



**POWERTECH (USA) INC.**

May 13, 2013

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 Project Groundwater Discharge Permit Application  
January, February and March 2013 Analytical Results for Alluvial Compliance Wells  
and Revised October 2012 Metals Concentrations for Compliance Well DC-1**

Dear Mr. Hicks:

Analytical results for samples collected from alluvial compliance wells at the Dewey-Burdock Project site in January, February and March 2013 are enclosed along with summary tables presenting all sampling to date for each well. A revised report for the sample collected from DC-1 (R12100062-007) in October 2012 is also provided. Metals concentrations for this sample were previously reported based on an incorrect dilution factor.

Please do not hesitate to contact me or Richard Blubaugh, Vice President Environmental Health and Safety Resources, at (303) 790-7528 with questions.

Sincerely,

John Mays, P.E.  
Vice President Engineering

Encl. Data Summary Tables through March 2013  
Laboratory Data Packages **R12100062** (DC1, DC2, DC2 DUP, DC4, BC1, BC2, BC3);  
**R13010064** (DC2, DC4, BC1, BC1 DUP, BC2, BC3); **R13010096** (DC1); **R13010097** (DC3);  
**R13020119** (DC1, DC2, DC4, DC4 DUP, BC1, BC2, BC3); **R13020120** (DC3); **R13030030**  
(DC2); **R13030085** (DC3); and **R13030086** (DC1, DC4, BC1, BC2, BC3, BC3 DUP)  
CD Copy

Mr. Matt Hicks, SD DENR  
May 13, 2013  
Page 2 of 2



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cc: Richard Blubaugh, 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.



**POWERTECH (USA) INC.**

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**DATA SUMMARY TABLES  
THROUGH  
MARCH 2013**



Powertech (USA) Inc.

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	Well DC-1	Well DC-1	Well DC-1	Well DC-1	Human Health Standards ARSD 74:54:01:04
Sample Collection Date		7/24/2012	8/21/2012	9/11/2012	10/3/2012	11/6/2012	12/11/2012	1/8/2013	2/12/2013	3/5/2013	
Well Location, Elevation and Construction Details											
Northing (State Plane SD S NAD 27) <sup>1</sup>	feet	447093.13									
Easting (State Plane SD S NAD 27) <sup>1</sup>	feet	1013760.44									
Latitude (NAD 83) <sup>2</sup>	degrees	43.499431056									
Longitude (NAD 83) <sup>2</sup>	degrees	104.052110489									
Top of Casing Elevation (NGVD 29) <sup>1</sup>	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	23.27	23.29	23.29	23.36	23.31	
Water Level Elevation (NGVD 29)	feet AMSL	3622.59	3622.45	3622.39	3622.29	3622.18	3622.16	3622.16	3622.09	3622.14	
Well Volume	gal	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	
Volume Purged Prior to Sample Collection	gal	2.75	2.5	2.5	2.25	2.25	2.5	2.2	2.07	2.1	
Field pH	s.u.	7.04	7.05	6.93	7.00	6.9	7.1	7.1	7.3	7.1	
Field Temperature	°C	14.8	10.0	11.4	11.3	11.2	10.3	11.1	10.8	10.1	
Field Conductivity	mS/cm	5.7	6.3	7.61	6.97	7.64	7.37	7.58	6.70	7.21	
Clarity	observed	sl. cloudy	cloudy	cloudy	cloudy	murky	murky	murky	murky	murky	
Color	observed	tan-yellow	tan	tan	tan	tan	gray-tan	yellow-brwn	tan	tan-yellow	
Odor	observed	none	none	none	none	none	none	none	none	none	
Physical Properties											
Lab pH	s.u.	7.23	7.25	7.17	7.14	6.90	7.12	7.10	7.13	6.99	6.5 - 8.5
Total Dissolved Solids	mg/L	6400	5690	6090	6250	6730	6120	5780	5580	6600	1000
Lab Conductivity	umhos/cm	6080	5940	6350	6260	6680	6480	6520	6650	6860	
Common Elements and Ions											
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	404	366	392	390	430	392	368	380	388	
Bicarbonate as HCO <sub>3</sub>	mg/L	492	446	478	475	524	478	449	463	473	
Calcium, Ca	mg/L	424	438	442	430	425	355	419	405	424	
Carbonate as CO <sub>3</sub>	mg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Chloride, Cl	mg/L	92	73	85	86	95	87	101	102	102	250
Magnesium, Mg	mg/L	348	353	400	369	364	347	348	349	394	
Nitrate, NO <sub>3</sub> (as Nitrogen)	mg/L	5.5	7.5	7.7	9.1	6.2	9.5	12.6	12.1	9.4	10
Potassium, K	mg/L	15	13	14	18	10	9	12	11	14	
Sodium, Na	mg/L	1030	896	1210	1120	987	894	1290	1110	1160	
Sulfate, SO <sub>4</sub>	mg/L	4010	3520	3970	4040	4110	3920	3890	4030	4190	500
Trace and Minor Elements											
Dissolved Arsenic, As	mg/L	0.001	< 0.001	0.001	0.001	< 0.001	< 0.001	< 0.001	0.001	0.001	0.01
Dissolved Barium, Ba	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2
Dissolved Boron, B	mg/L	1.2	1.3	1.4	1.4	1.50	1.32	1.12	1.42	1.40	
Dissolved Cadmium, Cd	mg/L	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	0.001	0.005
Dissolved Chromium, Cr	mg/L	< 0.005	< 0.005	0.010	0.007	< 0.005	< 0.005	< 0.005	< 0.005	0.007	0.1
Dissolved Copper, Cu	mg/L	0.038	< 0.005	0.009	0.011	< 0.005	< 0.005	< 0.005	0.007	0.009	1.0
Dissolved Fluoride, F	mg/L	1.1	1.2	1.1	1.3	0.9	1.0	1.1	1.1	0.8	4
Dissolved Iron, Fe	mg/L	0.04	< 0.03	< 0.03	0.04	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Dissolved Lead, Pb	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.015
Dissolved Manganese, Mn	mg/L	0.456	0.330	0.757	0.398	0.154	0.150	0.576	0.474	0.484	
Total Mercury, Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.002
Dissolved Molybdenum, Mo	mg/L	0.003	0.003	0.002	0.002	0.003	0.002	0.001	0.002	0.002	
Dissolved Nickel, Ni	mg/L	0.047	0.032	0.086	0.05	0.027	0.020	0.075	0.061	0.070	
Dissolved Selenium, Se	mg/L	0.034	0.032	0.060	0.040	0.028	0.031	0.050	0.050	0.054	0.05
Dissolved Silver, Ag	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.1
Dissolved Uranium, U	mg/L	0.0225	0.0243	0.0184	0.0189	0.0210	0.0228	0.0135	0.0164	0.0148	0.03
Dissolved Vanadium, V	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Dissolved Zinc, Zn	mg/L	0.14	0.05	0.11	0.08	0.08	0.05	0.18	0.10	0.14	
Radiological Parameters											
Dissolved Gross Alpha	pCi/L	29.2	13.3	-0.4	-10	9.6	4.5	41.4	1.0	15.9	15
Precision (±)	pCi/L	13.3	17.7	17.8	16.3	15.8	13.9	13.7	12.8	14.2	
MDC	pCi/L	20.0	28.8	30.0	28.3	25.8	23.1	19.0	21.5	22.6	
Dissolved Gross Beta	pCi/L	2.0	-9	5.7	20.0	-9	4.2	-5	-8.0	9.2	4 mrem/year <sup>3</sup>
Precision (±)	pCi/L	10.3	25.2	28.8	17.5	15.9	17.7	15.5	16.7	16.3	
MDC	pCi/L	17.2	42.5	48.1	28.8	27.0	29.6	26.1	28.3	27.0	
Dissolved Radium 228	pCi/L	1.1	0.3	0.4	2.5	1.5	1.9	0.7	1.0	1.2	5 <sup>4</sup>
Precision (±)	pCi/L	0.7	0.7	0.6	1.2	1.4	1	0.9	1.1	1.3	
MDC	pCi/L	1.1	1.1	0.9	1.8	2.3	1.5	1.4	1.9	2.0	
Dissolved Radium 226	pCi/L	1.1	0.8	0.9	1.5	0.06	0.5	0.4	0.4	1.3	5 <sup>4</sup>
Precision (±)	pCi/L	0.2	0.2	0.2	0.2	0.09	0.2	0.2	0.2	0.3	
MDC	pCi/L	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	
Total Radium 222	pCi/L	1830	1440	1810	1920	1050	989	416	848	1650	300
Precision (±)	pCi/L	149	130	127	132	123	147	123	198	175	
MDC	pCi/L	210	187	173	180	184	224	198	313	258	

Highlighted value exceeds ARSD 74:54:01:04 Human Health Standard.  
 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: A screening level of 50 pCi/L is used to estimate whether the ambient gross beta concentration is less than the Human Health Standard of 4 mrem/yr.  
 Note 4: Health standard is for radium 228 + radium 226.





**POWERTECH (USA) INC.**

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	Well DC-2	Well DC-2	Well DC-2	Well DC-2	Human Health Standards ARSD
Sample Collection Date		7/23/2012	8/20/2012	9/10/2012	10/2/2012	11/5/2012	12/10/2012	1/7/2013	2/11/2013	3/4/2013	74:54:01:04
Well Location, Elevation and Construction Details											
Northing (State Plane SD S NAD 27) <sup>1</sup>	feet	444788.27									
Easting (State Plane SD S NAD 27) <sup>1</sup>	feet	1014726.19									
Latitude (NAD 83) <sup>2</sup>	degrees	43.493232021									
Longitude (NAD 83) <sup>2</sup>	degrees	104.048085721									
Top of Casing Elevation (NGVD 29) <sup>3</sup>	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	14.33	14.28	14.22	14.00	13.97	
Water Level Elevation (NGVD 29)	feet AMSL	3603.16	3601.96	3601.86	3601.79	3601.95	3602.00	3602.06	3602.28	3602.31	
Well Volume	gal	3.2	3.0	3.0	3.0	3.0	3.0	3.1	3.1	3.1	
Volume Purged Prior to Sample Collection	gal	10.5	9	9	9	9	9	9	9.3	9.3	
Field pH	s.u.	7.24	7.32	7.22	7.20	7.4	7.4	7.4	7.40	7.5	
Field Temperature	°C	11.9	12.1	12.5	12.5	12.2	10.9	10.6	10.1	9.1	
Field Conductivity	ms/cm	4.9	4.7	5.63	5.45	5.48	5.68	5.69	5.67	5.68	
Clarity	observed	clear	clear	clear	clear	clear	clear	clear	clear	clear	
Color	observed	clear	clear	clear	clear	clear	clear	clear	clear	clear	
Odor	observed	none	none	none	none	none	none	none	none	none	
Physical Properties											
Lab pH	s.u.	7.17	7.13	7.19	7.09	7.24	6.99	7.06	7.14	7.20	6.5 - 8.5
Total Dissolved Solids	mg/L	4640	4560	4610	4630	4620	4550	4540	4690	4700	1000
Lab Conductivity	umhos/cm	5010	5710	5540	5530	5670	5470	6250	5780	5730	
Common Elements and Ions											
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	264	260	264	264	266	262	262	266	266	
Bicarbonate as HCO <sub>3</sub>	mg/L	322	317	322	322	324	319	319	324	324	
Calcium, Ca	mg/L	524	524	516	518	481	521	550	483	500	
Carbonate as CO <sub>3</sub>	mg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Chloride, Cl	mg/L	854	756	753	824	827	813	788	863	885	250
Magnesium, Mg	mg/L	145	144	147	147	142	149	153	139	156	
Nitrate, NO <sub>3</sub> (as Nitrogen)	mg/L	< 0.1	0.2	0.3	0.2	< 0.1	< 0.1	< 0.1	< 0.1	0.6	10
Potassium, K	mg/L	7	7	7	7	8	6	7	6	8	
Sodium, Na	mg/L	799	715	714	768	676	704	775	808	715	
Sulfate, SO <sub>4</sub>	mg/L	2140	1920	1890	2080	1980	1960	1950	1970	2030	500
Trace and Minor Elements											
Dissolved Arsenic, As	mg/L	< 0.001	< 0.001	0.002	0.001	0.001	< 0.001	0.001	< 0.001	0.001	0.01
Dissolved Barium, Ba	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2
Dissolved Boron, B	mg/L	0.2	0.3	0.3	0.2	0.36	0.32	0.4	0.30	0.29	
Dissolved Cadmium, Cd	mg/L	< 0.001	< 0.001	< 0.001	< 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	< 0.005	0.010	< 0.005	< 0.005	< 0.005	0.1
Dissolved Copper, Cu	mg/L	< 0.005	< 0.005	< 0.005	0.006	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.0
Dissolved Fluoride, F	mg/L	0.7	0.6	0.6	0.7	0.5	0.6	0.7	0.6	0.6	4
Dissolved Iron, Fe	mg/L	0.48	0.36	0.42	0.80	2.79	4.73	4.08	0.92	0.71	
Dissolved Lead, Pb	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.015
Dissolved Manganese, Mn	mg/L	3.88	3.41	3.13	3.05	2.95	3.07	3.28	2.96	3.20	
Total Mercury, Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.002
Dissolved Molybdenum, Mo	mg/L	0.005	0.005	0.004	0.005	0.004	0.026	0.003	0.004	0.004	
Dissolved Nickel, Ni	mg/L	< 0.005	< 0.005	0.010	0.022	0.013	< 0.005	< 0.005	0.010	< 0.005	
Dissolved Selenium, Se	mg/L	0.002	0.001	0.003	0.004	< 0.001	0.002	0.003	< 0.001	0.002	0.05
Dissolved Silver, Ag	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.1
Dissolved Uranium, U	mg/L	0.0089	0.0081	0.0091	0.0087	0.0088	0.0089	0.0079	0.0086	0.0111	0.03
Dissolved Vanadium, V	mg/L	< 0.01	0.09	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Dissolved Zinc, Zn	mg/L	0.04	0.04	< 0.01	0.01	0.04	0.02	< 0.01	< 0.01	< 0.01	
Radiological Parameters											
Dissolved Gross Alpha	pCi/L	-10	-5	9.9	20.7	3.1	7.5	2.6	-5	7.3	15
Precision (±)	pCi/L	9.4	13.3	17.7	15.6	9.2	11.1	11.4	7.3	8.4	
MDC	pCi/L	16.6	22.9	29.0	24.7	15.2	18.0	19.0	12.9	13.4	
Dissolved Gross Beta	pCi/L	-1	-10	2.2	-2	-10	3.1	-4	5.4	18.0	4 mrem/year <sup>3</sup>
Precision (±)	pCi/L	8.3	21.4	22.0	21.9	11.6	13.0	13.3	11.7	17.4	
MDC	pCi/L	14.0	36.3	36.9	36.8	19.7	21.7	22.5	19.5	28.7	
Dissolved Radium 228	pCi/L	0.5	0.7	0.6	0.8	0.9	1.4	1.3	0.8	0.4	5 <sup>4</sup>
Precision (±)	pCi/L	0.6	0.7	0.6	0.7	0.8	1	0.7	1.1	0.7	
MDC	pCi/L	1.0	1.1	0.9	1.1	1.2	1.5	1.1	1.7	1.2	
Dissolved Radium 226	pCi/L	0.4	0.4	0.3	0.7	0.2	0.6	0.3	0.2	0.6	5 <sup>4</sup>
Precision (±)	pCi/L	0.2	0.1	0.1	0.1	0.08	0.2	0.2	0.1	0.2	
MDC	pCi/L	0.2	0.1	0.1	0.09	0.09	0.3	0.2	0.2	0.1	
Total Radon 222	pCi/L	1990	1850	2150	2040	2000	2000	1960	1990	2140	300
Precision (±)	pCi/L	167	159	152	154	158	156	167	209	164	
MDC	pCi/L	237	226	208	215	222	220	238	306	230	

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

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: A screening level of 50 pCi/L is used to estimate whether the ambient gross beta concentration is less than the Human Health Standard of 4 mrem/year.

Note 4: Health standard is for radium 228 + radium 226.



**POWERTECH (USA) INC.**

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	Well DC-3	Well DC-3	Well DC-3	Well DC-3	Human Health Standards ARSD
Sample Collection Date		7/23/2012	8/20/2012	9/10/2012	10/2/2012	11/6/2012	12/11/2012	1/8/2013	2/12/2013	3/5/2013	74:54:01:04
Well Location, Elevation and Construction Details											
Northing (State Plane SD S NAD 27) <sup>1</sup>	feet	444037.97									
Easting (State Plane SD S NAD 27) <sup>1</sup>	feet	1016403.16									
Latitude (NAD 83) <sup>2</sup>	degrees	43.491380990									
Longitude (NAD 83) <sup>2</sup>	degrees	104.041645784									
Top of Casing Elevation (NGVD 29) <sup>3</sup>	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	24.35	24.35	24.30	24.27	24.43	
Water Level Elevation (NGVD 29)	feet AMSL	Dry	Dry	Dry	3598.60	3598.95	3598.95	3599.00	3599.03	3598.87	
Well Volume	gal	Dry	Dry	Dry							
Volume Purged Prior to Sample Collection	gal	---	---	---	Insufficient Volume to Sample	Purged Approx. 1 c.	Purged Approx. 1 c.	Purged Approx. 1 c.	Purged Approx. 1 c.	Purged Approx. 1 c.	
Field pH	s.u.	---	---	---		Sample Vol. Approx. 1/2 c.	Sample Vol. Approx. 1/2 c.	Sample Vol. Approx. 1/2 c.	Sample Vol. Approx. 1/2 c.	Sample Vol. Approx. 1/2 c.	Sample Vol. Approx. 1/2 c.
Field Temperature	°C	---	---	---							
Field Conductivity	mS/cm	---	---	---							
Clarity	observed	---	---	---							
Color	observed	---	---	---							
Odor	observed	---	---	---							
Physical Properties											
Lab pH	s.u.	---	---	---	---	---	---	---	---	---	6.5 - 8.5
Total Dissolved Solids	mg/L	---	---	---	---	11300	10900	11400	11100	11300	1000
Lab Conductivity	umhos/cm	---	---	---	---	---	---	---	---	---	
Common Elements and Ions											
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	---	---	---	---	---	---	---	---	---	
Bicarbonate as HCO <sub>3</sub>	mg/L	---	---	---	---	---	---	---	---	---	
Calcium, Ca	mg/L	---	---	---	---	404	475	442	456	422	
Carbonate as CO <sub>3</sub>	mg/L	---	---	---	---	---	---	---	---	---	
Chloride, Cl	mg/L	---	---	---	---	1320	1400	1360	1480	1450	250
Magnesium, Mg	mg/L	---	---	---	---	701	771	770	768	715	
Nitrate, NO <sub>3</sub> (as Nitrogen)	mg/L	---	---	---	---	1.7	3.2	3.6	5.8	7.9	10
Potassium, K	mg/L	---	---	---	---	55	50	46	40	36	
Sodium, Na	mg/L	---	---	---	---	1780	1590	1940	1870	1640	
Sulfate, SO <sub>4</sub>	mg/L	---	---	---	---	6330	5940	6060	6150	6080	500
Trace and Minor Elements											
Dissolved Arsenic, As	mg/L	---	---	---	---	---	---	---	---	---	0.01
Dissolved Barium, Ba	mg/L	---	---	---	---	---	---	---	---	---	2
Dissolved Boron, B	mg/L	---	---	---	---	---	---	---	---	---	
Dissolved Cadmium, Cd	mg/L	---	---	---	---	---	---	---	---	---	0.005
Dissolved Chromium, Cr	mg/L	---	---	---	---	---	---	---	---	---	0.1
Dissolved Copper, Cu	mg/L	---	---	---	---	---	---	---	---	---	1.0
Dissolved Fluoride, F	mg/L	---	---	---	---	< 0.1	3.1	4.4	3.0	3.4	4
Dissolved Iron, Fe	mg/L	---	---	---	---	---	---	---	---	---	
Dissolved Lead, Pb	mg/L	---	---	---	---	---	---	---	---	---	0.015
Dissolved Manganese, Mn	mg/L	---	---	---	---	---	---	---	---	---	
Total Mercury, Hg	mg/L	---	---	---	---	---	---	---	---	---	0.002
Dissolved Molybdenum, Mo	mg/L	---	---	---	---	---	---	---	---	---	
Dissolved Nickel, Ni	mg/L	---	---	---	---	---	---	---	---	---	
Dissolved Selenium, Se	mg/L	---	---	---	---	---	---	---	---	---	0.05
Dissolved Silver, Ag	mg/L	---	---	---	---	---	---	---	---	---	0.1
Dissolved Uranium, U	mg/L	---	---	---	---	---	---	---	---	---	0.03
Dissolved Vanadium, V	mg/L	---	---	---	---	---	---	---	---	---	
Dissolved Zinc, Zn	mg/L	---	---	---	---	---	---	---	---	---	
Radiological Parameters											
Dissolved Gross Alpha	pCi/L	---	---	---	---	---	---	---	---	---	15
Precision (±)	pCi/L										
MDC	pCi/L										
Dissolved Gross Beta	pCi/L	---	---	---	---	---	---	---	---	---	4 mrem/year <sup>3</sup>
Precision (±)	pCi/L										
MDC	pCi/L										
Dissolved Radium 228	pCi/L	---	---	---	---	---	---	---	---	---	5 <sup>4</sup>
Precision (±)	pCi/L										
MDC	pCi/L										
Dissolved Radium 226	pCi/L	---	---	---	---	---	---	---	---	---	5 <sup>4</sup>
Precision (±)	pCi/L										
MDC	pCi/L										
Total Radon 222	pCi/L	---	---	---	---	---	---	---	---	---	300
Precision (±)	pCi/L										
MDC	pCi/L										

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

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: A screening level of 50 pCi/L is used to estimate whether the ambient gross beta concentration is less than the Human Health Standard of 4 mrem/yr.

Note 4: Health standard is for radium 228 + radium 226.



**POWERTECH (USA) INC.**

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	Well DC-4	Well DC-4	Well DC-4	Well DC-4	Human Health Standards ARSD 74:54:01.04
Sample Collection Date		7/24/2012	8/20/2012	9/10/2012	10/2/2012	11/5/2012	12/10/2012	1/7/2013	2/11/2013	3/5/2013	
<b>Well Location, Elevation and Construction Details</b>											
Northing (State Plane SD S NAD 27) <sup>1</sup>	feet	443942.11									
Easting (State Plane SD S NAD 27) <sup>1</sup>	feet	1018562.17									
Latitude (NAD 83) <sup>2</sup>	degrees	43.491382328									
Longitude (NAD 83) <sup>2</sup>	degrees	104.033501308									
Top of Casing Elevation (NGVD 29) <sup>1</sup>	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									
<b>Field Measurements</b>											
Water Level Below Top of Casing	feet	19.92	19.98	19.99	19.98	19.95	19.98	19.96	19.97	19.92	
Water Level Elevation (NGVD 29)	feet AMSL	3598.42	3598.36	3598.35	3598.36	3598.39	3598.36	3598.38	3598.37	3598.42	
Well Volume	gal	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	
Volume Purged Prior to Sample Collection	gal	4	3	4	3	3	3	3	2.52	2.52	
Field pH	s.u.	7.44	7.43	7.48	7.50	7.4	7.6	7.5	7.6	7.6	
Field Temperature	°C	11.8	12.2	12.5	13.0	12.4	11.1	11.3	10.3	10.4	
Field Conductivity	mS/cm	8.9	8.3	10.52	10.37	10.77	10.70	10.76	10.79	10.58	
Clarity	observed	clear	clear	clear	clear	clear	clear	clear	clear	clear	
Color	observed	clear	clear	clear	clear	clear	clear	clear	clear	clear	
Odor	observed	none	none	none	none	none	none	none	none	none	
<b>Physical Properties</b>											
Lab pH	s.u.	7.42	7.44	7.47	7.42	7.35	7.29	7.35	7.47	7.36	6.5 - 8.5
Total Dissolved Solids	mg/L	10600	11400	10600	11400	10700	10800	11300	11100	11400	1000
Lab Conductivity	umhos/cm	9270	10400	10400	10300	11200	10200	11700	11100	10800	
<b>Common Elements and Ions</b>											
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	334	346	348	358	346	346	340	344	358	
Bicarbonate as HCO <sub>3</sub>	mg/L	407	422	424	436	422	422	414	419	436	
Calcium, Ca	mg/L	388	389	398	414	380	394	430	353	402	
Carbonate as CO <sub>3</sub>	mg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Chloride, Cl	mg/L	116	114	117	123	128	129	131	136	138	250
Magnesium, Mg	mg/L	620	604	630	651	635	661	715	644	708	
Nitrate, NO <sub>3</sub> (as Nitrogen)	mg/L	1.7	1.6	1.7	1.8	1.8	1.7	1.8	1.9	1.9	10
Potassium, K	mg/L	10	10	11	11	11	10	12	9	11	
Sodium, Na	mg/L	2080	1820	1820	2010	1780	1820	2080	2220	2000	
Sulfate, SO <sub>4</sub>	mg/L	7450	6920	7330	7570	7230	7470	7450	7970	7650	500
<b>Trace and Minor Elements</b>											
Dissolved Arsenic, As	mg/L	< 0.001	< 0.001	0.001	< 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	< 0.05	< 0.05	< 0.05	2
Dissolved Boron, B	mg/L	1.8	2.0	2.3	2.4	2.28	2.27	2.5	2.10	2.26	
Dissolved Cadmium, Cd	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.005
Dissolved Chromium, Cr	mg/L	< 0.005	< 0.005	0.008	0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.009	0.1
Dissolved Copper, Cu	mg/L	< 0.005	< 0.005	0.008	0.012	< 0.005	0.011	< 0.005	0.008	0.009	1.0
Dissolved Fluoride, F	mg/L	2.9	2.5	2.6	2.7	2.2	2.2	2.2	1.8	1.6	4
Dissolved Iron, Fe	mg/L	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Dissolved Lead, Pb	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.015
Dissolved Manganese, Mn	mg/L	0.013	0.004	0.002	0.002	0.002	0.002	0.001	< 0.001	0.001	
Total Mercury, Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.002
Dissolved Molybdenum, Mo	mg/L	0.003	0.002	0.003	0.003	0.002	0.009	< 0.001	0.003	0.003	
Dissolved Nickel, Ni	mg/L	< 0.005	< 0.005	0.008	0.016	0.009	< 0.005	< 0.005	0.007	0.007	
Dissolved Selenium, Se	mg/L	0.032	0.034	0.042	0.037	0.036	0.036	0.035	0.038	0.040	0.05
Dissolved Silver, Ag	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.1
Dissolved Uranium, U	mg/L	0.0157	0.0159	0.0171	0.0153	0.0160	0.0158	0.0149	0.0160	0.0160	0.03
Dissolved Vanadium, V	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Dissolved Zinc, Zn	mg/L	0.02	0.02	< 0.01	0.02	< 0.01	0.02	< 0.01	0.02	0.02	
<b>Radiological Parameters</b>											
Dissolved Gross Alpha	pCi/L	-5	16.5	-10	29.6	-2	13.3	17.7	-20	3.7	15
Precision (±)	pCi/L	18.5	22.4	21.1	24.0	20.5	21.4	21.7	26.5	22.9	
MDC	pCi/L	31.8	36.2	36.6	37.8	34.8	34.9	35.2	46.2	38.3	
Dissolved Gross Beta	pCi/L	-9	-20	-100	-10	-10	-7	-20	-20	8.7	4 mrem/year <sup>3</sup>
Precision (±)	pCi/L	24.4	29.4	44.4	31.0	26.9	27.0	25.0	26.8	27.3	
MDC	pCi/L	41.2	49.8	77.7	52.3	45.6	45.5	42.6	45.7	45.6	
Dissolved Radium 228	pCi/L	-0.5	0.04	0.4	0.6	1.9	0.4	2.4	0.6	0.02	5 <sup>4</sup>
Precision (±)	pCi/L	0.7	0.7	0.6	0.7	1.1	0.9	0.8	1.2	0.9	
MDC	pCi/L	1.2	1.2	0.9	1.1	1.7	1.6	1.1	2.0	1.6	
Dissolved Radium 226	pCi/L	0.4	0.2	0.2	0.2	-0.06	0.2	0.05	0.007	0.3	5 <sup>4</sup>
Precision (±)	pCi/L	0.2	0.1	0.1	0.1	0.06	0.2	0.1	0.1	0.2	
MDC	pCi/L	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	
Total Radon 222	pCi/L	4820	4530	4140	3990	4570	4710	4620	4620	5160	300
Precision (±)	pCi/L	180	188	173	175	184	184	194	241	214	
MDC	pCi/L	208	225	207	212	220	218	236	310	258	

Highlighted value exceeds ARSD 74:54:01.04 Human Health Standard.

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: A screening level of 50 pCi/L is used to estimate whether the ambient gross beta concentration is less than the Human Health Standard of 4 mrem/yr.

Note 4: Health standard is for radium 228 + radium 226.



**POWERTECH (USA) INC.**

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	Well BC-1	Well BC-1	Well BC-1	Well BC-1	Human Health Standards ARSD 74:54:01:04
Sample Collection Date		7/23/2012	8/20/2012	9/10/2012	10/2/2012	11/5/2012	12/10/2012	1/7/2013	2/11/2013	3/5/2013	
Well Location, Elevation and Construction Details											
Northing (State Plane SD S NAD 27) <sup>1</sup>	feet	436026.65									
Easting (State Plane SD S NAD 27) <sup>1</sup>	feet	1029474.73									
Latitude (NAD 83) <sup>2</sup>	degrees	43.471011532									
Longitude (NAD 83) <sup>2</sup>	degrees	103.991102852									
Top of Casing Elevation (NGVD 29) <sup>3</sup>	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	15.96	15.86	15.72	15.59	15.45	
Water Level Elevation (NGVD 29)	feet AMSL	3624.61	3624.24	3623.97	3623.83	3623.88	3623.98	3624.12	3624.25	3624.39	
Well Volume	gal	2.7	2.7	2.6	2.6	2.6	2.6	2.7	2.7	2.7	
Volume Purged Prior to Sample Collection	gal	11	9	9	9	7.8	8.25	8.25	8.1	8.25	
Field pH	s.u.	7.05	7.03	7.18	7.10	7.1	7.3	7.2	7.30	7.3	
Field Temperature	°C	11.9	12.7	12.2	12.4	12.2	11.0	11.5	10.6	10.6	
Field Conductivity	mS/cm	3.5	3.3	3.64	3.75	3.79	3.77	3.76	3.73	3.68	
Clarity	observed	clear	clear	clear	clear	clear	clear	clear	clear	clear	
Color	observed	clear	clear	clear	clear	clear	clear	clear	clear	clear	
Odor	observed	none	none	none	none	none	none	none	none	none	
Physical Properties											
Lab pH	s.u.	7.08	7.09	7.17	7.15	7.20	7.10	7.06	7.25	7.09	6.5 - 8.5
Total Dissolved Solids	mg/L	3640	3720	3660	3480	3670	3660	3800	3730	3740	1000
Lab Conductivity	umhos/cm	3200	3630	3610	3550	3580	3500	4050	3740	3710	
Common Elements and Ions											
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	288	290	300	292	294	294	294	292	300	
Bicarbonate as HCO <sub>3</sub>	mg/L	351	354	366	356	358	358	358	356	366	
Calcium, Ca	mg/L	515	525	513	517	505	442	516	464	500	
Carbonate as CO <sub>3</sub>	mg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Chloride, Cl	mg/L	28	25	25	26	26	25	25	27	26	250
Magnesium, Mg	mg/L	236	238	234	240	234	225	251	230	243	
Nitrate, NO <sub>3</sub> (as Nitrogen)	mg/L	< 0.1	0.2	0.3	< 0.1	0.2	0.2	0.2	0.2	0.3	10
Potassium, K	mg/L	13	12	13	13	12	10	12	11	11	
Sodium, Na	mg/L	206	175	185	197	194	174	194	198	190	
Sulfate, SO <sub>4</sub>	mg/L	2360	2170	2160	2300	2230	2220	2190	2210	2290	500
Trace and Minor Elements											
Dissolved Arsenic, As	mg/L	< 0.001	< 0.001	< 0.001	< 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	< 0.05	< 0.05	< 0.05	2
Dissolved Boron, B	mg/L	0.65	0.66	0.72	0.73	0.71	0.72	0.77	0.70	0.67	
Dissolved Cadmium, Cd	mg/L	< 0.001	< 0.001	< 0.001	< 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	< 0.005	< 0.005	< 0.005	< 0.005	0.007	0.1
Dissolved Copper, Cu	mg/L	< 0.005	< 0.005	< 0.005	0.006	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.0
Dissolved Fluoride, F	mg/L	0.6	0.6	0.6	0.7	0.6	0.6	0.7	0.6	0.5	4
Dissolved Iron, Fe	mg/L	0.06	< 0.03	0.08	0.06	0.13	0.17	0.08	0.05	< 0.03	
Dissolved Lead, Pb	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.015
Dissolved Manganese, Mn	mg/L	0.110	0.061	0.057	0.056	0.049	0.042	0.034	0.040	0.031	
Total Mercury, Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.002
Dissolved Molybdenum, Mo	mg/L	0.005	0.005	0.005	0.006	0.012	0.006	0.004	0.006	0.006	
Dissolved Nickel, Ni	mg/L	< 0.005	< 0.005	0.013	0.022	0.005	< 0.005	< 0.005	0.006	0.009	
Dissolved Selenium, Se	mg/L	0.001	0.001	0.002	0.003	0.003	0.001	< 0.001	< 0.001	0.008	0.05
Dissolved Silver, Ag	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.1
Dissolved Uranium, U	mg/L	0.0757	0.0842	0.0854	0.0802	0.0822	0.0818	0.0877	0.111	0.0891	0.03
Dissolved Vanadium, V	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Dissolved Zinc, Zn	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01	0.02	
Radiological Parameters											
Dissolved Gross Alpha	pCi/L	65.9	71.1	78.7	68.9	50.1	78.0	69.6	108	72.1	15
Precision (±)	pCi/L	9.1	10.8	10.8	10.8	10.7	11.3	10	13.0	10.2	
MDC	pCi/L	10.5	12.8	12.7	12.9	14.0	13.1	11.6	15.9	12.3	
Dissolved Gross Beta	pCi/L	4.4	-4	0.3	7.8	19.8	27.0	15.7	22.8	17.4	4 mrem/year <sup>3</sup>
Precision (±)	pCi/L	6.2	10.6	11.0	10.4	10.6	11.8	10.9	10.3	9.7	
MDC	pCi/L	10.2	17.7	18.3	17.0	17.0	18.8	17.7	16.3	15.5	
Dissolved Radium 228	pCi/L	0.5	0.7	1.1	4.3	1.7	0.7	1.5	0.8	-0.5	5 <sup>4</sup>
Precision (±)	pCi/L	0.7	0.7	0.6	0.9	1	0.9	0.7	1.0	1.1	
MDC	pCi/L	1.1	1.1	0.9	1.1	1.5	1.5	1.1	1.7	1.8	
Dissolved Radium 226	pCi/L	0.4	0.1	0.3	0.8	0.1	0.3	0.2	0.1	0.2	5 <sup>4</sup>
Precision (±)	pCi/L	0.2	0.1	0.1	0.1	0.08	0.2	0.1	0.1	0.2	
MDC	pCi/L	0.2	0.1	0.1	0.09	0.1	0.2	0.2	0.2	0.2	
Total Radon 222	pCi/L	1870	1870	1730	1700	1900	2020	2110	2100	2040	300
Precision (±)	pCi/L	169	156	143	146	153	153	165	208	180	
MDC	pCi/L	242	221	202	208	216	214	232	302	259	

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

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: A screening level of 50 pCi/L is used to estimate whether the ambient gross beta concentration is less than the Human Health Standard of 4 mrem/yr.

