

## **ATTACHMENT A**

### **Additional Alluvial Characterization Water Quality**

Powertech (USA) Inc. Dewey-Burdock Project Alluvial Characterization Sampling Results		Well 708	Well 708	Well 708	Well 708	Well 708	Well 711	Well 712	Well 713	Well 714	Well 715	Well BI-2	Well BC-2	Well BC-2	Well BC-2	Human Health Standards ARSD 74:54:01:04
Sample Collection Date		7/23/2012	8/20/2012	9/10/2012	10/3/2012	11/5/2012	11/6/2012	11/6/2012	11/6/2012	11/6/2012	11/6/2012	11/6/2012	7/23/2012	8/20/2012	9/10/2012	
Physical Properties																
Lab pH	s.u.	7.22	7.29	7.28	7.21	7.27	7.25	7.17	7.18	7.13	7.29	7.26	7.07	7.11	7.22	6.5 - 8.5
Total Dissolved Solids	mg/L	6200	6300	6500	7000	6600	3500	3900	4300	3900	3300	3900	3800	3900	3900	1000
Lab Conductivity	umhos/cm	5920	6300	6250	6300	5200	3450	3740	4190	3800	3270	3800	3430	3860	3850	
Common Elements and Ions																
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	288	298	302	298	306	226	232	256	230	218	234	230	234	234	
Bicarbonate as HCO <sub>3</sub>	mg/L	351	363	368	363	373	275	283	312	280	266	285	280	285	285	
Calcium, Ca	mg/L	440	414	426	442	415	497	508	472	491	507	481	544	516	521	
Carbonate as CO <sub>3</sub>	mg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Chloride, Cl	mg/L	42	44	46	47	45	24	22	26	22	21	21	21	21	21	250
Fluoride, F	mg/L	NM	NM	1.1	1.2	1.0	0.7	0.6	0.7	0.7	0.6	0.8	0.8	0.7	0.7	
Magnesium, Mg	mg/L	476	530	521	525	516	154	216	274	232	158	246	200	218	220	
Nitrate, NO <sub>3</sub> <sup>-</sup> (as Nitrogen)	mg/L	NM	NM	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	0.4	0.3	< 0.1	0.2	0.2	
Potassium, K	mg/L	NM	NM	32	30	30	12	13	19	13	11	13	12	13	13	
Sodium, Na	mg/L	620	713	779	766	742	260	294	363	275	166	255	278	258	278	
Sulfate, SO <sub>4</sub>	mg/L	4360	4260	4270	4520	4280	2150	2420	2690	2500	2010	2460	2350	2390	2400	500

Highlighted value exceeds ARSD 74:54:01:04 Human Health Standard.

NM - The sample was not tested for this parameter.



# ANALYTICAL SUMMARY REPORT

November 13, 2012

Powertech USA Inc  
PO Box 812  
Edgemont, SD 57735

Workorder No.: R12110088      Quote ID: R412  
Project Name: #708 plus Alluvial

Energy Laboratories Inc. Rapid City SD received the following 7 samples for Powertech USA Inc on 11/7/2012 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
R12110088-001	DC-3	11/06/12 10:34	11/07/12	Aqueous	Metals by ICP/ICPMS, Dissolved Anion - Cation Balance Anions by Ion Chromatography Solids, Total Dissolved
R12110088-002	713	11/06/12 11:05	11/07/12	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Anion - Cation Balance Conductivity Anions by Ion Chromatography pH Solids, Total Dissolved
R12110088-003	714	11/06/12 13:45	11/07/12	Aqueous	Same As Above
R12110088-004	712	11/06/12 14:20	11/07/12	Aqueous	Same As Above
R12110088-005	711	11/06/12 14:51	11/07/12	Aqueous	Same As Above
R12110088-006	BI-2	11/06/12 15:45	11/07/12	Aqueous	Same As Above
R12110088-007	715	11/06/12 16:33	11/07/12	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: 2012.11.13 16:09:00 -07:00



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**CLIENT:** Powertech USA Inc  
**Project:** #708 plus Alluvial  
**Sample Delivery Group:** R12110088

**Report Date:** 11/13/12

## CASE NARRATIVE

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Per Elizabeth Scheinost run cations, anions, balance and TDS on DC-3 11/7/2012 LL  
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:** #708 plus Alluvial  
**Lab ID:** R12110088-001  
**Client Sample ID:** DC-3

**Report Date:** 11/13/12  
**Collection Date:** 11/06/12 10:34  
**Date Received:** 11/07/12  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		DF	Method	Analysis Date / By
				RL	QCL			
<b>PHYSICAL PARAMETERS</b>								
Solids, Total Dissolved TDS @ 180 C	11000	mg/L		40		1	A2540 C	11/09/12 16:48/jmh
<b>INORGANIC PARAMETERS</b>								
Chloride	1320	mg/L	D	50		50	E300.0	11/08/12 03:59/jmh
Fluoride	ND	mg/L		0.1		1	E300.0	11/08/12 04:17/jmh
Sulfate	6330	mg/L	D	50		50	E300.0	11/08/12 03:59/jmh
<b>DATA QUALITY PARAMETERS</b>								
Anions	169	meq/L		1.00		1	A1030 E	11/13/12 00:00/lkl
Cations	157	meq/L		1.00		1	A1030 E	11/13/12 00:00/lkl
Conductivity, Calculated	11700	umhos/cm		1.00		1	A1030 E	11/13/12 00:00/lkl
TDS Ratio	1.07			0.0100		1	A1030 E	11/13/12 00:00/lkl
A/C Balance	-3.78	%				1	A1030 E	11/13/12 00:00/lkl
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	1.7	mg/L		0.1		1	E300.0	11/08/12 04:17/jmh
<b>DISSOLVED METALS ANALYSES</b>								
Calcium	404	mg/L		1		2	E200.7	11/08/12 19:18/eli-ca
Magnesium	701	mg/L		1		2	E200.7	11/08/12 19:18/eli-ca
Potassium	55	mg/L		1		2	E200.7	11/08/12 19:18/eli-ca
Sodium	1780	mg/L		1		2	E200.7	11/08/12 19:18/eli-ca

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

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:** #708 plus Alluvial  
**Lab ID:** R12110088-002  
**Client Sample ID:** 713

**Report Date:** 11/13/12  
**Collection Date:** 11/06/12 11:05  
**Date Received:** 11/07/12  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By	
				RL	QCL			
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	4190	umhos/cm		5.0		1	A2510 B	11/08/12 09:33/tb
pH	7.18	su		0.01		1	A4500-H B	11/08/12 10:08/tb
Solids, Total Dissolved TDS @ 180 C	4300	mg/L		40		1	A2540 C	11/09/12 16:48/jmh
Alkalinity, Total as CaCO3	256	mg/L		5		1	A2320 B	11/09/12 15:51/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	11/09/12 15:51/ch
Bicarbonate as HCO3	312	mg/L		5		1	A2320 B	11/09/12 15:51/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	26	mg/L		1		1	E300.0	11/08/12 04:53/jmh
Fluoride	0.7	mg/L		0.1		1	E300.0	11/08/12 04:53/jmh
Sulfate	2690	mg/L	D	50		50	E300.0	11/08/12 04:35/jmh
<b>DATA QUALITY PARAMETERS</b>								
Anions	61.9	meq/L		1.00		1	A1030 E	11/13/12 00:00/kl
Cations	62.4	meq/L		1.00		1	A1030 E	11/13/12 00:00/kl
Conductivity, Calculated	4910	umhos/cm		1.00		1	A1030 E	11/13/12 00:00/kl
TDS Ratio	1.07			0.0100		1	A1030 E	11/13/12 00:00/kl
A/C Balance	0.420	%				1	A1030 E	11/13/12 00:00/kl
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	ND	mg/L		0.1		1	E300.0	11/08/12 04:53/jmh
<b>DISSOLVED METALS ANALYSES</b>								
Calcium	472	mg/L		1		2	E200.7	11/08/12 19:22/eli-ca
Magnesium	274	mg/L		1		2	E200.7	11/08/12 19:22/eli-ca
Potassium	19	mg/L		1		2	E200.7	11/08/12 19:22/eli-ca
Sodium	363	mg/L		1		2	E200.7	11/08/12 19:22/eli-ca

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

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:** #708 plus Alluvial  
**Lab ID:** R12110088-003  
**Client Sample ID:** 714

**Report Date:** 11/13/12  
**Collection Date:** 11/06/12 13:45  
**Date Received:** 11/07/12  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		DF	Method	Analysis Date / By
				RL	QCL			
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	3800	umhos/cm		5.0		1	A2510 B	11/08/12 09:34/tb
pH	7.13	su		0.01		1	A4500-H B	11/08/12 10:10/tb
Solids, Total Dissolved TDS @ 180 C	3900	mg/L		40		1	A2540 C	11/09/12 16:49/jmh
Alkalinity, Total as CaCO3	230	mg/L		5		1	A2320 B	11/09/12 15:58/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	11/09/12 15:58/ch
Bicarbonate as HCO3	280	mg/L		5		1	A2320 B	11/09/12 15:58/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	22	mg/L		1		1	E300.0	11/08/12 05:29/jmh
Fluoride	0.7	mg/L		0.1		1	E300.0	11/08/12 05:29/jmh
Sulfate	2500	mg/L	D	50		50	E300.0	11/08/12 05:11/jmh
<b>DATA QUALITY PARAMETERS</b>								
Anions	57.3	meq/L		1.00		1	A1030 E	11/13/12 00:00/lkj
Cations	55.8	meq/L		1.00		1	A1030 E	11/13/12 00:00/lkj
Conductivity, Calculated	4550	umhos/cm		1.00		1	A1030 E	11/13/12 00:00/lkj
TDS Ratio	1.04			0.0100		1	A1030 E	11/13/12 00:00/lkj
A/C Balance	-1.32	%				1	A1030 E	11/13/12 00:00/lkj
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	0.3	mg/L		0.1		1	E300.0	11/08/12 05:29/jmh
<b>DISSOLVED METALS ANALYSES</b>								
Calcium	491	mg/L		1		2	E200.7	11/08/12 19:26/eli-ca
Magnesium	232	mg/L		1		2	E200.7	11/08/12 19:26/eli-ca
Potassium	13	mg/L		1		2	E200.7	11/08/12 19:26/eli-ca
Sodium	275	mg/L		1		2	E200.7	11/08/12 19:26/eli-ca

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

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:** #708 plus Alluvial  
**Lab ID:** R12110088-004  
**Client Sample ID:** 712

