.001	EPA 200.8	SAC	08/21/08
Potassium (K)	7.71	mg/L	10	1.05	5.00	SM 3111 B	NMA	08/21/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	08/21/08
Sodium (Na)	148	mg/L	10	1.62	5.00	SM 3111 B	NMA	08/25/08
Metals - Total								
Uranium	0.004	µg/L	10	0.041	1.00	EPA 200.8	SAC	08/21/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	10.3	meq/L	1			Calculation	GAM	08/26/08
Anion - Cation Balance	2.04	%	1			Calculation	GAM	08/26/08
Cations	10.7	meq/L	1			Calculation	GAM	08/26/08
Radiological								
Gross Alpha	9.70	pCi/L	1			EPA 900.0	SYS	02/10/09
Radium-226	0.40	pCi/L	1			EPA 903.1	SYS	02/10/09
Radium-228	1.1	pCi/L	1			Brooks-Blanchard	SYS	02/10/09
Radon-222	12200	pCi/L	1			ASTM D5072-92 (SHL)	SYS	12/05/08

Approved By: 

Approved On: 2/12/2009 9:55:31 AM



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Sample Site: DB08-1-6
Project Name: POWERTECH
Sampled: 08/14/08 at 04:30 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080821103
Received: 08/20/08 at 09:00 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	3030	μmhos/cm	1	0.299	5.00	EPA 120.1	JAM	08/21/08
pH	7.29	SU	1			SM 4500-H+ B	JAM	08/21/08
Total Dissolved Solids	2750	mg/L	100ml	11.0	50.0	SM 2540 C	TMN	08/21/08
Non-Metallics								
Alkalinity	175	mg/L	1	0.510	10.0	SM 2320 B	JAM	08/21/08
Bicarbonate	213	mg/L	1	0.622	10.0	SM 2320 B	JAM	08/21/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	JAM	08/21/08
Chloride (Cl-)	17.0	mg/L	1	0.453	0.500	SM 4500-Cl B	LAF	08/21/08
Nitrogen, Ammonia (NH3)	0.470	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	08/21/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	08/21/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	08/21/08
Sulfate (SO4)	1760	mg/L	10	52.3	100	EPA 375.2	BLL	08/21/08
Metals - Dissolved								
Arsenic (As)	0.020	mg/L	10	0.000478	0.005	EPA 200.8	SAC	08/21/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC	08/21/08
Calcium (Ca)	471	mg/L	5	0.312	5.00	SM 3111 B	NMA	08/22/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC	08/21/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	08/21/08
Iron (Fe)	19.0	mg/L	10	0.009	0.050	EPA 200.8	SAC	08/21/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	SAC	08/21/08
Magnesium (Mg)	130	mg/L	10	0.974	5.00	SM 3111 B	NMA	08/21/08
Molybdenum (Mo)	0.013	mg/L	10	0.000385	0.001	EPA 200.8	SAC	08/21/08
Potassium (K)	20.9	mg/L	10	1.05	5.00	SM 3111 B	NMA	08/21/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	08/21/08
Sodium (Na)	153	mg/L	10	1.62	5.00	SM 3111 B	NMA	08/21/08
Metals - Total								
Uranium	0.012	μg/L	10	0.041	1.00	EPA 200.8	SAC	08/21/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	40.6	meq/L	1			Calculation	GAM	08/26/08
Anion - Cation Balance	0.955	%	1			Calculation	GAM	08/26/08
Cations	41.4	meq/L	1			Calculation	GAM	08/26/08
Radiological								
Gross Alpha	42.0	pCi/L	1			EPA 900.0	SYS	02/10/09
Radium-226	7.6	pCi/L	1			EPA 903.1	SYS	02/10/09
Radium-228	2.1	pCi/L	1			Brooks-Blanchard	SYS	02/10/09
Radon-222	3480	pCi/L	1			ASTM D5072-92 (SHL)	SYS	12/05/08

Approved By: 

Approved On: 2/12/2009 9:55:31 AM

From: Cepak, Mike
To: Haag, Gary; Fivecoate, Roberta; Lees, Michael; Holm, Eric;
CC: Cepak, Mike; Keenihan, Mark;
Subject: FW: SAMPLE RESULTS
Date: Friday, March 20, 2009 7:51:44 AM
Attachments: Sample Powertech March 17 2009 without radionuclides.pdf

Powertech baseline sample.

-----Original Message-----

From: Greg McDougall [mailto:greg@thechemistrylab.com]
Sent: Thursday, March 19, 2009 2:21 PM
To: Cepak, Mike
Subject: SAMPLE RESULTS

Greg McDougall

Mid Continent Testing Labs, Inc.
ph: 605-348-0111
fax 605-721-0265
Greg@TheChemistryLab.com



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Page 1 of 1


2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
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Sample Site: DB08-15-2
Project Name: POWERTECH
Sampled: 03/17/09 at 11:45 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20090318313
Received: 03/17/09 at 04:20 PM
by Bobbie Laurenz
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1440	µmhos/cm	1	0.299	5.00	EPA 120.1	JAM	03/18/09
pH	8.17	SU	1			SM 4500-H+ B	JAM	03/18/09
Total Dissolved Solids	907	mg/L	100ml	11.0	50.0	SM 2540 C	TMN	03/18/09
Non-Metallics								
Alkalinity	181	mg/L	1	0.510	10.0	SM 2320 B	JAM	03/18/09
Bicarbonate	221	mg/L	1	0.622	10.0	SM 2320 B	JAM	03/18/09
Chloride (Cl-)	12.5	mg/L	1	0.453	0.500	SM 4500-Cl B	AJS	03/18/09
Sulfate (SO4)	444	mg/L	4	20.9	40.0	EPA 375.2	BLL	03/18/09
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.0003	0.005	EPA 200.8	SAC	03/18/09
Copper (Cu)	0.005	mg/L	10	0.00015	0.005	EPA 200.8	SAC	03/18/09
Molybdenum (Mo)	0.003	mg/L	10	0.000503	0.001	EPA 200.8	SAC	03/18/09
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	03/18/09
Vanadium (V)	< 0.005	mg/L	10	0.000073	0.005	EPA 200.8	SAC	03/18/09
Metals - Total								
Uranium	< 0.001	mg/L	10	0.000027	0.001	EPA 200.8	SAC	03/18/09
Radiological								
Gross Alpha	Pending	pCi/L	1			EPA 900.0		
Gross Beta	Pending	pCi/L	1			EPA 900.0		
Radium-226	Pending	pCi/L	1			EPA 903.1		
Radon-222	Pending	pCi/L	1			ASTM D5072-92 (SHL)		

Approved By: 

Approved On: 3/19/2009 12:19:31 PM



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Sample Site: DB08-1-6
Project Name: POWERTECH
Sampled: 04/22/08 at 02:40 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080424104
Received: 04/23/08 at 07:55 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPACK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	2810	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	04/24/08
pH	8.60	SU	1			SM 4500-H+ B	JAM	04/24/08
Total Dissolved Solids	2390	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	04/25/08
Non-Metallics								
Alkalinity	138	mg/L	1	0.414	10.0	SM 2320 B	JAM	04/24/08
Bicarbonate	147	mg/L	1	0.505	10.0	SM 2320 B	JAM	04/24/08
Carbonate	10.9	mg/L	1	0.207	5.00	SM 2320 B	JAM	04/24/08
Chloride (Cl-)	18.5	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA	04/24/08
Fluoride	0.411	mg/L	1	0.001	0.050	SM 4500 F-C	NMA	04/24/08
Nitrogen, Ammonia (NH3)	0.799	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	04/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	04/24/08
Sulfate (SO4)	1580	mg/L	10	26.2	100	EPA 375.2	TMN	04/24/08
Metals - Dissolved								
Aluminum (Al)	0.018	mg/L	10	0.003	0.010	EPA 200.8	PAT	04/24/08
Arsenic (As)	0.006	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/24/08
Barium (Ba)	0.030	mg/L	10	0.000059	0.005	EPA 200.8	PAT	04/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	04/24/08
Calcium (Ca)	336	mg/L	5	1.10	5.00	SM 3111 B	SAC	04/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	04/24/08
Copper (Cu)	0.006	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/24/08
Iron (Fe)	1.29	mg/L	10	0.009	0.050	EPA 200.8	PAT	04/24/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT	04/24/08
Magnesium (Mg)	85.5	mg/L	5	0.108	2.50	SM 3111 B	SAC	04/25/08
Manganese (Mn)	0.304	mg/L	10	0.000048	0.001	EPA 200.8	PAT	04/24/08
Potassium (K)	24.3	mg/L	5	0.890	2.50	SM 3111 B	SAC	04/24/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	04/24/08
Sodium (Na)	240	mg/L	5	0.741	2.50	SM 3111 B	SAC	04/24/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT	04/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Dissolved								
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT	04/24/08
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/24/08
Uranium	0.014	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/24/08
Anion - Cation Balance								
Anions	36.1	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-1.64	%	1			Calculation	GAM	04/25/08
Cations	34.9	meq/L	1			Calculation	GAM	04/25/08
Radionuclides - Dissolved								
Gross Alpha	44.6	pCi/L	1			E900.0	SYS	05/10/08
Gross Beta	10.1	pCi/L	1			E900.0	SYS	05/10/08
Gross Gamma	300	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/21/08
Radium 226	2.80	pCi/L	1			E903.0	SYS	05/14/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	04/28/08
Radionuclides - Suspended								
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/16/08
Radium 226	0.300	pCi/L	1			E903.0	SYS	05/16/08
Thorium 230	1.70	pCi/L	1			E907.0	SYS	05/01/08
Radionuclides - Total								
Radon 222	384	pCi/L	1			ASTM D5072-92	SYS	04/24/08

Approved By: 

Approved On: 7/7/2008 2:12:17 PM



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Sample Site: DB08-32-12
Project Name: POWERTECH
Sampled: 04/22/08 at 04:15 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080424105
Received: 04/23/08 at 07:55 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1280	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	04/24/08
pH	8.14	SU	1			SM 4500-H+ B	JAM	04/24/08
Total Dissolved Solids	827	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	04/25/08
Non-Metallics								
Alkalinity	165	mg/L	1	0.414	10.0	SM 2320 B	JAM	04/24/08
Bicarbonate	201	mg/L	1	0.505	10.0	SM 2320 B	JAM	04/24/08
Chloride (Cl-)	10.0	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA	04/24/08
Fluoride	0.550	mg/L	1	0.001	0.050	SM 4500 F-C	NMA	04/24/08
Nitrogen, Ammonia (NH3)	0.207	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	04/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	04/24/08
Sulfate (SO4)	439	mg/L	4	10.5	40.0	EPA 375.2	TMN	04/24/08
Metals - Dissolved								
Aluminum (Al)	0.014	mg/L	10	0.003	0.010	EPA 200.8	PAT	04/24/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/24/08
Barium (Ba)	0.014	mg/L	10	0.000059	0.005	EPA 200.8	PAT	04/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	04/24/08
Calcium (Ca)	61.3	mg/L	1	0.219	1.00	SM 3111 B	SAC	04/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	04/24/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/24/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	PAT	04/24/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT	04/24/08
Magnesium (Mg)	15.9	mg/L	1	0.022	0.500	SM 3111 B	SAC	04/24/08
Manganese (Mn)	0.054	mg/L	10	0.000048	0.001	EPA 200.8	PAT	04/24/08
Potassium (K)	9.85	mg/L	1	0.178	0.500	SM 3111 B	SAC	04/24/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	04/24/08
Sodium (Na)	182	mg/L	5	0.741	2.50	SM 3111 B	SAC	04/24/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT	04/24/08
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT	04/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Mercury (Hg)	0.0018	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/24/08
Uranium	< 0.001	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/24/08
Anion - Cation Balance								
Anions	12.7	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-0.752	%	1			Calculation	GAM	04/25/08
Cations	12.5	meq/L	1			Calculation	GAM	04/25/08
Radionuclides - Dissolved								
Gross Alpha	4.20	pCi/L	1			E900.0	SYS	05/10/08
Gross Beta	5.20	pCi/L	1			E900.0	SYS	05/10/08
Gross Gamma	< 20.0	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/21/08
Radium 226	1.50	pCi/L	1			E903.0	SYS	05/14/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	04/28/08
Radionuclides - Suspended								
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/16/08
Radium 226	< 0.200	pCi/L	1			E903.0	SYS	05/16/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	05/01/08
Radionuclides - Total								
Radon 222	299	pCi/L	1			ASTM D5072-92	SYS	04/24/08

Approved By: 

Approved On: 7/7/2008 2:12:17 PM



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Sample Site: DB08-15-3
Project Name: POWERTECH
Sampled: 04/22/08 at 05:15 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080424106
Received: 04/23/08 at 07:55 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1450	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM 04/24/08
pH	8.37	SU	1			SM 4500-H+ B	JAM 04/24/08
Total Dissolved Solids	918	mg/L	100ml	8.28	50.0	SM 2540 D	TMN 04/25/08
Non-Metallics							
Alkalinity	182	mg/L	1	0.414	10.0	SM 2320 B	JAM 04/24/08
Bicarbonate	219	mg/L	1	0.505	10.0	SM 2320 B	JAM 04/24/08
Chloride (Cl-)	14.0	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA 04/24/08
Fluoride	0.368	mg/L	1	0.001	0.050	SM 4500 F-C	NMA 04/24/08
Nitrogen, Ammonia (NH3)	0.425	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM 04/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES 04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES 04/24/08
Sulfate (SO4)	487	mg/L	4	10.5	40.0	EPA 375.2	TMN 04/24/08
Metals - Dissolved							
Aluminum (Al)	0.015	mg/L	10	0.003	0.010	EPA 200.8	PAT 04/24/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/24/08
Barium (Ba)	0.016	mg/L	10	0.000059	0.005	EPA 200.8	PAT 04/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT 04/24/08
Calcium (Ca)	37.5	mg/L	1	0.219	1.00	SM 3111 B	SAC 04/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT 04/24/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/24/08
Iron (Fe)	0.082	mg/L	10	0.009	0.050	EPA 200.8	PAT 04/24/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT 04/24/08
Magnesium (Mg)	9.75	mg/L	1	0.022	0.500	SM 3111 B	SAC 04/24/08
Manganese (Mn)	0.058	mg/L	10	0.000048	0.001	EPA 200.8	PAT 04/24/08
Potassium (K)	11.9	mg/L	5	0.890	2.50	SM 3111 B	SAC 04/24/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT 04/24/08
Sodium (Na)	246	mg/L	5	0.741	2.50	SM 3111 B	SAC 04/25/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT 04/24/08
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT 04/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
<u>Metals - Total</u>								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/24/08
Uranium	< 0.001	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/24/08
<u>Anion - Cation Balance</u>								
Anions	14.1	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-1.55	%	1			Calculation	GAM	04/25/08
Cations	13.7	meq/L	1			Calculation	GAM	04/25/08
<u>Radionuclides - Dissolved</u>								
Gross Alpha	< 3.80	pCi/L	1			E900.0	SYS	05/10/08
Gross Beta	5.70	pCi/L	1			E900.0	SYS	05/10/08
Gross Gamma	240	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/21/08
Radium 226	0.800	pCi/L	1			E903.0	SYS	05/14/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	04/28/08
<u>Radionuclides - Suspended</u>								
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/16/08
Radium 226	< 0.200	pCi/L	1			E903.0	SYS	05/16/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	05/01/08
<u>Radionuclides - Total</u>								
Radon 222	216	pCi/L	1			ASTM D5072-92	SYS	04/24/08

Approved By: _____



Approved On: 7/7/2008 2:12:17 PM

From: Cepak, Mike
To: Fivecoate, Roberta; Lees, Michael; Haag, Gary; Hicks, Matt; Holm, Eric; Keenihan, Mark;
CC: Cepak, Mike;
Subject: FW: Sample Results
Date: Friday, March 27, 2009 1:14:11 PM
Attachments: Sample Powertech Sept 23 2008 with radionuclides.pdf

We now have the radionuclides analyses on these September 23 samples (wells DB08-15-3 and DB08-15-2).

-----Original Message-----

From: Eric Fuehrer [mailto:eric@thechemistrylab.com]

Sent: Friday, March 27, 2009 12:31 PM

To: Cepak, Mike

Subject: Sample Results



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB08-15-3
Project Name: POWERTECH
Sampled: 09/23/08 at 09:10 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080924307
Received: 09/23/08 at 02:45 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1440	µmhos/cm	1	0.299	5.00	EPA 120.1	JAM	09/24/08
pH	8.16	SU	1			SM 4500-H+ B	JAM	09/24/08
Total Dissolved Solids	871	mg/L	100ml	11.0	50.0	SM 2540 C	TMN	09/24/08
Non-Metallics								
Alkalinity	182	mg/L	1	0.510	10.0	SM 2320 B	JAM	09/24/08
Bicarbonate	222	mg/L	1	0.622	10.0	SM 2320 B	JAM	09/24/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	JAM	09/24/08
Chloride (Cl-)	14.3	mg/L	1	0.453	0.500	SM 4500-Cl B	AJS	09/24/08
Nitrogen, Ammonia (NH3)	0.466	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	09/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	09/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	09/24/08
Sulfate (SO4)	509	mg/L	5	26.2	50.0	EPA 375.2	BLL	09/24/08
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.0003	0.005	EPA 200.8	SAC	09/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.0002	0.001	EPA 200.8	SAC	09/24/08
Calcium (Ca)	37.7	mg/L	5	0.312	5.00	SM 3111 B	NMA	09/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.0001	0.001	EPA 200.8 DRC	SAC	09/25/08
Copper (Cu)	< 0.005	mg/L	10	0.00015	0.005	EPA 200.8	SAC	09/24/08
Iron (Fe)	< 0.050	mg/L	10	0.010	0.050	EPA 200.8	SAC	09/24/08
Lead (Pb)	< 0.001	mg/L	10	0.0001	0.001	EPA 200.8	SAC	09/24/08
Magnesium (Mg)	10.7	mg/L	1	0.097	0.500	SM 3111 B	NMA	09/25/08
Molybdenum (Mo)	0.003	mg/L	10	0.000503	0.001	EPA 200.8	SAC	09/24/08
Potassium (K)	10.7	mg/L	5	0.524	2.50	SM 3111 B	NMA	09/25/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	09/24/08
Sodium (Na)	253	mg/L	10	1.62	5.00	SM 3111 B	NMA	09/24/08
Metals - Total								
Uranium	< 0.001	µg/L	10	0.027	1.00	EPA 200.8	SAC	09/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	14.6	meq/L	1			Calculation	GAM	09/25/08
Anion - Cation Balance	-2.04	%	1			Calculation	GAM	09/25/08
Cations	14.0	meq/L	1			Calculation	GAM	09/25/08
Radiological								
Radium-226	0.50	pCi/L	1			EPA 903.1	SYS	03/26/09
Radium-228	1.2	pCi/L	1			Brooks-Blanchard	SYS	03/26/09
Radon-222	303	pCi/L	1			SM 7500-Rn B	SYS	12/05/08

Approved By: 

Approved On: 3/27/2009 10:05:44 AM



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB08-15-2
Project Name: POWERTECH
Sampled: 09/23/08 at 10:00 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080924308
Received: 09/23/08 at 02:45 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1420	µmhos/cm	1	0.299	5.00	EPA 120.1	JAM	09/24/08
pH	7.92	SU	1			SM 4500-H+ B	JAM	09/24/08
Total Dissolved Solids	898	mg/L	100ml	11.0	50.0	SM 2540 C	TMN	09/24/08
Non-Metallics								
Alkalinity	206	mg/L	1	0.510	10.0	SM 2320 B	JAM	09/24/08
Bicarbonate	252	mg/L	1	0.622	10.0	SM 2320 B	JAM	09/24/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	JAM	09/24/08
Chloride (Cl-)	10.3	mg/L	1	0.453	0.500	SM 4500-Cl B	AJS	09/24/08
Nitrogen, Ammonia (NH3)	0.304	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	09/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	09/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	09/24/08
Sulfate (SO4)	474	mg/L	5	26.2	50.0	EPA 375.2	BLL	09/24/08
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.0003	0.005	EPA 200.8	SAC	09/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.0002	0.001	EPA 200.8	SAC	09/24/08
Calcium (Ca)	95.6	mg/L	10	0.624	10.0	SM 3111 B	NMA	09/24/08
Chromium (Cr)	< 0.001	mg/L	10	0.0001	0.001	EPA 200.8 DRC	SAC	09/25/08
Copper (Cu)	0.005	mg/L	10	0.00015	0.005	EPA 200.8	SAC	09/24/08
Iron (Fe)	0.055	mg/L	10	0.010	0.050	EPA 200.8	SAC	09/24/08
Lead (Pb)	< 0.001	mg/L	10	0.0001	0.001	EPA 200.8	SAC	09/24/08
Magnesium (Mg)	33.7	mg/L	5	0.487	2.50	SM 3111 B	NMA	09/25/08
Molybdenum (Mo)	0.001	mg/L	10	0.000503	0.001	EPA 200.8	SAC	09/24/08
Potassium (K)	12.6	mg/L	10	1.05	5.00	SM 3111 B	NMA	09/24/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	09/24/08
Sodium (Na)	158	mg/L	5	0.810	2.50	SM 3111 B	NMA	09/25/08
Metals - Total								
Uranium	< 0.001	µg/L	10	0.027	1.00	EPA 200.8	SAC	09/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
<u>Anion - Cation Balance</u>								
Anions	14.3	meq/L	1			Calculation	GAM	09/25/08
Anion - Cation Balance	1.63	%	1			Calculation	GAM	09/25/08
Cations	14.8	meq/L	1			Calculation	GAM	09/25/08
<u>Radiological</u>								
Radium-226	1.9	pCi/L	1			EPA 903.1	SYS	03/26/09
Radium-228	< 0.60	pCi/L	1			Brooks-Blanchard	SYS	03/26/09
Radon-222	539	pCi/L	1			SM 7500-Rn B	SYS	12/05/08

Approved By: 

Approved On: 3/27/2009 10:05:44 AM



**DIVISION OF
ADMINISTRATION**
Public Health Laboratory

615 East Fourth Street
Pierre, South Dakota 57501-1700
605/773-3368 FAX: 605/773-6129
www.state.sd.us/doh/lab/index.htm

Submitter copy to:

* Page 1 of 1*
Date: 12/5/2008

MIDCONTINENT TESTING-93484
GREG MCDOUGALL
PO BOX 3388
RAPID CITY, SD 57709

Spec #: E08EC006938
Subm #:
Lab: ENV CHEMISTRY
Tel #: (605) 773-3368

Source
MIDCONTINENT TESTING

Date Rcvd: 9/24/2008
Time Rcvd: 0952
Date Coll: 9/23/2008
Time Coll: 1000

Spec Type: WATER
Coll By: GREG MCDOUGALL
Tap Location: 20080924308

Final Results

Radon-Water

539 pCi/L



**DIVISION OF
ADMINISTRATION**
Public Health Laboratory

615 East Fourth Street
Pierre, South Dakota 57501-1700
605/773-3368 FAX: 605/773-6129
www.state.sd.us/doh/lab/index.htm

Submitter copy to:

* Page 1 of 1*
Date: 12/5/2008

MIDCONTINENT TESTING-93484
GREG MCDOUGALL
PO BOX 3388
RAPID CITY, SD 57709

Spec #: E08EC006937
Subm #:
Lab: ENV CHEMISTRY
Tel #: (605) 773-3368

Source
MIDCONTINENT TESTING

Date Rcvd: 9/24/2008
Time Rcvd: 0952
Date Coll: 9/23/2008
Time Coll: 0910

Spec Type: WATER
Coll By: GREG
Tap Location: 20080924307

Final Results

Radon-Water

303 pCi/L



**DIVISION OF
ADMINISTRATION**
Public Health Laboratory

615 East Fourth Street
Pierre, South Dakota 57501-1700
605/773-3368 FAX: 605/773-6129
www.state.sd.us/doh/lab/index.htm

Submitter copy to:

* Page 1 of 1*
Date: 3/26/2009

MID-CONTINENT TESTING LAB-92942
2381 S PLAZA DR
PO BOX 3388
RAPID CITY, SD 57709

Spec #: E08EC007072
Subm #:
Lab: ENV CHEMISTRY
Tel #: (605) 773-3368

Source
MID-CONTINENT TESTING LAB

Date Rcvd: 9/26/2008
Time Rcvd: 0959
Date Coll: 9/23/2008

Spec Type: WATER
Tap Location: 20080924308

Final Results

radium-228
Radium-226

<0.6 +/-0.3 pCi/L
1.9 +/- 0.5 pCi/L



**DIVISION OF
ADMINISTRATION**
Public Health Laboratory

615 East Fourth Street
Pierre, South Dakota 57501-1700
605/773-3368 FAX: 605/773-6129
www.state.sd.us/doh/lab/index.htm

Submitter copy to:

* Page 1 of 1*
Date: 3/26/2009

MID-CONTINENT TESTING LAB-92942
2381 S PLAZA DR
PO BOX 3388
RAPID CITY, SD 57709

Spec #: E08EC007071
Subm #:
Lab: ENV CHEMISTRY
Tel #: (605) 773-3368

Source
MID-CONTINENT TESTING LAB

Date Rcvd: 9/26/2008
Time Rcvd: 0959
Date Coll: 9/23/2008

Spec Type: WATER
Tap Location: 20080924307

Final Results

radium-228
Radium-226

1.2 +/- 0.3 pCi/L
0.5 +/- 0.2 pCi/L

From: Cepak, Mike
To: Holm, Eric; Hudson, Roberta; Haag, Gary; Hicks, Matt;
Hamann, Sheldon; Lees, Michael;
CC: Cepak, Mike; Keenihan, Mark;
Subject: FW: SAMPLE RESULTS
Date: Monday, December 28, 2009 10:16:50 AM
Attachments: Sample Powertech Dec 21 2009 without radionuclides.pdf

Results of sampling of Powertech's two new baseline wells on December 21, 2009. Radionuclides pending.

-----Original Message-----

From: Greg McDougall [mailto:Greg@thechemistrylab.com]

Sent: Wednesday, December 23, 2009 3:10 PM

To: Cepak, Mike

Subject: SAMPLE RESULTS



MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB09-21-1
Sampled: 12/21/09 at 11:45 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20091222201
Received: 12/21/09 at 01:45 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst	Date
Physical Properties								
Electrical Conductivity	1200	µmhos/cm	1	0.299	5.00	EPA 120.1	JAM	12/22/09
pH	9.55	SU	1			SM 4500-H+ B	JAM	12/22/09
Total Dissolved Solids	741	mg/L	100ml	11.0	50.0	SM 2540 C	TMN	12/22/09
Non-Metallics								
Alkalinity	144	mg/L	1	0.510	10.0	SM 2320 B	JAM	12/22/09
Bicarbonate	142	mg/L	1	0.622	10.0	SM 2320 B	JAM	12/22/09
Carbonate	16.8	mg/L	1	0.255	5.00	SM 2320 B	JAM	12/22/09
Chloride (Cl-)	7.75	mg/L	1	0.453	0.500	SM 4500-Cl B	PAT	12/22/09
Nitrogen, Ammonia (NH3)	0.232	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	12/22/09
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	12/22/09
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	12/22/09
Sulfate (SO4)	470	mg/L	10	3.62	10.0	SM 4500-SO4 E	BLL	12/22/09
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.0003	0.005	EPA 200.8	SAC	12/22/09
Cadmium (Cd)	< 0.001	mg/L	10	0.0002	0.001	EPA 200.8	SAC	12/22/09
Calcium (Ca)	61.3	mg/L	5	0.312	5.00	SM 3111 B	EJF	12/22/09
Chromium (Cr)	< 0.001	mg/L	10	0.0001	0.001	EPA 200.8 DRC	SAC	12/22/09
Copper (Cu)	< 0.005	mg/L	10	0.00015	0.005	EPA 200.8	SAC	12/22/09
Iron (Fe)	< 0.050	mg/L	10	0.010	0.050	EPA 200.8	SAC	12/22/09
Lead (Pb)	< 0.001	mg/L	10	0.0001	0.001	EPA 200.8	SAC	12/22/09
Magnesium (Mg)	26.9	mg/L	1	0.097	0.500	SM 3111 B	EJF	12/22/09
Molybdenum (Mo)	0.003	mg/L	10	0.000503	0.001	EPA 200.8	SAC	12/22/09
Potassium (K)	14.2	mg/L	5	0.524	2.50	SM 3111 B	EJF	12/22/09
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	12/22/09
Sodium (Na)	160	mg/L	10	1.62	5.00	SM 3111 B	EJF	12/22/09
Vanadium (V)	< 0.005	mg/L	10	0.000073	0.005	EPA 200.8	SAC	12/22/09
Zinc (Zn)	< 0.050	mg/L	10	0.008	0.050	EPA 200.8	SAC	12/22/09

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Uranium	< 0.001	mg/L	10	0.000027	0.001	EPA 200.8	SAC	12/22/09
Anion - Cation Balance								
Anions	12.9	meq/L	1			Calculation	GAM	12/23/09
Anion - Cation Balance	-1.08	%	1			Calculation	GAM	12/23/09
Cations	12.6	meq/L	1			Calculation	GAM	12/23/09
Radiological								
Gross Alpha	Pending	pCi/L	1			EPA 900.0		
Gross Beta	Pending	pCi/L	1			EPA 900.0		
Radium-226	Pending	pCi/L	1			EPA 903.1		
Radium-228	Pending	pCi/L	1			Brooks-Blanchard		
Radon-222	Pending	pCi/L	1			SM 7500-Rn B		

Approved By: 

Approved On: 12/23/2009 2:05:59 PM



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB09-21-2
Sampled: 12/21/09 at 12:15 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20091222202
Received: 12/21/09 at 01:45 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1690	µmhos/cm	1	0.299	5.00	EPA 120.1	JAM 12/22/09
pH	8.12	SU	1			SM 4500-H+ B	JAM 12/22/09
Total Dissolved Solids	1210	mg/L	100ml	11.0	50.0	SM 2540 C	TMN 12/22/09
Non-Metallics							
Alkalinity	209	mg/L	1	0.510	10.0	SM 2320 B	JAM 12/22/09
Bicarbonate	255	mg/L	1	0.622	10.0	SM 2320 B	JAM 12/22/09
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	JAM 12/22/09
Chloride (Cl-)	10.3	mg/L	1	0.453	0.500	SM 4500-Cl B	PAT 12/22/09
Nitrogen, Ammonia (NH3)	< 0.050	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM 12/22/09
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL 12/22/09
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL 12/22/09
Sulfate (SO4)	718	mg/L	20	7.25	20.0	SM 4500-SO4 E	BLL 12/22/09
Metals - Dissolved							
Arsenic (As)	< 0.005	mg/L	10	0.0003	0.005	EPA 200.8	SAC 12/22/09
Cadmium (Cd)	< 0.001	mg/L	10	0.0002	0.001	EPA 200.8	SAC 12/22/09
Calcium (Ca)	171	mg/L	5	0.312	5.00	SM 3111 B	EJF 12/22/09
Chromium (Cr)	< 0.001	mg/L	10	0.0001	0.001	EPA 200.8 DRC	SAC 12/22/09
Copper (Cu)	< 0.005	mg/L	10	0.00015	0.005	EPA 200.8	SAC 12/22/09
Iron (Fe)	< 0.050	mg/L	10	0.010	0.050	EPA 200.8	SAC 12/22/09
Lead (Pb)	< 0.001	mg/L	10	0.0001	0.001	EPA 200.8	SAC 12/22/09
Magnesium (Mg)	54.2	mg/L	5	0.487	2.50	SM 3111 B	EJF 12/22/09
Molybdenum (Mo)	0.001	mg/L	10	0.000503	0.001	EPA 200.8	SAC 12/22/09
Potassium (K)	12.3	mg/L	5	0.524	2.50	SM 3111 B	EJF 12/22/09
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC 12/22/09
Sodium (Na)	125	mg/L	10	1.62	5.00	SM 3111 B	EJF 12/22/09
Vanadium (V)	< 0.005	mg/L	10	0.000073	0.005	EPA 200.8	SAC 12/22/09
Zinc (Zn)	< 0.050	mg/L	10	0.008	0.050	EPA 200.8	SAC 12/22/09

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Uranium	0.009	mg/L	10	0.000027	0.001	EPA 200.8	SAC	12/22/09
Anion - Cation Balance								
Anions	19.4	meq/L	1			Calculation	GAM	12/23/09
Anion - Cation Balance	-1.75	%	1			Calculation	GAM	12/23/09
Cations	18.7	meq/L	1			Calculation	GAM	12/23/09
Radiological								
Gross Alpha	Pending	pCi/L	1			EPA 900.0		
Gross Beta	Pending	pCi/L	1			EPA 900.0		
Radium-226	Pending	pCi/L	1			EPA 903.1		
Radium-228	Pending	pCi/L	1			Brooks-Blanchard		
Radon-222	Pending	pCi/L	1			SM 7500-Rn B		

Approved By: 

Approved On: 12/23/2009 2:05:59 PM

From: [Cepak, Mike](#)
To: [Hudson, Roberta](#); [Lees, Michael](#)
Subject: FW: Well completion reports
Date: Friday, February 19, 2010 3:25:16 PM
Attachments: [DB09-21-1.docx](#)
[DB09-21-2.docx](#)

-----Original Message-----

From: Keenihan, Mark
Sent: Friday, February 19, 2010 3:04 PM
To: Cepak, Mike
Subject: FW: Well completion reports

-----Original Message-----

From: Leonard Eakin [<mailto:leakin@mail.powertechuranium.com>]
To: Keenihan, Mark
Cc: escheinost@powertechuranium.com
Subject: Well completion reports

mark,
here are the reports for 21-1 and 21-2.
a few things that you may want to change in your notes:
-21-1 we mixed 80sx of cement. i think that i told you 70sx by accident
-21-2 we mixed 56sx of cement. i'm pretty sure that is the number that i told you before.

static water level in 21-1 was 115' and 21-2 was 110'. we took those levels on wednesday of this week.

i should be in the hot springs office on monday if you needed to stop in.

Leonard Eakin
Exploration Geologist
145 N. Chicago, Suite C
P.O. Box 723
Hot Springs, SD 57747
605.745.6585-Tel
605.745.3685-Fax
605.891.8860-Work Cell
605.517.0251-Cell



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POWERTECH WELL AND PUMP DATA

Location of Well Dewey, SD	Drilling Contractor Davis Drilling	Driller Stan	Well Name DB09-21-2
County Custer	Type of Rig Speed Star 1500	Drilling Fluid Mud	Well Depth 316'
LAT 4818641N	LONG 581080E	Elevation 3150'	Datum point from which all measurements are taken

Screened Monitoring Well Completion Detail

Screened Well No. _____

A. Stick-up Length 2.0'

B. Key No. 1

C. Protective Casing
Diameter 10"
Material Steel
Length 5'
Depth to Bottom 2'

D. Surface Completion
Diameter NA
Depth NA
Material NA

E. Well Casing Data
Diameter 6"
Material PVC
Length 286'
Weight SDR17
Depth to Bottom 284'

F. Grout Cement Date 11/24/09
Depth to Top 0'
Depth to Bottom 285'
Material Type V "LA" Cement
Density 15.1 lb/gal
Volume 12.5bbbls
% Excess 20
Method of Installation Displacement
Depth to Cement in Casing 226'
Return Constant ☒ Yes ☐ No
Volume of Grout Return 1 bbl

G. Borehole Diameter
Drilling Dates 8.75" 11/24/09

H. Pack Type/Size NA Date NA
Depth to Top NA
Depth to Bottom _____
Material _____
Method of Installation _____
Gradation _____

I. Screen Date 12/5/09
Depth to Top 286-316'
Depth to Bottom _____
Manufacturer Johnson Screens
Material PVC
Slot .020"

J. Bottom Cap
Material PVC
Length 1"
Driller Stan
Boring Depth 330'

Additional Information _____

*****Mechanical Integrity Test*****

PSI Increments	1.0	Calibration Date of Gage	
PSI Full Scale	100.0		
Test Run By	Stan Davis, Len Eakin	Date Test Run	12/4/09
Time Beginning of Test	0830	Time End of Test	0930
Initial Pressure	60.0 PSIG	Initial Fluid Level	4.0 inches
Final Pressure	60.0 PSIG	Final Fluid Level	4.0 inches

Method of Drilling
☐ Cabel Tool
☐ Direct Rotary
☐ Bucket Auger
☐ Flight Auger
☐ Dug
☒ Other Mud Rotary

Date: 11/24/09

Use
☐ Domestic
☐ Industrial
☐ Municipal
☐ Test Well
☒ Monitoring
☐ Other _____

☐ Hollow Rod
☐ Air Rotary
☐ Reverse Rotary
☐ Jetted
☐ Driven

One well volume (V) = ~437 gallons

Initial Development Water

Water Level (TIC) NA

Well Depth 316'

Color lt. brown

Odor earthy

Clarity poor

Developed By Stan Davis

Date 12/5/09

Well Development Date 12/5/09

Description of Development Technique Initial airlift

Pump
Date Installed 12/8/09 Type 2W
Manufacturer _____ Model No. _____
H.P. .75 Volts 230
Capacity 10gpm
Depth of Pump Intake Setting 235'
No. of Stages 14
☐ Oil ☒ Water Lubrication

Power Source Generator

Material of drop pipe PVC

Bowls _____

Shafting _____ Impellers _____

Bowl Diameter _____

Column Pipe Diameter _____ Length _____

Modification _____

Geophysical Logs Run Gamma, Resistivity, SP

Water Quality
Sample taken? ☐ Yes ☒ No
Where analyzed? to be completed

Date well completed 12/5/09

WELL DEVELOPMENT RECORD – PARAMETER MEASUREMENTS

[illegible]

POWERTECH WELL AND PUMP DATA

Location of Well Dewey, SD	Drilling Contractor Davis Drilling	Driller Stan	Well Name DB09-21-1
County Custer	Type of Rig Speed Star 1500	Drilling Fluid Mud	Well Depth 460'
LAT 4818651N	LONG 581091E	Elevation 3157'	Datum point from which all measurements are taken

Screened Monitoring Well Completion Detail

Screened Well No. _____

A. Stick-up Length 2.0'

B. Key No. 1

C. Protective Casing
 Diameter 10"
 Material Steel
 Length 5'
 Depth to Bottom 2'

D. Surface Completion
 Diameter NA
 Depth NA
 Material NA

E. Well Casing Data
 Diameter 6"
 Material PVC
 Length 430'
 Weight SDR17
 Depth to Bottom 428'

F. Grout Cement Date 11/20/09
 Depth to Top 0'
 Depth to Bottom 429'
 Material Type V "LA" Cement
 Density 15.1 lb/gal
 Volume 18 bbls
 % Excess 20
 Method of Installation Displacement
 Depth to Cement in Casing 340'
 Return Constant ☒ Yes ☐ No
 Volume of Grout Return 1 bbl

G. Borehole Diameter
 Drilling Dates 8.75" 11/20/09

H. Pack Type/Size NA Date NA
 Depth to Top NA
 Depth to Bottom _____
 Material _____
 Method of Installation _____
 Gradation _____

I. Screen Date 12/5/09
 Depth to Top 430-460'
 Depth to Bottom _____
 Manufacturer Johnson Screens
 Material PVC
 Slot .020"

J. Bottom Cap
 Material PVC
 Length 1"
 Driller Stan
 Boring Depth 601'

Additional Information _____

*****Mechanical Integrity Test*****

PSI Increments	1.0	Calibration Date of Gage	
PSI Full Scale	100.0		
Test Run By	Stan Davis, Len Eakin	Date Test Run	11/23/09
Time Beginning of Test	0830	Time End of Test	0930
Initial Pressure	60.0 PSIG	Initial Fluid Level	4.0 inches
Final Pressure	60.0 PSIG	Final Fluid Level	4.0 inches

Method of Drilling
☐ Cabel Tool
☐ Direct Rotary
☐ Bucket Auger
☐ Flight Auger
☐ Dug
☒ Other Mud Rotary

Date: 11/19/09
☐ Hollow Rod
☐ Air Rotary
☐ Reverse Rotary
☐ Jetted
☐ Driven

Use
☐ Domestic
☐ Industrial
☐ Municipal
☐ Test Well
☒ Monitoring
☐ Other _____

☐ Public Supply
☐ Irrigation
☐ Commercial
☐ Heating or Cooling

One well volume (V) = ~636 gallons

Initial Development Water
 Water Level (TIC) NA
 Well Depth 460'
 Color lt. brown
 Odor earthy
 Clarity poor
 Developed By Stan Davis
 Date 12/5/09
 Well Development Date 12/5/09
 Description of Development Technique Initial airlift

Pump
 Date Installed 12/8/09 Type 2/W
 Manufacturer _____ Model No. _____
 H.P. .75 Volts 230
 Capacity 10 gpm
 Depth of Pump Intake Setting 340'
 No. of Stages 14
☐ Oil ☒ Water Lubrication

Power Source Generator
 Material of drop pipe PVC
 Bowls _____
 Shafting _____ Impellers _____
 Bowl Diameter _____
 Column Pipe Diameter _____ Length _____
 Modification _____

Geophysical Logs Run Gamma, Resistivity, SP

Water Quality
 Sample taken? ☐ Yes ☒ No
 Where analyzed? to be completed

Date well completed 12/5/09

WELL DEVELOPMENT RECORD – PARAMETER MEASUREMENTS

[illegible]

From: [Cepak, Mike](#)
To: [Hicks, Matt](#); [Hudson, Roberta](#); [Lees, Michael](#); [Walsh, Brian](#); [Brandner, Tom](#)
Cc: [Cepak, Mike](#)
Subject: FW: Sample Results
Date: Wednesday, December 29, 2010 1:10:13 PM
Attachments: [Sample Powertech March 17 2010 with radionuclides.pdf](#)
[Sample Powertech June 22 2010 with radionuclides.pdf](#)

Some really old Powertech analyses we just got in - it takes Mid-Continent a long time to get the radionuclides done - such a long time that I wonder if we have an issue with half life with some of these parameters (i.e., radon).

-----Original Message-----

From: Eric Fuehrer [mailto:Eric@thechemistrylab.com]
Sent: Wednesday, December 29, 2010 11:34 AM
To: Cepak, Mike
Subject: Sample Results

Eric Fuehrer
Mid-Continent Testing Laboratories, Inc
2381 South Plaza Drive
Rapid City, SD 57702
(605) 348-0111
eric@thechemistrylab.com

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MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB07-21-1
Sampled: 03/15/10 at 11:30 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20100317101
Received: 03/15/10 at 04:20 PM
by Bobbie Laurenz
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1400	µmhos/cm	1	0.349	5.00	EPA 120.1	JAM	03/17/10
pH	8.10	SU	1			SM 4500-H+ B	JAM	03/17/10
Total Dissolved Solids	996	mg/L	50ml	27.3	100	SM 2540 C	NDM	03/17/10
Non-Metallics								
Alkalinity	171	mg/L	1	0.274	10.0	SM 2320 B	JAM	03/17/10
Bicarbonate	209	mg/L	1	0.334	10.0	SM 2320 B	JAM	03/17/10
Carbonate	0.00	mg/L	1	0.137	5.00	SM 2320 B	JAM	03/17/10
Chloride (Cl-)	7.75	mg/L	1	0.372	0.500	SM 4500-Cl B	PAT	03/17/10
Nitrogen, Ammonia (NH3)	0.172	mg/L	1	0.007	0.050	SM 4500-NH3 D	JAM	03/17/10
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.008	0.050	SM 4500-NO3 F	BLL	03/17/10
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL	03/17/10
Sulfate (SO4)	590	mg/L	10	2.84	10.0	SM 4500-SO4 E	BLL	03/17/10
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.0008	0.005	EPA 200.8	SAC	03/17/10
Cadmium (Cd)	< 0.001	mg/L	10	0.00007	0.001	EPA 200.8	SAC	03/17/10
Calcium (Ca)	99.8	mg/L	5	0.325	5.00	SM 3111 B	NMA	03/17/10
Chromium (Cr)	< 0.001	mg/L	10	0.00005	0.001	EPA 200.8 DRC	SAC	03/17/10
Copper (Cu)	0.005	mg/L	10	0.0004	0.005	EPA 200.8	SAC	03/17/10
Iron (Fe)	< 0.050	mg/L	10	0.005	0.050	EPA 200.8	SAC	03/17/10
Lead (Pb)	< 0.001	mg/L	10	0.00002	0.001	EPA 200.8	SAC	03/17/10
Magnesium (Mg)	33.9	mg/L	5	0.108	2.50	SM 3111 B	NMA	03/17/10
Molybdenum (Mo)	< 0.001	mg/L	10	0.000503	0.001	EPA 200.8	SAC	03/17/10
Potassium (K)	11.9	mg/L	5	1.07	2.50	SM 3111 B	NMA	03/17/10
Selenium (Se)	< 0.005	mg/L	10	0.002	0.005	EPA 200.8	SAC	03/17/10
Sodium (Na)	164	mg/L	5	1.03	2.50	SM 3111 B	NMA	03/17/10
Vanadium (V)	< 0.005	mg/L	10	0.00007	0.005	EPA 200.8	SAC	03/17/10
Zinc (Zn)	< 0.050	mg/L	10	0.003	0.050	EPA 200.8	SAC	03/17/10

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Uranium	< 0.001	mg/L	10	0.000027	0.001	EPA 200.8	SAC	03/17/10
Anion - Cation Balance								
Anions	15.9	meq/L	1			Calculation	GAM	03/18/10
Anion - Cation Balance	-2.26	%	1			Calculation	GAM	03/18/10
Cations	15.2	meq/L	1			Calculation	GAM	03/18/10
Radiological								
Gross Alpha	6.10	pCi/L	1			EPA 900.0	SYS	07/16/10
Gross Beta	15	pCi/L	1			EPA 900.0	SYS	07/16/10
Radium-226	< 0.300	pCi/L	1			EPA 903.1	SYS	07/16/10
Radium-228	1.0	pCi/L	1			Brooks-Blanchard	SYS	07/16/10
Radon-222	236	pCi/L	1			SM 7500-Rn B	SYS	03/19/10

Approved By: 

Approved On: 12/29/2010 9:56:02 AM



MIDCONTINENT
TESTING LABORATORIES, INC.

Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB07-21-2
Sampled: 03/15/10 at 12:05 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20100317102
Received: 03/15/10 at 04:20 PM
by Bobbie Laurenz
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1630	µmhos/cm	1	0.349	5.00	EPA 120.1	JAM 03/17/10
pH	7.98	SU	1			SM 4500-H+ B	JAM 03/17/10
Total Dissolved Solids	1190	mg/L	100ml	13.7	50.0	SM 2540 C	NDM 03/17/10
Non-Metallics							
Alkalinity	200	mg/L	1	0.274	10.0	SM 2320 B	JAM 03/17/10
Bicarbonate	244	mg/L	1	0.334	10.0	SM 2320 B	JAM 03/17/10
Carbonate	0.00	mg/L	1	0.137	5.00	SM 2320 B	JAM 03/17/10
Chloride (Cl-)	10.3	mg/L	1	0.372	0.500	SM 4500-Cl B	PAT 03/17/10
Nitrogen, Ammonia (NH3)	< 0.050	mg/L	1	0.007	0.050	SM 4500-NH3 D	JAM 03/17/10
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.008	0.050	SM 4500-NO3 F	BLL 03/17/10
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL 03/17/10
Sulfate (SO4)	760	mg/L	10	2.84	10.0	SM 4500-SO4 E	BLL 03/17/10
Metals - Dissolved							
Arsenic (As)	< 0.005	mg/L	10	0.0008	0.005	EPA 200.8	SAC 03/17/10
Cadmium (Cd)	< 0.001	mg/L	10	0.00007	0.001	EPA 200.8	SAC 03/17/10
Calcium (Ca)	177	mg/L	5	0.325	5.00	SM 3111 B	NMA 03/17/10
Chromium (Cr)	< 0.001	mg/L	10	0.00005	0.001	EPA 200.8 DRC	SAC 03/17/10
Copper (Cu)	< 0.005	mg/L	10	0.0004	0.005	EPA 200.8	SAC 03/17/10
Iron (Fe)	< 0.050	mg/L	10	0.005	0.050	EPA 200.8	SAC 03/17/10
Lead (Pb)	< 0.001	mg/L	10	0.00002	0.001	EPA 200.8	SAC 03/17/10
Magnesium (Mg)	54.5	mg/L	25	0.542	12.5	SM 3111 B	NMA 03/17/10
Molybdenum (Mo)	< 0.001	mg/L	10	0.000503	0.001	EPA 200.8	SAC 03/17/10
Potassium (K)	11.6	mg/L	5	1.07	2.50	SM 3111 B	NMA 03/17/10
Selenium (Se)	< 0.005	mg/L	10	0.002	0.005	EPA 200.8	SAC 03/17/10
Sodium (Na)	128	mg/L	5	1.03	2.50	SM 3111 B	NMA 03/17/10
Vanadium (V)	< 0.005	mg/L	10	0.00007	0.005	EPA 200.8	SAC 03/17/10
Zinc (Zn)	< 0.050	mg/L	10	0.003	0.050	EPA 200.8	SAC 03/17/10

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Uranium	0.009	mg/L	10	0.000027	0.001	EPA 200.8	SAC	03/17/10
Anion - Cation Balance								
Anions	20.1	meq/L	1			Calculation	GAM	03/18/10
Anion - Cation Balance	-2.35	%	1			Calculation	GAM	03/18/10
Cations	19.2	meq/L	1			Calculation	GAM	03/18/10
Radiological								
Gross Alpha	35.0	pCi/L	1			EPA 900.0	SYS	07/16/10
Gross Beta	23	pCi/L	1			EPA 900.0	SYS	07/16/10
Radium-226	0.900	pCi/L	1			EPA 903.1	SYS	07/16/10
Radium-228	6.5	pCi/L	1			Brooks-Blanchard	SYS	07/16/10
Radon-222	325	pCi/L	1			SM 7500-Rn B	SYS	03/19/10

Approved By: 

Approved On: 12/29/2010 9:56:02 AM



MIDCONTINENT
TESTING LABORATORIES, INC.

Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB09-21-1
Sampled: 06/22/10 at 11:30 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20100623301
Received: 06/22/10 at 04:00 PM
by Bobbie Laurenz
Account: W1008
DENR - Minerals & Mining

MIKE CEPACK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1410	µmhos/cm	1	0.349	5.00	EPA 120.1	JAM	06/23/10
pH	8.04	SU	1			SM 4500-H+ B	JAM	06/23/10
Total Dissolved Solids	928	mg/L	100ml	13.7	50.0	SM 2540 C	WAA	06/23/10
Non-Metallics								
Alkalinity	166	mg/L	1	0.274	10.0	SM 2320 B	JAM	06/23/10
Bicarbonate	203	mg/L	1	0.334	10.0	SM 2320 B	JAM	06/23/10
Carbonate	0.00	mg/L	1	0.137	5.00	SM 2320 B	JAM	06/23/10
Chloride (Cl-)	7.25	mg/L	1	0.372	0.500	SM 4500-Cl B	PAT	06/23/10
Nitrogen, Ammonia (NH3)	0.165	mg/L	1	0.007	0.050	SM 4500-NH3 D	JAM	06/23/10
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.008	0.050	SM 4500-NO3 F	BLL	06/23/10
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL	06/23/10
Sulfate (SO4)	575	mg/L	10	2.84	10.0	SM 4500-SO4 E	BLL	06/23/10
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.0008	0.005	EPA 200.8	SAC	06/23/10
Cadmium (Cd)	< 0.001	mg/L	10	0.00007	0.001	EPA 200.8	SAC	06/23/10
Calcium (Ca)	103	mg/L	5	0.325	5.00	SM 3111 B	NMA	06/23/10
Chromium (Cr)	< 0.001	mg/L	10	0.00005	0.001	EPA 200.8 DRC	SAC	06/23/10
Copper (Cu)	< 0.005	mg/L	10	0.0004	0.005	EPA 200.8	SAC	06/23/10
Iron (Fe)	0.064	mg/L	10	0.005	0.050	EPA 200.8	SAC	06/23/10
Lead (Pb)	< 0.001	mg/L	10	0.00002	0.001	EPA 200.8	SAC	06/23/10
Magnesium (Mg)	32.2	mg/L	5	0.108	2.50	SM 3111 B	NMA	06/23/10
Molybdenum (Mo)	< 0.001	mg/L	10			EPA 200.8	SAC	06/23/10
Potassium (K)	11.9	mg/L	5	1.07	2.50	SM 3111 B	NMA	06/23/10
Selenium (Se)	< 0.005	mg/L	10	0.002	0.005	EPA 200.8	SAC	06/23/10
Sodium (Na)	167	mg/L	5	1.03	2.50	SM 3111 B	NMA	06/23/10
Vanadium (V)	< 0.005	mg/L	10	0.00007	0.005	EPA 200.8	SAC	06/23/10
Zinc (Zn)	< 0.050	mg/L	10	0.003	0.050	EPA 200.8	SAC	06/23/10

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Metals - Total							
Uranium	< 0.001	mg/L	10			EPA 200.8	SAC 06/23/10
Anion - Cation Balance							
Anions	15.5	meq/L	1			Calculation	GAM 06/24/10
Anion - Cation Balance	-0.417	%	1			Calculation	GAM 06/24/10
Cations	15.4	meq/L	1			Calculation	GAM 06/24/10
Radiological							
Gross Alpha	5.90	pCi/L	1			EPA 900.0	SYS 12/14/10
Gross Beta	18	pCi/L	1			EPA 900.0	SYS 12/14/10
Radium-226	1.80	pCi/L	1			EPA 903.1	SYS 12/14/10
Radium-228	1.0	pCi/L	1			Brooks-Blanchard	SYS 12/14/10
Radon-222	233	pCi/L	1			SM 7500-Rn B	SYS 07/09/10

Approved By: 

Approved On: 12/29/2010 9:57:22 AM



MIDCONTINENT
TESTING LABORATORIES, INC.

Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB09-21-2
Sampled: 06/22/10 at 12:00 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20100623302
Received: 06/22/10 at 04:00 PM
by Bobbie Laurenz
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1610	µmhos/cm	1	0.349	5.00	EPA 120.1	JAM 06/23/10
pH	7.96	SU	1			SM 4500-H+ B	JAM 06/23/10
Total Dissolved Solids	1150	mg/L	100ml	13.7	50.0	SM 2540 C	WAA 06/23/10
Non-Metallics							
Alkalinity	202	mg/L	1	0.274	10.0	SM 2320 B	JAM 06/23/10
Bicarbonate	246	mg/L	1	0.334	10.0	SM 2320 B	JAM 06/23/10
Carbonate	0.00	mg/L	1	0.137	5.00	SM 2320 B	JAM 06/23/10
Chloride (Cl-)	10.0	mg/L	1	0.372	0.500	SM 4500-Cl B	PAT 06/23/10
Nitrogen, Ammonia (NH3)	< 0.050	mg/L	1	0.007	0.050	SM 4500-NH3 D	JAM 06/23/10
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.008	0.050	SM 4500-NO3 F	BLL 06/23/10
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL 06/23/10
Sulfate (SO4)	725	mg/L	20	5.68	20.0	SM 4500-SO4 E	BLL 06/23/10
Metals - Dissolved							
Arsenic (As)	< 0.005	mg/L	10	0.0008	0.005	EPA 200.8	SAC 06/23/10
Cadmium (Cd)	< 0.001	mg/L	10	0.00007	0.001	EPA 200.8	SAC 06/23/10
Calcium (Ca)	191	mg/L	5	0.325	5.00	SM 3111 B	NMA 06/23/10
Chromium (Cr)	< 0.001	mg/L	10	0.00005	0.001	EPA 200.8 DRC	SAC 06/23/10
Copper (Cu)	< 0.005	mg/L	10	0.0004	0.005	EPA 200.8	SAC 06/23/10
Iron (Fe)	< 0.050	mg/L	10	0.005	0.050	EPA 200.8	SAC 06/23/10
Lead (Pb)	< 0.001	mg/L	10	0.00002	0.001	EPA 200.8	SAC 06/23/10
Magnesium (Mg)	44.5	mg/L	5	0.108	2.50	SM 3111 B	NMA 06/23/10
Molybdenum (Mo)	< 0.001	mg/L	10			EPA 200.8	SAC 06/23/10
Potassium (K)	11.4	mg/L	5	1.07	2.50	SM 3111 B	NMA 06/23/10
Selenium (Se)	< 0.005	mg/L	10	0.002	0.005	EPA 200.8	SAC 06/23/10
Sodium (Na)	142	mg/L	5	1.03	2.50	SM 3111 B	NMA 06/23/10
Vanadium (V)	< 0.005	mg/L	10	0.00007	0.005	EPA 200.8	SAC 06/23/10
Zinc (Zn)	< 0.050	mg/L	10	0.003	0.050	EPA 200.8	SAC 06/23/10

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Metals - Total							
Uranium	0.007	mg/L	10			EPA 200.8	SAC 06/23/10
Anion - Cation Balance							
Anions	19.4	meq/L	1			Calculation	GAM 06/24/10
Anion - Cation Balance	0.669	%	1			Calculation	GAM 06/24/10
Cations	19.7	meq/L	1			Calculation	GAM 06/24/10
Radiological							
Gross Alpha	26.2	pCi/L	1			EPA 900.0	SYS 12/14/10
Gross Beta	23	pCi/L	1			EPA 900.0	SYS 12/14/10
Radium-226	1.00	pCi/L	1			EPA 903.1	SYS 12/14/10
Radium-228	9.4	pCi/L	1			Brooks-Blanchard	SYS 12/14/10
Radon-222	315	pCi/L	1			SM 7500-Rn B	SYS 07/09/10

Approved By: 

Approved On: 12/29/2010 9:57:22 AM

Hudson, Roberta

From: Cepak, Mike
Sent: Tuesday, January 04, 2011 3:14 PM
To: Brandner, Tom; Hudson, Roberta; Lees, Michael
Cc: Cepak, Mike
Subject: FW: Corrected Sample Results
Attachments: DENR 12-22-09.pdf; DENR-12-22-09.pdf

Mid-Continent corrected some results from 12/22/09 (see attached letter - DENR-12-22-09 and the e-mail below). These are baseline samples, no compliance issues.

Bobbie, please see to it that the database is corrected. Thanks.

-----Original Message-----

From: Eric Fuehrer [<mailto:Eric@thechemistrylab.com>]
Sent: Tuesday, January 04, 2011 2:58 PM
To: Cepak, Mike
Subject: Corrected Sample Results

Mike:

Attached are some corrected Gross Beta results from 12/22/09. The testing lab informed me that an error was made in their calculation. Also attached is a letter explaining the error and the correction/addition of their QC measures to prevent this in the future. I apologize for any inconvenience. If you have any questions please contact myself or Greg McDougall.

Sincerely,

Eric Fuehrer
Mid-Continent Testing Laboratories, Inc
2381 South Plaza Drive
Rapid City, SD 57702
(605) 348-0111
eric@thechemistrylab.com

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MIDCONTINENT
TESTING LABORATORIES, INC.