Note 4: Health standard is for radium 228 + radium 226.



**POWERTECH (USA) INC.**

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	Well BC-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	10/2/2012	11/5/2012	12/10/2012	1/7/2013	2/11/2013	3/5/2013	
Well Location, Elevation and Construction Details											
Northing (State Plane SD S NAD 27) <sup>1</sup>	feet	434253.95									
Easting (State Plane SD S NAD 27) <sup>1</sup>	feet	1030548.07									
Latitude (NAD 83) <sup>2</sup>	degrees	43.466282015									
Longitude (NAD 83) <sup>2</sup>	degrees	103.986769497									
Top of Casing Elevation (NGVD 29) <sup>3</sup>	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	5.60	5.27	5.12	4.95	4.81	
Water Level Elevation (NGVD 29)	feet AMSL	3630.42	3630.04	3629.86	3630.1	3630.73	3631.06	3631.21	3631.38	3631.52	
Well Volume	gal	3.6	3.5	3.5	3.6	3.7	3.7	3.7	3.77	3.8	
Volume Purged Prior to Sample Collection	gal	10.8	10.5	10.5	12	15	11.25	11.25	11.31	11.40	
Field pH	s.u.	7.12	7.10	7.19	7.10	7.3	7.3	7.2	7.3	7.3	
Field Temperature	°C	10.3	10.1	10.3	10.1	9.9	9.1	9.40	9.2	9.0	
Field Conductivity	mS/cm	3.7	3.6	3.87	4.06	4.07	4.03	4.03	3.99	3.92	
Clarity	observed	clear	clear	clear	clear	clear	clear	clear	clear	clear	
Color	observed	clear	clear	clear	clear	clear	clear	clear	clear	clear	
Odor	observed	none	none	none	none	none	none	none	none	none	
Physical Properties											
Lab pH	s.u.	7.07	7.11	7.22	7.25	7.20	7.10	7.08	7.19	7.07	6.5 - 8.5
Total Dissolved Solids	mg/L	3840	3910	3870	3880	3910	3790	3880	3900	3900	1000
Lab Conductivity	umhos/cm	3430	3860	3850	3810	3870	3700	4200	3910	3920	
Common Elements and Ions											
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	230	234	234	232	230	234	230	230	232	
Bicarbonate as HCO <sub>3</sub>	mg/L	280	285	285	283	280	285	280	280	283	
Calcium, Ca	mg/L	544	516	521	525	515	469	540	449	520	
Carbonate as CO <sub>3</sub>	mg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Chloride, Cl	mg/L	21	21	21	23	22	22	22	23	22	250
Magnesium, Mg	mg/L	200	218	220	216	223	212	230	212	220	
Nitrate, NO <sub>3</sub> (as Nitrogen)	mg/L	< 0.1	0.2	0.2	< 0.1	0.2	0.2	0.2	0.3	0.3	10
Potassium, K	mg/L	12	13	13	13	12	11	13	11	12	
Sodium, Na	mg/L	278	258	278	290	294	256	282	291	272	
Sulfate, SO <sub>4</sub>	mg/L	2350	2390	2400	2520	2380	2340	2360	2360	2530	500
Trace and Minor Elements											
Dissolved Arsenic, As	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.01
Dissolved Barium, Ba	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2
Dissolved Boron, B	mg/L	0.44	0.46	0.51	0.51	0.51	0.50	0.5	0.47	0.52	
Dissolved Cadmium, Cd	mg/L	< 0.001	< 0.001	< 0.001	< 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	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.1
Dissolved Copper, Cu	mg/L	0.006	< 0.005	< 0.005	0.006	< 0.005	0.008	< 0.005	< 0.005	< 0.005	1.0
Dissolved Fluoride, F	mg/L	0.8	0.7	0.7	0.8	0.7	0.7	0.8	0.7	0.6	4
Dissolved Iron, Fe	mg/L	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Dissolved Lead, Pb	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.015
Dissolved Manganese, Mn	mg/L	0.042	0.045	0.039	0.040	0.040	0.038	0.040	0.044	0.038	
Total Mercury, Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.002
Dissolved Molybdenum, Mo	mg/L	0.012	0.012	0.013	0.013	0.013	0.014	0.012	0.014	0.014	
Dissolved Nickel, Ni	mg/L	< 0.005	< 0.005	0.011	0.022	0.006	< 0.005	< 0.005	0.007	0.006	
Dissolved Selenium, Se	mg/L	< 0.001	< 0.001	0.002	0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.05
Dissolved Silver, Ag	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.1
Dissolved Uranium, U	mg/L	0.0228	0.0240	0.0241	0.0230	0.0256	0.0230	0.0259	0.0297	0.0246	0.03
Dissolved Vanadium, V	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Dissolved Zinc, Zn	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Radiological Parameters											
Dissolved Gross Alpha	pCi/L	20.0	3.5	1.8	25.9	12.6	23.4	25.2	25.8	32.5	15
Precision (±)	pCi/L	7.8	9.7	7.0	9.3	8.6	9.3	8.6	8.9	8.9	
MDC	pCi/L	11.5	16.1	11.6	13.5	13.4	13.7	12.4	13.1	12.7	
Dissolved Gross Beta	pCi/L	4.5	0.5	-10	-10	9.2	7.8	-2	7.3	12.0	4 mrem/year <sup>3</sup>
Precision (±)	pCi/L	6.5	11.6	11.8	11.2	10.2	11.5	9.4	9.2	8.8	
MDC	pCi/L	10.7	19.5	20.1	19.1	16.8	19.1	15.8	15.1	14.3	
Dissolved Radium 228	pCi/L	0.1	-0.1	0.3	-0.1	0.5	0.7	0.8	0.7	0.5	5 <sup>4</sup>
Precision (±)	pCi/L	0.6	0.6	0.6	0.6	1.2	0.9	0.7	1.1	1.1	
MDC	pCi/L	1	1.1	0.9	1	2.1	1.4	1.0	1.7	1.9	
Dissolved Radium 226	pCi/L	0.07	0.3	0.3	0.5	0.02	0.2	0.2	0.08	0.4	5 <sup>4</sup>
Precision (±)	pCi/L	0.1	0.1	0.1	0.1	0.07	0.1	0.1	0.1	0.2	
MDC	pCi/L	0.2	0.1	0.1	0.08	0.1	0.2	0.2	0.2	0.2	
Total Radon 222	pCi/L	2860	2460	2480	2260	2530	2710	2670	2830	2800	300
Precision (±)	pCi/L	180	162	151	152	159	160	170	215	188	
MDC	pCi/L	240	219	200	206	214	212	229	300	256	

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

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: A screening level of 50 pCi/L is used to estimate whether the ambient gross beta concentration is less than the Human Health Standard of 4 mrem/yr.

Note 4: Health standard is for radium 228 + radium 226.



**POWERTECH (USA) INC.**

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	Well BC-3	Well BC-3	Well BC-3	Well BC-3	Human Health Standards ARSD 74:54:01:04
Sample Collection Date		7/23/2012	8/20/2012	9/10/2012	10/2/2012	11/5/2012	12/10/2012	1/7/2013	2/11/2013	3/5/2013	
Well Location, Elevation and Construction Details											
Northing (State Plane SD S NAD 27) <sup>1</sup>	feet	438165.90									
Easting (State Plane SD S NAD 27) <sup>1</sup>	feet	1029035.98									
Latitude (NAD 83) <sup>2</sup>	degrees	43.476822344									
Longitude (NAD 83) <sup>2</sup>	degrees	103.993109146									
Top of Casing Elevation (NGVD 29) <sup>1</sup>	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	11.99	11.51	11.23	10.90	10.77	
Water Level Elevation (NGVD 29)	feet AMSL	3642.7	3642.22	3641.9	3641.99	3642.96	3643.44	3643.72	3644.05	3644.18	
Well Volume	gal	2.5	2.4	2.4	2.4	2.5	2.6	2.7	2.72	2.7	
Volume Purged Prior to Sample Collection	gal	7.5	7.5	7.5	7.5	7.5	8.25	8.25	8.16	8.25	
Field pH	s.u.	7.16	7.12	7.33	7.10	7.2	7.2	7.2	7.2	7.4	
Field Temperature	°C	10.3	10.8	10.8	10.9	10.6	9.7	10.3	9.1	8.8	
Field Conductivity	mS/cm	3.1	3.0	3.20	3.35	3.33	3.34	3.32	3.29	3.26	
Clarity	observed	clear	clear	clear	clear	clear	clear	clear	clear	clear	
Color	observed	clear	clear	clear	clear	clear	clear	clear	clear	clear	
Odor	observed	none	none	none	none	none	none	none	none	none	
Physical Properties											
Lab pH	s.u.	7.15	7.17	7.22	7.16	7.21	7.12	7.11	7.17	7.13	6.5 - 8.5
Total Dissolved Solids	mg/L	3160	3130	3140	3180	3170	3100	3180	3160	3160	1000
Lab Conductivity	umhos/cm	2870	3200	3200	3140	3110	3070	3550	3250	3200	
Common Elements and Ions											
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	254	256	256	248	248	250	246	248	242	
Bicarbonate as HCO <sub>3</sub>	mg/L	310	312	312	302	302	305	300	302	295	
Calcium, Ca	mg/L	532	531	535	525	520	488	552	475	541	
Carbonate as CO <sub>3</sub>	mg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Chloride, Cl	mg/L	20	19	19	20	19	19	19	20	19	250
Magnesium, Mg	mg/L	150	148	152	150	150	144	159	139	151	
Nitrate, NO <sub>3</sub> (as Nitrogen)	mg/L	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	10
Potassium, K	mg/L	11	11	12	11	11	10	11	10	12	
Sodium, Na	mg/L	174	158	157	164	172	153	160	157	163	
Sulfate, SO <sub>4</sub>	mg/L	2010	1850	1820	1980	1860	1910	1890	1870	1830	500
Trace and Minor Elements											
Dissolved Arsenic, As	mg/L	< 0.001	< 0.001	< 0.001	< 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	< 0.05	< 0.05	< 0.05	2
Dissolved Boron, B	mg/L	0.44	0.45	0.49	0.51	0.52	0.50	0.54	0.47	0.49	
Dissolved Cadmium, Cd	mg/L	< 0.001	< 0.001	< 0.001	< 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	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.1
Dissolved Copper, Cu	mg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.0
Dissolved Fluoride, F	mg/L	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.5	4
Dissolved Iron, Fe	mg/L	0.05	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.06	0.05	0.20	
Dissolved Lead, Pb	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.015
Dissolved Manganese, Mn	mg/L	0.498	0.461	0.447	0.436	0.456	0.451	0.528	0.557	0.594	
Total Mercury, Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.002
Dissolved Molybdenum, Mo	mg/L	0.006	0.006	0.007	0.007	0.006	0.008	0.005	0.006	0.007	
Dissolved Nickel, Ni	mg/L	< 0.005	< 0.005	0.012	0.022	0.006	< 0.005	< 0.005	< 0.005	0.010	
Dissolved Selenium, Se	mg/L	0.002	0.003	0.005	0.004	0.003	0.003	< 0.001	0.002	0.003	0.05
Dissolved Silver, Ag	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.1
Dissolved Uranium, U	mg/L	0.0208	0.0214	0.0226	0.0206	0.0212	0.0201	0.0197	0.0251	0.0204	0.03
Dissolved Vanadium, V	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Dissolved Zinc, Zn	mg/L	0.02	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	0.02	
Radiological Parameters											
Dissolved Gross Alpha	pCi/L	29.9	10.3	11.4	28.6	14.2	26.4	25.9	19.3	22.4	15
Precision (±)	pCi/L	7.0	7.1	6.0	7.6	8.6	7.7	6.8	6.3	8.5	
MDC	pCi/L	9.5	11.1	9.2	10.2	13.4	10.7	9.4	9.0	12.9	
Dissolved Gross Beta	pCi/L	4.7	2.0	-1	4.1	8.6	5.0	0.6	6.4	12.0	4 mrem/year <sup>3</sup>
Precision (±)	pCi/L	5.6	9.4	10	9.1	8.6	9.2	7.7	7.6	8.0	
MDC	pCi/L	9.2	15.8	16.8	15.0	14.2	15.3	12.9	12.5	13.1	
Dissolved Radium 228	pCi/L	-0.1	-0.1	0.8	1.9	2.0	-0.4	1.5	1.2	1.7	5 <sup>4</sup>
Precision (±)	pCi/L	0.6	0.7	0.6	0.8	0.8	0.7	0.7	1.0	1.2	
MDC	pCi/L	1	1.1	0.9	1.2	1.2	1.2	1.1	1.7	1.9	
Dissolved Radium 226	pCi/L	0.08	0.1	0.1	0.4	0.09	0.07	0.3	0.3	0.2	5 <sup>4</sup>
Precision (±)	pCi/L	0.1	0.1	0.09	0.1	0.06	0.1	0.1	0.1	0.2	
MDC	pCi/L	0.2	0.1	0.1	0.09	0.09	0.2	0.2	0.2	0.2	
Total Radon 222	pCi/L	1700	1710	1720	1490	1860	1690	1750	1970	1630	300
Precision (±)	pCi/L	169	155	144	144	154	150	162	207	177	
MDC	pCi/L	245	223	204	209	218	216	233	304	262	

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

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: A screening level of 50 pCi/L is used to estimate whether the ambient gross beta concentration is less than the Human Health Standard of 4 mrem/yr.

Note 4: Health standard is for radium 228 + radium 226.



POWERTECH (USA) INC.

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	Well BC-2	Well BC-2 Duplicate	Well BC-3	Well BC-3 Duplicate	Well BC-1	Well BC-1 Duplicate	Well DC-4	Well DC-4 Duplicate	Well BC-3	Well BC-3 Duplicate	Human Health Standards ARSD	
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	11/5/2012	11/5/2012	12/10/2012	12/10/2012	1/7/2013	1/7/2013	2/11/2013	2/11/2013	3/5/2013	3/5/2013	74:54:01:04	
Physical Properties																						
Lab pH	s.u.	7.15	7.09	7.09	7.10	7.47	7.48	7.09	7.10	8.1	7.20	7.27	7.12	7.12	7.06	7.08	7.47	7.42	7.13	7.06	6.5 - 8.5	
Total Dissolved Solids	mg/L	3160	3170	3720	3500	10600	10600	4630	4630	5080	3910	3870	3160	3120	3800	3730	11100	11300	3160	3180	1000	
Lab Conductivity	umhos/cm	2870	2860	3630	3630	10400	10300	5530	5510	5090	3870	3870	3070	3040	4050	4060	11100	11000	3200	3250		
Common Elements and Ions																						
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	254	256	290	290	348	342	264	268	286	230	230	250	246	294	294	344	350	242	250		
Bicarbonate as HCO <sub>3</sub>	mg/L	310	312	354	354	424	417	322	327	349	280	280	305	300	358	358	419	427	295	305		
Calcium, Ca	mg/L	532	518	525	515	398	401	518	528	481	515	517	488	469	516	539	353	353	541	565		
Carbonate as CO <sub>3</sub>	mg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5		
Chloride, Cl	mg/L	20	20	25	25	117	118	824	822	926	22	22	19	19	25	25	136	137	19	20	250	
Magnesium, Mg	mg/L	150	147	238	231	630	620	147	146	135	223	221	144	140	251	256	644	641	151	147		
Nitrate, NO <sub>3</sub> (as Nitrogen)	mg/L	0.3	0.3	0.2	0.2	1.7	1.7	0.2	< 0.1	< 0.1	0.2	0.2	0.2	0.2	0.2	< 0.1	1.9	1.9	0.2	0.2	10	
Potassium, K	mg/L	11	11	12	12	11	11	7	7	11	12	12	10	9	12	13	9	9	12	11		
Sodium, Na	mg/L	174	175	175	179	1820	1910	768	764	832	294	288	153	147	194	196	2220	2200	163	160		
Sulfate, SO <sub>4</sub>	mg/L	2010	2020	2170	2180	7330	7550	2080	2060	2070	2380	2370	1910	1880	2190	2210	7970	7870	1830	2190	500	
Trace and Minor Elements																						
Dissolved Arsenic, As	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.002	0.001	0.002	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	0.002	0.01
Dissolved Barium, Ba	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.018	< 0.05	< 0.05	< 0.05	< 0.05	< 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	0.2	0.4	0.3	0.51	0.49	0.50	0.50	0.77	0.78	2.10	2.14	0.49	0.50		
Dissolved Cadmium, Cd	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 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	< 0.005	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.007	0.006	0.1
Dissolved Copper, Cu	mg/L	< 0.005	< 0.005	< 0.005	< 0.005	0.008	0.011	0.006	0.006	0.006	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.008	0.008	< 0.005	< 0.005	1.0	
Dissolved Fluoride, F	mg/L	0.6	0.6	0.6	0.6	2.6	2.7	0.7	0.7	0.4	0.7	0.7	0.6	0.6	0.7	1.8	1.9	0.5	0.5	4		
Dissolved Iron, Fe	mg/L	0.05	0.05	< 0.03	0.04	< 0.03	< 0.03	0.80	0.57	3.49	< 0.03	< 0.03	< 0.03	< 0.03	0.08	0.11	< 0.03	< 0.03	0.20	0.11		
Dissolved Lead, Pb	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 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	3.05	3.04	2.93	0.040	0.039	0.451	0.439	0.034	0.040	< 0.001	< 0.001	0.594	0.595		
Total Mercury, Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 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	0.005	0.005	0.004	0.013	0.013	0.008	0.007	0.004	0.004	0.003	0.003	0.007	0.007		
Dissolved Nickel, Ni	mg/L	< 0.005	< 0.005	< 0.005	< 0.005	0.008	0.009	0.022	0.021	< 0.01	0.006	< 0.005	< 0.005	< 0.005	< 0.005	0.007	0.007	0.010	0.011			
Dissolved Selenium, Se	mg/L	0.002	0.002	0.001	0.001	0.042	0.042	0.004	0.003	0.002	< 0.001	< 0.001	0.003	0.003	< 0.001	< 0.001	0.038	0.037	0.003	0.005	0.05	
Dissolved Silver, Ag	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.003	< 0.001	< 0.001	< 0.001	< 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	0.0087	0.0083	0.0077	0.0256	0.0253	0.0201	0.0199	0.0877	0.0921	0.0160	0.0157	0.0204	0.0203	0.03	
Dissolved Vanadium, V	mg/L	< 0.01	< 0.01	< 0.01	0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Dissolved Zinc, Zn	mg/L	0.02	0.02	< 0.01	< 0.01	< 0.01	< 0.01	0.01	0.01	< 0.01	0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	0.02	0.02	0.02		
Radiological Parameters																						
Dissolved Gross Alpha	pCi/L	29.9	23.4	71.1	89.2	-10	16.4	20.7	10.4	22.2	12.6	2.0	26.4	30.7	69.6	112	-20	-10	22.4	17.7	15	
Precision (±)	pCi/L	7.0	5.5	10.8	11.6	21.1	23.3	15.6	13.4	8.0	8.6	8.5	7.7	8.1	10	11.5	26.5	20.6	8.5	5.9		
MDC	pCi/L	9.5	7.2	12.8	13.2	36.6	37.9	24.7	21.6	11	13.4	14.1	10.7	10.9	11.6	11.2	46.2	35.7	12.9	8.3		
Dissolved Gross Beta	pCi/L	4.7	7.1	-4	8.4	-100	-4	-2	12.1	< 19	9.2	1.1	5.0	-20	15.7	21.7	-20	-30	12.0	11.5	4 mrem/year <sup>1</sup>	
Precision (±)	pCi/L	5.6	5.3	10.6	10.9	44.4	31.1	21.9	24.3	NA	10.2	8.9	9.2	10.2	10.9	10.1	26.8	27.1	8.0	7.6		
MDC	pCi/L	9.2	8.6	17.7	17.8	77.7	52.3	36.8	40.4	19	16.8	14.9	15.3	17.8	17.7	16.0	45.7	46.3	13.1	12.4		
Dissolved Radium 228	pCi/L	-0.1	0.4	0.7	0.9	0.4	0.3	0.8	1.2	< 1	0.5	1.7	-0.4	-0.2	1.5	2.5	0.6	-0.1	1.7	0.6	5 <sup>2</sup>	
Precision (±)	pCi/L	0.6	0.7	0.7	0.7	0.6	0.6	0.7	0.7	NA	1.2	1.5	0.7	0.9	0.7	0.8	1.2	1.2	1.2	1.1		
MDC	pCi/L	1	1.1	1.1	1.1	0.9	0.9	1.1	1.1	1	2.1	2.3	1.2	1.6	1.1	1.1	2.0	1.9	1.9	1.9		
Dissolved Radium 226	pCi/L	0.08	0.06	0.1	0.2	0.2	0.2	0.7	0.7	0.3	0.02	0.06	0.07	0.08	0.2	0.2	0.007	0.06	0.2	0.2	5 <sup>2</sup>	
Precision (±)	pCi/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.07	0.09	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	
MDC	pCi/L	0.2	0.2	0.1	0.1	0.1	0.1	0.09	0.08	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Total Radon 222	pCi/L	1700	1640	1870	1800	4140	4390	2040	1860	662	2530	2660	1690	1580	2110	2180	4620	4030	1630	1720	300	
Precision (±)	pCi/L	169	168	156	155	173	175	154	152	24	159	160	150	149	165	165	241	235	177	179		
MDC	pCi/L	245	245	221	221	207	207	215	215	50	214	214	216	216	232	232	310	310	262	262		

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

Note 1: A screening level of 50 pCi/L is used to estimate whether the ambient gross beta concentration is less than the Human Health Standard of 4 mrem/yr.

Note 2: Health standard is for radium 228 + radium 226.



LABORATORY DATA PACKAGES





# ANALYTICAL SUMMARY REPORT

March 21, 2013

Powertech USA Inc  
PO Box 812  
Edgemont, SD 57735

Workorder No.: R12100062                      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 10/3/2012 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
R12100062-001	DC-2	10/02/12 10:17	10/03/12	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
R12100062-002	DC-2 Dup	10/02/12 10:18	10/03/12	Aqueous	Same As Above
R12100062-003	DC-4	10/02/12 11:53	10/03/12	Aqueous	Same As Above
R12100062-004	BC-3	10/02/12 13:40	10/03/12	Aqueous	Same As Above
R12100062-005	BC-1	10/02/12 14:31	10/03/12	Aqueous	Same As Above
R12100062-006	BC-2	10/02/12 15:37	10/03/12	Aqueous	Same As Above
R12100062-007	DC-1	10/03/12 09:05	10/03/12	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: 2013.03.26 17:19:30 -06:00



**CLIENT:** Powertech USA Inc  
**Project:** Alluvial Wells Dewey Burdock  
**Sample Delivery Group:** R12100062

**Revised Date:** 03/21/13

**Report Date:** 11/14/12

## 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.

Due to the high TDS values, the results are reported with more significant figures.  
report revised per clients request

Report is revised Feb 15 2013 to reflect a recheck on a selenium value for DC-1 LL

Comments imported for SUBBED Workorder: C12100265  
Sample -007 recalculated with the correct dilution factor of 2 for some of the metals. DC-1 site  
End of comments imported for SUBBED Workorder: C12100265

Report is revised (#3) 3/21/2013 LL



### LABORATORY ANALYTICAL REPORT

Prepared by Rapid City, SD Branch

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Collection Date: 10/02/12 10:17

Lab ID: R12100062-001

Date Received: 10/03/12

Client Sample ID: DC-2

Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By
					QCL	DF		
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	5530	umhos/cm		5.0		1	A2510 B	10/04/12 10:05/tb
pH	7.09	su		0.01		1	A4500-HB	10/04/12 11:34/tb
Solids, Total Dissolved TDS @ 180 C	4630	mg/L		10		1	A2540 C	10/08/12 17:03/tb
Alkalinity, Total as CaCO3	264	mg/L		5		1	A2320 B	10/10/12 11:45/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	10/10/12 11:45/ch
Bicarbonate as HCO3	322	mg/L		5		1	A2320 B	10/10/12 11:45/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	824	mg/L	D	50		50	E300.0	10/05/12 00:20/tb
Fluoride	0.7	mg/L		0.1		1	E300.0	10/04/12 03:09/tb
Sulfate	2080	mg/L	D	50		50	E300.0	10/05/12 00:20/tb
<b>DATA QUALITY PARAMETERS</b>								
Anions	71.8	meq/L		1.00		1	A1030 E	11/01/12 00:00/lk
Cations	71.6	meq/L		1.00		1	A1030 E	11/01/12 00:00/lk
Conductivity, Calculated	5610	umhos/cm		1.00		1	A1030 E	11/01/12 00:00/lk
TDS Ratio	1.02			0.0100		1	A1030 E	11/01/12 00:00/lk
A/C Balance	-0.170	%				1	A1030 E	11/01/12 00:00/lk
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	0.2	mg/L		0.1		1	E300.0	10/04/12 03:09/tb
<b>RADIONUCLIDES - DISSOLVED</b>								
Gross Alpha	20.7	pCi/L	U			1	E900.0	10/10/12 16:37/eli-ca
Gross Alpha precision (±)	15.6	pCi/L				1	E900.0	10/10/12 16:37/eli-ca
Gross Alpha MDC	24.7	pCi/L				1	E900.0	10/10/12 16:37/eli-ca
Gross Beta	-2	pCi/L	U			1	E900.0	10/10/12 16:37/eli-ca
Gross Beta precision (±)	21.9	pCi/L				1	E900.0	10/10/12 16:37/eli-ca
Gross Beta MDC	36.8	pCi/L				1	E900.0	10/10/12 16:37/eli-ca
Radium 228	0.8	pCi/L	U			1	RA-05	10/10/12 22:47/eli-ca
Radium 228 precision (±)	0.7	pCi/L				1	RA-05	10/10/12 22:47/eli-ca
Radium 228 MDC	1.1	pCi/L				1	RA-05	10/10/12 22:47/eli-ca
Radium 226	0.7	pCi/L				1	E903.0	10/15/12 23:44/eli-ca
Radium 226 precision (±)	0.1	pCi/L				1	E903.0	10/15/12 23:44/eli-ca
Radium 226 MDC	0.09	pCi/L				1	E903.0	10/15/12 23:44/eli-ca
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222	2040	pCi/L				1	D5072-92	10/05/12 16:18/eli-ca
Radon 222 precision (±)	154	pCi/L				1	D5072-92	10/05/12 16:18/eli-ca

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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Collection Date: 10/02/12 10:17

Lab ID: R12100062-001

Date Received: 10/03/12

Client Sample ID: DC-2

Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222 MDC	215	pCi/L					1	D5072-92	10/05/12 16:18/eli-ca
<b>TOTAL METALS ANALYSES</b>									
Mercury	ND	mg/L		0.0001			1	E245.1	10/08/12 13:28/eli-ca
<b>DISSOLVED METALS ANALYSES</b>									
Arsenic	0.001	mg/L		0.001			5	E200.8	10/10/12 20:55/eli-ca
Barium	ND	mg/L		0.05			5	E200.8	10/10/12 20:55/eli-ca
Boron	0.2	mg/L	D	0.1			5	E200.7	10/16/12 16:55/eli-ca
Cadmium	ND	mg/L		0.001			5	E200.8	10/10/12 20:55/eli-ca
Chromium	ND	mg/L		0.005			5	E200.8	10/10/12 20:55/eli-ca
Copper	0.006	mg/L		0.005			5	E200.8	10/10/12 20:55/eli-ca
Iron	0.80	mg/L		0.03			5	E200.7	10/15/12 20:26/eli-ca
Lead	ND	mg/L		0.001			5	E200.8	10/10/12 20:55/eli-ca
Manganese	3.05	mg/L		0.001			5	E200.8	10/10/12 20:55/eli-ca
Molybdenum	0.005	mg/L		0.001			5	E200.8	10/10/12 20:55/eli-ca
Nickel	0.022	mg/L		0.005			5	E200.8	10/10/12 20:55/eli-ca
Selenium	0.004	mg/L		0.001			5	E200.8	10/10/12 20:55/eli-ca
Silver	ND	mg/L		0.001			5	E200.8	10/10/12 20:55/eli-ca
Uranium	0.0087	mg/L	D	0.0005			5	E200.8	10/10/12 20:55/eli-ca
Vanadium	ND	mg/L		0.01			5	E200.8	10/10/12 20:55/eli-ca
Zinc	0.01	mg/L		0.01			5	E200.8	10/10/12 20:55/eli-ca
Calcium	518	mg/L		1			5	E200.7	10/15/12 20:26/eli-ca
Magnesium	147	mg/L		1			5	E200.7	10/15/12 20:26/eli-ca
Potassium	7	mg/L		1			5	E200.7	10/15/12 20:26/eli-ca
Sodium	768	mg/L	D	2			5	E200.7	10/16/12 16:55/eli-ca

Report Definitions: RL - Analyte reporting limit.  
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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Collection Date: 10/02/12 10:18