**Report Date:** 11/13/12  
**Collection Date:** 11/06/12 14:20  
**Date Received:** 11/07/12  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	3740	umhos/cm		5.0			1	A2510 B	11/08/12 09:36/tb
pH	7.17	su		0.01			1	A4500-H B	11/08/12 10:12/tb
Solids, Total Dissolved TDS @ 180 C	3900	mg/L		40			1	A2540 C	11/09/12 16:49/jmh
Alkalinity, Total as CaCO3	232	mg/L		5			1	A2320 B	11/09/12 16:01/ch
Carbonate as CO3	ND	mg/L		5			1	A2320 B	11/09/12 16:01/ch
Bicarbonate as HCO3	283	mg/L		5			1	A2320 B	11/09/12 16:01/ch
<b>INORGANIC PARAMETERS</b>									
Chloride	22	mg/L		1			1	E300.0	11/08/12 06:05/jmh
Fluoride	0.6	mg/L		0.1			1	E300.0	11/08/12 06:05/jmh
Sulfate	2420	mg/L	D	50			50	E300.0	11/08/12 05:47/jmh
<b>DATA QUALITY PARAMETERS</b>									
Anions	55.7	meq/L		1.00			1	A1030 E	11/13/12 00:00/lkl
Cations	56.2	meq/L		1.00			1	A1030 E	11/13/12 00:00/lkl
Conductivity, Calculated	4500	umhos/cm		1.00			1	A1030 E	11/13/12 00:00/lkl
TDS Ratio	1.07			0.0100			1	A1030 E	11/13/12 00:00/lkl
A/C Balance	0.470	%					1	A1030 E	11/13/12 00:00/lkl
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	ND	mg/L		0.1			1	E300.0	11/08/12 06:05/jmh
<b>DISSOLVED METALS ANALYSES</b>									
Calcium	508	mg/L		1			2	E200.7	11/08/12 19:43/eli-ca'
Magnesium	216	mg/L		1			2	E200.7	11/08/12 19:43/eli-ca'
Potassium	13	mg/L		1			2	E200.7	11/08/12 19:43/eli-ca'
Sodium	294	mg/L		1			2	E200.7	11/08/12 19:43/eli-ca'

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

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:** #708 plus Alluvial  
**Lab ID:** R12110088-005  
**Client Sample ID:** 711

**Report Date:** 11/13/12  
**Collection Date:** 11/06/12 14:51  
**Date Received:** 11/07/12  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		DF	Method	Analysis Date / By
				RL	QCL			
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	3450	umhos/cm		5.0		1	A2510 B	11/08/12 09:38/tb
pH	7.25	su		0.01		1	A4500-H B	11/08/12 10:13/tb
Solids, Total Dissolved TDS @ 180 C	3500	mg/L		20		1	A2540 C	11/09/12 16:50/jmh
Alkalinity, Total as CaCO3	226	mg/L		5		1	A2320 B	11/09/12 16:05/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	11/09/12 16:05/ch
Bicarbonate as HCO3	275	mg/L		5		1	A2320 B	11/09/12 16:05/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	24	mg/L		1		1	E300.0	11/08/12 07:52/jmh
Fluoride	0.7	mg/L		0.1		1	E300.0	11/08/12 07:52/jmh
Sulfate	2150	mg/L	D	50		50	E300.0	11/08/12 06:58/jmh
<b>DATA QUALITY PARAMETERS</b>								
Anions	50.0	meq/L		1.00		1	A1030 E	11/13/12 00:00/lkl
Cations	49.1	meq/L		1.00		1	A1030 E	11/13/12 00:00/lkl
Conductivity, Calculated	4070	umhos/cm		1.00		1	A1030 E	11/13/12 00:00/lkl
TDS Ratio	1.09			0.0100		1	A1030 E	11/13/12 00:00/lkl
A/C Balance	-0.870	%				1	A1030 E	11/13/12 00:00/lkl
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	ND	mg/L		0.1		1	E300.0	11/08/12 07:52/jmh
<b>DISSOLVED METALS ANALYSES</b>								
Calcium	497	mg/L		1		2	E200.7	11/08/12 19:47/eli-ca
Magnesium	154	mg/L		1		2	E200.7	11/08/12 19:47/eli-ca
Potassium	12	mg/L		1		2	E200.7	11/08/12 19:47/eli-ca
Sodium	260	mg/L		1		2	E200.7	11/08/12 19:47/eli-ca

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

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:** #708 plus Alluvial  
**Lab ID:** R12110088-006  
**Client Sample ID:** BI-2

**Report Date:** 11/13/12  
**Collection Date:** 11/06/12 15:45  
**Date Received:** 11/07/12  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	3800	umhos/cm		5.0			1	A2510 B	11/08/12 09:39/tb
pH	7.26	su		0.01			1	A4500-H B	11/08/12 10:15/tb
Solids, Total Dissolved TDS @ 180 C	3900	mg/L		40			1	A2540 C	11/09/12 16:51/jmh
Alkalinity, Total as CaCO3	234	mg/L		5			1	A2320 B	11/09/12 16:09/ch
Carbonate as CO3	ND	mg/L		5			1	A2320 B	11/09/12 16:09/ch
Bicarbonate as HCO3	285	mg/L		5			1	A2320 B	11/09/12 16:09/ch
<b>INORGANIC PARAMETERS</b>									
Chloride	21	mg/L		1			1	E300.0	11/08/12 08:28/jmh
Fluoride	0.8	mg/L		0.1			1	E300.0	11/08/12 08:28/jmh
Sulfate	2460	mg/L	D	50			50	E300.0	11/08/12 08:10/jmh
<b>DATA QUALITY PARAMETERS</b>									
Anions	56.5	meq/L		1.00			1	A1030 E	11/13/12 00:00/lkl
Cations	55.6	meq/L		1.00			1	A1030 E	11/13/12 00:00/lkl
Conductivity, Calculated	4510	umhos/cm		1.00			1	A1030 E	11/13/12 00:00/lkl
TDS Ratio	1.07			0.0100			1	A1030 E	11/13/12 00:00/lkl
A/C Balance	-0.790	%					1	A1030 E	11/13/12 00:00/lkl
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	0.3	mg/L		0.1			1	E300.0	11/08/12 08:28/jmh
<b>DISSOLVED METALS ANALYSES</b>									
Calcium	481	mg/L		1			2	E200.7	11/08/12 19:51/eli-ca
Magnesium	246	mg/L		1			2	E200.7	11/08/12 19:51/eli-ca
Potassium	13	mg/L		1			2	E200.7	11/08/12 19:51/eli-ca
Sodium	255	mg/L		1			2	E200.7	11/08/12 19:51/eli-ca

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QCL - Quality control limit.  
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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:** #708 plus Alluvial  
**Lab ID:** R12110088-007  
**Client Sample ID:** 715

**Report Date:** 11/13/12  
**Collection Date:** 11/06/12 16:33  
**Date Received:** 11/07/12  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		DF	Method	Analysis Date / By
				RL	QCL			
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	3270	umhos/cm		5.0		1	A2510 B	11/08/12 09:42/tb
pH	7.29	su		0.01		1	A4500-H B	11/08/12 10:17/tb
Solids, Total Dissolved TDS @ 180 C	3300	mg/L		20		1	A2540 C	11/09/12 16:51/jmh
Alkalinity, Total as CaCO3	218	mg/L		5		1	A2320 B	11/09/12 16:12/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	11/09/12 16:12/ch
Bicarbonate as HCO3	266	mg/L		5		1	A2320 B	11/09/12 16:12/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	21	mg/L		1		1	E300.0	11/08/12 09:04/jmh
Fluoride	0.6	mg/L		0.1		1	E300.0	11/08/12 09:04/jmh
Sulfate	2010	mg/L	D	50		50	E300.0	11/08/12 08:46/jmh
<b>DATA QUALITY PARAMETERS</b>								
Anions	46.8	meq/L		1.00		1	A1030 E	11/13/12 00:00/lkl
Cations	45.8	meq/L		1.00		1	A1030 E	11/13/12 00:00/lkl
Conductivity, Calculated	3840	umhos/cm		1.00		1	A1030 E	11/13/12 00:00/lkl
TDS Ratio	1.10			0.0100		1	A1030 E	11/13/12 00:00/lkl
A/C Balance	-1.11	%				1	A1030 E	11/13/12 00:00/lkl
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	0.4	mg/L		0.1		1	E300.0	11/08/12 09:04/jmh
<b>DISSOLVED METALS ANALYSES</b>								
Calcium	507	mg/L		1		2	E200.7	11/08/12 19:55/eli-ca
Magnesium	158	mg/L		1		2	E200.7	11/08/12 19:55/eli-ca
Potassium	11	mg/L		1		2	E200.7	11/08/12 19:55/eli-ca
Sodium	166	mg/L		1		2	E200.7	11/08/12 19:55/eli-ca

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 11/13/12

Project: #708 plus Alluvial

Work Order: R12110088

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2320 B</b>								Batch: 121109A-ALK-SEL-W		
<b>Sample ID: LCS1_121109A</b>		Laboratory Control Sample					Run: PH_COND1-R_121109A		11/09/12 15:32	
Alkalinity, Total as CaCO3		952	mg/L	5.0	95	90	110			
<b>Sample ID: MBLK1_121109A</b>		Method Blank					Run: PH_COND1-R_121109A		11/09/12 15:36	
Alkalinity, Total as CaCO3		ND	mg/L	2						
<b>Sample ID: R12110069-001ADUP</b>		3 Sample Duplicate					Run: PH_COND1-R_121109A		11/09/12 15:49	
Alkalinity, Total as CaCO3		298	mg/L	5.0				2.6	10	
Carbonate as CO3		ND	mg/L	5.0					10	
Bicarbonate as HCO3		363	mg/L	5.0				2.6	10	
<b>Sample ID: R12110088-002AMS</b>		Sample Matrix Spike					Run: PH_COND1-R_121109A		11/09/12 15:54	
Alkalinity, Total as CaCO3		370	mg/L	5.0	94	80	120			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



### QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 11/13/12

Project: #708 plus Alluvial

Work Order: R12110088

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2510 B</b>								Batch: 121108_1_COND-PROBE-W		
<b>Sample ID: MBLK-1_121108</b>		Method Blank					Run: PH_COND2-R_121108A		11/08/12 09:25	
Conductivity @ 25 C		ND	umhos/cm	5						
<b>Sample ID: R12110084-003ADUP</b>		Sample Duplicate					Run: PH_COND2-R_121108A		11/08/12 09:29	
Conductivity @ 25 C		910	umhos/cm	5.0				0.1	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



### QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 11/13/12

Project: #708 plus Alluvial

Work Order: R12110088

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2540 C</b>								Batch: TDS121109A		
<b>Sample ID: MB-1_121109A</b>		Method Blank			Run: BAL-TDS_121109A			11/09/12 16:36		
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	3						
<b>Sample ID: LCS-2_121109A</b>		Laboratory Control Sample			Run: BAL-TDS_121109A			11/09/12 16:37		
Solids, Total Dissolved TDS @ 180 C		510	mg/L	10	103	90	110			
<b>Sample ID: R12110086-002A MS</b>		Sample Matrix Spike			Run: BAL-TDS_121109A			11/09/12 16:40		
Solids, Total Dissolved TDS @ 180 C		790	mg/L	10	101	90	110			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 11/13/12

Project: #708 plus Alluvial

Work Order: R12110088

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: A4500-H B</b>								Analytical Run: PH_COND2-R_121108B			
<b>Sample ID: ICV-1_121108</b>		Initial Calibration Verification Standard									
pH		7.46	su	0.010	101	98	102			11/08/12 10:02	
<b>Method: A4500-H B</b>								Batch: 121108_1_PH-W			
<b>Sample ID: R12110087-001ADUP</b>		Sample Duplicate									
pH		6.92	su	0.010				0.3	3	Run: PH_COND2-R_121108B 11/08/12 10:07	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 11/13/12

Project: #708 plus Alluvial

Work Order: R12110088

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: SUB-C166967			
<b>Sample ID: ICV</b>	4	Initial Calibration Verification Standard								11/08/12 14:11	
Calcium		50	mg/L	0.50	99	95	105				
Magnesium		52	mg/L	0.50	103	95	105				
Potassium		47	mg/L	0.50	95	95	105				
Sodium		53	mg/L	0.50	105	95	105				
<b>Sample ID: ICSA</b>	4	Interference Check Sample A								11/08/12 14:40	
Calcium		490	mg/L	0.50	99	80	120				
Magnesium		530	mg/L	0.50	107	80	120				
Potassium		-0.0072	mg/L	0.50							
Sodium		0.033	mg/L	0.50							
<b>Sample ID: ICSAB</b>	4	Interference Check Sample AB								11/08/12 14:44	
Calcium		500	mg/L	0.50	99	80	120				
Magnesium		520	mg/L	0.50	104	80	120				
Potassium		-0.0062	mg/L	0.50							
Sodium		0.028	mg/L	0.50							
<b>Method: E200.7</b>								Batch: C_R166967			
<b>Sample ID: MB-121108A</b>	4	Method Blank								11/08/12 15:08	
Calcium		ND	mg/L	0.06							
Magnesium		ND	mg/L	0.03							
Potassium		ND	mg/L	0.06							
Sodium		ND	mg/L	0.3							
<b>Sample ID: LFB-121108A</b>	4	Laboratory Fortified Blank								11/08/12 15:12	
Calcium		48	mg/L	0.50	97	85	115				
Magnesium		50	mg/L	0.50	100	85	115				
Potassium		46	mg/L	0.50	92	85	115				
Sodium		49	mg/L	0.50	99	85	115				
<b>Sample ID: C12110105-011BMS2</b>	4	Sample Matrix Spike								11/08/12 19:02	
Calcium		134	mg/L	1.0	84	70	130				
Magnesium		81.4	mg/L	1.0	98	70	130				
Potassium		50.3	mg/L	1.0	92	70	130				
Sodium		100	mg/L	1.0	99	70	130				
<b>Sample ID: C12110105-011BMSD2</b>	4	Sample Matrix Spike Duplicate								11/08/12 19:06	
Calcium		135	mg/L	1.0	86	70	130	0.8	20		
Magnesium		81.0	mg/L	1.0	97	70	130	0.5	20		
Potassium		51.5	mg/L	1.0	94	70	130	2.3	20		
Sodium		101	mg/L	1.0	100	70	130	0.8	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 11/13/12

Project: #708 plus Alluvial

Work Order: R12110088

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E300.0</b>								Analytical Run: DIONEX_121107A			
<b>Sample ID: CCV110712-28</b>	4	Continuing Calibration Verification Standard								11/08/12 02:12	
Chloride		71.7	mg/L	1.0	96	90	110				
Fluoride		7.29	mg/L	0.10	97	90	110				
Nitrogen, Nitrate as N		7.16	mg/L	0.10	96	90	110				
Sulfate		71.2	mg/L	1.0	95	90	110				
<b>Sample ID: CCV110712-41</b>	4	Continuing Calibration Verification Standard								11/08/12 06:23	
Chloride		71.9	mg/L	1.0	96	90	110				
Fluoride		7.31	mg/L	0.10	97	90	110				
Nitrogen, Nitrate as N		7.17	mg/L	0.10	96	90	110				
Sulfate		71.4	mg/L	1.0	95	90	110				
<b>Method: E300.0</b>								Batch: R58791			
<b>Sample ID: LFB110712-14</b>	4	Laboratory Fortified Blank								11/07/12 22:19	
						Run: DIONEX_121107A					
Chloride		38.4	mg/L	1.0	96	90	110				
Fluoride		3.98	mg/L	0.10	100	90	110				
Nitrogen, Nitrate as N		3.93	mg/L	0.10	98	90	110				
Sulfate		38.9	mg/L	1.0	97	90	110				
<b>Sample ID: R12110087-001AMS</b>	4	Sample Matrix Spike								11/08/12 03:05	
						Run: DIONEX_121107A					
Chloride		2070	mg/L	50	93	90	110				
Fluoride		205	mg/L	5.0	99	90	110				
Nitrogen, Nitrate as N		208	mg/L	5.0	96	90	110				
Sulfate		6480	mg/L	50	119	90	110			S	
<b>Sample ID: R12110087-001AMSD</b>	4	Sample Matrix Spike Duplicate								11/08/12 03:23	
						Run: DIONEX_121107A					
Chloride		2070	mg/L	50	93	90	110	0.2	10		
Fluoride		205	mg/L	5.0	99	90	110	0.1	10		
Nitrogen, Nitrate as N		208	mg/L	5.0	96	90	110	0.1	10		
Sulfate		6480	mg/L	50	119	90	110	0.1	10	S	
<b>Sample ID: R12110088-005AMS</b>	4	Sample Matrix Spike								11/08/12 07:16	
						Run: DIONEX_121107A					
Chloride		2010	mg/L	50	92	90	110				
Fluoride		206	mg/L	5.0	100	90	110				
Nitrogen, Nitrate as N		202	mg/L	5.0	101	90	110				
Sulfate		4170	mg/L	50	101	90	110				
<b>Sample ID: R12110088-005AMSD</b>	4	Sample Matrix Spike Duplicate								11/08/12 07:34	
						Run: DIONEX_121107A					
Chloride		2010	mg/L	50	92	90	110	0.1	10		
Fluoride		206	mg/L	5.0	100	90	110	0.3	10		
Nitrogen, Nitrate as N		202	mg/L	5.0	101	90	110	0.0	10		
Sulfate		4170	mg/L	50	101	90	110	0.1	10		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: Scott Env / Powr Tech Project Name, PWS, Permit, Etc. Powr Tech Alluvial Wells

Report Mail Address: Scott Env / Powr Tech State: \_\_\_\_\_

Invoice Address: Powr Tech Email: \_\_\_\_\_

Special Report/Formats:  DW  EDD/EDT (Electronic Data)  POTW/WWTP  Format: \_\_\_\_\_  State: \_\_\_\_\_  LEVEL IV  Other: \_\_\_\_\_  NELAC

EPA/State Compliance: Yes  No

Sampler: (Please Print) \_\_\_\_\_

Quote/Bottle Order: \_\_\_\_\_

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	ANALYSIS REQUESTED		Standard Turnaround (TAT)	Contact ELI prior to RUSH sample submittal for charges and scheduling - See instruction Page	Shipped by:
				Number of Containers	Sample Type: A W S V B O DW Vegetation Bioassay Other			
1 DC-1	11-6-12	10:34	water	Asps on site	SEE ATTACHED	RUSH		12110088-001
2 PE-3	11-6-12	11:05	"					002
3 713	11-6-12	12:56	"					003
4 714	11-6-12	13:45	"					004
5 712	11-6-12	14:20	"					005
6 711	11-6-12	14:51	"					006
7 BT-2	11-6-12	15:45	"					007
8 715	11-6-12	16:33	"					
9								
10								

Receipted by Laboratory: Scott Env / Powr Tech Date/Time: 11-7-12 9:37

Received by (print): \_\_\_\_\_ Date/Time: \_\_\_\_\_

Signature: [Signature]

Signature: [Signature]

Signature: [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.



# ANALYTICAL SUMMARY REPORT

August 08, 2012

Powertech USA Inc  
PO Box 812  
Edgemont, SD 57735

Workorder No.: R12070404                      Quote ID: R412 - #708 Alluvial  
Project Name: #708 Alluvial/Dewey Burdoch

Energy Laboratories Inc. Rapid City SD received the following 1 sample for Powertech USA Inc on 7/24/2012 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
R12070404-001	708	07/23/12 15:13	07/24/12	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Anions by Ion Chromatography pH Dissolved Filtration Solids, Total Dissolved

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: 2012.08.08 17:33:21 -06:00



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Gillette, WY 888-888-7175 • Rapid City, SD 888-872-1225 • College Station, TX 888-888-2218

**CLIENT:** Powertech USA Inc  
**Project:** #708 Alluvial/Dewey Burdoch  
**Sample Delivery Group:** R12070404

**Report Date:** 08/08/12

## **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:** #708 Alluvial/Dewey Burdoch  
**Lab ID:** R12070404-001  
**Client Sample ID:** 708

**Report Date:** 08/08/12  
**Collection Date:** 07/23/12 15:13  
**Date Received:** 07/24/12  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/			Method	Analysis Date / By
				RL	QCL	DF		
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	5920	umhos/cm		5.0		1	A2510 B	08/02/12 08:24/tb
pH	7.22	su		0.01		1	A4500-H B	07/24/12 17:11/tb
Solids, Total Dissolved TDS @ 180 C	6200	mg/L		10		1	A2540 C	07/27/12 15:39/jmh
Alkalinity, Total as CaCO3	288	mg/L		5		1	A2320 B	07/25/12 15:32/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	07/25/12 15:32/ch
Bicarbonate as HCO3	351	mg/L		5		1	A2320 B	07/25/12 15:32/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	42	mg/L				1	E300.0	07/25/12 00:17/jmh
Sulfate	4360	mg/L	D	50		50	E300.0	07/27/12 09:13/tb
<b>DISSOLVED METALS ANALYSES</b>								
Calcium	440	mg/L				1	E200.7	07/27/12 13:24/eli-ca
Magnesium	476	mg/L				1	E200.7	07/27/12 13:24/eli-ca
Sodium	620	mg/L				1	E200.7	07/27/12 13:24/eli-ca