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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB09-21-1
Sampled: 12/21/09 at 11:45 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20091222201
Received: 12/21/09 at 01:45 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst	Date
Physical Properties								
Electrical Conductivity	1200	µmhos/cm	1	0.349	5.00	EPA 120.1	JAM	12/22/09
pH	9.55	SU	1			SM 4500-H+ B	JAM	12/22/09
Total Dissolved Solids	741	mg/L	100ml	13.7	50.0	SM 2540 C	TMN	12/22/09
Non-Metallics								
Alkalinity	144	mg/L	1	0.274	10.0	SM 2320 B	JAM	12/22/09
Bicarbonate	142	mg/L	1	0.334	10.0	SM 2320 B	JAM	12/22/09
Carbonate	16.8	mg/L	1	0.137	5.00	SM 2320 B	JAM	12/22/09
Chloride (Cl-)	7.75	mg/L	1	0.372	0.500	SM 4500-Cl B	PAT	12/22/09
Nitrogen, Ammonia (NH3)	0.232	mg/L	1	0.007	0.050	SM 4500-NH3 D	JAM	12/22/09
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.008	0.050	SM 4500-NO3 F	BLL	12/22/09
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL	12/22/09
Sulfate (SO4)	470	mg/L	10	2.84	10.0	SM 4500-SO4 E	BLL	12/22/09
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.0008	0.005	EPA 200.8	SAC	12/22/09
Cadmium (Cd)	< 0.001	mg/L	10	0.00007	0.001	EPA 200.8	SAC	12/22/09
Calcium (Ca)	61.3	mg/L	5	0.325	5.00	SM 3111 B	EJF	12/22/09
Chromium (Cr)	< 0.001	mg/L	10	0.00005	0.001	EPA 200.8 DRC	SAC	12/22/09
Copper (Cu)	< 0.005	mg/L	10	0.0004	0.005	EPA 200.8	SAC	12/22/09
Iron (Fe)	< 0.050	mg/L	10	0.005	0.050	EPA 200.8	SAC	12/22/09
Lead (Pb)	< 0.001	mg/L	10	0.00002	0.001	EPA 200.8	SAC	12/22/09
Magnesium (Mg)	26.9	mg/L	1	0.022	0.500	SM 3111 B	EJF	12/22/09
Molybdenum (Mo)	0.003	mg/L	10	0.000503	0.001	EPA 200.8	SAC	12/22/09
Potassium (K)	14.2	mg/L	5	1.07	2.50	SM 3111 B	EJF	12/22/09
Selenium (Se)	< 0.005	mg/L	10	0.002	0.005	EPA 200.8	SAC	12/22/09
Sodium (Na)	160	mg/L	10	2.06	5.00	SM 3111 B	EJF	12/22/09
Vanadium (V)	< 0.005	mg/L	10	0.00007	0.005	EPA 200.8	SAC	12/22/09
Zinc (Zn)	< 0.050	mg/L	10	0.003	0.050	EPA 200.8	SAC	12/22/09

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Uranium	< 0.001	mg/L	10	0.000027	0.001	EPA 200.8	SAC	12/22/09
Anion - Cation Balance								
Anions	12.9	meq/L	1			Calculation	GAM	12/23/09
Anion - Cation Balance	-1.08	%	1			Calculation	GAM	12/23/09
Cations	12.6	meq/L	1			Calculation	GAM	12/23/09
Radiological								
Gross Alpha	4.80	pCi/L	1			EPA 900.0	SYS	04/02/10
Gross Beta	12.7	pCi/L	1			EPA 900.0	SYS	12/22/10
Radium-226	< 0.300	pCi/L	1			EPA 903.1	SYS	04/02/10
Radium-228	< 0.80	pCi/L	1			Brooks-Blanchard	SYS	04/02/10
Radon-222	227	pCi/L	1			SM 7500-Rn B	SYS	04/02/10

Approved By: 

Approved On: 1/4/2011 1:11:34 PM



MIDCONTINENT
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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB09-21-2
Sampled: 12/21/09 at 12:15 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20091222202
Received: 12/21/09 at 01:45 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPACK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1690	µmhos/cm	1	0.349	5.00	EPA 120.1	JAM	12/22/09
pH	8.12	SU	1			SM 4500-H+ B	JAM	12/22/09
Total Dissolved Solids	1210	mg/L	100ml	13.7	50.0	SM 2540 C	TMN	12/22/09
Non-Metallics								
Alkalinity	209	mg/L	1	0.274	10.0	SM 2320 B	JAM	12/22/09
Bicarbonate	255	mg/L	1	0.334	10.0	SM 2320 B	JAM	12/22/09
Carbonate	0.00	mg/L	1	0.137	5.00	SM 2320 B	JAM	12/22/09
Chloride (Cl-)	10.3	mg/L	1	0.372	0.500	SM 4500-Cl B	PAT	12/22/09
Nitrogen, Ammonia (NH3)	< 0.050	mg/L	1	0.007	0.050	SM 4500-NH3 D	JAM	12/22/09
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.008	0.050	SM 4500-NO3 F	BLL	12/22/09
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL	12/22/09
Sulfate (SO4)	718	mg/L	20	5.68	20.0	SM 4500-SO4 E	BLL	12/22/09
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.0008	0.005	EPA 200.8	SAC	12/22/09
Cadmium (Cd)	< 0.001	mg/L	10	0.00007	0.001	EPA 200.8	SAC	12/22/09
Calcium (Ca)	171	mg/L	5	0.325	5.00	SM 3111 B	EJF	12/22/09
Chromium (Cr)	< 0.001	mg/L	10	0.00005	0.001	EPA 200.8 DRC	SAC	12/22/09
Copper (Cu)	< 0.005	mg/L	10	0.0004	0.005	EPA 200.8	SAC	12/22/09
Iron (Fe)	< 0.050	mg/L	10	0.005	0.050	EPA 200.8	SAC	12/22/09
Lead (Pb)	< 0.001	mg/L	10	0.00002	0.001	EPA 200.8	SAC	12/22/09
Magnesium (Mg)	54.2	mg/L	5	0.108	2.50	SM 3111 B	EJF	12/22/09
Molybdenum (Mo)	0.001	mg/L	10	0.000503	0.001	EPA 200.8	SAC	12/22/09
Potassium (K)	12.3	mg/L	5	1.07	2.50	SM 3111 B	EJF	12/22/09
Selenium (Se)	< 0.005	mg/L	10	0.002	0.005	EPA 200.8	SAC	12/22/09
Sodium (Na)	125	mg/L	10	2.06	5.00	SM 3111 B	EJF	12/22/09
Vanadium (V)	< 0.005	mg/L	10	0.00007	0.005	EPA 200.8	SAC	12/22/09
Zinc (Zn)	< 0.050	mg/L	10	0.003	0.050	EPA 200.8	SAC	12/22/09

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Uranium	0.009	mg/L	10	0.000027	0.001	EPA 200.8	SAC	12/22/09
Anion - Cation Balance								
Anions	19.4	meq/L	1			Calculation	GAM	12/23/09
Anion - Cation Balance	-1.75	%	1			Calculation	GAM	12/23/09
Cations	18.7	meq/L	1			Calculation	GAM	12/23/09
Radiological								
Gross Alpha	31.6	pCi/L	1			EPA 900.0	SYS	04/02/10
Gross Beta	25.1	pCi/L	1			EPA 900.0	SYS	12/22/10
Radium-226	0.700	pCi/L	1			EPA 903.1	SYS	04/02/10
Radium-228	8.4	pCi/L	1			Brooks-Blanchard	SYS	04/02/10
Radon-222	328	pCi/L	1			SM 7500-Rn B	SYS	04/02/10

Approved By: 

Approved On: 1/4/2011 1:11:34 PM



December 22, 2010

Mid-Continent Testing Laboratories
Greg McDougall
PO Box 3388
2381 S Plaza Dr
Rapid City SD 57709

Dear Mr. McDougall:

It has come to our attention that an error was made in calculating some Gross Beta results.

We have taken steps to correct this error and have implemented additional Quality Control measures to prevent its recurrence.

Results for the affected samples have been recalculated and your amended reports are enclosed. We apologize for any inconvenience. If you have questions, please contact either Stacy Ellwanger or Rea Riggle at the telephone number above.

Sincerely,

Michael Smith
Administrator, Laboratory Services Program

cc: Stacy Ellwanger
Rea Riggle



**DIVISION OF
ADMINISTRATION**
Public Health Laboratory

615 East Fourth Street
Pierre, South Dakota 57501-1700
605/773-3368 FAX: 605/773-6129
www.state.sd.us/doh/lab/index.htm

Submitter copy to:

* Page 1 of 1*
Date: 12/22/2010

MID-CONTINENT TESTING LAB-92942
2381 S PLAZA DR
PO BOX 3388
RAPID CITY, SD 57709

Spec #: E09EC007782
Subm #:
Lab: ENV CHEMISTRY
Tel #: (605) 773-3368

Source

MID CONTINENT

Date Rcvd: 12/28/2009
Time Rcvd: 1035
Date Coll: 12/21/2009

Time Coll: 1145
Spec Type: WATER
Tap Location: 20091222201

Final Results

Gross Alpha 4.8 +/-2.6 pCi/L
<< Results previously reported on 3/22/2010 >>
Gross Beta 12.7 +/-3.1 pCi/L
Radium-226 <0.3 +/- 0.2 pCi/L

<< Results previously reported on 3/22/2010 >>
radium-228 <0.8 +/-0.4 pCi/L

<< Results previously reported on 3/22/2010 >>



**DIVISION OF
ADMINISTRATION**
Public Health Laboratory

615 East Fourth Street
Pierre, South Dakota 57501-1700
605/773-3368 FAX: 605/773-6129
www.state.sd.us/doh/lab/index.htm

Submitter copy to:

* Page 1 of 1*
Date: 12/22/2010

MIDCONTINENT TESTING-93484
GREG MCDUGALL
PO BOX 3388
RAPID CITY, SD 57709

Spec #: E09EC007783
Subm #:
Lab: ENV CHEMISTRY
Tel #: (605) 773-3368

Source

MID CONTINENT

Date Rcvd: 12/28/2009
Time Rcvd: 1035
Date Coll: 12/21/2009

Time Coll: 1215
Spec Type: WATER
Tap Location: 20091222202

Final Results

Gross Alpha 31.6 +/-6.2 pCi/L

<< Results previously reported on 4/27/2010 >>
Uranium 9.7 ug/L

EPA Method 200.8

<< Results previously reported on 4/27/2010 >>
NET ALPHA 25.1 pCi/L

<< Results previously reported on 4/27/2010 >>
Gross Beta 30.7 +/-4.7 pCi/L
Radium-226 0.7 +/- 0.4 pCi/L

<< Results previously reported on 4/27/2010 >>
radium-228 8.4 +/-0.5 pCi/L

<< Results previously reported on 4/27/2010 >>

Hudson, Roberta

From: Cepak, Mike
Sent: Monday, January 31, 2011 4:48 PM
To: Hudson, Roberta; Holm, Eric; Hicks, Matt; Lees, Michael; Brandner, Tom; Albertus-Benham, Hannah
Cc: Keenihan, Mark; Cepak, Mike
Subject: FW: Sample Results
Attachments: Sample Sample Powertch Sept 28 2010 with radionuclides.pdf

The last set of duplicate Powertech baseline samples (wells DB09-21-1 and DB09-21-2). We got the OK to use 106 GW funds to pay for this last sample round. The bill should be coming in the next week or so.

-----Original Message-----

From: Eric Fuehrer [<mailto:Eric@thechemistrylab.com>]
Sent: Monday, January 31, 2011 4:20 PM
To: Cepak, Mike
Subject: Sample Results

Eric Fuehrer
Mid-Continent Testing Laboratories, Inc
2381 South Plaza Drive
Rapid City, SD 57702
(605) 348-0111
eric@thechemistrylab.com

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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB09-21-1
Sampled: 09/28/10 at 11:30 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20100929301
Received: 09/28/10 at 04:03 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining


MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1420	µmhos/cm	1	0.349	5.00	EPA 120.1	JAM	09/29/10
pH	7.95	SU	1			SM 4500-H+ B	JAM	09/29/10
Total Dissolved Solids	957	mg/L	100ml	23.1	50.0	SM 2540 C	TMN	09/30/10
Non-Metallics								
Alkalinity	172	mg/L	1	0.274	10.0	SM 2320 B	JAM	09/29/10
Bicarbonate	210	mg/L	1	0.334	10.0	SM 2320 B	JAM	09/29/10
Carbonate	0.00	mg/L	1	0.137	5.00	SM 2320 B	JAM	09/29/10
Chloride (Cl-)	6.48	mg/L	1	0.196	0.500	SM 4500-Cl E	BLL	09/29/10
Nitrogen, Ammonia (NH3)	0.194	mg/L	1	0.007	0.050	SM 4500-NH3 D	JAM	09/29/10
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.008	0.050	SM 4500-NO3 F	BLL	09/29/10
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL	09/29/10
Sulfate (SO4)	578	mg/L	10	2.84	10.0	SM 4500-SO4 E	BLL	09/29/10
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.0008	0.005	EPA 200.8	SAC	09/29/10
Cadmium (Cd)	< 0.001	mg/L	10	0.00007	0.001	EPA 200.8	SAC	09/29/10
Calcium (Ca)	102	mg/L	10	1.47	10.0	SM 3111 B	NMA	09/30/10
Chromium (Cr)	< 0.001	mg/L	10	0.00005	0.001	EPA 200.8 DRC	SAC	09/29/10
Copper (Cu)	< 0.005	mg/L	10	0.0004	0.005	EPA 200.8	SAC	09/29/10
Iron (Fe)	0.056	mg/L	10	0.005	0.050	EPA 200.8	SAC	09/29/10
Lead (Pb)	< 0.001	mg/L	10	0.00002	0.001	EPA 200.8	SAC	09/29/10
Magnesium (Mg)	34.0	mg/L	5	0.157	2.50	SM 3111 B	NMA	09/29/10
Molybdenum (Mo)	< 0.001	mg/L	10			EPA 200.8	SAC	09/29/10
Potassium (K)	11.4	mg/L	5	0.620	2.50	SM 3111 B	NMA	09/29/10
Selenium (Se)	< 0.005	mg/L	10	0.002	0.005	EPA 200.8	SAC	09/29/10
Sodium (Na)	179	mg/L	5	0.610	2.50	SM 3111 B	NMA	09/29/10
Vanadium (V)	< 0.005	mg/L	10	0.00007	0.005	EPA 200.8	SAC	09/29/10
Zinc (Zn)	< 0.050	mg/L	10	0.003	0.050	EPA 200.8	SAC	09/29/10

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Uranium	< 0.001	mg/L	10			EPA 200.8	SAC	09/29/10
Anion - Cation Balance								
Anions	15.6	meq/L	1			Calculation	GAM	09/30/10
Anion - Cation Balance	1.03	%	1			Calculation	GAM	09/30/10
Cations	16.0	meq/L	1			Calculation	GAM	09/30/10
Radiological								
Gross Alpha	14.6	pCi/L	1			EPA 900.0	SYS	01/24/11
Gross Beta	15.3	pCi/L	1			EPA 900.0	SYS	01/24/11
Radium-226	1.70	pCi/L	1			EPA 903.1	SYS	01/24/11
Radium-228	< 0.80	pCi/L	1			Brooks-Blanchard	SYS	01/24/11
Radon-222	226	pCi/L	1			SM 7500-Rn B	SYS	10/08/10

Notes:

Nutrient and Filtered Metal bottles made in lab.

Approved By: 

Approved On: 1/31/2011 2:49:29 PM



MIDCONTINENT
TESTING LABORATORIES, INC.

Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB09-21-2
Sampled: 09/28/10 at 12:00 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20100929302
Received: 09/28/10 at 04:03 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1630	µmhos/cm	1	0.349	5.00	EPA 120.1	JAM	09/29/10
pH	7.78	SU	1			SM 4500-H+ B	JAM	09/29/10
Total Dissolved Solids	1190	mg/L	100ml	23.1	50.0	SM 2540 C	TMN	09/30/10
Non-Metallics								
Alkalinity	199	mg/L	1	0.274	10.0	SM 2320 B	JAM	09/29/10
Bicarbonate	243	mg/L	1	0.334	10.0	SM 2320 B	JAM	09/29/10
Carbonate	0.00	mg/L	1	0.137	5.00	SM 2320 B	JAM	09/29/10
Chloride (Cl-)	9.04	mg/L	1	0.196	0.500	SM 4500-Cl E	BLL	09/29/10
Nitrogen, Ammonia (NH3)	< 0.050	mg/L	1	0.007	0.050	SM 4500-NH3 D	JAM	09/29/10
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.008	0.050	SM 4500-NO3 F	BLL	09/29/10
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL	09/29/10
Sulfate (SO4)	709	mg/L	10	2.84	10.0	SM 4500-SO4 E	BLL	09/29/10
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.0008	0.005	EPA 200.8	SAC	09/29/10
Cadmium (Cd)	< 0.001	mg/L	10	0.00007	0.001	EPA 200.8	SAC	09/29/10
Calcium (Ca)	170	mg/L	10	1.47	10.0	SM 3111 B	NMA	09/30/10
Chromium (Cr)	< 0.001	mg/L	10	0.00005	0.001	EPA 200.8 DRC	SAC	09/29/10
Copper (Cu)	< 0.005	mg/L	10	0.0004	0.005	EPA 200.8	SAC	09/29/10
Iron (Fe)	< 0.050	mg/L	10	0.005	0.050	EPA 200.8	SAC	09/29/10
Lead (Pb)	< 0.001	mg/L	10	0.00002	0.001	EPA 200.8	SAC	09/29/10
Magnesium (Mg)	46.8	mg/L	5	0.157	2.50	SM 3111 B	NMA	09/29/10
Molybdenum (Mo)	< 0.001	mg/L	10			EPA 200.8	SAC	09/29/10
Potassium (K)	11.5	mg/L	5	0.620	2.50	SM 3111 B	NMA	09/29/10
Selenium (Se)	< 0.005	mg/L	10	0.002	0.005	EPA 200.8	SAC	09/29/10
Sodium (Na)	152	mg/L	5	0.610	2.50	SM 3111 B	NMA	09/29/10
Vanadium (V)	< 0.005	mg/L	10	0.00007	0.005	EPA 200.8	SAC	09/29/10
Zinc (Zn)	< 0.050	mg/L	10	0.003	0.050	EPA 200.8	SAC	09/29/10

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Metals - Total							
Uranium	0.008	mg/L	10			EPA 200.8	SAC 09/29/10
Anion - Cation Balance							
Anions	19.0	meq/L	1			Calculation	GAM 09/30/10
Anion - Cation Balance	0.652	%	1			Calculation	GAM 09/30/10
Cations	19.2	meq/L	1			Calculation	GAM 09/30/10
Radiological							
Gross Alpha	35.3	pCi/L	1			EPA 900.0	SYS 01/24/11
Gross Beta	27.0	pCi/L	1			EPA 900.0	SYS 01/24/11
Radium-226	1.40	pCi/L	1			EPA 903.1	SYS 01/24/11
Radium-228	6.5	pCi/L	1			Brooks-Blanchard	SYS 01/24/11
Radon-222	301	pCi/L	1			SM 7500-Rn B	SYS 10/08/10

Notes:

Nutrient and Filtered Metal bottles made in lab.

Approved By: 

Approved On: 1/31/2011 2:49:29 PM

Hudson, Roberta

From: Cepak, Mike
Sent: Friday, May 20, 2011 10:22 AM
To: Hudson, Roberta
Attachments: Sample Powertch June 22 2010 with radionuclides.pdf; Sample Powertech April 21 2008 with radionuclides.pdf; Sample Powertech April 22 2008 with radionuclides.pdf; Sample Powertech Darrow Pit 5_12_08 redo.pdf; Sample Powertech Dec 21 2009 with radionuclides.pdf; Sample Powertech July and Aug 2008 with radionuclides.pdf; Sample Powertech June 24 2008 with radionuclides.pdf; Sample Powertech March 17 2010 with radionuclides.pdf; Sample Powertech May 21 2008 with radionuclides.pdf; Sample Powertech Pump Tests May 18 2008.pdf; Sample Powertech Pump Tests May 21 2008.pdf; Sample Powertech Sept 23 2008 with radionuclides.pdf; Sample Sample Powertch Sept 28 2010 with radionuclides.pdf



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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB09-21-1
Sampled: 06/22/10 at 11:30 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20100623301
Received: 06/22/10 at 04:00 PM
by Bobbie Laurenz
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst	Date
Physical Properties								
Electrical Conductivity	1410	µmhos/cm	1	0.349	5.00	EPA 120.1	JAM	06/23/10
pH	8.04	SU	1			SM 4500-H+ B	JAM	06/23/10
Total Dissolved Solids	928	mg/L	100ml	13.7	50.0	SM 2540 C	WAA	06/23/10
Non-Metallics								
Alkalinity	166	mg/L	1	0.274	10.0	SM 2320 B	JAM	06/23/10
Bicarbonate	203	mg/L	1	0.334	10.0	SM 2320 B	JAM	06/23/10
Carbonate	0.00	mg/L	1	0.137	5.00	SM 2320 B	JAM	06/23/10
Chloride (Cl-)	7.25	mg/L	1	0.372	0.500	SM 4500-Cl B	PAT	06/23/10
Nitrogen, Ammonia (NH3)	0.165	mg/L	1	0.007	0.050	SM 4500-NH3 D	JAM	06/23/10
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.008	0.050	SM 4500-NO3 F	BLL	06/23/10
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL	06/23/10
Sulfate (SO4)	575	mg/L	10	2.84	10.0	SM 4500-SO4 E	BLL	06/23/10
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.0008	0.005	EPA 200.8	SAC	06/23/10
Cadmium (Cd)	< 0.001	mg/L	10	0.00007	0.001	EPA 200.8	SAC	06/23/10
Calcium (Ca)	103	mg/L	5	0.325	5.00	SM 3111 B	NMA	06/23/10
Chromium (Cr)	< 0.001	mg/L	10	0.00005	0.001	EPA 200.8 DRC	SAC	06/23/10
Copper (Cu)	< 0.005	mg/L	10	0.0004	0.005	EPA 200.8	SAC	06/23/10
Iron (Fe)	0.064	mg/L	10	0.005	0.050	EPA 200.8	SAC	06/23/10
Lead (Pb)	< 0.001	mg/L	10	0.00002	0.001	EPA 200.8	SAC	06/23/10
Magnesium (Mg)	32.2	mg/L	5	0.108	2.50	SM 3111 B	NMA	06/23/10
Molybdenum (Mo)	< 0.001	mg/L	10			EPA 200.8	SAC	06/23/10
Potassium (K)	11.9	mg/L	5	1.07	2.50	SM 3111 B	NMA	06/23/10
Selenium (Se)	< 0.005	mg/L	10	0.002	0.005	EPA 200.8	SAC	06/23/10
Sodium (Na)	167	mg/L	5	1.03	2.50	SM 3111 B	NMA	06/23/10
Vanadium (V)	< 0.005	mg/L	10	0.00007	0.005	EPA 200.8	SAC	06/23/10
Zinc (Zn)	< 0.050	mg/L	10	0.003	0.050	EPA 200.8	SAC	06/23/10

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Metals - Total							
Uranium	< 0.001	mg/L	10			EPA 200.8	SAC 06/23/10
Anion - Cation Balance							
Anions	15.5	meq/L	1			Calculation	GAM 06/24/10
Anion - Cation Balance	-0.417	%	1			Calculation	GAM 06/24/10
Cations	15.4	meq/L	1			Calculation	GAM 06/24/10
Radiological							
Gross Alpha	5.90	pCi/L	1			EPA 900.0	SYS 12/14/10
Gross Beta	18	pCi/L	1			EPA 900.0	SYS 12/14/10
Radium-226	1.80	pCi/L	1			EPA 903.1	SYS 12/14/10
Radium-228	1.0	pCi/L	1			Brooks-Blanchard	SYS 12/14/10
Radon-222	233	pCi/L	1			SM 7500-Rn B	SYS 07/09/10

Approved By: 

Approved On: 12/29/2010 9:57:22 AM



MIDCONTINENT
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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB09-21-2
Sampled: 06/22/10 at 12:00 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20100623302
Received: 06/22/10 at 04:00 PM
by Bobbie Laurenz
Account: W1008
DENR - Minerals & Mining

MIKE CEPACK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1610	µmhos/cm	1	0.349	5.00	EPA 120.1	JAM	06/23/10
pH	7.96	SU	1			SM 4500-H+ B	JAM	06/23/10
Total Dissolved Solids	1150	mg/L	100ml	13.7	50.0	SM 2540 C	WAA	06/23/10
Non-Metallics								
Alkalinity	202	mg/L	1	0.274	10.0	SM 2320 B	JAM	06/23/10
Bicarbonate	246	mg/L	1	0.334	10.0	SM 2320 B	JAM	06/23/10
Carbonate	0.00	mg/L	1	0.137	5.00	SM 2320 B	JAM	06/23/10
Chloride (Cl-)	10.0	mg/L	1	0.372	0.500	SM 4500-Cl B	PAT	06/23/10
Nitrogen, Ammonia (NH3)	< 0.050	mg/L	1	0.007	0.050	SM 4500-NH3 D	JAM	06/23/10
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.008	0.050	SM 4500-NO3 F	BLL	06/23/10
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL	06/23/10
Sulfate (SO4)	725	mg/L	20	5.68	20.0	SM 4500-SO4 E	BLL	06/23/10
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.0008	0.005	EPA 200.8	SAC	06/23/10
Cadmium (Cd)	< 0.001	mg/L	10	0.00007	0.001	EPA 200.8	SAC	06/23/10
Calcium (Ca)	191	mg/L	5	0.325	5.00	SM 3111 B	NMA	06/23/10
Chromium (Cr)	< 0.001	mg/L	10	0.00005	0.001	EPA 200.8 DRC	SAC	06/23/10
Copper (Cu)	< 0.005	mg/L	10	0.0004	0.005	EPA 200.8	SAC	06/23/10
Iron (Fe)	< 0.050	mg/L	10	0.005	0.050	EPA 200.8	SAC	06/23/10
Lead (Pb)	< 0.001	mg/L	10	0.00002	0.001	EPA 200.8	SAC	06/23/10
Magnesium (Mg)	44.5	mg/L	5	0.108	2.50	SM 3111 B	NMA	06/23/10
Molybdenum (Mo)	< 0.001	mg/L	10			EPA 200.8	SAC	06/23/10
Potassium (K)	11.4	mg/L	5	1.07	2.50	SM 3111 B	NMA	06/23/10
Selenium (Se)	< 0.005	mg/L	10	0.002	0.005	EPA 200.8	SAC	06/23/10
Sodium (Na)	142	mg/L	5	1.03	2.50	SM 3111 B	NMA	06/23/10
Vanadium (V)	< 0.005	mg/L	10	0.00007	0.005	EPA 200.8	SAC	06/23/10
Zinc (Zn)	< 0.050	mg/L	10	0.003	0.050	EPA 200.8	SAC	06/23/10

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Metals - Total							
Uranium	0.007	mg/L	10			EPA 200.8	SAC 06/23/10
Anion - Cation Balance							
Anions	19.4	meq/L	1			Calculation	GAM 06/24/10
Anion - Cation Balance	0.669	%	1			Calculation	GAM 06/24/10
Cations	19.7	meq/L	1			Calculation	GAM 06/24/10
Radiological							
Gross Alpha	26.2	pCi/L	1			EPA 900.0	SYS 12/14/10
Gross Beta	23	pCi/L	1			EPA 900.0	SYS 12/14/10
Radium-226	1.00	pCi/L	1			EPA 903.1	SYS 12/14/10
Radium-228	9.4	pCi/L	1			Brooks-Blanchard	SYS 12/14/10
Radon-222	315	pCi/L	1			SM 7500-Rn B	SYS 07/09/10

Approved By: 

Approved On: 12/29/2010 9:57:22 AM

**MIDCONTINENT**

TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-15-2
Project Name: POWERTECH
Sampled: 04/21/08 at 01:00 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080423101
Received: 04/22/08 at 07:45 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPACK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1440	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	04/23/08
pH	8.01	SU	1			SM 4500-H+ B	JAM	04/23/08
Total Dissolved Solids	959	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	04/23/08
Non-Metallics								
Alkalinity	203	mg/L	1	0.414	10.0	SM 2320 B	JAM	04/23/08
Bicarbonate	248	mg/L	1	0.505	10.0	SM 2320 B	JAM	04/23/08
Chloride (Cl-)	14.0	mg/L	4	1.81	2.00	SM 4500-Cl B	NMA	04/23/08
Fluoride	0.254	mg/L	1	0.001	0.050	SM 4500 F-C	NMA	04/24/08
Nitrogen, Ammonia (NH3)	0.268	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	04/23/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	04/24/08
Sulfate (SO4)	525	mg/L	4	10.5	40.0	EPA 375.2	DES	04/24/08
Metals - Dissolved								
Aluminum (Al)	0.014	mg/L	10	0.003	0.010	EPA 200.8	PAT	04/23/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/23/08
Barium (Ba)	0.010	mg/L	10	0.000059	0.005	EPA 200.8	PAT	04/23/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	04/23/08
Calcium (Ca)	106	mg/L	1	0.219	1.00	SM 3111 B	SAC	04/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	04/23/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/23/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	PAT	04/23/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT	04/23/08
Magnesium (Mg)	29.6	mg/L	5	0.108	2.50	SM 3111 B	SAC	04/23/08
Manganese (Mn)	0.152	mg/L	10	0.000048	0.001	EPA 200.8	PAT	04/23/08
Potassium (K)	14.0	mg/L	5	0.890	2.50	SM 3111 B	SAC	04/23/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	04/23/08
Sodium (Na)	153	mg/L	5	0.741	2.50	SM 3111 B	SAC	04/23/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT	04/23/08
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT	04/23/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/23/08
Uranium	< 0.001	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/23/08
Anion - Cation Balance								
Anions	15.4	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-2.12	%	1			Calculation	GAM	04/25/08
Cations	14.8	meq/L	1			Calculation	GAM	04/25/08
Radionuclides - Dissolved								
Gross Alpha	9.10	pCi/L	1			E900.0	SYS	06/23/08
Gross Beta	13.7	pCi/L	1			E900.0	SYS	06/23/08
Gross Gamma	< 20.0	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/01/08
Radium 226	1.80	pCi/L	1			E903.0	SYS	05/13/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	04/28/08
Radionuclides - Suspended								
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/15/08
Radium 226	0.300	pCi/L	1			E903.0	SYS	05/06/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	05/01/08
Radionuclides - Total								
Radon 222	269	pCi/L	1			ASTM D5072-92	SYS	04/24/08

Approved By: 

Approved On: 7/3/2008 3:21:47 PM



MIDCONTINENT
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Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: #622
Project Name: POWERTECH
Sampled: 04/21/08 at 03:35 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080423102
Received: 04/22/08 at 07:45 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst	Date
Physical Properties								
Electrical Conductivity	1370	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	04/23/08
pH	7.85	SU	1			SM 4500-H+ B	JAM	04/23/08
Total Dissolved Solids	920	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	04/23/08
Non-Metallics								
Alkalinity	182	mg/L	1	0.414	10.0	SM 2320 B	JAM	04/23/08
Bicarbonate	222	mg/L	1	0.505	10.0	SM 2320 B	JAM	04/23/08
Chloride (Cl-)	11.0	mg/L	4	1.81	2.00	SM 4500-Cl B	NMA	04/23/08
Fluoride	0.401	mg/L	1	0.001	0.050	SM 4500 F-C	NMA	04/24/08
Nitrogen, Ammonia (NH3)	0.058	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	04/23/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	04/24/08
Sulfate (SO4)	493	mg/L	4	10.5	40.0	EPA 375.2	TMN	04/24/08
Metals - Dissolved								
Aluminum (Al)	0.013	mg/L	10	0.003	0.010	EPA 200.8	PAT	04/23/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/23/08
Barium (Ba)	0.011	mg/L	10	0.000059	0.005	EPA 200.8	PAT	04/23/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	04/23/08
Calcium (Ca)	99.4	mg/L	1	0.219	1.00	SM 3111 B	SAC	04/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	04/23/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/23/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	PAT	04/23/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT	04/23/08
Magnesium (Mg)	20.2	mg/L	1	0.022	0.500	SM 3111 B	SAC	04/23/08
Manganese (Mn)	0.182	mg/L	10	0.000048	0.001	EPA 200.8	PAT	04/23/08
Potassium (K)	11.5	mg/L	5	0.890	2.50	SM 3111 B	SAC	04/23/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	04/23/08
Sodium (Na)	159	mg/L	5	0.741	2.50	SM 3111 B	SAC	04/23/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT	04/23/08
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT	04/23/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/23/08
Uranium	0.006	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/23/08
Anion - Cation Balance								
Anions	14.2	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-1.37	%	1			Calculation	GAM	04/25/08
Cations	13.8	meq/L	1			Calculation	GAM	04/25/08
Radionuclides - Dissolved								
Gross Alpha	29.6	pCi/L	1			E900.0	SYS	06/23/08
Gross Beta	17.1	pCi/L	1			E900.0	SYS	06/23/08
Gross Gamma	< 20.0	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/01/08
Radium 226	6.60	pCi/L	1			E903.0	SYS	05/13/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	04/28/08
Radionuclides - Suspended								
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/15/08
Radium 226	1.90	pCi/L	1			E903.0	SYS	05/06/08
Thorium 230	3.70	pCi/L	1			E907.0	SYS	05/01/08
Radionuclides - Total								
Radon 222	1230	pCi/L	1			ASTM D5072-92	SYS	04/24/08

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Sample Site: #615
Project Name: POWERTECH
Sampled: 04/21/08 at 04:30 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080423103
Received: 04/22/08 at 07:45 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst	Date
Physical Properties								
Electrical Conductivity	1080	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	04/23/08
pH	7.64	SU	1			SM 4500-H+ B	JAM	04/23/08
Total Dissolved Solids	711	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	04/23/08
Non-Metallics								
Alkalinity	136	mg/L	1	0.414	10.0	SM 2320 B	JAM	04/23/08
Bicarbonate	166	mg/L	1	0.505	10.0	SM 2320 B	JAM	04/23/08
Chloride (Cl-)	5.50	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA	04/23/08
Fluoride	0.511	mg/L	1	0.001	0.050	SM 4500 F-C	NMA	04/24/08
Nitrogen, Ammonia (NH3)	< 0.050	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	04/23/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	04/24/08
Sulfate (SO4)	397	mg/L	4	10.5	40.0	EPA 375.2	DES	04/24/08
Metals - Dissolved								
Aluminum (Al)	0.012	mg/L	10	0.003	0.010	EPA 200.8	PAT	04/23/08
Arsenic (As)	0.017	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/23/08
Barium (Ba)	0.017	mg/L	10	0.000059	0.005	EPA 200.8	PAT	04/23/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	04/23/08
Calcium (Ca)	74.1	mg/L	1	0.219	1.00	SM 3111 B	SAC	04/23/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	04/23/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/23/08
Iron (Fe)	1.17	mg/L	10	0.009	0.050	EPA 200.8	PAT	04/23/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT	04/23/08
Magnesium (Mg)	20.6	mg/L	1	0.022	0.500	SM 3111 B	SAC	04/23/08
Manganese (Mn)	0.069	mg/L	10	0.000048	0.001	EPA 200.8	PAT	04/23/08
Potassium (K)	9.76	mg/L	1	0.178	0.500	SM 3111 B	SAC	04/23/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	04/23/08
Sodium (Na)	120	mg/L	5	0.741	2.50	SM 3111 B	SAC	04/23/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT	04/23/08
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT	04/23/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
<u>Metals - Total</u>								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/23/08
Uranium	0.003	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/23/08
<u>Anion - Cation Balance</u>								
Anions	11.2	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-1.36	%	1			Calculation	GAM	04/25/08
Cations	10.9	meq/L	1			Calculation	GAM	04/25/08
<u>Radionuclides - Dissolved</u>								
Gross Alpha	14.0	pCi/L	1			E900.0	SYS	06/23/08
Gross Beta	10.6	pCi/L	1			E900.0	SYS	06/23/08
Gross Gamma	< 20.0	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/01/08
Radium 226	1.90	pCi/L	1			E903.0	SYS	05/13/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	04/28/08
<u>Radionuclides - Suspended</u>								
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/15/08
Radium 226	0.700	pCi/L	1			E903.0	SYS	05/06/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	05/01/08
<u>Radionuclides - Total</u>								
Radon 222	1370	pCi/L	1			ASTM D5072-92	SYS	04/24/08

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Sample Site: DB08-32-10
Project Name: POWERTECH
Sampled: 04/21/08 at 07:50 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080423104
Received: 04/22/08 at 07:45 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1140	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM 04/23/08
pH	8.07	SU	1			SM 4500-H+ B	JAM 04/23/08
Total Dissolved Solids	737	mg/L	100ml	8.28	50.0	SM 2540 D	TMN 04/23/08
Non-Metallics							
Alkalinity	149	mg/L	1	0.414	10.0	SM 2320 B	JAM 04/23/08
Bicarbonate	182	mg/L	1	0.505	10.0	SM 2320 B	JAM 04/23/08
Chloride (Cl-)	7.00	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA 04/23/08
Fluoride	0.531	mg/L	1	0.001	0.050	SM 4500 F-C	NMA 04/24/08
Nitrogen, Ammonia (NH3)	0.109	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM 04/23/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES 04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES 04/24/08
Sulfate (SO4)	403	mg/L	4	10.5	40.0	EPA 375.2	DES 04/24/08
Metals - Dissolved							
Aluminum (Al)	0.017	mg/L	10	0.003	0.010	EPA 200.8	PAT 04/23/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/23/08
Barium (Ba)	0.018	mg/L	10	0.000059	0.005	EPA 200.8	PAT 04/23/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT 04/23/08
Calcium (Ca)	52.4	mg/L	1	0.219	1.00	SM 3111 B	SAC 04/23/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT 04/23/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/23/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	PAT 04/23/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT 04/23/08
Magnesium (Mg)	15.4	mg/L	1	0.022	0.500	SM 3111 B	SAC 04/23/08
Manganese (Mn)	0.039	mg/L	10	0.000048	0.001	EPA 200.8	PAT 04/23/08
Potassium (K)	9.72	mg/L	1	0.178	0.500	SM 3111 B	SAC 04/23/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT 04/23/08
Sodium (Na)	160	mg/L	5	0.741	2.50	SM 3111 B	SAC 04/23/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT 04/23/08
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT 04/23/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/23/08
Uranium	0.004	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/23/08
Anion - Cation Balance								
Anions	11.6	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-2.18	%	1			Calculation	GAM	04/25/08
Cations	11.1	meq/L	1			Calculation	GAM	04/25/08
Radionuclides - Dissolved								
Gross Alpha	40.4	pCi/L	1			E900.0	SYS	06/23/08
Gross Beta	18.9	pCi/L	1			E900.0	SYS	06/23/08
Gross Gamma	< 20.0	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/01/08
Radium 226	5.20	pCi/L	1			E903.0	SYS	05/13/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	04/28/08
Radionuclides - Suspended								
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/15/08
Radium 226	0.900	pCi/L	1			E903.0	SYS	05/06/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	05/01/08
Radionuclides - Total								
Radon 222	1760	pCi/L	1			ASTM D5072-92	SYS	04/24/08

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Sample Site: DB08-32-3C
Project Name: POWERTECH
Sampled: 04/21/08 at 08:30 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080423105
Received: 04/22/08 at 07:45 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1370	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	04/23/08
pH	8.09	SU	1			SM 4500-H+ B	JAM	04/23/08
Total Dissolved Solids	919	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	04/23/08
Non-Metallics								
Alkalinity	173	mg/L	1	0.414	10.0	SM 2320 B	JAM	04/23/08
Bicarbonate	211	mg/L	1	0.505	10.0	SM 2320 B	JAM	04/23/08
Chloride (Cl-)	16.0	mg/L	4	1.81	2.00	SM 4500-Cl B	NMA	04/23/08
Fluoride	0.439	mg/L	1	0.001	0.050	SM 4500 F-C	NMA	04/24/08
Nitrogen, Ammonia (NH3)	0.085	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	04/23/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	04/24/08
Sulfate (SO4)	507	mg/L	4	10.5	40.0	EPA 375.2	DES	04/24/08
Metals - Dissolved								
Aluminum (Al)	0.013	mg/L	10	0.003	0.010	EPA 200.8	PAT	04/23/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/23/08
Barium (Ba)	0.012	mg/L	10	0.000059	0.005	EPA 200.8	PAT	04/23/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	04/23/08
Calcium (Ca)	67.4	mg/L	1	0.219	1.00	SM 3111 B	SAC	04/23/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	04/23/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/23/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	PAT	04/23/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT	04/23/08
Magnesium (Mg)	22.9	mg/L	1	0.022	0.500	SM 3111 B	SAC	04/23/08
Manganese (Mn)	0.091	mg/L	10	0.000048	0.001	EPA 200.8	PAT	04/23/08
Potassium (K)	11.1	mg/L	5	0.890	2.50	SM 3111 B	SAC	04/23/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	04/23/08
Sodium (Na)	190	mg/L	5	0.741	2.50	SM 3111 B	SAC	04/23/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT	04/23/08
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT	04/23/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/23/08
Uranium	0.010	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/23/08
Anion - Cation Balance								
Anions	14.5	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-2.40	%	1			Calculation	GAM	04/25/08
Cations	13.8	meq/L	1			Calculation	GAM	04/25/08
Radionuclides - Dissolved								
Gross Alpha	1890	pCi/L	1			E900.0	SYS	06/23/08
Gross Beta	533	pCi/L	1			E900.0	SYS	06/23/08
Gross Gamma	440	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	35.7	pCi/L	1			E909.0M	SYS	05/21/08
Radium 226	383	pCi/L	1			E903.0	SYS	05/14/08
Thorium 230	0.200	pCi/L	1			E907.0	SYS	04/28/08
Radionuclides - Suspended								
Lead 210	16.4	pCi/L	1			E909.0M	SYS	05/15/08
Radium 226	1.20	pCi/L	1			E903.0	SYS	05/06/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	05/01/08
Radionuclides - Total								
Radon 222	271000	pCi/L	1			ASTM D5072-92	SYS	04/24/08

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Sample Site: DB08-11-11C
Project Name: POWERTECH
Sampled: 04/21/08 at 09:45 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080423106
Received: 04/22/08 at 07:45 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	2600	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	04/23/08
pH	7.73	SU	1			SM 4500-H+ B	JAM	04/23/08
Total Dissolved Solids	2260	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	04/23/08
Non-Metallics								
Alkalinity	263	mg/L	1	0.414	10.0	SM 2320 B	JAM	04/23/08
Bicarbonate	321	mg/L	1	0.505	10.0	SM 2320 B	JAM	04/23/08
Chloride (Cl-)	15.0	mg/L	4	1.81	2.00	SM 4500-Cl B	NMA	04/23/08
Fluoride	0.294	mg/L	1	0.001	0.050	SM 4500 F-C	NMA	04/24/08
Nitrogen, Ammonia (NH3)	0.174	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	04/23/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	04/24/08
Sulfate (SO4)	1380	mg/L	10	26.2	100	EPA 375.2	TMN	04/24/08
Metals - Dissolved								
Aluminum (Al)	0.011	mg/L	10	0.003	0.010	EPA 200.8	PAT	04/23/08
Arsenic (As)	0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/23/08
Barium (Ba)	0.014	mg/L	10	0.000059	0.005	EPA 200.8	PAT	04/23/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	04/23/08
Calcium (Ca)	367	mg/L	5	1.10	5.00	SM 3111 B	SAC	04/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	04/23/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/23/08
Iron (Fe)	0.323	mg/L	10	0.009	0.050	EPA 200.8	PAT	04/23/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT	04/23/08
Magnesium (Mg)	117	mg/L	5	0.108	2.50	SM 3111 B	SAC	04/23/08
Manganese (Mn)	0.438	mg/L	10	0.000048	0.001	EPA 200.8	PAT	04/23/08
Potassium (K)	18.6	mg/L	5	0.890	2.50	SM 3111 B	SAC	04/23/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	04/23/08
Sodium (Na)	120	mg/L	5	0.741	2.50	SM 3111 B	SAC	04/23/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT	04/23/08
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT	04/23/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/23/08
Uranium	0.030	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/23/08
Anion - Cation Balance								
Anions	34.4	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-1.14	%	1			Calculation	GAM	04/25/08
Cations	33.7	meq/L	1			Calculation	GAM	04/25/08
Radionuclides - Dissolved								
Gross Alpha	5130	pCi/L	1			E900.0	SYS	06/23/08
Gross Beta	1720	pCi/L	1			E900.0	SYS	06/23/08
Gross Gamma	540	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	29.3	pCi/L	1			E909.0M	SYS	05/21/08
Radium 226	1270	pCi/L	1			E903.0	SYS	05/14/08
Thorium 230	0.300	pCi/L	1			E907.0	SYS	04/28/08
Radionuclides - Suspended								
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/15/08
Radium 226	1.70	pCi/L	1			E903.0	SYS	05/06/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	05/01/08
Radionuclides - Total								
Radon 222	93000	pCi/L	1			ASTM D5072-92	SYS	04/24/08

Approved By: _____



Approved On: 7/3/2008 3:21:47 PM



MIDCONTINENT
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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-2-1
Project Name: POWERTECH
Sampled: 04/22/08 at 11:35 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080424101
Received: 04/23/08 at 07:55 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	2490	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	04/24/08
pH	7.58	SU	1			SM 4500-H+ B	JAM	04/24/08
Total Dissolved Solids	2210	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	04/25/08
Non-Metallics								
Alkalinity	117	mg/L	1	0.414	10.0	SM 2320 B	JAM	04/24/08
Bicarbonate	143	mg/L	1	0.505	10.0	SM 2320 B	JAM	04/24/08
Chloride (Cl-)	11.5	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA	04/24/08
Fluoride	0.288	mg/L	1	0.001	0.050	SM 4500 F-C	NMA	04/24/08
Nitrogen, Ammonia (NH3)	0.158	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	04/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	04/24/08
Sulfate (SO4)	1440	mg/L	10	26.2	100	EPA 375.2	TMN	04/24/08
Metals - Dissolved								
Aluminum (Al)	0.018	mg/L	10	0.003	0.010	EPA 200.8	PAT	04/24/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/24/08
Barium (Ba)	0.011	mg/L	10	0.000059	0.005	EPA 200.8	PAT	04/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	04/24/08
Calcium (Ca)	370	mg/L	5	1.10	5.00	SM 3111 B	SAC	04/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	04/24/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	04/24/08
Iron (Fe)	3.94	mg/L	10	0.009	0.050	EPA 200.8	PAT	04/24/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT	04/24/08
Magnesium (Mg)	122	mg/L	5	0.108	2.50	SM 3111 B	SAC	04/24/08
Manganese (Mn)	2.23	mg/L	10	0.000048	0.001	EPA 200.8	PAT	04/24/08
Potassium (K)	14.5	mg/L	5	0.890	2.50	SM 3111 B	SAC	04/24/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	04/24/08
Sodium (Na)	79.6	mg/L	5	0.741	2.50	SM 3111 B	SAC	04/24/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT	04/24/08
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT	04/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/24/08
Uranium	0.118	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/24/08
Anion - Cation Balance								
Anions	32.7	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-0.372	%	1			Calculation	GAM	04/25/08
Cations	32.4	meq/L	1			Calculation	GAM	04/25/08
Radionuclides - Dissolved								
Gross Alpha	1540	pCi/L	1			E900.0	SYS	05/10/08
Gross Beta	425	pCi/L	1			E900.0	SYS	05/10/08
Gross Gamma	420	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/21/08
Radium 226	382	pCi/L	1			E903.0	SYS	05/14/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	04/28/08
Radionuclides - Suspended								
Lead 210	7.30	pCi/L	1			E909.0M	SYS	05/16/08
Radium 226	4.60	pCi/L	1			E903.0	SYS	05/16/08
Thorium 230	0.200	pCi/L	1			E907.0	SYS	05/01/08
Radionuclides - Total								
Radon 222	29100	pCi/L	1			ASTM D5072-92	SYS	04/24/08

Approved By: _____



Approved On: 7/7/2008 2:12:17 PM



MIDCONTINENT

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Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-32-13
Project Name: POWERTECH
Sampled: 04/22/08 at 01:00 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080424102
Received: 04/23/08 at 07:55 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1420	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM 04/24/08
pH	8.17	SU	1			SM 4500-H+ B	JAM 04/24/08
Total Dissolved Solids	901	mg/L	100ml	8.28	50.0	SM 2540 D	TMN 04/25/08
Non-Metallics							
Alkalinity	173	mg/L	1	0.414	10.0	SM 2320 B	JAM 04/24/08
Bicarbonate	211	mg/L	1	0.505	10.0	SM 2320 B	JAM 04/24/08
Chloride (Cl-)	12.5	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA 04/24/08
Fluoride	0.443	mg/L	1	0.001	0.050	SM 4500 F-C	NMA 04/24/08
Nitrogen, Ammonia (NH3)	0.206	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM 04/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES 04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES 04/24/08
Sulfate (SO4)	493	mg/L	4	10.5	40.0	EPA 375.2	TMN 04/24/08
Metals - Dissolved							
Aluminum (Al)	0.014	mg/L	10	0.003	0.010	EPA 200.8	PAT 04/24/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/24/08
Barium (Ba)	0.015	mg/L	10	0.000059	0.005	EPA 200.8	PAT 04/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT 04/24/08
Calcium (Ca)	58.4	mg/L	1	0.219	1.00	SM 3111 B	SAC 04/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT 04/24/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/24/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	PAT 04/24/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT 04/24/08
Magnesium (Mg)	17.0	mg/L	1	0.022	0.500	SM 3111 B	SAC 04/24/08
Manganese (Mn)	0.077	mg/L	10	0.000048	0.001	EPA 200.8	PAT 04/24/08
Potassium (K)	10.2	mg/L	1	0.178	0.500	SM 3111 B	SAC 04/24/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT 04/24/08
Sodium (Na)	209	mg/L	5	0.741	2.50	SM 3111 B	SAC 04/24/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT 04/24/08
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT 04/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/24/08
Uranium	0.003	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/24/08
Anion - Cation Balance								
Anions	14.1	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-1.48	%	1			Calculation	GAM	04/25/08
Cations	13.7	meq/L	1			Calculation	GAM	04/25/08
Radionuclides - Dissolved								
Gross Alpha	21.6	pCi/L	1			E900.0	SYS	05/10/08
Gross Beta	8.80	pCi/L	1			E900.0	SYS	05/10/08
Gross Gamma	340	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/21/08
Radium 226	4.30	pCi/L	1			E903.0	SYS	05/14/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	04/28/08
Radionuclides - Suspended								
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/16/08
Radium 226	< 0.200	pCi/L	1			E903.0	SYS	05/16/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	05/01/08
Radionuclides - Total								
Radon 222	1340	pCi/L	1			ASTM D5072-92	SYS	04/24/08

Approved By: 

Approved On: 7/7/2008 2:12:17 PM



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-11-17
Project Name: POWERTECH
Sampled: 04/22/08 at 01:45 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080424103
Received: 04/23/08 at 07:55 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1110	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM 04/24/08
pH	9.18	SU	1			SM 4500-H+ B	JAM 04/24/08
Total Dissolved Solids	714	mg/L	100ml	8.28	50.0	SM 2540 D	TMN 04/25/08
Non-Metallics							
Alkalinity	90.4	mg/L	1	0.414	10.0	SM 2320 B	JAM 04/24/08
Bicarbonate	78.6	mg/L	1	0.505	10.0	SM 2320 B	JAM 04/24/08
Carbonate	15.6	mg/L	1	0.207	5.00	SM 2320 B	JAM 04/24/08
Chloride (Cl-)	12.0	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA 04/24/08
Fluoride	0.258	mg/L	1	0.001	0.050	SM 4500 F-C	NMA 04/24/08
Nitrogen, Ammonia (NH3)	0.397	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM 04/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES 04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES 04/24/08
Sulfate (SO4)	408	mg/L	4	10.5	40.0	EPA 375.2	TMN 04/24/08
Metals - Dissolved							
Aluminum (Al)	0.018	mg/L	10	0.003	0.010	EPA 200.8	PAT 04/24/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/24/08
Barium (Ba)	0.021	mg/L	10	0.000059	0.005	EPA 200.8	PAT 04/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT 04/24/08
Calcium (Ca)	40.5	mg/L	1	0.219	1.00	SM 3111 B	SAC 04/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT 04/24/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/24/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	PAT 04/24/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT 04/24/08
Magnesium (Mg)	12.7	mg/L	5	0.108	2.50	SM 3111 B	SAC 04/24/08
Manganese (Mn)	< 0.010	mg/L	10	0.000048	0.001	EPA 200.8	PAT 04/24/08
Potassium (K)	13.4	mg/L	5	0.890	2.50	SM 3111 B	SAC 04/24/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT 04/24/08
Sodium (Na)	164	mg/L	5	0.741	2.50	SM 3111 B	SAC 04/24/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT 04/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Dissolved								
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT	04/24/08
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/24/08
Uranium	< 0.001	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/24/08
Anion - Cation Balance								
Anions	10.6	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-0.391	%	1			Calculation	GAM	04/25/08
Cations	10.6	meq/L	1			Calculation	GAM	04/25/08
Radionuclides - Dissolved								
Gross Alpha	< 2.80	pCi/L	1			E900.0	SYS	05/10/08
Gross Beta	11.5	pCi/L	1			E900.0	SYS	05/10/08
Gross Gamma	< 20.0	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/21/08
Radium 226	0.200	pCi/L	1			E903.0	SYS	05/14/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	04/28/08
Radionuclides - Suspended								
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/16/08
Radium 226	< 0.200	pCi/L	1			E903.0	SYS	05/16/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	05/01/08
Radionuclides - Total								
Radon 222	271	pCi/L	1			ASTM D5072-92	SYS	04/24/08

Approved By: _____



Approved On: 7/7/2008 2:12:17 PM



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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
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Sample Site: DB08-1-6
Project Name: POWERTECH
Sampled: 04/22/08 at 02:40 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080424104
Received: 04/23/08 at 07:55 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	2810	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM 04/24/08
pH	8.60	SU	1			SM 4500-H+ B	JAM 04/24/08
Total Dissolved Solids	2390	mg/L	100ml	8.28	50.0	SM 2540 D	TMN 04/25/08
Non-Metallics							
Alkalinity	138	mg/L	1	0.414	10.0	SM 2320 B	JAM 04/24/08
Bicarbonate	147	mg/L	1	0.505	10.0	SM 2320 B	JAM 04/24/08
Carbonate	10.9	mg/L	1	0.207	5.00	SM 2320 B	JAM 04/24/08
Chloride (Cl-)	18.5	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA 04/24/08
Fluoride	0.411	mg/L	1	0.001	0.050	SM 4500 F-C	NMA 04/24/08
Nitrogen, Ammonia (NH3)	0.799	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM 04/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES 04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES 04/24/08
Sulfate (SO4)	1580	mg/L	10	26.2	100	EPA 375.2	TMN 04/24/08
Metals - Dissolved							
Aluminum (Al)	0.018	mg/L	10	0.003	0.010	EPA 200.8	PAT 04/24/08
Arsenic (As)	0.006	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/24/08
Barium (Ba)	0.030	mg/L	10	0.000059	0.005	EPA 200.8	PAT 04/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT 04/24/08
Calcium (Ca)	336	mg/L	5	1.10	5.00	SM 3111 B	SAC 04/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT 04/24/08
Copper (Cu)	0.006	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/24/08
Iron (Fe)	1.29	mg/L	10	0.009	0.050	EPA 200.8	PAT 04/24/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT 04/24/08
Magnesium (Mg)	85.5	mg/L	5	0.108	2.50	SM 3111 B	SAC 04/25/08
Manganese (Mn)	0.304	mg/L	10	0.000048	0.001	EPA 200.8	PAT 04/24/08
Potassium (K)	24.3	mg/L	5	0.890	2.50	SM 3111 B	SAC 04/24/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT 04/24/08
Sodium (Na)	240	mg/L	5	0.741	2.50	SM 3111 B	SAC 04/24/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT 04/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Dissolved								
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT	04/24/08
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/24/08
Uranium	0.014	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/24/08
Anion - Cation Balance								
Anions	36.1	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-1.64	%	1			Calculation	GAM	04/25/08
Cations	34.9	meq/L	1			Calculation	GAM	04/25/08
Radionuclides - Dissolved								
Gross Alpha	44.6	pCi/L	1			E900.0	SYS	05/10/08
Gross Beta	10.1	pCi/L	1			E900.0	SYS	05/10/08
Gross Gamma	300	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/21/08
Radium 226	2.80	pCi/L	1			E903.0	SYS	05/14/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	04/28/08
Radionuclides - Suspended								
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/16/08
Radium 226	0.300	pCi/L	1			E903.0	SYS	05/16/08
Thorium 230	1.70	pCi/L	1			E907.0	SYS	05/01/08
Radionuclides - Total								
Radon 222	384	pCi/L	1			ASTM D5072-92	SYS	04/24/08

Approved By: 

Approved On: 7/7/2008 2:12:17 PM



MIDCONTINENT
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Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-32-12
Project Name: POWERTECH
Sampled: 04/22/08 at 04:15 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080424105
Received: 04/23/08 at 07:55 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1280	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM 04/24/08
pH	8.14	SU	1			SM 4500-H+ B	JAM 04/24/08
Total Dissolved Solids	827	mg/L	100ml	8.28	50.0	SM 2540 D	TMN 04/25/08
Non-Metallics							
Alkalinity	165	mg/L	1	0.414	10.0	SM 2320 B	JAM 04/24/08
Bicarbonate	201	mg/L	1	0.505	10.0	SM 2320 B	JAM 04/24/08
Chloride (Cl-)	10.0	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA 04/24/08
Fluoride	0.550	mg/L	1	0.001	0.050	SM 4500 F-C	NMA 04/24/08
Nitrogen, Ammonia (NH3)	0.207	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM 04/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES 04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES 04/24/08
Sulfate (SO4)	439	mg/L	4	10.5	40.0	EPA 375.2	TMN 04/24/08
Metals - Dissolved							
Aluminum (Al)	0.014	mg/L	10	0.003	0.010	EPA 200.8	PAT 04/24/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/24/08
Barium (Ba)	0.014	mg/L	10	0.000059	0.005	EPA 200.8	PAT 04/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT 04/24/08
Calcium (Ca)	61.3	mg/L	1	0.219	1.00	SM 3111 B	SAC 04/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT 04/24/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/24/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	PAT 04/24/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT 04/24/08
Magnesium (Mg)	15.9	mg/L	1	0.022	0.500	SM 3111 B	SAC 04/24/08
Manganese (Mn)	0.054	mg/L	10	0.000048	0.001	EPA 200.8	PAT 04/24/08
Potassium (K)	9.85	mg/L	1	0.178	0.500	SM 3111 B	SAC 04/24/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT 04/24/08
Sodium (Na)	182	mg/L	5	0.741	2.50	SM 3111 B	SAC 04/24/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT 04/24/08
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT 04/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Mercury (Hg)	0.0018	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/24/08
Uranium	< 0.001	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/24/08
Anion - Cation Balance								
Anions	12.7	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-0.752	%	1			Calculation	GAM	04/25/08
Cations	12.5	meq/L	1			Calculation	GAM	04/25/08
Radionuclides - Dissolved								
Gross Alpha	4.20	pCi/L	1			E900.0	SYS	05/10/08
Gross Beta	5.20	pCi/L	1			E900.0	SYS	05/10/08
Gross Gamma	< 20.0	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/21/08
Radium 226	1.50	pCi/L	1			E903.0	SYS	05/14/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	04/28/08
Radionuclides - Suspended								
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/16/08
Radium 226	< 0.200	pCi/L	1			E903.0	SYS	05/16/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	05/01/08
Radionuclides - Total								
Radon 222	299	pCi/L	1			ASTM D5072-92	SYS	04/24/08

Approved By: 

Approved On: 7/7/2008 2:12:17 PM



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
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Sample Site: DB08-15-3
Project Name: POWERTECH
Sampled: 04/22/08 at 05:15 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080424106
Received: 04/23/08 at 07:55 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1450	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM 04/24/08
pH	8.37	SU	1			SM 4500-H+ B	JAM 04/24/08
Total Dissolved Solids	918	mg/L	100ml	8.28	50.0	SM 2540 D	TMN 04/25/08
Non-Metallics							
Alkalinity	182	mg/L	1	0.414	10.0	SM 2320 B	JAM 04/24/08
Bicarbonate	219	mg/L	1	0.505	10.0	SM 2320 B	JAM 04/24/08
Chloride (Cl-)	14.0	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA 04/24/08
Fluoride	0.368	mg/L	1	0.001	0.050	SM 4500 F-C	NMA 04/24/08
Nitrogen, Ammonia (NH3)	0.425	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM 04/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES 04/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES 04/24/08
Sulfate (SO4)	487	mg/L	4	10.5	40.0	EPA 375.2	TMN 04/24/08
Metals - Dissolved							
Aluminum (Al)	0.015	mg/L	10	0.003	0.010	EPA 200.8	PAT 04/24/08
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/24/08
Barium (Ba)	0.016	mg/L	10	0.000059	0.005	EPA 200.8	PAT 04/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT 04/24/08
Calcium (Ca)	37.5	mg/L	1	0.219	1.00	SM 3111 B	SAC 04/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT 04/24/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 04/24/08
Iron (Fe)	0.082	mg/L	10	0.009	0.050	EPA 200.8	PAT 04/24/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT 04/24/08
Magnesium (Mg)	9.75	mg/L	1	0.022	0.500	SM 3111 B	SAC 04/24/08
Manganese (Mn)	0.058	mg/L	10	0.000048	0.001	EPA 200.8	PAT 04/24/08
Potassium (K)	11.9	mg/L	5	0.890	2.50	SM 3111 B	SAC 04/24/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT 04/24/08
Sodium (Na)	246	mg/L	5	0.741	2.50	SM 3111 B	SAC 04/25/08
Vanadium (V)	< 0.005	mg/L	10	0.000568	0.005	EPA 200.8	PAT 04/24/08
Zinc (Zn)	< 0.050	mg/L	10	0.004	0.050	EPA 200.8	PAT 04/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Mercury (Hg)	< 0.0002	mg/L	1	0.000047	0.0002	EPA 245.1	SAC	04/24/08
Uranium	< 0.001	mg/L	10	0.000041	0.001	EPA 200.8	PAT	04/24/08
Anion - Cation Balance								
Anions	14.1	meq/L	1			Calculation	GAM	04/25/08
Anion - Cation Balance	-1.55	%	1			Calculation	GAM	04/25/08
Cations	13.7	meq/L	1			Calculation	GAM	04/25/08
Radionuclides - Dissolved								
Gross Alpha	< 3.80	pCi/L	1			E900.0	SYS	05/10/08
Gross Beta	5.70	pCi/L	1			E900.0	SYS	05/10/08
Gross Gamma	240	pCi/L	1			E901.1	SYS	05/01/08
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/21/08
Radium 226	0.800	pCi/L	1			E903.0	SYS	05/14/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	04/28/08
Radionuclides - Suspended								
Lead 210	< 1.00	pCi/L	1			E909.0M	SYS	05/16/08
Radium 226	< 0.200	pCi/L	1			E903.0	SYS	05/16/08
Thorium 230	< 0.200	pCi/L	1			E907.0	SYS	05/01/08
Radionuclides - Total								
Radon 222	216	pCi/L	1			ASTM D5072-92	SYS	04/24/08

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Approved On: 7/7/2008 2:12:17 PM