Lab ID: R12100062-002

Date Received: 10/03/12

Client Sample ID: DC-2 Dup

Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By
					QCL	DF		
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	5510	umhos/cm		5.0		1	A2510 B	10/04/12 10:07/tb
pH	7.10	su		0.01		1	A4500-H B	10/04/12 11:37/tb
Solids, Total Dissolved TDS @ 180 C	4630	mg/L		10		1	A2540 C	10/08/12 17:05/tb
Alkalinity, Total as CaCO3	268	mg/L		5		1	A2320 B	10/10/12 14:28/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	10/10/12 14:28/ch
Bicarbonate as HCO3	327	mg/L		5		1	A2320 B	10/10/12 14:28/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	822	mg/L	D	50		50	E300.0	10/05/12 00:37/tb
Fluoride	0.7	mg/L		0.1		1	E300.0	10/04/12 03:26/tb
Sulfate	2060	mg/L	D	50		50	E300.0	10/05/12 00:37/tb
<b>DATA QUALITY PARAMETERS</b>								
Anions	71.5	meq/L		1.00		1	A1030 E	11/01/12 00:00/lk
Cations	71.7	meq/L		1.00		1	A1030 E	11/01/12 00:00/lk
Conductivity, Calculated	5590	umhos/cm		1.00		1	A1030 E	11/01/12 00:00/lk
TDS Ratio	1.03			0.0100		1	A1030 E	11/01/12 00:00/lk
A/C Balance	0.170	%				1	A1030 E	11/01/12 00:00/lk
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	ND	mg/L		0.1		1	E300.0	10/04/12 03:26/tb
<b>RADIONUCLIDES - DISSOLVED</b>								
Gross Alpha	10.4	pCi/L	U			1	E900.0	10/10/12 16:37/eli-ca
Gross Alpha precision (±)	13.4	pCi/L				1	E900.0	10/10/12 16:37/eli-ca
Gross Alpha MDC	21.6	pCi/L				1	E900.0	10/10/12 16:37/eli-ca
Gross Beta	12.1	pCi/L	U			1	E900.0	10/10/12 16:37/eli-ca
Gross Beta precision (±)	24.3	pCi/L				1	E900.0	10/10/12 16:37/eli-ca
Gross Beta MDC	40.4	pCi/L				1	E900.0	10/10/12 16:37/eli-ca
Radium 228	1.2	pCi/L				1	RA-05	10/10/12 22:47/eli-ca
Radium 228 precision (±)	0.7	pCi/L				1	RA-05	10/10/12 22:47/eli-ca
Radium 228 MDC	1.1	pCi/L				1	RA-05	10/10/12 22:47/eli-ca
Radium 226	0.7	pCi/L				1	E903.0	10/15/12 23:44/eli-ca
Radium 226 precision (±)	0.1	pCi/L				1	E903.0	10/15/12 23:44/eli-ca
Radium 226 MDC	0.08	pCi/L				1	E903.0	10/15/12 23:44/eli-ca
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222	1860	pCi/L				1	D5072-92	10/05/12 16:18/eli-ca
Radon 222 precision (±)	152	pCi/L				1	D5072-92	10/05/12 16:18/eli-ca

Report Definitions: RL - Analyte reporting limit.  
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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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Collection Date: 10/02/12 10:18

Lab ID: R12100062-002

Date Received: 10/03/12

Client Sample ID: DC-2 Dup

Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222 MDC	215	pCi/L					1	D5072-92	10/05/12 16:18/eli-ca
<b>TOTAL METALS ANALYSES</b>									
Mercury	ND	mg/L		0.0001			1	E245.1	10/08/12 13:29/eli-ca
<b>DISSOLVED METALS ANALYSES</b>									
Arsenic	0.002	mg/L		0.001			5	E200.8	10/10/12 20:58/eli-ca
Barium	ND	mg/L		0.05			5	E200.8	10/10/12 20:58/eli-ca
Boron	0.4	mg/L	D	0.1			5	E200.7	10/15/12 20:42/eli-ca
Cadmium	ND	mg/L		0.001			5	E200.8	10/10/12 20:58/eli-ca
Chromium	ND	mg/L		0.005			5	E200.8	10/10/12 20:58/eli-ca
Copper	0.006	mg/L		0.005			5	E200.8	10/10/12 20:58/eli-ca
Iron	0.57	mg/L		0.03			5	E200.7	10/15/12 20:42/eli-ca
Lead	ND	mg/L		0.001			5	E200.8	10/10/12 20:58/eli-ca
Manganese	3.04	mg/L		0.001			5	E200.8	10/10/12 20:58/eli-ca
Molybdenum	0.005	mg/L		0.001			5	E200.8	10/10/12 20:58/eli-ca
Nickel	0.021	mg/L		0.005			5	E200.8	10/10/12 20:58/eli-ca
Selenium	0.003	mg/L		0.001			5	E200.8	10/10/12 20:58/eli-ca
Silver	ND	mg/L		0.001			5	E200.8	10/10/12 20:58/eli-ca
Uranium	0.0083	mg/L	D	0.0005			5	E200.8	10/10/12 20:58/eli-ca
Vanadium	ND	mg/L		0.01			5	E200.8	10/10/12 20:58/eli-ca
Zinc	0.01	mg/L		0.01			5	E200.8	10/10/12 20:58/eli-ca
Calcium	528	mg/L		1			5	E200.7	10/15/12 20:42/eli-ca
Magnesium	146	mg/L		1			5	E200.7	10/15/12 20:42/eli-ca
Potassium	7	mg/L		1			5	E200.7	10/15/12 20:42/eli-ca
Sodium	764	mg/L	D	2			5	E200.7	10/16/12 16:59/eli-ca

Report Definitions: RL - Analyte reporting limit.  
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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Collection Date: 10/02/12 11:53

Lab ID: R12100062-003

Date Received: 10/03/12

Client Sample ID: DC-4

Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	10300	umhos/cm		5.0			1	A2510 B	10/04/12 10:12/b
pH	7.42	su		0.01			1	A4500-HB	10/04/12 11:38/b
Solids, Total Dissolved TDS @ 180 C	11400	mg/L		10			1	A2540 C	10/08/12 17:06/b
Alkalinity, Total as CaCO3	358	mg/L		5			1	A2320 B	10/10/12 14:46/ch
Carbonate as CO3	ND	mg/L		5			1	A2320 B	10/10/12 14:46/ch
Bicarbonate as HCO3	436	mg/L		5			1	A2320 B	10/10/12 14:46/ch
<b>INORGANIC PARAMETERS</b>									
Chloride	123	mg/L			1		1	E300.0	10/04/12 03:44/b
Fluoride	2.7	mg/L			0.1		1	E300.0	10/04/12 03:44/b
Sulfate	7570	mg/L	D		100		100	E300.0	10/05/12 01:31/b
<b>DATA QUALITY PARAMETERS</b>									
Anions	169	meq/L		1.00			1	A1030 E	11/01/12 00:00/lk
Cations	162	meq/L		1.00			1	A1030 E	11/01/12 00:00/lk
Conductivity, Calculated	11000	umhos/cm		1.00			1	A1030 E	11/01/12 00:00/lk
TDS Ratio	1.04			0.0100			1	A1030 E	11/01/12 00:00/lk
A/C Balance	-2.04	%					1	A1030 E	11/01/12 00:00/lk
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	1.8	mg/L		0.1			1	E300.0	10/04/12 03:44/b
<b>RADIONUCLIDES - DISSOLVED</b>									
Gross Alpha	29.6	pCi/L	U				1	E900.0	10/10/12 16:37/eli-ca
Gross Alpha precision (±)	24.0	pCi/L					1	E900.0	10/10/12 16:37/eli-ca
Gross Alpha MDC	37.8	pCi/L					1	E900.0	10/10/12 16:37/eli-ca
Gross Beta	-10	pCi/L	U				1	E900.0	10/10/12 16:37/eli-ca
Gross Beta precision (±)	31.0	pCi/L					1	E900.0	10/10/12 16:37/eli-ca
Gross Beta MDC	52.3	pCi/L					1	E900.0	10/10/12 16:37/eli-ca
Radium 228	0.6	pCi/L	U				1	RA-05	10/24/12 17:49/eli-ca
Radium 228 precision (±)	0.7	pCi/L					1	RA-05	10/24/12 17:49/eli-ca
Radium 228 MDC	1.1	pCi/L					1	RA-05	10/24/12 17:49/eli-ca
Radium 226	0.2	pCi/L					1	E903.0	10/29/12 22:07/eli-ca
Radium 226 precision (±)	0.1	pCi/L					1	E903.0	10/29/12 22:07/eli-ca
Radium 226 MDC	0.1	pCi/L					1	E903.0	10/29/12 22:07/eli-ca
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222	3990	pCi/L					1	D5072-92	10/05/12 16:18/eli-ca
Radon 222 precision (±)	175	pCi/L					1	D5072-92	10/05/12 16:18/eli-ca

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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Collection Date: 10/02/12 11:53

Lab ID: R12100062-003

Date Received: 10/03/12

Client Sample ID: DC-4

Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222 MDC	212	pCi/L					1	D5072-92	10/05/12 16:18/eli-ca
<b>TOTAL METALS ANALYSES</b>									
Mercury	ND	mg/L		0.0001			1	E245.1	10/08/12 13:30/eli-ca
<b>DISSOLVED METALS ANALYSES</b>									
Arsenic	ND	mg/L		0.001			5	E200.8	10/10/12 21:01/eli-ca
Barium	ND	mg/L		0.05			5	E200.8	10/10/12 21:01/eli-ca
Boron	2.4	mg/L	D	0.2			10	E200.7	10/15/12 20:46/eli-ca
Cadmium	ND	mg/L		0.001			5	E200.8	10/10/12 21:01/eli-ca
Chromium	0.005	mg/L		0.005			5	E200.8	10/10/12 21:01/eli-ca
Copper	0.012	mg/L		0.005			5	E200.8	10/10/12 21:01/eli-ca
Iron	ND	mg/L		0.03			10	E200.7	10/15/12 20:46/eli-ca
Lead	ND	mg/L		0.001			5	E200.8	10/10/12 21:01/eli-ca
Manganese	0.002	mg/L		0.001			5	E200.8	10/10/12 21:01/eli-ca
Molybdenum	0.003	mg/L		0.001			5	E200.8	10/10/12 21:01/eli-ca
Nickel	0.016	mg/L		0.005			5	E200.8	10/10/12 21:01/eli-ca
Selenium	0.037	mg/L		0.001			5	E200.8	10/10/12 21:01/eli-ca
Silver	ND	mg/L		0.001			5	E200.8	10/10/12 21:01/eli-ca
Uranium	0.0153	mg/L	D	0.0005			5	E200.8	10/10/12 21:01/eli-ca
Vanadium	ND	mg/L		0.01			5	E200.8	10/10/12 21:01/eli-ca
Zinc	0.02	mg/L		0.01			5	E200.8	10/10/12 21:01/eli-ca
Calcium	414	mg/L		1			10	E200.7	10/15/12 20:46/eli-ca
Magnesium	651	mg/L		1			10	E200.7	10/15/12 20:46/eli-ca
Potassium	11	mg/L		1			10	E200.7	10/15/12 20:46/eli-ca
Sodium	2010	mg/L	D	3			10	E200.7	10/16/12 17:03/eli-ca

Report Definitions: RL - Analyte reporting limit.  
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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Collection Date: 10/02/12 13:40

Lab ID: R12100062-004

Date Received: 10/03/12

Client Sample ID: BC-3

Matrix: AQUEOUS

Analyses	Result	Units	Qual	MCL/		DF	Method	Analysis Date / By
				RL	QCL			
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	3140	umhos/cm		5.0		1	A2510 B	10/04/12 10:15/tb
pH	7.16	su		0.01		1	A4500-H B	10/04/12 11:40/tb
Solids, Total Dissolved TDS @ 180 C	3180	mg/L		10		1	A2540 C	10/08/12 17:07/tb
Alkalinity, Total as CaCO3	248	mg/L		5		1	A2320 B	10/10/12 15:07/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	10/10/12 15:07/ch
Bicarbonate as HCO3	302	mg/L		5		1	A2320 B	10/10/12 15:07/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	20	mg/L		1		1	E300.0	10/04/12 04:02/tb
Fluoride	0.6	mg/L		0.1		1	E300.0	10/04/12 04:02/tb
Sulfate	1980	mg/L	D	50		50	E300.0	10/05/12 02:25/tb
<b>DATA QUALITY PARAMETERS</b>								
Anions	46.7	meq/L		1.00		1	A1030 E	11/01/12 00:00/kl
Cations	46.0	meq/L		1.00		1	A1030 E	11/01/12 00:00/kl
Conductivity, Calculated	3830	umhos/cm		1.00		1	A1030 E	11/01/12 00:00/kl
TDS Ratio	1.05			0.0100		1	A1030 E	11/01/12 00:00/kl
A/C Balance	-0.760	%				1	A1030 E	11/01/12 00:00/kl
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	0.2	mg/L		0.1		1	E300.0	10/04/12 04:02/tb
<b>RADIONUCLIDES - DISSOLVED</b>								
Gross Alpha	28.6	pCi/L				1	E900.0	10/10/12 16:37/eli-ca
Gross Alpha precision (±)	7.6	pCi/L				1	E900.0	10/10/12 16:37/eli-ca
Gross Alpha MDC	10.2	pCi/L				1	E900.0	10/10/12 16:37/eli-ca
Gross Beta	4.1	pCi/L	U			1	E900.0	10/10/12 16:37/eli-ca
Gross Beta precision (±)	9.1	pCi/L				1	E900.0	10/10/12 16:37/eli-ca
Gross Beta MDC	15.0	pCi/L				1	E900.0	10/10/12 16:37/eli-ca
Radium 228	1.9	pCi/L				1	RA-05	10/10/12 22:47/eli-ca
Radium 228 precision (±)	0.8	pCi/L				1	RA-05	10/10/12 22:47/eli-ca
Radium 228 MDC	1.2	pCi/L				1	RA-05	10/10/12 22:47/eli-ca
Radium 226	0.4	pCi/L				1	E903.0	10/15/12 23:44/eli-ca
Radium 226 precision (±)	0.1	pCi/L				1	E903.0	10/15/12 23:44/eli-ca
Radium 226 MDC	0.09	pCi/L				1	E903.0	10/15/12 23:44/eli-ca
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222	1490	pCi/L				1	D5072-92	10/05/12 16:18/eli-ca
Radon 222 precision (±)	144	pCi/L				1	D5072-92	10/05/12 16:18/eli-ca

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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Collection Date: 10/02/12 13:40

Lab ID: R12100062-004

Date Received: 10/03/12

Client Sample ID: BC-3

Matrix: AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>RADIONUCLIDES - TOTAL</b>							
Radon 222 MDC	209	pCi/L				1 D5072-92	10/05/12 16:18/eli-ca
<b>TOTAL METALS ANALYSES</b>							
Mercury	ND	mg/L		0.0001		1 E245.1	10/08/12 13:34/eli-ca
<b>DISSOLVED METALS ANALYSES</b>							
Arsenic	ND	mg/L		0.001		2 E200.8	10/10/12 21:22/eli-ca
Barium	ND	mg/L		0.05		2 E200.8	10/10/12 21:22/eli-ca
Boron	0.51	mg/L		0.05		2 E200.7	10/15/12 20:50/eli-ca
Cadmium	ND	mg/L		0.001		2 E200.8	10/10/12 21:22/eli-ca
Chromium	ND	mg/L		0.005		2 E200.8	10/10/12 21:22/eli-ca
Copper	ND	mg/L		0.005		2 E200.8	10/10/12 21:22/eli-ca
Iron	ND	mg/L		0.03		2 E200.7	10/15/12 20:50/eli-ca
Lead	ND	mg/L		0.001		2 E200.8	10/10/12 21:22/eli-ca
Manganese	0.436	mg/L		0.001		2 E200.8	10/10/12 21:22/eli-ca
Molybdenum	0.007	mg/L		0.001		2 E200.8	10/10/12 21:22/eli-ca
Nickel	0.022	mg/L		0.005		2 E200.8	10/10/12 21:22/eli-ca
Selenium	0.004	mg/L		0.001		2 E200.8	10/10/12 21:22/eli-ca
Silver	ND	mg/L		0.001		2 E200.8	10/10/12 21:22/eli-ca
Uranium	0.0206	mg/L		0.0003		2 E200.8	10/10/12 21:22/eli-ca
Vanadium	ND	mg/L		0.01		2 E200.8	10/10/12 21:22/eli-ca
Zinc	ND	mg/L		0.01		2 E200.8	10/10/12 21:22/eli-ca
Calcium	525	mg/L		1		2 E200.7	10/15/12 20:50/eli-ca
Magnesium	150	mg/L		1		2 E200.7	10/15/12 20:50/eli-ca
Potassium	11	mg/L		1		2 E200.7	10/15/12 20:50/eli-ca
Sodium	164	mg/L		1		2 E200.7	10/15/12 20:50/eli-ca

Report Definitions: RL - Analyte reporting limit.  
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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Collection Date: 10/02/12 14:31

Lab ID: R12100062-005

Date Received: 10/03/12

Client Sample ID: BC-1

Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	3550	umhos/cm		5.0			1	A2510 B	10/04/12 10:19/tb
pH	7.15	su		0.01			1	A4500-HB	10/04/12 11:44/tb
Solids, Total Dissolved TDS @ 180 C	3480	mg/L		10			1	A2540 C	10/08/12 17:10/tb
Alkalinity, Total as CaCO3	292	mg/L		5			1	A2320 B	10/10/12 15:11/ch
Carbonate as CO3	ND	mg/L		5			1	A2320 B	10/10/12 15:11/ch
Bicarbonate as HCO3	356	mg/L		5			1	A2320 B	10/10/12 15:11/ch
<b>INORGANIC PARAMETERS</b>									
Chloride	26	mg/L			1		1	E300.0	10/04/12 04:20/tb
Fluoride	0.7	mg/L			0.1		1	E300.0	10/04/12 04:20/tb
Sulfate	2300	mg/L	D		50		50	E300.0	10/05/12 02:43/tb
<b>DATA QUALITY PARAMETERS</b>									
Anions	54.6	meq/L		1.00			1	A1030 E	11/01/12 00:00/lk
Cations	54.4	meq/L		1.00			1	A1030 E	11/01/12 00:00/lk
Conductivity, Calculated	4380	umhos/cm		1.00			1	A1030 E	11/01/12 00:00/lk
TDS Ratio	1.00			0.0100			1	A1030 E	11/01/12 00:00/lk
A/C Balance	-0.0900	%					1	A1030 E	11/01/12 00:00/lk
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	ND	mg/L		0.1			1	E300.0	10/04/12 04:20/tb
<b>RADIONUCLIDES - DISSOLVED</b>									
Gross Alpha	68.9	pCi/L					1	E900.0	10/10/12 16:37/eli-ca
Gross Alpha precision (±)	10.8	pCi/L					1	E900.0	10/10/12 16:37/eli-ca
Gross Alpha MDC	12.9	pCi/L					1	E900.0	10/10/12 16:37/eli-ca
Gross Beta	7.8	pCi/L	U				1	E900.0	10/10/12 16:37/eli-ca
Gross Beta precision (±)	10.4	pCi/L					1	E900.0	10/10/12 16:37/eli-ca
Gross Beta MDC	17.0	pCi/L					1	E900.0	10/10/12 16:37/eli-ca
Radium 228	4.3	pCi/L					1	RA-05	10/10/12 22:47/eli-ca
Radium 228 precision (±)	0.9	pCi/L					1	RA-05	10/10/12 22:47/eli-ca
Radium 228 MDC	1.1	pCi/L					1	RA-05	10/10/12 22:47/eli-ca
Radium 226	0.8	pCi/L					1	E903.0	10/15/12 23:44/eli-ca
Radium 226 precision (±)	0.1	pCi/L					1	E903.0	10/15/12 23:44/eli-ca
Radium 226 MDC	0.09	pCi/L					1	E903.0	10/15/12 23:44/eli-ca
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222	1700	pCi/L					1	D5072-92	10/05/12 16:18/eli-ca
Radon 222 precision (±)	146	pCi/L					1	D5072-92	10/05/12 16:18/eli-ca

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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Collection Date: 10/02/12 14:31

Lab ID: R12100062-005

Date Received: 10/03/12

Client Sample ID: BC-1

Matrix: AQUEOUS

Analyses	Result	Units	Qual	MCL/		DF	Method	Analysis Date / By
				RL	QCL			
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222 MDC	208	pCi/L				1	D5072-92	10/05/12 16:18/eli-ca
<b>TOTAL METALS ANALYSES</b>								
Mercury	ND	mg/L		0.0001		1	E245.1	10/08/12 13:36/eli-ca
<b>DISSOLVED METALS ANALYSES</b>								
Arsenic	ND	mg/L		0.001		2	E200.8	10/10/12 21:25/eli-ca
Barium	ND	mg/L		0.05		2	E200.8	10/10/12 21:25/eli-ca
Boron	0.73	mg/L		0.05		2	E200.7	10/15/12 20:54/eli-ca
Cadmium	ND	mg/L		0.001		2	E200.8	10/10/12 21:25/eli-ca
Chromium	ND	mg/L		0.005		2	E200.8	10/10/12 21:25/eli-ca
Copper	0.006	mg/L		0.005		2	E200.8	10/10/12 21:25/eli-ca
Iron	0.06	mg/L		0.03		2	E200.7	10/15/12 20:54/eli-ca
Lead	ND	mg/L		0.001		2	E200.8	10/10/12 21:25/eli-ca
Manganese	0.056	mg/L		0.001		2	E200.8	10/10/12 21:25/eli-ca
Molybdenum	0.006	mg/L		0.001		2	E200.8	10/10/12 21:25/eli-ca
Nickel	0.022	mg/L		0.005		2	E200.8	10/10/12 21:25/eli-ca
Selenium	0.003	mg/L		0.001		2	E200.8	10/10/12 21:25/eli-ca
Silver	ND	mg/L		0.001		2	E200.8	10/10/12 21:25/eli-ca
Uranium	0.0802	mg/L		0.0003		2	E200.8	10/10/12 21:25/eli-ca
Vanadium	ND	mg/L		0.01		2	E200.8	10/10/12 21:25/eli-ca
Zinc	ND	mg/L		0.01		2	E200.8	10/10/12 21:25/eli-ca
Calcium	517	mg/L		1		2	E200.7	10/15/12 20:54/eli-ca
Magnesium	240	mg/L		1		2	E200.7	10/15/12 20:54/eli-ca
Potassium	13	mg/L		1		2	E200.7	10/15/12 20:54/eli-ca
Sodium	197	mg/L		1		2	E200.7	10/15/12 20:54/eli-ca

Report Definitions: RL - Analyte reporting limit.  
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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Collection Date: 10/02/12 15:37

Lab ID: R12100062-006

Date Received: 10/03/12

Client Sample ID: BC-2

Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	3810	umhos/cm		5.0			1	A2510 B	10/04/12 10:21/tb
pH	7.25	su		0.01			1	A4500-H B	10/04/12 11:47/tb
Solids, Total Dissolved TDS @ 180 C	3880	mg/L		10			1	A2540 C	10/08/12 17:10/tb
Alkalinity, Total as CaCO3	232	mg/L		5			1	A2320 B	10/10/12 15:16/ch
Carbonate as CO3	ND	mg/L		5			1	A2320 B	10/10/12 15:16/ch
Bicarbonate as HCO3	283	mg/L		5			1	A2320 B	10/10/12 15:16/ch
<b>INORGANIC PARAMETERS</b>									
Chloride	23	mg/L		1			1	E300.0	10/04/12 04:38/tb
Fluoride	0.8	mg/L		0.1			1	E300.0	10/04/12 04:38/tb
Sulfate	2520	mg/L	D	50			50	E300.0	10/05/12 03:01/tb
<b>DATA QUALITY PARAMETERS</b>									
Anions	57.7	meq/L		1.00			1	A1030 E	11/01/12 00:00/lk
Cations	56.9	meq/L		1.00			1	A1030 E	11/01/12 00:00/lk
Conductivity, Calculated	4610	umhos/cm		1.00			1	A1030 E	11/01/12 00:00/lk
TDS Ratio	1.04			0.0100			1	A1030 E	11/01/12 00:00/lk
A/C Balance	-0.710	%					1	A1030 E	11/01/12 00:00/lk
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	ND	mg/L		0.1			1	E300.0	10/04/12 04:38/tb
<b>RADIONUCLIDES - DISSOLVED</b>									
Gross Alpha	25.9	pCi/L					1	E900.0	10/10/12 16:37/eli-ca
Gross Alpha precision (±)	9.3	pCi/L					1	E900.0	10/10/12 16:37/eli-ca
Gross Alpha MDC	13.5	pCi/L					1	E900.0	10/10/12 16:37/eli-ca
Gross Beta	-10	pCi/L	U				1	E900.0	10/10/12 16:37/eli-ca
Gross Beta precision (±)	11.2	pCi/L					1	E900.0	10/10/12 16:37/eli-ca
Gross Beta MDC	19.1	pCi/L					1	E900.0	10/10/12 16:37/eli-ca
Radium 228	-0.1	pCi/L	U				1	RA-05	10/10/12 22:47/eli-ca
Radium 228 precision (±)	0.6	pCi/L					1	RA-05	10/10/12 22:47/eli-ca
Radium 228 MDC	1	pCi/L					1	RA-05	10/10/12 22:47/eli-ca
Radium 226	0.5	pCi/L					1	E903.0	10/15/12 23:44/eli-ca
Radium 226 precision (±)	0.1	pCi/L					1	E903.0	10/15/12 23:44/eli-ca
Radium 226 MDC	0.08	pCi/L					1	E903.0	10/15/12 23:44/eli-ca
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222	2260	pCi/L					1	D5072-92	10/05/12 16:18/eli-ca
Radon 222 precision (±)	152	pCi/L					1	D5072-92	10/05/12 16:18/eli-ca

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

Revised Date: 03/21/13

Report Date: 11/14/12

Client: Powertech USA Inc

Collection Date: 10/02/12 15:37

Project: Alluvial Wells Dewey Burdock

Date Received: 10/03/12

Lab ID: R12100062-006

Matrix: AQUEOUS

Client Sample ID: BC-2

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>RADIONUCLIDES - TOTAL</b>							
Radon 222 MDC	206	pCi/L				1 D5072-92	10/05/12 16:18/eli-ca
<b>TOTAL METALS ANALYSES</b>							
Mercury	ND	mg/L		0.0001		1 E245.1	10/08/12 13:37/eli-ca
<b>DISSOLVED METALS ANALYSES</b>							
Arsenic	ND	mg/L		0.001		2 E200.8	10/10/12 21:28/eli-ca
Barium	ND	mg/L		0.05		2 E200.8	10/10/12 21:28/eli-ca
Boron	0.51	mg/L		0.05		2 E200.7	10/15/12 20:58/eli-ca
Cadmium	ND	mg/L		0.001		2 E200.8	10/10/12 21:28/eli-ca
Chromium	ND	mg/L		0.005		2 E200.8	10/10/12 21:28/eli-ca
Copper	0.006	mg/L		0.005		2 E200.8	10/10/12 21:28/eli-ca
Iron	ND	mg/L		0.03		2 E200.7	10/15/12 20:58/eli-ca
Lead	ND	mg/L		0.001		2 E200.8	10/10/12 21:28/eli-ca
Manganese	0.040	mg/L		0.001		2 E200.8	10/10/12 21:28/eli-ca
Molybdenum	0.013	mg/L		0.001		2 E200.8	10/10/12 21:28/eli-ca
Nickel	0.022	mg/L		0.005		2 E200.8	10/10/12 21:28/eli-ca
Selenium	0.001	mg/L		0.001		2 E200.8	10/10/12 21:28/eli-ca
Silver	ND	mg/L		0.001		2 E200.8	10/10/12 21:28/eli-ca
Uranium	0.0230	mg/L		0.0003		2 E200.8	10/10/12 21:28/eli-ca
Vanadium	ND	mg/L		0.01		2 E200.8	10/10/12 21:28/eli-ca
Zinc	ND	mg/L		0.01		2 E200.8	10/10/12 21:28/eli-ca
Calcium	525	mg/L		1		2 E200.7	10/15/12 20:58/eli-ca
Magnesium	216	mg/L		1		2 E200.7	10/15/12 20:58/eli-ca
Potassium	13	mg/L		1		2 E200.7	10/15/12 20:58/eli-ca
Sodium	290	mg/L		1		2 E200.7	10/15/12 20:58/eli-ca

Report Definitions: RL - Analyte reporting limit.  
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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Collection Date: 10/03/12 09:05

Lab ID: R12100062-007

Date Received: 10/03/12

Client Sample ID: DC-1

Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	6260	umhos/cm		5.0			1	A2510 B	10/04/12 10:24/b
pH	7.14	su		0.01			1	A4500-HB	10/04/12 11:50/b
Solids, Total Dissolved TDS @ 180 C	6250	mg/L		10			1	A2540 C	10/08/12 17:11/b
Alkalinity, Total as CaCO3	390	mg/L		5			1	A2320 B	10/10/12 15:18/ch
Carbonate as CO3	ND	mg/L		5			1	A2320 B	10/10/12 15:18/ch
Bicarbonate as HCO3	475	mg/L		5			1	A2320 B	10/10/12 15:18/ch
<b>INORGANIC PARAMETERS</b>									
Chloride	86	mg/L			1		1	E300.0	10/04/12 05:32/b
Fluoride	1.3	mg/L			0.1		1	E300.0	10/04/12 05:32/b
Sulfate	4040	mg/L	D		50		50	E300.0	10/05/12 03:19/b
<b>DATA QUALITY PARAMETERS</b>									
Anions	95.1	meq/L		1.00			1	A1030 E	11/01/12 00:00/lk
Cations	101	meq/L		1.00			1	A1030 E	11/01/12 00:00/lk
Conductivity, Calculated	7210	umhos/cm		1.00			1	A1030 E	11/01/12 00:00/lk
TDS Ratio	0.980			0.0100			1	A1030 E	11/01/12 00:00/lk
A/C Balance	2.93	%					1	A1030 E	11/01/12 00:00/lk
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	9.1	mg/L		0.1			1	E300.0	10/04/12 05:32/b
<b>RADIONUCLIDES - DISSOLVED</b>									
Gross Alpha	-10	pCi/L	U				1	E900.0	11/10/12 16:33/eli-ca
Gross Alpha precision (±)	16.3	pCi/L					1	E900.0	11/10/12 16:33/eli-ca
Gross Alpha MDC	28.3	pCi/L					1	E900.0	11/10/12 16:33/eli-ca
Gross Beta	20.0	pCi/L	U				1	E900.0	11/10/12 16:33/eli-ca
Gross Beta precision (±)	17.5	pCi/L					1	E900.0	11/10/12 16:33/eli-ca
Gross Beta MDC	28.8	pCi/L					1	E900.0	11/10/12 16:33/eli-ca
Radium 228	2.5	pCi/L					1	RA-05	10/10/12 22:47/eli-ca
Radium 228 precision (±)	1.2	pCi/L					1	RA-05	10/10/12 22:47/eli-ca
Radium 228 MDC	1.8	pCi/L					1	RA-05	10/10/12 22:47/eli-ca
Radium 226	1.5	pCi/L					1	E903.0	10/15/12 23:44/eli-ca
Radium 226 precision (±)	0.2	pCi/L					1	E903.0	10/15/12 23:44/eli-ca
Radium 226 MDC	0.1	pCi/L					1	E903.0	10/15/12 23:44/eli-ca
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222	1920	pCi/L					1	D5072-92	10/05/12 16:18/eli-ca
Radon 222 precision (±)	132	pCi/L					1	D5072-92	10/05/12 16:18/eli-ca

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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Collection Date: 10/03/12 09:05

Lab ID: R12100062-007

Date Received: 10/03/12

Client Sample ID: DC-1

Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222 MDC	180	pCi/L					1	D5072-92	10/05/12 16:18/eli-ca
<b>TOTAL METALS ANALYSES</b>									
Mercury	ND	mg/L		0.0001			1	E245.1	10/08/12 13:38/eli-ca
<b>DISSOLVED METALS ANALYSES</b>									
Arsenic	0.001	mg/L		0.001			2	E200.8	10/10/12 21:30/eli-ca
Barium	ND	mg/L		0.05			2	E200.8	10/10/12 21:30/eli-ca
Boron	1.4	mg/L	D	0.1			5	E200.7	10/15/12 21:02/eli-ca
Cadmium	ND	mg/L		0.001			2	E200.8	10/10/12 21:30/eli-ca
Chromium	0.007	mg/L		0.005			2	E200.8	10/10/12 21:30/eli-ca
Copper	0.011	mg/L		0.005			2	E200.8	10/10/12 21:30/eli-ca
Iron	0.04	mg/L		0.03			5	E200.7	10/15/12 21:02/eli-ca
Lead	ND	mg/L		0.001			2	E200.8	10/10/12 21:30/eli-ca
Manganese	0.398	mg/L		0.001			2	E200.8	10/10/12 21:30/eli-ca
Molybdenum	0.002	mg/L		0.001			2	E200.8	10/10/12 21:30/eli-ca
Nickel	0.05	mg/L	D	0.01			5	E200.7	10/15/12 21:02/eli-ca
Selenium	0.040	mg/L		0.001			2	E200.8	02/15/13 04:57/eli-ca
Silver	ND	mg/L		0.001			2	E200.8	10/10/12 21:30/eli-ca
Uranium	0.0189	mg/L		0.0003			2	E200.8	10/10/12 21:30/eli-ca
Vanadium	ND	mg/L		0.01			2	E200.8	10/10/12 21:30/eli-ca
Zinc	0.08	mg/L		0.01			2	E200.8	10/10/12 21:30/eli-ca
Calcium	430	mg/L		1			5	E200.7	10/15/12 21:02/eli-ca
Magnesium	369	mg/L		1			5	E200.7	10/15/12 21:02/eli-ca
Potassium	18	mg/L		1			5	E200.7	10/15/12 21:02/eli-ca
Sodium	1120	mg/L	D	2			5	E200.7	10/16/12 17:07/eli-ca

Report Definitions: RL - Analyte reporting limit.  
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.





## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Revised Date: 03/21/13

Report Date: 11/14/12

Client: Powertech USA Inc

Work Order: R12100062

Project: Alluvial Wells Dewey Burdock

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								
Alkalinity, Total as CaCO3		262	mg/L	5.0				2.3	10	10/10/12 14:33
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								
Alkalinity, Total as CaCO3		462	mg/L	5.0	86	80	120			10/10/12 15:01

**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

Revised Date: 03/21/13

Report Date: 11/14/12

Client: Powertech USA Inc

Project: Alluvial Wells Dewey Burdock

Work Order: R12100062

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2510 B</b>								Batch: 121004_1_COND-PROBE-W		
<b>Sample ID: MBLK-1_121004</b>		Method Blank						Run: PH_COND2-R_121004A		10/04/12 09:46
Conductivity @ 25 C		ND	umhos/cm	5						
<b>Sample ID: R12100062-003ADUP</b>		Sample Duplicate						Run: PH_COND2-R_121004A		10/04/12 10:13
Conductivity @ 25 C		10300	umhos/cm	5.0				0.0	10	

**Qualifiers:**

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MDC - Minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Revised Date: 03/21/13

Report Date: 11/14/12

Client: Powertech USA Inc

Work Order: R12100062

Project: Alluvial Wells Dewey Burdock

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
<b>Sample ID: R12100062-004A DUP</b>		Sample Duplicate								
Solids, Total Dissolved TDS @ 180 C		3200	mg/L	10				0.6	5	10/08/12 17:08

### 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

Revised Date: 03/21/13

Report Date: 11/14/12

Client: Powertech USA Inc

Work Order: R12100062

Project: Alluvial Wells Dewey Burdock

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-H B								Analytical Run: PH_COND2-R_121004B			
<b>Sample ID:</b> ICV-1_121004		Initial Calibration Verification Standard						10/04/12 11:12			
pH		7.40	su	0.010	100	98	102				
<b>Method:</b> A4500-H B								Batch: 121004_1_PH-W			
<b>Sample ID:</b> ICV1-1_121004		Initial Calibration Verification Standard				Run: PH_COND2-R_121004B		10/04/12 11:11			
pH		12.0	su	0.010	100	99	101				
<b>Sample ID:</b> R12100062-004ADUP		Sample Duplicate				Run: PH_COND2-R_121004B		10/04/12 11:42			
pH		7.16	su	0.010				0.0	3		

**Qualifiers:**

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MDC - Minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Revised Date: 03/21/13

Report Date: 11/14/12

Client: Powertech USA Inc

Work Order: R12100062

Project: Alluvial Wells Dewey Burdock

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: D5072-92</b>								Batch: C_R165520		
<b>Sample ID: R12100062-006D</b>	3	Sample Duplicate					Run: SUB-C165520			10/05/12 16:18
Radon 222		2310	pCi/L					2.0	20	
Radon 222 precision (±)		152	pCi/L							
Radon 222 MDC		206	pCi/L							
<b>Sample ID: R12100062-007D</b>	3	Sample Duplicate					Run: SUB-C165520			10/05/12 16:18
Radon 222		1790	pCi/L					7.1	20	
Radon 222 precision (±)		130	pCi/L							
Radon 222 MDC		180	pCi/L							
<b>Sample ID: MB-R165520</b>	3	Method Blank					Run: SUB-C165520			10/05/12 16:18
Radon 222		40	pCi/L							U
Radon 222 precision (±)		70	pCi/L							
Radon 222 MDC		100	pCi/L							
<b>Sample ID: LCS-R165520</b>		Laboratory Control Sample					Run: SUB-C165520			10/05/12 16:18
Radon 222		479	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

Revised Date: 03/21/13

Report Date: 11/14/12

Client: Powertech USA Inc

Project: Alluvial Wells Dewey Burdock

Work Order: R12100062

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: ICSA</b>	7	Interference Check Sample A									10/15/12 14:53
Boron		0.19	mg/L	0.10							
Calcium		510	mg/L	0.50	102	80	120				
Iron		190	mg/L	0.030	93	80	120				
Magnesium		500	mg/L	0.50	100	80	120				
Nickel		-0.0024	mg/L	0.050							
Potassium		-0.0019	mg/L	0.50							
Sodium		0.19	mg/L	0.50							
<b>Sample ID: ICSAB</b>	7	Interference Check Sample AB									10/15/12 14:57
Boron		0.15	mg/L	0.10							
Calcium		490	mg/L	0.50	98	80	120				
Iron		180	mg/L	0.030	92	80	120				
Magnesium		500	mg/L	0.50	100	80	120				
Nickel		0.93	mg/L	0.050	93	80	120				
Potassium		-0.00010	mg/L	0.50							
Sodium		0.092	mg/L	0.50							
<b>Sample ID: ICV2</b>	7	Initial Calibration Verification Standard									10/15/12 12:46
Boron		1.0	mg/L	0.10	102	95	105				
Calcium		50	mg/L	0.50	99	95	105				
Iron		5.1	mg/L	0.030	103	95	105				
Magnesium		49	mg/L	0.50	97	95	105				
Nickel		1.0	mg/L	0.050	101	95	105				
Potassium		47	mg/L	0.50	95	95	105				
Sodium		51	mg/L	0.62	103	95	105				
<b>Method: E200.7</b>										Batch: C_R165834	
<b>Sample ID: MB-121015A</b>	7	Method Blank							Run: SUB-C165834		10/15/12 15:18
Boron		ND	mg/L	0.02							
Calcium		ND	mg/L	0.06							
Iron		ND	mg/L	0.001							
Magnesium		ND	mg/L	0.03							
Nickel		ND	mg/L	0.002							
Potassium		ND	mg/L	0.06							
Sodium		ND	mg/L	0.3							
<b>Sample ID: LFB-121015A</b>	7	Laboratory Fortified Blank							Run: SUB-C165834		10/15/12 15:54
Boron		0.98	mg/L	0.10	98	85	115				
Calcium		50	mg/L	0.50	100	85	115				
Iron		0.98	mg/L	0.030	99	85	115				
Magnesium		49	mg/L	0.50	97	85	115				
Nickel		0.97	mg/L	0.050	97	85	115				
Potassium		43	mg/L	0.50	86	85	115				
Sodium		48	mg/L	0.50	97	85	115				

### 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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Work Order: R12100062

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										
Batch: C_R165834										
<b>Sample ID: C12100087-004BMS2</b>	7	Sample Matrix Spike		Run: SUB-C165834			10/15/12 20:14			
Boron		1.37	mg/L	0.050	97	70	130			
Iron		0.917	mg/L	0.030	91	70	130			
Nickel		0.992	mg/L	0.0050	99	70	130			
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			
Sodium		295	mg/L	1.0		70	130			A
<b>Sample ID: C12100087-004BMSD</b>	7	Sample Matrix Spike Duplicate		Run: SUB-C165834			10/15/12 20:18			
Boron		1.38	mg/L	0.050	98	70	130	0.7	20	
Iron		0.918	mg/L	0.030	91	70	130	0.1	20	
Nickel		0.989	mg/L	0.0050	99	70	130	0.3	20	
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	
Sodium		294	mg/L	1.0		70	130	0.6	20	A
<b>Method: E200.7</b>										
Analytical Run: SUB-C165910										
<b>Sample ID: ICSA</b>	2	Interference Check Sample A					10/16/12 14:11			
Boron		0.11	mg/L	0.10						
Sodium		0.19	mg/L	0.50						
<b>Sample ID: ICSAB</b>	2	Interference Check Sample AB					10/16/12 14:15			
Boron		0.13	mg/L	0.10						
Sodium		0.090	mg/L	0.50						
<b>Sample ID: ICV2</b>	2	Initial Calibration Verification Standard					10/16/12 13:36			
Boron		1.0	mg/L	0.10	101	95	105			
Sodium		50	mg/L	0.62	100	95	105			
<b>Method: E200.7</b>										
Batch: C_R165910										
<b>Sample ID: MB-121016A</b>	2	Method Blank		Run: SUB-C165910			10/16/12 14:35			
Boron		ND	mg/L	0.02						
Sodium		ND	mg/L	0.3						
<b>Sample ID: LFB-121016A</b>	2	Laboratory Fortified Blank		Run: SUB-C165910			10/16/12 14:39			
Boron		0.96	mg/L	0.10	96	85	115			
Sodium		48	mg/L	0.50	96	85	115			
<b>Sample ID: R12100062-007B</b>	2	Sample Matrix Spike		Run: SUB-C165910			10/16/12 17:13			
Boron		6.14	mg/L	0.13	96	70	130			
Sodium		1340	mg/L	1.6		70	130			A
<b>Sample ID: R12100062-007B</b>	2	Sample Matrix Spike Duplicate		Run: SUB-C165910			10/16/12 17:17			
Boron		6.30	mg/L	0.13	99	70	130	2.5	20	
Sodium		1350	mg/L	1.6		70	130	0.8	20	A

### Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Revised Date: 03/21/13

Report Date: 11/14/12

Client: Powertech USA Inc

Project: Alluvial Wells Dewey Burdock

Work Order: R12100062

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: SUB-C165648		
<b>Sample ID: ICV</b>	14 Initial Calibration Verification Standard								10/10/12 13:26	
Arsenic		0.0506	mg/L	0.0010	101	90	110			
Barium		0.0505	mg/L	0.0010	101	90	110			
Cadmium		0.0519	mg/L	0.0010	104	90	110			
Chromium		0.0517	mg/L	0.0010	103	90	110			
Copper		0.0533	mg/L	0.0010	107	90	110			
Lead		0.0493	mg/L	0.0010	99	90	110			
Manganese		0.0509	mg/L	0.0010	102	90	110			
Molybdenum		0.0505	mg/L	0.0010	101	90	110			
Nickel		0.0517	mg/L	0.0010	103	90	110			
Selenium		0.0520	mg/L	0.0010	104	90	110			
Silver		0.0216	mg/L	0.0010	108	90	110			
Uranium		0.0496	mg/L	0.00030	99	90	110			
Vanadium		0.0512	mg/L	0.0010	102	90	110			
Zinc		0.0533	mg/L	0.0010	107	90	110			
<b>Sample ID: ICV</b>	14 Initial Calibration Verification Standard								10/10/12 13:45	
Arsenic		0.0510	mg/L	0.0010	102	90	110			
Barium		0.0500	mg/L	0.0010	100	90	110			
Cadmium		0.0520	mg/L	0.0010	104	90	110			
Chromium		0.0514	mg/L	0.0010	103	90	110			
Copper		0.0542	mg/L	0.0010	108	90	110			
Lead		0.0493	mg/L	0.0010	99	90	110			
Manganese		0.0509	mg/L	0.0010	102	90	110			
Molybdenum		0.0487	mg/L	0.0010	97	90	110			
Nickel		0.0530	mg/L	0.0010	106	90	110			
Selenium		0.0522	mg/L	0.0010	104	90	110			
Silver		0.0209	mg/L	0.0010	104	90	110			
Uranium		0.0492	mg/L	0.00030	98	90	110			
Vanadium		0.0516	mg/L	0.0010	103	90	110			
Zinc		0.0544	mg/L	0.0010	109	90	110			
<b>Sample ID: ICV</b>	14 Initial Calibration Verification Standard								10/10/12 15:45	
Arsenic		0.0505	mg/L	0.0010	101	90	110			
Barium		0.0495	mg/L	0.0010	99	90	110			
Cadmium		0.0513	mg/L	0.0010	103	90	110			
Chromium		0.0508	mg/L	0.0010	102	90	110			
Copper		0.0526	mg/L	0.0010	105	90	110			
Lead		0.0489	mg/L	0.0010	98	90	110			
Manganese		0.0510	mg/L	0.0010	102	90	110			
Molybdenum		0.0500	mg/L	0.0010	100	90	110			
Nickel		0.0517	mg/L	0.0010	103	90	110			
Selenium		0.0517	mg/L	0.0010	103	90	110			
Silver		0.0211	mg/L	0.0010	105	90	110			
Uranium		0.0487	mg/L	0.00030	97	90	110			
Vanadium		0.0508	mg/L	0.0010	102	90	110			

### 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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Work Order: R12100062

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Analytical Run: SUB-C165648										
<b>Sample ID: ICV</b>	14	Initial Calibration Verification Standard								10/10/12 15:45
Zinc		0.0530	mg/L	0.0010	106	90	110			
<b>Sample ID: ICV</b>	14	Initial Calibration Verification Standard								10/10/12 17:47
Arsenic		0.0498	mg/L	0.0010	100	90	110			
Barium		0.0494	mg/L	0.0010	99	90	110			
Cadmium		0.0514	mg/L	0.0010	103	90	110			
Chromium		0.0503	mg/L	0.0010	101	90	110			
Copper		0.0521	mg/L	0.0010	104	90	110			
Lead		0.0481	mg/L	0.0010	96	90	110			
Manganese		0.0511	mg/L	0.0010	102	90	110			
Molybdenum		0.0504	mg/L	0.0010	101	90	110			
Nickel		0.0511	mg/L	0.0010	102	90	110			
Selenium		0.0512	mg/L	0.0010	102	90	110			
Silver		0.0210	mg/L	0.0010	105	90	110			
Uranium		0.0491	mg/L	0.00030	98	90	110			
Vanadium		0.0504	mg/L	0.0010	101	90	110			
Zinc		0.0528	mg/L	0.0010	106	90	110			
<b>Sample ID: ICV</b>	14	Initial Calibration Verification Standard								10/10/12 19:53
Arsenic		0.0507	mg/L	0.0010	101	90	110			
Barium		0.0497	mg/L	0.0010	99	90	110			
Cadmium		0.0514	mg/L	0.0010	103	90	110			
Chromium		0.0503	mg/L	0.0010	101	90	110			
Copper		0.0530	mg/L	0.0010	106	90	110			
Lead		0.0485	mg/L	0.0010	97	90	110			
Manganese		0.0513	mg/L	0.0010	103	90	110			
Molybdenum		0.0503	mg/L	0.0010	101	90	110			
Nickel		0.0515	mg/L	0.0010	103	90	110			
Selenium		0.0519	mg/L	0.0010	104	90	110			
Silver		0.0214	mg/L	0.0010	107	90	110			
Uranium		0.0489	mg/L	0.00030	98	90	110			
Vanadium		0.0508	mg/L	0.0010	102	90	110			
Zinc		0.0532	mg/L	0.0010	106	90	110			
<b>Sample ID: ICV</b>	14	Initial Calibration Verification Standard								10/10/12 22:03
Arsenic		0.0505	mg/L	0.0010	101	90	110			
Barium		0.0488	mg/L	0.0010	98	90	110			
Cadmium		0.0510	mg/L	0.0010	102	90	110			
Chromium		0.0508	mg/L	0.0010	101	90	110			
Copper		0.0528	mg/L	0.0010	106	90	110			
Lead		0.0488	mg/L	0.0010	98	90	110			
Manganese		0.0508	mg/L	0.0010	102	90	110			
Molybdenum		0.0504	mg/L	0.0010	101	90	110			
Nickel		0.0517	mg/L	0.0010	103	90	110			
Selenium		0.0522	mg/L	0.0010	104	90	110			

**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

Revised Date: 03/21/13

Report Date: 11/14/12

Client: Powertech USA Inc

Project: Alluvial Wells Dewey Burdock

Work Order: R12100062

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: SUB-C165648			
<b>Sample ID: ICV</b>	14	Initial Calibration Verification Standard									10/10/12 22:03
Silver		0.0209	mg/L	0.0010	104	90	110				
Uranium		0.0492	mg/L	0.00030	98	90	110				
Vanadium		0.0513	mg/L	0.0010	103	90	110				
Zinc		0.0533	mg/L	0.0010	107	90	110				
<b>Sample ID: ICV</b>	14	Initial Calibration Verification Standard									10/11/12 00:10
Arsenic		0.0512	mg/L	0.0010	102	90	110				
Barium		0.0508	mg/L	0.0010	102	90	110				
Cadmium		0.0526	mg/L	0.0010	105	90	110				
Chromium		0.0510	mg/L	0.0010	102	90	110				
Copper		0.0540	mg/L	0.0010	108	90	110				
Lead		0.0492	mg/L	0.0010	98	90	110				
Manganese		0.0507	mg/L	0.0010	101	90	110				
Molybdenum		0.0520	mg/L	0.0010	104	90	110				
Nickel		0.0524	mg/L	0.0010	105	90	110				
Selenium		0.0532	mg/L	0.0010	106	90	110				
Silver		0.0215	mg/L	0.0010	108	90	110				
Uranium		0.0492	mg/L	0.00030	98	90	110				
Vanadium		0.0514	mg/L	0.0010	103	90	110				
Zinc		0.0541	mg/L	0.0010	108	90	110				
<b>Sample ID: ICV</b>	14	Initial Calibration Verification Standard									10/11/12 02:40
Arsenic		0.0509	mg/L	0.0010	102	90	110				
Barium		0.0494	mg/L	0.0010	99	90	110				
Cadmium		0.0514	mg/L	0.0010	103	90	110				
Chromium		0.0511	mg/L	0.0010	102	90	110				
Copper		0.0538	mg/L	0.0010	108	90	110				
Lead		0.0493	mg/L	0.0010	99	90	110				
Manganese		0.0506	mg/L	0.0010	101	90	110				
Molybdenum		0.0510	mg/L	0.0010	102	90	110				
Nickel		0.0521	mg/L	0.0010	104	90	110				
Selenium		0.0530	mg/L	0.0010	106	90	110				
Silver		0.0213	mg/L	0.0010	106	90	110				
Uranium		0.0493	mg/L	0.00030	99	90	110				
Vanadium		0.0502	mg/L	0.0010	100	90	110				
Zinc		0.0538	mg/L	0.0010	108	90	110				
<b>Sample ID: ICV</b>	14	Initial Calibration Verification Standard									10/11/12 04:12
Arsenic		0.0506	mg/L	0.0010	101	90	110				
Barium		0.0492	mg/L	0.0010	98	90	110				
Cadmium		0.0515	mg/L	0.0010	103	90	110				
Chromium		0.0506	mg/L	0.0010	101	90	110				
Copper		0.0530	mg/L	0.0010	106	90	110				
Lead		0.0490	mg/L	0.0010	98	90	110				
Manganese		0.0501	mg/L	0.0010	100	90	110				

**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

Revised Date: 03/21/13

Report Date: 11/14/12

Client: Powertech USA Inc

Project: Alluvial Wells Dewey Burdock

Work Order: R12100062

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: SUB-C165648	
<b>Sample ID: ICV</b>	14 Initial Calibration Verification Standard										
Molybdenum		0.0510	mg/L	0.0010	102	90	110			10/11/12 04:12	
Nickel		0.0519	mg/L	0.0010	104	90	110				
Selenium		0.0526	mg/L	0.0010	105	90	110				
Silver		0.0209	mg/L	0.0010	104	90	110				
Uranium		0.0486	mg/L	0.00030	97	90	110				
Vanadium		0.0506	mg/L	0.0010	101	90	110				
Zinc		0.0532	mg/L	0.0010	106	90	110				
<b>Method: E200.8</b>										Batch: C_R165648	
<b>Sample ID: LRB</b>	14 Method Blank										
Arsenic		ND	mg/L	0.00010						Run: SUB-C165648	
Barium		ND	mg/L	3E-05						10/10/12 14:06	
Cadmium		ND	mg/L	2E-05							
Chromium		0.0001	mg/L	6E-05							
Copper		ND	mg/L	0.0001							
Lead		ND	mg/L	3E-05							
Manganese		ND	mg/L	2E-05							
Molybdenum		8E-05	mg/L	4E-05							
Nickel		ND	mg/L	3E-05							
Selenium		ND	mg/L	0.0002							
Silver		ND	mg/L	5E-05							
Uranium		ND	mg/L	1E-05							
Vanadium		ND	mg/L	3E-05							
Zinc		ND	mg/L	0.0006							
<b>Sample ID: LFB</b>	14 Laboratory Fortified Blank										
Arsenic		0.0503	mg/L	0.0010	101	85	115			Run: SUB-C165648	
Barium		0.0523	mg/L	0.0010	105	85	115			10/10/12 14:09	
Cadmium		0.0510	mg/L	0.0010	102	85	115				
Chromium		0.0528	mg/L	0.0010	105	85	115				
Copper		0.0524	mg/L	0.0010	105	85	115				
Lead		0.0509	mg/L	0.0010	102	85	115				
Manganese		0.0529	mg/L	0.0010	106	85	115				
Molybdenum		0.0515	mg/L	0.0010	103	85	115				
Nickel		0.0528	mg/L	0.0010	106	85	115				
Selenium		0.0486	mg/L	0.0010	97	85	115				
Silver		0.0204	mg/L	0.0010	102	85	115				
Uranium		0.0521	mg/L	0.00030	104	85	115				
Vanadium		0.0523	mg/L	0.0010	105	85	115				
Zinc		0.0524	mg/L	0.0010	105	85	115				
<b>Sample ID: C12090534-021BMS</b>	Sample Matrix Spike										
Uranium		0.064	mg/L	0.00030	106	70	130			Run: SUB-C165648	
										10/10/12 14:25	

### 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

Revised Date: 03/21/13

Report Date: 11/14/12

Client: Powertech USA Inc

Work Order: R12100062

Project: Alluvial Wells Dewey Burdock

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: C_R165648										
<b>Sample ID: C12090534-021BMSD</b>	Sample Matrix Spike Duplicate			Run: SUB-C165648				10/10/12 14:28		
Uranium		0.064	mg/L	0.00030	107	70	130	0.8	20	
<b>Sample ID: C12100265-003BMS4</b>	14 Post Digestion Spike			Run: SUB-C165648				10/10/12 21:03		
Arsenic		0.241	mg/L	0.0010	96	70	130			
Barium		0.261	mg/L	0.050	102	70	130			
Cadmium		0.225	mg/L	0.0010	90	70	130			
Chromium		0.254	mg/L	0.0050	100	70	130			
Copper		0.257	mg/L	0.0050	98	70	130			
Lead		0.255	mg/L	0.0010	102	70	130			
Manganese		0.329	mg/L	0.0010	131	70	130			S
Molybdenum		0.260	mg/L	0.0010	103	70	130			
Nickel		0.265	mg/L	0.0050	100	70	130			
Selenium		0.278	mg/L	0.0013	96	70	130			
Silver		0.0862	mg/L	0.0010	86	70	130			
Uranium		0.294	mg/L	0.00050	111	70	130			
Vanadium		0.260	mg/L	0.010	103	70	130			
Zinc		0.274	mg/L	0.010	101	70	130			
<b>Sample ID: C12100265-003BMSD</b>	14 Post Digestion Spike Duplicate			Run: SUB-C165648				10/10/12 21:17		
Arsenic		0.239	mg/L	0.0010	95	70	130	0.9	20	
Barium		0.259	mg/L	0.050	101	70	130	0.7	20	
Cadmium		0.224	mg/L	0.0010	90	70	130	0.2	20	
Chromium		0.252	mg/L	0.0050	99	70	130	0.7	20	
Copper		0.254	mg/L	0.0050	97	70	130	1.3	20	
Lead		0.256	mg/L	0.0010	103	70	130	0.6	20	
Manganese		0.318	mg/L	0.0010	127	70	130	3.3	20	
Molybdenum		0.261	mg/L	0.0010	103	70	130	0.6	20	
Nickel		0.260	mg/L	0.0050	98	70	130	2.0	20	
Selenium		0.275	mg/L	0.0013	95	70	130	0.9	20	
Silver		0.0857	mg/L	0.0010	86	70	130	0.6	20	
Uranium		0.297	mg/L	0.00050	113	70	130	1.1	20	
Vanadium		0.258	mg/L	0.010	102	70	130	0.5	20	
Zinc		0.264	mg/L	0.010	97	70	130	3.6	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Revised Date: 03/21/13

Report Date: 11/14/12

Client: Powertech USA Inc

Work Order: R12100062

Project: Alluvial Wells Dewey Burdock

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: SUB-C170416		
<b>Sample ID: ICV</b> Initial Calibration Verification Standard										
Selenium		0.0511	mg/L	0.0010	102	90	110			02/15/13 03:33
<b>Method: E200.8</b>								Batch: C_R170416		
<b>Sample ID: LRB</b> Method Blank										
Selenium		ND	mg/L	7E-05				Run: SUB-C170416		02/14/13 14:21
<b>Sample ID: LFB</b> Laboratory Fortified Blank										
Selenium		0.0521	mg/L	0.0010	104	85	115	Run: SUB-C170416		02/14/13 14:26
<b>Sample ID: C13020427-005BMS4</b> Post Digestion Spike										
Selenium		1.35	mg/L	0.0010		70	130	Run: SUB-C170416		02/15/13 00:51 A
<b>Sample ID: C13020427-005BMSD</b> Post Digestion Spike Duplicate										
Selenium		1.38	mg/L	0.0010		70	130	2.5	20	02/15/13 00:55 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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Work Order: R12100062

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E245.1</b>								Analytical Run: SUB-C165515			
<b>Sample ID: ICV</b>		Initial Calibration Verification Standard						10/08/12 13:13			
Mercury		0.0051	mg/L	0.00010	102	90	110				
<b>Sample ID: CCV1</b>		Continuing Calibration Verification Standard						10/08/12 13:16			
Mercury		0.0052	mg/L	0.00010	103	95	105				
<b>Method: E245.1</b>								Batch: C_35308			
<b>Sample ID: MB-35308</b>		Method Blank						Run: SUB-C165515 10/08/12 13:19			
Mercury		ND	mg/L	3E-05							
<b>Sample ID: LCS-35308</b>		Laboratory Control Sample						Run: SUB-C165515 10/08/12 13:20			
Mercury		0.0051	mg/L	0.00010	102	85	115				
<b>Sample ID: C12100296-001BMS</b>		Sample Matrix Spike						Run: SUB-C165515 10/08/12 13:22			
Mercury		0.0051	mg/L	0.00010	101	70	130				
<b>Sample ID: C12100296-001BMSD</b>		Sample Matrix Spike Duplicate						Run: SUB-C165515 10/08/12 13:24			
Mercury		0.0050	mg/L	0.00010	101	70	130	0.4	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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Work Order: R12100062

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>Sample ID: CCV100312-37</b>	3	Continuing Calibration Verification Standard								10/04/12 04:56
Chloride		74.1	mg/L	1.0	99	90	110			
Fluoride		7.58	mg/L	0.10	101	90	110			
Nitrogen, Nitrate as N		7.38	mg/L	0.10	98	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>Sample ID: R12100062-007AMS</b>	3	Sample Matrix Spike								10/04/12 05:50
Run: DIONEX_121003A										
Chloride		129	mg/L	1.0	107	90	110			
Fluoride		4.99	mg/L	0.10	93	90	110			
Nitrogen, Nitrate as N		13.6	mg/L	0.10	114	90	110			S
<b>Sample ID: R12100062-007AMSD</b>	3	Sample Matrix Spike Duplicate								10/04/12 06:08
Run: DIONEX_121003A										
Chloride		129	mg/L	1.0	107	90	110	0.0	10	
Fluoride		5.00	mg/L	0.10	94	90	110	0.3	10	
Nitrogen, Nitrate as N		13.6	mg/L	0.10	114	90	110	0.0	10	S

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Revised Date: 03/21/13

Report Date: 11/14/12

Client: Powertech USA Inc

Project: Alluvial Wells Dewey Burdock

Work Order: R12100062

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E300.0</b>								Analytical Run: DIONEX_121004A			
<b>Sample ID: CCV100412-28</b>	2	Continuing Calibration Verification Standard									10/05/12 00:55
Chloride		75.0	mg/L	1.0	100	90	110				
Sulfate		74.4	mg/L	1.0	99	90	110				
<b>Method: E300.0</b>								Batch: R58355			
<b>Sample ID: LFB100412-14</b>	2	Laboratory Fortified Blank									10/04/12 21:02
Chloride		40.2	mg/L	1.0	101	90	110				
Sulfate		40.9	mg/L	1.0	102	90	110				
<b>Sample ID: R12100062-003AMS</b>	2	Sample Matrix Spike									10/05/12 01:49
Chloride		4150	mg/L	100	95	90	110				
Sulfate		12000	mg/L	100	111	90	110			S	
<b>Sample ID: R12100062-003AMSD</b>	2	Sample Matrix Spike Duplicate									10/05/12 02:07
Chloride		4150	mg/L	100	95	90	110	0.1	10		
Sulfate		12100	mg/L	100	112	90	110	0.4	10	S	

**Qualifiers:**

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MDC - 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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Work Order: R12100062

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E900.0</b>								Batch: C_GrAB-1367		
<b>Sample ID: Th230-GrAB-1367</b>	Laboratory Control Sample			Run: SUB-C165634			10/10/12 16:37			
Gross Alpha	213	pCi/L		104		80	120			
<b>Sample ID: Sr90-GrAB-1367</b>	Laboratory Control Sample			Run: SUB-C165634			10/10/12 16:37			
Gross Beta	169	pCi/L		92		80	120			
<b>Sample ID: MB-GrAB-1367</b>	6 Method Blank			Run: SUB-C165634			10/10/12 16:37			
Gross Alpha	-0.3	pCi/L								U
Gross Alpha precision (±)	0.6	pCi/L								
Gross Alpha MDC	1	pCi/L								
Gross Beta	-0.6	pCi/L								U
Gross Beta precision (±)	1	pCi/L								
Gross Beta MDC	3	pCi/L								
<b>Sample ID: C12100265-001EMS</b>	Sample Matrix Spike			Run: SUB-C165634			10/10/12 16:37			
Gross Alpha	2400	pCi/L		82		70	130			
<b>Sample ID: C12100265-001EMSD</b>	Sample Matrix Spike Duplicate			Run: SUB-C165634			10/10/12 16:37			
Gross Alpha	2000	pCi/L		68		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.										
<b>Sample ID: C12100265-001EMS</b>	Sample Matrix Spike			Run: SUB-C165634			10/10/12 16:37			
Gross Beta	2500	pCi/L		98		70	130			
<b>Sample ID: C12100265-001EMSD</b>	Sample Matrix Spike Duplicate			Run: SUB-C165634			10/10/12 16:37			
Gross Beta	2500	pCi/L		97		70	130	1.7	14	
<b>Sample ID: C12100265-005EDUP</b>	6 Sample Duplicate			Run: SUB-C165634			10/10/12 16:37			
Gross Alpha	89	pCi/L						26	38.3	
Gross Alpha precision (±)	12	pCi/L								
Gross Alpha MDC	14	pCi/L								
Gross Beta	5.0	pCi/L						44	329.7	U
Gross Beta precision (±)	10	pCi/L								
Gross Beta MDC	17	pCi/L								

### Qualifiers:

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ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

S - Spike recovery outside of advisory limits.