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

**Client:** Powertech USA Inc

**Report Date:** 08/08/12

**Project:** #708 Alluvial/Dewey Burdoch

**Work Order:** R12070404

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2320 B</b>								Batch: 120725A-ALK-SEL-W		
<b>Sample ID: LCS1_120725A</b>		Laboratory Control Sample			Run: PH_COND1-R_120725A			07/25/12 13:48		
Alkalinity, Total as CaCO3	940	mg/L	5.0	94	90	110				
<b>Sample ID: MBLK1_120725A</b>		3 Method Blank			Run: PH_COND1-R_120725A			07/25/12 13:48		
Alkalinity, Total as CaCO3	4	mg/L	2							
Bicarbonate as HCO3	5	mg/L								
Carbonate as CO3		mg/L								
<b>Sample ID: R12070291-008AMS</b>		Sample Matrix Spike			Run: PH_COND1-R_120725A			07/25/12 15:20		
Alkalinity, Total as CaCO3	306	mg/L	5.0	99	80	120				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



### QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 08/08/12

Project: #708 Alluvial/Dewey Burdoch

Work Order: R12070404

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2510 B</b>								Batch: 120802_1_COND-PROBE-W		
<b>Sample ID: MBLK-1_120802</b>		Method Blank					Run: PH_COND2-R_120802A		08/02/12 08:22	
Conductivity @ 25 C		ND	umhos/cm	5						
<b>Sample ID: R12070404-001ADUP</b>		Sample Duplicate					Run: PH_COND2-R_120802A		08/02/12 08:25	
Conductivity @ 25 C		5920	umhos/cm	5.0				0.0	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



### QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 08/08/12

Project: #708 Alluvial/Dewey Burdoch

Work Order: R12070404

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2540 C</b>								Batch: TDS120727A		
<b>Sample ID: MB-1_120727A</b>		Method Blank			Run: BAL-TDS_120727A			07/27/12 15:35		
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	3						
<b>Sample ID: LCS-2_120727A</b>		Laboratory Control Sample			Run: BAL-TDS_120727A			07/27/12 15:36		
Solids, Total Dissolved TDS @ 180 C		200	mg/L	10	102	90	110			
<b>Sample ID: R12070397-002A MS</b>		Sample Matrix Spike			Run: BAL-TDS_120727A			07/27/12 15:38		
Solids, Total Dissolved TDS @ 180 C		14000	mg/L	10	106	90	110			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Rapid City, SD Branch

**Client:** Powertech USA Inc

**Report Date:** 08/08/12

**Project:** #708 Alluvial/Dewey Burdoch

**Work Order:** R12070404

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-H B										Analytical Run: PH_COND2-R_120724A
<b>Sample ID:</b> ICV-1_120724		Initial Calibration Verification Standard								07/24/12 15:04
pH		7.44	su	0.010	100	98	102			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 08/08/12

Project: #708 Alluvial/Dewey Burdoch

Work Order: R12070404

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>											
Analytical Run: SUB-C162484											
<b>Sample ID: ICV</b>	3	Initial Calibration Verification Standard								07/27/12 11:57	
Calcium		51	mg/L	0.50	103	95	105				
Magnesium		49	mg/L	0.50	99	95	105				
Sodium		51	mg/L	0.50	102	95	105				
<b>Sample ID: ICSA</b>	3	Interference Check Sample A								07/27/12 12:11	
Calcium		460	mg/L	0.50	93	80	120				
Magnesium		500	mg/L	0.50	101	80	120				
Sodium		0.33	mg/L	0.50							
<b>Sample ID: ICSAB</b>	3	Interference Check Sample AB								07/27/12 12:15	
Calcium		470	mg/L	0.50	93	80	120				
Magnesium		500	mg/L	0.50	101	80	120				
Sodium		0.37	mg/L	0.50							
<b>Method: E200.7</b>											
Batch: C_R162484											
<b>Sample ID: MB-120727A</b>	3	Method Blank								Run: SUB-C162484	07/27/12 12:38
Calcium		ND	mg/L	0.02							
Magnesium		0.01	mg/L	0.01							
Sodium		ND	mg/L	0.2							
<b>Sample ID: LFB-120727A</b>	3	Laboratory Fortified Blank								Run: SUB-C162484	07/27/12 12:41
Calcium		52	mg/L	0.50	104	85	115				
Magnesium		48	mg/L	0.50	96	85	115				
Sodium		49	mg/L	0.50	97	85	115				
<b>Sample ID: C12070943-001BMS2</b>	3	Sample Matrix Spike								Run: SUB-C162484	07/27/12 13:36
Calcium		80.4	mg/L	1.0	104	70	130				
Magnesium		53.4	mg/L	1.0	97	70	130				
Sodium		77.1	mg/L	1.0	100	70	130				
<b>Sample ID: C12070943-001BMSD2</b>	3	Sample Matrix Spike Duplicate								Run: SUB-C162484	07/27/12 13:40
Calcium		80.5	mg/L	1.0	104	70	130	0.2	20		
Magnesium		53.5	mg/L	1.0	97	70	130	0.1	20		
Sodium		77.7	mg/L	1.0	101	70	130	0.8	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 08/08/12

Project: #708 Alluvial/Dewey Burdoch

Work Order: R12070404

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b> <span style="float: right;">Batch: R57307</span>										
<b>Sample ID: LFB072412-14</b>		Laboratory Fortified Blank								
Chloride		38.3	mg/L	1.0	96	90	110			07/24/12 22:11
Run: DIONEX_120724A										
<b>Sample ID: R12070404-001AMS</b>		Sample Matrix Spike								
Chloride		84.0	mg/L	1.0	105	90	110			07/25/12 00:35
Run: DIONEX_120724A										
<b>Sample ID: R12070404-001AMSD</b>		Sample Matrix Spike Duplicate								
Chloride		84.3	mg/L	1.0	106	90	110	0.3	10	07/25/12 00:52
Run: DIONEX_120724A										
<b>Method: E300.0</b> <span style="float: right;">Analytical Run: DIONEX_120726A</span>										
<b>Sample ID: CCV072612-42</b>		Continuing Calibration Verification Standard								
Sulfate		77.3	mg/L	1.0	103	90	110			07/27/12 06:32
<b>Method: E300.0</b> <span style="float: right;">Batch: R57379</span>										
<b>Sample ID: LFB072612-14</b>		Laboratory Fortified Blank								
Sulfate		39.8	mg/L	1.0	100	90	110			07/26/12 22:28
Run: DIONEX_120726A										
<b>Sample ID: R12070405-005AMS</b>		Sample Matrix Spike								
Sulfate		4360	mg/L	50	111	90	110			07/27/12 11:36 S
Run: DIONEX_120726A										
<b>Sample ID: R12070405-005AMSD</b>		Sample Matrix Spike Duplicate								
Sulfate		4380	mg/L	50	112	90	110	0.7	10	07/27/12 11:54 S
Run: DIONEX_120726A										

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# Chain of Custody and Analytical Request Record

Company Name: Scott Enviro on wheels  
 Report Mail Address: Scott Enviro on wheels  
 Invoice Address: PowerTech, Inc.  
PowerTech, Inc.  
powerTech, Inc.

Project Name, PWS, Permit, Etc.: \_\_\_\_\_  
 Sample Origin: \_\_\_\_\_  
 EPA/State Compliance: Yes  No

Contact Name: DeWey / Burdack Phone/Fax: \_\_\_\_\_  
 Email: \_\_\_\_\_  
 Sampler: (Please Print) Allan Suda

Invoice Contact & Phone: Allen Suda 673-4889  
 Purchase Order: \_\_\_\_\_  
 Quote/Bottle Order: \_\_\_\_\_

Special Report/Formats:  
 DW  EDD/EDT (Electronic Data)  
 POTWW/WTP Format: \_\_\_\_\_  
 State: \_\_\_\_\_  
 Other: \_\_\_\_\_  
 LEVEL IV  
 NELAC

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	ANALYSIS REQUESTED		Standard Turnaround (TAT)	Contact ELI prior to RUSH sample submittal for charges and scheduling - See instruction Page	Comments:	Shipped by:	Cooler ID(s):	Receipt Temp 3.6 °C	On Ice: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Custody Seal On Bottle Y N On Cooler Y N	Intact Y N	Signature Match Y N
				SEE ATTACHED											
1 BC-3	7-23-12	11:47	Water	✓											
2 BC-3 Dup.	7-23-12	11:58	"	✓											
3 BC-1	7-23-12	13:33	"	✓											
4 BC-2	7-23-12	14:34	"	✓											
5 708	7-23-12	15:13	"	✓											
6 OC-2	7-23-12	16:30	"	✓											
7 OC-1	7-24-12	8:00	"	✓											
8 OC-4	7-24-12	9:07	"	✓											
9															
10															

Number of Containers: \_\_\_\_\_  
 Air Water B/S/Solids  
 Vegetation Bioassay Other  
 DW - Drinking Water

Signature: Allan Suda Date/Time: 7-24-12 14:35  
 Signature: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Signature: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received by (print): \_\_\_\_\_  
 Received by (print): \_\_\_\_\_  
 Received by (print): \_\_\_\_\_

Signature: Steve Froilan Date/Time: 7-24-12 14:35  
 Signature: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Signature: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Lab Disposal: \_\_\_\_\_  
 Return to Client: \_\_\_\_\_

**Custody Record MUST be Signed**

LABORATORY USE ONLY

812070404-001

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.