MIDCONTINENT
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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
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Sample Site: Darrow Pit
Sampled: 05/12/08 at 03:00 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080513109
Received: 05/12/08 at 04:20 PM
by Dana Smith
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	5830	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	05/13/08
pH	3.37	SU	1			SM 4500-H+ B	JAM	05/13/08
Total Dissolved Solids	6950	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	05/13/08
Non-Metallics								
Acidity	1110	mg/L	1	3.63	10.0	SM 2310 B	JAM	05/16/08
Bicarbonate	0.00	mg/L	1	0.505	10.0	SM 2320 B	JAM	05/15/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	JAM	05/15/08
Chloride (Cl-)	12.5	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA	05/13/08
Nitrogen, Ammonia (NH3)	1.55	mg/L	5	0.024	0.250	SM 4500-NH3 D	JAM	05/13/08
Nitrogen, Nitrate (NO3)	0.327	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	05/13/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	05/13/08
Sulfate (SO4)	4320	mg/L	20	52.4	200	EPA 375.2	DES	05/13/08
Metals - Dissolved								
Arsenic (As)	0.007	mg/L	10	0.000478	0.005	EPA 200.8	PAT	05/13/08
Cadmium (Cd)	0.031	mg/L	10	0.000202	0.001	EPA 200.8	PAT	05/13/08
Calcium (Ca)	369	mg/L	5	1.10	5.00	SM 3111 B	SAC	05/13/08
Chromium (Cr)	0.018	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	05/13/08
Copper (Cu)	0.096	mg/L	10	0.000478	0.005	EPA 200.8	PAT	05/13/08
Iron (Fe)	5.60	mg/L	10	0.009	0.050	EPA 200.8	PAT	05/13/08
Magnesium (Mg)	622	mg/L	25	0.542	12.5	SM 3111 B	SAC	05/13/08
Molybdenum (Mo)	< 0.001	mg/L	10	0.000385	0.001	EPA 200.8	PAT	05/13/08
Potassium (K)	21.8	mg/L	5	0.890	2.50	SM 3111 B	SAC	05/13/08
Selenium (Se)	0.033	mg/L	10	0.001	0.005	EPA 200.8	PAT	05/13/08
Sodium (Na)	83.2	mg/L	5	0.741	2.50	SM 3111 B	SAC	05/13/08
Metals - Total								
Uranium	5.53	mg/L	10	0.000041	0.001	EPA 200.8	PAT	05/13/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	90.2	meq/L	1			Calculation	GAM	05/16/08
Anion - Cation Balance	1.11	%	1			Calculation	GAM	05/16/08
Cations	92.2	meq/L	1			Calculation	GAM	05/16/08
Radiological								
Radium-226	Pending	pCi/L	1			E903.0		
Radon-222	Pending	pCi/L	1			ASTM D5072-92	DES	

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Approved On: 5/16/2008 4:49:44 PM



MIDCONTINENT
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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
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Sample Site: DB09-21-1
Sampled: 12/21/09 at 11:45 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20091222201
Received: 12/21/09 at 01:45 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1200	µmhos/cm	1	0.349	10.0	EPA 120.1	JAM 12/22/09
pH	9.55	SU	1			SM 4500-H+ B	JAM 12/22/09
Total Dissolved Solids	741	mg/L	100ml	13.7	50.0	SM 2540 C	TMN 12/22/09
Non-Metallics							
Alkalinity	144	mg/L	1	0.274	10.0	SM 2320 B	JAM 12/22/09
Bicarbonate	142	mg/L	1	0.334	10.0	SM 2320 B	JAM 12/22/09
Carbonate	16.8	mg/L	1	0.137	5.00	SM 2320 B	JAM 12/22/09
Chloride (Cl-)	7.75	mg/L	1	0.372	0.500	SM 4500-Cl B	PAT 12/22/09
Nitrogen, Ammonia (NH3)	0.232	mg/L	1	0.007	0.050	SM 4500-NH3 D	JAM 12/22/09
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO3 F	BLL 12/22/09
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL 12/22/09
Sulfate (SO4)	470	mg/L	10	3.62	10.0	SM 4500-SO4 E	BLL 12/22/09
Metals - Dissolved							
Arsenic (As)	< 0.005	mg/L	10	0.0008	0.005	EPA 200.8	SAC 12/22/09
Cadmium (Cd)	< 0.001	mg/L	10	0.00007	0.001	EPA 200.8	SAC 12/22/09
Calcium (Ca)	61.3	mg/L	5	0.325	5.00	SM 3111 B	EJF 12/22/09
Chromium (Cr)	< 0.001	mg/L	10	0.00005	0.001	EPA 200.8 DRC	SAC 12/22/09
Copper (Cu)	< 0.005	mg/L	10	0.0004	0.005	EPA 200.8	SAC 12/22/09
Iron (Fe)	< 0.050	mg/L	10	0.005	0.050	EPA 200.8	SAC 12/22/09
Lead (Pb)	< 0.001	mg/L	10	0.00002	0.001	EPA 200.8	SAC 12/22/09
Magnesium (Mg)	26.9	mg/L	1	0.022	0.500	SM 3111 B	EJF 12/22/09
Molybdenum (Mo)	0.003	mg/L	10	0.000503	0.001	EPA 200.8	SAC 12/22/09
Potassium (K)	14.2	mg/L	5	1.07	2.50	SM 3111 B	EJF 12/22/09
Selenium (Se)	< 0.005	mg/L	10	0.002	0.005	EPA 200.8	SAC 12/22/09
Sodium (Na)	160	mg/L	10	2.06	5.00	SM 3111 B	EJF 12/22/09
Vanadium (V)	< 0.005	mg/L	10	0.00007	0.005	EPA 200.8	SAC 12/22/09
Zinc (Zn)	< 0.050	mg/L	10	0.003	0.050	EPA 200.8	SAC 12/22/09

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Uranium	< 0.001	mg/L	10	0.000027	0.001	EPA 200.8	SAC	12/22/09
Anion - Cation Balance								
Anions	12.9	meq/L	1			Calculation	GAM	12/23/09
Anion - Cation Balance	-1.08	%	1			Calculation	GAM	12/23/09
Cations	12.6	meq/L	1			Calculation	GAM	12/23/09
Radiological								
Gross Alpha	4.80	pCi/L	1			EPA 900.0	SYS	04/02/10
Gross Beta	6.3	pCi/L	1			EPA 900.0	SYS	04/02/10
Radium-226	< 0.300	pCi/L	1			EPA 903.1	SYS	04/02/10
Radium-228	< 0.80	pCi/L	1			Brooks-Blanchard	SYS	04/02/10
Radon-222	227	pCi/L	1			SM 7500-Rn B	SYS	04/02/10

Approved By: 

Approved On: 4/2/2010 2:23:27 PM



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(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB09-21-2
Sampled: 12/21/09 at 12:15 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20091222202
Received: 12/21/09 at 01:45 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1690	µmhos/cm	1	0.349	10.0	EPA 120.1	JAM 12/22/09
pH	8.12	SU	1			SM 4500-H+ B	JAM 12/22/09
Total Dissolved Solids	1210	mg/L	100ml	13.7	50.0	SM 2540 C	TMN 12/22/09
Non-Metallics							
Alkalinity	209	mg/L	1	0.274	10.0	SM 2320 B	JAM 12/22/09
Bicarbonate	255	mg/L	1	0.334	10.0	SM 2320 B	JAM 12/22/09
Carbonate	0.00	mg/L	1	0.137	5.00	SM 2320 B	JAM 12/22/09
Chloride (Cl-)	10.3	mg/L	1	0.372	0.500	SM 4500-Cl B	PAT 12/22/09
Nitrogen, Ammonia (NH3)	< 0.050	mg/L	1	0.007	0.050	SM 4500-NH3 D	JAM 12/22/09
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO3 F	BLL 12/22/09
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL 12/22/09
Sulfate (SO4)	718	mg/L	20	7.25	20.0	SM 4500-SO4 E	BLL 12/22/09
Metals - Dissolved							
Arsenic (As)	< 0.005	mg/L	10	0.0008	0.005	EPA 200.8	SAC 12/22/09
Cadmium (Cd)	< 0.001	mg/L	10	0.00007	0.001	EPA 200.8	SAC 12/22/09
Calcium (Ca)	171	mg/L	5	0.325	5.00	SM 3111 B	EJF 12/22/09
Chromium (Cr)	< 0.001	mg/L	10	0.00005	0.001	EPA 200.8 DRC	SAC 12/22/09
Copper (Cu)	< 0.005	mg/L	10	0.0004	0.005	EPA 200.8	SAC 12/22/09
Iron (Fe)	< 0.050	mg/L	10	0.005	0.050	EPA 200.8	SAC 12/22/09
Lead (Pb)	< 0.001	mg/L	10	0.00002	0.001	EPA 200.8	SAC 12/22/09
Magnesium (Mg)	54.2	mg/L	5	0.108	2.50	SM 3111 B	EJF 12/22/09
Molybdenum (Mo)	0.001	mg/L	10	0.000503	0.001	EPA 200.8	SAC 12/22/09
Potassium (K)	12.3	mg/L	5	1.07	2.50	SM 3111 B	EJF 12/22/09
Selenium (Se)	< 0.005	mg/L	10	0.002	0.005	EPA 200.8	SAC 12/22/09
Sodium (Na)	125	mg/L	10	2.06	5.00	SM 3111 B	EJF 12/22/09
Vanadium (V)	< 0.005	mg/L	10	0.00007	0.005	EPA 200.8	SAC 12/22/09
Zinc (Zn)	< 0.050	mg/L	10	0.003	0.050	EPA 200.8	SAC 12/22/09

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Uranium	0.009	mg/L	10	0.000027	0.001	EPA 200.8	SAC	12/22/09
Anion - Cation Balance								
Anions	19.4	meq/L	1			Calculation	GAM	12/23/09
Anion - Cation Balance	-1.75	%	1			Calculation	GAM	12/23/09
Cations	18.7	meq/L	1			Calculation	GAM	12/23/09
Radiological								
Gross Alpha	31.6	pCi/L	1			EPA 900.0	SYS	04/02/10
Gross Beta	15	pCi/L	1			EPA 900.0	SYS	04/02/10
Radium-226	0.700	pCi/L	1			EPA 903.1	SYS	04/02/10
Radium-228	8.4	pCi/L	1			Brooks-Blanchard	SYS	04/02/10
Radon-222	328	pCi/L	1			SM 7500-Rn B	SYS	04/02/10

Approved By: 

Approved On: 4/2/2010 2:23:27 PM



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Sample Site: #615
Project Name: POWERTECH
Sampled: 07/14/08 at 12:00 PM
by Mark Keeniman
Sample Matrix: Water

Lab ID#: 20080716101
Received: 07/14/08 at 05:30 PM
by Dean Aurand
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1070	µmhos/cm	1	0.299	5.00	EPA 120.1	EJF	07/16/08
pH	7.84	SU	1			SM 4500-H+ B	EJF	07/16/08
Total Dissolved Solids	748	mg/L	100ml	11.0	50.0	SM 2540 C	NDM	07/16/08
Non-Metallics								
Alkalinity	139	mg/L	1	0.510	10.0	SM 2320 B	EJF	07/16/08
Bicarbonate	169	mg/L	1	0.622	10.0	SM 2320 B	EJF	07/16/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	EJF	07/16/08
Chloride (Cl-)	6.25	mg/L	1	0.453	0.500	SM 4500-Cl B	BLL	07/16/08
Nitrogen, Ammonia (NH3)	< 0.050	mg/L	1	0.005	0.050	SM 4500-NH3 D	LAF	07/16/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	07/16/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	07/16/08
Sulfate (SO4)	374	mg/L	4	20.9	40.0	EPA 375.2	BLL	07/16/08
Metals - Dissolved								
Arsenic (As)	0.020	mg/L	10	0.000478	0.005	EPA 200.8	PAT	07/16/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	07/16/08
Calcium (Ca)	76.4	mg/L	5	0.312	5.00	SM 3111 B	SAC	07/16/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	07/16/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	07/16/08
Iron (Fe)	0.878	mg/L	10	0.009	0.050	EPA 200.8	PAT	07/16/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT	07/16/08
Magnesium (Mg)	20.8	mg/L	5	0.487	2.50	SM 3111 B	SAC	07/16/08
Molybdenum (Mo)	0.002	mg/L	10	0.000385	0.001	EPA 200.8	PAT	07/16/08
Potassium (K)	9.72	mg/L	5	0.524	2.50	SM 3111 B	SAC	07/16/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	07/16/08
Sodium (Na)	122	mg/L	5	0.810	2.50	SM 3111 B	SAC	07/16/08
Metals - Total								
Uranium	0.003	mg/L	10	0.000041	0.001	EPA 200.8	PAT	07/16/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	10.7	meq/L	1			Calculation	GAM	07/17/08
Anion - Cation Balance	1.61	%	1			Calculation	GAM	07/17/08
Cations	11.1	meq/L	1			Calculation	GAM	07/17/08
Radiological								
Radium-226	1.4	pCi/L	1			EPA 903.1	SYS	02/10/09
Radium-228	1.0	pCi/L	1			Brooks-Blanchard	SYS	02/10/09
Radon-222	3080	pCi/L	1			SM 7500-Rn B	GAM	08/20/08

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Approved On: 2/12/2009 9:54:32 AM



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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: #622
Project Name: POWERTECH
Sampled: 07/14/08 at 12:30 PM
by Mark Keeniman
Sample Matrix: Water


MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080716102
Received: 07/14/08 at 05:30 PM
by Dean Aurand
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1360	µmhos/cm	1	0.299	5.00	EPA 120.1	EJF	07/16/08
pH	7.91	SU	1			SM 4500-H+ B	EJF	07/16/08
Total Dissolved Solids	952	mg/L	100ml	11.0	50.0	SM 2540 C	NDM	07/16/08
Non-Metallics								
Alkalinity	182	mg/L	1	0.510	10.0	SM 2320 B	EJF	07/16/08
Bicarbonate	222	mg/L	1	0.622	10.0	SM 2320 B	EJF	07/16/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	EJF	07/16/08
Chloride (Cl-)	11.5	mg/L	1	0.453	0.500	SM 4500-Cl B	BLL	07/16/08
Nitrogen, Ammonia (NH3)	< 0.050	mg/L	1	0.005	0.050	SM 4500-NH3 D	LAF	07/16/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	07/16/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	07/16/08
Sulfate (SO4)	503	mg/L	4	20.9	40.0	EPA 375.2	BLL	07/16/08
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	07/16/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	07/16/08
Calcium (Ca)	92.5	mg/L	5	0.312	5.00	SM 3111 B	SAC	07/16/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	07/16/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	07/16/08
Iron (Fe)	0.141	mg/L	10	0.009	0.050	EPA 200.8	PAT	07/16/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	PAT	07/16/08
Magnesium (Mg)	29.0	mg/L	5	0.487	2.50	SM 3111 B	SAC	07/16/08
Molybdenum (Mo)	0.001	mg/L	10	0.000385	0.001	EPA 200.8	PAT	07/16/08
Potassium (K)	11.7	mg/L	5	0.524	2.50	SM 3111 B	SAC	07/16/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	07/16/08
Sodium (Na)	162	mg/L	5	0.810	2.50	SM 3111 B	SAC	07/16/08
Metals - Total								
Uranium	0.006	mg/L	10	0.000041	0.001	EPA 200.8	PAT	07/16/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	14.4	meq/L	1			Calculation	GAM	07/17/08
Anion - Cation Balance	-0.283	%	1			Calculation	GAM	07/17/08
Cations	14.3	meq/L	1			Calculation	GAM	07/17/08
Radiological								
Radium-226	1.8	pCi/L	1			EPA 903.1	SYS	02/10/09
Radium-228	3.5	pCi/L	1			Brooks-Blanchard	SYS	02/10/09
Radon-222	2110	pCi/L	1			SM 7500-Rn B	GAM	08/20/08

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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-32-13
Project Name: POWERTECH
Sampled: 07/14/08 at 01:30 PM
by Mark Keeniman
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080716103
Received: 07/14/08 at 05:30 PM
by Dean Aurand
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1410	µmhos/cm	1	0.299	5.00	EPA 120.1	EJF	07/16/08
pH	8.08	SU	1			SM 4500-H+ B	EJF	07/16/08
Total Dissolved Solids	915	mg/L	100ml	11.0	50.0	SM 2540 C	NDM	07/16/08
Non-Metallics								
Alkalinity	176	mg/L	1	0.510	10.0	SM 2320 B	EJF	07/16/08
Bicarbonate	215	mg/L	1	0.622	10.0	SM 2320 B	EJF	07/16/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	EJF	07/16/08
Chloride (Cl-)	13.3	mg/L	1	0.453	0.500	SM 4500-Cl B	BLL	07/16/08
Nitrogen, Ammonia (NH3)	0.192	mg/L	1	0.005	0.050	SM 4500-NH3 D	LAF	07/16/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	07/16/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	07/16/08
Sulfate (SO4)	510	mg/L	4	20.9	40.0	EPA 375.2	BLL	07/16/08
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	07/16/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	07/16/08
Calcium (Ca)	56.4	mg/L	5	0.312	5.00	SM 3111 B	SAC	07/16/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	07/16/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	07/16/08
Iron (Fe)	0.496	mg/L	10	0.009	0.050	EPA 200.8	PAT	07/16/08
Magnesium (Mg)	17.3	mg/L	5	0.487	2.50	SM 3111 B	SAC	07/16/08
Molybdenum (Mo)	0.004	mg/L	10	0.000385	0.001	EPA 200.8	PAT	07/16/08
Potassium (K)	10.8	mg/L	5	0.524	2.50	SM 3111 B	SAC	07/16/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	07/16/08
Sodium (Na)	221	mg/L	5	0.810	2.50	SM 3111 B	SAC	07/16/08
Metals - Total								
Uranium	0.003	mg/L	10	0.000041	0.001	EPA 200.8	PAT	07/16/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	14.5	meq/L	1			Calculation	GAM	07/17/08
Anion - Cation Balance	-1.29	%	1			Calculation	GAM	07/17/08
Cations	14.1	meq/L	1			Calculation	GAM	07/17/08
Radiological								
Radium-226	6.3	pCi/L	1			EPA 903.1	SYS	02/10/09
Radium-228	1.4	pCi/L	1			Brooks-Blanchard	SYS	02/10/09
Radon-222	3460	pCi/L	1			SM 7500-Rn B	GAM	08/20/08

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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB08-32-12
Project Name: POWERTECH
Sampled: 07/14/08 at 02:00 PM
by Mark Keeniman
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080716104
Received: 07/14/08 at 05:30 PM
by Dean Aurand
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1260	μmhos/cm	1	0.299	5.00	EPA 120.1	EJF	07/16/08
pH	8.13	SU	1			SM 4500-H+ B	EJF	07/16/08
Total Dissolved Solids	801	mg/L	100ml	11.0	50.0	SM 2540 C	NDM	07/16/08
Non-Metallics								
Alkalinity	163	mg/L	1	0.510	10.0	SM 2320 B	EJF	07/16/08
Bicarbonate	199	mg/L	1	0.622	10.0	SM 2320 B	EJF	07/16/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	EJF	07/16/08
Chloride (Cl-)	9.25	mg/L	1	0.453	0.500	SM 4500-Cl B	BLL	07/16/08
Nitrogen, Ammonia (NH3)	0.217	mg/L	1	0.005	0.050	SM 4500-NH3 D	LAF	07/16/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	07/16/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	07/16/08
Sulfate (SO4)	452	mg/L	4	20.9	40.0	EPA 375.2	BLL	07/16/08
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	07/16/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	07/16/08
Calcium (Ca)	51.5	mg/L	5	0.312	5.00	SM 3111 B	SAC	07/16/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	07/16/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	07/16/08
Iron (Fe)	0.111	mg/L	10	0.009	0.050	EPA 200.8	PAT	07/16/08
Magnesium (Mg)	15.3	mg/L	5	0.487	2.50	SM 3111 B	SAC	07/16/08
Molybdenum (Mo)	0.003	mg/L	10	0.000385	0.001	EPA 200.8	PAT	07/16/08
Potassium (K)	9.82	mg/L	5	0.524	2.50	SM 3111 B	SAC	07/16/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	07/16/08
Sodium (Na)	190	mg/L	5	0.810	2.50	SM 3111 B	SAC	07/17/08
Metals - Total								
Uranium	< 0.001	mg/L	10	0.000041	0.001	EPA 200.8	PAT	07/16/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	12.9	meq/L	1			Calculation	GAM	07/17/08
Anion - Cation Balance	-2.26	%	1			Calculation	GAM	07/17/08
Cations	12.4	meq/L	1			Calculation	GAM	07/17/08
Radiological								
Radium-226	1.1	pCi/L	1			EPA 903.1	SYS	02/10/09
Radium-228	< 0.60	pCi/L	1			Brooks-Blanchard	SYS	02/10/09
Radon-222	3.00	pCi/L	1			SM 7500-Rn B	GAM	08/20/08

Approved By: 

Approved On: 2/12/2009 9:54:32 AM



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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-2-1
Project Name: POWERTECH
Sampled: 08/14/08 at 02:00 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080821101
Received: 08/20/08 at 09:00 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	2490	μmhos/cm	1	0.299	5.00	EPA 120.1	JAM	08/21/08
pH	7.54	SU	1			SM 4500-H+ B	JAM	08/21/08
Total Dissolved Solids	2180	mg/L	100ml	11.0	50.0	SM 2540 C	TMN	08/21/08
Non-Metallics								
Alkalinity	113	mg/L	1	0.510	10.0	SM 2320 B	JAM	08/21/08
Bicarbonate	138	mg/L	1	0.622	10.0	SM 2320 B	JAM	08/21/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	JAM	08/21/08
Chloride (Cl-)	11.8	mg/L	1	0.453	0.500	SM 4500-Cl B	LAF	08/21/08
Nitrogen, Ammonia (NH3)	0.178	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	08/21/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	08/21/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	08/21/08
Sulfate (SO4)	1340	mg/L	10	52.3	100	EPA 375.2	BLL	08/21/08
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	08/21/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC	08/21/08
Calcium (Ca)	320	mg/L	10	0.624	10.0	SM 3111 B	NMA	08/21/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC	08/21/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	08/21/08
Iron (Fe)	3.60	mg/L	10	0.009	0.050	EPA 200.8	SAC	08/21/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	SAC	08/21/08
Magnesium (Mg)	123	mg/L	10	0.974	5.00	SM 3111 B	NMA	08/21/08
Molybdenum (Mo)	< 0.001	mg/L	10	0.000385	0.001	EPA 200.8	SAC	08/21/08
Potassium (K)	14.2	mg/L	10	1.05	5.00	SM 3111 B	NMA	08/21/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	08/21/08
Sodium (Na)	86.3	mg/L	10	1.62	5.00	SM 3111 B	NMA	08/21/08
Metals - Total								
Uranium	0.113	μg/L	10	0.041	1.00	EPA 200.8	SAC	08/21/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	30.5	meq/L	1			Calculation	GAM	08/26/08
Anion - Cation Balance	-0.429	%	1			Calculation	GAM	08/26/08
Cations	30.2	meq/L	1			Calculation	GAM	08/26/08
Radiological								
Gross Alpha	1030	pCi/L	1			EPA 900.0	SYS	02/10/09
Radium-226	400	pCi/L	1			EPA 903.1	SYS	02/10/09
Radium-228	4.7	pCi/L	1			Brooks-Blanchard	SYS	02/10/09
Radon-222	230000	pCi/L	1			ASTM D5072-92 (SHL)	SYS	12/05/08

Approved By: 

Approved On: 2/12/2009 9:55:31 AM



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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-32-10
Project Name: POWERTECH
Sampled: 08/14/08 at 03:25 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080821102
Received: 08/20/08 at 09:00 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1110	µmhos/cm	1	0.299	5.00	EPA 120.1	JAM	08/21/08
pH	8.12	SU	1			SM 4500-H+ B	JAM	08/21/08
Total Dissolved Solids	701	mg/L	100ml	11.0	50.0	SM 2540 C	TMN	08/21/08
Non-Metallics								
Alkalinity	148	mg/L	1	0.510	10.0	SM 2320 B	JAM	08/21/08
Bicarbonate	180	mg/L	1	0.622	10.0	SM 2320 B	JAM	08/21/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	JAM	08/21/08
Chloride (Cl-)	7.00	mg/L	1	0.453	0.500	SM 4500-Cl B	LAF	08/21/08
Nitrogen, Ammonia (NH3)	0.119	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	08/21/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	08/21/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	08/21/08
Sulfate (SO4)	344	mg/L	2	10.5	20.0	EPA 375.2	BLL	08/25/08
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	08/21/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC	08/21/08
Calcium (Ca)	57.3	mg/L	5	0.312	5.00	SM 3111 B	NMA	08/21/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC	08/21/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	08/21/08
Iron (Fe)	0.174	mg/L	10	0.009	0.050	EPA 200.8	SAC	08/21/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	SAC	08/21/08
Magnesium (Mg)	15.0	mg/L	10	0.974	5.00	SM 3111 B	NMA	08/25/08
Molybdenum (Mo)	0.008	mg/L	10	0.000385	0.001	EPA 200.8	SAC	08/21/08
Potassium (K)	7.71	mg/L	10	1.05	5.00	SM 3111 B	NMA	08/21/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	08/21/08
Sodium (Na)	148	mg/L	10	1.62	5.00	SM 3111 B	NMA	08/25/08
Metals - Total								
Uranium	0.004	µg/L	10	0.041	1.00	EPA 200.8	SAC	08/21/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	10.3	meq/L	1			Calculation	GAM	08/26/08
Anion - Cation Balance	2.04	%	1			Calculation	GAM	08/26/08
Cations	10.7	meq/L	1			Calculation	GAM	08/26/08
Radiological								
Gross Alpha	9.70	pCi/L	1			EPA 900.0	SYS	02/10/09
Radium-226	0.40	pCi/L	1			EPA 903.1	SYS	02/10/09
Radium-228	1.1	pCi/L	1			Brooks-Blanchard	SYS	02/10/09
Radon-222	12200	pCi/L	1			ASTM D5072-92 (SHL)	SYS	12/05/08

Approved By: 

Approved On: 2/12/2009 9:55:31 AM



MIDCONTINENT
TESTING LABORATORIES, INC.

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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB08-1-6
Project Name: POWERTECH
Sampled: 08/14/08 at 04:30 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080821103
Received: 08/20/08 at 09:00 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	3030	μmhos/cm	1	0.299	5.00	EPA 120.1	JAM	08/21/08
pH	7.29	SU	1			SM 4500-H+ B	JAM	08/21/08
Total Dissolved Solids	2750	mg/L	100ml	11.0	50.0	SM 2540 C	TMN	08/21/08
Non-Metallics								
Alkalinity	175	mg/L	1	0.510	10.0	SM 2320 B	JAM	08/21/08
Bicarbonate	213	mg/L	1	0.622	10.0	SM 2320 B	JAM	08/21/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	JAM	08/21/08
Chloride (Cl-)	17.0	mg/L	1	0.453	0.500	SM 4500-Cl B	LAF	08/21/08
Nitrogen, Ammonia (NH3)	0.470	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	08/21/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	08/21/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	08/21/08
Sulfate (SO4)	1760	mg/L	10	52.3	100	EPA 375.2	BLL	08/21/08
Metals - Dissolved								
Arsenic (As)	0.020	mg/L	10	0.000478	0.005	EPA 200.8	SAC	08/21/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	SAC	08/21/08
Calcium (Ca)	471	mg/L	5	0.312	5.00	SM 3111 B	NMA	08/22/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	SAC	08/21/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	SAC	08/21/08
Iron (Fe)	19.0	mg/L	10	0.009	0.050	EPA 200.8	SAC	08/21/08
Lead (Pb)	< 0.001	mg/L	10	0.000185	0.001	EPA 200.8	SAC	08/21/08
Magnesium (Mg)	130	mg/L	10	0.974	5.00	SM 3111 B	NMA	08/21/08
Molybdenum (Mo)	0.013	mg/L	10	0.000385	0.001	EPA 200.8	SAC	08/21/08
Potassium (K)	20.9	mg/L	10	1.05	5.00	SM 3111 B	NMA	08/21/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	08/21/08
Sodium (Na)	153	mg/L	10	1.62	5.00	SM 3111 B	NMA	08/21/08
Metals - Total								
Uranium	0.012	μg/L	10	0.041	1.00	EPA 200.8	SAC	08/21/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	40 . 6	meq/L	1			Calculation	GAM	08/26/08
Anion - Cation Balance	0 . 955	%	1			Calculation	GAM	08/26/08
Cations	41 . 4	meq/L	1			Calculation	GAM	08/26/08
Radiological								
Gross Alpha	42 . 0	pCi/L	1			EPA 900.0	SYS	02/10/09
Radium-226	7 . 6	pCi/L	1			EPA 903.1	SYS	02/10/09
Radium-228	2 . 1	pCi/L	1			Brooks-Blanchard	SYS	02/10/09
Radon-222	3480	pCi/L	1			ASTM D5072-92 (SHL)	SYS	12/05/08

Approved By: 

Approved On: 2/12/2009 9:55:31 AM



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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-15-3
Project Name: POWERTECH
Sampled: 06/24/08 at 02:30 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080626101
Received: 06/25/08 at 07:25 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1460	µmhos/cm	1	0.400	5.00	EPA 120.1	EJF 06/26/08
pH	8.18	SU	1			SM 4500-H+ B	EJF 06/26/08
Total Dissolved Solids	915	mg/L	100ml	8.28	50.0	SM 2540 C	TMN 06/26/08
Non-Metallics							
Alkalinity	183	mg/L	1	0.414	10.0	SM 2320 B	EJF 06/26/08
Bicarbonate	223	mg/L	1	0.505	10.0	SM 2320 B	EJF 06/26/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	EJF 06/26/08
Chloride (Cl-)	12.8	mg/L	1	0.453	0.500	SM 4500-Cl B	LAF 06/26/08
Nitrogen, Ammonia (NH3)	0.525	mg/L	1	0.005	0.050	SM 4500-NH3 D	EJF 06/25/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	BLL 06/26/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL 06/26/08
Sulfate (SO4)	507	mg/L	5	13.1	50.0	EPA 375.2	BLL 06/26/08
Metals - Dissolved							
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 06/26/08
Cadmium (Cd)	0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT 06/26/08
Calcium (Ca)	44.3	mg/L	5	1.10	5.00	SM 3111 B	SAC 06/27/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT 06/26/08
Copper (Cu)	0.012	mg/L	10	0.000478	0.005	EPA 200.8	PAT 06/26/08
Iron (Fe)	0.102	mg/L	10	0.009	0.050	EPA 200.8	PAT 06/26/08
Magnesium (Mg)	9.64	mg/L	1	0.022	0.500	SM 3111 B	SAC 06/26/08
Molybdenum (Mo)	0.003	mg/L	10	0.000385	0.001	EPA 200.8	PAT 06/26/08
Potassium (K)	10.4	mg/L	1	0.178	0.500	SM 3111 B	SAC 06/26/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT 06/26/08
Sodium (Na)	249	mg/L	5	0.741	2.50	SM 3111 B	SAC 06/27/08
Metals - Total							
Uranium	< 0.001	mg/L	10	0.000041	0.001	EPA 200.8	PAT 06/26/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Anion - Cation Balance							
Anions	14.6	meq/L	1			Calculation	GAM 06/27/08
Anion - Cation Balance	-1.51	%	1			Calculation	GAM 06/27/08
Cations	14.1	meq/L	1			Calculation	GAM 06/27/08
Radiological							
Radium-226	0.70	pCi/L	1			EPA 903.1	SYS 11/12/08
Radium-228	0.60	pCi/L	1			Brooks-Blanchard	SYS 11/12/08
Radon-222	140	pCi/L	1			SM 7500-Rn B	SYS 10/21/08

Approved By: _____



Approved On: 11/24/2008 11:02:21 AM



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
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Sample Site: DB08-15-2
Project Name: POWERTECH
Sampled: 06/24/08 at 03:00 PM
by Mark Keenihan
Sample Matrix: Water


Lab ID#: 20080626102
Received: 06/25/08 at 07:25 AM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1440	µmhos/cm	1	0.400	5.00	EPA 120.1	EJF 06/26/08
pH	7.90	SU	1			SM 4500-H+ B	EJF 06/26/08
Total Dissolved Solids	941	mg/L	100ml	8.28	50.0	SM 2540 C	TMN 06/26/08
Non-Metallics							
Alkalinity	206	mg/L	1	0.414	10.0	SM 2320 B	EJF 06/26/08
Bicarbonate	252	mg/L	1	0.505	10.0	SM 2320 B	EJF 06/26/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	EJF 06/26/08
Chloride (Cl-)	9.50	mg/L	1	0.453	0.500	SM 4500-Cl B	LAF 06/26/08
Nitrogen, Ammonia (NH3)	0.322	mg/L	1	0.005	0.050	SM 4500-NH3 D	EJF 06/25/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	BLL 06/26/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL 06/26/08
Sulfate (SO4)	545	mg/L	5	13.1	50.0	EPA 375.2	BLL 06/26/08
Metals - Dissolved							
Arsenic (As)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 06/26/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT 06/26/08
Calcium (Ca)	117	mg/L	5	1.10	5.00	SM 3111 B	SAC 06/27/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT 06/26/08
Copper (Cu)	< 0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT 06/26/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	PAT 06/26/08
Magnesium (Mg)	34.7	mg/L	5	0.108	2.50	SM 3111 B	SAC 06/26/08
Molybdenum (Mo)	< 0.001	mg/L	10	0.000385	0.001	EPA 200.8	PAT 06/26/08
Potassium (K)	13.2	mg/L	5	0.890	2.50	SM 3111 B	SAC 06/26/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT 06/26/08
Sodium (Na)	151	mg/L	5	0.741	2.50	SM 3111 B	SAC 06/26/08
Metals - Total							
Uranium	< 0.001	mg/L	10	0.000041	0.001	EPA 200.8	PAT 06/26/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	15.7	meq/L	1			Calculation	GAM	06/27/08
Anion - Cation Balance	-0.388	%	1			Calculation	GAM	06/27/08
Cations	15.6	meq/L	1			Calculation	GAM	06/27/08
Radiological								
Radium-226	2.2	pCi/L	1			EPA 903.1	SYS	11/12/08
Radium-228	1.5	pCi/L	1			Brooks-Blanchard	SYS	11/12/08
Radon-222	210	pCi/L	1			SM 7500-Rn B	SYS	10/21/08

Approved By: _____



Approved On: 11/24/2008 11:02:21 AM



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB07-21-1
Sampled: 03/15/10 at 11:30 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20100317101
Received: 03/15/10 at 04:20 PM
by Bobbie Laurenz
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1400	µmhos/cm	1	0.349	5.00	EPA 120.1	JAM 03/17/10
pH	8.10	SU	1			SM 4500-H+ B	JAM 03/17/10
Total Dissolved Solids	996	mg/L	50ml	27.3	100	SM 2540 C	NDM 03/17/10
Non-Metallics							
Alkalinity	171	mg/L	1	0.274	10.0	SM 2320 B	JAM 03/17/10
Bicarbonate	209	mg/L	1	0.334	10.0	SM 2320 B	JAM 03/17/10
Carbonate	0.00	mg/L	1	0.137	5.00	SM 2320 B	JAM 03/17/10
Chloride (Cl-)	7.75	mg/L	1	0.372	0.500	SM 4500-Cl B	PAT 03/17/10
Nitrogen, Ammonia (NH3)	0.172	mg/L	1	0.007	0.050	SM 4500-NH3 D	JAM 03/17/10
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.008	0.050	SM 4500-NO3 F	BLL 03/17/10
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL 03/17/10
Sulfate (SO4)	590	mg/L	10	2.84	10.0	SM 4500-SO4 E	BLL 03/17/10
Metals - Dissolved							
Arsenic (As)	< 0.005	mg/L	10	0.0008	0.005	EPA 200.8	SAC 03/17/10
Cadmium (Cd)	< 0.001	mg/L	10	0.00007	0.001	EPA 200.8	SAC 03/17/10
Calcium (Ca)	99.8	mg/L	5	0.325	5.00	SM 3111 B	NMA 03/17/10
Chromium (Cr)	< 0.001	mg/L	10	0.00005	0.001	EPA 200.8 DRC	SAC 03/17/10
Copper (Cu)	0.005	mg/L	10	0.0004	0.005	EPA 200.8	SAC 03/17/10
Iron (Fe)	< 0.050	mg/L	10	0.005	0.050	EPA 200.8	SAC 03/17/10
Lead (Pb)	< 0.001	mg/L	10	0.00002	0.001	EPA 200.8	SAC 03/17/10
Magnesium (Mg)	33.9	mg/L	5	0.108	2.50	SM 3111 B	NMA 03/17/10
Molybdenum (Mo)	< 0.001	mg/L	10	0.000503	0.001	EPA 200.8	SAC 03/17/10
Potassium (K)	11.9	mg/L	5	1.07	2.50	SM 3111 B	NMA 03/17/10
Selenium (Se)	< 0.005	mg/L	10	0.002	0.005	EPA 200.8	SAC 03/17/10
Sodium (Na)	164	mg/L	5	1.03	2.50	SM 3111 B	NMA 03/17/10
Vanadium (V)	< 0.005	mg/L	10	0.00007	0.005	EPA 200.8	SAC 03/17/10
Zinc (Zn)	< 0.050	mg/L	10	0.003	0.050	EPA 200.8	SAC 03/17/10

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Uranium	< 0.001	mg/L	10	0.000027	0.001	EPA 200.8	SAC	03/17/10
Anion - Cation Balance								
Anions	15.9	meq/L	1			Calculation	GAM	03/18/10
Anion - Cation Balance	-2.26	%	1			Calculation	GAM	03/18/10
Cations	15.2	meq/L	1			Calculation	GAM	03/18/10
Radiological								
Gross Alpha	6.10	pCi/L	1			EPA 900.0	SYS	07/16/10
Gross Beta	15	pCi/L	1			EPA 900.0	SYS	07/16/10
Radium-226	< 0.300	pCi/L	1			EPA 903.1	SYS	07/16/10
Radium-228	1.0	pCi/L	1			Brooks-Blanchard	SYS	07/16/10
Radon-222	236	pCi/L	1			SM 7500-Rn B	SYS	03/19/10

Approved By: 

Approved On: 12/29/2010 9:56:02 AM



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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
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Sample Site: DB07-21-2
Sampled: 03/15/10 at 12:05 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20100317102
Received: 03/15/10 at 04:20 PM
by Bobbie Laurenz
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst	Date
Physical Properties								
Electrical Conductivity	1630	µmhos/cm	1	0.349	5.00	EPA 120.1	JAM	03/17/10
pH	7.98	SU	1			SM 4500-H+ B	JAM	03/17/10
Total Dissolved Solids	1190	mg/L	100ml	13.7	50.0	SM 2540 C	NDM	03/17/10
Non-Metallics								
Alkalinity	200	mg/L	1	0.274	10.0	SM 2320 B	JAM	03/17/10
Bicarbonate	244	mg/L	1	0.334	10.0	SM 2320 B	JAM	03/17/10
Carbonate	0.00	mg/L	1	0.137	5.00	SM 2320 B	JAM	03/17/10
Chloride (Cl-)	10.3	mg/L	1	0.372	0.500	SM 4500-Cl B	PAT	03/17/10
Nitrogen, Ammonia (NH3)	< 0.050	mg/L	1	0.007	0.050	SM 4500-NH3 D	JAM	03/17/10
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.008	0.050	SM 4500-NO3 F	BLL	03/17/10
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL	03/17/10
Sulfate (SO4)	760	mg/L	10	2.84	10.0	SM 4500-SO4 E	BLL	03/17/10
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.0008	0.005	EPA 200.8	SAC	03/17/10
Cadmium (Cd)	< 0.001	mg/L	10	0.00007	0.001	EPA 200.8	SAC	03/17/10
Calcium (Ca)	177	mg/L	5	0.325	5.00	SM 3111 B	NMA	03/17/10
Chromium (Cr)	< 0.001	mg/L	10	0.00005	0.001	EPA 200.8 DRC	SAC	03/17/10
Copper (Cu)	< 0.005	mg/L	10	0.0004	0.005	EPA 200.8	SAC	03/17/10
Iron (Fe)	< 0.050	mg/L	10	0.005	0.050	EPA 200.8	SAC	03/17/10
Lead (Pb)	< 0.001	mg/L	10	0.00002	0.001	EPA 200.8	SAC	03/17/10
Magnesium (Mg)	54.5	mg/L	25	0.542	12.5	SM 3111 B	NMA	03/17/10
Molybdenum (Mo)	< 0.001	mg/L	10	0.000503	0.001	EPA 200.8	SAC	03/17/10
Potassium (K)	11.6	mg/L	5	1.07	2.50	SM 3111 B	NMA	03/17/10
Selenium (Se)	< 0.005	mg/L	10	0.002	0.005	EPA 200.8	SAC	03/17/10
Sodium (Na)	128	mg/L	5	1.03	2.50	SM 3111 B	NMA	03/17/10
Vanadium (V)	< 0.005	mg/L	10	0.00007	0.005	EPA 200.8	SAC	03/17/10
Zinc (Zn)	< 0.050	mg/L	10	0.003	0.050	EPA 200.8	SAC	03/17/10

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Uranium	0.009	mg/L	10	0.000027	0.001	EPA 200.8	SAC	03/17/10
Anion - Cation Balance								
Anions	20.1	meq/L	1			Calculation	GAM	03/18/10
Anion - Cation Balance	-2.35	%	1			Calculation	GAM	03/18/10
Cations	19.2	meq/L	1			Calculation	GAM	03/18/10
Radiological								
Gross Alpha	35.0	pCi/L	1			EPA 900.0	SYS	07/16/10
Gross Beta	23	pCi/L	1			EPA 900.0	SYS	07/16/10
Radium-226	0.900	pCi/L	1			EPA 903.1	SYS	07/16/10
Radium-228	6.5	pCi/L	1			Brooks-Blanchard	SYS	07/16/10
Radon-222	325	pCi/L	1			SM 7500-Rn B	SYS	03/19/10

Approved By: 

Approved On: 12/29/2010 9:56:02 AM



MIDCONTINENT
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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-15-3
Project Name: POWERTECH
Sampled: 05/21/08 at 12:00 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080523301
Received: 05/21/08 at 03:30 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1450	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM 05/23/08
pH	8.30	SU	1			SM 4500-H+ B	JAM 05/23/08
Total Dissolved Solids	914	mg/L	100ml	8.28	50.0	SM 2540 C	TMN 05/23/08
Non-Metallics							
Bicarbonate	219	mg/L	1	0.505	10.0	SM 2320 B	JAM 05/23/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	JAM 05/23/08
Chloride (Cl-)	13.0	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA 05/23/08
Nitrogen, Ammonia (NH3)	0.470	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM 05/23/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES 05/23/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES 05/23/08
Sulfate (SO4)	495	mg/L	4	10.5	40.0	EPA 375.2	DES 05/23/08
Metals - Dissolved							
Aluminum (Al)	0.026	mg/L	10	0.003	0.010	EPA 200.8	PAT 05/23/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT 05/23/08
Calcium (Ca)	33.3	mg/L	5	1.10	5.00	SM 3111 B	SAC 05/23/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT 05/23/08
Copper (Cu)	0.006	mg/L	10	0.000478	0.005	EPA 200.8	PAT 05/23/08
Iron (Fe)	0.102	mg/L	10	0.009	0.050	EPA 200.8	PAT 05/23/08
Magnesium (Mg)	9.75	mg/L	5	0.108	2.50	SM 3111 B	SAC 05/23/08
Molybdenum (Mo)	0.003	mg/L	10	0.000385	0.001	EPA 200.8	PAT 05/23/08
Potassium (K)	11.6	mg/L	5	0.890	2.50	SM 3111 B	SAC 05/23/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT 05/23/08
Sodium (Na)	253	mg/L	5	0.741	2.50	SM 3111 B	SAC 05/23/08
Metals - Total							
Uranium	< 0.001	mg/L	10	0.000041	0.001	EPA 200.8	PAT 05/23/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Anion - Cation Balance							
Anions	14.3	meq/L	1			Calculation	GAM 05/27/08
Anion - Cation Balance	-1.65	%	1			Calculation	GAM 05/27/08
Cations	13.8	meq/L	1			Calculation	GAM 05/27/08
Radiological							
Radium-226	1.3	pCi/L	1			E903.0	SYS 10/21/08
Radon-222	143	pCi/L	1			ASTM D5072-92	SYS 10/21/08

Notes:

Radon and Radium test performed by the State Health Lab.

Approved By: _____



Approved On: 10/21/2008 3:36:00 PM



MIDCONTINENT
TESTING LABORATORIES, INC.

Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB07-11-11C
Sampled: 05/21/08 at 01:00 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080523302
Received: 05/21/08 at 03:30 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	2620	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	05/23/08
pH	7.50	SU	1			SM 4500-H+ B	JAM	05/23/08
Total Dissolved Solids	2280	mg/L	100ml	8.28	50.0	SM 2540 C	TMN	05/23/08
Non-Metallics								
Bicarbonate	306	mg/L	1	0.505	10.0	SM 2320 B	JAM	05/23/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	JAM	05/23/08
Chloride (Cl-)	13.0	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA	05/23/08
Nitrogen, Ammonia (NH3)	0.119	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	05/23/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	05/23/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	05/23/08
Sulfate (SO4)	1420	mg/L	10	26.2	100	EPA 375.2	DES	05/23/08
Metals - Dissolved								
Aluminum (Al)	0.026	mg/L	10	0.003	0.010	EPA 200.8	PAT	05/23/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	05/23/08
Calcium (Ca)	400	mg/L	5	1.10	5.00	SM 3111 B	SAC	05/27/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	05/23/08
Copper (Cu)	0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	05/23/08
Iron (Fe)	0.276	mg/L	10	0.009	0.050	EPA 200.8	PAT	05/23/08
Magnesium (Mg)	120	mg/L	5	0.108	2.50	SM 3111 B	SAC	05/23/08
Molybdenum (Mo)	< 0.001	mg/L	10	0.000385	0.001	EPA 200.8	PAT	05/23/08
Potassium (K)	19.4	mg/L	5	0.890	2.50	SM 3111 B	SAC	05/23/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	05/23/08
Sodium (Na)	116	mg/L	5	0.741	2.50	SM 3111 B	SAC	05/23/08
Metals - Total								
Uranium	0.025	mg/L	10	0.000041	0.001	EPA 200.8	PAT	05/23/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	34.8	meq/L	1			Calculation	GAM	05/27/08
Anion - Cation Balance	0.763	%	1			Calculation	GAM	05/27/08
Cations	35.4	meq/L	1			Calculation	GAM	05/27/08
Radiological								
Radium-226	1400	pCi/L	1			E903.0	SYS	10/21/08
Radon-222	1380	pCi/L	1			ASTM D5072-92	SYS	10/21/08

Notes:

Radon and Radium test performed by the State Health Lab.

Approved By: _____



Approved On: 10/21/2008 3:36:00 PM



MIDCONTINENT
TESTING LABORATORIES, INC.

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2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-32-3C
Sampled: 05/18/08 at 11:35 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080520101
Received: 05/19/08 at 08:10 AM
by Dana Smith
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst	Date
Physical Properties								
Electrical Conductivity	1370	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	05/20/08
pH	7.91	SU	1			SM 4500-H+ B	JAM	05/20/08
Total Dissolved Solids	902	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	05/21/08
Non-Metallics								
Bicarbonate	211	mg/L	1	0.505	10.0	SM 2320 B	JAM	05/20/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	JAM	05/20/08
Chloride (Cl-)	17.0	mg/L	1	0.453	0.500	SM 4500-Cl B	NMA	05/20/08
Nitrogen, Ammonia (NH3)	0.116	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	05/20/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	05/20/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	05/20/08
Sulfate (SO4)	473	mg/L	4	10.5	40.0	EPA 375.2	DES	05/20/08
Metals - Dissolved								
Aluminum (Al)	0.053	mg/L	10	0.003	0.010	EPA 200.8	PAT	05/20/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	05/20/08
Calcium (Ca)	74.8	mg/L	1	0.219	1.00	SM 3111 B	SAC	05/21/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	05/20/08
Copper (Cu)	0.006	mg/L	10	0.000478	0.005	EPA 200.8	PAT	05/20/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	PAT	05/20/08
Magnesium (Mg)	21.3	mg/L	5	0.108	2.50	SM 3111 B	SAC	05/20/08
Molybdenum (Mo)	0.002	mg/L	10	0.000385	0.001	EPA 200.8	PAT	05/20/08
Potassium (K)	10.0	mg/L	5	0.890	2.50	SM 3111 B	SAC	05/20/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	05/20/08
Sodium (Na)	174	mg/L	10	1.48	5.00	SM 3111 B	SAC	05/20/08
Metals - Total								
Uranium	0.010	mg/L	10	0.000041	0.001	EPA 200.8	PAT	05/20/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Anion - Cation Balance							
Anions	13.8	meq/L	1			Calculation	GAM 05/21/08
Anion - Cation Balance	-1.71	%	1			Calculation	GAM 05/21/08
Cations	13.3	meq/L	1			Calculation	GAM 05/21/08
Radiological							
Radium-226	Pending	pCi/L	1			E903.0	
Radon-222	Pending	pCi/L	1			ASTM D5072-92	

Notes:

Dewey Pump Test- end sample

Approved By: _____



Approved On: 5/21/2008 11:11:50 AM



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-11-17
Sampled: 05/18/08 at 03:15 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080520102
Received: 05/19/08 at 08:10 AM
by Dana Smith
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	2590	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	05/20/08
pH	7.78	SU	1			SM 4500-H+ B	JAM	05/20/08
Total Dissolved Solids	2240	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	05/21/08
Non-Metallics								
Bicarbonate	313	mg/L	1	0.505	10.0	SM 2320 B	JAM	05/20/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	JAM	05/20/08
Chloride (Cl-)	13.5	mg/L	1	0.453	0.500	SM 4500-Cl B	NMA	05/20/08
Nitrogen, Ammonia (NH3)	0.131	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	05/20/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	05/20/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	05/20/08
Sulfate (SO4)	1380	mg/L	10	26.2	100	EPA 375.2	DES	05/20/08
Metals - Dissolved								
Aluminum (Al)	0.048	mg/L	10	0.003	0.010	EPA 200.8	PAT	05/20/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	05/20/08
Calcium (Ca)	394	mg/L	5	1.10	5.00	SM 3111 B	SAC	05/21/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	05/20/08
Copper (Cu)	0.007	mg/L	10	0.000478	0.005	EPA 200.8	PAT	05/20/08
Iron (Fe)	< 0.050	mg/L	10	0.009	0.050	EPA 200.8	PAT	05/20/08
Magnesium (Mg)	116	mg/L	5	0.108	2.50	SM 3111 B	SAC	05/20/08
Molybdenum (Mo)	< 0.001	mg/L	10	0.000385	0.001	EPA 200.8	PAT	05/20/08
Potassium (K)	18.4	mg/L	5	0.890	2.50	SM 3111 B	SAC	05/20/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	05/20/08
Sodium (Na)	113	mg/L	5	0.741	2.50	SM 3111 B	SAC	05/20/08
Metals - Total								
Uranium	0.026	mg/L	10	0.000041	0.001	EPA 200.8	PAT	05/20/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Anion - Cation Balance							
Anions	34.2	meq/L	1			Calculation	GAM 05/21/08
Anion - Cation Balance	0.540	%	1			Calculation	GAM 05/21/08
Cations	34.6	meq/L	1			Calculation	GAM 05/21/08
Radiological							
Radium-226	Pending	pCi/L	1			E903.0	
Radon-222	Pending	pCi/L	1			ASTM D5072-92	

Notes:

Burdock Pump Test- start sample

Approved By: _____



Approved On: 5/21/2008 11:11:50 AM



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB08-15-3
Project Name: POWERTECH
Sampled: 05/21/08 at 12:00 PM
by Mark Keenihan
Sample Matrix: Water

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Lab ID#: 20080523301
Received: 05/21/08 at 03:30 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1450	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM 05/23/08
pH	8.30	SU	1			SM 4500-H+ B	JAM 05/23/08
Total Dissolved Solids	914	mg/L	100ml	8.28	50.0	SM 2540 D	TMN 05/23/08
Non-Metallics							
Bicarbonate	219	mg/L	1	0.505	10.0	SM 2320 B	JAM 05/23/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	JAM 05/23/08
Chloride (Cl-)	13.0	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA 05/23/08
Nitrogen, Ammonia (NH3)	0.470	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM 05/23/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES 05/23/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES 05/23/08
Sulfate (SO4)	495	mg/L	4	10.5	40.0	EPA 375.2	DES 05/23/08
Metals - Dissolved							
Aluminum (Al)	0.026	mg/L	10	0.003	0.010	EPA 200.8	PAT 05/23/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT 05/23/08
Calcium (Ca)	33.3	mg/L	5	1.10	5.00	SM 3111 B	SAC 05/23/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT 05/23/08
Copper (Cu)	0.006	mg/L	10	0.000478	0.005	EPA 200.8	PAT 05/23/08
Iron (Fe)	0.102	mg/L	10	0.009	0.050	EPA 200.8	PAT 05/23/08
Magnesium (Mg)	9.75	mg/L	5	0.108	2.50	SM 3111 B	SAC 05/23/08
Molybdenum (Mo)	0.003	mg/L	10	0.000385	0.001	EPA 200.8	PAT 05/23/08
Potassium (K)	11.6	mg/L	5	0.890	2.50	SM 3111 B	SAC 05/23/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT 05/23/08
Sodium (Na)	253	mg/L	5	0.741	2.50	SM 3111 B	SAC 05/23/08
Metals - Total							
Uranium	< 0.001	mg/L	10	0.000041	0.001	EPA 200.8	PAT 05/23/08
Anion - Cation Balance							
Anions	14.3	meq/L	1			Calculation	GAM 05/27/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anion - Cation Balance	-1.65	%	1			Calculation	GAM	05/27/08
Cations	13.8	meq/L	1			Calculation	GAM	05/27/08
Radiological								
Radium-226	Pending	pCi/L	1			E903.0		
Radon-222	Pending	pCi/L	1			ASTM D5072-92		

Approved By: _____



Approved On: 5/27/2008 1:45:10 PM



MIDCONTINENT
TESTING LABORATORIES, INC.

Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB07-11-11C
Sampled: 05/21/08 at 01:00 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080523302
Received: 05/21/08 at 03:30 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	2620	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	05/23/08
pH	7.50	SU	1			SM 4500-H+ B	JAM	05/23/08
Total Dissolved Solids	2280	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	05/23/08
Non-Metallics								
Bicarbonate	306	mg/L	1	0.505	10.0	SM 2320 B	JAM	05/23/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	JAM	05/23/08
Chloride (Cl-)	13.0	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA	05/23/08
Nitrogen, Ammonia (NH3)	0.119	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	05/23/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	05/23/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	05/23/08
Sulfate (SO4)	1420	mg/L	10	26.2	100	EPA 375.2	DES	05/23/08
Metals - Dissolved								
Aluminum (Al)	0.026	mg/L	10	0.003	0.010	EPA 200.8	PAT	05/23/08
Cadmium (Cd)	< 0.001	mg/L	10	0.000202	0.001	EPA 200.8	PAT	05/23/08
Calcium (Ca)	400	mg/L	5	1.10	5.00	SM 3111 B	SAC	05/27/08
Chromium (Cr)	< 0.001	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	05/23/08
Copper (Cu)	0.005	mg/L	10	0.000478	0.005	EPA 200.8	PAT	05/23/08
Iron (Fe)	0.276	mg/L	10	0.009	0.050	EPA 200.8	PAT	05/23/08
Magnesium (Mg)	120	mg/L	5	0.108	2.50	SM 3111 B	SAC	05/23/08
Molybdenum (Mo)	< 0.001	mg/L	10	0.000385	0.001	EPA 200.8	PAT	05/23/08
Potassium (K)	19.4	mg/L	5	0.890	2.50	SM 3111 B	SAC	05/23/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	PAT	05/23/08
Sodium (Na)	116	mg/L	5	0.741	2.50	SM 3111 B	SAC	05/23/08
Metals - Total								
Uranium	0.025	mg/L	10	0.000041	0.001	EPA 200.8	PAT	05/23/08
Anion - Cation Balance								
Anions	34.8	meq/L	1			Calculation	GAM	05/27/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anion - Cation Balance	0.763	%	1			Calculation	GAM	05/27/08
Cations	35.4	meq/L	1			Calculation	GAM	05/27/08
Radiological								
Radium-226	Pending	pCi/L	1			E903.0		
Radon-222	Pending	pCi/L	1			ASTM D5072-92		

Approved By: _____



Approved On: 5/27/2008 1:45:10 PM



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB08-15-3
Project Name: POWERTECH
Sampled: 09/23/08 at 09:10 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080924307
Received: 09/23/08 at 02:45 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1440	µmhos/cm	1	0.299	5.00	EPA 120.1	JAM	09/24/08
pH	8.16	SU	1			SM 4500-H+ B	JAM	09/24/08
Total Dissolved Solids	871	mg/L	100ml	11.0	50.0	SM 2540 C	TMN	09/24/08
Non-Metallics								
Alkalinity	182	mg/L	1	0.510	10.0	SM 2320 B	JAM	09/24/08
Bicarbonate	222	mg/L	1	0.622	10.0	SM 2320 B	JAM	09/24/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	JAM	09/24/08
Chloride (Cl-)	14.3	mg/L	1	0.453	0.500	SM 4500-Cl B	AJS	09/24/08
Nitrogen, Ammonia (NH3)	0.466	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	09/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	09/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	09/24/08
Sulfate (SO4)	509	mg/L	5	26.2	50.0	EPA 375.2	BLL	09/24/08
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.0003	0.005	EPA 200.8	SAC	09/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.0002	0.001	EPA 200.8	SAC	09/24/08
Calcium (Ca)	37.7	mg/L	5	0.312	5.00	SM 3111 B	NMA	09/25/08
Chromium (Cr)	< 0.001	mg/L	10	0.0001	0.001	EPA 200.8 DRC	SAC	09/25/08
Copper (Cu)	< 0.005	mg/L	10	0.00015	0.005	EPA 200.8	SAC	09/24/08
Iron (Fe)	< 0.050	mg/L	10	0.010	0.050	EPA 200.8	SAC	09/24/08
Lead (Pb)	< 0.001	mg/L	10	0.0001	0.001	EPA 200.8	SAC	09/24/08
Magnesium (Mg)	10.7	mg/L	1	0.097	0.500	SM 3111 B	NMA	09/25/08
Molybdenum (Mo)	0.003	mg/L	10	0.000503	0.001	EPA 200.8	SAC	09/24/08
Potassium (K)	10.7	mg/L	5	0.524	2.50	SM 3111 B	NMA	09/25/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	09/24/08
Sodium (Na)	253	mg/L	10	1.62	5.00	SM 3111 B	NMA	09/24/08
Metals - Total								
Uranium	< 0.001	µg/L	10	0.027	1.00	EPA 200.8	SAC	09/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	14.6	meq/L	1			Calculation	GAM	09/25/08
Anion - Cation Balance	-2.04	%	1			Calculation	GAM	09/25/08
Cations	14.0	meq/L	1			Calculation	GAM	09/25/08
Radiological								
Radium-226	0.50	pCi/L	1			EPA 903.1	SYS	03/26/09
Radium-228	1.2	pCi/L	1			Brooks-Blanchard	SYS	03/26/09
Radon-222	303	pCi/L	1			SM 7500-Rn B	SYS	12/05/08

Approved By: 

Approved On: 3/27/2009 10:05:44 AM

**MIDCONTINENT**

TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: DB08-15-2
Project Name: POWERTECH
Sampled: 09/23/08 at 10:00 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080924308
Received: 09/23/08 at 02:45 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1420	µmhos/cm	1	0.299	5.00	EPA 120.1	JAM	09/24/08
pH	7.92	SU	1			SM 4500-H+ B	JAM	09/24/08
Total Dissolved Solids	898	mg/L	100ml	11.0	50.0	SM 2540 C	TMN	09/24/08
Non-Metallics								
Alkalinity	206	mg/L	1	0.510	10.0	SM 2320 B	JAM	09/24/08
Bicarbonate	252	mg/L	1	0.622	10.0	SM 2320 B	JAM	09/24/08
Carbonate	0.00	mg/L	1	0.255	5.00	SM 2320 B	JAM	09/24/08
Chloride (Cl-)	10.3	mg/L	1	0.453	0.500	SM 4500-Cl B	AJS	09/24/08
Nitrogen, Ammonia (NH3)	0.304	mg/L	1	0.005	0.050	SM 4500-NH3 D	JAM	09/24/08
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.012	0.050	SM 4500-NO3 F	BLL	09/24/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL	09/24/08
Sulfate (SO4)	474	mg/L	5	26.2	50.0	EPA 375.2	BLL	09/24/08
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.0003	0.005	EPA 200.8	SAC	09/24/08
Cadmium (Cd)	< 0.001	mg/L	10	0.0002	0.001	EPA 200.8	SAC	09/24/08
Calcium (Ca)	95.6	mg/L	10	0.624	10.0	SM 3111 B	NMA	09/24/08
Chromium (Cr)	< 0.001	mg/L	10	0.0001	0.001	EPA 200.8 DRC	SAC	09/25/08
Copper (Cu)	0.005	mg/L	10	0.00015	0.005	EPA 200.8	SAC	09/24/08
Iron (Fe)	0.055	mg/L	10	0.010	0.050	EPA 200.8	SAC	09/24/08
Lead (Pb)	< 0.001	mg/L	10	0.0001	0.001	EPA 200.8	SAC	09/24/08
Magnesium (Mg)	33.7	mg/L	5	0.487	2.50	SM 3111 B	NMA	09/25/08
Molybdenum (Mo)	0.001	mg/L	10	0.000503	0.001	EPA 200.8	SAC	09/24/08
Potassium (K)	12.6	mg/L	10	1.05	5.00	SM 3111 B	NMA	09/24/08
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA 200.8	SAC	09/24/08
Sodium (Na)	158	mg/L	5	0.810	2.50	SM 3111 B	NMA	09/25/08
Metals - Total								
Uranium	< 0.001	µg/L	10	0.027	1.00	EPA 200.8	SAC	09/24/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	14.3	meq/L	1			Calculation	GAM	09/25/08
Anion - Cation Balance	1.63	%	1			Calculation	GAM	09/25/08
Cations	14.8	meq/L	1			Calculation	GAM	09/25/08
Radiological								
Radium-226	1.9	pCi/L	1			EPA 903.1	SYS	03/26/09
Radium-228	< 0.60	pCi/L	1			Brooks-Blanchard	SYS	03/26/09
Radon-222	539	pCi/L	1			SM 7500-Rn B	SYS	12/05/08

Approved By: 

Approved On: 3/27/2009 10:05:44 AM



**DIVISION OF
ADMINISTRATION**
Public Health Laboratory

615 East Fourth Street
Pierre, South Dakota 57501-1700
605/773-3368 FAX: 605/773-6129
www.state.sd.us/doh/lab/index.htm

Submitter copy to:

* Page 1 of 1*
Date: 12/5/2008

MIDCONTINENT TESTING-93484
GREG MCDOUGALL
PO BOX 3388
RAPID CITY, SD 57709

Spec #: E08EC006938
Subm #:
Lab: ENV CHEMISTRY
Tel #: (605) 773-3368

Source
MIDCONTINENT TESTING

Date Rcvd: 9/24/2008
Time Rcvd: 0952
Date Coll: 9/23/2008
Time Coll: 1000

Spec Type: WATER
Coll By: GREG MCDOUGALL
Tap Location: 20080924308

Final Results

Radon-Water

539 pCi/L



**DIVISION OF
ADMINISTRATION**
Public Health Laboratory

615 East Fourth Street
Pierre, South Dakota 57501-1700
605/773-3368 FAX: 605/773-6129
www.state.sd.us/doh/lab/index.htm

Submitter copy to:

* Page 1 of 1*
Date: 12/5/2008

MIDCONTINENT TESTING-93484
GREG MCDOUGALL
PO BOX 3388
RAPID CITY, SD 57709

Spec #: E08EC006937
Subm #:
Lab: ENV CHEMISTRY
Tel #: (605) 773-3368

Source
MIDCONTINENT TESTING

Date Rcvd: 9/24/2008
Time Rcvd: 0952
Date Coll: 9/23/2008
Time Coll: 0910

Spec Type: WATER
Coll By: GREG
Tap Location: 20080924307

Final Results

Radon-Water

303 pCi/L



**DIVISION OF
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Public Health Laboratory

615 East Fourth Street
Pierre, South Dakota 57501-1700
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www.state.sd.us/doh/lab/index.htm

Submitter copy to:

* Page 1 of 1*
Date: 3/26/2009

MID-CONTINENT TESTING LAB-92942
2381 S PLAZA DR
PO BOX 3388
RAPID CITY, SD 57709

Spec #: E08EC007072
Subm #:
Lab: ENV CHEMISTRY
Tel #: (605) 773-3368

Source
MID-CONTINENT TESTING LAB

Date Rcvd: 9/26/2008
Time Rcvd: 0959
Date Coll: 9/23/2008

Spec Type: WATER
Tap Location: 20080924308

Final Results

radium-228
Radium-226

<0.6 +/-0.3 pCi/L
1.9 +/- 0.5 pCi/L



**DIVISION OF
ADMINISTRATION**
Public Health Laboratory

615 East Fourth Street
Pierre, South Dakota 57501-1700
605/773-3368 FAX: 605/773-6129
www.state.sd.us/doh/lab/index.htm

Submitter copy to:

* Page 1 of 1*
Date: 3/26/2009

MID-CONTINENT TESTING LAB-92942
2381 S PLAZA DR
PO BOX 3388
RAPID CITY, SD 57709

Spec #: E08EC007071
Subm #:
Lab: ENV CHEMISTRY
Tel #: (605) 773-3368

Source
MID-CONTINENT TESTING LAB

Date Rcvd: 9/26/2008
Time Rcvd: 0959
Date Coll: 9/23/2008

Spec Type: WATER
Tap Location: 20080924307

Final Results

radium-228
Radium-226

1.2 +/- 0.3 pCi/L
0.5 +/- 0.2 pCi/L



MIDCONTINENT
TESTING LABORATORIES, INC.

Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB09-21-1
Sampled: 09/28/10 at 11:30 AM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20100929301
Received: 09/28/10 at 04:03 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1420	µmhos/cm	1	0.349	5.00	EPA 120.1	JAM	09/29/10
pH	7.95	SU	1			SM 4500-H+ B	JAM	09/29/10
Total Dissolved Solids	957	mg/L	100ml	23.1	50.0	SM 2540 C	TMN	09/30/10
Non-Metallics								
Alkalinity	172	mg/L	1	0.274	10.0	SM 2320 B	JAM	09/29/10
Bicarbonate	210	mg/L	1	0.334	10.0	SM 2320 B	JAM	09/29/10
Carbonate	0.00	mg/L	1	0.137	5.00	SM 2320 B	JAM	09/29/10
Chloride (Cl-)	6.48	mg/L	1	0.196	0.500	SM 4500-Cl E	BLL	09/29/10
Nitrogen, Ammonia (NH3)	0.194	mg/L	1	0.007	0.050	SM 4500-NH3 D	JAM	09/29/10
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.008	0.050	SM 4500-NO3 F	BLL	09/29/10
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL	09/29/10
Sulfate (SO4)	578	mg/L	10	2.84	10.0	SM 4500-SO4 E	BLL	09/29/10
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.0008	0.005	EPA 200.8	SAC	09/29/10
Cadmium (Cd)	< 0.001	mg/L	10	0.00007	0.001	EPA 200.8	SAC	09/29/10
Calcium (Ca)	102	mg/L	10	1.47	10.0	SM 3111 B	NMA	09/30/10
Chromium (Cr)	< 0.001	mg/L	10	0.00005	0.001	EPA 200.8 DRC	SAC	09/29/10
Copper (Cu)	< 0.005	mg/L	10	0.0004	0.005	EPA 200.8	SAC	09/29/10
Iron (Fe)	0.056	mg/L	10	0.005	0.050	EPA 200.8	SAC	09/29/10
Lead (Pb)	< 0.001	mg/L	10	0.00002	0.001	EPA 200.8	SAC	09/29/10
Magnesium (Mg)	34.0	mg/L	5	0.157	2.50	SM 3111 B	NMA	09/29/10
Molybdenum (Mo)	< 0.001	mg/L	10			EPA 200.8	SAC	09/29/10
Potassium (K)	11.4	mg/L	5	0.620	2.50	SM 3111 B	NMA	09/29/10
Selenium (Se)	< 0.005	mg/L	10	0.002	0.005	EPA 200.8	SAC	09/29/10
Sodium (Na)	179	mg/L	5	0.610	2.50	SM 3111 B	NMA	09/29/10
Vanadium (V)	< 0.005	mg/L	10	0.00007	0.005	EPA 200.8	SAC	09/29/10
Zinc (Zn)	< 0.050	mg/L	10	0.003	0.050	EPA 200.8	SAC	09/29/10

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Metals - Total							
Uranium	< 0.001	mg/L	10			EPA 200.8	SAC 09/29/10
Anion - Cation Balance							
Anions	15.6	meq/L	1			Calculation	GAM 09/30/10
Anion - Cation Balance	1.03	%	1			Calculation	GAM 09/30/10
Cations	16.0	meq/L	1			Calculation	GAM 09/30/10
Radiological							
Gross Alpha	14.6	pCi/L	1			EPA 900.0	SYS 01/24/11
Gross Beta	15.3	pCi/L	1			EPA 900.0	SYS 01/24/11
Radium-226	1.70	pCi/L	1			EPA 903.1	SYS 01/24/11
Radium-228	< 0.80	pCi/L	1			Brooks-Blanchard	SYS 01/24/11
Radon-222	226	pCi/L	1			SM 7500-Rn B	SYS 10/08/10

Notes:

Nutrient and Filtered Metal bottles made in lab.

Approved By: _____



Approved On: 1/31/2011 2:49:29 PM



MIDCONTINENT
TESTING LABORATORIES, INC.

Page 1 of 2

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: DB09-21-2
Sampled: 09/28/10 at 12:00 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20100929302
Received: 09/28/10 at 04:03 PM
by Greg McDougall
Account: W1008
DENR - Minerals & Mining


MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	1630	µmhos/cm	1	0.349	5.00	EPA 120.1	JAM	09/29/10
pH	7.78	SU	1			SM 4500-H+ B	JAM	09/29/10
Total Dissolved Solids	1190	mg/L	100ml	23.1	50.0	SM 2540 C	TMN	09/30/10
Non-Metallics								
Alkalinity	199	mg/L	1	0.274	10.0	SM 2320 B	JAM	09/29/10
Bicarbonate	243	mg/L	1	0.334	10.0	SM 2320 B	JAM	09/29/10
Carbonate	0.00	mg/L	1	0.137	5.00	SM 2320 B	JAM	09/29/10
Chloride (Cl-)	9.04	mg/L	1	0.196	0.500	SM 4500-Cl E	BLL	09/29/10
Nitrogen, Ammonia (NH3)	< 0.050	mg/L	1	0.007	0.050	SM 4500-NH3 D	JAM	09/29/10
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.008	0.050	SM 4500-NO3 F	BLL	09/29/10
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	BLL	09/29/10
Sulfate (SO4)	709	mg/L	10	2.84	10.0	SM 4500-SO4 E	BLL	09/29/10
Metals - Dissolved								
Arsenic (As)	< 0.005	mg/L	10	0.0008	0.005	EPA 200.8	SAC	09/29/10
Cadmium (Cd)	< 0.001	mg/L	10	0.00007	0.001	EPA 200.8	SAC	09/29/10
Calcium (Ca)	170	mg/L	10	1.47	10.0	SM 3111 B	NMA	09/30/10
Chromium (Cr)	< 0.001	mg/L	10	0.00005	0.001	EPA 200.8 DRC	SAC	09/29/10
Copper (Cu)	< 0.005	mg/L	10	0.0004	0.005	EPA 200.8	SAC	09/29/10
Iron (Fe)	< 0.050	mg/L	10	0.005	0.050	EPA 200.8	SAC	09/29/10
Lead (Pb)	< 0.001	mg/L	10	0.00002	0.001	EPA 200.8	SAC	09/29/10
Magnesium (Mg)	46.8	mg/L	5	0.157	2.50	SM 3111 B	NMA	09/29/10
Molybdenum (Mo)	< 0.001	mg/L	10			EPA 200.8	SAC	09/29/10
Potassium (K)	11.5	mg/L	5	0.620	2.50	SM 3111 B	NMA	09/29/10
Selenium (Se)	< 0.005	mg/L	10	0.002	0.005	EPA 200.8	SAC	09/29/10
Sodium (Na)	152	mg/L	5	0.610	2.50	SM 3111 B	NMA	09/29/10
Vanadium (V)	< 0.005	mg/L	10	0.00007	0.005	EPA 200.8	SAC	09/29/10
Zinc (Zn)	< 0.050	mg/L	10	0.003	0.050	EPA 200.8	SAC	09/29/10

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Uranium	0.008	mg/L	10			EPA 200.8	SAC	09/29/10
Anion - Cation Balance								
Anions	19.0	meq/L	1			Calculation	GAM	09/30/10
Anion - Cation Balance	0.652	%	1			Calculation	GAM	09/30/10
Cations	19.2	meq/L	1			Calculation	GAM	09/30/10
Radiological								
Gross Alpha	35.3	pCi/L	1			EPA 900.0	SYS	01/24/11
Gross Beta	27.0	pCi/L	1			EPA 900.0	SYS	01/24/11
Radium-226	1.40	pCi/L	1			EPA 903.1	SYS	01/24/11
Radium-228	6.5	pCi/L	1			Brooks-Blanchard	SYS	01/24/11
Radon-222	301	pCi/L	1			SM 7500-Rn B	SYS	10/08/10

Notes:

Nutrient and Filtered Metal bottles made in lab.

Approved By: 

Approved On: 1/31/2011 2:49:29 PM

Hudson, Roberta

From: Lisa Scheinost <escheinost@mail.powertechuranium.com>
Sent: Monday, May 23, 2011 11:32 AM
To: Hudson, Roberta
Cc: Mark Hollenbeck; Jim Munro
Subject: re: fw: Powertech Sample Results

Thank you, Roberta. Thought I would send a quick note letting you know we received your email. We appreciate you sending the groundwater split sample data.

There are a couple of notes on your samples, if you are interested. DB08-32-3C sampled May 18, 2008 was collected from DB07-32-3C (also known by Powertech as Hydro ID 681). DB07-21-1 sampled March 15, 2010 was collected from DB09-21-1 (also known by Powertech as Hydro ID 705). This may help you later to compare DENR data with Powertech's.

Also, the sample Powertech collected from DB09-21-1 in December 2009 was possibly switched, either in the lab or in the field, with the sample Powertech collected from DB09-21-2. As a result, we added a month to the end of our sampling period and collected samples each month from Jan 2010 through Dec 2010. Powertech is not planning to report the December 2009 data. I mention this because there was a DENR split sample collected in December 2009.

Please let me know if you have questions and thank you again for sending the data.

Lisa Scheinost
Dewey-Burdock Operations Office
Powertech (USA) Inc.
P.O. Box 812
Edgemont, SD 57735
p: 605-662-8308
f: 605-662-8368
escheinost@powertechuranium.com
www.powertechuranium.com

From: "Mark Hollenbeck" <mhollenbeck@mail.powertechuranium.com>
Sent: Monday, May 23, 2011 8:22 AM
To: "Lisa Scheinost" <escheinost@mail.powertechuranium.com>
Subject: fw: Powertech Sample Results

From: Roberta.Hudson@state.sd.us
Sent: Friday, May 20, 2011 9:28 AM
To: mhollenbeck@powertechuranium.com
Subject: Powertech Sample Results

Mark,

Here are the sample results for the samples we grabbed from the Dewey Burdock area. Let me know if you have any questions!

Roberta Hudson

Natural Resources Project Engineer
Minerals and Mining Program

Hudson, Roberta

From: Cepak, Mike
Sent: Thursday, December 08, 2011 4:38 PM
To: Lees, Michael; Hudson, Roberta; Holm, Eric
Subject: FW: Powertech to give presentation on its Ground Water Model to NRC Wednesday 12/7
Attachments: 2011.12.07 Groundwater model presentation_ML113400012[1].pdf

From: Hicks, Matt
Sent: Thursday, December 08, 2011 4:16 PM
To: Walsh, Brian; Brandner, Tom
Cc: Cepak, Mike
Subject: RE: Powertech to give presentation on its Ground Water Model to NRC Wednesday 12/7

Attached is reported to be Powertech's presentation, however this copy was obtained from powertechexposed.com.

From: Walsh, Brian
Sent: Thursday, December 08, 2011 1:06 PM
To: Brandner, Tom; Hicks, Matt
Subject: RE: Powertech to give presentation on its Ground Water Model to NRC Wednesday 12/7

Not me

From: Brandner, Tom
Sent: Thursday, December 08, 2011 12:10 PM
To: Hicks, Matt; Walsh, Brian
Subject: RE: Powertech to give presentation on its Ground Water Model to NRC Wednesday 12/7

Either of you guys hear how this went?

From: Hicks, Matt
Sent: Monday, December 05, 2011 2:06 PM
To: Markley, Bill; Brandner, Tom; Walsh, Brian
Subject: FW: Powertech to give presentation on its Ground Water Model to NRC Wednesday 12/7

FYI

From: Cepak, Mike
Sent: Monday, December 05, 2011 1:21 PM
To: Lees, Michael; Walsh, Brian; Hicks, Matt; Hudson, Roberta
Cc: Cepak, Mike
Subject: Powertech to give presentation on its Ground Water Model to NRC Wednesday 12/7

Richard Blubaugh told me today that Powertech will be presenting its ground water model to NRC on Wednesday morning at 8:00 AM CT. If we want to listen in on the presentation, we need to call Ron Burrows, NRC, at 301-414-6443 to get the call in number.

12/07/11 [Meeting notice and agenda](#)

NRC One White Flint Ron Burrows

09:00AM Discuss Powertech's Hydrological Model for the Dewey-Burdock
- Project. [\[more...\]](#)

12:00PM

Participation: Category 1

North

O-6B4

11555 Rockville Pike
Rockville MD

301-415-

6443



Teleconference

Groundwater Model Status Report

Powertech Dewey-Burdock Uranium In Situ Recovery Project

Fall River and Custer Counties, South Dakota

December 7, 2011

Note: This presentation of the hydrogeological model and preliminary results is a continuation and follow-up of the April 7-8, 2011 public meeting wherein Powertech agreed to develop a model for the proposed Dewey-Burdock Project and present the results to NRC staff. This presentation is preliminary in nature and is not a final product. It is subject to change based upon comments by the NRC staff and finalization of technical details by the consultant. Consequently, this presentation is not intended to be relied upon by the NRC staff nor any of the parties involved in the ongoing litigation regarding the proposed Dewey-Burdock Project and Powertech's application for a uranium recovery license from the NRC as it is not part of the application currently.

Dewey-Burdock Model Objectives (I)

Per Request by NRC

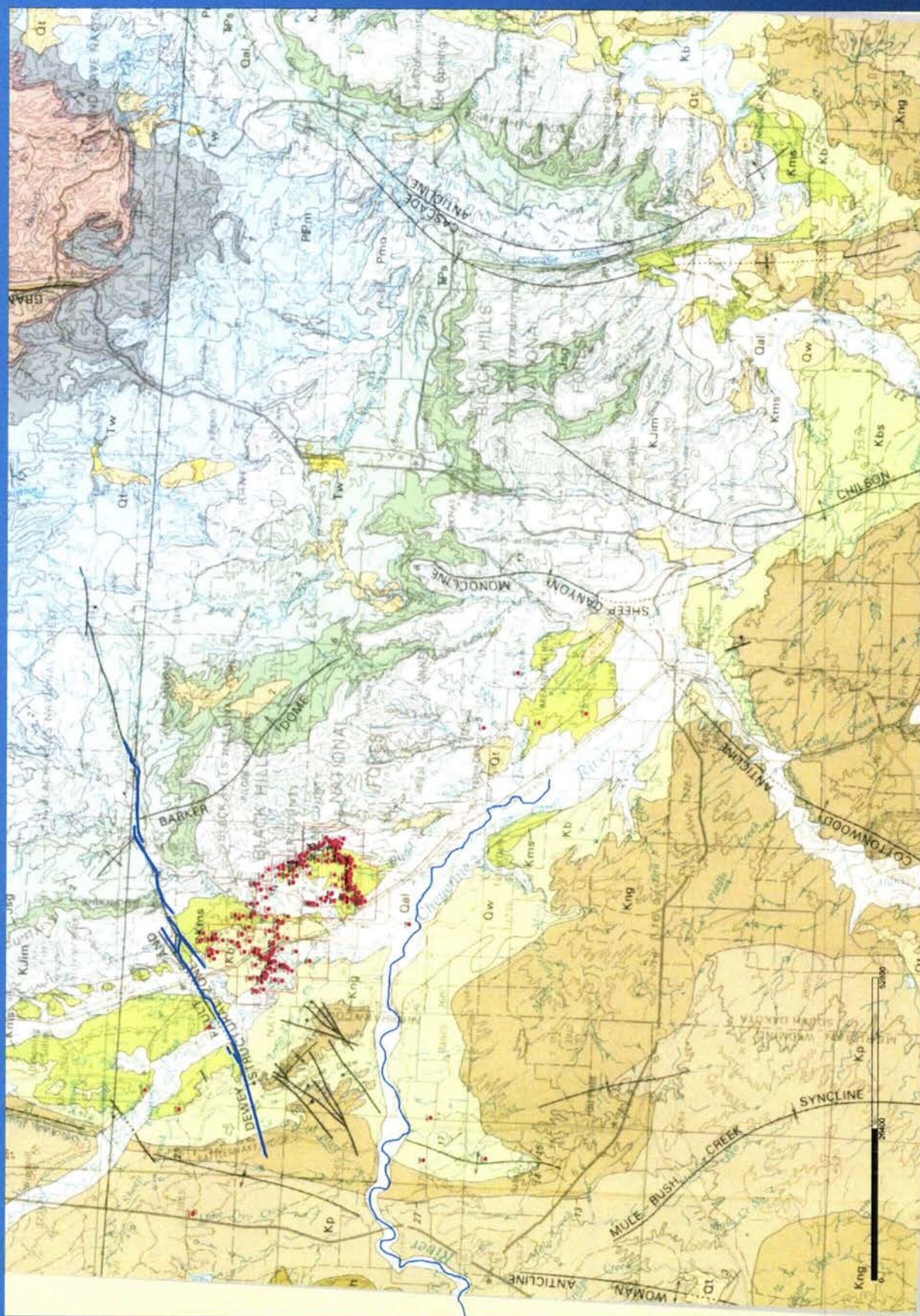
Regional Groundwater Flow Model

- Better Define Recharge/Discharge Boundaries
- Evaluate Regional Flow
- Assess Water Budget
 - available and sustainable resources
 - potential long term impacts to aquifers from ISR operations
- Assess Hypothetical Pathways
 - Breccia Pipes

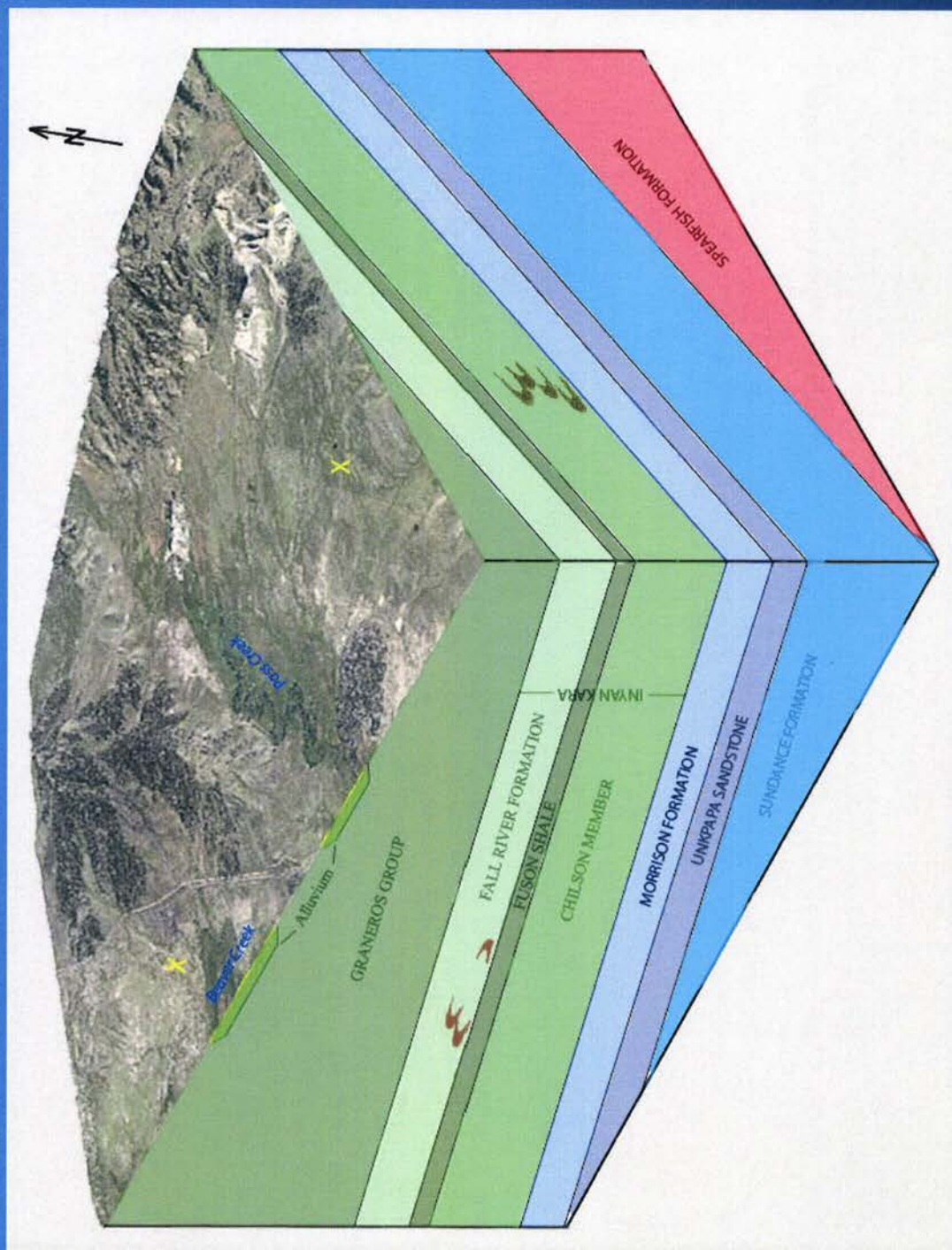
Dewey-Burdock Model Objectives (II)

Wellfield Scale Model

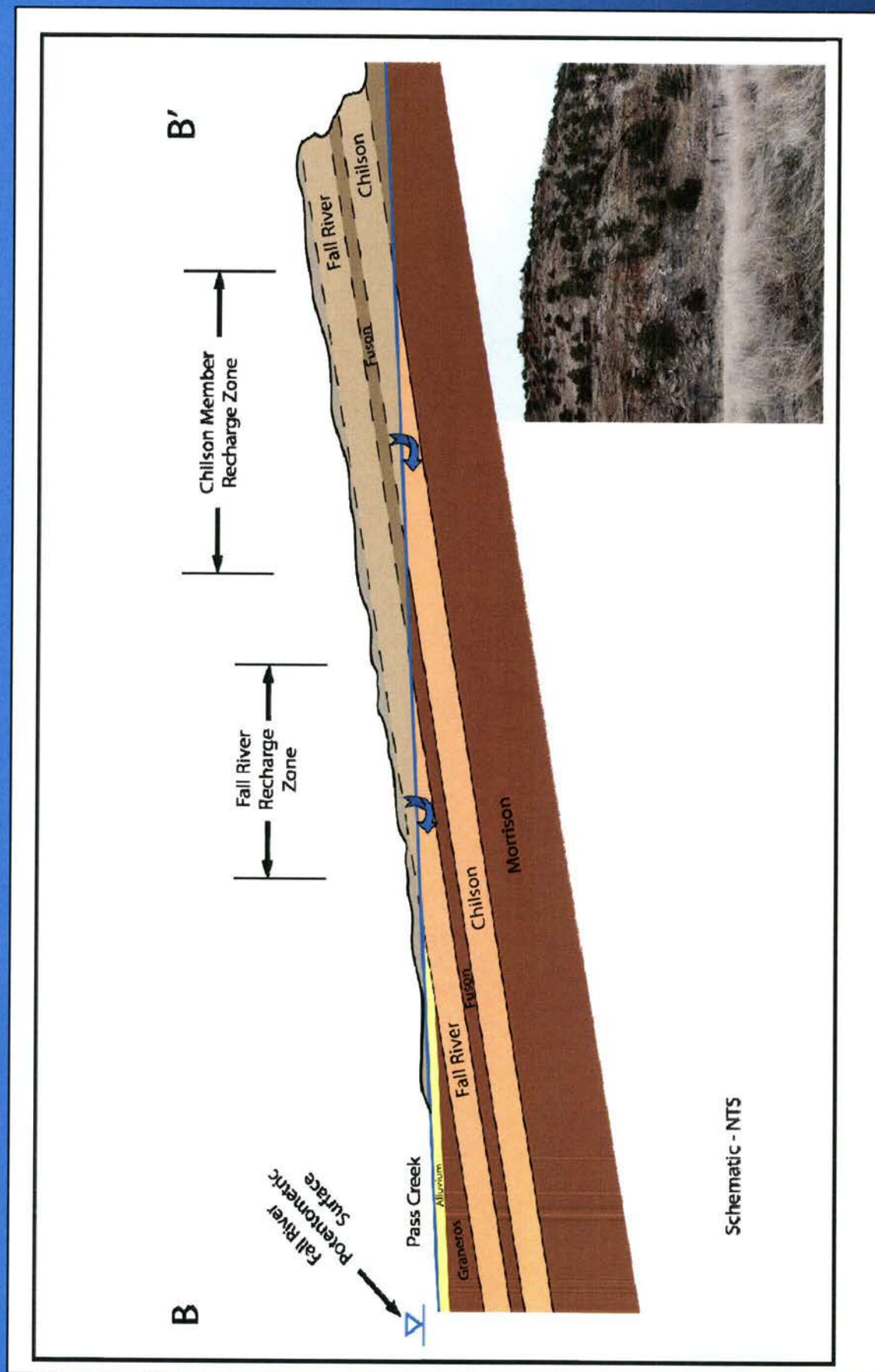
- Hydrologic Test Design
- Monitor Ring Spacing/Excursion Detection
- Wellfield Design/Balance (Wellfield Flare)
- Localized Hydraulic Response to ISR Operations
- Excursion Recovery



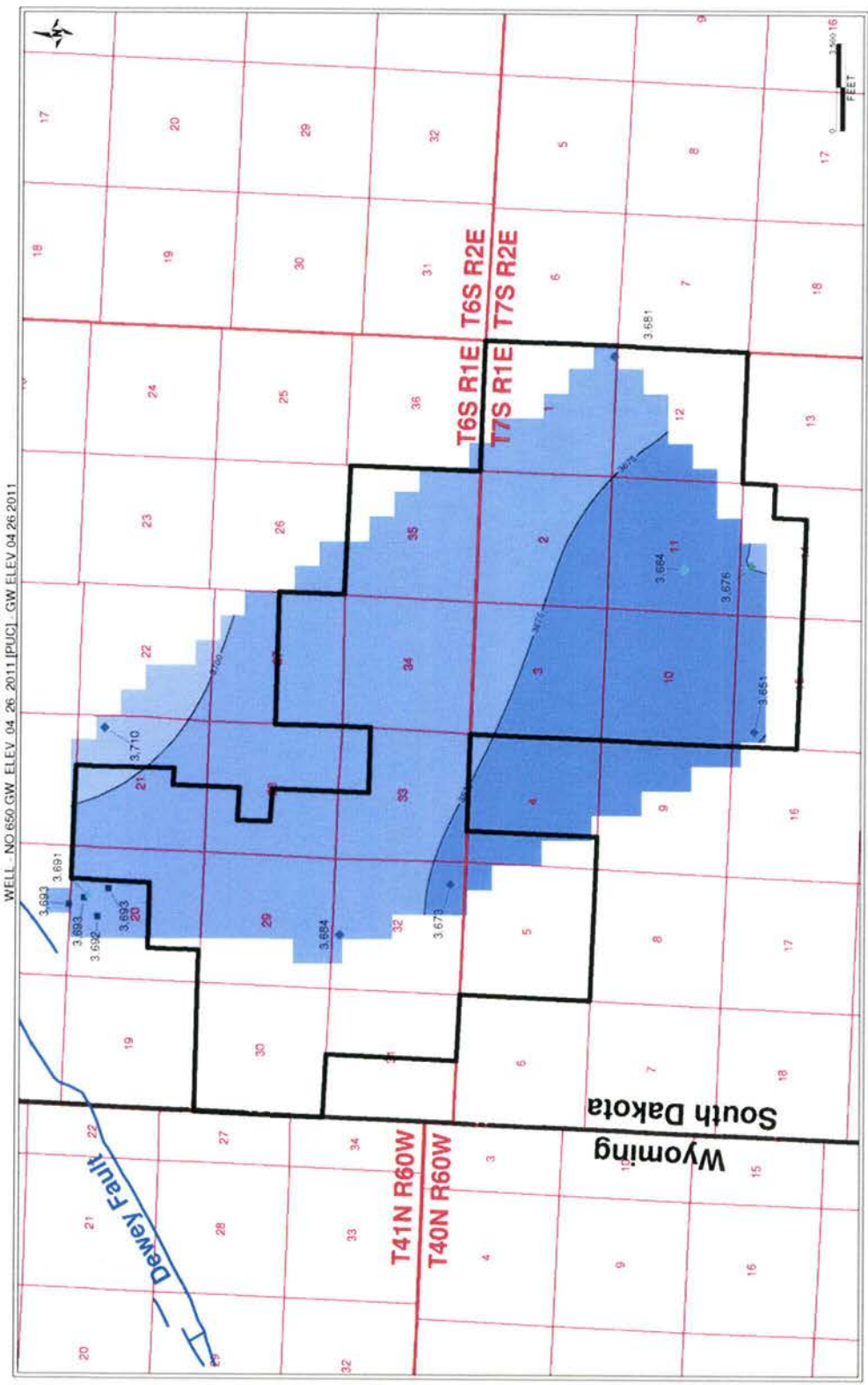
Dewey Burdock Physiographic Setting



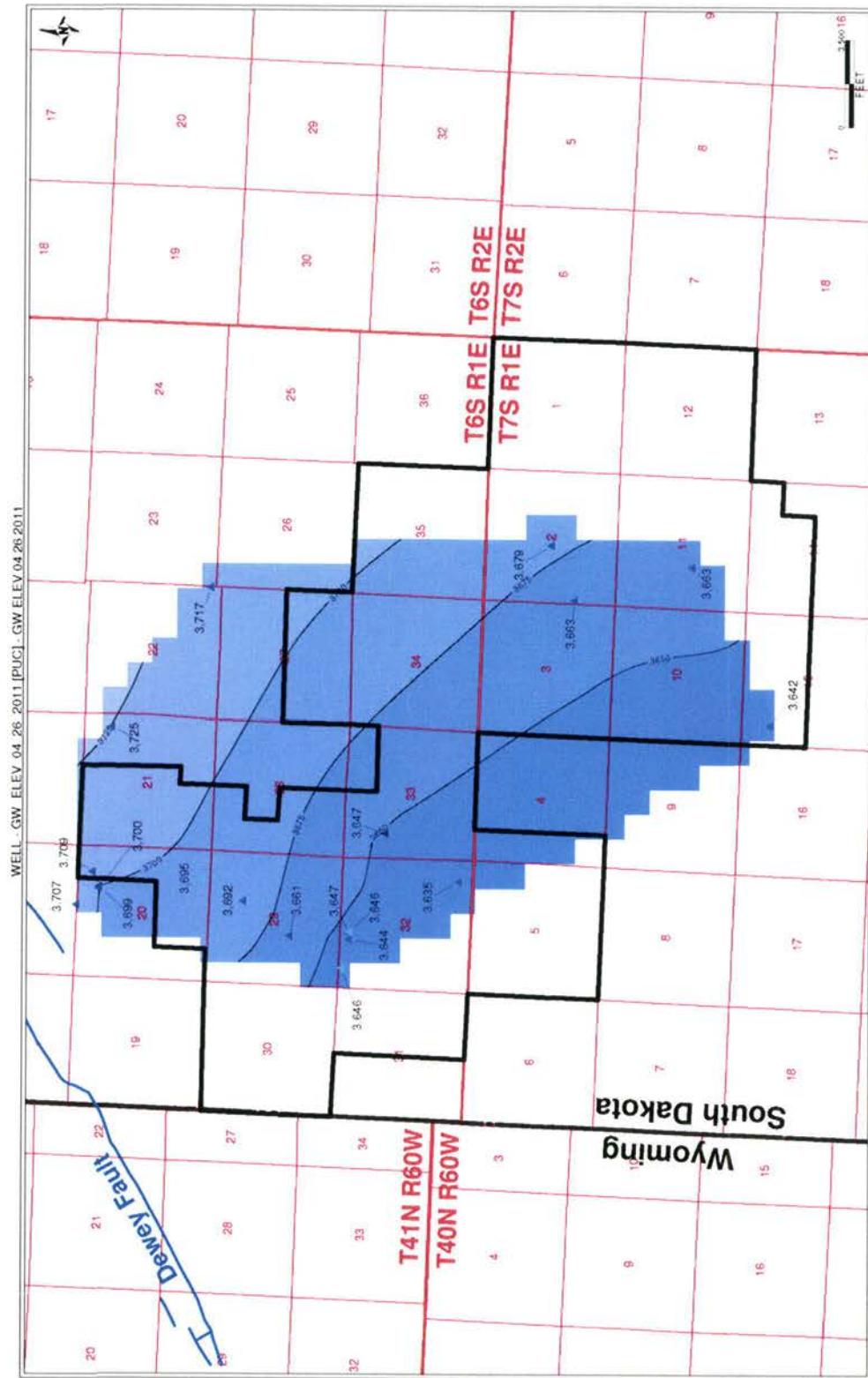
Dewey-Burdock Project Area Geology



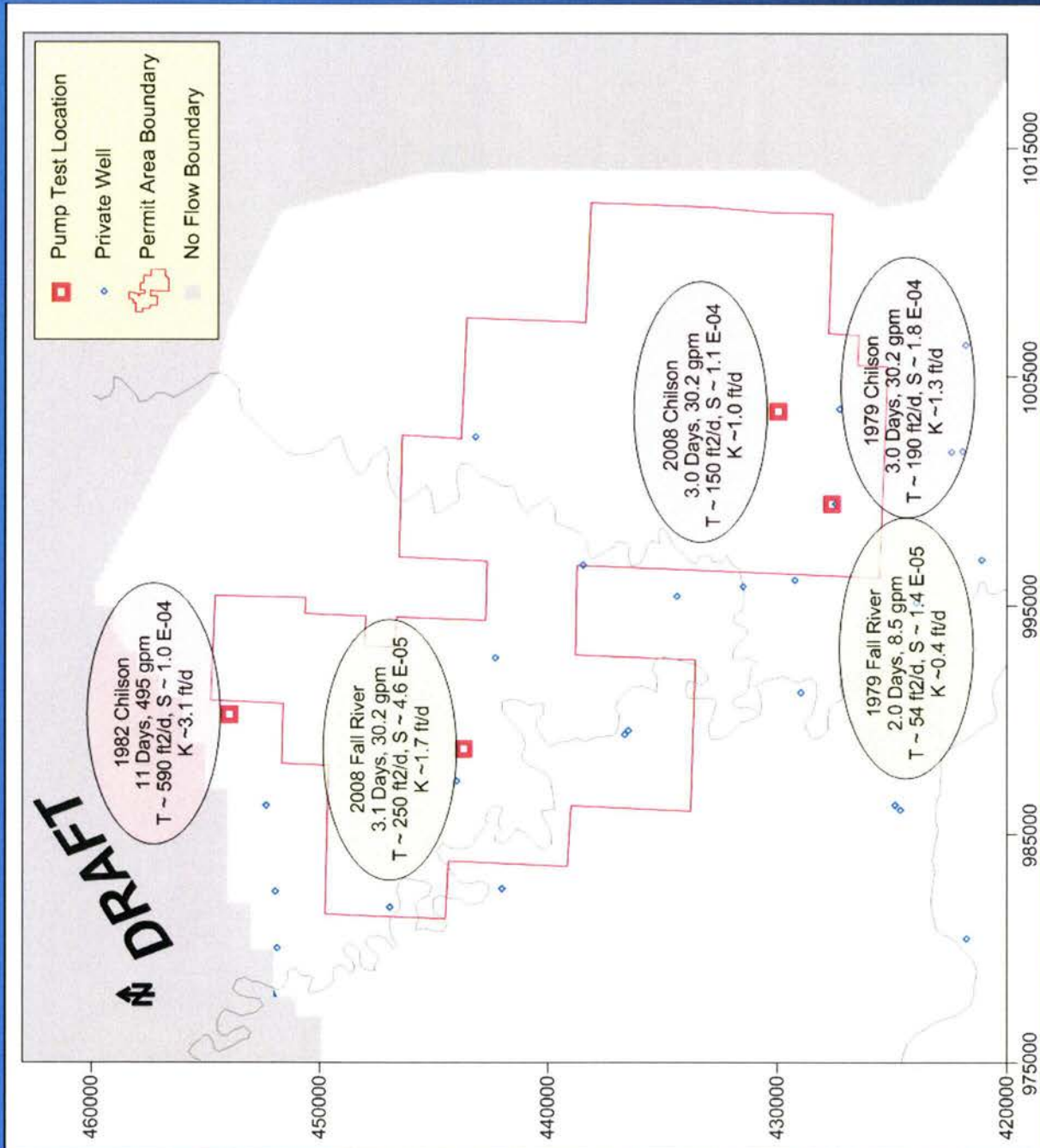
Dewey-Burdock Hydrogeologic Cross Section



Potentiometric Surface-Chilson, April 2011



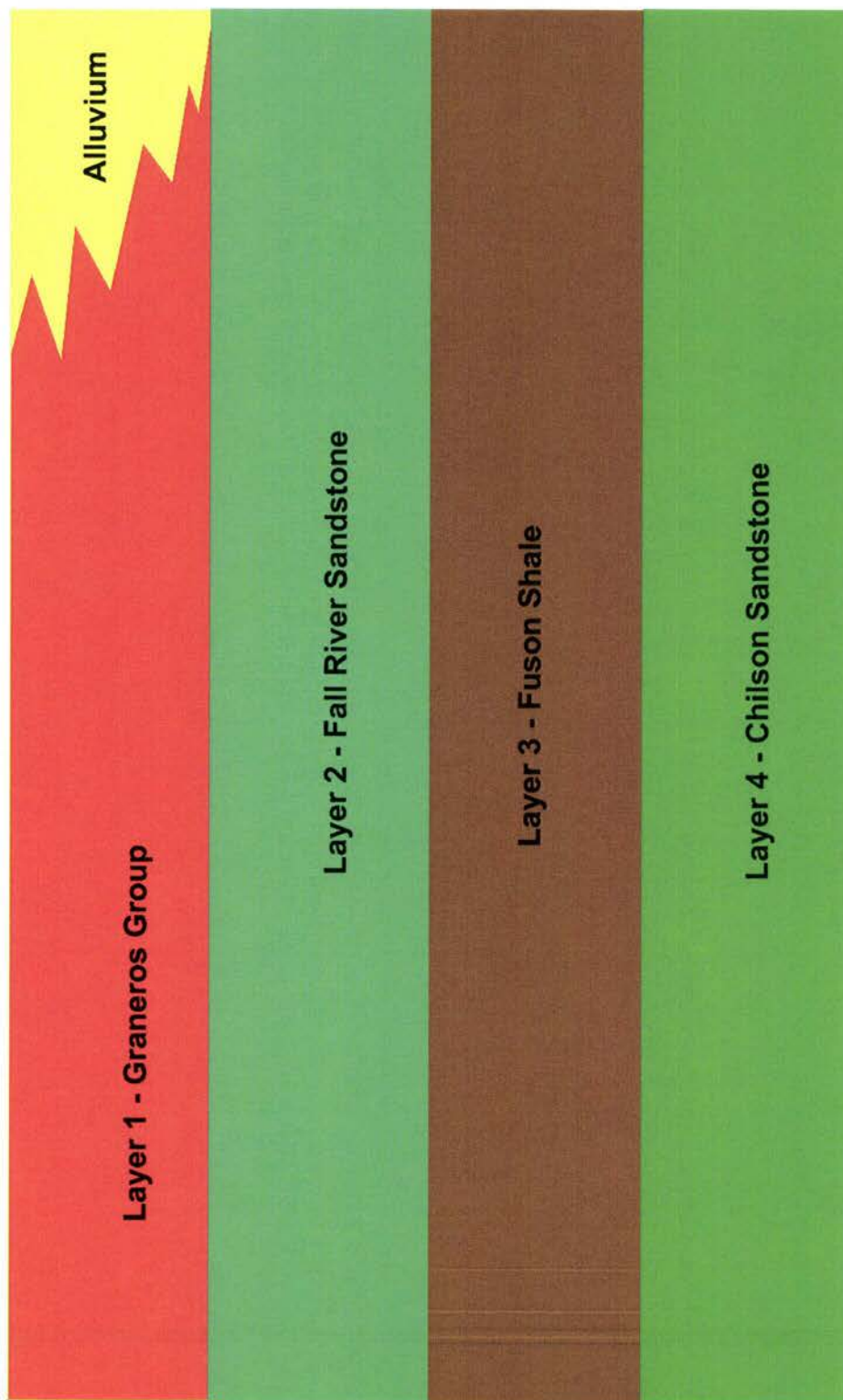
Potentiometric Surface-Fall River, April 2011



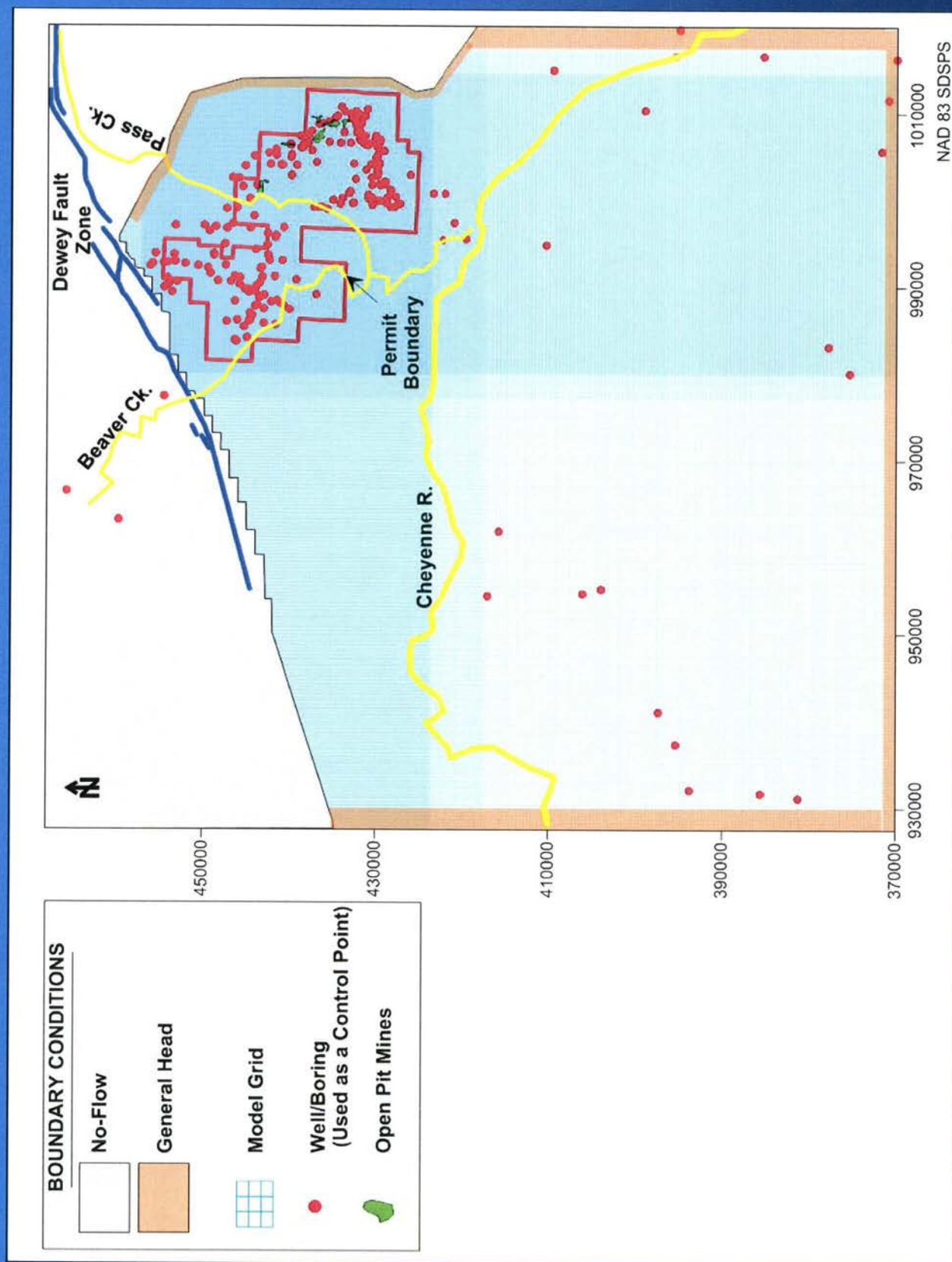
Location of Pump Tests at Dewey Burdock

Model Codes

- GROUNDWATER FLOW MODELING
MODFLOW2000 (USGS)
MODFLOW SURFACT (V 3.0 Hydrogeologic Inc)
- FLOWPATHS/CAPTURE ZONES
MODPATH (V. 3.0, USGS)
- PRE-POST PROCESSING
Groundwater Vistas (V. 6, Environmental Simulations)



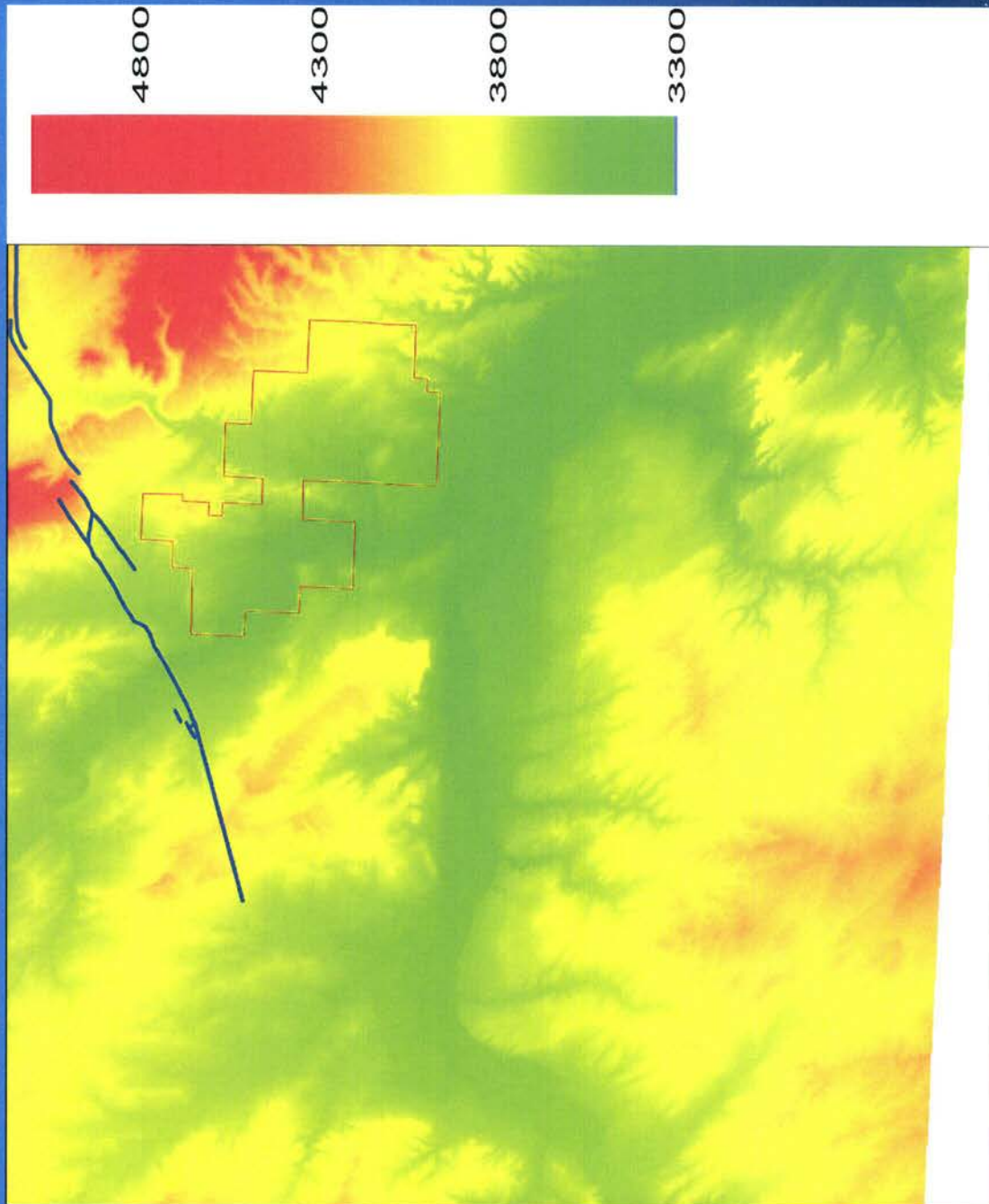
Dewey-Burdock Model Layers



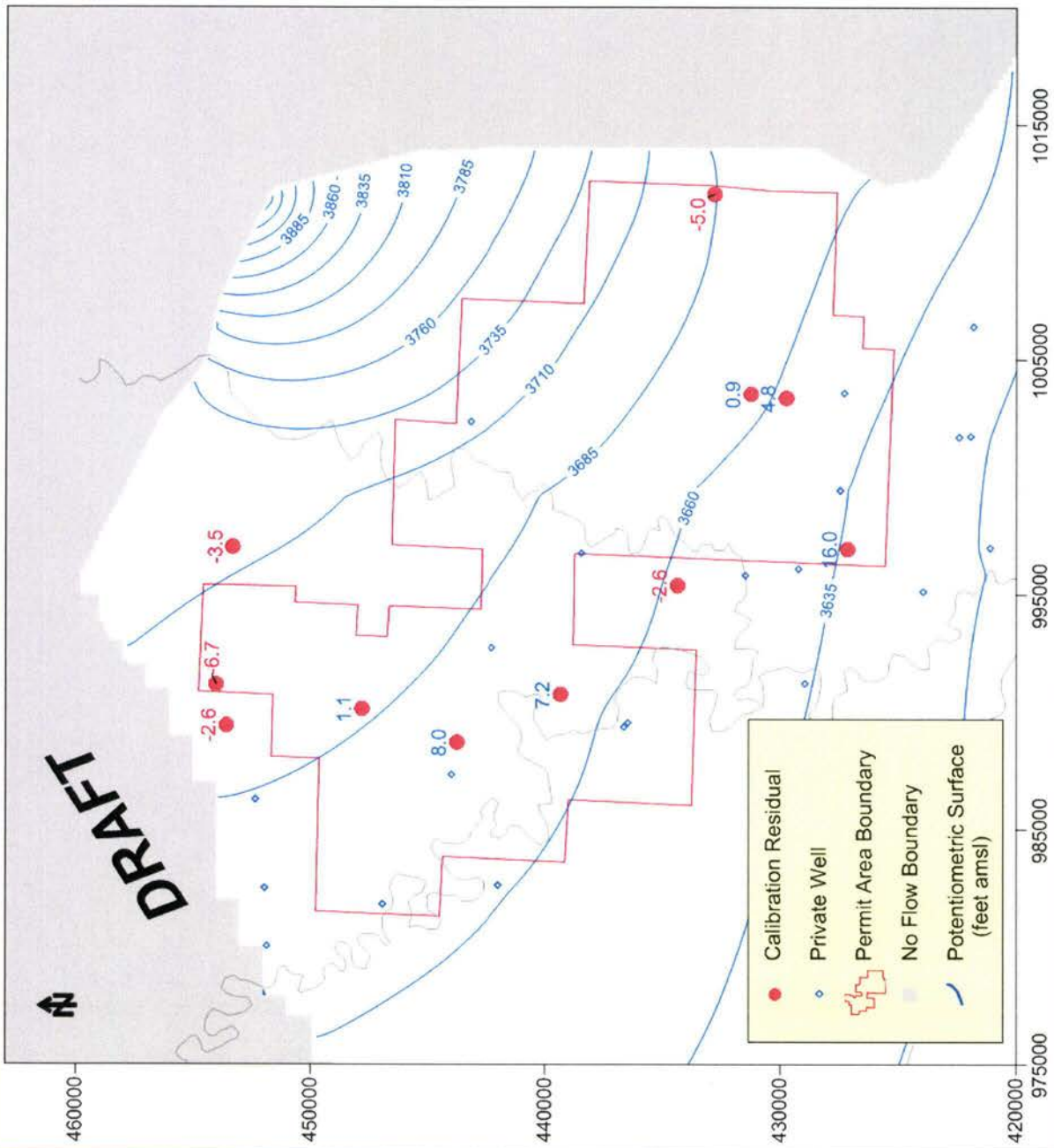
Dewey-Burdock Model Grid and Boundary Conditions

Dewey- Burdock Model

Top Elevation of Upper Layer (Ground Surface)



DRAFT

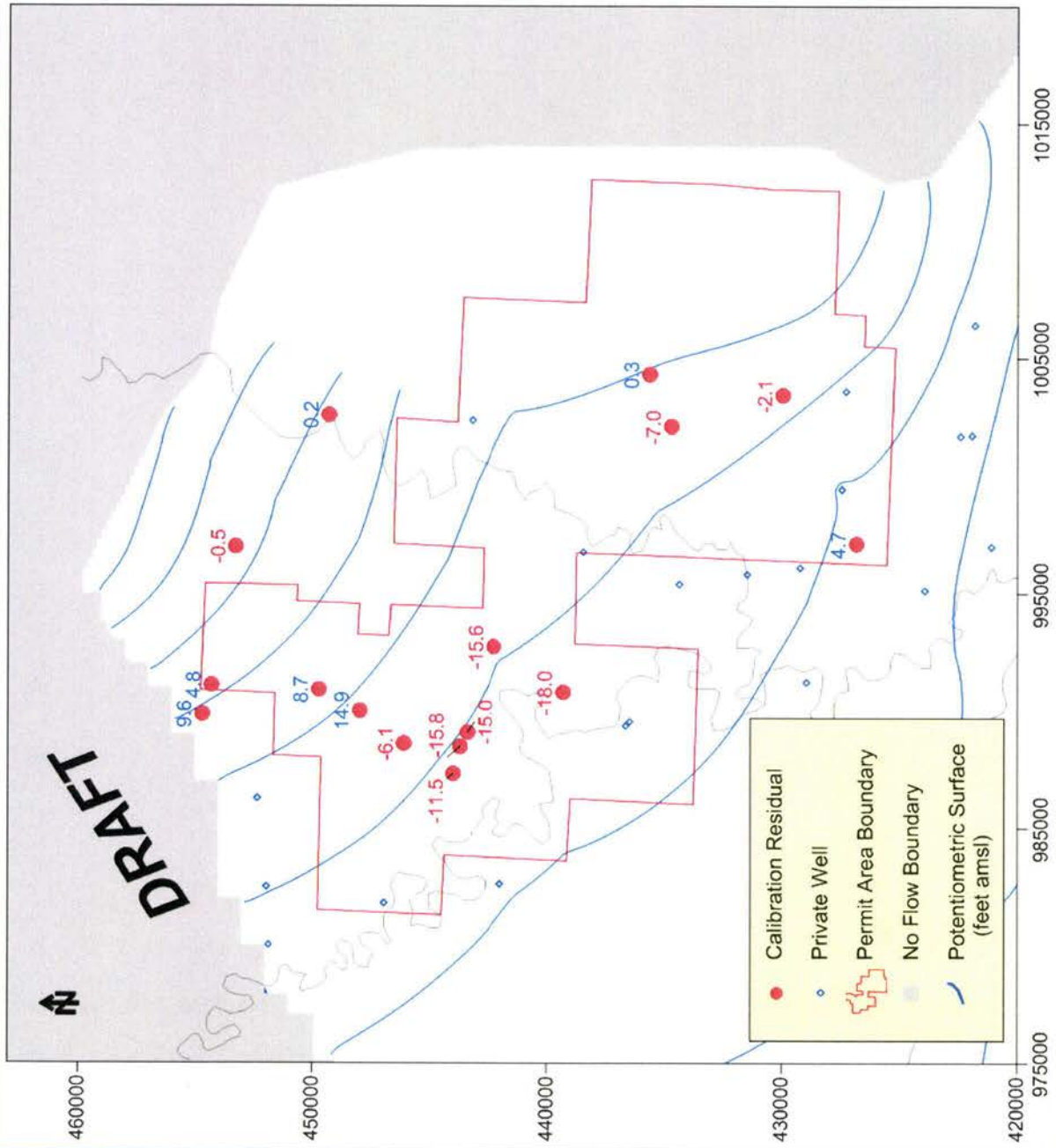


**Calibration
Statistics**

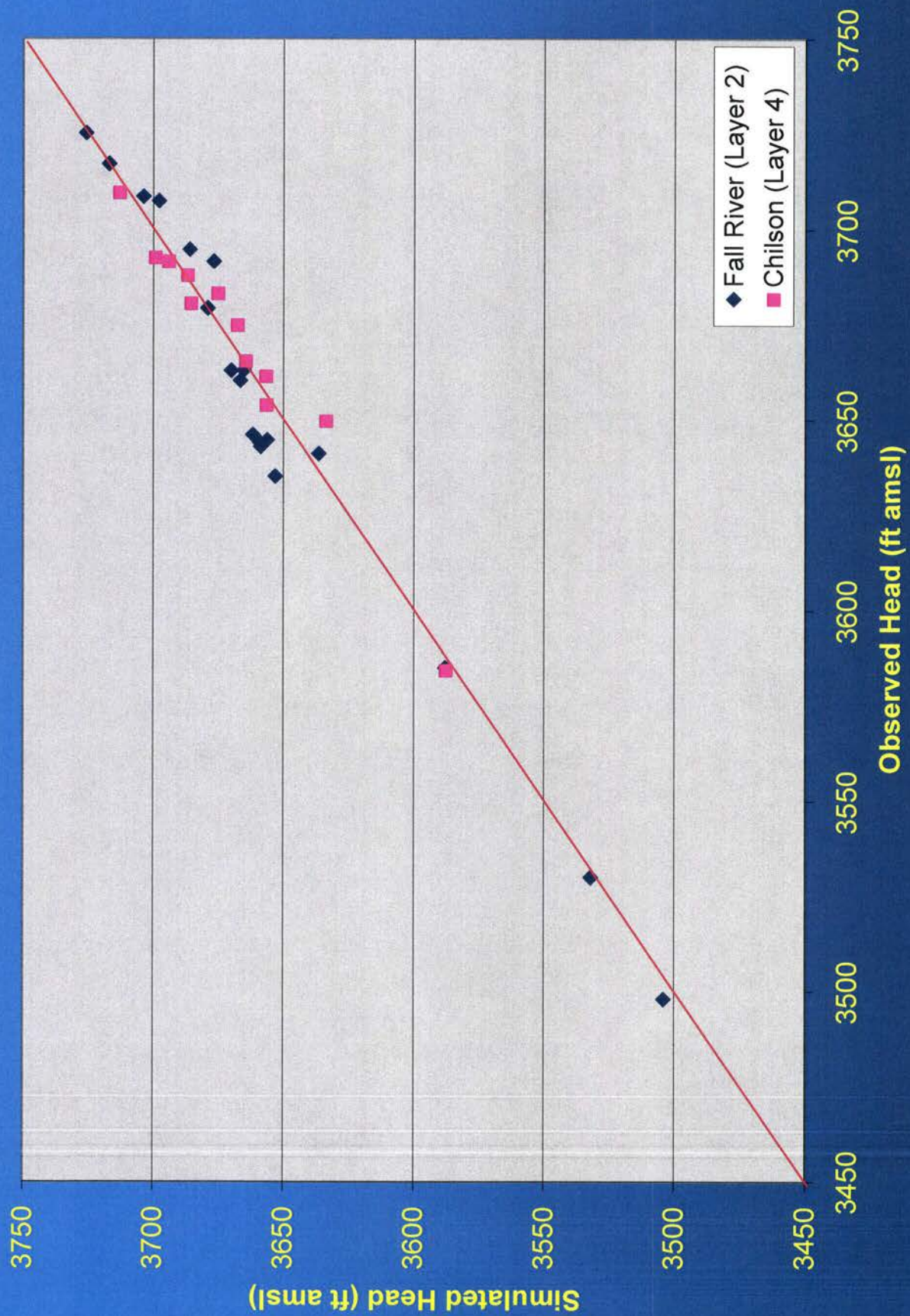
**RM 1.16
ARM 5.16
RSS 506
SRSD 0.051**

CALIBRATION SIMULATION-LAYER 4 (CHILSON)