U - Not detected at minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Revised Date: 03/21/13

Report Date: 11/14/12

Client: Powertech USA Inc

Project: Alluvial Wells Dewey Burdock

Work Order: R12100062

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E900.0</b>								Batch: C_GrAB-1391		
<b>Sample ID: Th230-GrAB-1391</b>	Laboratory Control Sample			Run: SUB-C167025			11/10/12 16:33			
Gross Alpha	107	pCi/L	105	80	120					
<b>Sample ID: Sr90-GrAB-1391</b>	Laboratory Control Sample			Run: SUB-C167025			11/10/12 16:33			
Gross Beta	175	pCi/L	95	80	120					
<b>Sample ID: MB-GrAB-1391</b>	6 Method Blank			Run: SUB-C167025			11/10/12 16:33			
Gross Alpha	-0.8	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								
<b>Sample ID: C12100735-001DMS</b>	Sample Matrix Spike			Run: SUB-C167025			11/10/12 16:33			
Gross Alpha	89.8	pCi/L	84	70	130					
<b>Sample ID: C12100735-001DMSD</b>	Sample Matrix Spike Duplicate			Run: SUB-C167025			11/10/12 16:33			
Gross Alpha	78.4	pCi/L	72	70	130	14	18.1			
<b>Sample ID: C12100735-001DMS</b>	Sample Matrix Spike			Run: SUB-C167025			11/10/12 16:33			
Gross Beta	196	pCi/L	107	70	130					
<b>Sample ID: C12100735-001DMSD</b>	Sample Matrix Spike Duplicate			Run: SUB-C167025			11/10/12 16:33			
Gross Beta	184	pCi/L	100	70	130	6.5	14			
<b>Sample ID: C12101024-003CDUP</b>	6 Sample Duplicate			Run: SUB-C167025			11/11/12 05:16			
Gross Alpha	169	pCi/L				7.7	18.9			
Gross Alpha precision (±)	7.33	pCi/L								
Gross Alpha MDC	4.17	pCi/L								
Gross Beta	36.3	pCi/L				6.4	35.9			
Gross Beta precision (±)	5.14	pCi/L								
Gross Beta MDC	6.99	pCi/L								

### 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

Revised Date: 03/21/13

Client: Powertech USA Inc

Report Date: 11/14/12

Project: Alluvial Wells Dewey Burdock

Work Order: R12100062

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E903.0</b>								Batch: C_RA226-6282		
<b>Sample ID: LCS-RA226-6282</b>	Laboratory Control Sample			Run: SUB-C165944			10/15/12 23:44			
Radium 226		7.1	pCi/L	112		80	120			
<b>Sample ID: MB-RA226-6282</b>	3	Method Blank			Run: SUB-C165944			10/15/12 23:44		
Radium 226		0.2	pCi/L							
Radium 226 precision (±)		0.08	pCi/L							
Radium 226 MDC		0.1	pCi/L							
<b>Sample ID: R12100062-001E</b>	Sample Matrix Spike			Run: SUB-C165944			10/15/12 23:44			
Radium 226		13	pCi/L	102		70	130			
<b>Sample ID: R12100062-001E</b>	Sample Matrix Spike Duplicate			Run: SUB-C165944			10/15/12 23:44			
Radium 226		13	pCi/L	100		70	130	1.6	20.8	
<b>Method: E903.0</b>								Batch: C_RA226-6309		
<b>Sample ID: C12100579-004EMS</b>	Sample Matrix Spike			Run: SUB-C166556			10/29/12 22:07			
Radium 226		14	pCi/L	107		70	130			
<b>Sample ID: C12100579-004EMSD</b>	Sample Matrix Spike Duplicate			Run: SUB-C166556			10/29/12 22:07			
Radium 226		15	pCi/L	112		70	130	4.9	25.7	
<b>Sample ID: MB-RA226-6309</b>	3	Method Blank			Run: SUB-C166556			10/29/12 23:47		
Radium 226		0.1	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
<b>Sample ID: LCS-RA226-6309</b>	Laboratory Control Sample			Run: SUB-C166556			10/29/12 23:47			
Radium 226		7.7	pCi/L	120		80	120			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Revised Date: 03/21/13

Report Date: 11/14/12

Client: Powertech USA Inc

Project: Alluvial Wells Dewey Burdock

Work Order: R12100062

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: RA-05</b>								Batch: C_RA228-4242		
<b>Sample ID: LCS-228-RA226-6282</b>	Laboratory Control Sample			Run: SUB-C165633			10/10/12 22:47			
Radium 228		5.8	pCi/L	91		80	120			
<b>Sample ID: MB-RA226-6282</b>	3	Method Blank			Run: SUB-C165633			10/10/12 22:47		
Radium 228		2	pCi/L							
Radium 228 precision (±)		0.9	pCi/L							
Radium 228 MDC		1	pCi/L							
<b>Sample ID: R12100062-007E</b>	Sample Matrix Spike			Run: SUB-C165633			10/10/12 22:47			
Radium 228		13.2	pCi/L	118		70	130			
<b>Sample ID: R12100062-007E</b>	Sample Matrix Spike Duplicate			Run: SUB-C165633			10/10/12 22:47			
Radium 228		12.3	pCi/L	105		70	130	7.1	39.7	
<b>Method: RA-05</b>								Batch: C_RA228-4253		
<b>Sample ID: LCS-228-RA226-6309</b>	Laboratory Control Sample			Run: SUB-C166269			10/24/12 17:49			
Radium 228		7.2	pCi/L	127		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.										
<b>Sample ID: MB-RA226-6309</b>	3	Method Blank			Run: SUB-C166269			10/24/12 17:49		
Radium 228		1	pCi/L							U
Radium 228 precision (±)		1	pCi/L							
Radium 228 MDC		2	pCi/L							
<b>Sample ID: C12100620-002CMS</b>	Sample Matrix Spike			Run: SUB-C166269			10/24/12 17:49			
Radium 228		11.1	pCi/L	104		70	130			
<b>Sample ID: C12100620-002CMSD</b>	Sample Matrix Spike Duplicate			Run: SUB-C166269			10/24/12 17:49			
Radium 228		12.0	pCi/L	112		70	130	7.3	47.5	

### 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

PLEASE PRINT (Provide as much information as possible.)

Company Name: <i>Scott Env.</i>	Project Name, PWS, Permit, Etc. <i>PowerTech alluvial wells</i>	Sample Origin State: <i>SD</i>	EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>
Report Mail Address: <i>PowerTech / Scott Env.</i>	Contact Name: <i>Allen Scott</i>	Phone/Fax:	Sampler: (Please Print) <i>Allen Scott</i>
Invoice Address: <i>PowerTech</i>	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats:  <input type="checkbox"/> DW <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> Format: _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC	ANALYSIS REQUESTED  Number of Containers: _____ Sample Type: A W S V B O DW Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water  <i>As Per Quote</i>	SEE ATTACHED  Standard Turnaround (TAT)  <b>R U S H</b>	Contact ELI prior to <b>RUSH</b> sample submittal for charges and scheduling - See Instruction Page	Shipped by: <i>[Signature]</i> Cooler ID(s):
			Comments:	Receipt Temp <i>26 °C</i> On ice: <input checked="" type="checkbox"/>

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX															
<i>✓ DC-2</i>	<i>10-2-12</i>	<i>10:17</i>	<i>Water</i>	<i>✓</i>														
<i>✓ DC-2 Dup.</i>	<i>10-2-12</i>	<i>10:18</i>	<i>"</i>	<i>✓</i>														
<i>✓ DC-4</i>	<i>10-2-12</i>	<i>11:53</i>	<i>"</i>	<i>✓</i>														
<i>✓<sup>4</sup> BC-3</i>	<i>10-2-12</i>	<i>13:40</i>	<i>"</i>	<i>✓</i>														
<i>✓<sup>5</sup> BC-1</i>	<i>10-2-12</i>	<i>14:13</i>	<i>"</i>	<i>✓</i>														
<i>✓<sup>6</sup> BC-2</i>	<i>10-2-12</i>	<i>15:37</i>	<i>"</i>	<i>✓</i>														
<i>✓<sup>7</sup> 708</i>	<i>10-2-12</i>	<i>16:17</i>	<i>"</i>	<i>✓</i>														
<i>✓<sup>8</sup> DC-1</i>	<i>10-3-12</i>	<i>9:05</i>	<i>"</i>	<i>✓</i>														

*R1210062*

LABORATORY USE ONLY

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*on another work order*

<b>Custody Record MUST be Signed</b>	Relinquished by (print): <i>Allen Scott</i>	Date/Time: <i>10-3-12 12:53</i>	Signature: <i>[Signature]</i>	Received by (print):	Date/Time:	Signature:
	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
	Sample Disposal:    Return to Client:    Lab Disposal:	Received by Laboratory: <i>Linda Loren</i> Date/Time: <i>10/3/12 1254</i> Signature: <i>[Signature]</i>				

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

February 28, 2013

Powertech USA Inc  
PO Box 812  
Edgemont, SD 57735

Workorder No.: R13010064                      Quote ID: R411

Project Name: Alluvial Wells Dewey Burdock

Energy Laboratories Inc. Rapid City SD received the following 6 samples for Powertech USA Inc on 1/8/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
R13010064-001	DC-2	01/07/13 10:20	01/08/13	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
R13010064-002	DC-4	01/07/13 11:30	01/08/13	Aqueous	Same As Above
R13010064-003	BC-3	01/07/13 12:50	01/08/13	Aqueous	Same As Above
R13010064-004	BC-1	01/07/13 13:55	01/08/13	Aqueous	Same As Above
R13010064-005	BC-1 Dup	01/07/13 13:56	01/08/13	Aqueous	Same As Above
R13010064-006	BC-2	01/07/13 15:10	01/08/13	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: 2013.02.28 12:36:02 -07:00



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Gillette, WY 866-686-7175 • Rapid City, SD 888-672-1225 • College Station, TX 888-690-2218

**CLIENT:** Powertech USA Inc  
**Project:** Alluvial Wells Dewey Burdock  
**Sample Delivery Group:** R13010064

**Report Date:** 02/28/13

## **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:** R13010064-001  
**Client Sample ID:** DC-2

**Report Date:** 02/28/13  
**Collection Date:** 01/07/13 10:20  
**Date Received:** 01/08/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/			Method	Analysis Date / By
				RL	QCL	DF		
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	6250	umhos/cm		5.0		1	A2510 B	01/08/13 16:56/tb
pH	7.06	su		0.01		1	A4500-H B	01/08/13 16:22/tb
Solids, Total Dissolved TDS @ 180 C	4540	mg/L		100		1	A2540 C	01/10/13 11:46/jmh
Alkalinity, Total as CaCO3	262	mg/L		5		1	A2320 B	01/15/13 16:10/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	01/15/13 16:10/ch
Bicarbonate as HCO3	319	mg/L		5		1	A2320 B	01/15/13 16:10/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	788	mg/L	D	50		50	E300.0	01/09/13 02:45/tb
Fluoride	0.7	mg/L		0.1		1	E300.0	01/09/13 02:27/tb
Sulfate	1950	mg/L	D	50		50	E300.0	01/09/13 02:45/tb
<b>DATA QUALITY PARAMETERS</b>								
Anions	68.0	meq/L		1.00		1	A1030 E	02/13/13 00:00/lk
Cations	73.9	meq/L		1.00		1	A1030 E	02/13/13 00:00/lk
Conductivity, Calculated	5520	umhos/cm		1.00		1	A1030 E	02/13/13 00:00/lk
TDS Ratio	1.03			0.0100		1	A1030 E	02/13/13 00:00/lk
A/C Balance	4.13	%				1	A1030 E	02/13/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	ND	mg/L		0.1		1	E300.0	01/09/13 02:27/tb
<b>RADIONUCLIDES - DISSOLVED</b>								
Gross Alpha	2.6	pCi/L	U			1	E900.0	01/18/13 21:31/eli-ca
Gross Alpha precision (±)	11.4	pCi/L				1	E900.0	01/18/13 21:31/eli-ca
Gross Alpha MDC	19.0	pCi/L				1	E900.0	01/18/13 21:31/eli-ca
Gross Beta	-4	pCi/L	U			1	E900.0	01/18/13 21:31/eli-ca
Gross Beta precision (±)	13.3	pCi/L				1	E900.0	01/18/13 21:31/eli-ca
Gross Beta MDC	22.5	pCi/L				1	E900.0	01/18/13 21:31/eli-ca
Radium 228	1.3	pCi/L				1	RA-05	01/22/13 19:33/eli-ca
Radium 228 precision (±)	0.7	pCi/L				1	RA-05	01/22/13 19:33/eli-ca
Radium 228 MDC	1.1	pCi/L				1	RA-05	01/22/13 19:33/eli-ca
Radium 226	0.3	pCi/L				1	E903.0	01/27/13 13:54/eli-ca
Radium 226 precision (±)	0.2	pCi/L				1	E903.0	01/27/13 13:54/eli-ca
Radium 226 MDC	0.2	pCi/L				1	E903.0	01/27/13 13:54/eli-ca
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222	1960	pCi/L				1	D5072-92	01/10/13 20:49/eli-ca
Radon 222 precision (±)	167	pCi/L				1	D5072-92	01/10/13 20:49/eli-ca

**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:** R13010064-001  
**Client Sample ID:** DC-2

**Report Date:** 02/28/13  
**Collection Date:** 01/07/13 10:20  
**Date Received:** 01/08/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		DF	Method	Analysis Date / By
				RL	QCL			
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222 MDC	238	pCi/L				1	D5072-92	01/10/13 20:49/eli-ca
<b>TOTAL METALS ANALYSES</b>								
Mercury	ND	mg/L		0.0001		1	E245.1	01/18/13 09:28/eli-ca
<b>DISSOLVED METALS ANALYSES</b>								
Arsenic	0.001	mg/L		0.001		5	E200.8	01/12/13 01:48/eli-ca
Barium	ND	mg/L		0.05		5	E200.7	01/10/13 21:19/eli-ca
Boron	0.4	mg/L	D	0.1		5	E200.7	01/10/13 21:19/eli-ca
Cadmium	ND	mg/L		0.001		5	E200.8	01/12/13 01:48/eli-ca
Chromium	ND	mg/L		0.005		5	E200.8	01/12/13 01:48/eli-ca
Copper	ND	mg/L		0.005		5	E200.8	01/12/13 01:48/eli-ca
Iron	4.08	mg/L		0.03		5	E200.7	01/10/13 21:19/eli-ca
Lead	ND	mg/L		0.001		5	E200.8	01/12/13 01:48/eli-ca
Manganese	3.28	mg/L		0.001		5	E200.7	01/10/13 21:19/eli-ca
Molybdenum	0.003	mg/L		0.001		5	E200.8	01/12/13 01:48/eli-ca
Nickel	ND	mg/L		0.005		5	E200.8	01/12/13 01:48/eli-ca
Selenium	0.003	mg/L		0.001		2	E200.8	01/30/13 23:36/eli-ca
Silver	ND	mg/L		0.001		5	E200.8	01/12/13 01:48/eli-ca
Uranium	0.0079	mg/L		0.0003		5	E200.8	01/12/13 01:48/eli-ca
Vanadium	ND	mg/L		0.01		5	E200.8	01/12/13 01:48/eli-ca
Zinc	ND	mg/L		0.01		5	E200.8	01/12/13 01:48/eli-ca
Calcium	550	mg/L		1		5	E200.7	01/10/13 21:19/eli-ca
Magnesium	153	mg/L		1		5	E200.7	01/10/13 21:19/eli-ca
Potassium	7	mg/L		1		5	E200.7	01/10/13 21:19/eli-ca
Sodium	775	mg/L	D	2		5	E200.7	01/10/13 21:19/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** R13010064-002  
**Client Sample ID:** DC-4

**Report Date:** 02/28/13  
**Collection Date:** 01/07/13 11:30  
**Date Received:** 01/08/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/			Method	Analysis Date / By
				RL	QCL	DF		
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	11700	umhos/cm		5.0		1	A2510 B	01/08/13 16:57/tb
pH	7.35	su		0.01		1	A4500-HB	01/08/13 16:23/tb
Solids, Total Dissolved TDS @ 180 C	11300	mg/L		100		1	A2540 C	01/10/13 11:47/jmh
Alkalinity, Total as CaCO3	340	mg/L		5		1	A2320 B	01/15/13 16:12/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	01/15/13 16:12/ch
Bicarbonate as HCO3	414	mg/L		5		1	A2320 B	01/15/13 16:12/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	131	mg/L		1		1	E300.0	01/09/13 03:03/tb
Fluoride	2.2	mg/L		0.1		1	E300.0	01/09/13 03:03/tb
Sulfate	7450	mg/L	D	100		100	E300.0	01/09/13 03:21/tb
<b>DATA QUALITY PARAMETERS</b>								
Anions	166	meq/L		1.00		1	A1030 E	02/13/13 00:00/kl
Cations	171	meq/L		1.00		1	A1030 E	02/13/13 00:00/kl
Conductivity, Calculated	11800	umhos/cm		1.00		1	A1030 E	02/13/13 00:00/kl
TDS Ratio	1.03			0.0100		1	A1030 E	02/13/13 00:00/kl
A/C Balance	1.56	%				1	A1030 E	02/13/13 00:00/kl
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	1.8	mg/L		0.1		1	E300.0	01/09/13 03:03/tb
<b>RADIONUCLIDES - DISSOLVED</b>								
Gross Alpha	17.7	pCi/L	U			1	E900.0	01/18/13 21:31/eli-ca
Gross Alpha precision (±)	21.7	pCi/L				1	E900.0	01/18/13 21:31/eli-ca
Gross Alpha MDC	35.2	pCi/L				1	E900.0	01/18/13 21:31/eli-ca
Gross Beta	-20	pCi/L	U			1	E900.0	01/18/13 21:31/eli-ca
Gross Beta precision (±)	25.0	pCi/L				1	E900.0	01/18/13 21:31/eli-ca
Gross Beta MDC	42.6	pCi/L				1	E900.0	01/18/13 21:31/eli-ca
Radium 228	2.4	pCi/L				1	RA-05	01/22/13 19:33/eli-ca
Radium 228 precision (±)	0.8	pCi/L				1	RA-05	01/22/13 19:33/eli-ca
Radium 228 MDC	1.1	pCi/L				1	RA-05	01/22/13 19:33/eli-ca
Radium 226	0.05	pCi/L	U			1	E903.0	01/27/13 13:54/eli-ca
Radium 226 precision (±)	0.1	pCi/L				1	E903.0	01/27/13 13:54/eli-ca
Radium 226 MDC	0.2	pCi/L				1	E903.0	01/27/13 13:54/eli-ca
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222	4620	pCi/L				1	D5072-92	01/10/13 20:49/eli-ca
Radon 222 precision (±)	194	pCi/L				1	D5072-92	01/10/13 20:49/eli-ca

**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:** R13010064-002  
**Client Sample ID:** DC-4

**Report Date:** 02/28/13  
**Collection Date:** 01/07/13 11:30  
**Date Received:** 01/08/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>RADIONUCLIDES - TOTAL</b>							
Radon 222 MDC	236	pCi/L				1 D5072-92	01/10/13 20:49/eli-ca
<b>TOTAL METALS ANALYSES</b>							
Mercury	ND	mg/L		0.0001		1 E245.1	01/18/13 09:33/eli-ca
<b>DISSOLVED METALS ANALYSES</b>							
Arsenic	ND	mg/L		0.001		10 E200.8	01/12/13 01:53/eli-ca
Barium	ND	mg/L		0.05		10 E200.7	01/10/13 21:23/eli-ca
Boron	2.5	mg/L	D	0.2		10 E200.7	01/10/13 21:23/eli-ca
Cadmium	ND	mg/L		0.001		10 E200.8	01/12/13 01:53/eli-ca
Chromium	ND	mg/L		0.005		10 E200.8	01/12/13 01:53/eli-ca
Copper	ND	mg/L		0.005		10 E200.8	01/12/13 01:53/eli-ca
Iron	ND	mg/L		0.03		10 E200.7	01/10/13 21:23/eli-ca
Lead	ND	mg/L		0.001		10 E200.8	01/12/13 01:53/eli-ca
Manganese	0.001	mg/L		0.001		10 E200.8	01/12/13 01:53/eli-ca
Molybdenum	ND	mg/L		0.001		10 E200.8	01/12/13 01:53/eli-ca
Nickel	ND	mg/L		0.005		10 E200.8	01/12/13 01:53/eli-ca
Selenium	0.035	mg/L		0.001		5 E200.8	01/29/13 19:32/eli-ca
Silver	ND	mg/L		0.001		10 E200.8	01/12/13 01:53/eli-ca
Uranium	0.0149	mg/L		0.0003		10 E200.8	01/12/13 01:53/eli-ca
Vanadium	ND	mg/L		0.01		10 E200.8	01/12/13 01:53/eli-ca
Zinc	ND	mg/L		0.01		10 E200.8	01/12/13 01:53/eli-ca
Calcium	430	mg/L		1		10 E200.7	01/10/13 21:23/eli-ca
Magnesium	715	mg/L		1		10 E200.7	01/10/13 21:23/eli-ca
Potassium	12	mg/L		1		10 E200.7	01/10/13 21:23/eli-ca
Sodium	2080	mg/L	D	3		10 E200.7	01/10/13 21:23/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** R13010064-003  
**Client Sample ID:** BC-3

**Report Date:** 02/28/13  
**Collection Date:** 01/07/13 12:50  
**Date Received:** 01/08/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	3550	umhos/cm		5.0			1	A2510 B	01/08/13 16:59/tb
pH	7.11	su		0.01			1	A4500-HB	01/08/13 16:25/tb
Solids, Total Dissolved TDS @ 180 C	3100	mg/L		40			1	A2540 C	01/10/13 11:49/jmh
Alkalinity, Total as CaCO3	246	mg/L		5			1	A2320 B	01/15/13 16:15/ch
Carbonate as CO3	ND	mg/L		5			1	A2320 B	01/15/13 16:15/ch
Bicarbonate as HCO3	300	mg/L		5			1	A2320 B	01/15/13 16:15/ch
<b>INORGANIC PARAMETERS</b>									
Chloride	19	mg/L			1		1	E300.0	01/09/13 05:08/tb
Fluoride	0.6	mg/L			0.1		1	E300.0	01/09/13 05:08/tb
Sulfate	1890	mg/L	D		50		50	E300.0	01/09/13 04:14/tb
<b>DATA QUALITY PARAMETERS</b>									
Anions	44.8	meq/L		1.00			1	A1030 E	02/13/13 00:00/lk
Cations	47.8	meq/L		1.00			1	A1030 E	02/13/13 00:00/lk
Conductivity, Calculated	3810	umhos/cm		1.00			1	A1030 E	02/13/13 00:00/lk
TDS Ratio	1.05			0.0100			1	A1030 E	02/13/13 00:00/lk
A/C Balance	3.26	%					1	A1030 E	02/13/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	0.2	mg/L		0.1			1	E300.0	01/09/13 05:08/tb
<b>RADIONUCLIDES - DISSOLVED</b>									
Gross Alpha	25.9	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Gross Alpha precision (±)	6.8	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Gross Alpha MDC	9.4	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Gross Beta	0.6	pCi/L	U				1	E900.0	01/18/13 21:31/eli-ca
Gross Beta precision (±)	7.7	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Gross Beta MDC	12.9	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Radium 228	1.5	pCi/L					1	RA-05	01/22/13 19:32/eli-ca
Radium 228 precision (±)	0.7	pCi/L					1	RA-05	01/22/13 19:32/eli-ca
Radium 228 MDC	1.1	pCi/L					1	RA-05	01/22/13 19:32/eli-ca
Radium 226	0.3	pCi/L					1	E903.0	01/27/13 13:54/eli-ca
Radium 226 precision (±)	0.1	pCi/L					1	E903.0	01/27/13 13:54/eli-ca
Radium 226 MDC	0.2	pCi/L					1	E903.0	01/27/13 13:54/eli-ca
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222	1750	pCi/L					1	D5072-92	01/10/13 20:49/eli-ca
Radon 222 precision (±)	162	pCi/L					1	D5072-92	01/10/13 20:49/eli-ca

**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:** R13010064-003  
**Client Sample ID:** BC-3

**Report Date:** 02/28/13  
**Collection Date:** 01/07/13 12:50  
**Date Received:** 01/08/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222 MDC	233	pCi/L					1	D5072-92	01/10/13 20:49/eli-ca
<b>TOTAL METALS ANALYSES</b>									
Mercury	ND	mg/L		0.0001			1	E245.1	01/18/13 09:34/eli-ca
<b>DISSOLVED METALS ANALYSES</b>									
Arsenic	ND	mg/L		0.001			2	E200.8	01/12/13 01:57/eli-ca
Barium	ND	mg/L		0.05			2	E200.7	01/10/13 21:31/eli-ca
Boron	0.54	mg/L		0.05			2	E200.7	01/10/13 21:31/eli-ca
Cadmium	ND	mg/L		0.001			2	E200.8	01/12/13 01:57/eli-ca
Chromium	ND	mg/L		0.005			2	E200.7	01/10/13 21:31/eli-ca
Copper	ND	mg/L		0.005			2	E200.7	01/10/13 21:31/eli-ca
Iron	0.06	mg/L		0.03			2	E200.7	01/10/13 21:31/eli-ca
Lead	ND	mg/L		0.001			2	E200.8	01/12/13 01:57/eli-ca
Manganese	0.528	mg/L		0.001			2	E200.7	01/10/13 21:31/eli-ca
Molybdenum	0.005	mg/L		0.001			2	E200.8	01/12/13 01:57/eli-ca
Nickel	ND	mg/L		0.005			2	E200.7	01/10/13 21:31/eli-ca
Selenium	ND	mg/L		0.001			2	E200.8	01/29/13 19:48/eli-ca
Silver	ND	mg/L		0.001			2	E200.8	01/12/13 01:57/eli-ca
Uranium	0.0197	mg/L		0.0003			2	E200.8	01/12/13 01:57/eli-ca
Vanadium	ND	mg/L		0.01			2	E200.8	01/12/13 01:57/eli-ca
Zinc	ND	mg/L		0.01			2	E200.7	01/10/13 21:31/eli-ca
Calcium	552	mg/L		1			2	E200.7	01/10/13 21:31/eli-ca
Magnesium	159	mg/L		1			2	E200.7	01/10/13 21:31/eli-ca
Potassium	11	mg/L		1			2	E200.7	01/10/13 21:31/eli-ca
Sodium	160	mg/L		1			2	E200.7	01/10/13 21:31/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** R13010064-004  
**Client Sample ID:** BC-1

**Report Date:** 02/28/13  
**Collection Date:** 01/07/13 13:55  
**Date Received:** 01/08/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	4050	umhos/cm		5.0			1	A2510 B	01/08/13 17:01/tb
pH	7.06	su		0.01			1	A4500-HB	01/08/13 16:27/tb
Solids, Total Dissolved TDS @ 180 C	3800	mg/L		40			1	A2540 C	01/10/13 11:49/jmh
Alkalinity, Total as CaCO3	294	mg/L		5			1	A2320 B	01/15/13 16:18/ch
Carbonate as CO3	ND	mg/L		5			1	A2320 B	01/15/13 16:18/ch
Bicarbonate as HCO3	358	mg/L		5			1	A2320 B	01/15/13 16:18/ch
<b>INORGANIC PARAMETERS</b>									
Chloride	25	mg/L		1			1	E300.0	01/09/13 05:26/tb
Fluoride	0.7	mg/L		0.1			1	E300.0	01/09/13 05:26/tb
Sulfate	2190	mg/L	D	50			50	E300.0	01/09/13 05:44/tb
<b>DATA QUALITY PARAMETERS</b>									
Anions	52.2	meq/L		1.00			1	A1030 E	02/13/13 00:00/lk
Cations	55.2	meq/L		1.00			1	A1030 E	02/13/13 00:00/lk
Conductivity, Calculated	4300	umhos/cm		1.00			1	A1030 E	02/13/13 00:00/lk
TDS Ratio	1.12			0.0100			1	A1030 E	02/13/13 00:00/lk
A/C Balance	2.80	%					1	A1030 E	02/13/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	0.2	mg/L		0.1			1	E300.0	01/09/13 05:26/tb
<b>RADIONUCLIDES - DISSOLVED</b>									
Gross Alpha	69.6	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Gross Alpha precision (±)	10	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Gross Alpha MDC	11.6	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Gross Beta	15.7	pCi/L	U				1	E900.0	01/18/13 21:31/eli-ca
Gross Beta precision (±)	10.9	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Gross Beta MDC	17.7	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Radium 228	1.5	pCi/L					1	RA-05	01/22/13 19:32/eli-ca
Radium 228 precision (±)	0.7	pCi/L					1	RA-05	01/22/13 19:32/eli-ca
Radium 228 MDC	1.1	pCi/L					1	RA-05	01/22/13 19:32/eli-ca
Radium 226	0.2	pCi/L					1	E903.0	01/27/13 13:54/eli-ca
Radium 226 precision (±)	0.1	pCi/L					1	E903.0	01/27/13 13:54/eli-ca
Radium 226 MDC	0.2	pCi/L					1	E903.0	01/27/13 13:54/eli-ca
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222	2110	pCi/L					1	D5072-92	01/10/13 20:49/eli-ca
Radon 222 precision (±)	165	pCi/L					1	D5072-92	01/10/13 20:49/eli-ca

**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:** R13010064-004  
**Client Sample ID:** BC-1

**Report Date:** 02/28/13  
**Collection Date:** 01/07/13 13:55  
**Date Received:** 01/08/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222 MDC	232	pCi/L					1	D5072-92	01/10/13 20:49/eli-ca
<b>TOTAL METALS ANALYSES</b>									
Mercury	ND	mg/L		0.0001			1	E245.1	01/18/13 09:36/eli-ca
<b>DISSOLVED METALS ANALYSES</b>									
Arsenic	ND	mg/L		0.001			2	E200.8	01/12/13 02:02/eli-ca
Barium	ND	mg/L		0.05			2	E200.7	01/10/13 21:35/eli-ca
Boron	0.77	mg/L		0.05			2	E200.7	01/10/13 21:35/eli-ca
Cadmium	ND	mg/L		0.001			2	E200.8	01/12/13 02:02/eli-ca
Chromium	ND	mg/L		0.005			2	E200.7	01/10/13 21:35/eli-ca
Copper	ND	mg/L		0.005			2	E200.7	01/10/13 21:35/eli-ca
Iron	0.08	mg/L		0.03			2	E200.7	01/10/13 21:35/eli-ca
Lead	ND	mg/L		0.001			2	E200.8	01/12/13 02:02/eli-ca
Manganese	0.034	mg/L		0.001			2	E200.7	01/10/13 21:35/eli-ca
Molybdenum	0.004	mg/L		0.001			2	E200.8	01/12/13 02:02/eli-ca
Nickel	ND	mg/L		0.005			2	E200.7	01/10/13 21:35/eli-ca
Selenium	ND	mg/L		0.001			2	E200.8	01/29/13 19:51/eli-ca
Silver	ND	mg/L		0.001			2	E200.8	01/12/13 02:02/eli-ca
Uranium	0.0877	mg/L		0.0003			2	E200.8	01/12/13 02:02/eli-ca
Vanadium	ND	mg/L		0.01			2	E200.8	01/12/13 02:02/eli-ca
Zinc	ND	mg/L		0.01			2	E200.7	01/10/13 21:35/eli-ca
Calcium	516	mg/L		1			2	E200.7	01/10/13 21:35/eli-ca
Magnesium	251	mg/L		1			2	E200.7	01/10/13 21:35/eli-ca
Potassium	12	mg/L		1			2	E200.7	01/10/13 21:35/eli-ca
Sodium	194	mg/L		1			2	E200.7	01/10/13 21:35/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** R13010064-005  
**Client Sample ID:** BC-1 Dup