## ANALYTICAL SUMMARY REPORT

September 05, 2012

Powertech USA Inc  
PO Box 812  
Edgemont, SD 57735

Workorder No.: R12080363                      Quote ID: R412  
Project Name: #708 Alluvial

Energy Laboratories Inc. Rapid City SD received the following 1 sample for Powertech USA Inc on 8/21/2012 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
R12080363-001	708	08/20/12 14:25	08/21/12	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Anions by Ion Chromatography pH Dissolved Filtration Solids, Total Dissolved

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: 2012.09.06 11:14:56 -06:00



**CLIENT:** Powertech USA Inc  
**Project:** #708 Alluvial  
**Sample Delivery Group:** R12080363

**Report Date:** 09/05/12

## CASE NARRATIVE

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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:** #708 Alluvial  
**Lab ID:** R12080363-001  
**Client Sample ID:** 708

**Report Date:** 09/05/12  
**Collection Date:** 08/20/12 14:25  
**Date Received:** 08/21/12  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		DF	Method	Analysis Date / By
				RL	QCL			
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	6300	umhos/cm		5.0		1	A2510 B	08/21/12 17:39/tb
pH	7.29	su		0.01		1	A4500-H B	08/21/12 18:16/tb
Solids, Total Dissolved TDS @ 180 C	6300	mg/L		100		1	A2540 C	08/27/12 12:33/tb
Alkalinity, Total as CaCO3	298	mg/L		5		1	A2320 B	08/24/12 14:26/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	08/24/12 14:26/ch
Bicarbonate as HCO3	363	mg/L		5		1	A2320 B	08/24/12 14:26/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	44	mg/L		1		1	E300.0	08/22/12 04:53/tb
Sulfate	4260	mg/L	D	50		50	E300.0	08/22/12 05:11/tb
<b>DISSOLVED METALS ANALYSES</b>								
Calcium	414	mg/L		1		1	E200.7	08/23/12 18:03/eli-ca
Magnesium	530	mg/L		1		1	E200.7	08/23/12 18:03/eli-ca
Sodium	713	mg/L		1		1	E200.7	08/23/12 18:03/eli-ca

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 09/05/12

Project: #708 Alluvial

Work Order: R12080363

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2320 B</b>								Batch: 120824A-ALK-SEL-W		
<b>Sample ID: LCS1_BatchId</b>	Laboratory Control Sample					Run: PH_COND1-R_120824A			08/24/12 11:13	
Alkalinity, Total as CaCO3	936	mg/L	5.0	94	90	110				
<b>Sample ID: MBLK1_BatchId</b>	Method Blank					Run: PH_COND1-R_120824A			08/24/12 11:17	
Alkalinity, Total as CaCO3	ND	mg/L	2							
<b>Sample ID: R12080362-004AMS</b>	Sample Matrix Spike					Run: PH_COND1-R_120824A			08/24/12 13:59	
Alkalinity, Total as CaCO3	414	mg/L	5.0	103	80	120				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Rapid City, SD Branch

**Client:** Powertech USA Inc

**Report Date:** 09/05/12

**Project:** #708 Alluvial

**Work Order:** R12080363

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A2510 B								Batch: 120821_1_COND-PROBE-W		
<b>Sample ID:</b> MBLK-1_120821		Method Blank		Run: PH_COND2-R_120821A			08/21/12 13:00			
Conductivity @ 25 C		ND umhos/cm		5						

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 09/05/12

Project: #708 Alluvial

Work Order: R12080363

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2540 C</b>								Batch: TDS120827A		
<b>Sample ID: MB-1_120827A</b>										
Solids, Total Dissolved TDS @ 180 C		Method Blank				Run: BAL-TDS_120827A		08/27/12 12:29		
		10	mg/L	3						
<b>Sample ID: LCS-2_120827A</b>										
Solids, Total Dissolved TDS @ 180 C		Laboratory Control Sample				Run: BAL-TDS_120827A		08/27/12 12:30		
		230	mg/L	20	108	90	110			
<b>Sample ID: R12080362-006A MS</b>										
Solids, Total Dissolved TDS @ 180 C		Sample Matrix Spike				Run: BAL-TDS_120827A		08/27/12 12:32		
		4300	mg/L	40	101	90	110			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 09/05/12

Project: #708 Alluvial

Work Order: R12080363

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B Analytical Run: PH_COND2-R_120821B										
Sample ID: ICV-1_120821 Initial Calibration Verification Standard 08/21/12 17:57										
pH		7.42	su	0.010	100	98	102			
Method: A4500-H B Batch: 120821_1_PH-W										
Sample ID: R12080362-001ADUP Sample Duplicate Run: PH_COND2-R_120821B 08/21/12 18:03										
pH		7.15	su	0.010				0.3	3	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 09/05/12

Project: #708 Alluvial

Work Order: R12080363

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: SUB-C163707		
<b>Sample ID: ICV</b>	3	Initial Calibration Verification Standard								08/23/12 15:34
Calcium		51	mg/L	0.50	102	95	105			
Magnesium		51	mg/L	0.50	102	95	105			
Sodium		52	mg/L	0.50	104	95	105			
<b>Sample ID: ICSA</b>	3	Interference Check Sample A								08/23/12 15:48
Calcium		460	mg/L	0.50	92	80	120			
Magnesium		510	mg/L	0.50	102	80	120			
Sodium		0.35	mg/L	0.50						
<b>Sample ID: ICSAB</b>	3	Interference Check Sample AB								08/23/12 15:52
Calcium		460	mg/L	0.50	92	80	120			
Magnesium		510	mg/L	0.50	102	80	120			
Sodium		0.23	mg/L	0.50						
<b>Method: E200.7</b>								Batch: C_R163707		
<b>Sample ID: MB-120823A</b>	3	Method Blank								08/23/12 15:56
Calcium		ND	mg/L	0.02						
Magnesium		0.03	mg/L	0.01						
Sodium		ND	mg/L	0.2						
<b>Sample ID: LFB-120823A</b>	3	Laboratory Fortified Blank								08/23/12 16:00
Calcium		48	mg/L	0.50	97	85	115			
Magnesium		48	mg/L	0.50	96	85	115			
Sodium		48	mg/L	0.50	97	85	115			
<b>Sample ID: C12080923-008BMS2</b>	3	Sample Matrix Spike								08/23/12 17:52
Calcium		48.3	mg/L	1.0	92	70	130			
Magnesium		46.6	mg/L	1.0	91	70	130			
Sodium		155	mg/L	1.0	84	70	130			
<b>Sample ID: C12080923-008BMSD2</b>	3	Sample Matrix Spike Duplicate								08/23/12 17:56
Calcium		51.2	mg/L	1.0	98	70	130	5.7	20	
Magnesium		49.3	mg/L	1.0	96	70	130	5.6	20	
Sodium		171	mg/L	1.0	115	70	130	9.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

**Client:** Powertech USA Inc

**Report Date:** 09/05/12

**Project:** #708 Alluvial

**Work Order:** R12080363

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E300.0</b>											
Analytical Run: DIONEX_120821A											
<b>Sample ID: CCV082112-57</b>	2	Continuing Calibration Verification Standard									08/22/12 01:36
Chloride		73.1	mg/L	1.0	98	90	110				
Sulfate		71.2	mg/L	1.0	95	90	110				
<b>Method: E300.0</b>											
Batch: R57749											
<b>Sample ID: LFB082112-14</b>	2	Laboratory Fortified Blank									08/21/12 13:22
Run: DIONEX_120821A											
Chloride		38.7	mg/L	1.0	97	90	110				
Sulfate		37.7	mg/L	1.0	94	90	110				
<b>Sample ID: R12080307-008AMS</b>	2	Sample Matrix Spike									08/22/12 06:41
Run: DIONEX_120821A											
Chloride		4440	mg/L	100	97	90	110				
Sulfate		8320	mg/L	100	106	90	110				
<b>Sample ID: R12080307-008AMSD</b>	2	Sample Matrix Spike Duplicate									08/22/12 06:59
Run: DIONEX_120821A											
Chloride		4460	mg/L	100	97	90	110	0.4	10		
Sulfate		8320	mg/L	100	106	90	110	0.0	10		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: <i>Scott Environmental</i>		Project Name, PWS, Permit, Etc. <i>DeWey/Burdach Alluvial Wells</i>		Sample Origin State: <i>SD</i>		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: <i>Scott Env. Power Tech, USA</i>		Contact Name: <i>Allan Scott</i>		Phone/Fax: <i>673-1552</i>		Email: <i>Allan Scott</i>	
Invoice Address: <i>Power Tech, USA</i>		Invoice Contact & Phone:		Purchase Order:		Quote/Bottle Order:	
Special Report/Formats: <input type="checkbox"/> DW <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> State: <input type="checkbox"/> Other:		<input type="checkbox"/> EDD/EDT (Electronic Data) Format: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		Number of Containers Sample Type: AWS V B O DW Air Water Solids/Other Vegetation Bioassay Other DW - Drinking Water		ANALYSIS REQUESTED	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date		Collection Time		MATRIX	
1 <i>DC-2</i>		<i>8-20-12</i>		<i>9:25</i>		<i>Water</i>	
2 <i>DC-4</i>		<i>8-20-12</i>		<i>10:11</i>		<i>W</i>	
3 <i>BC-3</i>		<i>8-20-12</i>		<i>11:23</i>		<i>W</i>	
4 <i>BC-1</i>		<i>8-20-12</i>		<i>12:29</i>		<i>W</i>	
5 <i>BC-1 Dup.</i>		<i>8-20-12</i>		<i>12:38</i>		<i>W</i>	
6 <i>BC-2</i>		<i>8-20-12</i>		<i>13:41</i>		<i>W</i>	
7 <i>708</i>		<i>8-20-12</i>		<i>14:25</i>		<i>W</i>	
8 <i>DC-1</i>		<i>8-21-12</i>		<i>9:05</i>		<i>W</i>	
9							
10							
Relinquished by (print): <i>Allan Scott</i>		Date/Time: <i>8-21-12 13:01</i>		Signature: <i>Allan Scott</i>		Received by (print):	
Relinquished by (print):		Date/Time:		Signature:		Received by (print):	
Sample Disposal:		Return to Client:		Lab Disposal:		Signature: <i>Steve Toland</i>	
Custody Record MUST be Signed		Date/Time: <i>8-21-12 13:01</i>		Signature: <i>Allan Scott</i>		Date/Time: <i>8-21-12 13:01</i>	
Date/Time:		Signature:		Date/Time:		Signature:	

Shipped by:

Cooler ID(s):

Receipt Temp: *2.2 °C*

On Ice:  N

Custody Seal: Y N

On Bottle: Y N

On Cooler: Y N

Intact: Y N

Signature Match: Y N

LABORATORY USE ONLY

*673-1552*

Standard Turnaround (TAT) **R U S H**

↑ Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page

Comments:

SEE ATTACHED

*Open Quote*

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. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.