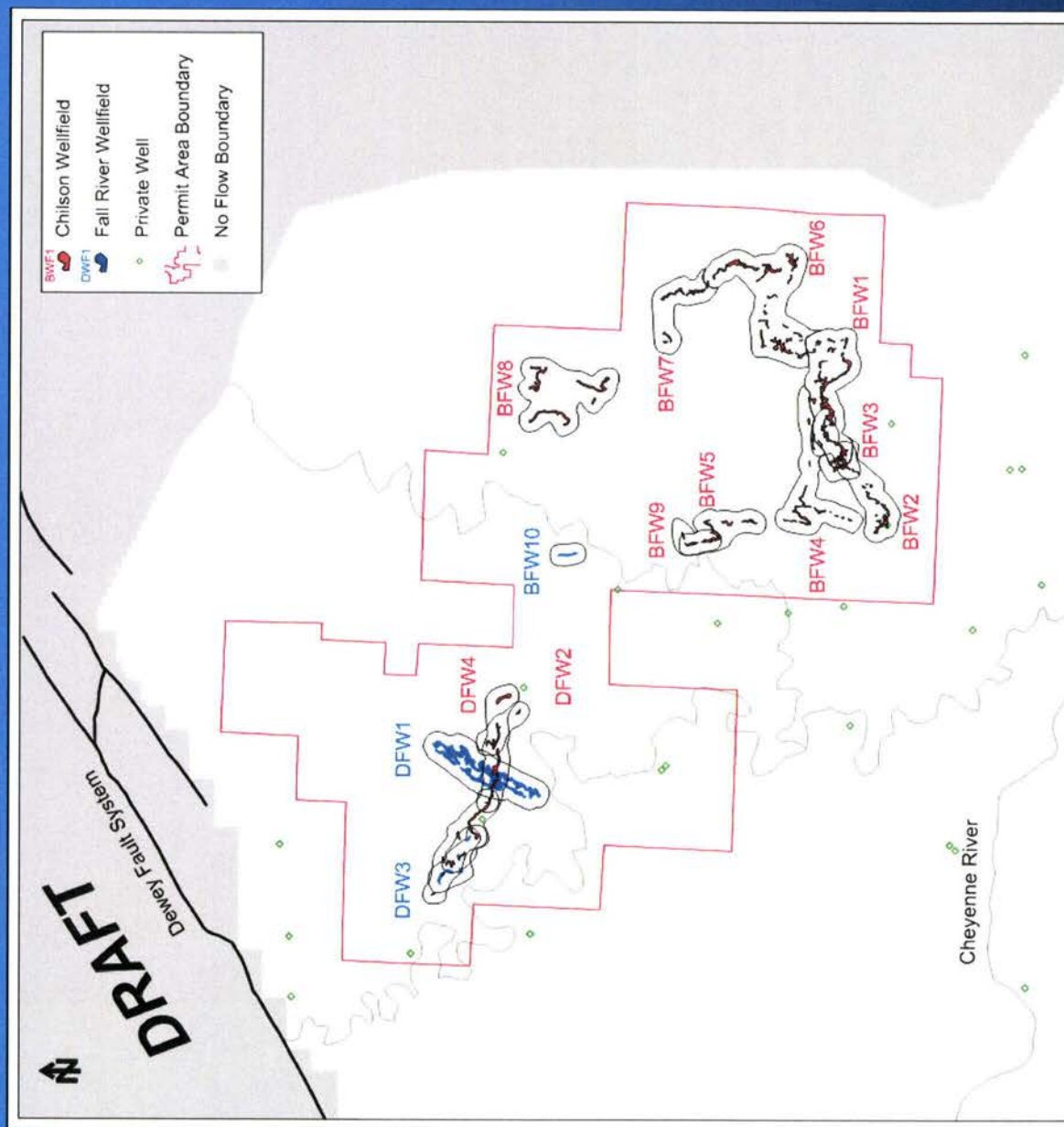
DRAFT



CALIBRATION SIMULATION-LAYER 2 (FALL RIVER)



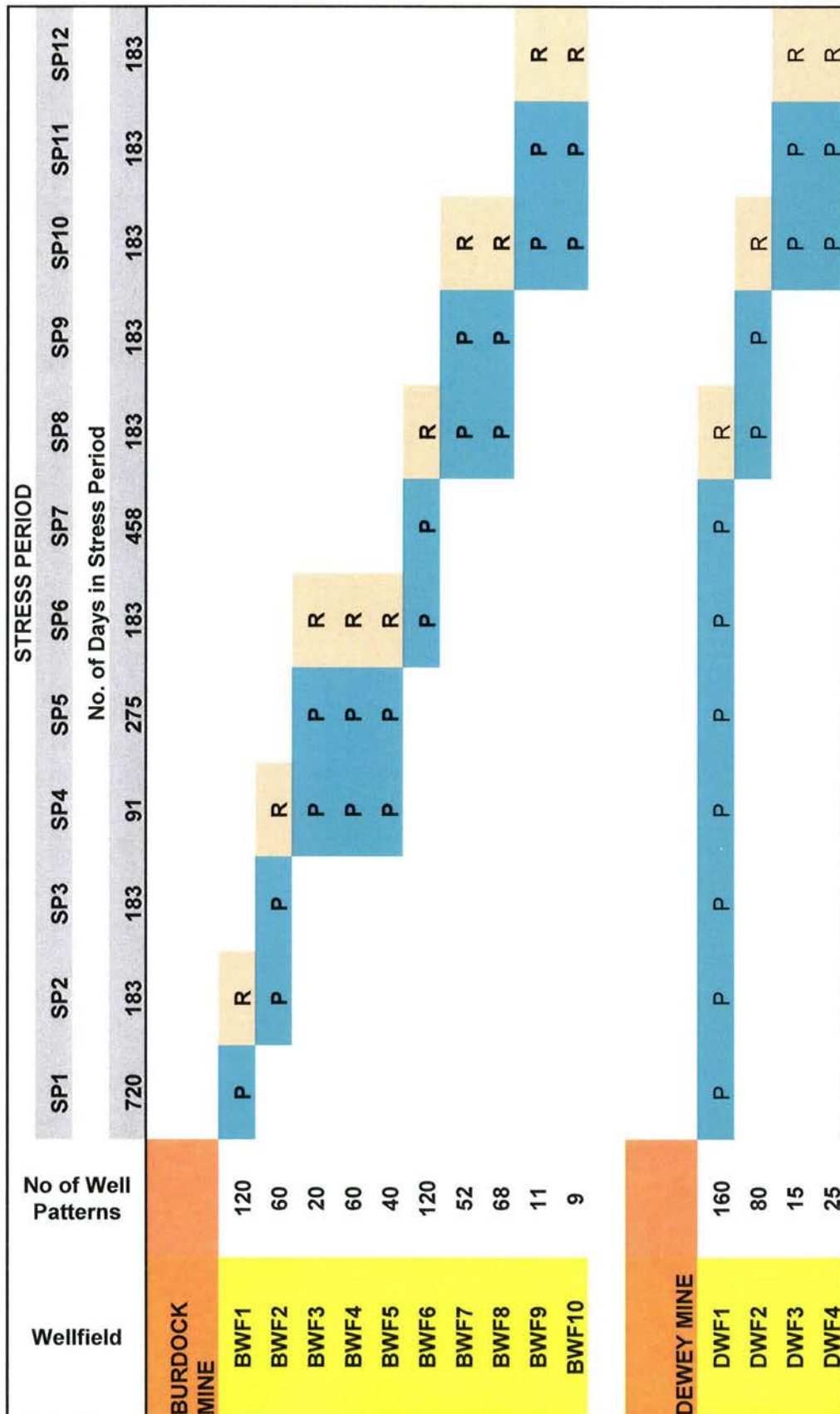
CALIBRATION TARGETS – OBSERVED VS SIMULATED



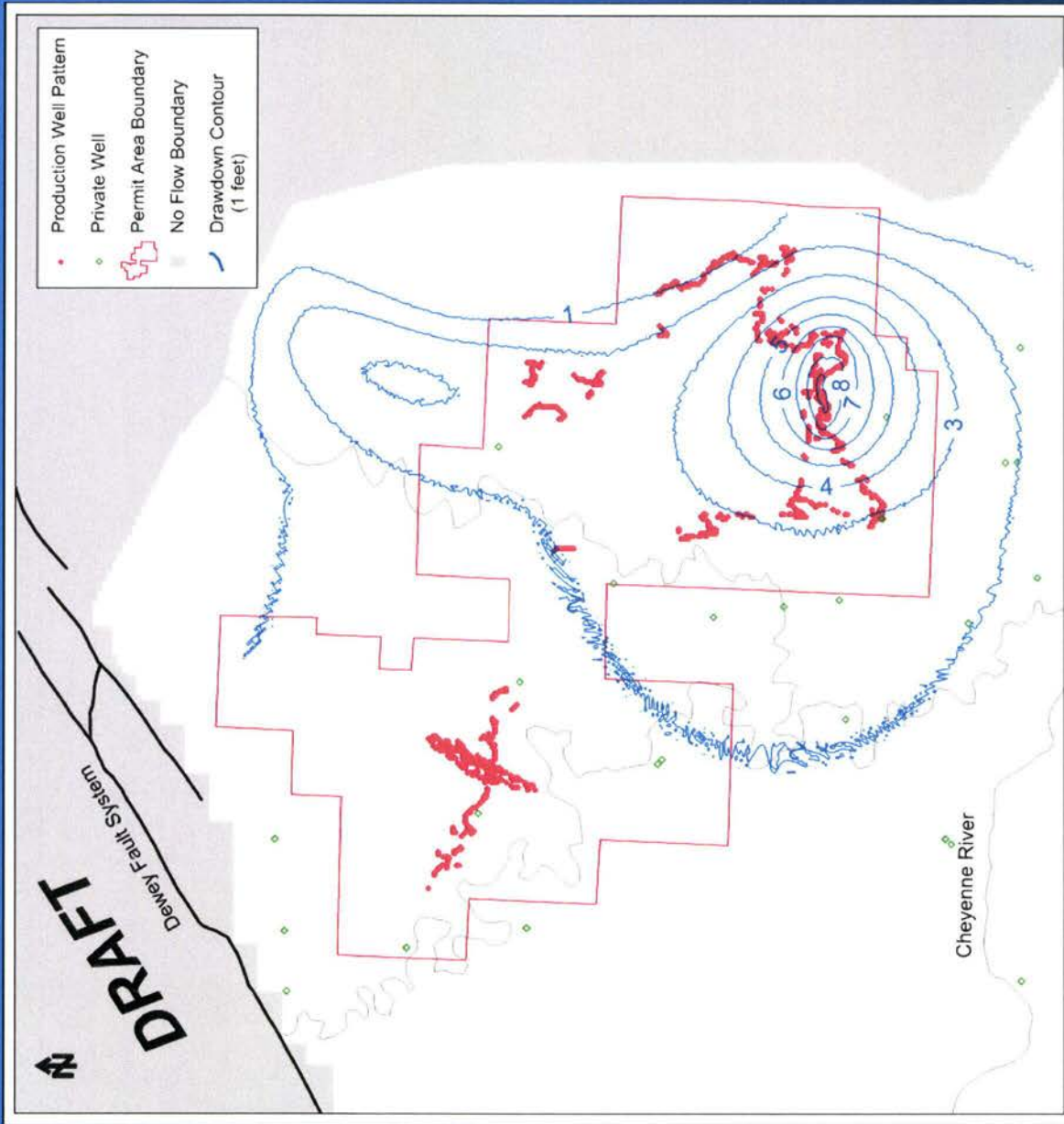
10 Burdock Wellfields
9 Chilson
1 Fall River
4 Dewey Wellfields
2 Chilson
2 Fall River

12 Stress Periods
Cover Production and
Restoration of all
Wellfields over 8 1/4 years

LIFE OF MINE PRODUCTION/RESTORATION SIMULATIONS



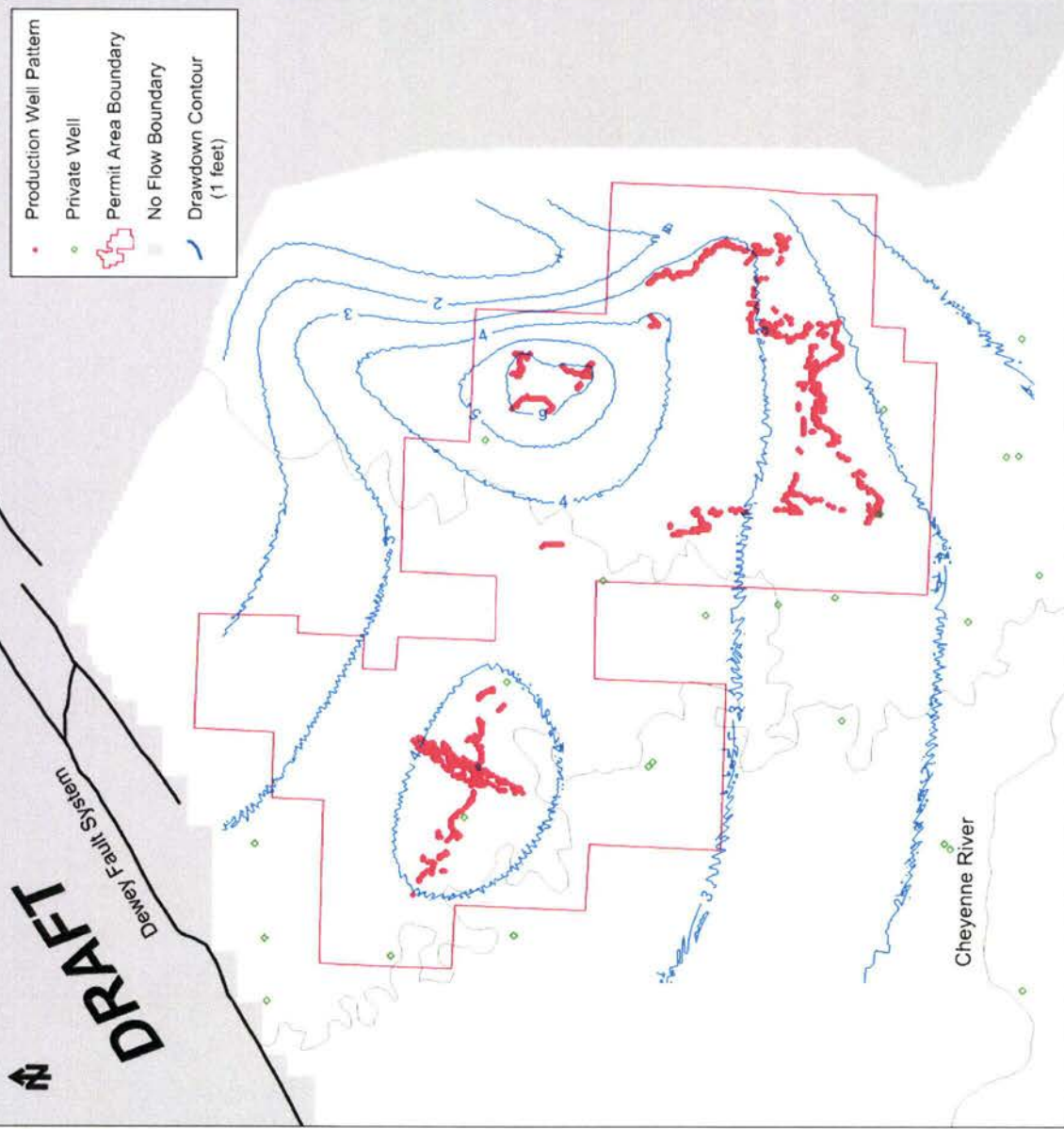
DEWEY BURDOCK LIFE-OF-MINE SIMULATIONS PRODUCTION/RESTORATION SCHEDULE



**Drawdown after 730 Days
Production at Wellfield
BWF1**

(End of Stress Period 1)

Chilson Drawdown -Simulation of 4000 gpm and 0.875% Bleed



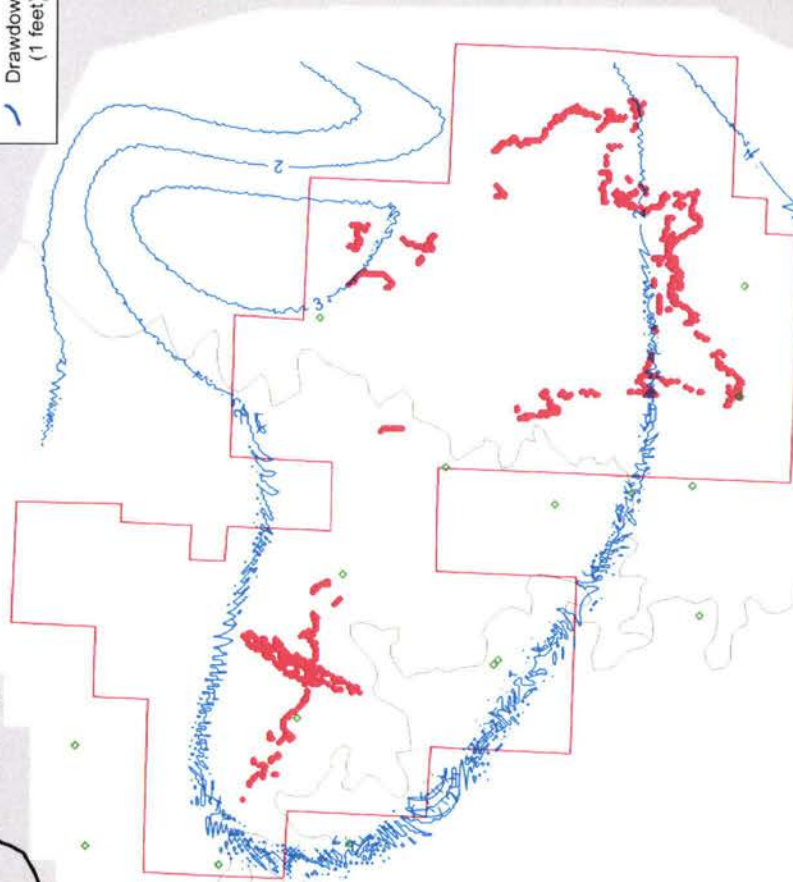
Drawdown after 366 Days
Production at BWF7,
BWF8 and DWF2
(End of Stress Period 9)

Chilson Drawdown -Simulation of 4000 gpm and 0.875% Bleed

DRAFT

Dewey Fault System

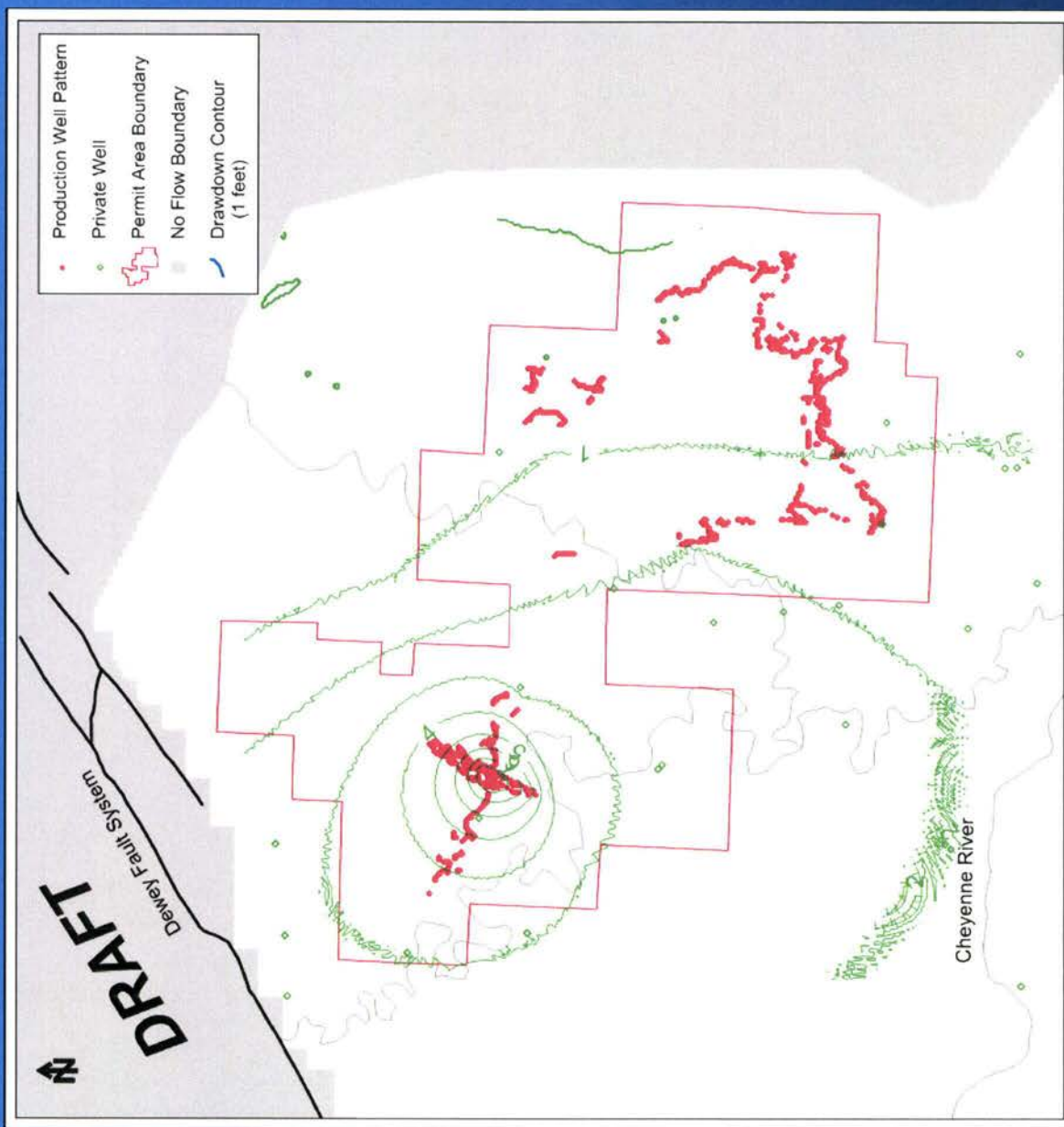
- Production Well Pattern
- Private Well
- Permit Area Boundary
- No Flow Boundary
- Drawdown Contour (1 feet)



**Drawdown At End of
ISR Operations**

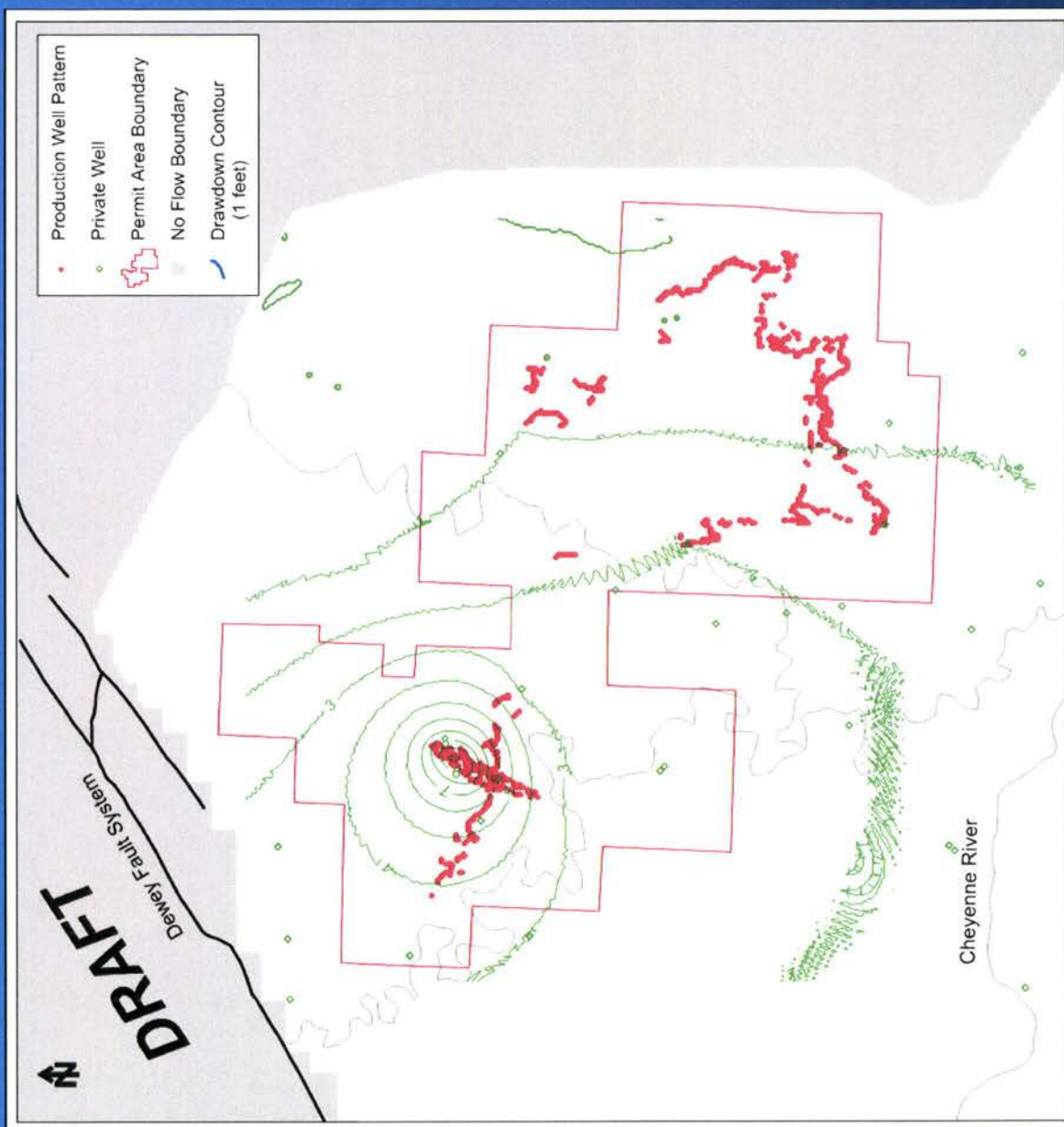
(End of Stress Period 12)

Chilson Drawdown -Simulation of 4000 gpm and 0.875% Bleed



**Drawdown after 730 Days
Production at Wellfield
DWF-1
(End of Stress Period 1)**

Fall River Drawdown -Simulation of 4000 gpm and 0.875% Bleed

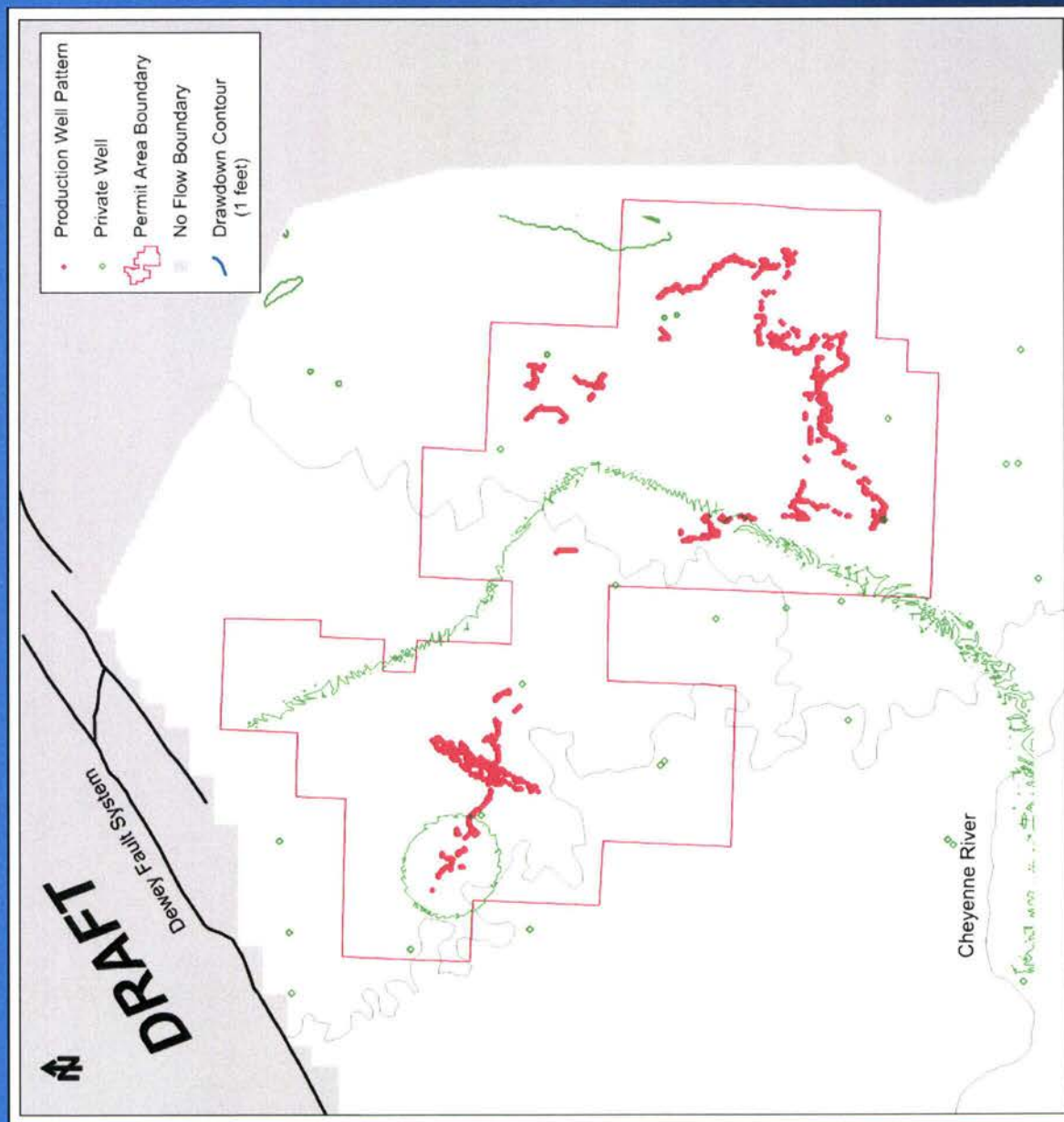


**Drawdown after 2093
Days Production at DWF1
(End of Stress Period 7)**

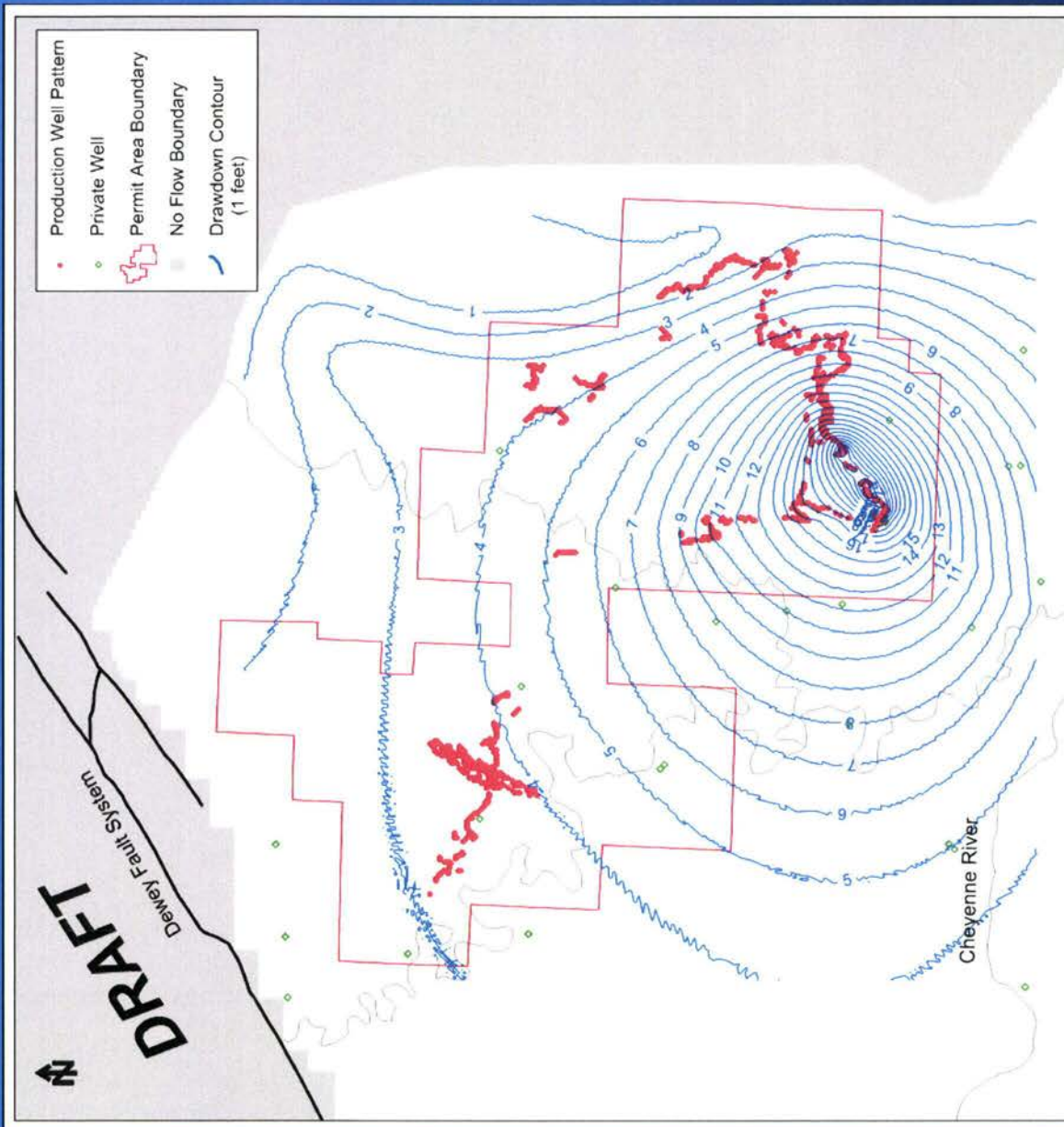
Fall River Drawdown -Simulation of 4000 gpm and 0.875% Bleed

Drawdown At End of ISR Operations

(End of Stress Period 12)



Fall River Drawdown-Simulation of 4000 gpm and 0.875% Bleed



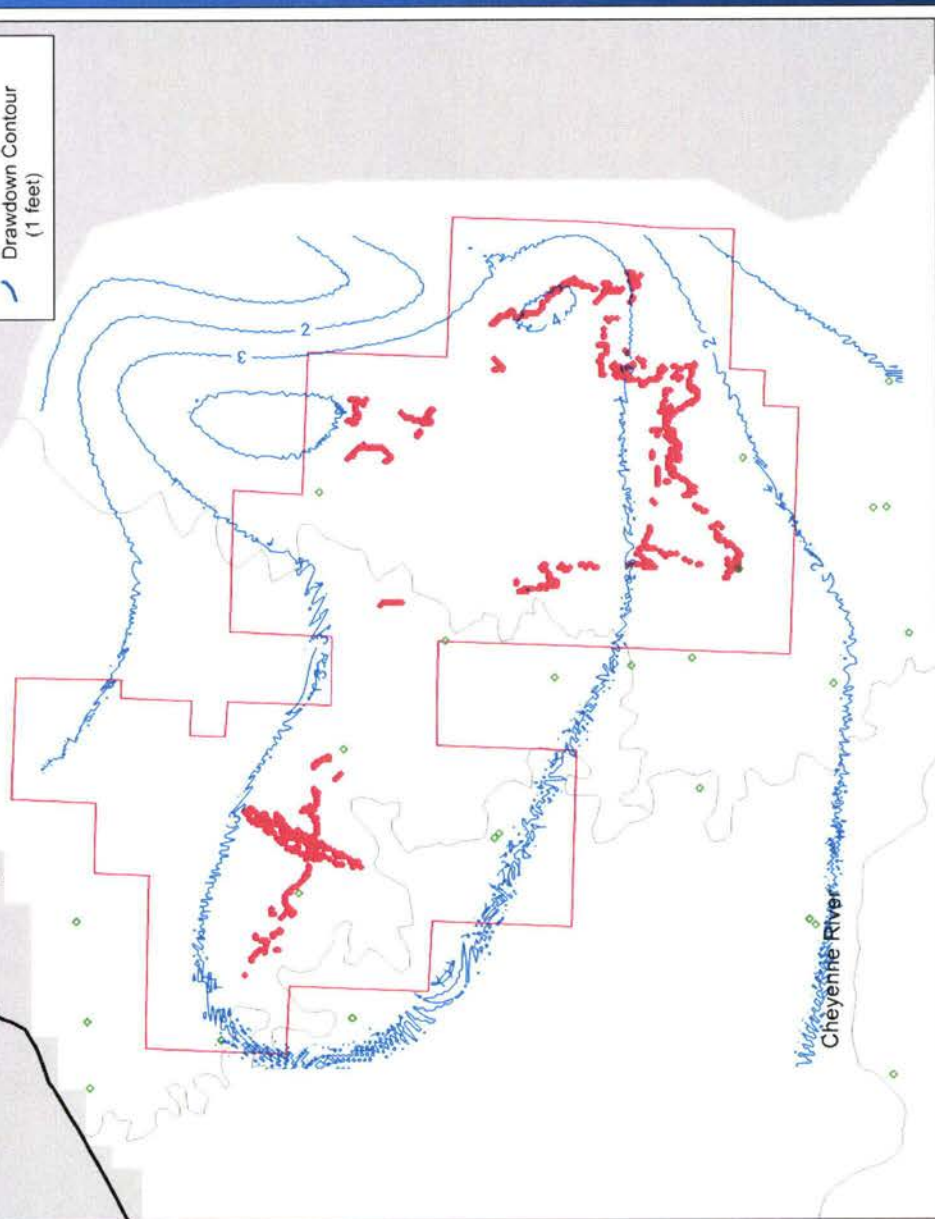
Drawdown after 183 Days
Production at BWF3,
BWF4 and BWF5 and
Restoration at BWF2
(End of Stress Period 4)

Chilson Drawdown-Simulation of 4000 gpm
and 0.875% Bleed with GWS

DRAFT

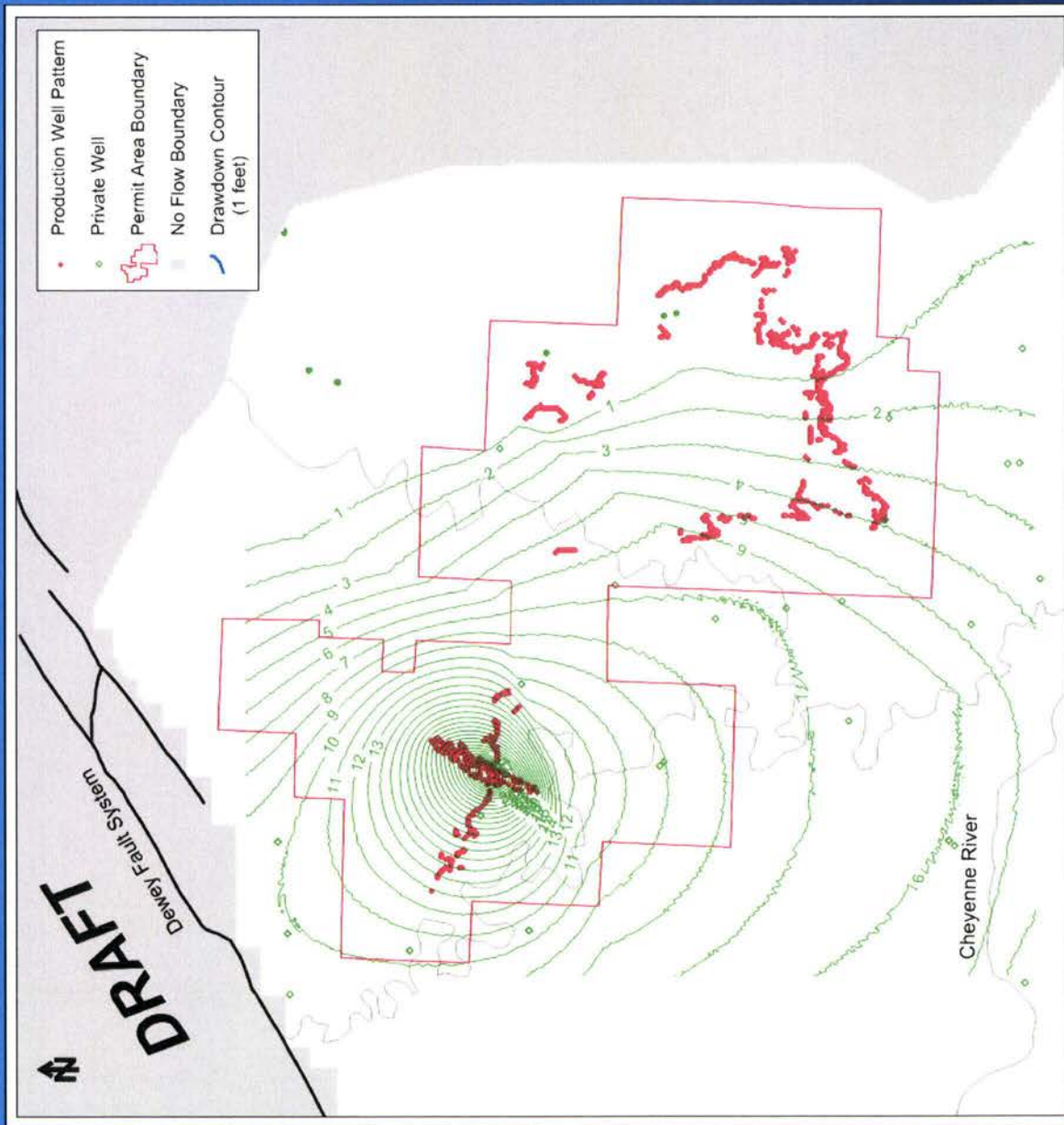
Dewey Fault System

- Production Well Pattern
- Private Well
- Permit Area Boundary
- No Flow Boundary
- Drawdown Contour (1 feet)



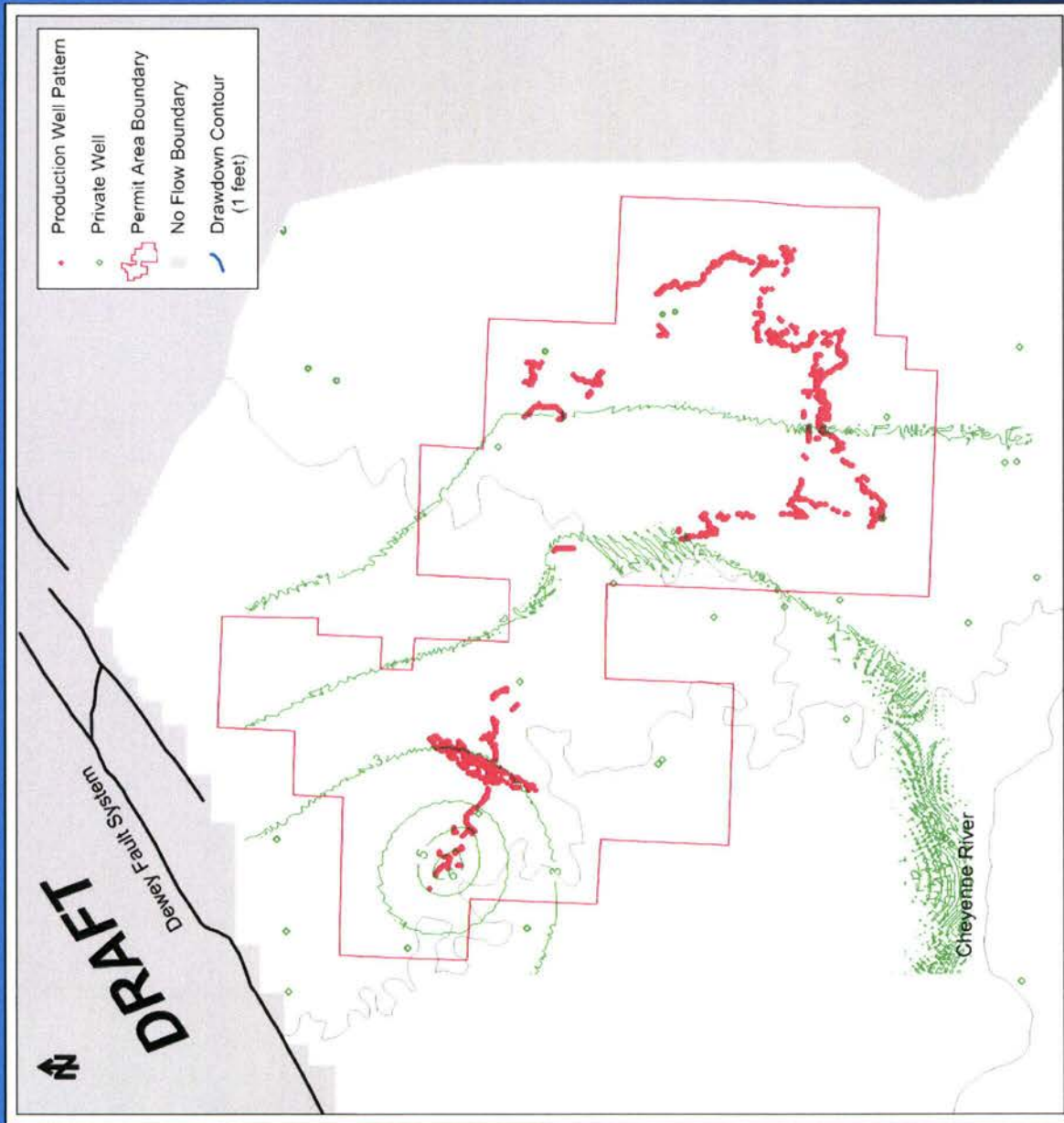
**Drawdown At End of
ISR Operations
(End of Stress Period 12)**

**Chilson Drawdown-Simulation of 4000 gpm
and 0.875% Bleed with GWS**



**Drawdown After
1177 Days of Production
at DWF1 and 91 Days
of Restoration at DWF1
(End of Stress Period 4)**

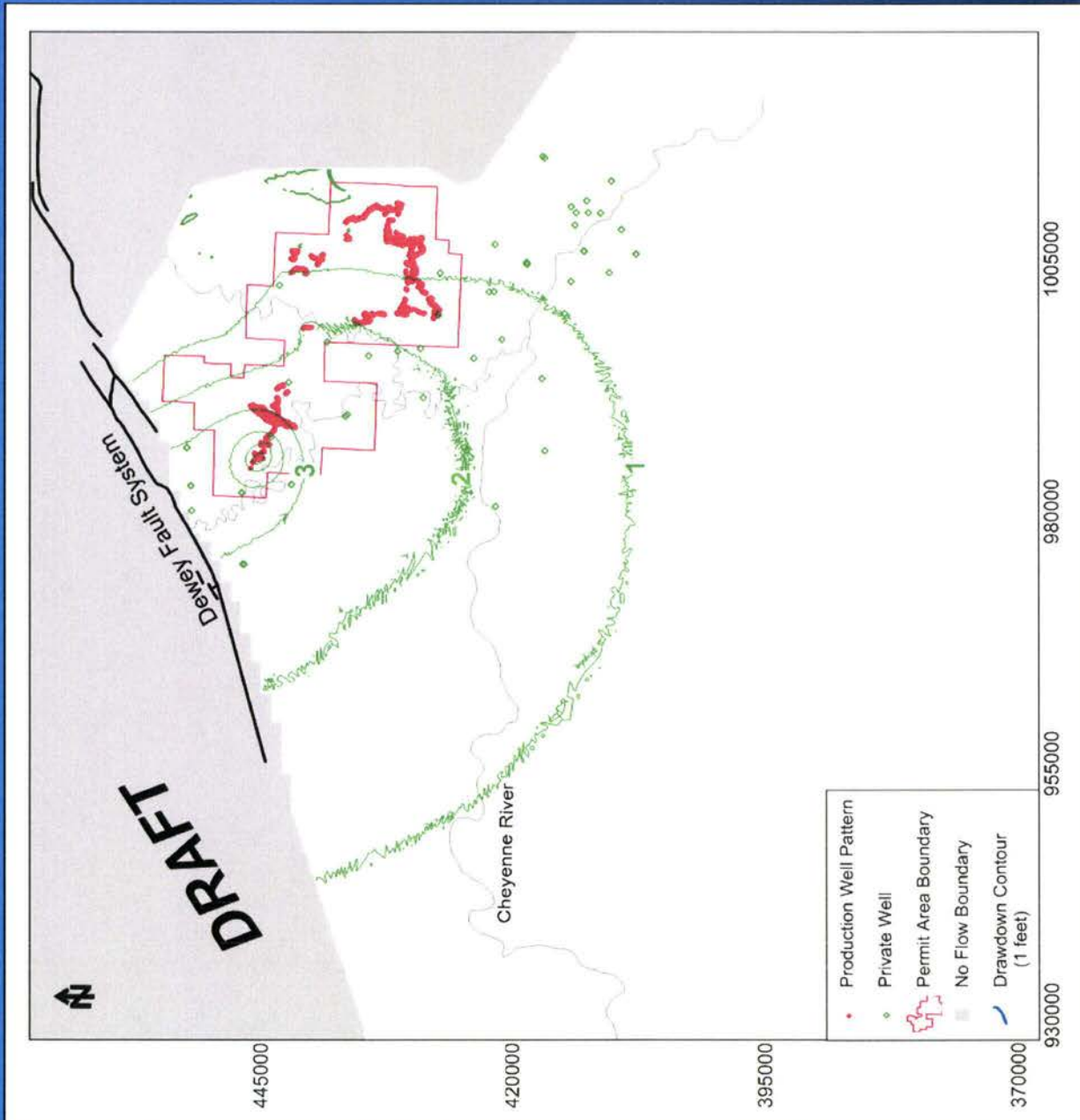
**Fall River Drawdown-Simulation of 4000 gpm
and 0.875% Bleed with GWS**



**Drawdown At End of
ISR Operations
(End of Stress Period 12)**

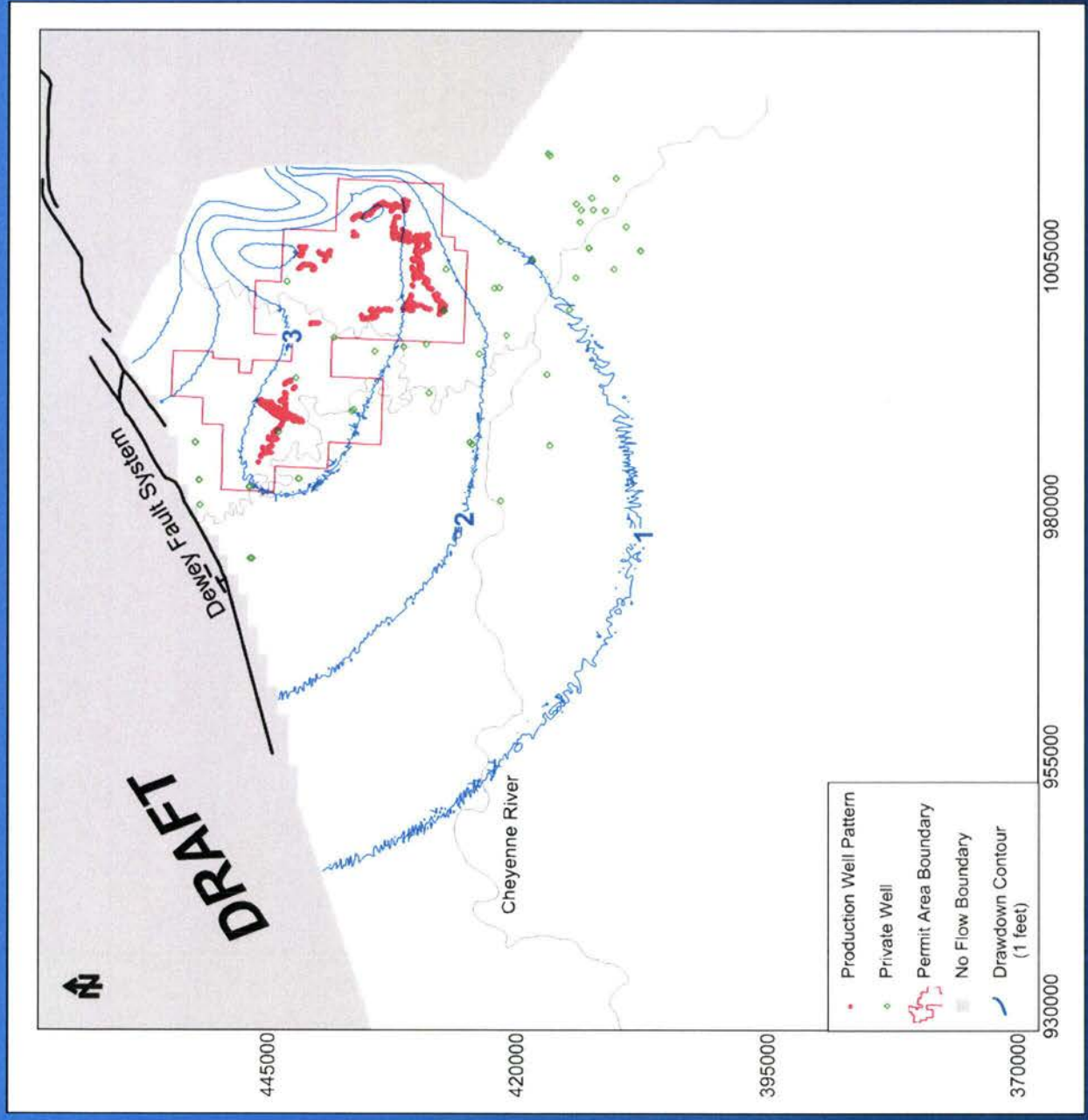
**Fall River Drawdown-Simulation of 4000 gpm
and 0.875% Bleed with GWS**

Drawdown At End of
ISR Operations
(End of Stress Period 12)

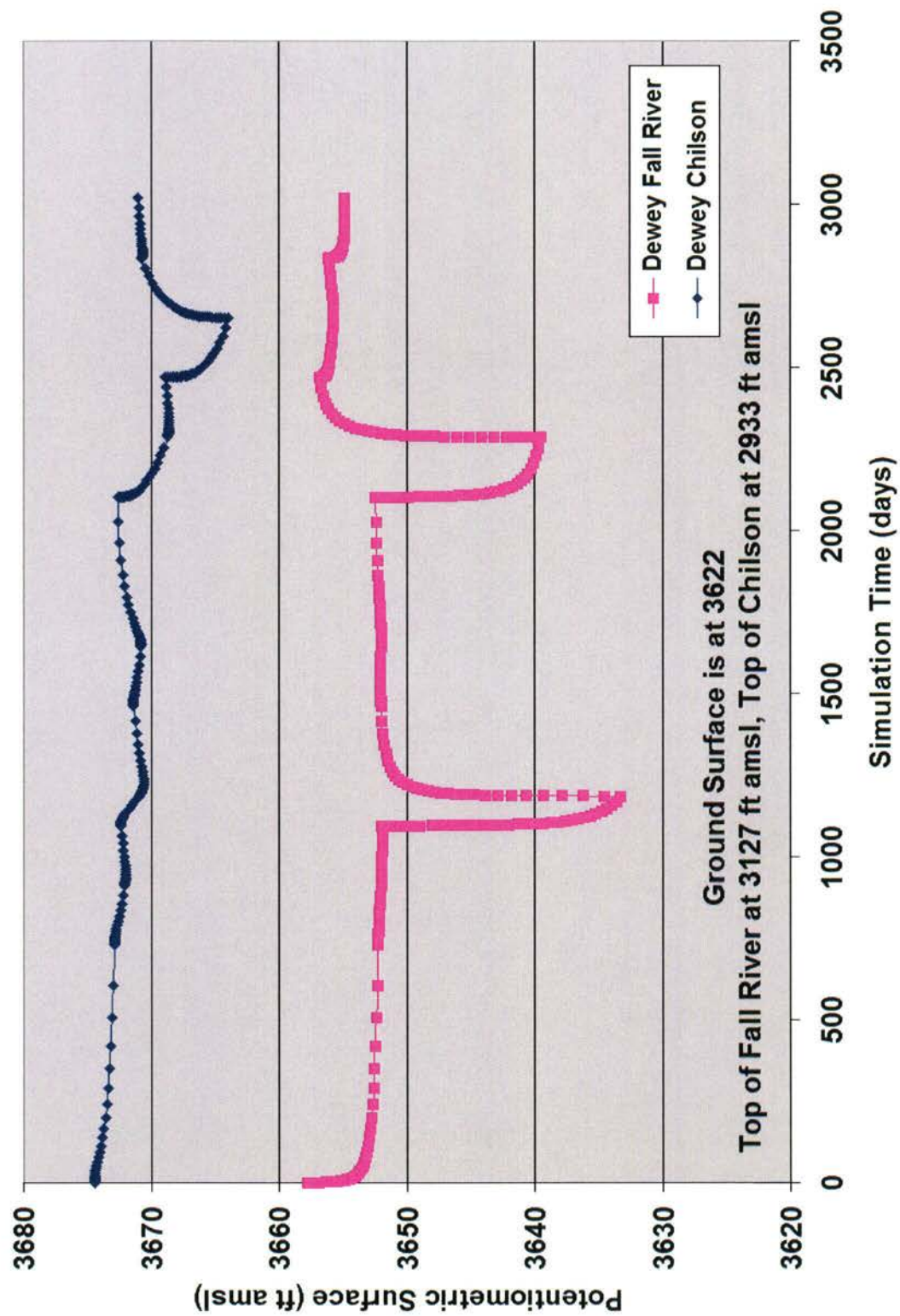


Fall River Drawdown-Simulation -4000 gpm
and 0.875% Bleed with GWS (Full Model Domain)

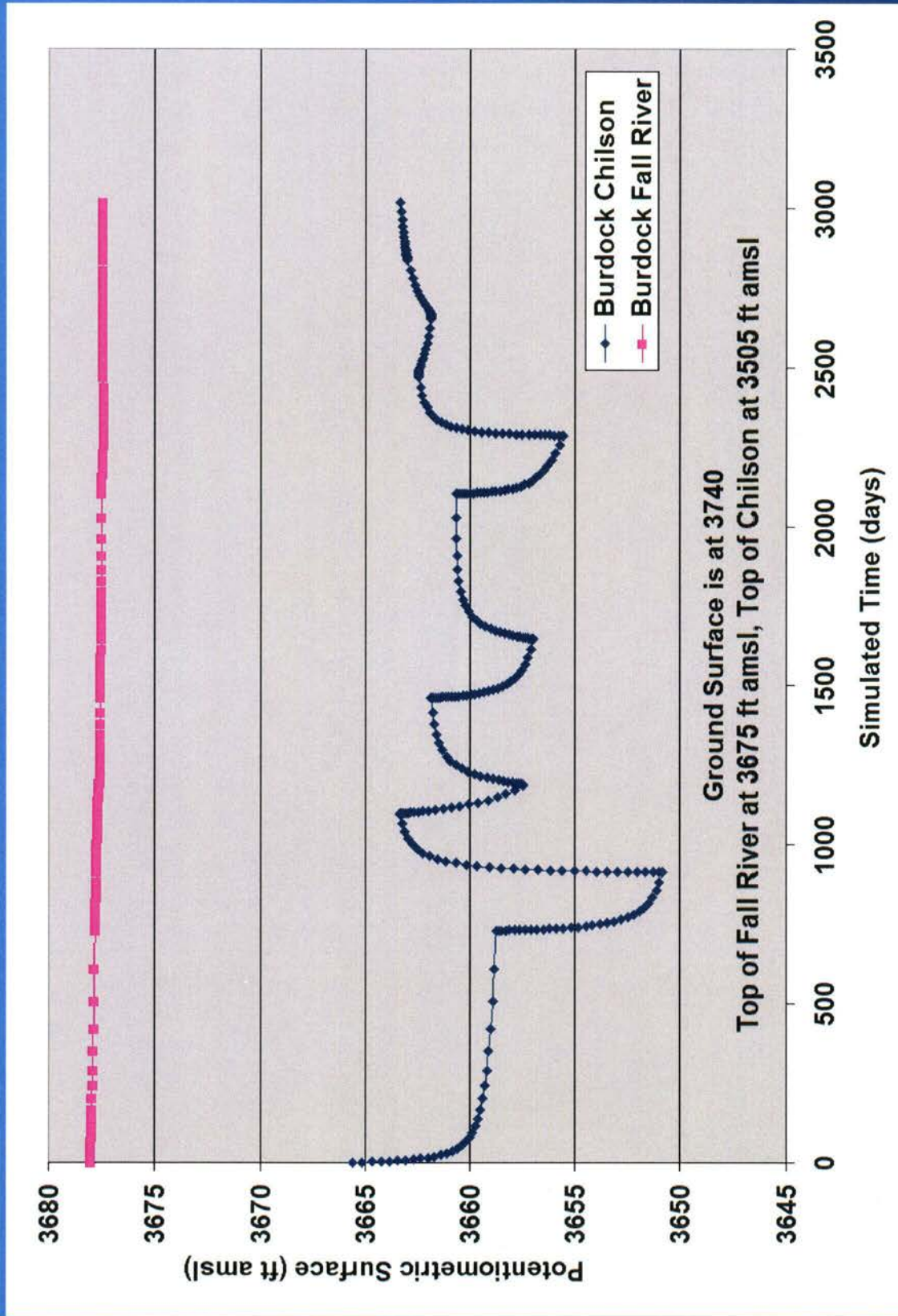
Drawdown At End of
ISR Operations
(End of Stress Period 12)