**Report Date:** 02/28/13  
**Collection Date:** 01/07/13 13:56  
**Date Received:** 01/08/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	4060	umhos/cm		5.0			1	A2510 B	01/08/13 17:02/tb
pH	7.08	su		0.01			1	A4500-H B	01/08/13 16:28/tb
Solids, Total Dissolved TDS @ 180 C	3730	mg/L		40			1	A2540 C	01/10/13 11:50/jmh
Alkalinity, Total as CaCO3	294	mg/L		5			1	A2320 B	01/15/13 16:22/ch
Carbonate as CO3	ND	mg/L		5			1	A2320 B	01/15/13 16:22/ch
Bicarbonate as HCO3	358	mg/L		5			1	A2320 B	01/15/13 16:22/ch
<b>INORGANIC PARAMETERS</b>									
Chloride	25	mg/L		1			1	E300.0	01/09/13 06:02/tb
Fluoride	0.7	mg/L		0.1			1	E300.0	01/09/13 06:02/tb
Sulfate	2210	mg/L	D	50			50	E300.0	01/09/13 06:20/tb
<b>DATA QUALITY PARAMETERS</b>									
Anions	52.6	meq/L		1.00			1	A1030 E	02/13/13 00:00/lk
Cations	56.8	meq/L		1.00			1	A1030 E	02/13/13 00:00/lk
Conductivity, Calculated	4360	umhos/cm		1.00			1	A1030 E	02/13/13 00:00/lk
TDS Ratio	1.09			0.0100			1	A1030 E	02/13/13 00:00/lk
A/C Balance	3.88	%					1	A1030 E	02/13/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	ND	mg/L		0.1			1	E300.0	01/09/13 06:02/tb
<b>RADIONUCLIDES - DISSOLVED</b>									
Gross Alpha	112	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Gross Alpha precision (±)	11.5	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Gross Alpha MDC	11.2	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Gross Beta	21.7	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Gross Beta precision (±)	10.1	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Gross Beta MDC	16.0	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Radium 228	2.5	pCi/L					1	RA-05	01/22/13 19:32/eli-ca
Radium 228 precision (±)	0.8	pCi/L					1	RA-05	01/22/13 19:32/eli-ca
Radium 228 MDC	1.1	pCi/L					1	RA-05	01/22/13 19:32/eli-ca
Radium 226	0.2	pCi/L					1	E903.0	01/27/13 13:54/eli-ca
Radium 226 precision (±)	0.1	pCi/L					1	E903.0	01/27/13 13:54/eli-ca
Radium 226 MDC	0.2	pCi/L					1	E903.0	01/27/13 13:54/eli-ca
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222	2180	pCi/L					1	D5072-92	01/10/13 20:49/eli-ca
Radon 222 precision (±)	165	pCi/L					1	D5072-92	01/10/13 20:49/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** R13010064-005  
**Client Sample ID:** BC-1 Dup

**Report Date:** 02/28/13  
**Collection Date:** 01/07/13 13:56  
**Date Received:** 01/08/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>RADIONUCLIDES - TOTAL</b>							
Radon 222 MDC	232	pCi/L				1 D5072-92	01/10/13 20:49/eli-ca
<b>TOTAL METALS ANALYSES</b>							
Mercury	ND	mg/L		0.0001		1 E245.1	01/18/13 09:37/eli-ca
<b>DISSOLVED METALS ANALYSES</b>							
Arsenic	ND	mg/L		0.001		2 E200.8	01/12/13 02:06/eli-ca
Barium	ND	mg/L		0.05		2 E200.7	01/10/13 21:43/eli-ca
Boron	0.78	mg/L		0.05		2 E200.7	01/10/13 21:43/eli-ca
Cadmium	ND	mg/L		0.001		2 E200.8	01/12/13 02:06/eli-ca
Chromium	ND	mg/L		0.005		2 E200.7	01/10/13 21:43/eli-ca
Copper	ND	mg/L		0.005		2 E200.7	01/10/13 21:43/eli-ca
Iron	0.11	mg/L		0.03		2 E200.7	01/10/13 21:43/eli-ca
Lead	ND	mg/L		0.001		2 E200.8	01/12/13 02:06/eli-ca
Manganese	0.040	mg/L		0.001		2 E200.7	01/10/13 21:43/eli-ca
Molybdenum	0.004	mg/L		0.001		2 E200.8	01/12/13 02:06/eli-ca
Nickel	ND	mg/L		0.005		2 E200.7	01/10/13 21:43/eli-ca
Selenium	ND	mg/L		0.001		2 E200.8	01/29/13 19:54/eli-ca
Silver	ND	mg/L		0.001		2 E200.8	01/12/13 02:06/eli-ca
Uranium	0.0921	mg/L		0.0003		2 E200.8	01/12/13 02:06/eli-ca
Vanadium	ND	mg/L		0.01		2 E200.8	01/12/13 02:06/eli-ca
Zinc	ND	mg/L		0.01		2 E200.7	01/10/13 21:43/eli-ca
Calcium	539	mg/L		1		2 E200.7	01/10/13 21:43/eli-ca
Magnesium	256	mg/L		1		2 E200.7	01/10/13 21:43/eli-ca
Potassium	13	mg/L		1		2 E200.7	01/10/13 21:43/eli-ca
Sodium	196	mg/L		1		2 E200.7	01/10/13 21:43/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** R13010064-006  
**Client Sample ID:** BC-2

**Report Date:** 02/28/13  
**Collection Date:** 01/07/13 15:10  
**Date Received:** 01/08/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	4200	umhos/cm		5.0			1	A2510 B	01/08/13 17:04/tb
pH	7.08	su		0.01			1	A4500-H B	01/08/13 16:30/tb
Solids, Total Dissolved TDS @ 180 C	3880	mg/L		40			1	A2540 C	01/10/13 11:51/jmh
Alkalinity, Total as CaCO3	230	mg/L		5			1	A2320 B	01/15/13 16:25/ch
Carbonate as CO3	ND	mg/L		5			1	A2320 B	01/15/13 16:25/ch
Bicarbonate as HCO3	280	mg/L		5			1	A2320 B	01/15/13 16:25/ch
<b>INORGANIC PARAMETERS</b>									
Chloride	22	mg/L		1			1	E300.0	01/09/13 06:38/tb
Fluoride	0.8	mg/L		0.1			1	E300.0	01/09/13 06:38/tb
Sulfate	2360	mg/L	D	50			50	E300.0	01/09/13 06:56/tb
<b>DATA QUALITY PARAMETERS</b>									
Anions	54.4	meq/L		1.00			1	A1030 E	02/13/13 00:00/kl
Cations	58.4	meq/L		1.00			1	A1030 E	02/13/13 00:00/kl
Conductivity, Calculated	4510	umhos/cm		1.00			1	A1030 E	02/13/13 00:00/kl
TDS Ratio	1.08			0.0100			1	A1030 E	02/13/13 00:00/kl
A/C Balance	3.58	%					1	A1030 E	02/13/13 00:00/kl
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	0.2	mg/L		0.1			1	E300.0	01/09/13 06:38/tb
<b>RADIONUCLIDES - DISSOLVED</b>									
Gross Alpha	25.2	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Gross Alpha precision (±)	8.6	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Gross Alpha MDC	12.4	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Gross Beta	-2	pCi/L	U				1	E900.0	01/18/13 21:31/eli-ca
Gross Beta precision (±)	9.4	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Gross Beta MDC	15.8	pCi/L					1	E900.0	01/18/13 21:31/eli-ca
Radium 228	0.8	pCi/L	U				1	RA-05	01/22/13 19:33/eli-ca
Radium 228 precision (±)	0.7	pCi/L					1	RA-05	01/22/13 19:33/eli-ca
Radium 228 MDC	1.0	pCi/L					1	RA-05	01/22/13 19:33/eli-ca
Radium 226	0.2	pCi/L					1	E903.0	01/27/13 15:27/eli-ca
Radium 226 precision (±)	0.1	pCi/L					1	E903.0	01/27/13 15:27/eli-ca
Radium 226 MDC	0.2	pCi/L					1	E903.0	01/27/13 15:27/eli-ca
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222	2670	pCi/L					1	D5072-92	01/10/13 20:49/eli-ca
Radon 222 precision (±)	170	pCi/L					1	D5072-92	01/10/13 20:49/eli-ca

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:** R13010064-006  
**Client Sample ID:** BC-2

**Report Date:** 02/28/13  
**Collection Date:** 01/07/13 15:10  
**Date Received:** 01/08/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222 MDC	229	pCi/L					1	D5072-92	01/10/13 20:49/eli-ca
<b>TOTAL METALS ANALYSES</b>									
Mercury	ND	mg/L		0.0001			1	E245.1	01/18/13 09:39/eli-ca
<b>DISSOLVED METALS ANALYSES</b>									
Arsenic	ND	mg/L		0.001			2	E200.8	01/12/13 02:11/eli-ca
Barium	ND	mg/L		0.05			5	E200.7	01/10/13 21:47/eli-ca
Boron	0.5	mg/L	D	0.1			5	E200.7	01/10/13 21:47/eli-ca
Cadmium	ND	mg/L		0.001			2	E200.8	01/12/13 02:11/eli-ca
Chromium	ND	mg/L		0.005			2	E200.8	01/12/13 02:11/eli-ca
Copper	ND	mg/L		0.005			2	E200.8	01/12/13 02:11/eli-ca
Iron	ND	mg/L		0.03			5	E200.7	01/10/13 21:47/eli-ca
Lead	ND	mg/L		0.001			2	E200.8	01/12/13 02:11/eli-ca
Manganese	0.040	mg/L		0.001			2	E200.8	01/12/13 02:11/eli-ca
Molybdenum	0.012	mg/L		0.001			2	E200.8	01/12/13 02:11/eli-ca
Nickel	ND	mg/L		0.005			2	E200.8	01/12/13 02:11/eli-ca
Selenium	ND	mg/L		0.001			2	E200.8	01/29/13 19:58/eli-ca
Silver	ND	mg/L		0.001			2	E200.8	01/12/13 02:11/eli-ca
Uranium	0.0259	mg/L		0.0003			2	E200.8	01/12/13 02:11/eli-ca
Vanadium	ND	mg/L		0.01			2	E200.8	01/12/13 02:11/eli-ca
Zinc	ND	mg/L		0.01			2	E200.8	01/12/13 02:11/eli-ca
Calcium	540	mg/L		1			5	E200.7	01/10/13 21:47/eli-ca
Magnesium	230	mg/L		1			5	E200.7	01/10/13 21:47/eli-ca
Potassium	13	mg/L		1			5	E200.7	01/10/13 21:47/eli-ca
Sodium	282	mg/L	D	2			5	E200.7	01/10/13 21:47/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2320 B</b>								Batch: 130115A-ALK-SEL-W		
<b>Sample ID: R13010060-009ADUP</b>		3 Sample Duplicate				Run: PH_COND1-R_130115A		01/15/13 15:53		
Alkalinity, Total as CaCO3		154	mg/L	5.0				1.3	10	
Carbonate as CO3		ND	mg/L	5.0					10	
Bicarbonate as HCO3		188	mg/L	5.0				1.3	10	
<b>Sample ID: R13010063-001AMS</b>		Sample Matrix Spike				Run: PH_COND1-R_130115A		01/15/13 15:59		
Alkalinity, Total as CaCO3		408	mg/L	5.0	96	80	120			

### 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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A2510 B								Batch: 130108_1_COND-PROBE-W		
<b>Sample ID:</b> MBLK-1_130108		Method Blank					Run: PH_COND2-R_130108B		01/08/13 16:47	
Conductivity @ 25 C		ND	umhos/cm	5						
<b>Sample ID:</b> R13010014-003ADUP		Sample Duplicate					Run: PH_COND2-R_130108B		01/08/13 16:50	
Conductivity @ 25 C		722	umhos/cm	5.0				1.1	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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2540 C</b>								Batch: TDS130110A		
<b>Sample ID: MB-1_130110A</b>		Method Blank								
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	3						01/10/13 11:27
<b>Sample ID: LCS-2_130110A</b>		Laboratory Control Sample								
Solids, Total Dissolved TDS @ 180 C		490	mg/L	10	99	90	110			01/10/13 11:28
<b>Sample ID: R13010060-001A MS</b>		Sample Matrix Spike								
Solids, Total Dissolved TDS @ 180 C		1700	mg/L	10	101	90	110			01/10/13 11:33

### 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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-H B								Analytical Run: PH_COND2-R_130108A			
<b>Sample ID:</b> ICV-1_130108	Initial Calibration Verification Standard									01/08/13 16:13	
pH		7.46	su	0.010	101	98	102				
<b>Method:</b> A4500-H B								Batch: 130108_1_PH-W			
<b>Sample ID:</b> ICV1-1_130108	Initial Calibration Verification Standard									01/08/13 16:12	
pH		12.0	su	0.010	100	99	101				
<b>Sample ID:</b> R13010063-001ADUP	Sample Duplicate									01/08/13 16:18	
pH		7.13	su	0.010				0.0	3		

**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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: D5072-92</b>								Batch: C_R169189		
<b>Sample ID: R13010096-001D</b>	3	Sample Duplicate		Run: SUB-C169189				01/11/13 18:20		
Radon 222		294	pCi/L					34	20	R
Radon 222 precision (±)		122	pCi/L							
Radon 222 MDC		198	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis; however, the RER of 0.9 is less than the limit of 2.0. This batch is approved.										
<b>Sample ID: MB-R169189</b>	3	Method Blank		Run: SUB-C169189				01/10/13 20:49		
Radon 222		50	pCi/L							U
Radon 222 precision (±)		70	pCi/L							
Radon 222 MDC		100	pCi/L							
<b>Sample ID: LCS-R169189</b>		Laboratory Control Sample		Run: SUB-C169189				01/10/13 20:49		
Radon 222		480	pCi/L	84		80	120			
<b>Sample ID: C13010288-001N DUP</b>	3	Sample Duplicate		Run: SUB-C169189				01/10/13 20:49		
Radon 222		46.9	pCi/L					140	20	UR
Radon 222 precision (±)		115	pCi/L							
Radon 222 MDC		193	pCi/L							
- The Sample and the Duplicate are both below the MDC; the RPD is acceptable.										
<b>Sample ID: C13010359-001L DUP</b>	3	Sample Duplicate		Run: SUB-C169189				01/11/13 20:07		
Radon 222		32.1	pCi/L					82	20	UR
Radon 222 precision (±)		117	pCi/L							
Radon 222 MDC		196	pCi/L							
- The Sample and the Duplicate are both below the MDC; the RPD is acceptable.										

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

R - RPD exceeds advisory limit.

U - Not detected at minimum detectable concentration





## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										
Analytical Run: SUB-C169086										
<b>Sample ID: ICV</b>	12 Initial Calibration Verification Standard									01/10/13 14:06
Barium		1.0	mg/L	0.10	103	95	105			
Boron		1.0	mg/L	0.10	104	95	105			
Calcium		53	mg/L	0.50	105	95	105			
Chromium		1.00	mg/L	0.050	100	95	105			
Copper		1.0	mg/L	0.010	103	95	105			
Iron		5.2	mg/L	0.030	103	95	105			
Magnesium		51	mg/L	0.50	102	95	105			
Manganese		5.0	mg/L	0.010	100	95	105			
Nickel		1.0	mg/L	0.050	101	95	105			
Potassium		47	mg/L	0.50	95	95	105			
Sodium		50	mg/L	0.50	100	95	105			
Zinc		1.0	mg/L	0.010	101	95	105			
<b>Sample ID: ICSA</b>	12 Interference Check Sample A									01/10/13 14:34
Barium		0.00020	mg/L	0.10						
Boron		-0.070	mg/L	0.10						
Calcium		520	mg/L	0.50	103	80	120			
Chromium		0.0023	mg/L	0.050						
Copper		0.0093	mg/L	0.010						
Iron		200	mg/L	0.030	99	80	120			
Magnesium		520	mg/L	0.50	103	80	120			
Manganese		-0.00090	mg/L	0.010						
Nickel		-0.0037	mg/L	0.050						
Potassium		-0.00040	mg/L	0.50						
Sodium		0.25	mg/L	0.50						
Zinc		-0.00040	mg/L	0.010						
<b>Sample ID: ICSAB</b>	12 Interference Check Sample AB									01/10/13 14:38
Barium		0.53	mg/L	0.10	105	80	120			
Boron		-0.074	mg/L	0.10						
Calcium		500	mg/L	0.50	101	80	120			
Chromium		0.50	mg/L	0.050	101	80	120			
Copper		0.55	mg/L	0.010	110	80	120			
Iron		200	mg/L	0.030	99	80	120			
Magnesium		510	mg/L	0.50	101	80	120			
Manganese		0.51	mg/L	0.010	102	80	120			
Nickel		1.00	mg/L	0.050	100	80	120			
Potassium		-0.0013	mg/L	0.50						
Sodium		0.021	mg/L	0.50						
Zinc		1.0	mg/L	0.010	102	80	120			
<b>Method: E200.7</b>										
Batch: C_R169086										
<b>Sample ID: MB-130110A</b>	12 Method Blank									Run: SUB-C169086 01/10/13 15:02
Barium		ND	mg/L	0.0005						
Boron		ND	mg/L	0.02						

**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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										
Batch: C_R169086										
<b>Sample ID: MB-130110A</b>	12	Method Blank				Run: SUB-C169086			01/10/13 15:02	
Calcium		ND	mg/L	0.06						
Chromium		ND	mg/L	0.001						
Copper		ND	mg/L	0.002						
Iron		ND	mg/L	0.001						
Magnesium		ND	mg/L	0.03						
Manganese		ND	mg/L	0.0002						
Nickel		ND	mg/L	0.002						
Potassium		ND	mg/L	0.06						
Sodium		ND	mg/L	0.3						
Zinc		ND	mg/L	0.002						
<b>Sample ID: LFB-130110A</b>	12	Laboratory Fortified Blank				Run: SUB-C169086			01/10/13 15:06	
Barium		1.0	mg/L	0.10	100	85	115			
Boron		0.98	mg/L	0.10	98	85	115			
Calcium		51	mg/L	0.50	102	85	115			
Chromium		0.99	mg/L	0.050	99	85	115			
Copper		1.0	mg/L	0.010	101	85	115			
Iron		1.0	mg/L	0.030	101	85	115			
Magnesium		48	mg/L	0.50	97	85	115			
Manganese		1.00	mg/L	0.010	100	85	115			
Nickel		1.0	mg/L	0.050	100	85	115			
Potassium		46	mg/L	0.50	92	85	115			
Sodium		49	mg/L	0.50	97	85	115			
Zinc		0.99	mg/L	0.010	99	85	115			
<b>Sample ID: C13010229-001BMS2</b>	12	Sample Matrix Spike				Run: SUB-C169086			01/10/13 21:03	
Barium		5.17	mg/L	0.050	101	70	130			
Boron		6.58	mg/L	0.13	104	70	130			
Chromium		5.18	mg/L	0.0076	101	70	130			
Copper		5.25	mg/L	0.0079	103	70	130			
Iron		5.14	mg/L	0.030	101	70	130			
Manganese		5.19	mg/L	0.0012	100	70	130			
Nickel		5.14	mg/L	0.010	101	70	130			
Zinc		5.08	mg/L	0.013	100	70	130			
Calcium		669	mg/L	1.0	93	70	130			
Magnesium		758	mg/L	1.0	84	70	130			
Potassium		264	mg/L	1.0	91	70	130			
Sodium		919	mg/L	1.6	85	70	130			
<b>Sample ID: C13010229-001BMSD</b>	12	Sample Matrix Spike Duplicate				Run: SUB-C169086			01/10/13 21:07	
Barium		5.19	mg/L	0.050	102	70	130	0.5	20	
Boron		6.69	mg/L	0.13	106	70	130	1.6	20	
Chromium		5.20	mg/L	0.0076	102	70	130	0.4	20	
Copper		5.38	mg/L	0.0079	105	70	130	2.4	20	
Iron		5.19	mg/L	0.030	102	70	130	1.0	20	

### 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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Batch: C_R169086		
<b>Sample ID: C13010229-001BMSD</b>				12 Sample Matrix Spike Duplicate		Run: SUB-C169086			01/10/13 21:07	
Manganese		5.23	mg/L	0.0012	101	70	130	0.7		20
Nickel		5.18	mg/L	0.010	101	70	130	0.7		20
Zinc		5.09	mg/L	0.013	100	70	130	0.1		20
Calcium		680	mg/L	1.0	97	70	130	1.7		20
Magnesium		760	mg/L	1.0	85	70	130	0.3		20
Potassium		264	mg/L	1.0	91	70	130	0.2		20
Sodium		915	mg/L	1.6	83	70	130	0.4		20

**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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										Analytical Run: SUB-C169110
<b>Sample ID: ICV</b>	12	Initial Calibration Verification Standard								01/12/13 00:21
Arsenic		0.0496	mg/L	0.0010	99	90	110			
Cadmium		0.0500	mg/L	0.0010	100	90	110			
Chromium		0.0491	mg/L	0.0010	98	90	110			
Copper		0.0495	mg/L	0.0010	99	90	110			
Lead		0.0493	mg/L	0.0010	99	90	110			
Manganese		0.0497	mg/L	0.0010	99	90	110			
Molybdenum		0.0491	mg/L	0.0010	98	90	110			
Nickel		0.0490	mg/L	0.0010	98	90	110			
Silver		0.0193	mg/L	0.0010	97	90	110			
Uranium		0.0478	mg/L	0.00030	96	90	110			
Vanadium		0.0497	mg/L	0.0010	99	90	110			
Zinc		0.0499	mg/L	0.0010	100	90	110			
<b>Method: E200.8</b>										Batch: C_R169110
<b>Sample ID: LRB</b>	12	Method Blank							Run: SUB-C169110	01/11/13 14:17
Arsenic		ND	mg/L	5E-05						
Cadmium		ND	mg/L	3E-05						
Chromium		5E-05	mg/L	4E-05						
Copper		0.0003	mg/L	3E-05						
Lead		3E-05	mg/L	2E-05						
Manganese		0.0006	mg/L	3E-05						
Molybdenum		ND	mg/L	3E-05						
Nickel		0.00010	mg/L	9E-05						
Silver		0.002	mg/L	5E-05						
Uranium		9E-06	mg/L	9E-06						
Vanadium		ND	mg/L	4E-05						
Zinc		0.0003	mg/L	0.0002						
<b>Sample ID: LFB</b>	12	Laboratory Fortified Blank							Run: SUB-C169110	01/11/13 14:22
Arsenic		0.0544	mg/L	0.0010	109	85	115			
Cadmium		0.0539	mg/L	0.0010	108	85	115			
Chromium		0.0516	mg/L	0.0010	103	85	115			
Copper		0.0517	mg/L	0.0010	103	85	115			
Lead		0.0518	mg/L	0.0010	104	85	115			
Manganese		0.0524	mg/L	0.0010	104	85	115			
Molybdenum		0.0491	mg/L	0.0010	98	85	115			
Nickel		0.0522	mg/L	0.0010	104	85	115			
Silver		0.0196	mg/L	0.0010	87	85	115			
Uranium		0.0509	mg/L	0.00030	102	85	115			
Vanadium		0.0514	mg/L	0.0010	103	85	115			
Zinc		0.0580	mg/L	0.0010	115	85	115			
<b>Sample ID: R13010064-006C</b>	12	Post Digestion Spike							Run: SUB-C169110	01/12/13 02:15
Arsenic		0.103	mg/L	0.0010	103	70	130			
Cadmium		0.0974	mg/L	0.0010	97	70	130			

**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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Batch: C_R169110		
<b>Sample ID: R13010064-006C</b>	12 Post Digestion Spike			Run: SUB-C169110				01/12/13 02:15		
Chromium		0.0994	mg/L	0.0050	99	70	130			
Copper		0.0908	mg/L	0.0050	90	70	130			
Lead		0.108	mg/L	0.0010	108	70	130			
Manganese		0.144	mg/L	0.0010	104	70	130			
Molybdenum		0.106	mg/L	0.0010	94	70	130			
Nickel		0.0972	mg/L	0.0050	94	70	130			
Silver		0.0318	mg/L	0.0010	80	70	130			
Uranium		0.140	mg/L	0.00030	114	70	130			
Vanadium		0.102	mg/L	0.010	102	70	130			
Zinc		0.0967	mg/L	0.010	93	70	130			
<b>Sample ID: R13010064-006C</b>	12 Post Digestion Spike Duplicate			Run: SUB-C169110				01/12/13 02:37		
Arsenic		0.108	mg/L	0.0010	108	70	130	4.9	20	
Cadmium		0.102	mg/L	0.0010	102	70	130	4.3	20	
Chromium		0.106	mg/L	0.0050	106	70	130	6.4	20	
Copper		0.0950	mg/L	0.0050	94	70	130	4.5	20	
Lead		0.112	mg/L	0.0010	112	70	130	3.9	20	
Manganese		0.151	mg/L	0.0010	111	70	130	4.9	20	
Molybdenum		0.112	mg/L	0.0010	100	70	130	5.7	20	
Nickel		0.103	mg/L	0.0050	100	70	130	5.6	20	
Silver		0.0345	mg/L	0.0010	86	70	130	8.1	20	
Uranium		0.146	mg/L	0.00030	120	70	130	4.4	20	
Vanadium		0.110	mg/L	0.010	110	70	130	7.2	20	
Zinc		0.100	mg/L	0.010	96	70	130	3.4	20	
<b>Method: E200.8</b>								Analytical Run: SUB-C169708		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard							01/29/13 17:27		
Selenium		0.0504	mg/L	0.0010	101	90	110			
<b>Method: E200.8</b>								Batch: C_R169708		
<b>Sample ID: LRB</b>	Method Blank			Run: SUB-C169708				01/29/13 13:51		
Selenium		ND	mg/L	0.0002						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank			Run: SUB-C169708				01/29/13 13:54		
Selenium		0.0512	mg/L	0.0010	102	85	115			
<b>Sample ID: R13010064-006C</b>	Post Digestion Spike			Run: SUB-C169708				01/29/13 20:01		
Selenium		0.0970	mg/L	0.0010	97	70	130			
<b>Sample ID: R13010064-006C</b>	Post Digestion Spike Duplicate			Run: SUB-C169708				01/29/13 20:04		
Selenium		0.0970	mg/L	0.0010	97	70	130	0.0	20	

### 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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: SUB-C169755		
<b>Sample ID: ICV</b> Initial Calibration Verification Standard										
Selenium		0.0504	mg/L	0.0010	101	90	110			01/30/13 21:48
<b>Method: E200.8</b>								Batch: C_R169755		
<b>Sample ID: LRB</b> Method Blank										
Selenium		ND	mg/L	0.0002				Run: SUB-C169755		01/30/13 13:46
<b>Sample ID: LFB</b> Laboratory Fortified Blank										
Selenium		0.0514	mg/L	0.0010	103	85	115	Run: SUB-C169755		01/30/13 13:49
<b>Sample ID: R13010064-001C</b> Post Digestion Spike										
Selenium		0.0997	mg/L	0.0010	96	70	130	Run: SUB-C169755		01/30/13 23:39
<b>Sample ID: R13010064-001C</b> Post Digestion Spike Duplicate										
Selenium		0.0986	mg/L	0.0010	95	70	130	1.1	20	01/30/13 23:42

**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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E245.1</b>								Analytical Run: SUB-C169309		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Mercury		0.0048	mg/L	0.00010	97	90	110			01/18/13 09:03
<b>Method: E245.1</b>								Batch: C_36309		
<b>Sample ID: MB-36309</b>	Method Blank									
Mercury		4E-05	mg/L	3E-05				Run: SUB-C169309		01/18/13 09:09
<b>Sample ID: LCS-36309</b>	Laboratory Control Sample									
Mercury		0.0050	mg/L	0.00010	98	85	115	Run: SUB-C169309		01/18/13 09:11
<b>Sample ID: R13010064-001B</b>	Sample Matrix Spike									
Mercury		0.0050	mg/L	0.00010	98	70	130	Run: SUB-C169309		01/18/13 09:29
<b>Sample ID: R13010064-001B</b>	Sample Matrix Spike Duplicate									
Mercury		0.0049	mg/L	0.00010	97	70	130	1.0	10	01/18/13 09:31
<b>Method: E245.1</b>								Batch: C_R169309		
<b>Sample ID: IPC</b>	Instrument Performance Check Sample									
Mercury		0.0050	mg/L	0.00010	100	95	105	Run: SUB-C169309		01/18/13 09:06

**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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>										
Analytical Run: DIONEX_130108A										
<b>Sample ID: CCV010813-28</b>	4	Continuing Calibration Verification Standard								01/08/13 23:28
Chloride		71.7	mg/L	1.0	96	90	110			
Fluoride		7.30	mg/L	0.10	97	90	110			
Nitrogen, Nitrate as N		7.12	mg/L	0.10	95	90	110			
Sulfate		71.4	mg/L	1.0	95	90	110			
<b>Sample ID: CCV010813-42</b>	4	Continuing Calibration Verification Standard								01/09/13 03:39
Chloride		71.5	mg/L	1.0	95	90	110			
Fluoride		7.30	mg/L	0.10	97	90	110			
Nitrogen, Nitrate as N		7.11	mg/L	0.10	95	90	110			
Sulfate		71.4	mg/L	1.0	95	90	110			
<b>Method: E300.0</b>										
Batch: R59495										
<b>Sample ID: LFB010813-14</b>	4	Laboratory Fortified Blank								01/08/13 19:35
Run: DIONEX_130108A										
Chloride		38.2	mg/L	1.0	96	90	110			
Fluoride		3.99	mg/L	0.10	100	90	110			
Nitrogen, Nitrate as N		3.85	mg/L	0.10	96	90	110			
Sulfate		38.6	mg/L	1.0	97	90	110			
<b>Sample ID: R13010060-009CMS</b>	4	Sample Matrix Spike								01/09/13 00:22
Run: DIONEX_130108A										
Chloride		50.9	mg/L	1.0	97	90	110			
Fluoride		4.97	mg/L	0.10	98	90	110			
Nitrogen, Nitrate as N		4.07	mg/L	0.10	94	90	110			
Sulfate		289	mg/L	1.0		90	110			A
<b>Sample ID: R13010060-009CMSD</b>	4	Sample Matrix Spike Duplicate								01/09/13 00:39
Run: DIONEX_130108A										
Chloride		50.9	mg/L	1.0	97	90	110	0.0	10	
Fluoride		4.98	mg/L	0.10	98	90	110	0.1	10	
Nitrogen, Nitrate as N		4.08	mg/L	0.10	94	90	110	0.0	10	
Sulfate		289	mg/L	1.0		90	110	0.1	10	A
<b>Sample ID: R13010064-003AMS</b>	4	Sample Matrix Spike								01/09/13 04:32
Run: DIONEX_130108A										
Chloride		1940	mg/L	50	89	90	110			S
Fluoride		202	mg/L	5.0	96	90	110			
Nitrogen, Nitrate as N		194	mg/L	5.0	97	90	110			
Sulfate		3950	mg/L	50	103	90	110			
<b>Sample ID: R13010064-003AMSD</b>	4	Sample Matrix Spike Duplicate								01/09/13 04:50
Run: DIONEX_130108A										
Chloride		1950	mg/L	50	90	90	110	0.2	10	
Fluoride		203	mg/L	5.0	97	90	110	0.1	10	
Nitrogen, Nitrate as N		194	mg/L	5.0	97	90	110	0.1	10	
Sulfate		3940	mg/L	50	103	90	110	0.2	10	

### 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





## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E900.0</b>								Batch: C_GrAB-1441		
<b>Sample ID: Th230-GrAB-1441</b>	Laboratory Control Sample			Run: SUB-C169330			01/18/13 21:31			
Gross Alpha	123	pCi/L		120		80	120			
<b>Sample ID: Sr90-GrAB-1441</b>	Laboratory Control Sample			Run: SUB-C169330			01/18/13 21:31			
Gross Beta	169	pCi/L		93		80	120			
<b>Sample ID: MB-GrAB-1441</b>	6 Method Blank			Run: SUB-C169330			01/18/13 21:31			
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 (±)	1	pCi/L								
Gross Beta MDC	3	pCi/L								
<b>Sample ID: R13010064-003E</b>	6 Sample Duplicate			Run: SUB-C169330			01/18/13 21:31			
Gross Alpha	18	pCi/L						38	68.9	
Gross Alpha precision (±)	6.2	pCi/L								
Gross Alpha MDC	9.0	pCi/L								
Gross Beta	2.4	pCi/L						120	894.3	U
Gross Beta precision (±)	7.5	pCi/L								
Gross Beta MDC	12	pCi/L								
<b>Sample ID: R13010064-005E</b>	Sample Matrix Spike			Run: SUB-C169330			01/18/13 21:31			
Gross Alpha	510	pCi/L		70		70	130			
<b>Sample ID: R13010064-005E</b>	Sample Matrix Spike Duplicate			Run: SUB-C169330			01/18/13 21:31			
Gross Alpha	520	pCi/L		73		70	130	3.6	18.1	
<b>Sample ID: R13010064-005E</b>	Sample Matrix Spike			Run: SUB-C169330			01/18/13 21:31			
Gross Beta	1000	pCi/L		100		70	130			
<b>Sample ID: R13010064-005E</b>	Sample Matrix Spike Duplicate			Run: SUB-C169330			01/18/13 21:31			
Gross Beta	1000	pCi/L		97		70	130	2.7	13.9	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E903.0</b>								Batch: C_RA226-6460		
<b>Sample ID: LCS-RA226-6460</b>		Laboratory Control Sample			Run: SUB-C169657			01/27/13 13:54		
Radium 226		6.4	pCi/L	103		80	120			
<b>Sample ID: MB-RA226-6460</b>		3 Method Blank			Run: SUB-C169657			01/27/13 13:54		
Radium 226		-0.05	pCi/L							U
Radium 226 precision (±)		0.09	pCi/L							
Radium 226 MDC		0.2	pCi/L							
<b>Sample ID: R13010064-001E</b>		Sample Matrix Spike			Run: SUB-C169657			01/27/13 13:54		
Radium 226		12	pCi/L	93		70	130			
<b>Sample ID: R13010064-001E</b>		Sample Matrix Spike Duplicate			Run: SUB-C169657			01/27/13 13:54		
Radium 226		12	pCi/L	94		70	130	0.4	27.3	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> RA-05								Batch: C_RA228-4315		
<b>Sample ID:</b> LCS-228-RA226-6460		Laboratory Control Sample			Run: SUB-C169474			01/22/13 19:33		
Radium 228		5.8	pCi/L	116		80	120			
<b>Sample ID:</b> MB-RA226-6460		3 Method Blank			Run: SUB-C169474			01/22/13 19:33		
Radium 228		0.6	pCi/L							U
Radium 228 precision (±)		0.8	pCi/L							
Radium 228 MDC		1	pCi/L							
<b>Sample ID:</b> R13010064-006E		Sample Matrix Spike			Run: SUB-C169474			01/22/13 19:33		
Radium 228		10.3	pCi/L	107		70	130			
<b>Sample ID:</b> R13010064-006E		Sample Matrix Spike Duplicate			Run: SUB-C169474			01/22/13 19:33		
Radium 228		11.3	pCi/L	119		70	130	9.5	44.8	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration



# Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: <i>Scott Env.</i>	Project Name, PWS, Permit, Etc. <i>PowerTech Alluvial Wells</i>	Sample Origin State:	EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>
Report Mail Address: <i>Scott Env. / PowerTech</i>	Contact Name: <i>Allen Scott</i>	Email:	Sampler: (Please Print)
Invoice Address: <i>PowerTech</i>	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats:

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

Number of Containers  
Sample Type: AW SV B O DW  
Air Water Soils/Solids  
Vegetation Bioassay Other  
DW - Drinking Water

*As Per Quok*

**ANALYSIS REQUESTED**

SEE ATTACHED

Standard Turnaround (TAT)

**RUSH**

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

Comments:

Shipped by:

Cooler ID(s):

Receipt Temp  
*2.6 °C*

On Ice:  Y  N

Custody Seal  
On Bottle Y N  
On Cooler Y N

Intact Y N  
Signature Match Y N

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX														
<i>DC-2</i>	<i>1-7-13</i>	<i>10:20</i>	<i>Water</i>	<i>✓</i>													
<i>DC-4</i>	<i>11</i>	<i>11:30</i>	<i>11</i>	<i>✓</i>													
<i>BC-3</i>	<i>11</i>	<i>12:50</i>	<i>11</i>	<i>✓</i>													
<i>BC-1</i>	<i>11</i>	<i>13:55</i>	<i>11</i>	<i>✓</i>													
<i>BC-Dup</i>	<i>11</i>	<i>13:56</i>	<i>11</i>	<i>✓</i>													
<i>BC-2</i>	<i>11</i>	<i>15:10</i>	<i>11</i>	<i>✓</i>													
<i>708</i>	<i>11</i>	<i>15:50</i>	<i>11</i>	<i>✓</i>													
<i>712</i>	<i>11</i>	<i>16:27</i>	<i>11</i>	<i>✓</i>													

LABORATORY USE ONLY

*R13010064-001*

*002*

*003*

*004*

*005*

*006*

<b>Custody Record MUST be Signed</b>	Relinquished by (print): <i>Allen Scott</i>	Date/Time: <i>1-8-13 8:42</i>	Signature: <i>[Signature]</i>	Received by (print):	Date/Time:	Signature:
	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
	Sample Disposal: Return to Client:	Lab Disposal:	Received by Laboratory: <i>Stuefvenland</i>	Date/Time: <i>1-8-13 8:42</i>	Signature: <i>[Signature]</i>	

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

February 28, 2013

Powertech USA Inc  
PO Box 812  
Edgemont, SD 57735

Workorder No.: R13010096                      Quote ID: R411

Project Name: Alluvial Wells Dewey Burdock

Energy Laboratories Inc. Rapid City SD received the following 1 sample for Powertech USA Inc on 1/9/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
R13010096-001	DC-1	01/08/13 10:50	01/09/13	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

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: 2013.02.28 15:44:04 -07:00



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Analytical Excellence Since 1952

Helena, MT 877-472-0711 \* Billings, MT 800-735-4489 \* Casper, WY 888-235-0515  
Gillette, WY 866-686-7175 \* Rapid City, SD 888-672-1225 \* College Station, TX 888-690-2218

**CLIENT:** Powertech USA Inc  
**Project:** Alluvial Wells Dewey Burdock  
**Sample Delivery Group:** R13010096

**Report Date:** 02/28/13

## **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:** R13010096-001  
**Client Sample ID:** DC-1

**Report Date:** 02/28/13  
**Collection Date:** 01/08/13 10:50  
**Date Received:** 01/09/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	6520	umhos/cm		5.0			1	A2510 B	01/10/13 10:50/tb
pH	7.10	su		0.01			1	A4500-H B	01/10/13 10:11/tb
Solids, Total Dissolved TDS @ 180 C	5780	mg/L		100			1	A2540 C	01/14/13 15:36/jmh
Alkalinity, Total as CaCO3	368	mg/L		5			1	A2320 B	01/18/13 15:29/ch
Carbonate as CO3	ND	mg/L		5			1	A2320 B	01/18/13 15:29/ch
Bicarbonate as HCO3	449	mg/L		5			1	A2320 B	01/18/13 15:29/ch
<b>INORGANIC PARAMETERS</b>									
Chloride	101	mg/L		1			1	E300.0	01/10/13 01:29/tb
Fluoride	1.1	mg/L		0.1			1	E300.0	01/10/13 01:29/tb
Sulfate	3890	mg/L	D	50			50	E300.0	01/10/13 01:47/tb
<b>DATA QUALITY PARAMETERS</b>									
Anions	92.1	meq/L		1.00			1	A1030 E	02/27/13 00:00/lk
Cations	106	meq/L		1.00			1	A1030 E	02/27/13 00:00/lk
Conductivity, Calculated	7230	umhos/cm		1.00			1	A1030 E	02/27/13 00:00/lk
TDS Ratio	0.910			0.0100			1	A1030 E	02/27/13 00:00/lk
A/C Balance	7.00	%					1	A1030 E	02/27/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	12.6	mg/L		0.1			1	E300.0	01/10/13 01:29/tb
<b>RADIONUCLIDES - DISSOLVED</b>									
Gross Alpha	41.4	pCi/L					1	E900.0	02/05/13 05:21/eli-ca
Gross Alpha precision (±)	13.7	pCi/L					1	E900.0	02/05/13 05:21/eli-ca
Gross Alpha MDC	19.0	pCi/L					1	E900.0	02/05/13 05:21/eli-ca
Gross Beta	-5	pCi/L	U				1	E900.0	02/05/13 05:21/eli-ca
Gross Beta precision (±)	15.5	pCi/L					1	E900.0	02/05/13 05:21/eli-ca
Gross Beta MDC	26.1	pCi/L					1	E900.0	02/05/13 05:21/eli-ca
Radium 228	0.7	pCi/L	U				1	RA-05	01/24/13 00:44/eli-ca
Radium 228 precision (±)	0.9	pCi/L					1	RA-05	01/24/13 00:44/eli-ca
Radium 228 MDC	1.4	pCi/L					1	RA-05	01/24/13 00:44/eli-ca
Radium 226	0.4	pCi/L					1	E903.0	01/29/13 01:02/eli-ca
Radium 226 precision (±)	0.2	pCi/L					1	E903.0	01/29/13 01:02/eli-ca
Radium 226 MDC	0.2	pCi/L					1	E903.0	01/29/13 01:02/eli-ca
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222	416	pCi/L					1	D5072-92	01/11/13 17:27/eli-ca
Radon 222 precision (±)	123	pCi/L					1	D5072-92	01/11/13 17:27/eli-ca

**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:** R13010096-001  
**Client Sample ID:** DC-1

**Report Date:** 02/28/13  
**Collection Date:** 01/08/13 10:50  
**Date Received:** 01/09/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222 MDC	198	pCi/L					1	D5072-92	01/11/13 17:27/eli-ca
<b>TOTAL METALS ANALYSES</b>									
Mercury	ND	mg/L		0.0001			1	E245.1	01/18/13 10:25/eli-ca
<b>DISSOLVED METALS ANALYSES</b>									
Arsenic	ND	mg/L		0.001			2	E200.8	01/19/13 04:01/eli-ca
Barium	ND	mg/L		0.05			1	E200.7	01/18/13 17:12/eli-ca
Boron	1.12	mg/L		0.05			2	E200.8	01/19/13 04:01/eli-ca
Cadmium	0.002	mg/L		0.001			1	E200.7	01/16/13 17:12/eli-ca
Chromium	ND	mg/L		0.005			1	E200.7	01/16/13 17:12/eli-ca
Copper	ND	mg/L		0.005			1	E200.7	01/16/13 17:12/eli-ca
Iron	ND	mg/L		0.03			2	E200.7	01/17/13 19:22/eli-ca
Lead	ND	mg/L		0.001			2	E200.8	01/19/13 04:01/eli-ca
Manganese	0.576	mg/L		0.001			1	E200.7	01/16/13 17:12/eli-ca
Molybdenum	0.001	mg/L		0.001			2	E200.8	01/19/13 04:01/eli-ca
Nickel	0.075	mg/L		0.005			1	E200.7	01/18/13 17:12/eli-ca
Selenium	0.050	mg/L		0.001			2	E200.8	01/19/13 04:01/eli-ca
Silver	ND	mg/L		0.001			2	E200.8	01/19/13 04:01/eli-ca
Uranium	0.0135	mg/L		0.0003			2	E200.8	01/19/13 04:01/eli-ca
Vanadium	ND	mg/L		0.01			2	E200.8	01/19/13 04:01/eli-ca
Zinc	0.18	mg/L		0.01			1	E200.7	01/16/13 17:12/eli-ca
Calcium	419	mg/L		1			1	E200.7	01/16/13 17:12/eli-ca
Magnesium	348	mg/L		1			2	E200.8	01/19/13 04:01/eli-ca
Potassium	12	mg/L		1			2	E200.7	02/14/13 18:36/eli-ca
Sodium	1290	mg/L		1			2	E200.7	01/17/13 19:22/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 MDC - Minimum detectable concentration

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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2320 B</b>								Batch: 130118A-ALK-SEL-W		
<b>Sample ID: LCS1_130118A</b> Laboratory Control Sample										
Alkalinity, Total as CaCO3	968	mg/L	5.0	97	90	110	Run: PH_COND1-R_130118A	01/18/13 14:55		
<b>Sample ID: MBLK1_130118A</b> Method Blank										
Alkalinity, Total as CaCO3	ND	mg/L	2				Run: PH_COND1-R_130118A	01/18/13 15:00		
<b>Sample ID: R13010089-003AMS</b> Sample Matrix Spike										
Alkalinity, Total as CaCO3	324	mg/L	5.0	94	80	120	Run: PH_COND1-R_130118A	01/18/13 15:09		

**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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2510 B</b>								Batch: 130110_1_COND-PROBE-W		
<b>Sample ID: MBLK-1_130110</b>		Method Blank								
Conductivity @ 25 C		ND	umhos/cm	5			Run: PH_COND2-R_130110C			01/10/13 10:42
<b>Sample ID: R13010090-002ADUP</b>		Sample Duplicate								
Conductivity @ 25 C		9.41	umhos/cm	5.0			Run: PH_COND2-R_130110C	1.0	10	01/10/13 10:46

### 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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2540 C</b>								Batch: TDS130114A		
<b>Sample ID: MB-1_130114A</b>		Method Blank			Run: BAL-TDS_130114A			01/14/13 15:26		
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	3						
<b>Sample ID: LCS-2_130114A</b>		Laboratory Control Sample			Run: BAL-TDS_130114A			01/14/13 15:28		
Solids, Total Dissolved TDS @ 180 C		490	mg/L	10	99	90	110			
<b>Sample ID: R13010089-002A MS</b>		Sample Matrix Spike			Run: BAL-TDS_130114A			01/14/13 15:31		
Solids, Total Dissolved TDS @ 180 C		730	mg/L	10	101	90	110			

### 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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-H B								Analytical Run: PH_COND2-R_130110B		
<b>Sample ID:</b> ICV-1_130110	Initial Calibration Verification Standard									01/10/13 10:01
pH		7.40	su	0.010	100	98	102			
<b>Method:</b> A4500-H B								Batch: 130110_1_PH-W		
<b>Sample ID:</b> ICV1-1_130110	Initial Calibration Verification Standard						Run: PH_COND2-R_130110B			01/10/13 09:59
pH		12.1	su	0.010	101	99	101			
<b>Sample ID:</b> R13010086-002CDUP	Sample Duplicate						Run: PH_COND2-R_130110B			01/10/13 10:08
pH		12.0	su	0.010				0.1	3	

**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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: D5072-92</b>								Batch: C_R169189		
<b>Sample ID: R13010096-001D</b>	3	Sample Duplicate					Run: SUB-C169189			01/11/13 18:20
Radon 222		294	pCi/L					34	20	R
Radon 222 precision (±)		122	pCi/L							
Radon 222 MDC		198	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis; however, the RER of 0.9 is less than the limit of 2.0. This batch is approved.										
<b>Sample ID: MB-R169189</b>	3	Method Blank					Run: SUB-C169189			01/10/13 20:49
Radon 222		50	pCi/L							U
Radon 222 precision (±)		70	pCi/L							
Radon 222 MDC		100	pCi/L							
<b>Sample ID: LCS-R169189</b>		Laboratory Control Sample					Run: SUB-C169189			01/10/13 20:49
Radon 222		480	pCi/L		84	80	120			

### Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										Analytical Run: SUB-C169269
<b>Sample ID: ICV</b>	8	Initial Calibration Verification Standard								01/16/13 14:37
Barium		0.98	mg/L	0.10	98	95	105			
Cadmium		0.47	mg/L	0.010	95	95	105			
Chromium		0.95	mg/L	0.050	95	95	105			
Copper		0.96	mg/L	0.010	96	95	105			
Magnesium		50	mg/L	0.50	99	95	105			
Manganese		4.8	mg/L	0.010	95	95	105			
Nickel		0.95	mg/L	0.050	95	95	105			
Zinc		0.98	mg/L	0.010	98	95	105			
<b>Sample ID: ICSA</b>	8	Interference Check Sample A								01/16/13 14:51
Barium		0.00054	mg/L	0.10						
Cadmium		0.0010	mg/L	0.010						
Chromium		-0.021	mg/L	0.050						
Copper		0.0019	mg/L	0.010						
Magnesium		480	mg/L	0.50	95	80	120			
Manganese		0.014	mg/L	0.010						
Nickel		0.00031	mg/L	0.050						
Zinc		0.016	mg/L	0.010						
<b>Sample ID: ICSAB</b>	8	Interference Check Sample AB								01/16/13 14:55
Barium		0.45	mg/L	0.10	91	80	120			
Cadmium		0.82	mg/L	0.010	82	80	120			
Chromium		0.42	mg/L	0.050	85	80	120			
Copper		0.45	mg/L	0.010	90	80	120			
Magnesium		480	mg/L	0.50	96	80	120			
Manganese		0.44	mg/L	0.010	89	80	120			
Nickel		0.80	mg/L	0.050	80	80	120			
Zinc		0.84	mg/L	0.010	84	80	120			
<b>Method: E200.7</b>										Batch: C_R169269
<b>Sample ID: MB-130116A</b>	8	Method Blank							Run: SUB-C169269	01/16/13 15:14
Barium		ND	mg/L	0.0002						
Cadmium		0.0005	mg/L	0.0004						
Chromium		ND	mg/L	0.002						
Copper		ND	mg/L	0.004						
Magnesium		0.05	mg/L	0.01						
Manganese		ND	mg/L	0.0010						
Nickel		0.002	mg/L	0.002						
Zinc		0.002	mg/L	0.001						
<b>Sample ID: LFB-130116A</b>	8	Laboratory Fortified Blank							Run: SUB-C169269	01/16/13 15:17
Barium		1.0	mg/L	0.10	103	85	115			
Cadmium		0.95	mg/L	0.010	95	85	115			
Chromium		0.97	mg/L	0.050	97	85	115			
Copper		1.00	mg/L	0.010	100	85	115			

**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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										
Batch: C_R169269										
<b>Sample ID: LFB-130116A</b>	8	Laboratory Fortified Blank					Run: SUB-C169269			01/16/13 15:17
Magnesium		50	mg/L	0.50	99	85	115			
Manganese		0.98	mg/L	0.010	98	85	115			
Nickel		0.95	mg/L	0.050	95	85	115			
Zinc		0.95	mg/L	0.010	95	85	115			
<b>Sample ID: C13010398-004CMS2</b>	8	Sample Matrix Spike					Run: SUB-C169269			01/16/13 18:08
Barium		0.964	mg/L	0.050	94	70	130			
Cadmium		0.921	mg/L	0.0010	90	70	130			
Chromium		0.932	mg/L	0.0050	91	70	130			
Copper		0.936	mg/L	0.0050	92	70	130			
Manganese		0.943	mg/L	0.0010	91	70	130			
Nickel		0.912	mg/L	0.0050	89	70	130			
Zinc		0.923	mg/L	0.010	90	70	130			
Magnesium		49.6	mg/L	1.0	96	70	130			
<b>Sample ID: C13010398-004CMSD</b>	8	Sample Matrix Spike Duplicate					Run: SUB-C169269			01/16/13 18:11
Barium		0.952	mg/L	0.050	93	70	130	1.3	20	
Cadmium		0.920	mg/L	0.0010	90	70	130	0.2	20	
Chromium		0.930	mg/L	0.0050	91	70	130	0.3	20	
Copper		0.929	mg/L	0.0050	91	70	130	0.8	20	
Manganese		0.942	mg/L	0.0010	91	70	130	0.1	20	
Nickel		0.909	mg/L	0.0050	89	70	130	0.3	20	
Zinc		0.925	mg/L	0.010	90	70	130	0.2	20	
Magnesium		49.6	mg/L	1.0	96	70	130	0.1	20	

**Qualifiers:**

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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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>		Analytical Run: SUB-C169303								
<b>Sample ID: ICV</b>	4	Initial Calibration Verification Standard								01/17/13 12:52
Calcium		51	mg/L	0.50	103	95	105			
Iron		5.2	mg/L	0.030	104	95	105			
Potassium		47	mg/L	0.50	95	95	105			
Sodium		52	mg/L	0.50	104	95	105			
<b>Sample ID: ICSA</b>	4	Interference Check Sample A								01/17/13 13:20
Calcium		500	mg/L	0.50	99	80	120			
Iron		190	mg/L	0.030	94	80	120			
Potassium		-0.0011	mg/L	0.50						
Sodium		0.33	mg/L	0.50						
<b>Sample ID: ICSAB</b>	4	Interference Check Sample AB								01/17/13 13:24
Calcium		500	mg/L	0.50	100	80	120			
Iron		190	mg/L	0.030	95	80	120			
Potassium		0.00060	mg/L	0.50						
Sodium		0.22	mg/L	0.50						
<b>Method: E200.7</b>		Batch: C_R169303								
<b>Sample ID: MB-130117A</b>	4	Method Blank				Run: SUB-C169303			01/17/13 13:48	
Calcium		ND	mg/L	0.06						
Iron		ND	mg/L	0.001						
Potassium		ND	mg/L	0.06						
Sodium		ND	mg/L	0.3						
<b>Sample ID: LFB-130117A</b>	4	Laboratory Fortified Blank				Run: SUB-C169303			01/17/13 13:52	
Calcium		50	mg/L	0.50	100	85	115			
Iron		0.99	mg/L	0.030	99	85	115			
Potassium		46	mg/L	0.50	93	85	115			
Sodium		49	mg/L	0.50	99	85	115			
<b>Sample ID: C13010397-001BMS2</b>	4	Sample Matrix Spike				Run: SUB-C169303			01/17/13 18:50	
Iron		0.960	mg/L	0.030	94	70	130			
Calcium		90.4	mg/L	1.0	95	70	130			
Potassium		50.1	mg/L	1.0	93	70	130			
Sodium		127	mg/L	1.0	98	70	130			
<b>Sample ID: C13010397-001BMSD</b>	4	Sample Matrix Spike Duplicate				Run: SUB-C169303			01/17/13 18:54	
Iron		0.965	mg/L	0.030	95	70	130	0.5	20	
Calcium		93.8	mg/L	1.0	102	70	130	3.8	20	
Potassium		49.5	mg/L	1.0	91	70	130	1.1	20	
Sodium		129	mg/L	1.0	102	70	130	1.7	20	

**Qualifiers:**

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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: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: SUB-C170429			
<b>Sample ID: ICV</b>	4	Initial Calibration Verification Standard									02/14/13 13:54
Calcium		50	mg/L	0.50	101	95	105				
Magnesium		52	mg/L	0.50	104	95	105				
Potassium		48	mg/L	0.50	97	95	105				
Sodium		52	mg/L	0.50	104	95	105				
<b>Sample ID: ICSA</b>	4	Interference Check Sample A									02/14/13 14:22
Calcium		480	mg/L	0.50	96	80	120				
Magnesium		510	mg/L	0.50	102	80	120				
Potassium		-0.00030	mg/L	0.50							
Sodium		0.12	mg/L	0.50							
<b>Sample ID: ICSAB</b>	4	Interference Check Sample AB									02/14/13 14:26
Calcium		490	mg/L	0.50	99	80	120				
Magnesium		510	mg/L	0.50	102	80	120				
Potassium		-0.0017	mg/L	0.50							
Sodium		0.12	mg/L	0.50							
<b>Method: E200.7</b>								Batch: C_R170429			
<b>Sample ID: MB-130214A</b>	4	Method Blank									02/14/13 14:51
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-130214A</b>	4	Laboratory Fortified Blank									02/14/13 14:55
Calcium		50	mg/L	0.50	99	85	115				
Magnesium		50	mg/L	0.50	99	85	115				
Potassium		47	mg/L	0.50	94	85	115				
Sodium		51	mg/L	0.50	101	85	115				
<b>Sample ID: R13010096-001C</b>	4	Sample Matrix Spike									02/14/13 18:40
Calcium		548	mg/L	1.0		70	130			A	
Magnesium		508	mg/L	1.0		70	130			A	
Potassium		110	mg/L	1.0	96	70	130				
Sodium		1390	mg/L	1.0		70	130			A	
<b>Sample ID: R13010096-001C</b>	4	Sample Matrix Spike Duplicate									02/14/13 18:44
Calcium		554	mg/L	1.0		70	130	1.2	20	A	
Magnesium		507	mg/L	1.0		70	130	0.2	20	A	
Potassium		111	mg/L	1.0	97	70	130	0.7	20		
Sodium		1410	mg/L	1.0		70	130	1.2	20	A	

### 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

Report Date: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>		Analytical Run: SUB-C169332								
<b>Sample ID: ICV</b>	8	Initial Calibration Verification Standard						01/19/13 01:22		
Arsenic		0.0530	mg/L	0.0010	106	90	110			
Boron		0.0545	mg/L	0.0010	109	90	110			
Lead		0.0507	mg/L	0.0010	101	90	110			
Molybdenum		0.0496	mg/L	0.0010	99	90	110			
Selenium		0.0453	mg/L	0.0010	91	90	110			
Silver		0.0204	mg/L	0.0010	102	90	110			
Uranium		0.0493	mg/L	0.00030	99	90	110			
Vanadium		0.0526	mg/L	0.0010	105	90	110			
<b>Method: E200.8</b>		Batch: C_R169332								
<b>Sample ID: LRB</b>	8	Method Blank			Run: SUB-C169332			01/18/13 13:01		
Arsenic		ND	mg/L	5E-05						
Boron		ND	mg/L	0.0004						
Lead		ND	mg/L	2E-05						
Molybdenum		ND	mg/L	3E-05						
Selenium		ND	mg/L	7E-05						
Silver		0.0002	mg/L	6E-05						
Uranium		6E-05	mg/L	9E-06						
Vanadium		ND	mg/L	4E-05						
<b>Sample ID: LFB</b>	8	Laboratory Fortified Blank			Run: SUB-C169332			01/18/13 13:05		
Arsenic		0.0520	mg/L	0.0010	104	85	115			
Boron		0.0511	mg/L	0.0010	102	85	115			
Lead		0.0510	mg/L	0.0010	102	85	115			
Molybdenum		0.0497	mg/L	0.0010	99	85	115			
Selenium		0.0519	mg/L	0.0010	104	85	115			
Silver		0.0202	mg/L	0.0010	100	85	115			
Uranium		0.0502	mg/L	0.00030	100	85	115			
Vanadium		0.0514	mg/L	0.0010	103	85	115			
<b>Sample ID: C13010359-001BMS4</b>	8	Post Digestion Spike			Run: SUB-C169332			01/19/13 03:48		
Arsenic		0.109	mg/L	0.0010	108	70	130			
Boron		0.399	mg/L	0.050	77	70	130			
Lead		0.112	mg/L	0.0010	112	70	130			
Molybdenum		0.104	mg/L	0.0010	102	70	130			
Selenium		0.0946	mg/L	0.0010	94	70	130			
Silver		0.0319	mg/L	0.0010	80	70	130			
Uranium		0.118	mg/L	0.00030	117	70	130			
Vanadium		0.109	mg/L	0.010	109	70	130			
<b>Sample ID: C13010359-001BMSD</b>	8	Post Digestion Spike Duplicate			Run: SUB-C169332			01/19/13 03:52		
Arsenic		0.111	mg/L	0.0010	110	70	130	1.9	20	
Boron		0.388	mg/L	0.050	67	70	130	2.7	20	S
Lead		0.106	mg/L	0.0010	106	70	130	5.3	20	
Molybdenum		0.0998	mg/L	0.0010	98	70	130	4.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Batch: C_R169332		
<b>Sample ID: C13010359-001BMSD</b>				8 Post Digestion Spike Duplicate		Run: SUB-C169332				01/19/13 03:52
Selenium		0.105	mg/L	0.0010	105	70	130	11	20	
Silver		0.0339	mg/L	0.0010	85	70	130	5.9	20	
Uranium		0.111	mg/L	0.00030	111	70	130	5.4	20	
Vanadium		0.110	mg/L	0.010	110	70	130	0.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

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MDC - Minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E245.1</b>								Analytical Run: SUB-C169309		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Mercury		0.0048	mg/L	0.00010	97	90	110			01/18/13 09:03
<b>Method: E245.1</b>								Batch: C_36309		
<b>Sample ID: MB-36309</b>	Method Blank									
Mercury		4E-05	mg/L	3E-05						01/18/13 09:09
<b>Sample ID: LCS-36309</b>	Laboratory Control Sample									
Mercury		0.0050	mg/L	0.00010	98	85	115			01/18/13 09:11
<b>Sample ID: R13010064-001B</b>	Sample Matrix Spike									
Mercury		0.0050	mg/L	0.00010	98	70	130			01/18/13 09:29
<b>Sample ID: R13010064-001B</b>	Sample Matrix Spike Duplicate									
Mercury		0.0049	mg/L	0.00010	97	70	130	1.0	10	01/18/13 09:31
<b>Method: E245.1</b>								Batch: C_R169309		
<b>Sample ID: IPC</b>	Instrument Performance Check Sample									
Mercury		0.0050	mg/L	0.00010	100	95	105			01/18/13 09:06

### Qualifiers:

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MDC - Minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>								Analytical Run: DIONEX_130109A		
<b>Sample ID: CCV010913-28</b>	4	Continuing Calibration Verification Standard								01/09/13 23:24
Chloride		71.5	mg/L	1.0	95	90	110			
Fluoride		7.27	mg/L	0.10	97	90	110			
Nitrogen, Nitrate as N		7.12	mg/L	0.10	95	90	110			
Sulfate		71.1	mg/L	1.0	95	90	110			
<b>Method: E300.0</b>								Batch: R59506		
<b>Sample ID: LFB010913-14</b>	4	Laboratory Fortified Blank						Run: DIONEX_130109A		01/09/13 19:31
Chloride		38.1	mg/L	1.0	95	90	110			
Fluoride		3.97	mg/L	0.10	99	90	110			
Nitrogen, Nitrate as N		3.84	mg/L	0.10	96	90	110			
Sulfate		38.4	mg/L	1.0	96	90	110			
<b>Sample ID: R13010092-001BMS</b>	4	Sample Matrix Spike						Run: DIONEX_130109A		01/10/13 00:18
Chloride		40.0	mg/L	1.0	88	90	110			S
Fluoride		4.42	mg/L	0.10	94	90	110			
Nitrogen, Nitrate as N		3.85	mg/L	0.10	91	90	110			
Sulfate		291	mg/L	1.0		90	110			A
<b>Sample ID: R13010092-001BMSD</b>	4	Sample Matrix Spike Duplicate						Run: DIONEX_130109A		01/10/13 00:35
Chloride		40.0	mg/L	1.0	88	90	110	0.1	10	S
Fluoride		4.44	mg/L	0.10	94	90	110	0.5	10	
Nitrogen, Nitrate as N		3.86	mg/L	0.10	91	90	110	0.1	10	
Sulfate		291	mg/L	1.0		90	110	0.1	10	A

**Qualifiers:**

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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



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E900.0</b>								Batch: C_GrAB-1457		
<b>Sample ID: Th230-GrAB-1457</b>	Laboratory Control Sample			Run: SUB-C169977			02/05/13 05:21			
Gross Alpha	125		pCi/L	117		80	120			
<b>Sample ID: Sr90-GrAB-1457</b>	Laboratory Control Sample			Run: SUB-C169977			02/05/13 05:21			
Gross Beta	165		pCi/L	91		80	120			
<b>Sample ID: MB-GrAB-1457</b>	6 Method Blank			Run: SUB-C169977			02/05/13 05:21			
Gross Alpha	2		pCi/L							
Gross Alpha precision (±)	0.7		pCi/L							
Gross Alpha MDC	1		pCi/L							
Gross Beta	-2		pCi/L							U
Gross Beta precision (±)	1		pCi/L							
Gross Beta MDC	2		pCi/L							
<b>Sample ID: C13010869-001FMS</b>	Sample Matrix Spike			Run: SUB-C169977			02/05/13 05:22			
Gross Alpha	125		pCi/L	111		70	130			
<b>Sample ID: C13010869-001FMSD</b>	Sample Matrix Spike Duplicate			Run: SUB-C169977			02/05/13 05:22			
Gross Alpha	119		pCi/L	106		70	130	4.4	15.7	
<b>Sample ID: C13010869-001FMS</b>	Sample Matrix Spike			Run: SUB-C169977			02/05/13 05:21			
Gross Beta	219		pCi/L	116		70	130			
<b>Sample ID: C13010869-001FMSD</b>	Sample Matrix Spike Duplicate			Run: SUB-C169977			02/05/13 05:21			
Gross Beta	205		pCi/L	108		70	130	6.6	13.4	
<b>Sample ID: TAP WATERDUP</b>	6 Sample Duplicate			Run: SUB-C169977			02/05/13 05:22			
Gross Alpha	8.24		pCi/L					11	41.4	
Gross Alpha precision (±)	1.36		pCi/L							
Gross Alpha MDC	1.55		pCi/L							
Gross Beta	2.72		pCi/L					45	143	
Gross Beta precision (±)	1.48		pCi/L							
Gross Beta MDC	2.39		pCi/L							

**Qualifiers:**

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ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E903.0</b>								Batch: C_RA226-6475		
<b>Sample ID: C13010326-002IMS</b>		Sample Matrix Spike				Run: SUB-C169651			01/28/13 21:52	
Radium 226	12		pCi/L	99		70	130			
<b>Sample ID: C13010326-002IMSD</b>		Sample Matrix Spike Duplicate				Run: SUB-C169651			01/28/13 21:52	
Radium 226	11		pCi/L	87		70	130	13	26.2	
<b>Sample ID: MB-RA226-6475</b>	3	Method Blank				Run: SUB-C169651			01/29/13 01:02	
Radium 226		0.007	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
<b>Sample ID: LCS-RA226-6475</b>		Laboratory Control Sample				Run: SUB-C169651			01/29/13 01:02	
Radium 226	6.7		pCi/L	106		80	120			

### Qualifiers:

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ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 02/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13010096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: RA-05</b>								Batch: C_RA228-4322		
<b>Sample ID: LCS-228-RA226-6475</b>		Laboratory Control Sample			Run: SUB-C169518			01/23/13 23:11		
Radium 228		5.1	pCi/L	97		80	120			
<b>Sample ID: MB-RA226-6475</b>		3 Method Blank			Run: SUB-C169518			01/23/13 23:11		
Radium 228		0.7	pCi/L							U
Radium 228 precision (±)		0.7	pCi/L							
Radium 228 MDC		1	pCi/L							
<b>Sample ID: C13010326-003IMS</b>		Sample Matrix Spike			Run: SUB-C169518			01/23/13 23:11		
Radium 228		8.7	pCi/L	86		70	130			
<b>Sample ID: C13010326-003IMSD</b>		Sample Matrix Spike Duplicate			Run: SUB-C169518			01/23/13 23:11		
Radium 228		8.2	pCi/L	81		70	130	6.1		48.3

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration





# Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: <i>Scott Env.</i>	Project Name, PWS, Permit, Etc. <i>PowerTech Alluvial Wells</i>	Sample Origin State:	EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>
Report Mail Address: <i>PowerTech</i>	Contact Name: <i>Allen Scott / Lisa Schinost</i>	Phone/Fax:	Email:
Invoice Address: <i>PowerTech</i>	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats:			ANALYSIS REQUESTED SEE ATTACHED Standard Turnaround (TAT)	R U S H	Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page Comments:	Shipped by:
<input type="checkbox"/> DW <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP <b>Format:</b> _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC						Number of Containers Sample Type: AW SV B O DW Air Water Solids/Solids Vegetation Bioassay Other DW - Drinking Water <i>AW Per Duck</i>
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX			
<i>713</i>	<i>1-8-13</i>	<i>12:50</i>	<i>Water</i> ✓			
<i>714</i>	<i>1-8-13</i>	<i>13:45</i>	<i>"</i> ✓			
<i>711</i>	<i>1-8-13</i>	<i>14:25</i>	<i>"</i> ✓			
<i>PF-2</i>	<i>1-8-13</i>	<i>15:30</i>	<i>"</i> ✓			
<i>715</i>	<i>1-8-13</i>	<i>16:28</i>	<i>"</i> ✓			
<i>DC-1</i>	<i>1-8-13</i>	<i>10:50</i>	<i>"</i> ✓			
<i>DC-3</i>	<i>1-8-13</i>	<i>11:22</i>	<i>"</i> ✓			

LABORATORY USE ONLY

*13010016-001A*

<b>Custody Record MUST be Signed</b>	Relinquished by (print): <i>Allen Scott</i>	Date/Time: <i>1-9-13</i>	Signature: <i>Allen Scott</i>	Received by (print):	Date/Time:	Signature:
	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
	Sample Disposal: <i>Return to Client</i>	Lab Disposal:	Received by Laboratory: <i>Oliver Folland</i>	Date/Time: <i>1-9-13 11:00</i>	Signature: <i>[Signature]</i>	

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.energlab.com](http://www.energlab.com) for additional information, downloadable fee schedule, forms, and links.