# ANALYTICAL SUMMARY REPORT

September 25, 2012

Powertech USA Inc  
PO Box 812  
Edgemont, SD 57735

Workorder No.: R12090144                      Quote ID: R412  
Project Name: #708 Alluvial

Energy Laboratories Inc. Rapid City SD received the following 1 sample for Powertech USA Inc on 9/11/2012 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
R12090144-001	708	09/10/12 15:24	09/11/12	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Anions by Ion Chromatography pH Dissolved Filtration Solids, Total Dissolved

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: 2012.09.25 17:12:51 -06:00



**CLIENT:** Powertech USA Inc  
**Project:** #708 Alluvial  
**Sample Delivery Group:** R12090144

**Report Date:** 09/25/12

## CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

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

From: Lisa Scheinost [mailto:escheinost@powertechuranium.com]  
Sent: Wednesday, September 05, 2012 14:42  
To: llarson@energylab.com  
Cc: scottenv@gwtc.net  
Subject: RE: Full Anion/Cation Balance Requested for 708 on Sept 10-11 2012 Round

Thanks Linda. Please add F and NO3 (and K) to the 708 analyte list, if you would. I appreciate it. Lisa  
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:** #708 Alluvial  
**Lab ID:** R12090144-001  
**Client Sample ID:** 708

**Report Date:** 09/25/12  
**Collection Date:** 09/10/12 15:24  
**Date Received:** 09/11/12  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By	
				RL	QCL			
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	6250	umhos/cm		5.0		1	A2510 B	09/12/12 09:40/tb
pH	7.28	su		0.01		1	A4500-H B	09/12/12 08:55/tb
Solids, Total Dissolved TDS @ 180 C	6500	mg/L		100		1	A2540 C	09/17/12 09:25/jmh
Alkalinity, Total as CaCO3	302	mg/L		5		1	A2320 B	09/17/12 15:09/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	09/17/12 15:09/ch
Bicarbonate as HCO3	368	mg/L		5		1	A2320 B	09/17/12 15:09/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	46	mg/L		1		1	E300.0	09/11/12 22:48/tb
Fluoride	1.1	mg/L		0.1		1	E300.0	09/11/12 22:48/tb
Sulfate	4270	mg/L	D	50		50	E300.0	09/11/12 23:06/tb
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	ND	mg/L		0.1		1	E300.0	09/11/12 22:48/tb
<b>DISSOLVED METALS ANALYSES</b>								
Calcium	426	mg/L		1		2	E200.7	09/14/12 17:38/eli-ca
Magnesium	521	mg/L		1		2	E200.7	09/14/12 17:38/eli-ca
Potassium	32	mg/L		1		2	E200.7	09/14/12 17:38/eli-ca
Sodium	779	mg/L		1		2	E200.7	09/14/12 17:38/eli-ca

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 09/25/12

Project: #708 Alluvial

Work Order: R12090144

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2320 B</b>								Batch: 120917A-ALK-SEL-W		
<b>Sample ID: LCS1_120917A</b>	Laboratory Control Sample					Run: PH_COND1-R_120917A		09/17/12 14:03		
Alkalinity, Total as CaCO3	968	mg/L	5.0	97	90	110				
<b>Sample ID: MBLK1_120917A</b>	Method Blank					Run: PH_COND1-R_120917A		09/17/12 14:06		
Alkalinity, Total as CaCO3	ND	mg/L	2							
<b>Sample ID: R12090103-002AMS</b>	Sample Matrix Spike					Run: PH_COND1-R_120917A		09/17/12 14:21		
Alkalinity, Total as CaCO3	302	mg/L	5.0	98	80	120				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 09/25/12

Project: #708 Alluvial

Work Order: R12090144

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: A2510 B</b>								Batch: 120912_1_COND-PROBE-W			
<b>Sample ID: MBLK-1_120912</b>		Method Blank									
Conductivity @ 25 C		ND	umhos/cm	5						Run: PH_COND2-R_120912B 09/12/12 09:36	
<b>Sample ID: R12090144-001ADUP</b>		Sample Duplicate									
Conductivity @ 25 C		6250	umhos/cm	5.0				0.0	10	Run: PH_COND2-R_120912B 09/12/12 09:42	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



### QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 09/25/12

Project: #708 Alluvial

Work Order: R12090144

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2540 C</b>								Batch: TDS120917A		
<b>Sample ID: MB-1_120917A</b>		Method Blank			Run: BAL-TDS_120917A			09/17/12 09:20		
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	3						
<b>Sample ID: LCS-2_120917A</b>		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			
<b>Sample ID: R12090133-003C MS</b>		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			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 09/25/12

Project: #708 Alluvial

Work Order: R12090144

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 Initial Calibration Verification Standard 09/12/12 08:44										
pH		7.43	su	0.010	100	98	102			
Method: A4500-H B Batch: 120912_1_PH-W										
Sample ID: ICV1-1_120912 Initial Calibration Verification Standard Run: PH_COND2-R_120912A 09/12/12 08:42										
pH		12.0	su	0.010	100	99	101			
Sample ID: R12090144-001ADUP Sample Duplicate Run: PH_COND2-R_120912A 09/12/12 08:59										
pH		7.33	su	0.010				0.7	3	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 09/25/12

Project: #708 Alluvial

Work Order: R12090144

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: SUB-C164605			
<b>Sample ID: ICV</b>	4	Initial Calibration Verification Standard								09/14/12 12:05	
Calcium		50	mg/L	0.50	100	95	105				
Magnesium		49	mg/L	0.50	98	95	105				
Potassium		51	mg/L	2.7	102	95	105				
Sodium		51	mg/L	0.50	101	95	105				
<b>Sample ID: ICSA</b>	4	Interference Check Sample A								09/14/12 12:45	
Calcium		490	mg/L	0.50	98	80	120				
Magnesium		490	mg/L	0.50	99	80	120				
Potassium		-0.0019	mg/L	0.50							
Sodium		0.24	mg/L	0.50							
<b>Sample ID: ICSAB</b>	4	Interference Check Sample AB								09/14/12 12:49	
Calcium		490	mg/L	0.50	98	80	120				
Magnesium		500	mg/L	0.50	100	80	120				
Potassium		-0.00050	mg/L	0.50							
Sodium		0.50	mg/L	0.50							
<b>Method: E200.7</b>								Batch: C_R164605			
<b>Sample ID: MB-120914A</b>	4	Method Blank								09/14/12 13:09	
Calcium		ND	mg/L	0.06							
Magnesium		ND	mg/L	0.03							
Potassium		ND	mg/L	0.06							
Sodium		ND	mg/L	0.3							
<b>Sample ID: LFB-120914A</b>	4	Laboratory Fortified Blank								09/14/12 13:13	
Calcium		48	mg/L	0.50	97	85	115				
Magnesium		47	mg/L	0.50	95	85	115				
Potassium		44	mg/L	0.50	89	85	115				
Sodium		47	mg/L	0.50	94	85	115				
<b>Sample ID: C12090319-002BMS2</b>	4	Sample Matrix Spike								09/14/12 16:42	
Calcium		49.5	mg/L	1.0	94	70	130				
Magnesium		48.7	mg/L	1.0	95	70	130				
Potassium		45.2	mg/L	1.0	88	70	130				
Sodium		157	mg/L	1.0	94	70	130				
<b>Sample ID: C12090319-002BMSD2</b>	4	Sample Matrix Spike Duplicate								09/14/12 16:46	
Calcium		49.9	mg/L	1.0	95	70	130	0.8	20		
Magnesium		49.0	mg/L	1.0	96	70	130	0.6	20		
Potassium		46.4	mg/L	1.0	90	70	130	2.6	20		
Sodium		159	mg/L	1.0	98	70	130	1.4	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



### QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 09/25/12

Project: #708 Alluvial

Work Order: R12090144

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>										
Batch: R58045										
<b>Sample ID: LFB091112-14</b>	4	Laboratory Fortified Blank								
Run: DIONEX_120913A										
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			
<b>Sample ID: R12090129-001BMS</b>	4	Sample Matrix Spike								
Run: DIONEX_120913A										
Chloride		46.6	mg/L	1.0	97	90	110			09/11/12 22:12
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			
<b>Sample ID: R12090129-001BMSD</b>	4	Sample Matrix Spike Duplicate								
Run: DIONEX_120913A										
Chloride		46.5	mg/L	1.0	97	90	110	0.2	10	09/11/12 22:30
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	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.









## ANALYTICAL SUMMARY REPORT

October 24, 2012

Powertech USA Inc  
PO Box 812  
Edgemont, SD 57735

Workorder No.: R12100059                      Quote ID: R412  
Project Name: #708 Alluvial

Energy Laboratories Inc. Rapid City SD received the following 1 sample for Powertech USA Inc on 10/3/2012 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
R12100059-001	708	10/02/12 16:17	10/03/12	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity, Conductivity, Anions by Ion Chromatography, pH, Dissolved Filtration, Solids, Total Dissolved

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 09:18:21 -06:00



**CLIENT:** Powertech USA Inc  
**Project:** #708 Alluvial  
**Sample Delivery Group:** R12100059

**Revised Date:** 10/24/12

**Report Date:** 10/17/12

## CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

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

Revised Date: 10/24/12

Report Date: 10/17/12

Collection Date: 10/02/12 16:17

Date Received: 10/03/12

Matrix: AQUEOUS

Client: Powertech USA Inc  
Project: #708 Alluvial  
Lab ID: R12100059-001  
Client Sample ID: 708

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By	
				RL	QCL			
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	6300	umhos/cm		5.0		1	A2510 B	10/04/12 10:03/tb
pH	7.21	su		0.01		1	A4500-H B	10/04/12 11:32/tb
Solids, Total Dissolved TDS @ 180 C	7000	mg/L		10		1	A2540 C	10/08/12 17:02/tb
Alkalinity, Total as CaCO3	298	mg/L		5		1	A2320 B	10/10/12 11:42/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	10/10/12 11:42/ch
Bicarbonate as HCO3	363	mg/L		5		1	A2320 B	10/10/12 11:42/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	47	mg/L		1		1	E300.0	10/04/12 02:51/tb
Fluoride	1.2	mg/L		0.1		1	E300.0	10/04/12 02:51/tb
Sulfate	4520	mg/L	D	50		50	E300.0	10/05/12 00:02/tb
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	ND	mg/L		0.1		1	E300.0	10/04/12 02:51/tb
<b>DISSOLVED METALS ANALYSES</b>								
Calcium	442	mg/L		1		5	E200.7	10/15/12 20:22/eli-ca
Magnesium	525	mg/L		1		5	E200.7	10/15/12 20:22/eli-ca
Potassium	30	mg/L		1		5	E200.7	10/15/12 20:22/eli-ca
Sodium	766	mg/L	D	2		5	E200.7	10/16/12 16:51/eli-ca

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Project: #708 Alluvial

Revised Date: 10/24/12

Report Date: 10/17/12

Work Order: R12100059

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2320 B</b>								Batch: 121010A-ALK-SEL-W		
<b>Sample ID: R12100062-002ADUP</b>	3	Sample Duplicate					Run: PH_COND1-R_121010A			10/10/12 14:33
Alkalinity, Total as CaCO3		262	mg/L	5.0				2.3	10	
Carbonate as CO3		ND	mg/L	5.0					10	
Bicarbonate as HCO3		319	mg/L	5.0				2.3	10	
<b>Sample ID: R12100062-003AMS</b>		Sample Matrix Spike					Run: PH_COND1-R_121010A			10/10/12 15:01
Alkalinity, Total as CaCO3		462	mg/L	5.0	86	80	120			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