Chilson Drawdown-Simulation -4000 gpm
and 0.875% Bleed with GWS (Full Model Domain)

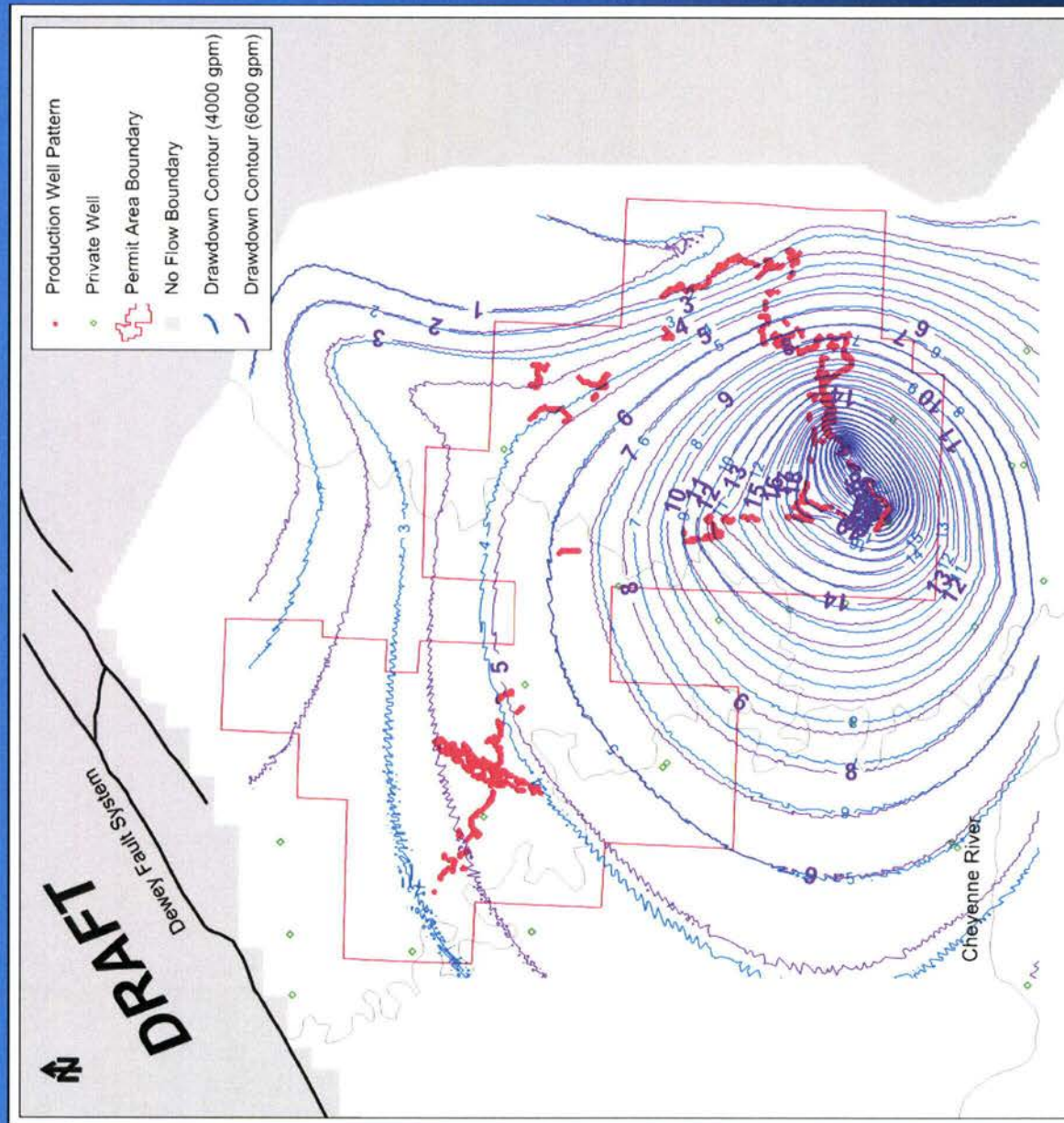


Simulated Potentiometric Surface-Life of Mine Dewey Wellfield Area



Simulated Potentiometric Surface-Life of Mine, Burdock Wellfield Area

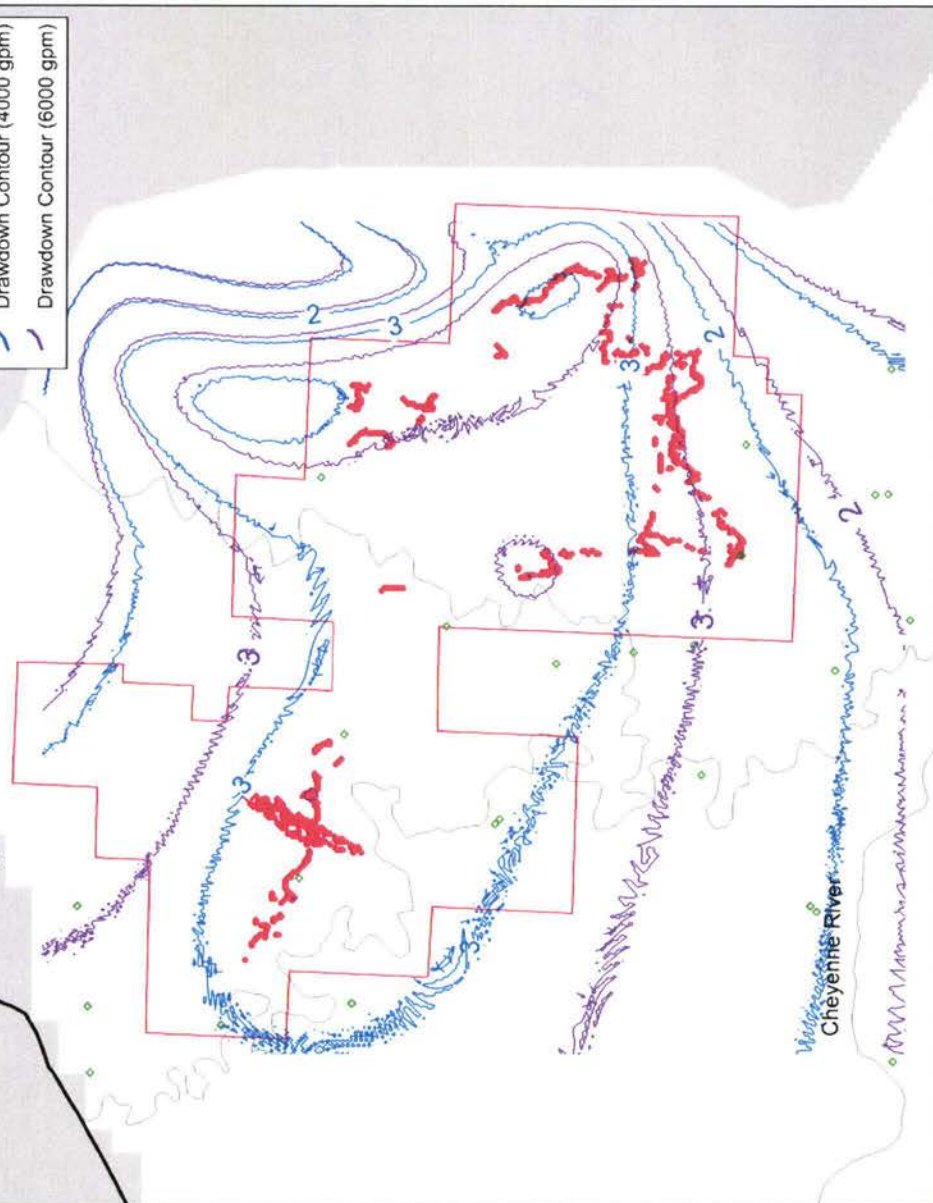
**Drawdown after 183 Days
Production at BWF3,
BWF4 and BWF5 and
Restoration at BWF
(End of Stress Period 4)**



**Comparison of Chilson Drawdown- For 4000 and 6000 gpm
Simulations with and 0.875% Bleed and GWS**

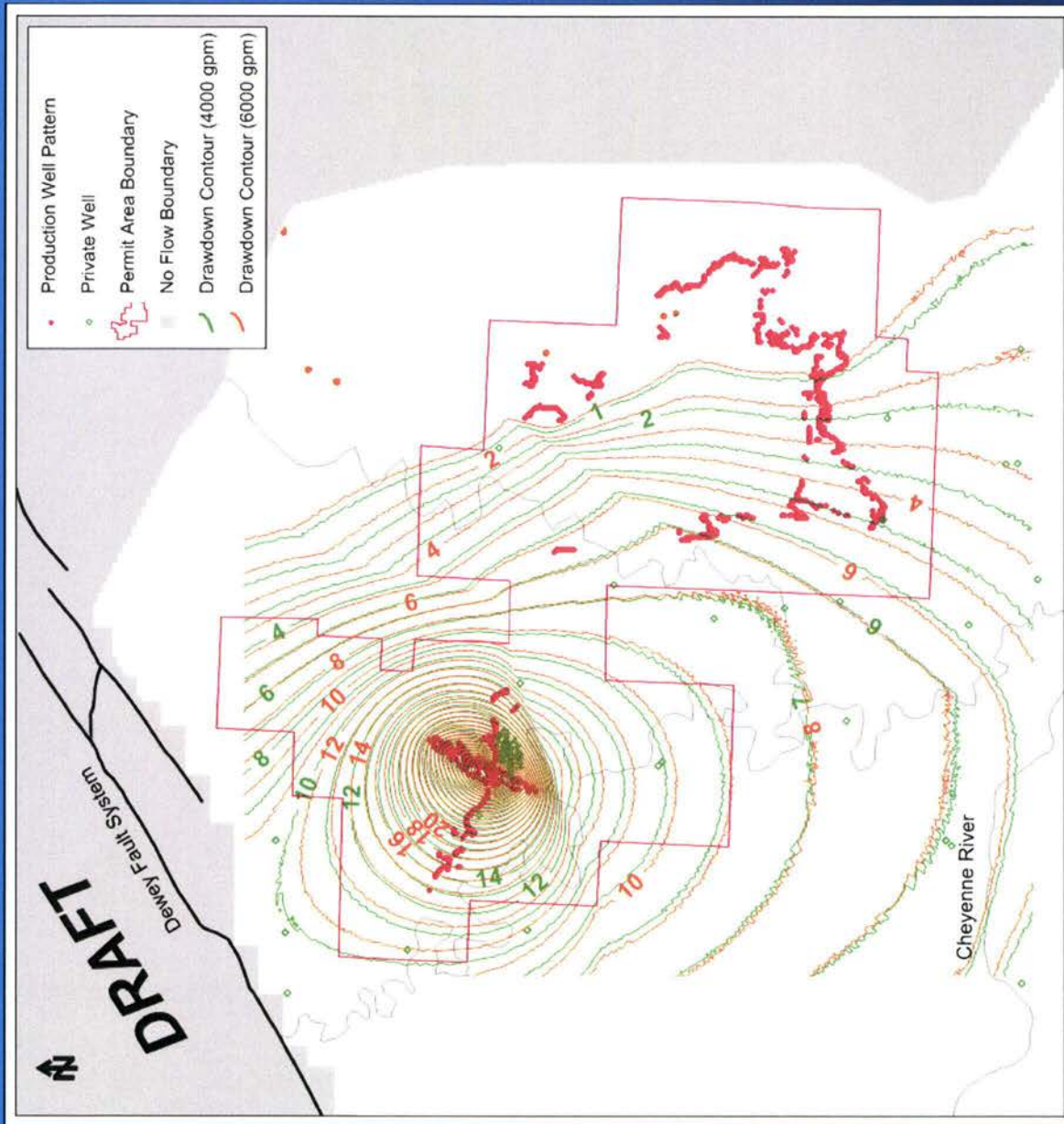
DRAFT
Dewey Fault System

- Production Well Pattern
- Private Well
- Permit Area Boundary
- No Flow Boundary
- Drawdown Contour (4000 gpm)
- Drawdown Contour (6000 gpm)



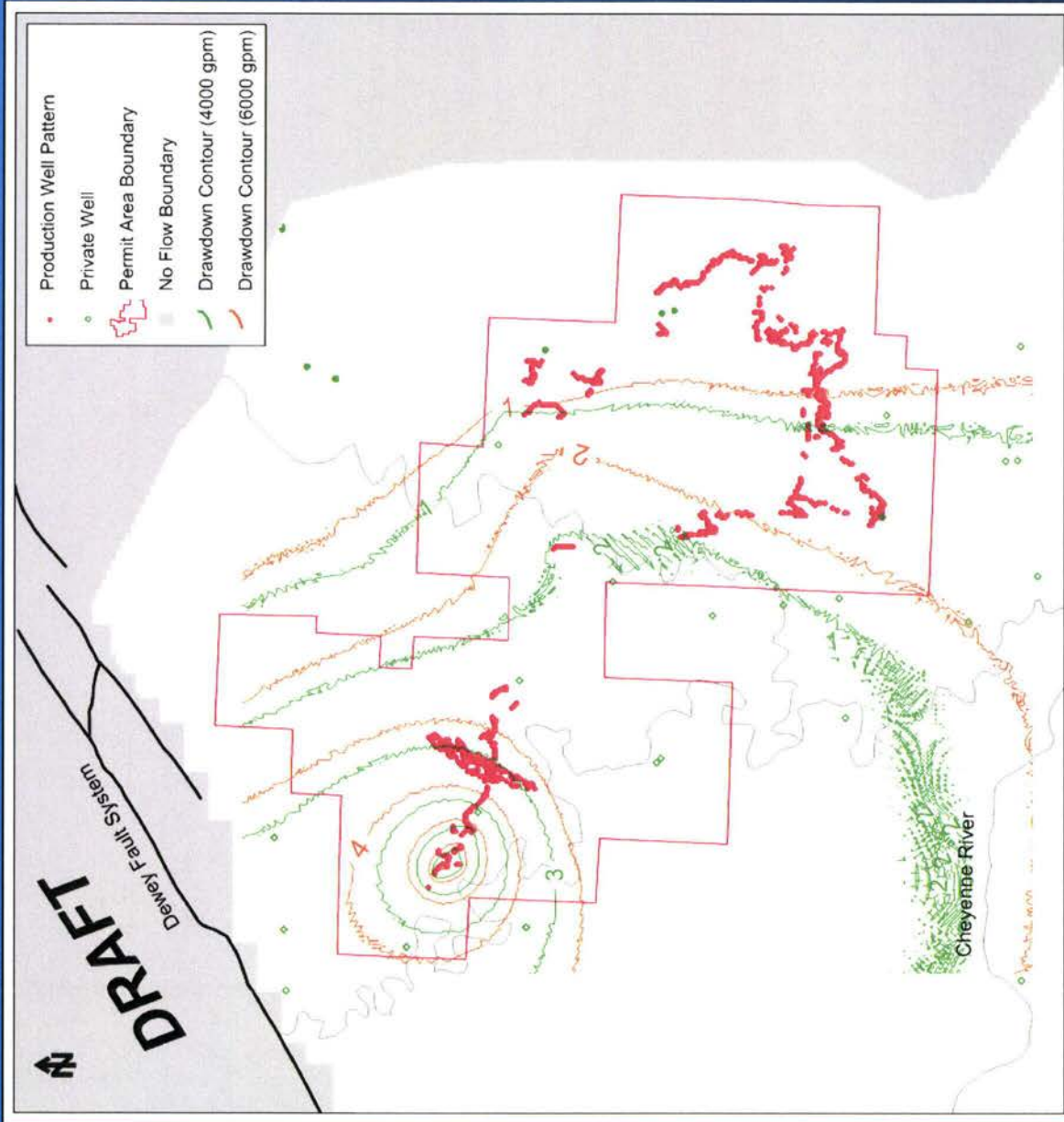
**Drawdown At End of
ISR Operations
(End of Stress Period 12)**

**Comparison of Chilson Drawdown- For 4000 and 6000 gpm
Simulations with 0.875% Bleed and GWS**



**Drawdown After
1177 Days of Production
at DWF1 and 91 Days
of Restoration at DWF1
(End of Stress Period 4)**

**Comparison of Fall River Drawdown- For 4000 and 6000 gpm
Simulations with and 0.875% Bleed and GWS**

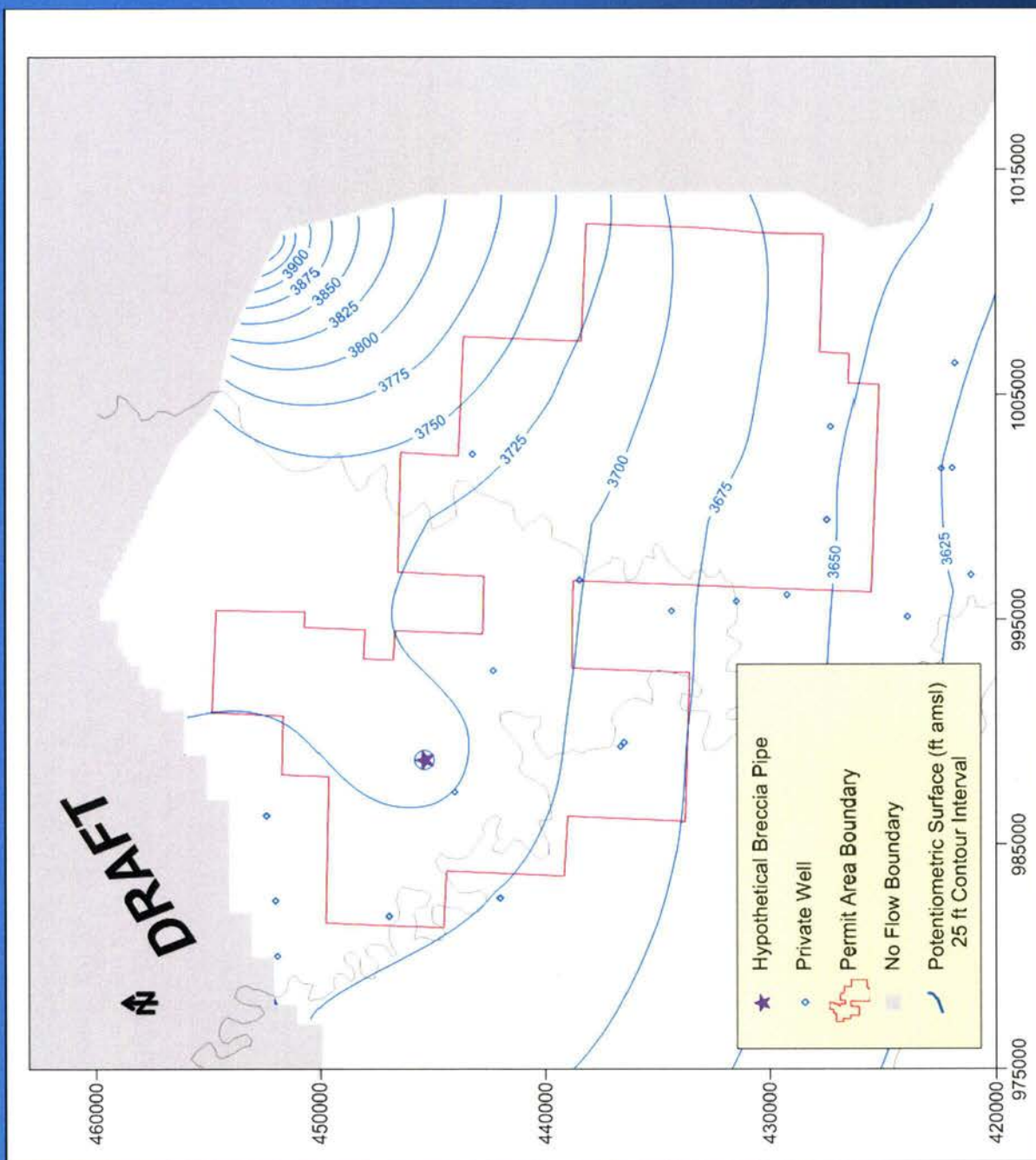


**Drawdown At 12 End of
ISR Operations
(End of Stress Period 12)**

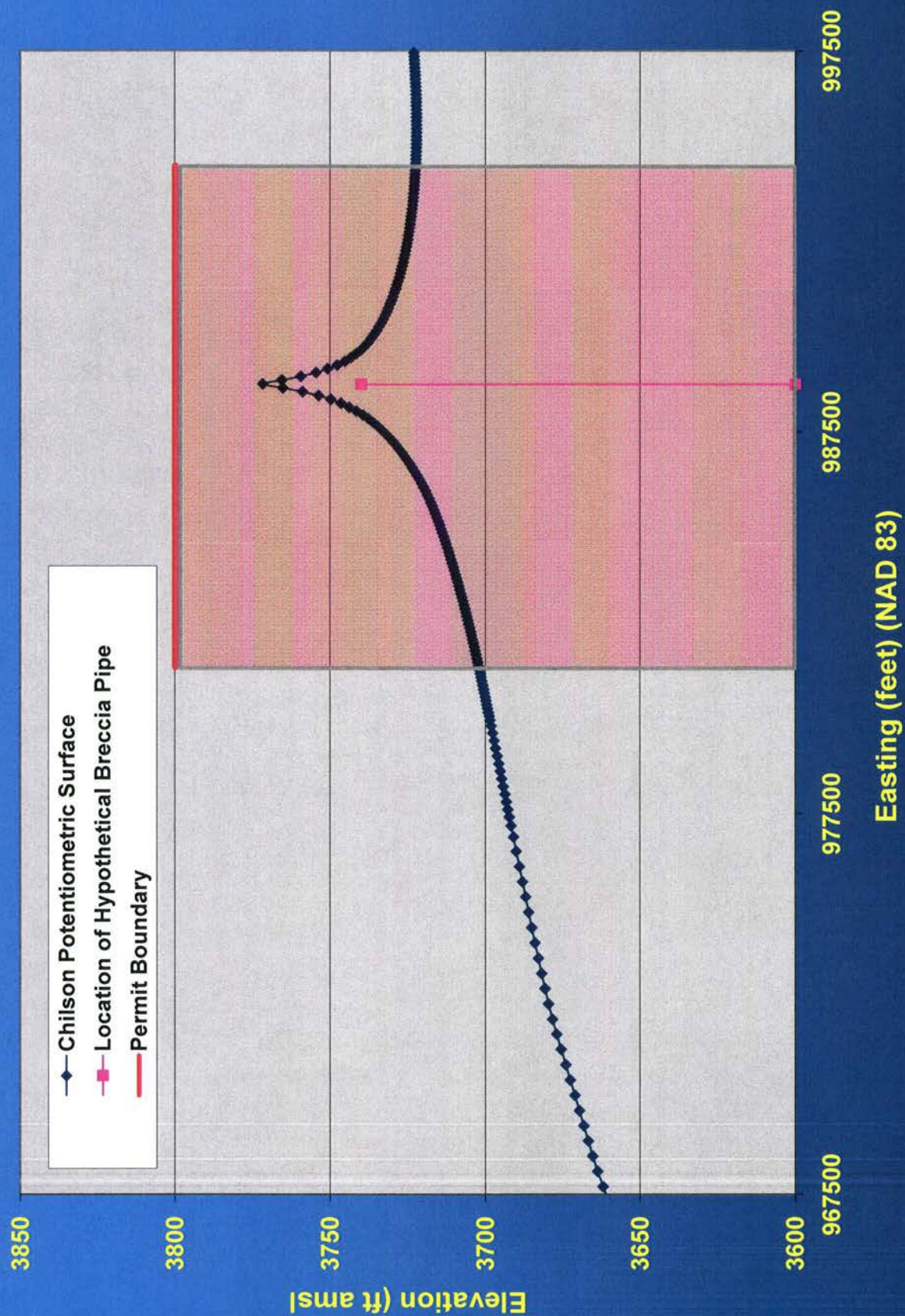
**Comparison of Fall River Drawdown- For 4000 and 6000 gpm
Simulations with and 0.875% Bleed and GWS**

Summary of Life of Mine Simulations

- Simulated Production at 4000 and 6000 gpm with 0.875 % Net Bleed both with and without Groundwater Sweep
- Simulated Drawdown Outside of Permit Area is Generally < 10 feet During All Phases of Production and Restoration
- Modeling Supports Viability of ISR Mining for Uranium in the Fall River and Chilson Aquifers



Simulation of Hypothetical Breccia Pipe Release in the Chilson Within the Permit Area at 200 gpm

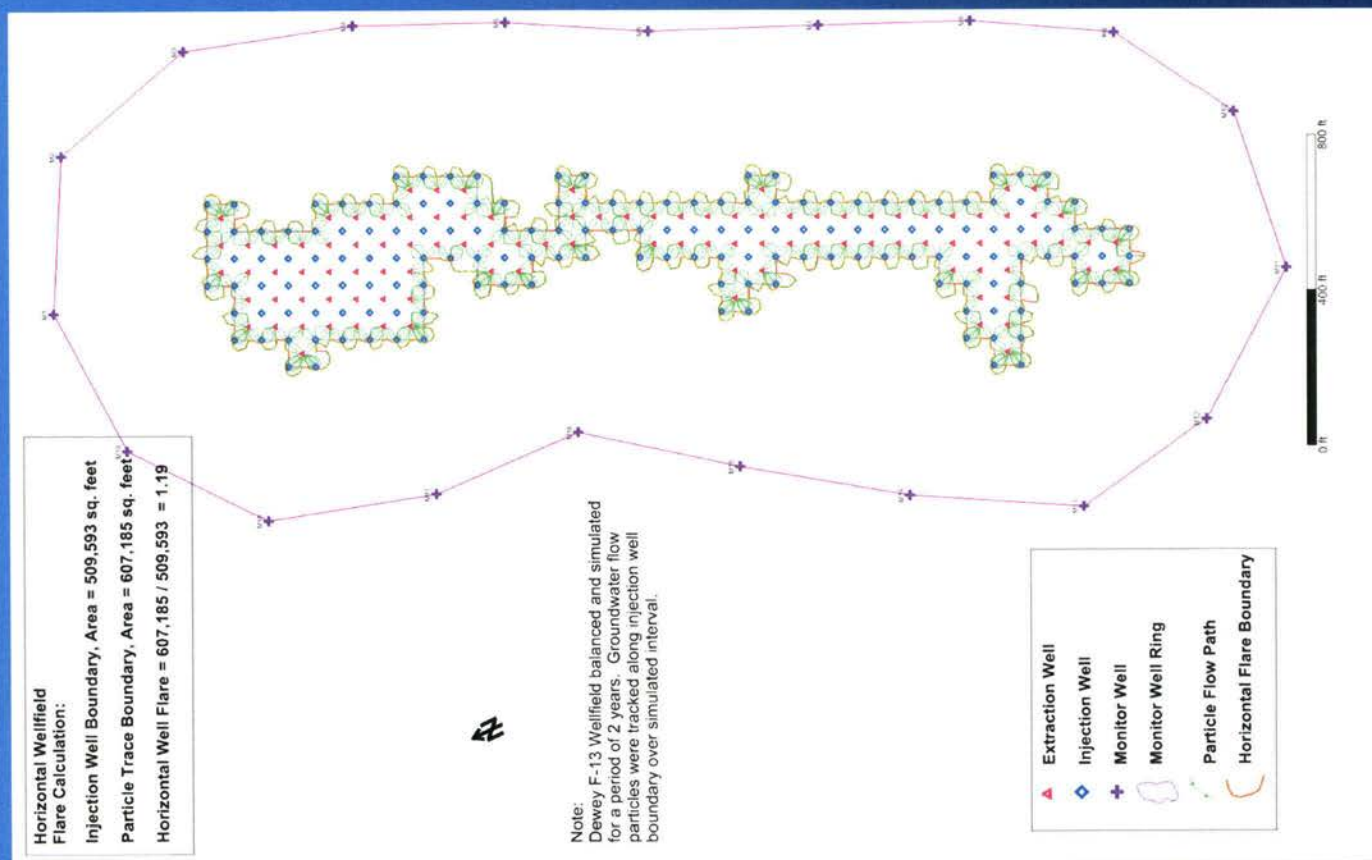


Hydraulic Profile (East-West) Through Hypothetical Breccia Pipe

WELLFIELD SIMULATIONS

- Wellfield Flare
- Monitor Ring Spacing/Excursion Detection
- Excursion Recovery
- Wellfield Balance

Simulation of Wellfield Balancing and Wellfield Flare Calculation (Previously Submitted to NRC) (Dewey Fall River Wellfield)



SUMMARY

- *Groundwater Model Developed and Calibrated using Site-Specific Geologic and Hydrologic Data*
- *Model Simulations Support Aquifer Sustainability at Projected Production Rates for Life of Mine Operations*
- *Modeling Supports Viability of ISR Mining for Uranium in the Fall River and Chilson Aquifers*

QUESTIONS?

COMMENTS?

Hudson, Roberta

From: Frank Lichnovsky <flichnovsky@powertechuranium.com>
Sent: Tuesday, May 08, 2012 4:09 PM
To: Hudson, Roberta
Subject: re: Deadwood Contact question

Thanks Bobby

From: Roberta.Hudson@state.sd.us
Sent: Tuesday, May 08, 2012 2:45 PM
To: flichnovsky@powertechuranium.com
Subject: Deadwood Contact question

Frank,

Below is a link to a stratigraphic correlation chart from our SDGS in the Oil and Gas Investigation Series. For the Eastern Powder River Basin – Western Black Hills (which is denoted as the area around Dewey-Burdock), there are 3 formations noted between the Madison Formation and the Deadwood Formation. These are the Englewood Limestone, Whitewood Limestone, and Winnipeg Formation. The well driller may have been referring to the Deadwood Contact as the transitions through these formations. In the Northern Hills the Englewood is a thin purple shale with limestone, the Whitewood is a brecciated limestone, and the Winnipeg is limestone/shale mix.

[http://www.sddenr.net/publist/search_results_publist.cfm?limit to download=Yes&sql option=21](http://www.sddenr.net/publist/search_results_publist.cfm?limit%20to%20download=Yes&sql_option=21)

Look at the first .pdf file on the list (OGI-01).

Hope this helps a little more!

Roberta Hudson

Natural Resources Project Engineer
Minerals and Mining Program

Hudson, Roberta

From: Cepak, Mike
Sent: Friday, October 26, 2012 2:46 PM
To: Hudson, Roberta
Subject: FW: September 2012 Alluvial Compliance Well Data
Attachments: September 2012 Alluvial Compliance Well Data.pdf

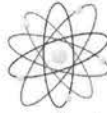
From: Lisa Scheinost [<mailto:escheinost@mail.powertechuranium.com>]
Sent: Friday, October 26, 2012 2:38 PM
To: Hicks, Matt
Cc: Richard Blubaugh; John Mays; Mark Hollenbeck; Jack Fritz; Cepak, Mike; ronald.burrows@nrc.gov; shea.valois@epa.gov; bellelaw@bellelaw.com; matkins@blm.gov
Subject: September 2012 Alluvial Compliance Well Data

Matt,

Groundwater sampling results through September 2012 for alluvial compliance wells at the Dewey-Burdock site are attached. If you would like a hardcopy of the report, please let me know and I will be happy to mail one.

Sincerely,

Lisa Scheinost
Office and Data Manager
Dewey-Burdock Project
Powertech (USA) Inc.
310 2nd Avenue
P.O. Box 812
Edgemont, SD 57735
P: 605-662-8308
F: 605-662-8368
escheinost@powertechuranium.com
www.powertechuranium.com



POWERTECH (USA) INC.

October 26, 2012

Matt Hicks
Senior Hydrologist
Groundwater Quality Program
South Dakota Department of Environment and Natural Resources
523 East Capitol Avenue
Joe Foss Building
Pierre, SD 57501-3182

**Re: Dewey-Burdock Groundwater Discharge Permit Application
September 2012 Analytical Results for Alluvial Compliance Wells**

Dear Mr. Hicks:

September 2012 analytical results for groundwater samples collected from Dewey-Burdock alluvial compliance wells are enclosed. These samples are part of the on-going monthly sampling program being conducted at the Dewey-Burdock Project to address ambient sampling requirements of ARSD 74:54:02:18. Please note that well DC-3 was dry and was not sampled. Laboratory results for future monthly samples will be forwarded as they become available.

Powertech (USA) Inc. appreciates the opportunity to provide the enclosed information. Please do not hesitate to contact me or John Mays, Vice President Engineering, at (303) 790-7528 with any questions.

Sincerely,

Richard Blubaugh
Vice President – Health, Safety and Environmental Resources

Encl. Data Summary Tables through September 2012
Laboratory Data Package R12090145

Cc: John Mays, Powertech (USA) Inc.
Mark Hollenbeck, Powertech (USA) Inc.
Jack Fritz, WWC Engineering
Mike Cepak, SD DENR
Ronald Burrows, NRC
Valois Shea, EPA
Marian Atkins, BLM
Max Main, Bennett, Main & Gubbrud, P.C.

DATA SUMMARY TABLES
THROUGH
SEPTEMBER 2012

Powertech (USA) Inc. Dewey-Burdock Project Alluvial Compliance Well Sampling Results		Well DC-1	Well DC-1	Well DC-1	Well DC-1	Well DC-1 Arithmetic Mean + 1 Standard Deviation*	Human Health Standards ARSD 74:54:01:04	Proposed PAL for Well DC-1
Sample Collection Date		7/24/2012	8/21/2012	9/11/2012	10/3/2012			
Well Location, Elevation and Construction Details								
Northing (State Plane SD S NAD 27) ¹	feet	447093.13						
Easting (State Plane SD S NAD 27) ¹	feet	1013760.44						
Latitude (NAD 83) ²	degrees	43.499431056						
Longitude (NAD 83) ²	degrees	104.052110489						
Top of Casing Elevation (NGVD 29) ¹	feet AMSL	3645.45						
Casing and Screen Diameter	inches	2						
Screen Length	feet	10						
Well Stickup Above Ground Surface	feet	2.73						
Total Well Depth (Below Top of Casing)	feet	27.60						
Dedicated Tubing Intake (Below Top of Casing)	feet	no tubing installed (well bailed)						
Field Measurements								
Water Level Below Top of Casing	feet	22.86	23.00	23.06	23.16			
Water Level Elevation (NGVD 29)	feet AMSL	3622.59	3622.45	3622.39	3622.29			
Well Volume	gal	0.8	0.8	0.7	0.7			
Volume Purged Prior to Sample Collection	gal	2.75	2.5	2.5	2.25			
Field pH	s.u.	7.04	7.05	6.93	7.00			
Field Temperature	°C	14.8	10.0	11.4	11.3			
Field Conductivity	mS/cm	5.7	6.3	7.61	6.97			
Clarity	observed	sl. cloudy	cloudy	cloudy	cloudy			
Color	observed	tan-yellow	tan	tan	tan			
Odor	observed	none	none	none	none			
Physical Properties								
Lab pH	s.u.	7.23	7.25	7.17		TBD	6.5 - 8.5	TBD
Total Dissolved Solids	mg/L	6400	5700	6100		TBD	1000	TBD
Lab Conductivity	umhos/cm	6080	5940	6350		TBD		TBD
Common Elements and Ions								
Alkalinity, Total as CaCO ₃	mg/L	404	366	392		TBD		TBD
Bicarbonate as HCO ₃	mg/L	492	446	478		TBD		TBD
Calcium, Ca	mg/L	424	438	442		TBD		TBD
Carbonate as CO ₃	mg/L	< 5	< 5	< 5		TBD		TBD
Chloride, Cl	mg/L	92	73	85		TBD	250	TBD
Magnesium, Mg	mg/L	348	353	400		TBD		TBD
Nitrate, NO ₃ ⁻ (as Nitrogen)	mg/L	5.5	7.5	7.7		TBD	10	TBD
Potassium, K	mg/L	15	13	14		TBD		TBD
Sodium, Na	mg/L	1030	896	1210		TBD		TBD
Sulfate, SO ₄	mg/L	4010	3520	3970		TBD	500	TBD
Trace and Minor Elements								
Dissolved Arsenic, As	mg/L	0.001	< 0.001	0.001		TBD	0.01	TBD
Dissolved Barium, Ba	mg/L	< 0.05	< 0.05	< 0.05		TBD	2	TBD
Dissolved Boron, B	mg/L	1.2	1.3	1.4		TBD		TBD
Dissolved Cadmium, Cd	mg/L	< 0.001	< 0.001	0.001		TBD	0.005	TBD
Dissolved Chromium, Cr	mg/L	< 0.005	< 0.005	0.010		TBD	0.1	TBD
Dissolved Copper, Cu	mg/L	0.038	< 0.005	0.009		TBD	1.0	TBD
Dissolved Fluoride, F	mg/L	1.1	1.2	1.1		TBD	4	TBD
Dissolved Iron, Fe	mg/L	0.04	< 0.03	< 0.03		TBD		TBD
Dissolved Lead, Pb	mg/L	0.001	< 0.001	< 0.001		TBD	0.015	TBD
Dissolved Manganese, Mn	mg/L	0.456	0.330	0.757		TBD		TBD
Total Mercury, Hg	mg/L	< 0.0001	< 0.0001	< 0.0001		TBD	0.002	TBD
Dissolved Molybdenum, Mo	mg/L	0.003	0.003	0.002		TBD		TBD
Dissolved Nickel, Ni	mg/L	0.047	0.032	0.086		TBD		TBD
Dissolved Selenium, Se	mg/L	0.034	0.032	0.060		TBD	0.05	TBD
Dissolved Silver, Ag	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.1	TBD
Dissolved Uranium, U	mg/L	0.0225	0.0243	0.0184		TBD	0.03	TBD
Dissolved Vanadium, V	mg/L	< 0.01	< 0.01	< 0.01		TBD		TBD
Dissolved Zinc, Zn	mg/L	0.14	0.05	0.11		TBD		TBD
Radiological Parameters								
Dissolved Gross Alpha	pCi/L	29.2	13.3	-0.4		TBD	15	TBD
Dissolved Gross Beta	pCi/L	2.0	-9	5.7		TBD	4 mrem/year	TBD
Dissolved Radium 228	pCi/L	1.1	0.3	0.4		TBD	5 ³	TBD
Dissolved Radium 226	pCi/L	1.1	0.8	0.9		TBD	5 ³	TBD
Total Radon 222	pCi/L	1830	1440	1810		TBD	300	TBD

Highlighted value exceeds ARSD 74:54:01:04 Human Health Standard.

* For results below the reporting limit, 1/2 the reporting limit was used to calculate the arithmetic mean and the standard deviation.

Note 1: Coordinates and elevation surveyed by Andersen Engineers, August 2012.

Note 2: Surveyed coordinates converted to latitude and longitude using CORPSCON 6.0.1 downloaded from <http://www.agc.army.mil/corpscon/>.

Note 3: Health standard is for radium 228 + radium 226.

Powertech (USA) Inc. Dewey-Burdock Project Alluvial Compliance Well Sampling Results		Well DC-2	Well DC-2	Well DC-2	Well DC-2	Well DC-2 Arithmetic Mean + 1 Standard Deviation*	Human Health Standards ARSD 74:54:01:04	Proposed PAL for Well DC-2
Sample Collection Date		7/23/2012	8/20/2012	9/10/2012	10/2/2012			
Well Location, Elevation and Construction Details								
Northing (State Plane SD S NAD 27) ¹	feet	444788.27						
Easting (State Plane SD S NAD 27) ¹	feet	1014726.19						
Latitude (NAD 83) ²	degrees	43.493232021						
Longitude (NAD 83) ²	degrees	104.048085721						
Top of Casing Elevation (NGVD 29) ³	feet AMSL	3616.28						
Casing and Screen Diameter	inches	2						
Screen Length	feet	20						
Well Stickup Above Ground Surface	feet	2.84						
Total Well Depth (Below Top of Casing)	feet	32.94						
Dedicated Tubing Intake (Below Top of Casing)	feet	23						
Field Measurements								
Water Level Below Top of Casing	feet	13.12	14.32	14.42	14.49			
Water Level Elevation (NGVD 29)	feet AMSL	3603.16	3601.96	3601.86	3601.79			
Well Volume	gal	3.2	3.0	3.0	3.0			
Volume Purged Prior to Sample Collection	gal	10.5	9	9	9			
Field pH	s.u.	7.24	7.32	7.22	7.20			
Field Temperature	°C	11.9	12.1	12.5	12.5			
Field Conductivity	mS/cm	4.9	4.7	5.63	5.45			
Clarity	observed	clear	clear	clear	clear			
Color	observed	clear	clear	clear	clear			
Odor	observed	none	none	none	none			
Physical Properties								
Lab pH	s.u.	7.17	7.13	7.19		TBD	6.5 - 8.5	TBD
Total Dissolved Solids	mg/L	4600	4600	4600		TBD	1000	TBD
Lab Conductivity	umhos/cm	5010	5710	5540		TBD		TBD
Common Elements and Ions								
Alkalinity, Total as CaCO ₃	mg/L	264	260	264		TBD		TBD
Bicarbonate as HCO ₃	mg/L	322	317	322		TBD		TBD
Calcium, Ca	mg/L	524	524	516		TBD		TBD
Carbonate as CO ₃	mg/L	< 5	< 5	< 5		TBD		TBD
Chloride, Cl	mg/L	854	756	753		TBD	250	TBD
Magnesium, Mg	mg/L	145	144	147		TBD		TBD
Nitrate, NO ₃ ⁻ (as Nitrogen)	mg/L	< 0.1	0.2	0.3		TBD	10	TBD
Potassium, K	mg/L	7	7	7		TBD		TBD
Sodium, Na	mg/L	799	715	714		TBD		TBD
Sulfate, SO ₄	mg/L	2140	1920	1890		TBD	500	TBD
Trace and Minor Elements								
Dissolved Arsenic, As	mg/L	< 0.001	< 0.001	0.002		TBD	0.01	TBD
Dissolved Barium, Ba	mg/L	< 0.05	< 0.05	< 0.05		TBD	2	TBD
Dissolved Boron, B	mg/L	0.2	0.3	0.3		TBD		TBD
Dissolved Cadmium, Cd	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.005	TBD
Dissolved Chromium, Cr	mg/L	< 0.005	< 0.005	0.005		TBD	0.1	TBD
Dissolved Copper, Cu	mg/L	< 0.005	< 0.005	< 0.005		TBD	1.0	TBD
Dissolved Fluoride, F	mg/L	0.7	0.6	0.6		TBD	4	TBD
Dissolved Iron, Fe	mg/L	0.48	0.36	0.42		TBD		TBD
Dissolved Lead, Pb	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.015	TBD
Dissolved Manganese, Mn	mg/L	3.88	3.41	3.13		TBD		TBD
Total Mercury, Hg	mg/L	< 0.0001	< 0.0001	< 0.0001		TBD	0.002	TBD
Dissolved Molybdenum, Mo	mg/L	0.005	0.005	0.004		TBD		TBD
Dissolved Nickel, Ni	mg/L	< 0.005	< 0.005	0.010		TBD		TBD
Dissolved Selenium, Se	mg/L	0.002	0.001	0.003		TBD	0.05	TBD
Dissolved Silver, Ag	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.1	TBD
Dissolved Uranium, U	mg/L	0.0089	0.0081	0.0091		TBD	0.03	TBD
Dissolved Vanadium, V	mg/L	< 0.01	0.09	< 0.01		TBD		TBD
Dissolved Zinc, Zn	mg/L	0.04	0.04	< 0.01		TBD		TBD
Radiological Parameters								
Dissolved Gross Alpha	pCi/L	-10	-5	9.9		TBD	15	TBD
Dissolved Gross Beta	pCi/L	-1	-10	2.2		TBD	4 mrem/year	TBD
Dissolved Radium 228	pCi/L	0.5	0.7	0.6		TBD	5 ³	TBD
Dissolved Radium 226	pCi/L	0.4	0.4	0.3		TBD	5 ³	TBD
Total Radon 222	pCi/L	1990	1850	2150		TBD	300	TBD

Highlighted value exceeds ARSD 74:54:01:04 Human Health Standard.

* For results below the reporting limit, 1/2 the reporting limit was used to calculate the arithmetic mean and the standard deviation.

Note 1: Coordinates and elevation surveyed by Andersen Engineers, August 2012.

Note 2: Surveyed coordinates converted to latitude and longitude using CORPSCON 6.0.1 downloaded from <http://www.agc.army.mil/corpscon/>.

Note 3: Health standard is for radium 228 + radium 226.

Powertech (USA) Inc. Dewey-Burdock Project Alluvial Compliance Well Sampling Results		Well DC-3	Well DC-3	Well DC-3	Well DC-3	Well DC-3 Arithmetic Mean + 1 Standard Deviation*	Human Health Standards ARSD 74:54:01:04	Proposed PAL for Well DC-3
Sample Collection Date		7/23/2012	8/20/2012	9/10/2012	10/2/2012			
Well Location, Elevation and Construction Details								
Northing (State Plane SD S NAD 27) ¹	feet	444037.97						
Easting (State Plane SD S NAD 27) ¹	feet	1016403.16						
Latitude (NAD 83) ²	degrees	43.491380990						
Longitude (NAD 83) ²	degrees	104.041645784						
Top of Casing Elevation (NGVD 29) ¹	feet AMSL	3623.30						
Casing and Screen Diameter	inches	2						
Screen Length	feet	10						
Well Stickup Above Ground Surface	feet	2.26						
Total Well Depth (Below Top of Casing)	feet	25.10						
Dedicated Tubing Intake (Below Top of Casing)	feet	no tubing installed (dry well)						
Field Measurements								
Water Level Below Top of Casing	feet	Dry	Dry	Dry	24.70			
Water Level Elevation (NGVD 29)	feet AMSL	Dry	Dry	Dry	3598.60			
Well Volume	gal	Dry	Dry	Dry	Insufficient Volume to Sample			
Volume Purged Prior to Sample Collection	gal	---	---	---				
Field pH	s.u.	---	---	---				
Field Temperature	°C	---	---	---				
Field Conductivity	mS/cm	---	---	---				
Clarity	observed	---	---	---				
Color	observed	---	---	---				
Odor	observed	---	---	---				
Physical Properties								
Lab pH	s.u.	---	---	---	---	TBD	6.5 - 8.5	TBD
Total Dissolved Solids	mg/L	---	---	---	---	TBD	1000	TBD
Lab Conductivity	umhos/cm	---	---	---	---	TBD		TBD
Common Elements and Ions								
Alkalinity, Total as CaCO ₃	mg/L	---	---	---	---	TBD		TBD
Bicarbonate as HCO ₃	mg/L	---	---	---	---	TBD		TBD
Calcium, Ca	mg/L	---	---	---	---	TBD		TBD
Carbonate as CO ₃	mg/L	---	---	---	---	TBD		TBD
Chloride, Cl	mg/L	---	---	---	---	TBD	250	TBD
Magnesium, Mg	mg/L	---	---	---	---	TBD		TBD
Nitrate, NO ₃ ⁻ (as Nitrogen)	mg/L	---	---	---	---	TBD	10	TBD
Potassium, K	mg/L	---	---	---	---	TBD		TBD
Sodium, Na	mg/L	---	---	---	---	TBD		TBD
Sulfate, SO ₄	mg/L	---	---	---	---	TBD	500	TBD
Trace and Minor Elements								
Dissolved Arsenic, As	mg/L	---	---	---	---	TBD	0.01	TBD
Dissolved Barium, Ba	mg/L	---	---	---	---	TBD	2	TBD
Dissolved Boron, B	mg/L	---	---	---	---	TBD		TBD
Dissolved Cadmium, Cd	mg/L	---	---	---	---	TBD	0.005	TBD
Dissolved Chromium, Cr	mg/L	---	---	---	---	TBD	0.1	TBD
Dissolved Copper, Cu	mg/L	---	---	---	---	TBD	1.0	TBD
Dissolved Fluoride, F	mg/L	---	---	---	---	TBD	4	TBD
Dissolved Iron, Fe	mg/L	---	---	---	---	TBD		TBD
Dissolved Lead, Pb	mg/L	---	---	---	---	TBD	0.015	TBD
Dissolved Manganese, Mn	mg/L	---	---	---	---	TBD		TBD
Total Mercury, Hg	mg/L	---	---	---	---	TBD	0.002	TBD
Dissolved Molybdenum, Mo	mg/L	---	---	---	---	TBD		TBD
Dissolved Nickel, Ni	mg/L	---	---	---	---	TBD		TBD
Dissolved Selenium, Se	mg/L	---	---	---	---	TBD	0.05	TBD
Dissolved Silver, Ag	mg/L	---	---	---	---	TBD	0.1	TBD
Dissolved Uranium, U	mg/L	---	---	---	---	TBD	0.03	TBD
Dissolved Vanadium, V	mg/L	---	---	---	---	TBD		TBD
Dissolved Zinc, Zn	mg/L	---	---	---	---	TBD		TBD
Radiological Parameters								
Dissolved Gross Alpha	pCi/L	---	---	---	---	TBD	15	TBD
Dissolved Gross Beta	pCi/L	---	---	---	---	TBD	4 mrem/year	TBD
Dissolved Radium 228	pCi/L	---	---	---	---	TBD	5 ³	TBD
Dissolved Radium 226	pCi/L	---	---	---	---	TBD	5 ³	TBD
Total Radon 222	pCi/L	---	---	---	---	TBD	300	TBD

Highlighted value exceeds ARSD 74:54:01:04 Human Health Standard.

* For results below the reporting limit, 1/2 the reporting limit was used to calculate the arithmetic mean and the standard deviation.

Note 1: Coordinates and elevation surveyed by Andersen Engineers, August 2012.

Note 2: Surveyed coordinates converted to latitude and longitude using CORPSCON 6.0.1 downloaded from <http://www.agc.army.mil/corpscon/>.

Note 3: Health standard is for radium 228 + radium 226.

Powertech (USA) Inc. Dewey-Burdock Project Alluvial Compliance Well Sampling Results		Well DC-4	Well DC-4	Well DC-4	Well DC-4	Well DC-4 Arithmetic Mean + 1 Standard Deviation*	Human Health Standards ARSD 74:54:01:04	Proposed PAL for Well DC-4
Sample Collection Date		7/24/2012	8/20/2012	9/10/2012	10/2/2012			
Well Location, Elevation and Construction Details								
Northing (State Plane SD S NAD 27) ¹	feet	443942.11						
Easting (State Plane SD S NAD 27) ¹	feet	1018562.17						
Latitude (NAD 83) ²	degrees	43.491382328						
Longitude (NAD 83) ²	degrees	104.033501308						
Top of Casing Elevation (NGVD 29) ¹	feet AMSL	3618.34						
Casing and Screen Diameter	inches	2						
Screen Length	feet	10						
Well Stickup Above Ground Surface	feet	2.15						
Total Well Depth (Below Top of Casing)	feet	25.09						
Dedicated Tubing Intake (Below Top of Casing)	feet	22						
Field Measurements								
Water Level Below Top of Casing	feet	19.92	19.98	19.99	19.98			
Water Level Elevation (NGVD 29)	feet AMSL	3598.42	3598.36	3598.35	3598.36			
Well Volume	gal	0.8	0.8	0.8	0.8			
Volume Purged Prior to Sample Collection	gal	4	3	4	3			
Field pH	s.u.	7.44	7.43	7.48	7.50			
Field Temperature	°C	11.8	12.2	12.5	13.0			
Field Conductivity	mS/cm	8.9	8.3	10.52	10.37			
Clarity	observed	clear	clear	clear	clear			
Color	observed	clear	clear	clear	clear			
Odor	observed	none	none	none	none			
Physical Properties								
Lab pH	s.u.	7.42	7.44	7.47		TBD	6.5 - 8.5	TBD
Total Dissolved Solids	mg/L	11000	11000	11000		TBD	1000	TBD
Lab Conductivity	umhos/cm	9270	10400	10400		TBD		TBD
Common Elements and Ions								
Alkalinity, Total as CaCO ₃	mg/L	334	346	348		TBD		TBD
Bicarbonate as HCO ₃	mg/L	407	422	424		TBD		TBD
Calcium, Ca	mg/L	388	389	398		TBD		TBD
Carbonate as CO ₃	mg/L	< 5	< 5	< 5		TBD		TBD
Chloride, Cl	mg/L	116	114	117		TBD	250	TBD
Magnesium, Mg	mg/L	620	604	630		TBD		TBD
Nitrate, NO ₃ ⁻ (as Nitrogen)	mg/L	1.7	1.6	1.7		TBD	10	TBD
Potassium, K	mg/L	10	10	11		TBD		TBD
Sodium, Na	mg/L	2080	1820	1820		TBD		TBD
Sulfate, SO ₄	mg/L	7450	6920	7330		TBD	500	TBD
Trace and Minor Elements								
Dissolved Arsenic, As	mg/L	< 0.001	< 0.001	0.001		TBD	0.01	TBD
Dissolved Barium, Ba	mg/L	< 0.05	< 0.05	< 0.05		TBD	2	TBD
Dissolved Boron, B	mg/L	1.8	2.0	2.3		TBD		TBD
Dissolved Cadmium, Cd	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.005	TBD
Dissolved Chromium, Cr	mg/L	< 0.005	< 0.005	0.008		TBD	0.1	TBD
Dissolved Copper, Cu	mg/L	< 0.005	< 0.005	0.008		TBD	1.0	TBD
Dissolved Fluoride, F	mg/L	2.9	2.5	2.6		TBD	4	TBD
Dissolved Iron, Fe	mg/L	< 0.03	< 0.03	< 0.03		TBD		TBD
Dissolved Lead, Pb	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.015	TBD
Dissolved Manganese, Mn	mg/L	0.013	0.004	0.002		TBD		TBD
Total Mercury, Hg	mg/L	< 0.0001	< 0.0001	< 0.0001		TBD	0.002	TBD
Dissolved Molybdenum, Mo	mg/L	0.003	0.002	0.003		TBD		TBD
Dissolved Nickel, Ni	mg/L	< 0.005	< 0.005	0.008		TBD		TBD
Dissolved Selenium, Se	mg/L	0.032	0.034	0.042		TBD	0.05	TBD
Dissolved Silver, Ag	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.1	TBD
Dissolved Uranium, U	mg/L	0.0157	0.0159	0.0171		TBD	0.03	TBD
Dissolved Vanadium, V	mg/L	< 0.01	< 0.01	< 0.01		TBD		TBD
Dissolved Zinc, Zn	mg/L	0.02	0.02	< 0.01		TBD		TBD
Radiological Parameters								
Dissolved Gross Alpha	pCi/L	-5	16.5	-10		TBD	15	TBD
Dissolved Gross Beta	pCi/L	-9	-20	-100		TBD	4 mrem/year	TBD
Dissolved Radium 228	pCi/L	-0.5	0.04	0.4		TBD	5 ³	TBD
Dissolved Radium 226	pCi/L	0.4	0.2	0.2		TBD	5 ³	TBD
Total Radon 222	pCi/L	4820	4530	4140		TBD	300	TBD

Highlighted value exceeds ARSD 74:54:01:04 Human Health Standard.

* For results below the reporting limit, 1/2 the reporting limit was used to calculate the arithmetic mean and the standard deviation.

Note 1: Coordinates and elevation surveyed by Andersen Engineers, August 2012.

Note 2: Surveyed coordinates converted to latitude and longitude using CORPSCON 6.0.1 downloaded from <http://www.agc.army.mil/corpscon/>.

Note 3: Health standard is for radium 228 + radium 226.

Powertech (USA) Inc. Dewey-Burdock Project Alluvial Compliance Well Sampling Results		Well BC-1	Well BC-1	Well BC-1	Well BC-1	Well BC-1 Arithmetic Mean + 1 Standard Deviation*	Human Health Standards ARSD 74:54:01:04	Proposed PAL for Well BC-1
Sample Collection Date		7/23/2012	8/20/2012	9/10/2012	10/2/2012			
Well Location, Elevation and Construction Details								
Northing (State Plane SD S NAD 27) ¹	feet	436026.65						
Easting (State Plane SD S NAD 27) ¹	feet	1029474.73						
Latitude (NAD 83) ²	degrees	43.471011532						
Longitude (NAD 83) ²	degrees	103.991102852						
Top of Casing Elevation (NGVD 29) ¹	feet AMSL	3639.84						
Casing and Screen Diameter	inches	2						
Screen Length	feet	15						
Well Stickup Above Ground Surface	feet	2.50						
Total Well Depth (Below Top of Casing)	feet	32.08						
Dedicated Tubing Intake (Below Top of Casing)	feet	24						
Field Measurements								
Water Level Below Top of Casing	feet	15.23	15.60	15.87	16.01			
Water Level Elevation (NGVD 29)	feet AMSL	3624.61	3624.24	3623.97	3623.83			
Well Volume	gal	2.7	2.7	2.6	2.6			
Volume Purged Prior to Sample Collection	gal	11	9	9	9			
Field pH	s.u.	7.05	7.03	7.18	7.10			
Field Temperature	°C	11.9	12.7	12.2	12.4			
Field Conductivity	mS/cm	3.5	3.3	3.64	3.75			
Clarity	observed	clear	clear	clear	clear			
Color	observed	clear	clear	clear	clear			
Odor	observed	none	none	none	none			
Physical Properties								
Lab pH	s.u.	7.08	7.09	7.17		TBD	6.5 - 8.5	TBD
Total Dissolved Solids	mg/L	3600	3700	3700		TBD	1000	TBD
Lab Conductivity	umhos/cm	3200	3630	3610		TBD		TBD
Common Elements and Ions								
Alkalinity, Total as CaCO ₃	mg/L	288	290	300		TBD		TBD
Bicarbonate as HCO ₃	mg/L	351	354	366		TBD		TBD
Calcium, Ca	mg/L	515	525	513		TBD		TBD
Carbonate as CO ₃	mg/L	< 5	< 5	< 5		TBD		TBD
Chloride, Cl	mg/L	28	25	25		TBD	250	TBD
Magnesium, Mg	mg/L	236	238	234		TBD		TBD
Nitrate, NO ₃ ⁻ (as Nitrogen)	mg/L	< 0.1	0.2	0.3		TBD	10	TBD
Potassium, K	mg/L	13	12	13		TBD		TBD
Sodium, Na	mg/L	206	175	185		TBD		TBD
Sulfate, SO ₄	mg/L	2360	2170	2160		TBD	500	TBD
Trace and Minor Elements								
Dissolved Arsenic, As	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.01	TBD
Dissolved Barium, Ba	mg/L	< 0.05	< 0.05	< 0.05		TBD	2	TBD
Dissolved Boron, B	mg/L	0.65	0.66	0.72		TBD		TBD
Dissolved Cadmium, Cd	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.005	TBD
Dissolved Chromium, Cr	mg/L	< 0.005	0.005	< 0.005		TBD	0.1	TBD
Dissolved Copper, Cu	mg/L	< 0.005	< 0.005	< 0.005		TBD	1.0	TBD
Dissolved Fluoride, F	mg/L	0.6	0.6	0.6		TBD	4	TBD
Dissolved Iron, Fe	mg/L	0.06	< 0.03	0.08		TBD		TBD
Dissolved Lead, Pb	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.015	TBD
Dissolved Manganese, Mn	mg/L	0.110	0.061	0.057		TBD		TBD
Total Mercury, Hg	mg/L	< 0.0001	< 0.0001	< 0.0001		TBD	0.002	TBD
Dissolved Molybdenum, Mo	mg/L	0.005	0.005	0.005		TBD		TBD
Dissolved Nickel, Ni	mg/L	< 0.005	< 0.005	0.013		TBD		TBD
Dissolved Selenium, Se	mg/L	0.001	0.001	0.002		TBD	0.05	TBD
Dissolved Silver, Ag	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.1	TBD
Dissolved Uranium, U	mg/L	0.0757	0.0842	0.0854		TBD	0.03	TBD
Dissolved Vanadium, V	mg/L	< 0.01	< 0.01	< 0.01		TBD		TBD
Dissolved Zinc, Zn	mg/L	< 0.01	< 0.01	< 0.01		TBD		TBD
Radiological Parameters								
Dissolved Gross Alpha	pCi/L	65.9	71.1	78.7		TBD	15	TBD
Dissolved Gross Beta	pCi/L	4.4	-4	0.3		TBD	4 mrem/year	TBD
Dissolved Radium 228	pCi/L	0.5	0.7	1.1		TBD	5 ³	TBD
Dissolved Radium 226	pCi/L	0.4	0.1	0.3		TBD	5 ³	TBD
Total Radon 222	pCi/L	1870	1870	1730		TBD	300	TBD

Highlighted value exceeds ARSD 74:54:01:04 Human Health Standard.