### QA/QC Summary Report

Prepared by Rapid City, SD Branch

Revised Date: 10/24/12

Report Date: 10/17/12

Client: Powertech USA Inc

Project: #708 Alluvial

Work Order: R12100059

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B										Batch: 121004_1_COND-PROBE-W
Sample ID: MBLK-1_121004		Method Blank						Run: PH_COND2-R_121004A		10/04/12 09:46
Conductivity @ 25 C		ND	umhos/cm	5						

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Rapid City, SD Branch

Revised Date: 10/24/12

Report Date: 10/17/12

Work Order: R12100059

Client: Powertech USA Inc

Project: #708 Alluvial

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2540 C</b>								Batch: TDS121008A		
<b>Sample ID: MB-1_121008A</b>		Method Blank								
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	3						10/08/12 16:45
<b>Sample ID: LCS-2_121008A</b>		Laboratory Control Sample								
Solids, Total Dissolved TDS @ 180 C		510	mg/L	10	102	90	110			10/08/12 16:47
<b>Sample ID: R12100054-001A MS</b>		Sample Matrix Spike								
Solids, Total Dissolved TDS @ 180 C		12000	mg/L	10	98	90	110			10/08/12 16:55

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc  
Project: #708 Alluvial

Revised Date: 10/24/12  
Report Date: 10/17/12  
Work Order: R12100059

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: A4500-H B</b>								Analytical Run: PH_COND2-R_121004B			
<b>Sample ID: ICV-1_121004</b>											
		Initial Calibration Verification Standard									10/04/12 11:12
pH		7.40	su	0.010	100	98	102				
<b>Method: A4500-H B</b>								Batch: 121004_1_PH-W			
<b>Sample ID: ICV1-1_121004</b>											
		Initial Calibration Verification Standard									Run: PH_COND2-R_121004B
pH		12.0	su	0.010	100	99	101			10/04/12 11:11	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Revised Date: 10/24/12

Report Date: 10/17/12

Work Order: R12100059

Client: Powertech USA Inc

Project: #708 Alluvial

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: SUB-C165834			
<b>Sample ID: ICV</b>	3	Initial Calibration Verification Standard									10/15/12 12:13
Calcium		51	mg/L	0.50	102	95	105				
Magnesium		49	mg/L	0.50	97	95	105				
Potassium		52	mg/L	2.7	104	95	105				
<b>Sample ID: ICSA</b>	3	Interference Check Sample A									10/15/12 14:53
Calcium		510	mg/L	0.50	102	80	120				
Magnesium		500	mg/L	0.50	100	80	120				
Potassium		-0.0019	mg/L	0.50							
<b>Sample ID: ICSAB</b>	3	Interference Check Sample AB									10/15/12 14:57
Calcium		490	mg/L	0.50	98	80	120				
Magnesium		500	mg/L	0.50	100	80	120				
Potassium		-0.00010	mg/L	0.50							
<b>Method: E200.7</b>								Batch: C_R165834			
<b>Sample ID: MB-121015A</b>	3	Method Blank									10/15/12 15:18
Calcium		ND	mg/L	0.06							
Magnesium		ND	mg/L	0.03							
Potassium		ND	mg/L	0.06							
<b>Sample ID: LFB-121015A</b>	3	Laboratory Fortified Blank									10/15/12 15:54
Calcium		50	mg/L	0.50	100	85	115				
Magnesium		49	mg/L	0.50	97	85	115				
Potassium		43	mg/L	0.50	86	85	115				
<b>Sample ID: C12100087-004BMS2</b>	3	Sample Matrix Spike									10/15/12 20:14
Calcium		52.6	mg/L	1.0	99	70	130				
Magnesium		48.8	mg/L	1.0	97	70	130				
Potassium		45.9	mg/L	1.0	91	70	130				
<b>Sample ID: C12100087-004BMSD2</b>	3	Sample Matrix Spike Duplicate									10/15/12 20:18
Calcium		51.9	mg/L	1.0	98	70	130	1.4	20		
Magnesium		48.6	mg/L	1.0	97	70	130	0.5	20		
Potassium		47.1	mg/L	1.0	93	70	130	2.4	20		

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



### QA/QC Summary Report

Prepared by Rapid City, SD Branch

Revised Date: 10/24/12

Report Date: 10/17/12

Client: Powertech USA Inc

Project: #708 Alluvial

Work Order: R12100059

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: SUB-C165910		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Sodium	52	mg/L	0.50	104	95	105				10/16/12 13:24
<b>Sample ID: ICSA</b>	Interference Check Sample A									
Sodium	0.19	mg/L	0.50							10/16/12 14:11
<b>Sample ID: ICSAB</b>	Interference Check Sample AB									
Sodium	0.090	mg/L	0.50							10/16/12 14:15
<b>Method: E200.7</b>								Batch: C_R165910		
<b>Sample ID: MB-121016A</b>	Method Blank									
Sodium	ND	mg/L	0.3							Run: SUB-C165910 10/16/12 14:35
<b>Sample ID: LFB-121016A</b>	Laboratory Fortified Blank									
Sodium	48	mg/L	0.50	96	85	115				Run: SUB-C165910 10/16/12 14:39
<b>Sample ID: C12100224-006BMS2</b>	Sample Matrix Spike									
Sodium	182	mg/L	1.0	96	70	130				Run: SUB-C165910 10/16/12 16:43
<b>Sample ID: C12100224-006BMSD2</b>	Sample Matrix Spike Duplicate									
Sodium	184	mg/L	1.0	101	70	130	1.3	20		Run: SUB-C165910 10/16/12 16:47

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Revised Date: 10/24/12

Report Date: 10/17/12

Client: Powertech USA Inc

Project: #708 Alluvial

Work Order: R12100059

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E300.0</b>											
Analytical Run: DIONEX_121003A											
<b>Sample ID: CCV100312-28</b>	3	Continuing Calibration Verification Standard									10/04/12 00:45
Chloride		73.8	mg/L	1.0	98	90	110				
Fluoride		7.50	mg/L	0.10	100	90	110				
Nitrogen, Nitrate as N		7.41	mg/L	0.10	99	90	110				
<b>Method: E300.0</b>											
Batch: R58335											
<b>Sample ID: LFB100312-14</b>	3	Laboratory Fortified Blank									10/03/12 20:52
Run: DIONEX_121003A											
Chloride		40.0	mg/L	1.0	100	90	110				
Fluoride		4.18	mg/L	0.10	105	90	110				
Nitrogen, Nitrate as N		4.09	mg/L	0.10	102	90	110				
<b>Sample ID: R12100063-001AMS</b>	3	Sample Matrix Spike									10/04/12 01:39
Run: DIONEX_121003A											
Chloride		377	mg/L	5.0	98	90	110				
Fluoride		21.6	mg/L	0.50	99	90	110				
Nitrogen, Nitrate as N		55.5	mg/L	0.50	94	90	110				
<b>Sample ID: R12100063-001AMSD</b>	3	Sample Matrix Spike Duplicate									10/04/12 01:57
Run: DIONEX_121003A											
Chloride		377	mg/L	5.0	99	90	110	0.1	10		
Fluoride		21.7	mg/L	0.50	99	90	110	0.4	10		
Nitrogen, Nitrate as N		55.7	mg/L	0.50	95	90	110	0.4	10		
<b>Method: E300.0</b>											
Batch: R58355											
<b>Sample ID: LFB100412-14</b>		Laboratory Fortified Blank									10/04/12 21:02
Run: DIONEX_121004A											
Sulfate		40.9	mg/L	1.0	102	90	110				
<b>Sample ID: R12100062-003AMS</b>		Sample Matrix Spike									10/05/12 01:49
Run: DIONEX_121004A											
Sulfate		12000	mg/L	100	111	90	110			S	
<b>Sample ID: R12100062-003AMSD</b>		Sample Matrix Spike Duplicate									10/05/12 02:07
Run: DIONEX_121004A											
Sulfate		12100	mg/L	100	112	90	110	0.4	10	S	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.





## ANALYTICAL SUMMARY REPORT

November 13, 2012

Powertech USA Inc  
PO Box 812  
Edgemont, SD 57735

Workorder No.: R12110069      Quote ID: R412 - #708 plus Alluvial  
Project Name: #708 Alluvial

Energy Laboratories Inc. Rapid City SD received the following 1 sample for Powertech USA Inc on 11/6/2012 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
R12110069-001	708	11/05/12 16:13	11/06/12	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Anion - Cation Balance Conductivity Anions by Ion Chromatography pH Dissolved Filtration Solids, Total Dissolved

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: 2012.11.13 16:27:54 -07:00



**CLIENT:** Powertech USA Inc  
**Project:** #708 Alluvial  
**Sample Delivery Group:** R12110069

**Report Date:** 11/13/12

## CASE NARRATIVE

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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:** #708 Alluvial  
**Lab ID:** R12110069-001  
**Client Sample ID:** 708

**Report Date:** 11/13/12  
**Collection Date:** 11/05/12 16:13  
**Date Received:** 11/06/12  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		DF	Method	Analysis Date / By
				RL	QCL			
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	5200	umhos/cm		5.0		1	A2510 B	11/06/12 12:27/tb
pH	7.27	su		0.01		1	A4500-H B	11/06/12 12:49/tb
Solids, Total Dissolved TDS @ 180 C	6600	mg/L		10		1	A2540 C	11/07/12 15:59/jmh
Alkalinity, Total as CaCO3	306	mg/L		5		1	A2320 B	11/09/12 15:44/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	11/09/12 15:44/ch
Bicarbonate as HCO3	373	mg/L		5		1	A2320 B	11/09/12 15:44/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	45	mg/L		1		1	E300.0	11/06/12 22:11/tb
Fluoride	1.0	mg/L		0.1		1	E300.0	11/06/12 22:11/tb
Sulfate	4280	mg/L	D	50		50	E300.0	11/06/12 21:17/tb
<b>DATA QUALITY PARAMETERS</b>								
Anions	96.5	meq/L		1.00		1	A1030 E	11/13/12 00:00/lkl
Cations	96.2	meq/L		1.00		1	A1030 E	11/13/12 00:00/lkl
Conductivity, Calculated	7170	umhos/cm		1.00		1	A1030 E	11/13/12 00:00/lkl
TDS Ratio	1.06			0.0100		1	A1030 E	11/13/12 00:00/lkl
A/C Balance	-0.140	%				1	A1030 E	11/13/12 00:00/lkl
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	ND	mg/L		0.1		1	E300.0	11/06/12 22:11/tb
<b>DISSOLVED METALS ANALYSES</b>								
Calcium	415	mg/L		1		2	E200.7	11/08/12 19:59/eli-ca'
Magnesium	516	mg/L		1		2	E200.7	11/08/12 19:59/eli-ca'
Potassium	30	mg/L		1		2	E200.7	11/08/12 19:59/eli-ca'
Sodium	742	mg/L		1		2	E200.7	11/08/12 19:59/eli-ca'

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 11/13/12

Project: #708 Alluvial

Work Order: R12110069

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2320 B</b>								Batch: 121109A-ALK-SEL-W		
<b>Sample ID: LCS1_121109A</b>		Laboratory Control Sample					Run: PH_COND1-R_121109A			11/09/12 15:32
Alkalinity, Total as CaCO3		952	mg/L	5.0	95	90	110			
<b>Sample ID: MBLK1_121109A</b>		Method Blank					Run: PH_COND1-R_121109A			11/09/12 15:36
Alkalinity, Total as CaCO3		ND	mg/L	2						
<b>Sample ID: R12110069-001ADUP</b>		3 Sample Duplicate					Run: PH_COND1-R_121109A			11/09/12 15:49
Alkalinity, Total as CaCO3		298	mg/L	5.0				2.6	10	
Carbonate as CO3		ND	mg/L	5.0					10	
Bicarbonate as HCO3		363	mg/L	5.0				2.6	10	
<b>Sample ID: R12110088-002AMS</b>		Sample Matrix Spike					Run: PH_COND1-R_121109A			11/09/12 15:54
Alkalinity, Total as CaCO3		370	mg/L	5.0	94	80	120			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Rapid City, SD Branch

**Client:** Powertech USA Inc

**Report Date:** 11/13/12

**Project:** #708 Alluvial

**Work Order:** R12110069

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A2510 B								Batch: 121106_1_COND-PROBE-W			
<b>Sample ID:</b> MBLK-1_121106		Method Blank					Run: PH_COND2-R_121106B		11/06/12 10:02		
Conductivity @ 25 C		ND	umhos/cm	5							
<b>Sample ID:</b> R12110069-001ADUP		Sample Duplicate					Run: PH_COND2-R_121106B		11/06/12 12:29		
Conductivity @ 25 C		5210	umhos/cm	5.0				0.2	10		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 11/13/12

Project: #708 Alluvial

Work Order: R12110069

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2540 C</b>								Batch: TDS121107A		
<b>Sample ID: MB-1_121107A</b>	Method Blank									Run: BAL-TDS_121107A 11/07/12 15:45
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	3						
<b>Sample ID: LCS-2_121107A</b>	Laboratory Control Sample									Run: BAL-TDS_121107A 11/07/12 15:46
Solids, Total Dissolved TDS @ 180 C		500	mg/L	10	100	90	110			
<b>Sample ID: R12110036-005A MS</b>	Sample Matrix Spike									Run: BAL-TDS_121107A 11/07/12 15:50
Solids, Total Dissolved TDS @ 180 C		4100	mg/L	10	101	90	110			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 11/13/12

Project: #708 Alluvial

Work Order: R12110069

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: A4500-H B</b>								Analytical Run: PH_COND2-R_121106A			
<b>Sample ID: ICV-1_121106</b>		Initial Calibration Verification Standard						11/06/12 09:17			
pH		7.43	su	0.010	100	98	102				
<b>Method: A4500-H B</b>								Batch: 121106_1_PH-W			
<b>Sample ID: ICV1-1_121106</b>		Initial Calibration Verification Standard				Run: PH_COND2-R_121106A		11/06/12 09:16			
pH		12.0	su	0.010	100	99	101				
<b>Sample ID: R12110069-001ADUP</b>		Sample Duplicate				Run: PH_COND2-R_121106A		11/06/12 12:54			
pH		7.28	su	0.010				0.1	3		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 11/13/12

Project: #708 Alluvial

Work Order: R12110069

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: SUB-C166967		
<b>Sample ID: ICV</b>	4	Initial Calibration Verification Standard								11/08/12 14:11
Calcium		50	mg/L	0.50	99	95	105			
Magnesium		52	mg/L	0.50	103	95	105			
Potassium		47	mg/L	0.50	95	95	105			
Sodium		53	mg/L	0.50	105	95	105			
<b>Sample ID: ICSA</b>	4	Interference Check Sample A								11/08/12 14:40
Calcium		490	mg/L	0.50	99	80	120			
Magnesium		530	mg/L	0.50	107	80	120			
Potassium		-0.0072	mg/L	0.50						
Sodium		0.033	mg/L	0.50						
<b>Sample ID: ICSAB</b>	4	Interference Check Sample AB								11/08/12 14:44
Calcium		500	mg/L	0.50	99	80	120			
Magnesium		520	mg/L	0.50	104	80	120			
Potassium		-0.0062	mg/L	0.50						
Sodium		0.028	mg/L	0.50						
<b>Method: E200.7</b>								Batch: C_R166967		
<b>Sample ID: MB-121108A</b>	4	Method Blank						Run: SUB-C166967		11/08/12 15:08
Calcium		ND	mg/L	0.06						
Magnesium		ND	mg/L	0.03						
Potassium		ND	mg/L	0.06						
Sodium		ND	mg/L	0.3						
<b>Sample ID: LFB-121108A</b>	4	Laboratory Fortified Blank						Run: SUB-C166967		11/08/12 15:12
Calcium		48	mg/L	0.50	97	85	115			
Magnesium		50	mg/L	0.50	100	85	115			
Potassium		46	mg/L	0.50	92	85	115			
Sodium		49	mg/L	0.50	99	85	115			
<b>Sample ID: C12110105-011BMS2</b>	4	Sample Matrix Spike						Run: SUB-C166967		11/08/12 19:02
Calcium		134	mg/L	1.0	84	70	130			
Magnesium		81.4	mg/L	1.0	98	70	130			
Potassium		50.3	mg/L	1.0	92	70	130			
Sodium		100	mg/L	1.0	99	70	130			
<b>Sample ID: C12110105-011BMSD2</b>	4	Sample Matrix Spike Duplicate						Run: SUB-C166967		11/08/12 19:06
Calcium		135	mg/L	1.0	86	70	130	0.8	20	
Magnesium		81.0	mg/L	1.0	97	70	130	0.5	20	
Potassium		51.5	mg/L	1.0	94	70	130	2.3	20	
Sodium		101	mg/L	1.0	100	70	130	0.8	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 11/13/12

Project: #708 Alluvial

Work Order: R12110069

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>								Analytical Run: DIONEX_121106A		
<b>Sample ID: CCV110612-28</b>	4	Continuing Calibration Verification Standard						11/06/12 20:41		
Chloride		71.9	mg/L	1.0	96	90	110			
Fluoride		7.32	mg/L	0.10	98	90	110			
Nitrogen, Nitrate as N		7.18	mg/L	0.10	96	90	110			
Sulfate		71.4	mg/L	1.0	95	90	110			
<b>Method: E300.0</b>								Batch: R58767		
<b>Sample ID: LFB110612-14</b>	4	Laboratory Fortified Blank						Run: DIONEX_121106A 11/06/12 16:48		
Chloride		37.9	mg/L	1.0	95	90	110			
Fluoride		3.96	mg/L	0.10	99	90	110			
Nitrogen, Nitrate as N		3.87	mg/L	0.10	97	90	110			
Sulfate		38.3	mg/L	1.0	96	90	110			
<b>Sample ID: R12110069-001AMS</b>	4	Sample Matrix Spike						Run: DIONEX_121106A 11/06/12 21:35		
Chloride		1970	mg/L	50	90	90	110			
Fluoride		201	mg/L	5.0	96	90	110			
Nitrogen, Nitrate as N		196	mg/L	5.0	98	90	110			
Sulfate		6440	mg/L	50	108	90	110			
<b>Sample ID: R12110069-001AMSD</b>	4	Sample Matrix Spike Duplicate						Run: DIONEX_121106A 11/06/12 21:53		
Chloride		1970	mg/L	50	89	90	110	0.1	10	S
Fluoride		201	mg/L	5.0	96	90	110	0.0	10	
Nitrogen, Nitrate as N		196	mg/L	5.0	98	90	110	0.2	10	
Sulfate		6440	mg/L	50	108	90	110	0.0	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: Scott Env. & PowerTech      EPA/State Compliance: Yes  No

Report Mail Address: PowerTech      State: \_\_\_\_\_      Sampler: (Please Print) \_\_\_\_\_

Invoice Address: PowerTech      Email: \_\_\_\_\_      Purchase Order: \_\_\_\_\_      Quote/Bottle Order: \_\_\_\_\_

Project Name, PWS, Permit, Etc.: Powered a/c via wells      Sample Origin: \_\_\_\_\_

Contact Name: Allen Scott      Phone/Fax: \_\_\_\_\_      State: \_\_\_\_\_

Invoice Contact & Phone: \_\_\_\_\_      Email: \_\_\_\_\_

Special Report/Formats:  DW     EDD/EDT (Electronic Data)     POTW/WWTP    Format: \_\_\_\_\_     State: \_\_\_\_\_     Other: \_\_\_\_\_     LEVEL IV     NELAC

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	ANALYSIS REQUESTED		Standard Turnaround (TAT)	Comments:	Shipped by:
				Number of Containers	Sample Type: A W S V B D W			
1 DC-2	11-5-12	10:30	Water	1	Air for Quot	SEE ATTACHED	↑ R U S H	Receipt Temp: 1.8 °C On Ice: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Custody Seal: On Bottle Y N On Cooler Y N Intact Y N Signature Match Y N
2 DC-4	"	11:34	"					
3 BC-3	"	12:45	"					
4 BC-1	"	14:04	"					
5 BC-2	"	15:23	"					
6 BC-2 0.4g.	"	15:24	"					
7 <del>BC-2</del> 70g	"	16:13	"					
8								
9								
10								

**Custody Record MUST be Signed**

Relinquished by (print): Allen Scott    Date/Time: 11-6-12 8:04    Signature: [Signature]

Relinquished by (print): \_\_\_\_\_    Date/Time: \_\_\_\_\_    Signature: \_\_\_\_\_

Received by (print): \_\_\_\_\_    Date/Time: \_\_\_\_\_    Signature: \_\_\_\_\_

Received by (print): Street Island    Date/Time: 11-6-12 8:09    Signature: [Signature]

Received by Laboratory: \_\_\_\_\_    Date/Time: \_\_\_\_\_    Signature: \_\_\_\_\_

Lab Disposal: \_\_\_\_\_    Return to Client: \_\_\_\_\_

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.

LABORATORY USE ONLY

112110069001