* For results below the reporting limit, 1/2 the reporting limit was used to calculate the arithmetic mean and the standard deviation.

Note 1: Coordinates and elevation surveyed by Andersen Engineers, August 2012.

Note 2: Surveyed coordinates converted to latitude and longitude using CORPSCON 6.0.1 downloaded from <http://www.agc.army.mil/corpscon/>.

Note 3: Health standard is for radium 228 + radium 226.

Powertech (USA) Inc. Dewey-Burdock Project Alluvial Compliance Well Sampling Results		Well BC-2	Well BC-2	Well BC-2	Well BC-2	Well BC-2 Arithmetic Mean + 1 Standard Deviation*	Human Health Standards ARSD 74:54:01:04	Proposed PAL for Well BC-2
Sample Collection Date		7/23/2012	8/20/2012	9/10/2012	10/2/2012			
Well Location, Elevation and Construction Details								
Northing (State Plane SD S NAD 27) ¹	feet	434253.95						
Easting (State Plane SD S NAD 27) ¹	feet	1030548.07						
Latitude (NAD 83) ²	degrees	43.466282015						
Longitude (NAD 83) ²	degrees	103.986769497						
Top of Casing Elevation (NGVD 29) ¹	feet AMSL	3636.33						
Casing and Screen Diameter	inches	2						
Screen Length	feet	10						
Well Stickup Above Ground Surface	feet	2.43						
Total Well Depth (Below Top of Casing)	feet	28.03						
Dedicated Tubing Intake (Below Top of Casing)	feet	23						
Field Measurements								
Water Level Below Top of Casing	feet	5.91	6.29	6.47	6.23			
Water Level Elevation (NGVD 29)	feet AMSL	3630.42	3630.04	3629.86	3630.1			
Well Volume	gal	3.6	3.5	3.5	3.6			
Volume Purged Prior to Sample Collection	gal	10.8	10.5	10.5	12			
Field pH	s.u.	7.12	7.10	7.19	7.10			
Field Temperature	°C	10.3	10.1	10.3	10.1			
Field Conductivity	mS/cm	3.7	3.6	3.87	4.06			
Clarity	observed	clear	clear	clear	clear			
Color	observed	clear	clear	clear	clear			
Odor	observed	none	none	none	none			
Physical Properties								
Lab pH	s.u.	7.07	7.11	7.22		TBD	6.5 - 8.5	TBD
Total Dissolved Solids	mg/L	3800	3900	3900		TBD	1000	TBD
Lab Conductivity	umhos/cm	3430	3860	3850		TBD		TBD
Common Elements and Ions								
Alkalinity, Total as CaCO ₃	mg/L	230	234	234		TBD		TBD
Bicarbonate as HCO ₃	mg/L	280	285	285		TBD		TBD
Calcium, Ca	mg/L	544	516	521		TBD		TBD
Carbonate as CO ₃	mg/L	< 5	< 5	< 5		TBD		TBD
Chloride, Cl	mg/L	21	21	21		TBD	250	TBD
Magnesium, Mg	mg/L	200	218	220		TBD		TBD
Nitrate, NO ₃ ⁻ (as Nitrogen)	mg/L	< 0.1	0.2	0.2		TBD	10	TBD
Potassium, K	mg/L	12	13	13		TBD		TBD
Sodium, Na	mg/L	278	258	278		TBD		TBD
Sulfate, SO ₄	mg/L	2350	2390	2400		TBD	500	TBD
Trace and Minor Elements								
Dissolved Arsenic, As	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.01	TBD
Dissolved Barium, Ba	mg/L	< 0.05	< 0.05	< 0.05		TBD	2	TBD
Dissolved Boron, B	mg/L	0.44	0.46	0.51		TBD		TBD
Dissolved Cadmium, Cd	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.005	TBD
Dissolved Chromium, Cr	mg/L	< 0.005	< 0.005	< 0.005		TBD	0.1	TBD
Dissolved Copper, Cu	mg/L	0.006	< 0.005	< 0.005		TBD	1.0	TBD
Dissolved Fluoride, F	mg/L	0.8	0.7	0.7		TBD	4	TBD
Dissolved Iron, Fe	mg/L	< 0.03	< 0.03	< 0.03		TBD		TBD
Dissolved Lead, Pb	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.015	TBD
Dissolved Manganese, Mn	mg/L	0.042	0.045	0.039		TBD		TBD
Total Mercury, Hg	mg/L	< 0.0001	< 0.0001	< 0.0001		TBD	0.002	TBD
Dissolved Molybdenum, Mo	mg/L	0.012	0.012	0.013		TBD		TBD
Dissolved Nickel, Ni	mg/L	< 0.005	< 0.005	0.011		TBD		TBD
Dissolved Selenium, Se	mg/L	< 0.001	< 0.001	0.002		TBD	0.05	TBD
Dissolved Silver, Ag	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.1	TBD
Dissolved Uranium, U	mg/L	0.0228	0.0240	0.0241		TBD	0.03	TBD
Dissolved Vanadium, V	mg/L	< 0.01	< 0.01	< 0.01		TBD		TBD
Dissolved Zinc, Zn	mg/L	< 0.01	< 0.01	< 0.01		TBD		TBD
Radiological Parameters								
Dissolved Gross Alpha	pCi/L	20.0	3.5	1.8		TBD	15	TBD
Dissolved Gross Beta	pCi/L	4.5	0.5	-10		TBD	4 mrem/year	TBD
Dissolved Radium 228	pCi/L	0.1	-0.1	0.3		TBD	5 ³	TBD
Dissolved Radium 226	pCi/L	0.07	0.3	0.3		TBD	5 ³	TBD
Total Radon 222	pCi/L	2860	2460	2480		TBD	300	TBD

Highlighted value exceeds ARSD 74:54:01:04 Human Health Standard.

* For results below the reporting limit, 1/2 the reporting limit was used to calculate the arithmetic mean and the standard deviation.

Note 1: Coordinates and elevation surveyed by Andersen Engineers, August 2012.

Note 2: Surveyed coordinates converted to latitude and longitude using CORPSCON 6.0.1 downloaded from <http://www.agc.army.mil/corpscon/>.

Note 3: Health standard is for radium 228 + radium 226.

Powertech (USA) Inc. Dewey-Burdock Project Alluvial Compliance Well Sampling Results		Well BC-3	Well BC-3	Well BC-3	Well BC-3	Well BC-3 Arithmetic Mean + 1 Standard Deviation*	Human Health Standards ARSD 74:54:01:04	Proposed PAL for Well BC-3
Sample Collection Date		7/23/2012	8/20/2012	9/10/2012	10/2/2012			
Well Location, Elevation and Construction Details								
Northing (State Plane SD S NAD 27) ¹	feet	438165.90						
Easting (State Plane SD S NAD 27) ¹	feet	1029035.98						
Latitude (NAD 83) ²	degrees	43.476822344						
Longitude (NAD 83) ²	degrees	103.993109146						
Top of Casing Elevation (NGVD 29) ¹	feet AMSL	3654.95						
Casing and Screen Diameter	inches	2						
Screen Length	feet	15						
Well Stickup Above Ground Surface	feet	2.29						
Total Well Depth (Below Top of Casing)	feet	27.56						
Dedicated Tubing Intake (Below Top of Casing)	feet	20						
Field Measurements								
Water Level Below Top of Casing	feet	12.25	12.73	13.05	12.96			
Water Level Elevation (NGVD 29)	feet AMSL	3642.7	3642.22	3641.9	3641.99			
Well Volume	gal	2.5	2.4	2.4	2.4			
Volume Purged Prior to Sample Collection	gal	7.5	7.5	7.5	7.5			
Field pH	s.u.	7.16	7.12	7.33	7.10			
Field Temperature	°C	10.3	10.8	10.8	10.9			
Field Conductivity	mS/cm	3.1	3.0	3.20	3.35			
Clarity	observed	clear	clear	clear	clear			
Color	observed	clear	clear	clear	clear			
Odor	observed	none	none	none	none			
Physical Properties								
Lab pH	s.u.	7.15	7.17	7.22		TBD	6.5 - 8.5	TBD
Total Dissolved Solids	mg/L	3200	3100	3100		TBD	1000	TBD
Lab Conductivity	umhos/cm	2870	3200	3200		TBD		TBD
Common Elements and Ions								
Alkalinity, Total as CaCO ₃	mg/L	254	256	256		TBD		TBD
Bicarbonate as HCO ₃	mg/L	310	312	312		TBD		TBD
Calcium, Ca	mg/L	532	531	535		TBD		TBD
Carbonate as CO ₃	mg/L	< 5	< 5	< 5		TBD		TBD
Chloride, Cl	mg/L	20	19	19		TBD	250	TBD
Magnesium, Mg	mg/L	150	148	152		TBD		TBD
Nitrate, NO ₃ ⁻ (as Nitrogen)	mg/L	0.3	0.3	0.3		TBD	10	TBD
Potassium, K	mg/L	11	11	12		TBD		TBD
Sodium, Na	mg/L	174	158	157		TBD		TBD
Sulfate, SO ₄	mg/L	2010	1850	1820		TBD	500	TBD
Trace and Minor Elements								
Dissolved Arsenic, As	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.01	TBD
Dissolved Barium, Ba	mg/L	< 0.05	< 0.05	< 0.05		TBD	2	TBD
Dissolved Boron, B	mg/L	0.44	0.45	0.49		TBD		TBD
Dissolved Cadmium, Cd	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.005	TBD
Dissolved Chromium, Cr	mg/L	< 0.005	< 0.005	< 0.005		TBD	0.1	TBD
Dissolved Copper, Cu	mg/L	< 0.005	< 0.005	< 0.005		TBD	1.0	TBD
Dissolved Fluoride, F	mg/L	0.6	0.6	0.6		TBD	4	TBD
Dissolved Iron, Fe	mg/L	0.05	< 0.03	< 0.03		TBD		TBD
Dissolved Lead, Pb	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.015	TBD
Dissolved Manganese, Mn	mg/L	0.498	0.461	0.447		TBD		TBD
Total Mercury, Hg	mg/L	< 0.0001	< 0.0001	< 0.0001		TBD	0.002	TBD
Dissolved Molybdenum, Mo	mg/L	0.006	0.006	0.007		TBD		TBD
Dissolved Nickel, Ni	mg/L	< 0.005	< 0.005	0.012		TBD		TBD
Dissolved Selenium, Se	mg/L	0.002	0.003	0.005		TBD	0.05	TBD
Dissolved Silver, Ag	mg/L	< 0.001	< 0.001	< 0.001		TBD	0.1	TBD
Dissolved Uranium, U	mg/L	0.0208	0.0214	0.0226		TBD	0.03	TBD
Dissolved Vanadium, V	mg/L	< 0.01	< 0.01	< 0.01		TBD		TBD
Dissolved Zinc, Zn	mg/L	0.02	< 0.01	< 0.01		TBD		TBD
Radiological Parameters								
Dissolved Gross Alpha	pCi/L	29.9	10.3	11.4		TBD	15	TBD
Dissolved Gross Beta	pCi/L	4.7	2	-1		TBD	4 mrem/year	TBD
Dissolved Radium 228	pCi/L	-0.1	-0.1	0.8		TBD	5 ³	TBD
Dissolved Radium 226	pCi/L	0.08	0.1	0.1		TBD	5 ³	TBD
Total Radon 222	pCi/L	1700	1710	1720		TBD	300	TBD

Highlighted value exceeds ARSD 74:54:01:04 Human Health Standard.

* For results below the reporting limit, 1/2 the reporting limit was used to calculate the arithmetic mean and the standard deviation.

Note 1: Coordinates and elevation surveyed by Andersen Engineers, August 2012.

Note 2: Surveyed coordinates converted to latitude and longitude using CORPSCON 6.0.1 downloaded from <http://www.agc.army.mil/corpscon/>.

Note 3: Health standard is for radium 228 + radium 226.

Powertech (USA) Inc. Dewey-Burdock Project Alluvial Compliance Well QA/QC Sampling Results		Well BC-3	Well BC-3 Duplicate	Well BC-1	Well BC-1 Duplicate	Well DC-4	Well DC-4 Duplicate	Well DC-2	Well DC-2 Duplicate	Well DC-2 Split	Human Health Standards ARSD 74:54:01:04
Sample Collection Date		7/23/2012	7/23/2012	8/20/2012	8/20/2012	9/10/2012	9/10/2012	10/2/2012	10/2/2012	10/2/2012	
Physical Properties											
Lab pH	s.u.	7.15	7.09	7.09	7.10	7.47	7.48				6.5 - 8.5
Total Dissolved Solids	mg/L	3200	3200	3700	3500	11000	11000				1000
Lab Conductivity	umhos/cm	2870	2860	3630	3630	10400	10300				
Common Elements and Ions											
Alkalinity, Total as CaCO ₃	mg/L	254	256	290	290	348	342				
Bicarbonate as HCO ₃	mg/L	310	312	354	354	424	417				
Calcium, Ca	mg/L	532	518	525	515	398	401				
Carbonate as CO ₃	mg/L	< 5	< 5	< 5	< 5	< 5	< 5				
Chloride, Cl	mg/L	20	20	25	25	117	118				250
Magnesium, Mg	mg/L	150	147	238	231	630	620				
Nitrate, NO ₃ (as Nitrogen)	mg/L	0.3	0.3	0.2	0.2	1.7	1.7				10
Potassium, K	mg/L	11	11	12	12	11	11				
Sodium, Na	mg/L	174	175	175	179	1820	1910				
Sulfate, SO ₄	mg/L	2010	2020	2170	2180	7330	7550				500
Trace and Minor Elements											
Dissolved Arsenic, As	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.002				0.01
Dissolved Barium, Ba	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05				2
Dissolved Boron, B	mg/L	0.44	0.44	0.66	0.67	2.3	2.3				
Dissolved Cadmium, Cd	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				0.005
Dissolved Chromium, Cr	mg/L	< 0.005	< 0.005	0.005	< 0.005	0.008	0.008				0.1
Dissolved Copper, Cu	mg/L	< 0.005	< 0.005	< 0.005	< 0.005	0.008	0.011				1.0
Dissolved Fluoride, F	mg/L	0.6	0.6	0.6	0.6	2.6	2.7				4
Dissolved Iron, Fe	mg/L	0.05	0.05	< 0.03	0.04	< 0.03	< 0.03				
Dissolved Lead, Pb	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				0.015
Dissolved Manganese, Mn	mg/L	0.498	0.494	0.061	0.059	0.002	0.002				
Total Mercury, Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001				0.002
Dissolved Molybdenum, Mo	mg/L	0.006	0.006	0.005	0.005	0.003	0.003				
Dissolved Nickel, Ni	mg/L	< 0.005	< 0.005	< 0.005	< 0.005	0.008	0.009				
Dissolved Selenium, Se	mg/L	0.002	0.002	0.001	0.001	0.042	0.042				0.05
Dissolved Silver, Ag	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				0.1
Dissolved Uranium, U	mg/L	0.0208	0.0208	0.0842	0.0861	0.0171	0.0175				0.03
Dissolved Vanadium, V	mg/L	< 0.01	< 0.01	< 0.01	0.04	< 0.01	< 0.01				
Dissolved Zinc, Zn	mg/L	0.02	0.02	< 0.01	< 0.01	< 0.01	< 0.01				
Radiological Parameters											
Dissolved Gross Alpha	pCi/L	29.9	23.4	71.1	89.2	-10	16.4				15
Dissolved Gross Beta	pCi/L	4.7	7.1	-4	8.4	-100	-4				4 mrem/year
Dissolved Radium 228	pCi/L	-0.1	0.4	0.7	0.9	0.4	0.3				5 ³
Dissolved Radium 226	pCi/L	0.08	0.06	0.1	0.2	0.2	0.2				5 ³
Total Radon 222	pCi/L	1700	1640	1870	1800	4140	4390				300

Highlighted value exceeds ARSD 74:54:01:04 Human Health Standard.



POWERTECH (USA) INC.

LABORATORY DATA PACKAGE

R12090145

P.O. Box 812 / 310 2nd Avenue
Edgemont, SD 57735 USA

Telephone: 605-662-8308
Facsimile: 605-662-8368

Website: www.powertechuranium.com
Email: info@powertechuranium.com



ANALYTICAL SUMMARY REPORT

October 24, 2012

Powertech USA Inc
PO Box 812
Edgemont, SD 57735

Workorder No.: R12090145 Quote ID: R411

Project Name: Alluvial Wells Dewey Burdock

Energy Laboratories Inc. Rapid City SD received the following 7 samples for Powertech USA Inc on 9/11/2012 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
R12090145-001	DC-2	09/10/12 09:35	09/11/12	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Anion - Cation Balance Conductivity Mercury, Total Anions by Ion Chromatography pH Dissolved Filtration Digestion, Mercury by CVAA Gross Alpha, Gross Beta Radium 226, Dissolved Radium 228, Dissolved Radon 222 Solids, Total Dissolved
R12090145-002	DC-4	09/10/12 10:36	09/11/12	Aqueous	Same As Above
R12090145-003	DC-4 Dup	09/10/12 10:37	09/11/12	Aqueous	Same As Above
R12090145-004	BC-3	09/10/12 12:03	09/11/12	Aqueous	Same As Above
R12090145-005	BC-1	09/10/12 13:41	09/11/12	Aqueous	Same As Above
R12090145-006	BC-2	09/10/12 14:42	09/11/12	Aqueous	Same As Above
R12090145-007	DC-1	09/11/12 09:17	09/11/12	Aqueous	Same As Above

This report was prepared by Energy Laboratories, Inc., 2821 Plant St., Rapid City, SD 57702. As appropriate, any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By:

Linda K. Larson
Branch Manager

Digitally signed by
Linda Larson
Date: 2012.10.24 10:43:50 -06:00



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CLIENT: Powertech USA Inc
Project: Alluvial Wells Dewey Burdock
Sample Delivery Group: R12090145

Report Date: 10/24/12

CASE NARRATIVE

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.

LABORATORY ANALYTICAL REPORT

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc
Project: Alluvial Wells Dewey Burdock
Lab ID: R12090145-001
Client Sample ID: DC-2

Report Date: 10/24/12
Collection Date: 09/10/12 09:35
Date Received: 09/11/12
Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/ QCL	DF	Method	Analysis Date / By
PHYSICAL PARAMETERS								
Conductivity @ 25 C	5540	umhos/cm		5.0		1	A2510 B	09/12/12 09:44/tb
pH	7.19	su		0.01		1	A4500-H B	09/12/12 09:01/tb
Solids, Total Dissolved TDS @ 180 C	4600	mg/L		40		1	A2540 C	09/17/12 09:26/jmh
Alkalinity, Total as CaCO ₃	264	mg/L		5		1	A2320 B	09/17/12 15:13/ch
Carbonate as CO ₃	ND	mg/L		5		1	A2320 B	09/17/12 15:13/ch
Bicarbonate as HCO ₃	322	mg/L		5		1	A2320 B	09/17/12 15:13/ch
INORGANIC PARAMETERS								
Chloride	753	mg/L	D	50		50	E300.0	09/11/12 23:42/tb
Fluoride	0.6	mg/L		0.1		1	E300.0	09/11/12 23:24/tb
Sulfate	1890	mg/L	D	50		50	E300.0	09/11/12 23:42/tb
DATA QUALITY PARAMETERS								
Anions	65.8	meq/L		1.00		1	A1030 E	10/23/12 00:00/lkl
Cations	69.1	meq/L		1.00		1	A1030 E	10/23/12 00:00/lkl
Conductivity, Calculated	5290	umhos/cm		1.00		1	A1030 E	10/23/12 00:00/lkl
TDS Ratio	ND			0.0100		1	A1030 E	10/23/12 00:00/lkl
A/C Balance	1.10	%				1	A1030 E	10/23/12 00:00/lkl
NUTRIENT PARAMETERS								
Nitrogen, Nitrate as N	0.3	mg/L		0.1		1	E300.0	09/11/12 23:24/tb
RADIONUCLIDES - DISSOLVED								
Gross Alpha	9.9	pCi/L	U			1	E900.0	09/20/12 16:37/eli-ca
Gross Alpha precision (±)	17.7	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Alpha MDC	29.0	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Beta	2.2	pCi/L	U			1	E900.0	09/20/12 16:37/eli-ca
Gross Beta precision (±)	22.0	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Beta MDC	36.9	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Radium 228	0.6	pCi/L	U			1	RA-05	09/19/12 18:59/eli-ca
Radium 228 precision (±)	0.6	pCi/L				1	RA-05	09/19/12 18:59/eli-ca
Radium 228 MDC	0.9	pCi/L				1	RA-05	09/19/12 18:59/eli-ca
Radium 226	0.3	pCi/L				1	E903.0	09/24/12 13:01/eli-ca
Radium 226 precision (±)	0.1	pCi/L				1	E903.0	09/24/12 13:01/eli-ca
Radium 226 MDC	0.1	pCi/L				1	E903.0	09/24/12 13:01/eli-ca
RADIONUCLIDES - TOTAL								
Radon 222	2150	pCi/L				1	D5072-92	09/13/12 15:33/eli-c
Radon 222 precision (±)	152	pCi/L				1	D5072-92	09/13/12 15:33/eli-c

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

LABORATORY ANALYTICAL REPORT

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc
Project: Alluvial Wells Dewey Burdock
Lab ID: R12090145-001
Client Sample ID: DC-2

Report Date: 10/24/12
Collection Date: 09/10/12 09:35
Date Received: 09/11/12
Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/ QCL	DF	Method	Analysis Date / By
RADIONUCLIDES - TOTAL								
Radon 222 MDC	208	pCi/L				1	D5072-92	09/13/12 15:33/eli-c
TOTAL METALS ANALYSES								
Mercury	ND	mg/L		0.0001		1	E245.1	09/14/12 11:38/eli-ca
DISSOLVED METALS ANALYSES								
Arsenic	0.002	mg/L		0.001		5	E200.8	09/28/12 13:03/eli-c
Barium	ND	mg/L		0.05		5	E200.8	09/28/12 13:03/eli-c
Boron	0.3	mg/L	D	0.1		5	E200.7	09/28/12 21:04/eli-ca
Cadmium	ND	mg/L		0.001		5	E200.8	09/28/12 13:03/eli-c
Chromium	0.005	mg/L		0.005		5	E200.8	09/28/12 13:03/eli-c
Copper	ND	mg/L		0.005		5	E200.8	09/28/12 13:03/eli-c
Iron	0.42	mg/L		0.03		5	E200.7	09/28/12 21:04/eli-ca
Lead	ND	mg/L		0.001		5	E200.8	09/28/12 13:03/eli-c
Manganese	3.13	mg/L		0.001		5	E200.8	09/28/12 13:03/eli-c
Molybdenum	0.004	mg/L		0.001		5	E200.8	09/28/12 13:03/eli-c
Nickel	0.010	mg/L		0.005		5	E200.8	09/28/12 13:03/eli-c
Selenium	0.003	mg/L		0.001		5	E200.8	09/28/12 13:03/eli-c
Silver	ND	mg/L		0.001		5	E200.8	09/28/12 13:03/eli-c
Uranium	0.0091	mg/L	D	0.0005		5	E200.8	09/28/12 13:03/eli-c
Vanadium	ND	mg/L		0.01		5	E200.8	09/28/12 13:03/eli-c
Zinc	ND	mg/L		0.01		5	E200.8	09/28/12 13:03/eli-c
Calcium	516	mg/L		1		5	E200.7	10/02/12 14:56/eli-ca
Magnesium	147	mg/L		1		5	E200.7	10/02/12 14:56/eli-ca
Potassium	7	mg/L		1		5	E200.7	10/02/12 14:56/eli-ca
Sodium	714	mg/L	D	2		5	E200.7	10/02/12 14:56/eli-ca

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

LABORATORY ANALYTICAL REPORT

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc
Project: Alluvial Wells Dewey Burdock
Lab ID: R12090145-002
Client Sample ID: DC-4

Report Date: 10/24/12
Collection Date: 09/10/12 10:36
Date Received: 09/11/12
Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/ QCL	DF	Method	Analysis Date / By
PHYSICAL PARAMETERS								
Conductivity @ 25 C	10400	umhos/cm		5.0		1	A2510 B	09/12/12 09:46/tb
pH	7.47	su		0.01		1	A4500-H B	09/12/12 09:03/tb
Solids, Total Dissolved TDS @ 180 C	11000	mg/L		100		1	A2540 C	09/17/12 09:27/jmh
Alkalinity, Total as CaCO3	348	mg/L		5		1	A2320 B	09/17/12 15:17/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	09/17/12 15:17/ch
Bicarbonate as HCO3	424	mg/L		5		1	A2320 B	09/17/12 15:17/ch
INORGANIC PARAMETERS								
Chloride	117	mg/L		1		1	E300.0	09/12/12 00:00/tb
Fluoride	2.6	mg/L		0.1		1	E300.0	09/12/12 00:00/tb
Sulfate	7330	mg/L	D	100		100	E300.0	09/12/12 00:18/tb
DATA QUALITY PARAMETERS								
Anions	163	meq/L		1.00		1	A1030 E	10/23/12 00:00/lkl
Cations	151	meq/L		1.00		1	A1030 E	10/23/12 00:00/lkl
Conductivity, Calculated	11200	umhos/cm		1.00		1	A1030 E	10/23/12 00:00/lkl
TDS Ratio	1.01			0.0100		1	A1030 E	10/23/12 00:00/lkl
A/C Balance	4.59	%				1	A1030 E	10/23/12 00:00/lkl
NUTRIENT PARAMETERS								
Nitrogen, Nitrate as N	1.7	mg/L		0.1		1	E300.0	09/12/12 00:00/tb
RADIONUCLIDES - DISSOLVED								
Gross Alpha	-10	pCi/L	U			1	E900.0	09/20/12 16:37/eli-ca
Gross Alpha precision (±)	21.1	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Alpha MDC	36.6	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Beta	-100	pCi/L	U			1	E900.0	09/20/12 16:37/eli-ca
Gross Beta precision (±)	44.4	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Beta MDC	77.7	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Radium 228	0.4	pCi/L	U			1	RA-05	09/19/12 18:59/eli-ca
Radium 228 precision (±)	0.6	pCi/L				1	RA-05	09/19/12 18:59/eli-ca
Radium 228 MDC	0.9	pCi/L				1	RA-05	09/19/12 18:59/eli-ca
Radium 226	0.2	pCi/L				1	E903.0	09/24/12 13:01/eli-ca
Radium 226 precision (±)	0.1	pCi/L				1	E903.0	09/24/12 13:01/eli-ca
Radium 226 MDC	0.1	pCi/L				1	E903.0	09/24/12 13:01/eli-ca
RADIONUCLIDES - TOTAL								
Radon 222	4140	pCi/L				1	D5072-92	09/13/12 15:33/eli-c
Radon 222 precision (±)	173	pCi/L				1	D5072-92	09/13/12 15:33/eli-c

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.



LABORATORY ANALYTICAL REPORT

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc
Project: Alluvial Wells Dewey Burdock
Lab ID: R12090145-002
Client Sample ID: DC-4

Report Date: 10/24/12
Collection Date: 09/10/12 10:36
Date Received: 09/11/12
Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By
					QCL	DF		
RADIONUCLIDES - TOTAL								
Radon 222 MDC	207	pCi/L				1	D5072-92	09/13/12 15:33/eli-c
TOTAL METALS ANALYSES								
Mercury	ND	mg/L		0.0001		1	E245.1	09/14/12 11:44/eli-ca
DISSOLVED METALS ANALYSES								
Arsenic	0.001	mg/L		0.001		5	E200.8	09/28/12 13:54/eli-c
Barium	ND	mg/L		0.05		5	E200.8	09/28/12 13:54/eli-c
Boron	2.3	mg/L	D	0.2		10	E200.7	09/28/12 21:20/eli-ca
Cadmium	ND	mg/L		0.001		5	E200.8	09/28/12 13:54/eli-c
Chromium	0.008	mg/L		0.005		5	E200.8	09/28/12 13:54/eli-c
Copper	0.008	mg/L		0.005		5	E200.8	09/28/12 13:54/eli-c
Iron	ND	mg/L		0.03		10	E200.7	09/28/12 21:20/eli-ca
Lead	ND	mg/L		0.001		5	E200.8	09/28/12 13:54/eli-c
Manganese	0.002	mg/L		0.001		5	E200.8	09/28/12 13:54/eli-c
Molybdenum	0.003	mg/L		0.001		5	E200.8	09/28/12 13:54/eli-c
Nickel	0.008	mg/L		0.005		5	E200.8	09/28/12 13:54/eli-c
Selenium	0.042	mg/L		0.001		5	E200.8	09/28/12 13:54/eli-c
Silver	ND	mg/L		0.001		5	E200.8	09/28/12 13:54/eli-c
Uranium	0.0171	mg/L	D	0.0005		5	E200.8	09/28/12 13:54/eli-c
Vanadium	ND	mg/L		0.01		5	E200.8	09/28/12 13:54/eli-c
Zinc	ND	mg/L		0.01		5	E200.8	09/28/12 13:54/eli-c
Calcium	398	mg/L		1		10	E200.7	10/02/12 15:00/eli-ca
Magnesium	630	mg/L		1		10	E200.7	10/02/12 15:00/eli-ca
Potassium	11	mg/L		1		10	E200.7	10/02/12 15:00/eli-ca
Sodium	1820	mg/L	D	3		10	E200.7	10/02/12 15:00/eli-ca

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

LABORATORY ANALYTICAL REPORT

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc
Project: Alluvial Wells Dewey Burdock
Lab ID: R12090145-003
Client Sample ID: DC-4 Dup

Report Date: 10/24/12
Collection Date: 09/10/12 10:37
Date Received: 09/11/12
Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By
					QCL	DF		
PHYSICAL PARAMETERS								
Conductivity @ 25 C	10300	umhos/cm		5.0		1	A2510 B	09/12/12 09:47/tb
pH	7.48	su		0.01		1	A4500-H B	09/12/12 09:08/tb
Solids, Total Dissolved TDS @ 180 C	11000	mg/L		100		1	A2540 C	09/17/12 09:27/jmh
Alkalinity, Total as CaCO3	342	mg/L		5		1	A2320 B	09/17/12 15:19/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	09/17/12 15:19/ch
Bicarbonate as HCO3	417	mg/L		5		1	A2320 B	09/17/12 15:19/ch
INORGANIC PARAMETERS								
Chloride	118	mg/L		1		1	E300.0	09/12/12 00:36/tb
Fluoride	2.7	mg/L		0.1		1	E300.0	09/12/12 00:36/tb
Sulfate	7550	mg/L	D	100		100	E300.0	09/12/12 00:54/tb
DATA QUALITY PARAMETERS								
Anions	168	meq/L		1.00		1	A1030 E	10/23/12 00:00/lkl
Cations	154	meq/L		1.00		1	A1030 E	10/23/12 00:00/lkl
Conductivity, Calculated	11500	umhos/cm		1.00		1	A1030 E	10/23/12 00:00/lkl
TDS Ratio	0.980			0.0100		1	A1030 E	10/23/12 00:00/lkl
A/C Balance	4.85	%				1	A1030 E	10/23/12 00:00/lkl
NUTRIENT PARAMETERS								
Nitrogen, Nitrate as N	1.7	mg/L		0.1		1	E300.0	09/12/12 00:36/tb
RADIONUCLIDES - DISSOLVED								
Gross Alpha	16.4	pCi/L	U			1	E900.0	09/20/12 16:37/eli-ca
Gross Alpha precision (±)	23.3	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Alpha MDC	37.9	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Beta	-4	pCi/L	U			1	E900.0	09/20/12 16:37/eli-ca
Gross Beta precision (±)	31.1	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Beta MDC	52.3	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Radium 228	0.3	pCi/L	U			1	RA-05	09/19/12 18:59/eli-ca
Radium 228 precision (±)	0.6	pCi/L				1	RA-05	09/19/12 18:59/eli-ca
Radium 228 MDC	0.9	pCi/L				1	RA-05	09/19/12 18:59/eli-ca
Radium 226	0.2	pCi/L				1	E903.0	09/24/12 13:01/eli-ca
Radium 226 precision (±)	0.1	pCi/L				1	E903.0	09/24/12 13:01/eli-ca
Radium 226 MDC	0.1	pCi/L				1	E903.0	09/24/12 13:01/eli-ca
RADIONUCLIDES - TOTAL								
Radon 222	4390	pCi/L				1	D5072-92	09/13/12 15:33/eli-c
Radon 222 precision (±)	175	pCi/L				1	D5072-92	09/13/12 15:33/eli-c

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.



LABORATORY ANALYTICAL REPORT

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc
Project: Alluvial Wells Dewey Burdock
Lab ID: R12090145-003
Client Sample ID: DC-4 Dup

Report Date: 10/24/12
Collection Date: 09/10/12 10:37
Date Received: 09/11/12
Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/	DF	Method	Analysis Date / By
					QCL			
RADIONUCLIDES - TOTAL								
Radon 222 MDC	207	pCi/L				1	D5072-92	09/13/12 15:33/eli-c
TOTAL METALS ANALYSES								
Mercury	ND	mg/L		0.0001		1	E245.1	09/14/12 11:46/eli-ca
DISSOLVED METALS ANALYSES								
Arsenic	0.002	mg/L		0.001		5	E200.8	09/28/12 13:56/eli-c
Barium	ND	mg/L		0.05		5	E200.8	09/28/12 13:56/eli-c
Boron	2.3	mg/L	D	0.2		10	E200.7	09/28/12 21:25/eli-ca
Cadmium	ND	mg/L		0.001		5	E200.8	09/28/12 13:56/eli-c
Chromium	0.008	mg/L		0.005		5	E200.8	09/28/12 13:56/eli-c
Copper	0.011	mg/L		0.005		5	E200.8	09/28/12 13:56/eli-c
Iron	ND	mg/L		0.03		10	E200.7	09/28/12 21:25/eli-ca
Lead	ND	mg/L		0.001		5	E200.8	09/28/12 13:56/eli-c
Manganese	0.002	mg/L		0.001		5	E200.8	09/28/12 13:56/eli-c
Molybdenum	0.003	mg/L		0.001		5	E200.8	09/28/12 13:56/eli-c
Nickel	0.009	mg/L		0.005		5	E200.8	09/28/12 13:56/eli-c
Selenium	0.042	mg/L		0.001		5	E200.8	09/28/12 13:56/eli-c
Silver	ND	mg/L		0.001		5	E200.8	09/28/12 13:56/eli-c
Uranium	0.0175	mg/L	D	0.0005		5	E200.8	09/28/12 13:56/eli-c
Vanadium	ND	mg/L		0.01		5	E200.8	09/28/12 13:56/eli-c
Zinc	ND	mg/L		0.01		5	E200.8	09/28/12 13:56/eli-c
Calcium	401	mg/L		1		10	E200.7	10/02/12 15:04/eli-ca
Magnesium	620	mg/L		1		10	E200.7	10/02/12 15:04/eli-ca
Potassium	11	mg/L		1		10	E200.7	10/02/12 15:04/eli-ca
Sodium	1910	mg/L	D	3		10	E200.7	10/02/12 15:04/eli-ca

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

LABORATORY ANALYTICAL REPORT

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc
Project: Alluvial Wells Dewey Burdock
Lab ID: R12090145-004
Client Sample ID: BC-3

Report Date: 10/24/12
Collection Date: 09/10/12 12:03
Date Received: 09/11/12
Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/ QCL	DF	Method	Analysis Date / By
PHYSICAL PARAMETERS								
Conductivity @ 25 C	3200	umhos/cm		5.0		1	A2510 B	09/12/12 09:52/tb
pH	7.22	su		0.01		1	A4500-H B	09/12/12 09:10/tb
Solids, Total Dissolved TDS @ 180 C	3100	mg/L		20		1	A2540 C	09/17/12 09:28/jmh
Alkalinity, Total as CaCO3	256	mg/L		5		1	A2320 B	09/17/12 15:23/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	09/17/12 15:23/ch
Bicarbonate as HCO3	312	mg/L		5		1	A2320 B	09/17/12 15:23/ch
INORGANIC PARAMETERS								
Chloride	19	mg/L		1		1	E300.0	09/12/12 01:12/tb
Fluoride	0.6	mg/L		0.1		1	E300.0	09/12/12 01:12/tb
Sulfate	1820	mg/L	D	50		50	E300.0	09/12/12 02:05/tb
DATA QUALITY PARAMETERS								
Anions	43.6	meq/L		1.00		1	A1030 E	10/23/12 00:00/lkl
Cations	46.4	meq/L		1.00		1	A1030 E	10/23/12 00:00/lkl
Conductivity, Calculated	3710	umhos/cm		1.00		1	A1030 E	10/23/12 00:00/lkl
TDS Ratio	1.09			0.0100		1	A1030 E	10/23/12 00:00/lkl
A/C Balance	-3.54	%				1	A1030 E	10/23/12 00:00/lkl
NUTRIENT PARAMETERS								
Nitrogen, Nitrate as N	0.3	mg/L		0.1		1	E300.0	09/12/12 01:12/tb
RADIONUCLIDES - DISSOLVED								
Gross Alpha	11.4	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Alpha precision (±)	6.0	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Alpha MDC	9.2	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Beta	-1	pCi/L	U			1	E900.0	09/20/12 16:37/eli-ca
Gross Beta precision (±)	10	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Beta MDC	16.8	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Radium 228	0.8	pCi/L	U			1	RA-05	09/19/12 18:59/eli-ca
Radium 228 precision (±)	0.6	pCi/L				1	RA-05	09/19/12 18:59/eli-ca
Radium 228 MDC	0.9	pCi/L				1	RA-05	09/19/12 18:59/eli-ca
Radium 226	0.1	pCi/L	U			1	E903.0	09/24/12 13:01/eli-ca
Radium 226 precision (±)	0.09	pCi/L				1	E903.0	09/24/12 13:01/eli-ca
Radium 226 MDC	0.1	pCi/L				1	E903.0	09/24/12 13:01/eli-ca
RADIONUCLIDES - TOTAL								
Radon 222	1720	pCi/L				1	D5072-92	09/13/12 15:33/eli-c
Radon 222 precision (±)	144	pCi/L				1	D5072-92	09/13/12 15:33/eli-c

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

LABORATORY ANALYTICAL REPORT

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc
Project: Alluvial Wells Dewey Burdock
Lab ID: R12090145-004
Client Sample ID: BC-3

Report Date: 10/24/12
Collection Date: 09/10/12 12:03
Date Received: 09/11/12
Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/ QCL	DF	Method	Analysis Date / By
RADIONUCLIDES - TOTAL								
Radon 222 MDC	204	pCi/L				1	D5072-92	09/13/12 15:33/eli-c
TOTAL METALS ANALYSES								
Mercury	ND	mg/L		0.0001		1	E245.1	09/14/12 11:47/eli-ca
DISSOLVED METALS ANALYSES								
Arsenic	ND	mg/L		0.001		2	E200.8	09/28/12 13:59/eli-c
Barium	ND	mg/L		0.05		2	E200.8	09/28/12 13:59/eli-c
Boron	0.49	mg/L		0.05		2	E200.7	09/28/12 21:29/eli-ca
Cadmium	ND	mg/L		0.001		2	E200.8	09/28/12 13:59/eli-c
Chromium	ND	mg/L		0.005		2	E200.8	09/28/12 13:59/eli-c
Copper	ND	mg/L		0.005		2	E200.8	09/28/12 13:59/eli-c
Iron	ND	mg/L		0.03		2	E200.7	09/28/12 21:29/eli-ca
Lead	ND	mg/L		0.001		2	E200.8	09/28/12 13:59/eli-c
Manganese	0.447	mg/L		0.001		2	E200.8	09/28/12 13:59/eli-c
Molybdenum	0.007	mg/L		0.001		2	E200.8	09/28/12 13:59/eli-c
Nickel	0.012	mg/L		0.005		2	E200.8	09/28/12 13:59/eli-c
Selenium	0.005	mg/L		0.001		2	E200.8	09/28/12 13:59/eli-c
Silver	ND	mg/L		0.001		2	E200.8	09/28/12 13:59/eli-c
Uranium	0.0226	mg/L		0.0003		2	E200.8	09/28/12 13:59/eli-c
Vanadium	ND	mg/L		0.01		2	E200.8	09/28/12 13:59/eli-c
Zinc	ND	mg/L		0.01		2	E200.8	09/28/12 13:59/eli-c
Calcium	535	mg/L		1		2	E200.7	10/02/12 15:08/eli-ca
Magnesium	152	mg/L		1		2	E200.7	10/02/12 15:08/eli-ca
Potassium	12	mg/L		1		2	E200.7	10/02/12 15:08/eli-ca
Sodium	157	mg/L		1		2	E200.7	10/02/12 15:08/eli-ca

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc
Project: Alluvial Wells Dewey Burdock
Lab ID: R12090145-005
Client Sample ID: BC-1

Report Date: 10/24/12
Collection Date: 09/10/12 13:41
Date Received: 09/11/12
Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/ QCL	DF	Method	Analysis Date / By
PHYSICAL PARAMETERS								
Conductivity @ 25 C	3610	umhos/cm		5.0		1	A2510 B	09/12/12 09:54/tb
pH	7.17	su		0.01		1	A4500-H B	09/12/12 09:13/tb
Solids, Total Dissolved TDS @ 180 C	3700	mg/L		40		1	A2540 C	09/17/12 09:29/jmh
Alkalinity, Total as CaCO3	300	mg/L		5		1	A2320 B	09/17/12 16:05/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	09/17/12 16:05/ch
Bicarbonate as HCO3	366	mg/L		5		1	A2320 B	09/17/12 16:05/ch
INORGANIC PARAMETERS								
Chloride	25	mg/L		1		1	E300.0	09/12/12 02:59/tb
Fluoride	0.6	mg/L		0.1		1	E300.0	09/12/12 02:59/tb
Sulfate	2160	mg/L	D	50		50	E300.0	09/12/12 03:17/tb
DATA QUALITY PARAMETERS								
Anions	51.7	meq/L		1.00		1	A1030 E	10/23/12 00:00/lkl
Cations	53.2	meq/L		1.00		1	A1030 E	10/23/12 00:00/lkl
Conductivity, Calculated	4220	umhos/cm		1.00		1	A1030 E	10/23/12 00:00/lkl
TDS Ratio	1.10			0.0100		1	A1030 E	10/23/12 00:00/lkl
A/C Balance	-1.73	%				1	A1030 E	10/23/12 00:00/lkl
NUTRIENT PARAMETERS								
Nitrogen, Nitrate as N	0.3	mg/L		0.1		1	E300.0	09/12/12 02:59/tb
RADIONUCLIDES - DISSOLVED								
Gross Alpha	78.7	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Alpha precision (±)	10.8	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Alpha MDC	12.7	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Beta	0.3	pCi/L	U			1	E900.0	09/20/12 16:37/eli-ca
Gross Beta precision (±)	11.0	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Beta MDC	18.3	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Radium 228	1.1	pCi/L				1	RA-05	09/19/12 18:59/eli-ca
Radium 228 precision (±)	0.6	pCi/L				1	RA-05	09/19/12 18:59/eli-ca
Radium 228 MDC	0.9	pCi/L				1	RA-05	09/19/12 18:59/eli-ca
Radium 226	0.3	pCi/L				1	E903.0	09/24/12 13:01/eli-ca
Radium 226 precision (±)	0.1	pCi/L				1	E903.0	09/24/12 13:01/eli-ca
Radium 226 MDC	0.1	pCi/L				1	E903.0	09/24/12 13:01/eli-ca
RADIONUCLIDES - TOTAL								
Radon 222	1730	pCi/L				1	D5072-92	09/13/12 15:33/eli-c
Radon 222 precision (±)	143	pCi/L				1	D5072-92	09/13/12 15:33/eli-c

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.



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LABORATORY ANALYTICAL REPORT

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc
Project: Alluvial Wells Dewey Burdock
Lab ID: R12090145-005
Client Sample ID: BC-1

Report Date: 10/24/12
Collection Date: 09/10/12 13:41
Date Received: 09/11/12
Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		DF	Method	Analysis Date / By
					QCL				
RADIONUCLIDES - TOTAL									
Radon 222 MDC	202	pCi/L					1	D5072-92	09/13/12 15:33/eli-c
TOTAL METALS ANALYSES									
Mercury	ND	mg/L		0.0001			1	E245.1	09/14/12 11:48/eli-ca
DISSOLVED METALS ANALYSES									
Arsenic	ND	mg/L		0.001			2	E200.8	09/28/12 14:02/eli-c
Barium	ND	mg/L		0.05			2	E200.8	09/28/12 14:02/eli-c
Boron	0.72	mg/L		0.05			2	E200.7	09/28/12 21:45/eli-ca
Cadmium	ND	mg/L		0.001			2	E200.8	09/28/12 14:02/eli-c
Chromium	ND	mg/L		0.005			2	E200.8	09/28/12 14:02/eli-c
Copper	ND	mg/L		0.005			2	E200.8	09/28/12 14:02/eli-c
Iron	0.08	mg/L		0.03			2	E200.7	09/28/12 21:45/eli-ca
Lead	ND	mg/L		0.001			2	E200.8	09/28/12 14:02/eli-c
Manganese	0.057	mg/L		0.001			2	E200.8	09/28/12 14:02/eli-c
Molybdenum	0.005	mg/L		0.001			2	E200.8	09/28/12 14:02/eli-c
Nickel	0.013	mg/L		0.005			2	E200.8	09/28/12 14:02/eli-c
Selenium	0.002	mg/L		0.001			2	E200.8	09/28/12 14:02/eli-c
Silver	ND	mg/L		0.001			2	E200.8	09/28/12 14:02/eli-c
Uranium	0.0854	mg/L		0.0003			2	E200.8	09/28/12 14:02/eli-c
Vanadium	ND	mg/L		0.01			2	E200.8	09/28/12 14:02/eli-c
Zinc	ND	mg/L		0.01			2	E200.8	09/28/12 14:02/eli-c
Calcium	513	mg/L		1			2	E200.7	10/02/12 15:12/eli-ca
Magnesium	234	mg/L		1			2	E200.7	10/02/12 15:12/eli-ca
Potassium	13	mg/L		1			2	E200.7	10/02/12 15:12/eli-ca
Sodium	185	mg/L		1			2	E200.7	10/02/12 15:12/eli-ca

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc
Project: Alluvial Wells Dewey Burdock
Lab ID: R12090145-006
Client Sample ID: BC-2

Report Date: 10/24/12
Collection Date: 09/10/12 14:42
Date Received: 09/11/12
Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By
					QCL	DF		
PHYSICAL PARAMETERS								
Conductivity @ 25 C	3850	umhos/cm		5.0		1	A2510 B	09/12/12 09:56/tb
pH	7.22	su		0.01		1	A4500-H B	09/12/12 09:16/tb
Solids, Total Dissolved TDS @ 180 C	3900	mg/L		40		1	A2540 C	09/17/12 09:30/jmh
Alkalinity, Total as CaCO3	234	mg/L		5		1	A2320 B	09/17/12 16:16/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	09/17/12 16:16/ch
Bicarbonate as HCO3	285	mg/L		5		1	A2320 B	09/17/12 16:16/ch
INORGANIC PARAMETERS								
Chloride	21	mg/L		1		1	E300.0	09/12/12 03:35/tb
Fluoride	0.7	mg/L		0.1		1	E300.0	09/12/12 03:35/tb
Sulfate	2400	mg/L	D	50		50	E300.0	09/12/12 03:53/tb
DATA QUALITY PARAMETERS								
Anions	55.2	meq/L		1.00		1	A1030 E	10/23/12 00:00/lkl
Cations	56.5	meq/L		1.00		1	A1030 E	10/23/12 00:00/lkl
Conductivity, Calculated	4490	umhos/cm		1.00		1	A1030 E	10/23/12 00:00/lkl
TDS Ratio	1.07			0.0100		1	A1030 E	10/23/12 00:00/lkl
A/C Balance	-1.31	%				1	A1030 E	10/23/12 00:00/lkl
NUTRIENT PARAMETERS								
Nitrogen, Nitrate as N	0.2	mg/L		0.1		1	E300.0	09/12/12 03:35/tb
RADIONUCLIDES - DISSOLVED								
Gross Alpha	1.8	pCi/L	U			1	E900.0	09/20/12 16:37/eli-ca
Gross Alpha precision (±)	7.0	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Alpha MDC	11.6	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Beta	-10	pCi/L	U			1	E900.0	09/20/12 16:37/eli-ca
Gross Beta precision (±)	11.8	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Beta MDC	20.1	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Radium 228	0.3	pCi/L	U			1	RA-05	09/19/12 18:59/eli-ca
Radium 228 precision (±)	0.6	pCi/L				1	RA-05	09/19/12 18:59/eli-ca
Radium 228 MDC	0.9	pCi/L				1	RA-05	09/19/12 18:59/eli-ca
Radium 226	0.3	pCi/L				1	E903.0	09/24/12 14:34/eli-ca
Radium 226 precision (±)	0.1	pCi/L				1	E903.0	09/24/12 14:34/eli-ca
Radium 226 MDC	0.1	pCi/L				1	E903.0	09/24/12 14:34/eli-ca
RADIONUCLIDES - TOTAL								
Radon 222	2480	pCi/L				1	D5072-92	09/13/12 15:33/eli-c
Radon 222 precision (±)	151	pCi/L				1	D5072-92	09/13/12 15:33/eli-c

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.



LABORATORY ANALYTICAL REPORT

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc
Project: Alluvial Wells Dewey Burdock
Lab ID: R12090145-006
Client Sample ID: BC-2

Report Date: 10/24/12
Collection Date: 09/10/12 14:42
Date Received: 09/11/12
Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By
					QCL	DF		
RADIONUCLIDES - TOTAL								
Radon 222 MDC	200	pCi/L				1	D5072-92	09/13/12 15:33/eli-c
TOTAL METALS ANALYSES								
Mercury	ND	mg/L		0.0001		1	E245.1	09/14/12 11:49/eli-ca
DISSOLVED METALS ANALYSES								
Arsenic	ND	mg/L		0.001		2	E200.8	09/28/12 14:05/eli-c
Barium	ND	mg/L		0.05		2	E200.8	09/28/12 14:05/eli-c
Boron	0.51	mg/L		0.05		2	E200.7	09/28/12 21:49/eli-ca
Cadmium	ND	mg/L		0.001		2	E200.8	09/28/12 14:05/eli-c
Chromium	ND	mg/L		0.005		2	E200.8	09/28/12 14:05/eli-c
Copper	ND	mg/L		0.005		2	E200.8	09/28/12 14:05/eli-c
Iron	ND	mg/L		0.03		2	E200.7	09/28/12 21:49/eli-ca
Lead	ND	mg/L		0.001		2	E200.8	09/28/12 14:05/eli-c
Manganese	0.039	mg/L		0.001		2	E200.8	09/28/12 14:05/eli-c
Molybdenum	0.013	mg/L		0.001		2	E200.8	09/28/12 14:05/eli-c
Nickel	0.011	mg/L		0.005		2	E200.8	09/28/12 14:05/eli-c
Selenium	0.002	mg/L		0.001		2	E200.8	09/28/12 14:05/eli-c
Silver	ND	mg/L		0.001		2	E200.8	09/28/12 14:05/eli-c
Uranium	0.0241	mg/L		0.0003		2	E200.8	09/28/12 14:05/eli-c
Vanadium	ND	mg/L		0.01		2	E200.8	09/28/12 14:05/eli-c
Zinc	ND	mg/L		0.01		2	E200.8	09/28/12 14:05/eli-c
Calcium	521	mg/L		1		2	E200.7	10/02/12 15:16/eli-ca
Magnesium	220	mg/L		1		2	E200.7	10/02/12 15:16/eli-ca
Potassium	13	mg/L		1		2	E200.7	10/02/12 15:16/eli-ca
Sodium	278	mg/L		1		2	E200.7	10/02/12 15:16/eli-ca

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc
Project: Alluvial Wells Dewey Burdock
Lab ID: R12090145-007
Client Sample ID: DC-1

Report Date: 10/24/12
Collection Date: 09/11/12 09:17
Date Received: 09/11/12
Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/ QCL	DF	Method	Analysis Date / By
PHYSICAL PARAMETERS								
Conductivity @ 25 C	6350	umhos/cm		5.0		1	A2510 B	09/12/12 09:58/tb
pH	7.17	su		0.01		1	A4500-H B	09/12/12 09:19/tb
Solids, Total Dissolved TDS @ 180 C	6100	mg/L		100		1	A2540 C	09/17/12 09:32/jmh
Alkalinity, Total as CaCO3	392	mg/L		5		1	A2320 B	09/17/12 16:31/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	09/17/12 16:31/ch
Bicarbonate as HCO3	478	mg/L		5		1	A2320 B	09/17/12 16:31/ch
INORGANIC PARAMETERS								
Chloride	85	mg/L		1		1	E300.0	09/12/12 04:11/tb
Fluoride	1.1	mg/L		0.1		1	E300.0	09/12/12 04:11/tb
Sulfate	3970	mg/L	D	50		50	E300.0	09/12/12 04:29/tb
DATA QUALITY PARAMETERS								
Anions	93.4	meq/L		1.00		1	A1030 E	10/23/12 00:00/lkl
Cations	108	meq/L		1.00		1	A1030 E	10/23/12 00:00/lkl
Conductivity, Calculated	7320	umhos/cm		1.00		1	A1030 E	10/23/12 00:00/lkl
TDS Ratio	0.950			0.0100		1	A1030 E	10/23/12 00:00/lkl
A/C Balance	-9.34	%				1	A1030 E	10/23/12 00:00/lkl
NUTRIENT PARAMETERS								
Nitrogen, Nitrate as N	7.7	mg/L		0.1		1	E300.0	09/12/12 04:11/tb
RADIONUCLIDES - DISSOLVED								
Gross Alpha	-0.4	pCi/L	U			1	E900.0	09/20/12 16:37/eli-ca
Gross Alpha precision (±)	17.8	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Alpha MDC	30.0	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Beta	5.7	pCi/L	U			1	E900.0	09/20/12 16:37/eli-ca
Gross Beta precision (±)	28.8	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Gross Beta MDC	48.1	pCi/L				1	E900.0	09/20/12 16:37/eli-ca
Radium 228	0.4	pCi/L	U			1	RA-05	09/19/12 18:59/eli-ca
Radium 228 precision (±)	0.6	pCi/L				1	RA-05	09/19/12 18:59/eli-ca
Radium 228 MDC	0.9	pCi/L				1	RA-05	09/19/12 18:59/eli-ca
Radium 226	0.9	pCi/L				1	E903.0	09/24/12 14:34/eli-ca
Radium 226 precision (±)	0.2	pCi/L				1	E903.0	09/24/12 14:34/eli-ca
Radium 226 MDC	0.1	pCi/L				1	E903.0	09/24/12 14:34/eli-ca
RADIONUCLIDES - TOTAL								
Radon 222	1810	pCi/L				1	D5072-92	09/13/12 15:33/eli-c
Radon 222 precision (±)	127	pCi/L				1	D5072-92	09/13/12 15:33/eli-c

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

LABORATORY ANALYTICAL REPORT

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc
Project: Alluvial Wells Dewey Burdock
Lab ID: R12090145-007
Client Sample ID: DC-1

Report Date: 10/24/12
Collection Date: 09/11/12 09:17
Date Received: 09/11/12
Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By
					QCL	DF		
RADIONUCLIDES - TOTAL								
Radon 222 MDC	173	pCi/L				1	D5072-92	09/13/12 15:33/eli-c
TOTAL METALS ANALYSES								
Mercury	ND	mg/L		0.0001		1	E245.1	09/14/12 11:51/eli-ca
DISSOLVED METALS ANALYSES								
Arsenic	0.001	mg/L		0.001		5	E200.8	09/28/12 14:07/eli-c
Barium	ND	mg/L		0.05		5	E200.8	09/28/12 14:07/eli-c
Boron	1.4	mg/L	D	0.1		5	E200.7	09/28/12 21:53/eli-ca
Cadmium	0.001	mg/L		0.001		5	E200.8	09/28/12 14:07/eli-c
Chromium	0.010	mg/L		0.005		5	E200.8	09/28/12 14:07/eli-c
Copper	0.009	mg/L		0.005		5	E200.8	09/28/12 14:07/eli-c
Iron	ND	mg/L		0.03		5	E200.7	09/28/12 21:53/eli-ca
Lead	ND	mg/L		0.001		5	E200.8	09/28/12 14:07/eli-c
Manganese	0.757	mg/L		0.001		5	E200.8	09/28/12 14:07/eli-c
Molybdenum	0.002	mg/L		0.001		5	E200.8	09/28/12 14:07/eli-c
Nickel	0.086	mg/L		0.005		5	E200.8	09/28/12 14:07/eli-c
Selenium	0.060	mg/L		0.001		5	E200.8	09/28/12 14:07/eli-c
Silver	ND	mg/L		0.001		5	E200.8	09/28/12 14:07/eli-c
Uranium	0.0184	mg/L	D	0.0005		5	E200.8	09/28/12 14:07/eli-c
Vanadium	ND	mg/L		0.01		5	E200.8	09/28/12 14:07/eli-c
Zinc	0.11	mg/L		0.01		5	E200.8	09/28/12 14:07/eli-c
Calcium	442	mg/L		1		5	E200.7	10/02/12 15:20/eli-ca
Magnesium	400	mg/L		1		5	E200.7	10/02/12 15:20/eli-ca
Potassium	14	mg/L		1		5	E200.7	10/02/12 15:20/eli-ca
Sodium	1210	mg/L	D	2		5	E200.7	10/02/12 15:20/eli-ca

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.



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QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Project: Alluvial Wells Dewey Burdock

Report Date: 10/24/12

Work Order: R12090145

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: 120917A-ALK-SEL-W
Sample ID: LCS1_120917A		Laboratory Control Sample				Run: PH_COND1-R_120917A				09/17/12 14:03
Alkalinity, Total as CaCO ₃		968	mg/L	5.0	97	90	110			
Sample ID: MBLK1_120917A		Method Blank				Run: PH_COND1-R_120917A				09/17/12 14:06
Alkalinity, Total as CaCO ₃		ND	mg/L	2						
Sample ID: R12090103-002AMS		Sample Matrix Spike				Run: PH_COND1-R_120917A				09/17/12 14:21
Alkalinity, Total as CaCO ₃		302	mg/L	5.0	98	80	120			
Sample ID: R12090145-004ADUP	3	Sample Duplicate				Run: PH_COND1-R_120917A				09/17/12 16:01
Alkalinity, Total as CaCO ₃		250	mg/L	5.0				2.4	10	
Carbonate as CO ₃		ND	mg/L	5.0					10	
Bicarbonate as HCO ₃		305	mg/L	5.0				2.4	10	
Sample ID: R12090145-005AMS		Sample Matrix Spike				Run: PH_COND1-R_120917A				09/17/12 16:11
Alkalinity, Total as CaCO ₃		410	mg/L	5.0	91	80	120			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.



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QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 10/24/12

Project: Alluvial Wells Dewey Burdock

Work Order: R12090145

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B								Batch: 120912_1_COND-PROBE-W		
Sample ID: MBLK-1_120912		Method Blank					Run: PH_COND2-R_120912B			09/12/12 09:36
Conductivity @ 25 C		ND	umhos/cm	5						
Sample ID: R12090144-001ADUP		Sample Duplicate					Run: PH_COND2-R_120912B			09/12/12 09:42
Conductivity @ 25 C		6250	umhos/cm	5.0				0.0	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



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QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 10/24/12

Project: Alluvial Wells Dewey Burdock

Work Order: R12090145

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C								Batch: TDS120917A		
Sample ID: MB-1_120917A	Method Blank					Run: BAL-TDS_120917A		09/17/12 09:20		
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	3						
Sample ID: LCS-2_120917A	Laboratory Control Sample					Run: BAL-TDS_120917A		09/17/12 09:20		
Solids, Total Dissolved TDS @ 180 C		550	mg/L	10	110	90	110			
Sample ID: R12090133-003C MS	Sample Matrix Spike					Run: BAL-TDS_120917A		09/17/12 09:23		
Solids, Total Dissolved TDS @ 180 C		2700	mg/L	40	102	90	110			
Sample ID: R12090145-006A DUP	Sample Duplicate					Run: BAL-TDS_120917A		09/17/12 09:31		
Solids, Total Dissolved TDS @ 180 C		3900	mg/L	40				1.0	5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



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QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 10/24/12

Project: Alluvial Wells Dewey Burdock

Work Order: R12090145

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B								Analytical Run: PH_COND2-R_120912A		
Sample ID: ICV-1_120912								09/12/12 08:44		
Initial Calibration Verification Standard										
pH		7.43	su	0.010	100	98	102			
Method: A4500-H B								Batch: 120912_1_PH-W		
Sample ID: ICV1-1_120912								09/12/12 08:42		
Initial Calibration Verification Standard								Run: PH_COND2-R_120912A		
pH		12.0	su	0.010	100	99	101			
Sample ID: R12090144-001ADUP								09/12/12 08:59		
Sample Duplicate								Run: PH_COND2-R_120912A		
pH		7.33	su	0.010				0.7	3	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



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QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 10/24/12

Project: Alluvial Wells Dewey Burdock

Work Order: R12090145

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: D5072-92									Batch: C_R164625	
Sample ID: C12090392-004EDUP 3 Sample Duplicate									Run: SUB-C164625 09/13/12 15:33	
Radon 222		3280	pCi/L					5.9	20	
Radon 222 precision (±)		159	pCi/L							
Radon 222 MDC		198	pCi/L							
Sample ID: MB-R164625 3 Method Blank									Run: SUB-C164625 09/13/12 15:33	
Radon 222		40	pCi/L							U
Radon 222 precision (±)		70	pCi/L							
Radon 222 MDC		100	pCi/L							
Sample ID: LCS-R164625 Laboratory Control Sample									Run: SUB-C164625 09/13/12 15:33	
Radon 222		480	pCi/L	86		80	120			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Project: Alluvial Wells Dewey Burdock

Report Date: 10/24/12

Work Order: R12090145

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Analytical Run: SUB-C165205
Sample ID: ICV2	2	Initial Calibration Verification Standard								09/28/12 11:46
Boron		1.0	mg/L	0.10	105	95	105			
Iron		5.0	mg/L	0.030	100	95	105			
Sample ID: ICSA	2	Interference Check Sample A								09/28/12 12:14
Boron		-0.034	mg/L	0.10						
Iron		190	mg/L	0.030	96	80	120			
Sample ID: ICSAB	2	Interference Check Sample AB								09/28/12 12:18
Boron		-0.038	mg/L	0.10						
Iron		190	mg/L	0.030	95	80	120			
Method: E200.7										Batch: C_R165205
Sample ID: MB-120928A	2	Method Blank								Run: SUB-C165205 09/28/12 12:42
Boron		ND	mg/L	0.02						
Iron		ND	mg/L	0.001						
Sample ID: LFB-120928A	2	Laboratory Fortified Blank								Run: SUB-C165205 09/28/12 12:46
Boron		0.94	mg/L	0.10	94	85	115			
Iron		0.94	mg/L	0.030	94	85	115			
Sample ID: R12090145-001B	2	Sample Matrix Spike								Run: SUB-C165205 09/28/12 21:08
Boron		5.39	mg/L	0.13	100	70	130			
Iron		5.39	mg/L	0.030	98	70	130			
Sample ID: R12090145-001B	2	Sample Matrix Spike Duplicate								Run: SUB-C165205 09/28/12 21:12
Boron		5.56	mg/L	0.13	103	70	130	3.2	20	
Iron		5.50	mg/L	0.030	100	70	130	2.0	20	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 10/24/12

Project: Alluvial Wells Dewey Burdock

Work Order: R12090145

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7								Analytical Run: SUB-C165319		
Sample ID: ICV	4	Initial Calibration Verification Standard								10/02/12 12:33
Calcium		50	mg/L	0.50	100	95	105			
Magnesium		49	mg/L	0.50	98	95	105			
Potassium		48	mg/L	0.50	97	95	105			
Sodium		50	mg/L	0.50	100	95	105			
Sample ID: ICSA	4	Interference Check Sample A								10/02/12 12:59
Calcium		490	mg/L	0.50	99	80	120			
Magnesium		480	mg/L	0.50	97	80	120			
Potassium		0.0063	mg/L	0.50						
Sodium		1.1	mg/L	0.50						
Sample ID: ICSAB	4	Interference Check Sample AB								10/02/12 13:03
Calcium		490	mg/L	0.50	98	80	120			
Magnesium		500	mg/L	0.50	99	80	120			
Potassium		-0.0015	mg/L	0.50						
Sodium		0.64	mg/L	0.50						
Method: E200.7								Batch: C_R165319		
Sample ID: MB-121002A	4	Method Blank				Run: SUB-C165319			10/02/12 13:23	
Calcium		ND	mg/L	0.06						
Magnesium		ND	mg/L	0.03						
Potassium		ND	mg/L	0.06						
Sodium		ND	mg/L	0.3						
Sample ID: LFB-121002A	4	Laboratory Fortified Blank				Run: SUB-C165319			10/02/12 13:27	
Calcium		48	mg/L	0.50	96	85	115			
Magnesium		46	mg/L	0.50	93	85	115			
Potassium		44	mg/L	0.50	89	85	115			
Sodium		45	mg/L	0.50	90	85	115			
Sample ID: R12090145-007B	4	Sample Matrix Spike				Run: SUB-C165319			10/02/12 15:24	
Calcium		668	mg/L	1.0	88	70	130			
Magnesium		637	mg/L	1.0	93	70	130			
Potassium		266	mg/L	1.0	99	70	130			
Sodium		1450	mg/L	1.6		70	130			A
Sample ID: R12090145-007B	4	Sample Matrix Spike Duplicate				Run: SUB-C165319			10/02/12 15:40	
Calcium		674	mg/L	1.0	91	70	130	0.9	20	
Magnesium		641	mg/L	1.0	95	70	130	0.6	20	
Potassium		269	mg/L	1.0	100	70	130	1.3	20	
Sodium		1440	mg/L	1.6		70	130	0.6	20	A

Qualifiers:

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A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration

QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Project: Alluvial Wells Dewey Burdock

Report Date: 10/24/12

Work Order: R12090145

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: SUB-C165201		
Sample ID: ICV								14 Initial Calibration Verification Standard		
								09/28/12 11:01		
Arsenic		0.0504	mg/L	0.0010	101	90	110			
Barium		0.0506	mg/L	0.0010	101	90	110			
Cadmium		0.0510	mg/L	0.0010	102	90	110			
Chromium		0.0512	mg/L	0.0010	102	90	110			
Copper		0.0508	mg/L	0.0010	102	90	110			
Lead		0.0508	mg/L	0.0010	102	90	110			
Manganese		0.0509	mg/L	0.0010	102	90	110			
Molybdenum		0.0503	mg/L	0.0010	101	90	110			
Nickel		0.0503	mg/L	0.0010	101	90	110			
Selenium		0.0515	mg/L	0.0010	103	90	110			
Silver		0.0210	mg/L	0.0010	105	90	110			
Uranium		0.0523	mg/L	0.00030	105	90	110			
Vanadium		0.0517	mg/L	0.0010	103	90	110			
Zinc		0.0503	mg/L	0.0010	101	90	110			
Method: E200.8								Batch: C_R165201		
Sample ID: LRB								Run: SUB-C165201		
								09/28/12 11:22		
14 Method Blank										
Arsenic		ND	mg/L	0.00010						
Barium		5E-05	mg/L	3E-05						
Cadmium		ND	mg/L	2E-05						
Chromium		ND	mg/L	6E-05						
Copper		ND	mg/L	0.0001						
Lead		ND	mg/L	3E-05						
Manganese		3E-05	mg/L	2E-05						
Molybdenum		ND	mg/L	4E-05						
Nickel		ND	mg/L	3E-05						
Selenium		ND	mg/L	0.0002						
Silver		ND	mg/L	5E-05						
Uranium		0.0008	mg/L	1E-05						
Vanadium		ND	mg/L	3E-05						
Zinc		ND	mg/L	0.0006						
Sample ID: LFB								Run: SUB-C165201		
								09/28/12 11:25		
14 Laboratory Fortified Blank										
Arsenic		0.0503	mg/L	0.0010	101	85	115			
Barium		0.0510	mg/L	0.0010	102	85	115			
Cadmium		0.0495	mg/L	0.0010	99	85	115			
Chromium		0.0513	mg/L	0.0010	103	85	115			
Copper		0.0506	mg/L	0.0010	101	85	115			
Lead		0.0510	mg/L	0.0010	102	85	115			
Manganese		0.0506	mg/L	0.0010	101	85	115			
Molybdenum		0.0493	mg/L	0.0010	99	85	115			
Nickel		0.0490	mg/L	0.0010	98	85	115			
Selenium		0.0497	mg/L	0.0010	99	85	115			
Silver		0.0190	mg/L	0.0010	95	85	115			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 10/24/12

Project: Alluvial Wells Dewey Burdock

Work Order: R12090145

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: C_R165201
Sample ID: LFB 14 Laboratory Fortified Blank Run: SUB-C165201 09/28/12 11:25										
Uranium		0.0529	mg/L	0.00030	104	85	115			
Vanadium		0.0523	mg/L	0.0010	105	85	115			
Zinc		0.0515	mg/L	0.0010	103	85	115			
Sample ID: R12090145-001B 14 Post Digestion Spike Run: SUB-C165201 09/28/12 13:06										
Arsenic		0.253	mg/L	0.0010	101	70	130			
Barium		0.272	mg/L	0.050	102	70	130			
Cadmium		0.235	mg/L	0.0010	94	70	130			
Chromium		0.244	mg/L	0.0050	96	70	130			
Copper		0.237	mg/L	0.0050	93	70	130			
Lead		0.262	mg/L	0.0010	105	70	130			
Manganese		3.02	mg/L	0.0010		70	130			A
Molybdenum		0.250	mg/L	0.0010	98	70	130			
Nickel		0.236	mg/L	0.0050	91	70	130			
Selenium		0.248	mg/L	0.0013	98	70	130			
Silver		0.0907	mg/L	0.0010	91	70	130			
Uranium		0.288	mg/L	0.00050	111	70	130			
Vanadium		0.252	mg/L	0.010	100	70	130			
Zinc		0.234	mg/L	0.010	94	70	130			
Sample ID: R12090145-001B 14 Post Digestion Spike Duplicate Run: SUB-C165201 09/28/12 13:09										
Arsenic		0.254	mg/L	0.0010	101	70	130	0.4	20	
Barium		0.267	mg/L	0.050	100	70	130	1.9	20	
Cadmium		0.230	mg/L	0.0010	92	70	130	2.4	20	
Chromium		0.243	mg/L	0.0050	95	70	130	0.5	20	
Copper		0.238	mg/L	0.0050	94	70	130	0.6	20	
Lead		0.263	mg/L	0.0010	105	70	130	0.3	20	
Manganese		3.03	mg/L	0.0010		70	130	0.1	20	A
Molybdenum		0.243	mg/L	0.0010	95	70	130	2.8	20	
Nickel		0.238	mg/L	0.0050	91	70	130	0.5	20	
Selenium		0.245	mg/L	0.0013	97	70	130	0.9	20	
Silver		0.0899	mg/L	0.0010	90	70	130	0.9	20	
Uranium		0.291	mg/L	0.00050	113	70	130	1.3	20	
Vanadium		0.255	mg/L	0.010	101	70	130	1.1	20	
Zinc		0.232	mg/L	0.010	93	70	130	0.8	20	

Qualifiers:

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ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration

QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc
Project: Alluvial Wells Dewey Burdock

Report Date: 10/24/12
Work Order: R12090145

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E245.1								Analytical Run: SUB-C164575		
Sample ID: ICV		Initial Calibration Verification Standard								09/14/12 11:22
Mercury		0.0050	mg/L	0.00010	100	90	110			
Sample ID: CCV1		Continuing Calibration Verification Standard								09/14/12 11:24
Mercury		0.0051	mg/L	0.00010	102	95	105			
Method: E245.1								Batch: C_35028		
Sample ID: MB-35028		Method Blank				Run: SUB-C164575		09/14/12 11:27		
Mercury		ND	mg/L	3E-05						
Sample ID: LCS-35028		Laboratory Control Sample				Run: SUB-C164575		09/14/12 11:28		
Mercury		0.0050	mg/L	0.00010	99	85	115			
Sample ID: R12090145-001C		Sample Matrix Spike				Run: SUB-C164575		09/14/12 11:39		
Mercury		0.0049	mg/L	0.00010	97	70	130			
Sample ID: R12090145-001C		Sample Matrix Spike Duplicate				Run: SUB-C164575		09/14/12 11:43		
Mercury		0.0049	mg/L	0.00010	98	70	130	0.7	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 10/24/12

Project: Alluvial Wells Dewey Burdock

Work Order: R12090145

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0								Analytical Run: DIONEX_120913A		
Sample ID: CCV091112-28	4	Continuing Calibration Verification Standard								09/12/12 01:30
Chloride		74.3	mg/L	1.0	99	90	110			
Fluoride		7.50	mg/L	0.10	100	90	110			
Nitrogen, Nitrate as N		7.25	mg/L	0.10	97	90	110			
Sulfate		72.4	mg/L	1.0	96	90	110			
Method: E300.0								Batch: R58045		
Sample ID: LFB091112-14	4	Laboratory Fortified Blank								09/11/12 21:37
Chloride		38.8	mg/L	1.0	97	90	110			
Fluoride		3.92	mg/L	0.10	98	90	110			
Nitrogen, Nitrate as N		3.80	mg/L	0.10	95	90	110			
Sulfate		37.9	mg/L	1.0	95	90	110			
Sample ID: R12090129-001BMS	4	Sample Matrix Spike								09/11/12 22:12
Chloride		46.6	mg/L	1.0	97	90	110			
Fluoride		4.15	mg/L	0.10	95	90	110			
Nitrogen, Nitrate as N		4.66	mg/L	0.10	93	90	110			
Sulfate		75.9	mg/L	1.0	102	90	110			
Sample ID: R12090129-001BMSD	4	Sample Matrix Spike Duplicate								09/11/12 22:30
Chloride		46.5	mg/L	1.0	97	90	110	0.2	10	
Fluoride		4.15	mg/L	0.10	95	90	110	0.0	10	
Nitrogen, Nitrate as N		4.67	mg/L	0.10	93	90	110	0.2	10	
Sulfate		76.3	mg/L	1.0	103	90	110	0.5	10	
Sample ID: R12090145-004AMS	4	Sample Matrix Spike								09/12/12 02:23
Chloride		2010	mg/L	50	93	90	110			
Fluoride		202	mg/L	5.0	97	90	110			
Nitrogen, Nitrate as N		195	mg/L	5.0	98	90	110			
Sulfate		3930	mg/L	50	106	90	110			
Sample ID: R12090145-004AMSD	4	Sample Matrix Spike Duplicate								09/12/12 02:41
Chloride		2010	mg/L	50	93	90	110	0.1	10	
Fluoride		203	mg/L	5.0	98	90	110	0.4	10	
Nitrogen, Nitrate as N		194	mg/L	5.0	97	90	110	0.6	10	
Sulfate		3950	mg/L	50	106	90	110	0.4	10	
Sample ID: R12090133-001BMS	4	Sample Matrix Spike								09/12/12 06:34
Chloride		49.1	mg/L	1.0	97	90	110			
Fluoride		4.16	mg/L	0.10	91	90	110			
Nitrogen, Nitrate as N		4.89	mg/L	0.10	122	90	110			S
Sulfate		1090	mg/L	1.0		90	110			A
Sample ID: R12090133-001BMSD	4	Sample Matrix Spike Duplicate								09/12/12 06:52
Chloride		49.1	mg/L	1.0	97	90	110	0.0	10	
Fluoride		4.19	mg/L	0.10	92	90	110	0.9	10	
Nitrogen, Nitrate as N		4.88	mg/L	0.10	122	90	110	0.3	10	S

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration



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QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Project: Alluvial Wells Dewey Burdock

Report Date: 10/24/12

Work Order: R12090145

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0										Batch: R58045
Sample ID: R12090133-001BMSD	4	Sample Matrix Spike Duplicate				Run: DIONEX_120913A				09/12/12 06:52
Sulfate		1090	mg/L	1.0		90	110	0.0	10	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration

QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 10/24/12

Project: Alluvial Wells Dewey Burdock

Work Order: R12090145

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.0								Batch: C_GrAB-1355		
Sample ID: Th230-GrAB-1355	Laboratory Control Sample					Run: SUB-C164829			09/20/12 16:37	
Gross Alpha	192	pCi/L		94	80	120				
Sample ID: Sr90-GrAB-1355	Laboratory Control Sample					Run: SUB-C164829			09/20/12 16:37	
Gross Beta	149	pCi/L		81	80	120				
Sample ID: MB-GrAB-1355	6	Method Blank					Run: SUB-C164829			09/20/12 16:37
Gross Alpha		-0.3	pCi/L							U
Gross Alpha precision (±)		0.6	pCi/L							
Gross Alpha MDC		1	pCi/L							
Gross Beta		-1	pCi/L							U
Gross Beta precision (±)		2	pCi/L							
Gross Beta MDC		3	pCi/L							
Sample ID: R12090145-006E	Sample Matrix Spike					Run: SUB-C164829			09/20/12 16:37	
Gross Alpha	970	pCi/L		67	70	130				S
- Spike response is outside of the acceptance range for this analysis. Since the LCS and the RPD for the MS MSD pair are acceptable, the response is considered to be matrix related. The batch is approved.										
Sample ID: R12090145-006E	Sample Matrix Spike Duplicate					Run: SUB-C164829			09/20/12 16:37	
Gross Alpha	810	pCi/L		55	70	130		19	20	S
- Spike response is outside of the acceptance range for this analysis. Since the LCS and the RPD for the MS MSD pair are acceptable, the response is considered to be matrix related. The batch is approved.										
Sample ID: R12090145-006E	Sample Matrix Spike					Run: SUB-C164829			09/20/12 16:37	
Gross Beta	1300	pCi/L		101	70	130				
Sample ID: R12090145-006E	Sample Matrix Spike Duplicate					Run: SUB-C164829			09/20/12 16:37	
Gross Beta	1200	pCi/L		93	70	130		8.5	14	
Sample ID: R12090145-007E	6	Sample Duplicate					Run: SUB-C164829			09/20/12 16:37
Gross Alpha		-3.4	pCi/L					160	1627	U
Gross Alpha precision (±)		21	pCi/L							
Gross Alpha MDC		36	pCi/L							
Gross Beta		-15	pCi/L					450	532.6	U
Gross Beta precision (±)		30	pCi/L							
Gross Beta MDC		51	pCi/L							

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 10/24/12

Project: Alluvial Wells Dewey Burdock

Work Order: R12090145

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0									Batch: C_RA226-6229	
Sample ID: R12090145-001E	Sample Matrix Spike			Run: SUB-C165079						09/24/12 13:01
Radium 226	11	pCi/L		87		70	130			
Sample ID: R12090145-001E	Sample Matrix Spike Duplicate			Run: SUB-C165079						09/24/12 13:01
Radium 226	11	pCi/L		83		70	130	4.5	25.4	
Sample ID: MB-RA226-6229	3 Method Blank			Run: SUB-C165079						09/24/12 14:34
Radium 226	-0.04	pCi/L								U
Radium 226 precision (±)	0.08	pCi/L								
Radium 226 MDC	0.2	pCi/L								
Sample ID: LCS-RA226-6229	Laboratory Control Sample			Run: SUB-C165079						09/24/12 14:34
Radium 226	5.9	pCi/L		93		80	120			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Project: Alluvial Wells Dewey Burdock

Report Date: 10/24/12

Work Order: R12090145

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05								Batch: C_RA228-4221		
Sample ID: LCS-228-RA226-6229	Laboratory Control Sample			Run: SUB-C164757			09/19/12 18:59			
Radium 228		7.5	pCi/L		157	80	120			S
- LCS response is outside of the acceptance range for this analysis. Since the MB, MS, and MSD are acceptable the batch is approved.										
Sample ID: MB-RA226-6229	3	Method Blank		Run: SUB-C164757			09/19/12 18:59			
Radium 228		0.005	pCi/L							U
Radium 228 precision (±)		0.6	pCi/L							
Radium 228 MDC		1	pCi/L							
Sample ID: R12090145-007E		Sample Matrix Spike		Run: SUB-C164757			09/19/12 18:59			
Radium 228		10.9	pCi/L		111	70	130			
Sample ID: R12090145-007E		Sample Matrix Spike Duplicate		Run: SUB-C164757			09/19/12 18:59			
Radium 228		11.7	pCi/L		120	70	130	7.0	39.7	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



Chain of Custody and Analytical Request Record

Page 1 of 1

PLEASE PRINT (Provide as much information as possible.)

Company Name: Scot Env.	Project Name, PWS, Permit, Etc. Dewey/Budach Alluvial wells	Sample Origin State: <input type="checkbox"/> Yes <input type="checkbox"/> No
Report Mail Address: Powertech, us	Contact Name: Allen Scott	Sampler: (Please Print) Allen Scott
Invoice Address: Powertech, us	Phone/Fax: Allen Scott	Quote/Bottle Order:

Special Report/Formats:

☐ DW
☐ POTW/WWTP
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

☐ EDD/EDT (Electronic Data)
Format: ☐ LEVEL IV
☐ NELAC

ANALYSIS REQUESTED

SEE ATTACHED

Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page

Comments:

Shipped by:

Cooler ID(s):

Receipt Temp

On Ice: ☒ N

Custody Seal

On Bottle ☐ N

On Cooler ☐ N

Intact ☐ N

Signature Match ☐ N

LABORATORY USE ONLY
812090145-001
002
003
004
005
006
007

Number of Containers

Sample Type: A W S V B O DW
Vegetation Bioassay Other
DW - Drinking Water

MATRIX

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)

Collection Date

Collection Time

1	DC-2	9-10-12	9:35	Water
2	DC-4	9-10-12	10:36	"
3	DC-4 Dup	9-10-12	10:37	"
4	BC-3	9-10-12	12:03	"
5	BC-1	9-10-12	13:41	"
6	BC-2	9-10-12	14:42	"
7	708	9-10-12	15:24	"
8	DC-1	9-11-12	9:17	"
9				
10				

Custody Record MUST be Signed

Relinquished by (print):

Date/Time:

Signature:

Allen Scott 9-11-12 13:58

Received by (print):

Date/Time:

Signature:

Relinquished by (print):

Date/Time:

Signature:

Blue Feiland 9-11-12 13:58

Received by (print):

Date/Time:

Signature:

Sample Disposal: Return to Client:

Lab Disposal:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

Hudson, Roberta

From: Hicks, Matt
Sent: Friday, December 07, 2012 9:36 AM
To: Cepak, Mike
Cc: Hudson, Roberta
Subject: FW: Radiological data
Attachments: S1210102rev.pdf

FYI

From: Lisa Scheinost [mailto:escheinost@powertechuranium.com]
Sent: Thursday, December 06, 2012 6:42 PM
To: Hicks, Matt
Cc: Mays, John; Blubaugh, Richard; Brandner, Tom; Jack Fritz
Subject: RE: Radiological data

Matt,

A revised IML report for the split sample collected in October is attached. Units for radium 228 were corrected from pCi/mL to pCi/L.

Sincerely,
Lisa

From: "Hicks, Matt" <Matt.Hicks@state.sd.us>
Sent: Thursday, December 06, 2012 4:14 PM
To: "Jack Fritz" <jfritz@wwcengineering.com>
Subject: RE: Radiological data

Jack,

I agree that this is a good approach. I will likely add the suggested wording to proposed condition #7 and possibly the portion relating to negative values will be added to proposed condition #6 as well.

We are working on getting the conditions polished based on Powertech's comments and DENR management review (which is still ongoing). We did notice there was a typo in the footnote of proposed condition #6, the determination of PALs for the dry well should use one standard deviation instead of two (one standard deviation is the calculation set by ARSD 74:54:02:18). We were able to incorporate some of Powertech's comments and I hope to send a copy of the conditions to you and Powertech sometime tomorrow morning. We are also looking at sending out the notice of recommendation by the end of next week, so we will need the lab sheets for the October sampling event and revised TDS sooner, rather than later.

Additionally, in today's Water Management Board meeting, the week of March 18, 2013 was tentatively set for the hearing, with the recommended location of somewhere in the hills (I don't know where yet).

Thanks,

Matt

From: Jack Fritz [mailto:jfritz@wwcengineering.com]
Sent: Thursday, December 06, 2012 3:57 PM
To: Hicks, Matt
Cc: Mays, John; Blubaugh, Richard; Scheinost, Lisa
Subject: Radiological data

Matt,

I spoke with John Mays and Richard Blubaugh this morning about our conversation yesterday concerning negative radionuclide concentrations during ambient monitoring. Powertech agrees with the following approach:

- 1) Ambient and compliance monitoring radiological laboratory analysis results will include the error estimates (precision), which take into account the random error associated with analysis of samples, and the minimum detectable concentrations. This is in agreement with guidance in NRC Regulatory Guide 4.14, Revision 1, "Radiological Effluent and Environmental Monitoring at Uranium Mills" and Regulatory Guide 4.15, Revision 2, "Quality Assurance for Radiological Monitoring Programs (Inception through Normal Operations to License Termination) - Effluent Streams and the Environment."
- 2) When calculating the average concentration and standard deviation for radiological data, negative values will be treated as zero.
- 3) When evaluating probable out-of-compliance status, the concentration without consideration of precision will be compared to the permit allowable limit. Precision may be considered when determining out-of-compliance status.

Powertech plans to continue to have the data analyzed for concentration, precision, and minimum detectable concentration to satisfy item #1. In addition, item #3 appears to be a default condition that may not require a specific permit condition. The following suggested modification to item #2 could be added to draft condition #7 (based on the August 21, 2012 version of the draft permit conditions) if you think it's necessary to address in a permit condition:

Following the four months of ambient ground water monitoring as required by ARSD 74:54:02:18, Powertech will continue to collect monthly ground water samples from applicable wells for a total period of one year (eight months beyond initial four month ambient sampling period) and quarterly groundwater samples thereafter until mining commences. Thereafter regular sampling will be conducted in accordance with the monitoring plan outlined in Section 6 of the plan application. All samples collected prior to initial mining or land application will be used to update ambient ground water quality to reflect natural fluctuations in concentrations at that time. The arithmetic mean plus one standard deviation of the sample data shall represent the ambient concentrations for each of the parameters of concern. For radiological parameters, negative values shall be treated as zero concentration values when calculating the arithmetic mean and standard deviation. For non-radiological parameters with undetectable concentrations at the laboratory reporting limit, one-half of the laboratory reporting limit will be used when calculating the arithmetic mean and standard deviation. Subsequently, applicable permitted allowable limits will be updated in accordance with ARSD 74:54:02:18.

In addition, Powertech plans to provide the updated TDS data in the near future. Please call or email with questions or concerns.

Sincerely,

Jack Fritz
307-672-0761



Inter-Mountain Labs
Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

All shaded fields must be completed.

This is a legal document; any misrepresentation may be construed as fraud.

Client Name		Project Identification		Sampler (Signature/Attestation of Authenticity)		Telephone #	
Report Address		Contact Name		ANALYSES / PARAMETERS			
Invoice Address		Purchase Order #		Quote #			
ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	REMARKS
1	9210102-001	10-2-12	1019	DC-2	AA	6	Per Quot 7 241
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
3.0 - C	Lisa Scheinost	10/3/12	1100	Kathy Bap	10.4.12	12:17

SHIPPING INFO	MATRIX CODES	TURNAROUND TIMES	COMPLIANCE INFORMATION	ADDITIONAL REMARKS
<input type="checkbox"/> UPS <input checked="" type="checkbox"/> Fed Express <input type="checkbox"/> US Mail <input type="checkbox"/> Hand Carried <input type="checkbox"/> Other	Water <u>WT</u> Soil <u>SL</u> Solid <u>SD</u> Filter <u>FT</u> Other <u>OT</u>	<input checked="" type="checkbox"/> Check desired service <input checked="" type="checkbox"/> Standard turnaround <input checked="" type="checkbox"/> RUSH - 5 Working Days <input type="checkbox"/> URGENT - < 2 Working Days Rush & Urgent Surcharges will be applied	Compliance Monitoring? <u>Y</u> <u>(N)</u> Program (SDWA, NPDES,...) PWSID / Permit # Chlorinated? <u>Y</u> <u>(N)</u> Sample Disposal: Lab <u>X</u> Client	



Date: 11/19/2012

CLIENT: Powertec Uranium USA Inc.

Project: Dewy-Burdock GW

Lab Order: S1210102

CASE NARRATIVE

Report ID: S1210102002

(Replaces S1210102001)

Sample DC-2 was received on October 4, 2012.

All samples were received and analyzed within the EPA recommended holding times, except those noted in this case narrative. Samples were analyzed using the methods outlined in the following references:

U.S.E.P.A. 600 "Methods for Chemical Analysis of Water and Wastes", 1993

"Standard Methods For The Examination of Water and Wastewater", 20th ed., 1998

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

Methods indicated with the Monday, March 12, 2007 Federal Register, 40 CFR Part 122, 136 et al.

All Quality Control parameters met the acceptance criteria defined by EPA and Inter-Mountain Laboratories except as indicated in this case narrative.

Reviewed by:

Wade Nieuwsma, Assistant Laboratory Manager

Page 1 of 1



Sample Analysis Report

Company: Powertec Uranium USA Inc.
P.O. Box 812
Edgemont, SD 57735

ProjectName: Dewy-Burdock GW
Lab ID: S1210102-001
ClientSample ID: DC-2
COC: 148588

Date Reported: 11/19/2012
Report ID: S1210102002
(Replaces S1210102001)
WorkOrder: S1210102
CollectionDate: 10/2/2012 10:19:00 AM
DateReceived: 10/4/2012 12:17:00 PM
FieldSampler: LS
Matrix: Water

Comments

Analyses	Result	Units	Qual	RL	Method	Date Analyzed/Init	
Anions/Cations							
Alkalinity, Total (As CaCO ₃)	286	mg/L		5	SM 2320B	10/06/2012 726	KV
Alkalinity, Bicarbonate as HCO ₃	349	mg/L		5	SM 2320B	10/06/2012 726	KV
Alkalinity, Carbonate as CO ₃	ND	mg/L		5	SM 2320B	10/06/2012 726	KV
Chloride	926	mg/L		1	EPA 300.0	10/06/2012 018	AM
Fluoride	0.4	mg/L		0.1	SM 4500FC	10/06/2012 726	KV
Nitrogen, Nitrate+Nitrite (as N)	ND	mg/L		0.1	EPA 353.2	10/08/2012 1014	AMB
Sulfate	2070	mg/L		1	EPA 300.0	10/06/2012 018	AM
Calcium	481	mg/L		1	EPA 200.7	10/05/2012 1834	DG
Magnesium	135	mg/L		1	EPA 200.7	10/05/2012 1834	DG
Potassium	11	mg/L		1	EPA 200.7	10/05/2012 1834	DG
Sodium	832	mg/L		1	EPA 200.7	10/05/2012 1834	DG
General Parameters							
pH	8.1	s.u.		0.1	SM 4500 H B	10/06/2012 726	KV
Electrical Conductivity	5090	µmhos/cm		5	SM 2510B	10/06/2012 726	KV
Total Dissolved Solids (180)	5080	mg/L		10	SM 2540	10/05/2012 1621	JCG
Data Quality							
Cation Sum	71.61	meq/L		0.01	SM 1030E	10/09/2012 1122	LJK
Anion Sum	74.99	meq/L		0.01	SM 1030E	10/09/2012 1122	LJK
Cation-Anion Balance (± 5%)	2.30	%		0.01	SM 1030E	10/09/2012 1122	LJK
Calculated TDS/TDS Ratio (0.80-1.20)	1.10	dec. %		0.01	Calculation	10/09/2012 1152	LJK

These results apply only to the samples tested.

RL - Reporting Limit

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- C Calculated Value
- H Holding times for preparation or analysis exceeded
- L Analyzed by a contract laboratory
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- M Value exceeds Monthly Ave or MCL
- O Outside the Range of Dilutions

Reviewed by:

Wade Nieuwsma, Assistant Laboratory Manager

Page 1 of 2



Sample Analysis Report

Company: Powertec Uranium USA Inc.
P.O. Box 812
Edgemont, SD 57735

Date Reported: 11/19/2012
Report ID: S1210102002
(Replaces S1210102001)

ProjectName: Dewy-Burdock GW
Lab ID: S1210102-001
ClientSample ID: DC-2
COC: 148588

WorkOrder: S1210102
CollectionDate: 10/2/2012 10:19:00 AM
DateReceived: 10/4/2012 12:17:00 PM
FieldSampler: LS
Matrix: Water

Comments

Analyses	Result	Units	Qual	RL	Method	Date Analyzed/Init	
Metals - Dissolved							
Arsenic	0.001	mg/L		0.001	EPA 200.8	10/04/2012 1742	MS
Barium	0.018	mg/L		0.005	EPA 200.8	10/04/2012 1742	MS
Boron	0.3	mg/L		0.1	EPA 200.7	10/05/2012 1834	DG
Cadmium	ND	mg/L		0.002	EPA 200.8	10/04/2012 1742	MS
Chromium	ND	mg/L		0.01	EPA 200.7	10/05/2012 1834	DG
Copper	0.006	mg/L		0.005	EPA 200.8	10/04/2012 1742	MS
Iron	3.49	mg/L		0.05	EPA 200.7	10/05/2012 1834	DG
Lead	ND	mg/L		0.001	EPA 200.8	10/04/2012 1742	MS
Manganese	2.93	mg/L		0.001	EPA 200.7	10/05/2012 1834	DG
Molybdenum	0.004	mg/L		0.001	EPA 200.8	10/04/2012 1742	MS
Nickel	ND	mg/L		0.01	EPA 200.7	10/05/2012 1834	DG
Selenium	0.002	mg/L		0.001	EPA 200.8	10/04/2012 1742	MS
Silver	ND	mg/L		0.003	EPA 200.8	10/04/2012 1742	MS
Uranium	0.0077	mg/L		0.0003	EPA 200.8	10/04/2012 1742	MS
Vanadium	ND	mg/L		0.02	EPA 200.8	10/04/2012 1742	MS
Zinc	ND	mg/L		0.01	EPA 200.7	10/05/2012 1834	DG
Metals - Total							
Mercury	ND	mg/L		0.001	EPA 245.1	10/05/2012 1243	CS
Radionuclides - Dissolved							
Gross Alpha	22.2	pCi/L		11	SM 7110B	11/01/2012 1649	SH
Gross Alpha Precision (±)	8.0	pCi/L			SM 7110B	11/01/2012 1649	SH
Gross Beta	ND	pCi/L		19	SM 7110B	11/01/2012 1649	SH
Gross Beta Precision (±)	NA	pCi/L			SM 7110B	11/01/2012 1649	SH
Radium 226	0.3	pCi/L		0.2	SM 7500 Ra-B	10/30/2012 943	MB
Radium 226 Precision (±)	0.1	pCi/L			SM 7500 Ra-B	10/30/2012 943	MB
Radium 228	ND	pCi/L		1	Ga-Tech	11/10/2012 1832	MK
Radium 228 Precision (±)	NA	pCi/L			Ga-Tech	11/10/2012 1832	MK
Radionuclides - Total							
Radon 222	662	pCi/L		50	ASTM D5072-09	10/04/2012 1946	WN
Radon 222 Precision (±)	24	pCi/L			ASTM D5072-09	10/04/2012 1946	WN

These results apply only to the samples tested.

RL - Reporting Limit

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- C Calculated Value
- H Holding times for preparation or analysis exceeded
- L Analyzed by a contract laboratory
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- M Value exceeds Monthly Ave or MCL
- O Outside the Range of Dilutions

Reviewed by: Wade Nieuwsma
Wade Nieuwsma, Assistant Laboratory Manager

Page 2 of 2



Inter-Mountain Labs

Your Environmental Monitoring Partner

1673 Terra Avenue, Sheridan, Wyoming 82801 ph: (307) 672-8945

ANALYTICAL QC SUMMARY REPORT**CLIENT:** Powertec Uranium USA Inc.**Date:** 11/19/2012**Work Order:** S1210102**Report ID:** S1210102002**Project:** Dewy-Burdock GW

(Replaces S1210102001)

Alkalinity

Sample Type MBLK Units: mg/L

Sample ID	RunNo: 88014	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
BLANK	10/05/12 14:59	Alkalinity, Total (As CaCO ₃)	ND	5					

Sample Type LCS Units: mg/L

Sample ID	RunNo: 88014	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
ATQC	10/05/12 14:46	Alkalinity, Total (As CaCO ₃)	575	5	601		95.8	90 - 110	

Sample Type DUP Units: mg/L

Sample ID	RunNo: 88014	Analyte	Result	RL	Ref Samp	%RPD	%REC	% RPD Limits	Qual
S1210102-001AD	10/06/12 7:37	Alkalinity, Bicarbonate as HCO ₃	329	5	349	5.62		20	
		Alkalinity, Carbonate as CO ₃	ND	5	ND			20	
		Alkalinity, Total (As CaCO ₃)	270	5	286	5.62		20	

Conductivity

Sample Type MBLK Units: µmhos/cm

Sample ID	RunNo: 88014	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
BLANK	10/05/12 14:59	Electrical Conductivity	ND	5					

Sample Type LCS Units: µmhos/cm

Sample ID	RunNo: 88014	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
ATQC	10/05/12 14:46	Electrical Conductivity	1060	5	1120		94.9	90 - 110	

Sample Type DUP Units: µmhos/cm

Sample ID	RunNo: 88014	Analyte	Result	RL	Ref Samp	%RPD	%REC	% RPD Limits	Qual
S1210102-001AD	10/06/12 7:37	Electrical Conductivity	5070	5	5090	0.393		20	

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
L Analyzed by a contract laboratory
O Outside the Range of Dilutions
S Spike Recovery outside accepted recovery limits

E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits



Inter-Mountain Labs

Your Environmental Monitoring Partner

1673 Terra Avenue, Sheridan, Wyoming 82801 ph: (307) 672-8945

ANALYTICAL QC SUMMARY REPORT**CLIENT:** Powertec Uranium USA Inc.**Date:** 11/19/2012**Work Order:** S1210102**Report ID:** S1210102002**Project:** Dewy-Burdock GW

(Replaces S1210102001)

Dissolved Metals by ICP - EPA 200.7 - Water

Sample Type MBLK Units: mg/L

Sample ID	RunNo: 88002	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
MBLK DISS/CAT	10/05/12 11:35	Boron	ND	0.1					
		Chromium	ND	0.01					
		Iron	ND	0.05					
		Manganese	ND	0.02					
		Nickel	ND	0.01					
		Zinc	ND	0.01					

Sample Type LCS Units: mg/L

Sample ID	RunNo: 88002	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
DISS LCS Q	10/05/12 11:38	Boron	1.0	0.1	1		103	85 - 115	
		Chromium	1.06	0.01	1		106	85 - 115	
		Iron	1.02	0.05	1		102	85 - 115	
		Manganese	1.03	0.02	1		103	85 - 115	
		Nickel	1.05	0.01	1		105	85 - 115	
		Zinc	1.04	0.01	1		104	85 - 115	

Sample Type MS Units: mg/L

Sample ID	RunNo: 88002	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
S1210098-001CS	10/05/12 18:20	Boron	0.6	0.1	0.5	ND	97.0	70 - 130	
		Chromium	0.52	0.01	0.5	ND	104	70 - 130	
		Iron	1.38	0.05	0.5	1.01	73.4	70 - 130	
		Manganese	0.72	0.02	0.5	0.26	91.0	70 - 130	
		Nickel	0.47	0.01	0.5	ND	93.3	70 - 130	
		Zinc	0.48	0.01	0.5	ND	96.4	70 - 130	

Sample Type MSD Units: mg/L

Sample ID	RunNo: 88002	Analyte	Result	RL	Conc	%RPD	%REC	% RPD Limits	Qual
S1210098-001CSD	10/05/12 18:22	Boron	0.6	0.1	0.6	0.553	96.4	20	
		Chromium	0.50	0.01	0.52	3.38	101	20	
		Iron	1.39	0.05	1.38	1.04	76.2	20	
		Manganese	0.72	0.02	0.72	0.320	90.6	20	
		Nickel	0.46	0.01	0.47	1.39	92.0	20	
		Zinc	0.48	0.01	0.48	1.33	95.1	20	

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
L Analyzed by a contract laboratory
O Outside the Range of Dilutions
S Spike Recovery outside accepted recovery limits

E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits



Inter-Mountain Labs

1673 Terra Avenue, Sheridan, Wyoming 82801 ph: (307) 672-8945

Your Environmental Monitoring Partner

ANALYTICAL QC SUMMARY REPORT**CLIENT:** Powertec Uranium USA Inc.**Date:** 11/19/2012**Work Order:** S1210102**Report ID:** S1210102002**Project:** Dewy-Burdock GW

(Replaces S1210102001)

Dissolved Metals by ICP - EPA 200.7 - Water

Sample Type DUP Units: mg/L

Sample ID	RunNo: 88002	Analyte	Result	RL	Ref Samp	%RPD	%REC	% RPD Limits	Qual
S1210097-001CD	10/05/12 18:15	Boron	0.1	0.1	0.1	0.252		20	
		Chromium	ND	0.01	ND			20	
		Iron	ND	0.05	ND			20	
		Manganese	ND	0.02	ND			20	
		Nickel	ND	0.01	ND			20	
		Zinc	ND	0.01	ND			20	

Dissolved Metals by ICPMS EPA 200.8 - Water

Sample Type MBLK Units: mg/L

Sample ID	RunNo: 87963	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
MBLK	10/04/12 12:41	Arsenic	ND	0.005					
		Barium	ND	0.1					
		Cadmium	ND	0.002					
		Copper	ND	0.01					
		Lead	ND	0.02					
		Molybdenum	ND	0.02					
		Selenium	ND	0.005					
		Silver	ND	0.003					
		Uranium	ND	0.001					
		Vanadium	ND	0.02					

Sample Type LCS Units: mg/L

Sample ID	RunNo: 87963	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
LCS	10/04/12 12:36	Arsenic	0.100	0.005	0.1		100	85 - 115	
		Barium	ND	0.1	0.1		93.6	85 - 115	
		Cadmium	0.099	0.002	0.1		99.2	85 - 115	
		Copper	0.10	0.01	0.1		102	85 - 115	
		Lead	0.10	0.02	0.1		98.0	85 - 115	
		Molybdenum	0.10	0.02	0.1		96.6	85 - 115	
		Selenium	0.101	0.005	0.1		101	85 - 115	
		Silver	0.104	0.003	0.1		104	85 - 115	
		Uranium	0.098	0.001	0.1		98.1	85 - 115	
		Vanadium	0.10	0.02	0.1		102	85 - 115	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
L	Analyzed by a contract laboratory	ND	Not Detected at the Reporting Limit
O	Outside the Range of Dilutions	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits		



Inter-Mountain Labs

1673 Terra Avenue, Sheridan, Wyoming 82801 ph: (307) 672-8945

Your Environmental Monitoring Partner

ANALYTICAL QC SUMMARY REPORT**CLIENT:** Powertec Uranium USA Inc.**Date:** 11/19/2012**Work Order:** S1210102**Report ID:** S1210102002**Project:** Dewy-Burdock GW

(Replaces S1210102001)

Dissolved Metals by ICPMS EPA 200.8 - Water

Sample Type MS Units: mg/L

Sample ID	RunNo: 87963	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
S1210096-001CS	10/04/12 17:08	Arsenic	1.10	0.005	1.1	ND	99.8	70 - 130	
		Barium	1.0	0.1	1.1	ND	91.5	70 - 130	
		Cadmium	1.07	0.002	1.1	ND	97.7	70 - 130	
		Copper	1.11	0.01	1.1	ND	100	70 - 130	
		Lead	1.04	0.02	1.1	ND	94.8	70 - 130	
		Molybdenum	1.21	0.02	1.1	0.12	98.9	70 - 130	
		Selenium	1.11	0.005	1.1	ND	101	70 - 130	
		Uranium	1.94	0.001	1.1	0.900	94.5	70 - 130	
		Vanadium	1.16	0.02	1.1	ND	106	70 - 130	

Sample Type MSD Units: mg/L

Sample ID	RunNo: 87963	Analyte	Result	RL	Conc	%RPD	%REC	% RPD Limits	Qual
S1210096-001CMSD	10/04/12 17:13	Arsenic	1.09	0.005	1.10	0.508	99.3	20	
		Barium	1.0	0.1	1.0	0.778	90.8	20	
		Cadmium	1.08	0.002	1.07	0.829	98.5	20	
		Copper	1.13	0.01	1.11	2.24	103	20	
		Lead	1.06	0.02	1.04	1.27	96.0	20	
		Molybdenum	1.20	0.02	1.21	0.540	98.3	20	
		Selenium	1.11	0.005	1.11	0.473	100	20	
		Uranium	1.92	0.001	1.94	0.865	93.0	20	
		Vanadium	1.12	0.02	1.16	3.74	102	20	

Fluoride by SM 4500

Sample Type MBLK Units: mg/L

Sample ID	RunNo: 88014	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
BLANK	10/05/12 14:59	Fluoride	ND	0.1					

Sample Type LCS Units: mg/L

Sample ID	RunNo: 88014	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
ATQC	10/05/12 14:46	Fluoride	2.9	0.1	2.96		97.2	90 - 110	

Sample Type MS Units: mg/L

Sample ID	RunNo: 88014	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
S1210096-001ASPK	10/06/12 6:33	Fluoride	2.4	0.1	2.5	0.3	84.7	80 - 120	

Sample Type DUP Units: mg/L

Sample ID	RunNo: 88014	Analyte	Result	RL	Ref Samp	%RPD	%REC	% RPD Limits	Qual
S1210102-001AD	10/06/12 7:37	Fluoride	0.4	0.1	0.4	2.08		20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- L Analyzed by a contract laboratory
- O Outside the Range of Dilutions
- S Spike Recovery outside accepted recovery limits

- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

**ANALYTICAL QC SUMMARY REPORT****CLIENT:** Powertec Uranium USA Inc.**Date:** 11/19/2012**Work Order:** S1210102**Report ID:** S1210102002**Project:** Dewy-Burdock GW

(Replaces S1210102001)

Gross Alpha, Beta by SM 7110B

Sample Type MBLK Units: pCi/L

Sample ID	RunNo: 89248	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
MB12-298	11/01/12 1:09	Gross Alpha (Dissolved)	ND	2					
		Gross Beta (Dissolved)	ND	3					

Sample Type LCS Units: pCi/L

Sample ID	RunNo: 89248	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
LCS12-298	11/01/12 1:09	Gross Alpha (Dissolved)	84	2	70		119	83 - 133	
		Gross Beta (Dissolved)	139	3	126		111	88 - 115	

Sample Type MS Units: pCi/L

Sample ID	RunNo: 89248	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
S1210224-001FMS	11/01/12 16:49	Gross Alpha (Dissolved)	142	2	140	3	99.8	48 - 153	
		Gross Beta (Dissolved)	271	4	251	5	106	60 - 140	

Sample Type DUP Units: pCi/L

Sample ID	RunNo: 89248	Analyte	Result	RL	Ref Samp	%RPD	%REC	% RPD Limits	Qual
S1210181-002EDUP	11/02/12 8:16	Gross Alpha (Dissolved)	48	3	42	15.1		20	
		Gross Beta (Dissolved)	44	4	42	6.38		20	

Anions by ION Chromatography

Sample Type MBLK Units: mg/L

Sample ID	RunNo: 88025	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
BLK	10/05/12 12:56	Chloride	ND	1					
		Sulfate	ND	1					

Sample Type LCS Units: mg/L

Sample ID	RunNo: 88025	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
DIONEX	10/05/12 12:29	Chloride	30	1	30		98.7	90 - 110	
		Sulfate	144	1	150		96.0	90 - 110	

Sample Type MS Units: mg/L

Sample ID	RunNo: 88025	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
S1210107-002ASPK	10/06/12 1:11	Chloride	125	1	80	40	106	80 - 120	
		Sulfate	1020	1	640	317	111	80 - 120	

Sample Type DUP Units: mg/L

Sample ID	RunNo: 88025	Analyte	Result	RL	Ref Samp	%RPD	%REC	% RPD Limits	Qual
S1210107-002A	10/06/12 0:58	Chloride	39	1	40	0.655		20	
		Sulfate	317	1	317	0.277		20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- L Analyzed by a contract laboratory
- O Outside the Range of Dilutions
- S Spike Recovery outside accepted recovery limits

- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits



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ANALYTICAL QC SUMMARY REPORT**CLIENT:** Powertec Uranium USA Inc.**Date:** 11/19/2012**Work Order:** S1210102**Report ID:** S1210102002**Project:** Dewy-Burdock GW

(Replaces S1210102001)

Cations by ICP (Method 200.7)

Sample Type MBLK Units: mg/L

Sample ID	RunNo: 87997	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
MBLK DISS/CAT	10/05/12 11:35	Calcium	ND	1					
		Magnesium	ND	1					
		Potassium	ND	1					
		Sodium	ND	1					

Sample Type LCS Units: mg/L

Sample ID	RunNo: 87997	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
CAT LCS IML3	10/05/12 11:40	Calcium	41	1	40		103	85 - 115	
		Magnesium	41	1	40		103	85 - 115	
		Potassium	42	1	40		104	85 - 115	
		Sodium	40	1	40		99.5	85 - 115	

Sample Type MS Units: mg/L

Sample ID	RunNo: 87997	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
S1210095-001AS	10/05/12 17:49	Calcium	163	1	150	9	103	70 - 130	
		Magnesium	156	1	150	2	103	70 - 130	
		Potassium	160	1	150	2	106	70 - 130	
		Sodium	270	1	150	103	111	70 - 130	

Sample Type MSD Units: mg/L

Sample ID	RunNo: 87997	Analyte	Result	RL	Conc	%RPD	%REC	% RPD Limits	Qual
S1210095-001ASD	10/05/12 17:52	Calcium	164	1	163	0.262	103	20	
		Magnesium	156	1	156	0.0269	103	20	
		Potassium	160	1	160	0.0681	106	20	
		Sodium	270	1	270	0.0437	111	20	

Sample Type DUP Units: mg/L

Sample ID	RunNo: 87997	Analyte	Result	RL	Ref Samp	%RPD	%REC	% RPD Limits	Qual
S1210097-001AD	10/05/12 18:15	Calcium	34	1	35	0.221		20	
		Magnesium	14	1	14	0.157		20	
		Potassium	8	1	8	0.0288		20	
		Sodium	37	1	37	0.157		20	

Qualifiers:

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

L Analyzed by a contract laboratory

O Outside the Range of Dilutions

S Spike Recovery outside accepted recovery limits

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits



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ANALYTICAL QC SUMMARY REPORT**CLIENT:** Powertec Uranium USA Inc.**Date:** 11/19/2012**Work Order:** S1210102**Report ID:** S1210102002**Project:** Dewy-Burdock GW

(Replaces S1210102001)

Nitrogen, Nitrate-Nitrite (as N)

Sample Type MBLK Units: mg/L

Sample ID	RunNo: 88030	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
BLANK	10/08/12 9:02	Nitrogen, Nitrate-Nitrite (as N)	ND	0.1					

Sample Type LCS Units: mg/L

Sample ID	RunNo: 88030	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
QC	10/08/12 9:05	Nitrogen, Nitrate-Nitrite (as N)	18.7	0.1	19.3		96.8	90 - 110	

Sample Type MS Units: mg/L

Sample ID	RunNo: 88030	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
S1210062-006C	10/08/12 9:24	Nitrogen, Nitrate-Nitrite (as N)	4.1	0.1	5	ND	81.1	80 - 120	

Sample Type DUP Units: mg/L

Sample ID	RunNo: 88030	Analyte	Result	RL	Ref Samp	%RPD	%REC	% RPD Limits	Qual
S1210102-001C	10/08/12 10:15	Nitrogen, Nitrate-Nitrite (as N)	ND	0.1	ND			20	

Radium 228 by Ga/Tech

Sample Type MBLK Units: pCi/L

Sample ID	RunNo: 89500	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
MB-6551	11/08/12 21:17	Radium 228 (Dissolved)	ND	1					

Sample Type LCS Units: pCi/L

Sample ID	RunNo: 89500	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
LCS-6551	11/09/12 0:18	Radium 228 (Dissolved)	34	1	46.3		74.0	63.8 - 119	

Sample Type LCSD Units: pCi/L

Sample ID	RunNo: 89500	Analyte	Result	RL	Conc	%RPD	%REC	% RPD Limits	Qual
LCSD-6551	11/09/12 3:19	Radium 228 (Dissolved)	37	1	34	8.36	80.2	20	

Sample Type MS Units: pCi/L

Sample ID	RunNo: 89500	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
TAP WATER MS-6651	11/09/12 9:21	Radium 228 (Dissolved)	31	1	46.3	ND	66.0	52.4 - 145	

Sample Type MSD Units: pCi/L

Sample ID	RunNo: 89500	Analyte	Result	RL	Conc	%RPD	%REC	% RPD Limits	Qual
TAP WATER MSD-	11/09/12 12:22	Radium 228 (Dissolved)	35	1	31	14.7	75.7	30	

Qualifiers:

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

L Analyzed by a contract laboratory

O Outside the Range of Dilutions

S Spike Recovery outside accepted recovery limits

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits



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ANALYTICAL QC SUMMARY REPORT**CLIENT:** Powertec Uranium USA Inc.**Date:** 11/19/2012**Work Order:** S1210102**Report ID:** S1210102002**Project:** Dewy-Burdock GW

(Replaces S1210102001)

Radium 226 in Water - Dissolved

Sample Type MBLK Units: pCi/L

Sample ID	RunNo: 89076	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
MB12-298	10/30/12 19:54	Radium 226 (Dissolved)	ND	0.2					

Sample Type LCS Units: pCi/L

Sample ID	RunNo: 89076	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
LCS12-298	10/30/12 9:43	Radium 226 (Dissolved)	5.1	0.2	5		102	62.5 - 125	

Sample Type MS Units: pCi/L

Sample ID	RunNo: 89076	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
S1210085-003FMS	10/30/12 19:54	Radium 226 (Dissolved)	5.0	0.2	5	ND	100	41.6 - 146	

Sample Type DUP Units: pCi/L

Sample ID	RunNo: 89076	Analyte	Result	RL	Ref Samp	%RPD	%REC	% RPD Limits	Qual
S1210085-002FDUP	10/30/12 19:54	Radium 226 (Dissolved)	0.2	0.2	ND			20	

Radon 222 in Water ASTM D5072-09

Sample Type MBLK Units: pCi/L

Sample ID	RunNo: 88095	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
MB-6478	10/04/12 16:48	Radon-222	ND	50					

Sample Type LCS Units: pCi/L

Sample ID	RunNo: 88095	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
LCS-6478	10/04/12 16:48	Radon-222	18700	50	18500		101	70 - 130	

Sample Type DUP Units: pCi/L

Sample ID	RunNo: 88095	Analyte	Result	RL	Ref Samp	%RPD	%REC	% RPD Limits	Qual
S1210102-001AD	10/04/12 20:21	Radon-222	640	50	660	3.24		20	

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
L Analyzed by a contract laboratory
O Outside the Range of Dilutions
S Spike Recovery outside accepted recovery limits

E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits



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ANALYTICAL QC SUMMARY REPORT**CLIENT:** Powertec Uranium USA Inc.**Date:** 11/19/2012**Work Order:** S1210102**Report ID:** S1210102002**Project:** Dewy-Burdock GW

(Replaces S1210102001)

Solids By SM 2540

Sample Type MBLK Units: mg/L

Sample ID	RunNo: 88069	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
DI	10/05/12 16:02	Total Dissolved Solids (180)	ND	10					

Sample Type LCS Units: mg/L

Sample ID	RunNo: 88069	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
CONTROL	10/05/12 16:03	Total Dissolved Solids (180)	230	10	226		100	90 - 110	

Sample Type DUP Units: mg/L

Sample ID	RunNo: 88069	Analyte	Result	RL	Ref Samp	%RPD	%REC	% RPD Limits	Qual
S1210095-003A	10/05/12 16:14	Total Dissolved Solids (180)	370	10	400	7.00		20	

Total Mercury by EPA 245.1 - Water

Sample Type MBLK Units: mg/L

Sample ID	RunNo: 87988	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
LRB	10/05/12 10:00	Mercury	ND	0.001					

Sample Type LCS Units: mg/L

Sample ID	RunNo: 87988	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
LCS	10/05/12 9:58	Mercury	0.002	0.001	0.002		101	85 - 115	

Sample Type MS Units: mg/L

Sample ID	RunNo: 87988	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
S1210102-001E	10/05/12 12:46	Mercury	0.002	0.001	0.00244	ND	102	70 - 130	

Sample Type MSD Units: mg/L

Sample ID	RunNo: 87988	Analyte	Result	RL	Conc	%RPD	%REC	% RPD Limits	Qual
S1210102-001E	10/05/12 12:48	Mercury	0.002	0.001	0.002	0.565	101	20	

Sample Type DUP Units: mg/L

Sample ID	RunNo: 87988	Analyte	Result	RL	Ref Samp	%RPD	%REC	% RPD Limits	Qual
S1210102-001E	10/05/12 12:44	Mercury	ND	0.001	ND			20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
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- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits



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ANALYTICAL QC SUMMARY REPORT**CLIENT:** Powertec Uranium USA Inc.**Date:** 11/19/2012**Work Order:** S1210102**Report ID:** S1210102002**Project:** Dewy-Burdock GW

(Replaces S1210102001)

pH Water

Sample Type LCS

Units: s.u.

Sample ID	RunNo: 88014	Analyte	Result	RL	Spike	Ref Samp	%REC	% Rec Limits	Qual
ATQC	10/05/12 14:46	pH	8.7	0.1	8.48		102	90 - 110	

Sample Type DUP

Units: s.u.

Sample ID	RunNo: 88014	Analyte	Result	RL	Ref Samp	%RPD	%REC	% RPD Limits	Qual
S1210102-001AD	10/06/12 7:37	pH	8.1	0.1	8.1	0.196		20	

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
L Analyzed by a contract laboratory
O Outside the Range of Dilutions
S Spike Recovery outside accepted recovery limits

E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

From: Cepak, Mike
To: Fivecoate, Roberta; Lees, Michael; Haag, Gary; Holm, Eric; Townsend, Bob;
CC: Cepak, Mike;
Subject: FW: RESEND SAMPLE REPORT
Date: Monday, May 19, 2008 7:53:55 AM
Attachments: Sample Darrow Pit 5 12 08 redo.pdf

Corrected version.

-----Original Message-----

From: Greg McDougall [mailto:greg@thechemistrylab.com]
Sent: Friday, May 16, 2008 6:02 PM
To: Cepak, Mike
Subject: RESEND SAMPLE REPORT

Mike:

The first report we sent you had a mistake, the Potassium value was added for the Sodium value. Also someone from the DENR wanted Alkalinity added. We also added Acidity to get the proper Cation-Anion balance.

Thanks:

Greg McDougall

Mid Continent Testing Labs, Inc.
ph: 605-348-0111
fax 605-721-0265
Greg@TheChemistryLab.com



MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com


Sample Site: **Darrow Pit**
Sampled: 05/12/08 at 03:00 PM
by Mark Keenihan
Sample Matrix: Water

Lab ID#: 20080513109
Received: 05/12/08 at 04:20 PM
by Dana Smith
Account: W1008
DENR - Minerals & Mining

MIKE CEPAK
DENR - MINERALS AND MINING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	5830	µmhos/cm	1	0.400	5.00	EPA 120.1	JAM	05/13/08
pH	3.37	SU	1			SM 4500-H+ B	JAM	05/13/08
Total Dissolved Solids	6950	mg/L	100ml	8.28	50.0	SM 2540 D	TMN	05/13/08
Non-Metallics								
Acidity	1110	mg/L	1	3.63	10.0	SM 2310 B	JAM	05/16/08
Bicarbonate	0.00	mg/L	1	0.505	10.0	SM 2320 B	JAM	05/15/08
Carbonate	0.00	mg/L	1	0.207	5.00	SM 2320 B	JAM	05/15/08
Chloride (Cl-)	12.5	mg/L	2	0.906	1.00	SM 4500-Cl B	NMA	05/13/08
Nitrogen, Ammonia (NH3)	1.55	mg/L	5	0.024	0.250	SM 4500-NH3 D	JAM	05/13/08
Nitrogen, Nitrate (NO3)	0.327	mg/L	1	0.018	0.050	SM 4500-NO3 F	DES	05/13/08
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO2 B	DES	05/13/08
Sulfate (SO4)	4320	mg/L	20	52.4	200	EPA 375.2	DES	05/13/08
Metals - Dissolved								
Arsenic (As)	0.007	mg/L	10	0.000478	0.005	EPA 200.8	PAT	05/13/08
Cadmium (Cd)	0.031	mg/L	10	0.000202	0.001	EPA 200.8	PAT	05/13/08
Calcium (Ca)	369	mg/L	5	1.10	5.00	SM 3111 B	SAC	05/13/08
Chromium (Cr)	0.018	mg/L	10	0.000248	0.001	EPA 200.8 DRC	PAT	05/13/08
Copper (Cu)	0.096	mg/L	10	0.000478	0.005	EPA 200.8	PAT	05/13/08
Iron (Fe)	5.60	mg/L	10	0.009	0.050	EPA 200.8	PAT	05/13/08
Magnesium (Mg)	622	mg/L	25	0.542	12.5	SM 3111 B	SAC	05/13/08
Molybdenum (Mo)	< 0.001	mg/L	10	0.000385	0.001	EPA 200.8	PAT	05/13/08
Potassium (K)	21.8	mg/L	5	0.890	2.50	SM 3111 B	SAC	05/13/08
Selenium (Se)	0.033	mg/L	10	0.001	0.005	EPA 200.8	PAT	05/13/08
Sodium (Na)	83.2	mg/L	5	0.741	2.50	SM 3111 B	SAC	05/13/08
Metals - Total								
Uranium	5.53	mg/L	10	0.000041	0.001	EPA 200.8	PAT	05/13/08

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Anion - Cation Balance								
Anions	90.2	meq/L	1			Calculation	GAM	05/16/08
Anion - Cation Balance	1.11	%	1			Calculation	GAM	05/16/08
Cations	92.2	meq/L	1			Calculation	GAM	05/16/08
Radiological								
Radium-226	Pending	pCi/L	1			E903.0		
Radon-222	Pending	pCi/L	1			ASTM D5072-92	DES	

Approved By: 

Approved On: 5/16/2008 4:49:44 PM