# ANALYTICAL SUMMARY REPORT

January 21, 2013

Powertech USA Inc  
PO Box 812  
Edgemont, SD 57735

Workorder No.: R13010097                      Quote ID: R412  
Project Name: #708 Plus Alluvial

Energy Laboratories Inc. Rapid City SD received the following 6 samples for Powertech USA Inc on 1/9/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
R13010097-001	DC-3	01/08/13 11:22	01/09/13	Aqueous	Metals by ICP/ICPMS, Dissolved Anion - Cation Balance Anions by Ion Chromatography Dissolved Filtration Solids, Total Dissolved
R13010097-002	713	01/08/13 12:50	01/09/13	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Anion - Cation Balance Conductivity Anions by Ion Chromatography pH Dissolved Filtration Solids, Total Dissolved
R13010097-003	714	01/08/13 13:45	01/09/13	Aqueous	Same As Above
R13010097-004	711	01/08/13 14:25	01/09/13	Aqueous	Same As Above
R13010097-005	BI-2	01/08/13 15:30	01/09/13	Aqueous	Same As Above
R13010097-006	715	01/08/13 11:22	01/09/13	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: 2013.01.21 16:46:56 -07:00



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Gillette, WY 866-686-7175 • Rapid City, SD 888-672-1225 • College Station, TX 888-690-2218

**CLIENT:** Powertech USA Inc  
**Project:** #708 Plus Alluvial  
**Sample Delivery Group:** R13010097

**Report Date:** 01/21/13

## **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 Plus Alluvial  
**Lab ID:** R13010097-001  
**Client Sample ID:** DC-3

**Report Date:** 01/21/13  
**Collection Date:** 01/08/13 11:22  
**Date Received:** 01/09/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/			Method	Analysis Date / By
				RL	QCL	DF		
<b>PHYSICAL PARAMETERS</b>								
Solids, Total Dissolved TDS @ 180 C	11400	mg/L		100		1	A2540 C	01/14/13 15:37/jmh
<b>INORGANIC PARAMETERS</b>								
Chloride	1360	mg/L	D	100		100	E300.0	01/10/13 02:23/tb
Fluoride	4.4	mg/L		0.1		1	E300.0	01/10/13 02:05/tb
Sulfate	6060	mg/L	D	100		100	E300.0	01/10/13 02:23/tb
<b>DATA QUALITY PARAMETERS</b>								
Anions	165	meq/L		1.00		1	A1030 E	01/21/13 00:00/lkd
Cations	171	meq/L		1.00		1	A1030 E	01/21/13 00:00/lkd
Conductivity, Calculated	11900	umhos/cm		1.00		1	A1030 E	01/21/13 00:00/lkd
TDS Ratio	1.07			0.0100		1	A1030 E	01/21/13 00:00/lkd
A/C Balance	1.74	%				1	A1030 E	01/21/13 00:00/lkd
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	3.6	mg/L		0.1		1	E300.0	01/10/13 02:05/tb
<b>DISSOLVED METALS ANALYSES</b>								
Calcium	442	mg/L		1		5	E200.7	01/14/13 23:30/eli-ca
Magnesium	770	mg/L		1		5	E200.7	01/14/13 23:30/eli-ca
Potassium	46	mg/L		1		5	E200.7	01/14/13 23:30/eli-ca
Sodium	1940	mg/L	D	2		5	E200.7	01/14/13 23:30/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:** R13010097-002  
**Client Sample ID:** 713

**Report Date:** 01/21/13  
**Collection Date:** 01/08/13 12:50  
**Date Received:** 01/09/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By
					QCL	DF		
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	4220	umhos/cm		5.0		1	A2510 B	01/10/13 10:51/tb
pH	7.20	su		0.01		1	A4500-H B	01/10/13 10:13/tb
Solids, Total Dissolved TDS @ 180 C	4230	mg/L		40		1	A2540 C	01/14/13 15:38/jmh
Alkalinity, Total as CaCO3	246	mg/L		5		1	A2320 B	01/18/13 15:31/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	01/18/13 15:31/ch
Bicarbonate as HCO3	300	mg/L		5		1	A2320 B	01/18/13 15:31/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	25	mg/L		1		1	E300.0	01/10/13 02:41/tb
Fluoride	0.8	mg/L		0.1		1	E300.0	01/10/13 02:41/tb
Sulfate	2590	mg/L	D	50		50	E300.0	01/10/13 02:59/tb
<b>DATA QUALITY PARAMETERS</b>								
Anions	59.6	meq/L		1.00		1	A1030 E	01/21/13 00:00/lk
Cations	64.4	meq/L		1.00		1	A1030 E	01/21/13 00:00/lk
Conductivity, Calculated	4870	umhos/cm		1.00		1	A1030 E	01/21/13 00:00/lk
TDS Ratio	1.07			0.0100		1	A1030 E	01/21/13 00:00/lk
A/C Balance	3.88	%				1	A1030 E	01/21/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	ND	mg/L		0.1		1	E300.0	01/10/13 02:41/tb
<b>DISSOLVED METALS ANALYSES</b>								
Calcium	500	mg/L		1		5	E200.7	01/14/13 23:46/eli-ca
Magnesium	280	mg/L		1		5	E200.7	01/14/13 23:46/eli-ca
Potassium	19	mg/L		1		5	E200.7	01/14/13 23:46/eli-ca
Sodium	365	mg/L	D	2		5	E200.7	01/14/13 23:46/eli-ca

**Report** RL - Analyte reporting limit.  
**Definitions:** 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:** R13010097-003  
**Client Sample ID:** 714

**Report Date:** 01/21/13  
**Collection Date:** 01/08/13 13:45  
**Date Received:** 01/09/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By
					QCL	DF		
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	3860	umhos/cm		5.0		1	A2510 B	01/10/13 10:53/tb
pH	7.17	su		0.01		1	A4500-HB	01/10/13 10:15/tb
Solids, Total Dissolved TDS @ 180 C	3870	mg/L		40		1	A2540 C	01/14/13 15:39/jmh
Alkalinity, Total as CaCO3	230	mg/L		5		1	A2320 B	01/18/13 15:34/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	01/18/13 15:34/ch
Bicarbonate as HCO3	280	mg/L		5		1	A2320 B	01/18/13 15:34/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	22	mg/L		1		1	E300.0	01/10/13 03:17/tb
Fluoride	0.8	mg/L		0.1		1	E300.0	01/10/13 03:17/tb
Sulfate	2340	mg/L	D	50		50	E300.0	01/10/13 04:10/tb
<b>DATA QUALITY PARAMETERS</b>								
Anions	54.0	meq/L		1.00		1	A1030 E	01/21/13 00:00/lk
Cations	58.4	meq/L		1.00		1	A1030 E	01/21/13 00:00/lk
Conductivity, Calculated	4480	umhos/cm		1.00		1	A1030 E	01/21/13 00:00/lk
TDS Ratio	1.08			0.0100		1	A1030 E	01/21/13 00:00/lk
A/C Balance	3.90	%				1	A1030 E	01/21/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	0.2	mg/L		0.1		1	E300.0	01/10/13 03:17/tb
<b>DISSOLVED METALS ANALYSES</b>								
Calcium	504	mg/L		1		5	E200.7	01/14/13 23:50/ell-ca
Magnesium	245	mg/L		1		5	E200.7	01/14/13 23:50/ell-ca
Potassium	13	mg/L		1		5	E200.7	01/14/13 23:50/ell-ca
Sodium	292	mg/L	D	2		5	E200.7	01/14/13 23:50/ell-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:** R13010097-004  
**Client Sample ID:** 711

**Report Date:** 01/21/13  
**Collection Date:** 01/08/13 14:25  
**Date Received:** 01/09/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>PHYSICAL PARAMETERS</b>							
Conductivity @ 25 C	3510	umhos/cm		5.0		1	A2510 B 01/10/13 10:55/tb
pH	7.19	su		0.01		1	A4500-HB 01/10/13 10:17/tb
Solids, Total Dissolved TDS @ 180 C	3430	mg/L		40		1	A2540 C 01/14/13 15:40/jmh
Alkalinity, Total as CaCO3	220	mg/L		5		1	A2320 B 01/18/13 15:36/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B 01/18/13 15:36/ch
Bicarbonate as HCO3	268	mg/L		5		1	A2320 B 01/18/13 15:36/ch
<b>INORGANIC PARAMETERS</b>							
Chloride	24	mg/L		1		1	E300.0 01/10/13 05:04/tb
Fluoride	0.8	mg/L		0.1		1	E300.0 01/10/13 05:04/tb
Sulfate	2090	mg/L	D	50		50	E300.0 01/10/13 05:22/tb
<b>DATA QUALITY PARAMETERS</b>							
Anions	48.7	meq/L		1.00		1	A1030 E 01/21/13 00:00/lk
Cations	51.1	meq/L		1.00		1	A1030 E 01/21/13 00:00/lk
Conductivity, Calculated	4070	umhos/cm		1.00		1	A1030 E 01/21/13 00:00/lk
TDS Ratio	1.06			0.0100		1	A1030 E 01/21/13 00:00/lk
A/C Balance	2.46	%				1	A1030 E 01/21/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>							
Nitrogen, Nitrate as N	ND	mg/L		0.1		1	E300.0 01/10/13 05:04/tb
<b>DISSOLVED METALS ANALYSES</b>							
Calcium	521	mg/L		1		5	E200.7 01/14/13 23:54/eli-ca
Magnesium	162	mg/L		1		5	E200.7 01/14/13 23:54/eli-ca
Potassium	12	mg/L		1		5	E200.7 01/14/13 23:54/eli-ca
Sodium	265	mg/L	D	2		5	E200.7 01/14/13 23:54/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:** R13010097-005  
**Client Sample ID:** BI-2

**Report Date:** 01/21/13  
**Collection Date:** 01/08/13 15:30  
**Date Received:** 01/09/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/			Method	Analysis Date / By
				RL	QCL	DF		
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	3890	umhos/cm		5.0		1	A2510 B	01/10/13 10:57/b
pH	7.20	su		0.01		1	A4500-HB	01/10/13 10:19/b
Solids, Total Dissolved TDS @ 180 C	3970	mg/L		40		1	A2540 C	01/14/13 15:43/jmh
Alkalinity, Total as CaCO3	226	mg/L		5		1	A2320 B	01/18/13 15:39/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	01/18/13 15:39/ch
Bicarbonate as HCO3	275	mg/L		5		1	A2320 B	01/18/13 15:39/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	21	mg/L		1		1	E300.0	01/10/13 05:40/b
Fluoride	0.9	mg/L		0.1		1	E300.0	01/10/13 05:40/b
Sulfate	2390	mg/L	D	50		50	E300.0	01/10/13 05:58/b
<b>DATA QUALITY PARAMETERS</b>								
Anions	54.9	meq/L		1.00		1	A1030 E	01/21/13 00:00/lk
Cations	58.3	meq/L		1.00		1	A1030 E	01/21/13 00:00/lk
Conductivity, Calculated	4520	umhos/cm		1.00		1	A1030 E	01/21/13 00:00/lk
TDS Ratio	1.10			0.0100		1	A1030 E	01/21/13 00:00/lk
A/C Balance	2.98	%				1	A1030 E	01/21/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	0.3	mg/L		0.1		1	E300.0	01/10/13 05:40/b
<b>DISSOLVED METALS ANALYSES</b>								
Calcium	508	mg/L		1		5	E200.7	01/15/13 00:02/eli-ca
Magnesium	256	mg/L		1		5	E200.7	01/15/13 00:02/eli-ca
Potassium	13	mg/L		1		5	E200.7	01/15/13 00:02/eli-ca
Sodium	266	mg/L	D	2		5	E200.7	01/15/13 00:02/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:** R13010097-006  
**Client Sample ID:** 715

**Report Date:** 01/21/13  
**Collection Date:** 01/08/13 11:22  
**Date Received:** 01/09/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	3340	umhos/cm		5.0			1	A2510 B	01/10/13 10:58/tb
pH	7.19	su		0.01			1	A4500-HB	01/10/13 10:20/tb
Solids, Total Dissolved TDS @ 180 C	3320	mg/L		20			1	A2540 C	01/14/13 15:44/jmh
Alkalinity, Total as CaCO3	220	mg/L		5			1	A2320 B	01/18/13 15:41/ch
Carbonate as CO3	ND	mg/L		5			1	A2320 B	01/18/13 15:41/ch
Bicarbonate as HCO3	268	mg/L		5			1	A2320 B	01/18/13 15:41/ch
<b>INORGANIC PARAMETERS</b>									
Chloride	21	mg/L		1			1	E300.0	01/10/13 06:16/tb
Fluoride	0.7	mg/L		0.1			1	E300.0	01/10/13 06:16/tb
Sulfate	1990	mg/L	D	50			50	E300.0	01/10/13 06:34/tb
<b>DATA QUALITY PARAMETERS</b>									
Anions	46.5	meq/L		1.00			1	A1030 E	01/21/13 00:00/lk
Cations	49.5	meq/L		1.00			1	A1030 E	01/21/13 00:00/lk
Conductivity, Calculated	3940	umhos/cm		1.00			1	A1030 E	01/21/13 00:00/lk
TDS Ratio	1.08			0.0100			1	A1030 E	01/21/13 00:00/lk
A/C Balance	3.14	%					1	A1030 E	01/21/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	0.4	mg/L		0.1			1	E300.0	01/10/13 06:16/tb
<b>DISSOLVED METALS ANALYSES</b>									
Calcium	543	mg/L		1			5	E200.7	01/15/13 00:06/ell-ca
Magnesium	169	mg/L		1			5	E200.7	01/15/13 00:06/ell-ca
Potassium	12	mg/L		1			5	E200.7	01/15/13 00:06/ell-ca
Sodium	189	mg/L	D	2			5	E200.7	01/15/13 00:06/ell-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: 01/21/13

Project: #708 Plus Alluvial

Work Order: R13010097

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2320 B</b>								Batch: 130118A-ALK-SEL-W		
<b>Sample ID: LCS1_130118A</b>		Laboratory Control Sample					Run: PH_COND1-R_130118A			01/18/13 14:55
Alkalinity, Total as CaCO3		968	mg/L	5.0	97	90	110			
<b>Sample ID: MBLK1_130118A</b>		Method Blank					Run: PH_COND1-R_130118A			01/18/13 15:00
Alkalinity, Total as CaCO3		ND	mg/L	2						
<b>Sample ID: R13010089-003AMS</b>		Sample Matrix Spike					Run: PH_COND1-R_130118A			01/18/13 15:09
Alkalinity, Total as CaCO3		324	mg/L	5.0	94	80	120			
<b>Sample ID: R13010097-006ADUP</b>	3	Sample Duplicate					Run: PH_COND1-R_130118A			01/18/13 15:49
Alkalinity, Total as CaCO3		216	mg/L	5.0				1.8	10	
Carbonate as CO3		ND	mg/L	5.0					10	
Bicarbonate as HCO3		263	mg/L	5.0				1.8	10	
<b>Sample ID: R13010114-001AMS</b>		Sample Matrix Spike					Run: PH_COND1-R_130118A			01/18/13 15:54
Alkalinity, Total as CaCO3		240	mg/L	5.0	96	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: 01/21/13

Project: #708 Plus Alluvial

Work Order: R13010097

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A2510 B								Batch: 130110_1_COND-PROBE-W		
<b>Sample ID:</b> MBLK-1_130110		Method Blank								
Conductivity @ 25 C		ND	umhos/cm	5			Run: PH_COND2-R_130110C			01/10/13 10:42
<b>Sample ID:</b> R13010090-002ADUP		Sample Duplicate								
Conductivity @ 25 C		9.41	umhos/cm	5.0			Run: PH_COND2-R_130110C	1.0	10	01/10/13 10:46

**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 Plus Alluvial

Report Date: 01/21/13  
Work Order: R13010097

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2540 C</b>								Batch: TDS130114A		
<b>Sample ID: MB-1_130114A</b>		Method Blank					Run: BAL-TDS_130114A			01/14/13 15:26
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	3						
<b>Sample ID: LCS-2_130114A</b>		Laboratory Control Sample					Run: BAL-TDS_130114A			01/14/13 15:28
Solids, Total Dissolved TDS @ 180 C		490	mg/L	10	99	90	110			
<b>Sample ID: R13010089-002A MS</b>		Sample Matrix Spike					Run: BAL-TDS_130114A			01/14/13 15:31
Solids, Total Dissolved TDS @ 180 C		730	mg/L	10	101	90	110			
<b>Sample ID: R13010097-004A DUP</b>		Sample Duplicate					Run: BAL-TDS_130114A			01/14/13 15:41
Solids, Total Dissolved TDS @ 180 C		3500	mg/L	40				2.2	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  
**Project:** #708 Plus Alluvial

**Report Date:** 01/21/13  
**Work Order:** R13010097

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B Analytical Run: PH_COND2-R_130110B										
Sample ID: ICV-1_130110 Initial Calibration Verification Standard 01/10/13 10:01										
pH		7.40	su	0.010	100	98	102			
Method: A4500-H B Batch: 130110_1_PH-W										
Sample ID: ICV1-1_130110 Initial Calibration Verification Standard Run: PH_COND2-R_130110B 01/10/13 09:59										
pH		12.1	su	0.010	101	99	101			
Sample ID: R13010086-002CDUP Sample Duplicate Run: PH_COND2-R_130110B 01/10/13 10:08										
pH		12.0	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  
Project: #708 Plus Alluvial

Report Date: 01/21/13  
Work Order: R13010097

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: SUB-C169163		
<b>Sample ID: ICV</b>	4	Initial Calibration Verification Standard								01/14/13 13:42
Calcium		52	mg/L	0.50	105	95	105			
Magnesium		51	mg/L	0.50	102	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								01/14/13 14:10
Calcium		500	mg/L	0.50	100	80	120			
Magnesium		530	mg/L	0.50	105	80	120			
Potassium		-0.0057	mg/L	0.50						
Sodium		-0.024	mg/L	0.50						
<b>Sample ID: ICSAB</b>	4	Interference Check Sample AB								01/14/13 14:14
Calcium		510	mg/L	0.50	103	80	120			
Magnesium		520	mg/L	0.50	103	80	120			
Potassium		-0.0057	mg/L	0.50						
Sodium		-0.11	mg/L	0.50						
<b>Method: E200.7</b>								Batch: C_R169163		
<b>Sample ID: MB-130114A</b>	4	Method Blank						Run: SUB-C169163		01/14/13 14:47
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-130114A</b>	4	Laboratory Fortified Blank						Run: SUB-C169163		01/14/13 14:51
Calcium		52	mg/L	0.50	103	85	115			
Magnesium		49	mg/L	0.50	99	85	115			
Potassium		46	mg/L	0.50	92	85	115			
Sodium		51	mg/L	0.50	101	85	115			
<b>Sample ID: R13010097-001B</b>	4	Sample Matrix Spike						Run: SUB-C169163		01/14/13 23:34
Calcium		692	mg/L	1.0	98	70	130			
Magnesium		981	mg/L	1.0	83	70	130			
Potassium		273	mg/L	1.0	89	70	130			
Sodium		2060	mg/L	1.6		70	130			A
<b>Sample ID: R13010097-001B</b>	4	Sample Matrix Spike Duplicate						Run: SUB-C169163		01/14/13 23:38
Calcium		690	mg/L	1.0	97	70	130	0.4	20	
Magnesium		975	mg/L	1.0	80	70	130	0.7	20	
Potassium		267	mg/L	1.0	87	70	130	2.3	20	
Sodium		2070	mg/L	1.6		70	130	0.5	20	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.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 01/21/13

Project: #708 Plus Alluvial

Work Order: R13010097

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>										
Analytical Run: DIONEX_130109A										
<b>Sample ID: CCV010913-28</b>	4	Continuing Calibration Verification Standard								01/09/13 23:24
Chloride		71.5	mg/L	1.0	95	90	110			
Fluoride		7.27	mg/L	0.10	97	90	110			
Nitrogen, Nitrate as N		7.12	mg/L	0.10	95	90	110			
Sulfate		71.1	mg/L	1.0	95	90	110			
<b>Sample ID: CCV010913-42</b>	4	Continuing Calibration Verification Standard								01/10/13 03:35
Chloride		71.5	mg/L	1.0	95	90	110			
Fluoride		7.30	mg/L	0.10	97	90	110			
Nitrogen, Nitrate as N		7.11	mg/L	0.10	95	90	110			
Sulfate		71.1	mg/L	1.0	95	90	110			
<b>Method: E300.0</b>										
Batch: R59506										
<b>Sample ID: LFB010913-14</b>	4	Laboratory Fortified Blank								01/09/13 19:31
Run: DIONEX_130109A										
Chloride		38.1	mg/L	1.0	95	90	110			
Fluoride		3.97	mg/L	0.10	99	90	110			
Nitrogen, Nitrate as N		3.84	mg/L	0.10	96	90	110			
Sulfate		38.4	mg/L	1.0	96	90	110			
<b>Sample ID: R13010092-001BMS</b>	4	Sample Matrix Spike								01/10/13 00:18
Run: DIONEX_130109A										
Chloride		40.0	mg/L	1.0	88	90	110			S
Fluoride		4.42	mg/L	0.10	94	90	110			
Nitrogen, Nitrate as N		3.85	mg/L	0.10	91	90	110			
Sulfate		291	mg/L	1.0		90	110			A
<b>Sample ID: R13010092-001BMSD</b>	4	Sample Matrix Spike Duplicate								01/10/13 00:35
Run: DIONEX_130109A										
Chloride		40.0	mg/L	1.0	88	90	110	0.1	10	S
Fluoride		4.44	mg/L	0.10	94	90	110	0.5	10	
Nitrogen, Nitrate as N		3.86	mg/L	0.10	91	90	110	0.1	10	
Sulfate		291	mg/L	1.0		90	110	0.1	10	A
<b>Sample ID: R13010097-003AMS</b>	4	Sample Matrix Spike								01/10/13 04:28
Run: DIONEX_130109A										
Chloride		1930	mg/L	50	89	90	110			S
Fluoride		201	mg/L	5.0	96	90	110			
Nitrogen, Nitrate as N		193	mg/L	5.0	96	90	110			
Sulfate		4450	mg/L	50	106	90	110			
<b>Sample ID: R13010097-003AMSD</b>	4	Sample Matrix Spike Duplicate								01/10/13 04:46
Run: DIONEX_130109A										
Chloride		1940	mg/L	50	89	90	110	0.1	10	S
Fluoride		202	mg/L	5.0	97	90	110	0.4	10	
Nitrogen, Nitrate as N		193	mg/L	5.0	97	90	110	0.3	10	
Sulfate		4440	mg/L	50	105	90	110	0.2	10	

### 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.

S - Spike recovery outside of advisory limits.



# Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: <i>Scott Env.</i>	Project Name, PWS, Permit, Etc. <i>PowerTech Alluvial Wells</i>	Sample Origin State:	EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>
Report Mail Address: <i>PowerTech</i>	Contact Name: <i>Alla Sutt / Lisa Schinast</i>	Phone/Fax:	Email:
Invoice Address: <i>PowerTech</i>	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats:  <input type="checkbox"/> DW <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP <b>Format:</b> _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC	Number of Containers Sample Type: A W S V B O DW Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water  <i>As per Quok</i>	<b>ANALYSIS REQUESTED</b>										SEE ATTACHED Standard Turnaround (TAT)	<b>R U S H</b>	Contact ELI prior to <b>RUSH</b> sample submittal for charges and scheduling - See Instruction Page	Shipped by:
		Comments:												Cooler ID(s):	

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX											Receipt Temp	On Ice:	Custody Seal	Intact	Signature Match		
1 <i>713</i>	<i>1-8-13</i>	<i>12:50</i>	<i>Water</i>	<input checked="" type="checkbox"/>												<i>2.0 °C</i>	<input checked="" type="checkbox"/>	On Bottle Y N On Cooler Y N	Y N Y N	<i>Y N</i>
2 <i>714</i>	<i>1-8-13</i>	<i>13:45</i>	<i>"</i>	<input checked="" type="checkbox"/>																
3 <i>711</i>	<i>1-8-13</i>	<i>14:25</i>	<i>"</i>	<input checked="" type="checkbox"/>																
4 <i>RF-2</i>	<i>1-8-13</i>	<i>15:30</i>	<i>"</i>	<input checked="" type="checkbox"/>																
5 <i>715</i>	<i>1-8-13</i>	<i>16:20</i>	<i>"</i>	<input checked="" type="checkbox"/>																
6 <i>DC-1</i>	<i>1-8-13</i>	<i>10:50</i>	<i>"</i>	<input checked="" type="checkbox"/>																
7 <i>DC-3</i>	<i>1-8-13</i>	<i>11:22</i>	<i>"</i>	<input checked="" type="checkbox"/>																
8																				
9																				
10																				

<b>Custody Record MUST be Signed</b>	Relinquished by (print): <i>Alla Sutt</i>	Date/Time: <i>1-9-13</i>	Signature: <i>Alla Sutt</i>	Received by (print):	Date/Time:	Signature:
	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
	Sample Disposal: Return to Client:	Lab Disposal:	Received by Laboratory: <i>Steve Fritland</i> <i>1-9-13 1100</i> <i>Steve Fritland</i>			

LABORATORY USE ONLY

*R13010097-002*  
*003*  
*004*  
*005*  
*006*  
*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. Visit our web site at www.energylab.com for additional information, downloadable forms, and lists.





# ANALYTICAL SUMMARY REPORT

March 28, 2013

Powertech USA Inc  
PO Box 812  
Edgemont, SD 57735

Workorder No.: R13020119                      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 2/12/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
R13020119-001	DC-4	02/11/13 10:35	02/12/13	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
R13020119-002	DC-4 Dup	02/11/13 10:36	02/12/13	Aqueous	Same As Above
R13020119-003	DC-2	02/11/13 12:01	02/12/13	Aqueous	Same As Above
R13020119-004	BC-3	02/11/13 13:03	02/12/13	Aqueous	Same As Above
R13020119-005	BC-1	02/11/13 13:59	02/12/13	Aqueous	Same As Above
R13020119-006	BC-2	02/11/13 15:02	02/12/13	Aqueous	Same As Above
R13020119-007	DC-1	02/12/13 09:30	02/12/13	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: 2013.03.28 13:01:21 -06:00



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**CLIENT:** Powertech USA Inc  
**Project:** Alluvial Wells Dewey Burdock  
**Sample Delivery Group:** R13020119

**Report Date:** 03/28/13

## **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:** R13020119-001  
**Client Sample ID:** DC-4

**Report Date:** 03/28/13  
**Collection Date:** 02/11/13 10:35  
**Date Received:** 02/12/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		DF	Method	Analysis Date / By
				RL	QCL			
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	11100	umhos/cm		5.0		1	A2510 B	02/13/13 11:43/tb
pH	7.47	su		0.01		1	A4500-H B	02/13/13 10:52/tb
Solids, Total Dissolved TDS @ 180 C	11100	mg/L		100		1	A2540 C	02/13/13 17:18/jmh
Alkalinity, Total as CaCO3	344	mg/L		5		1	A2320 B	02/15/13 17:17/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	02/15/13 17:17/ch
Bicarbonate as HCO3	419	mg/L		5		1	A2320 B	02/15/13 17:17/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	136	mg/L		1		1	E300.0	02/13/13 10:24/tb
Fluoride	1.8	mg/L		0.1		1	E300.0	02/13/13 10:24/tb
Sulfate	7970	mg/L	D	100		100	E300.0	02/13/13 10:42/tb
<b>DATA QUALITY PARAMETERS</b>								
Anions	177	meq/L		1.00		1	A1030 E	03/26/13 00:00/lk
Cations	168	meq/L		1.00		1	A1030 E	03/26/13 00:00/lk
Conductivity, Calculated	12200	umhos/cm		1.00		1	A1030 E	03/26/13 00:00/lk
TDS Ratio	0.960			0.0100		1	A1030 E	03/26/13 00:00/lk
A/C Balance	-2.72	%				1	A1030 E	03/26/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	1.9	mg/L		0.1		1	E300.0	02/13/13 10:24/tb
<b>RADIONUCLIDES - DISSOLVED</b>								
Gross Alpha	-20	pCi/L	U			1	E900.0	03/19/13 16:42/eli-ca
Gross Alpha precision (±)	26.5	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Gross Alpha MDC	46.2	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Gross Beta	-20	pCi/L	U			1	E900.0	03/19/13 16:42/eli-ca
Gross Beta precision (±)	26.8	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Gross Beta MDC	45.7	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Radium 228	0.6	pCi/L	U			1	RA-05	02/26/13 17:20/eli-ca
Radium 228 precision (±)	1.2	pCi/L				1	RA-05	02/26/13 17:20/eli-ca
Radium 228 MDC	2.0	pCi/L				1	RA-05	02/26/13 17:20/eli-ca
Radium 226	0.007	pCi/L	U			1	E903.0	03/04/13 23:42/eli-ca
Radium 226 precision (±)	0.1	pCi/L				1	E903.0	03/04/13 23:42/eli-ca
Radium 226 MDC	0.2	pCi/L				1	E903.0	03/04/13 23:42/eli-ca
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222	4620	pCi/L				1	D5072-92	02/16/13 08:40/eli-ca
Radon 222 precision (±)	241	pCi/L				1	D5072-92	02/16/13 08:40/eli-ca

**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:** R13020119-001  
**Client Sample ID:** DC-4

**Report Date:** 03/28/13  
**Collection Date:** 02/11/13 10:35  
**Date Received:** 02/12/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/			Method	Analysis Date / By
				RL	QCL	DF		
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222 MDC	310	pCi/L				1	D5072-92	02/16/13 08:40/eli-ca
<b>TOTAL METALS ANALYSES</b>								
Mercury	ND	mg/L		0.0001		1	E245.1	02/27/13 10:01/eli-ca
<b>DISSOLVED METALS ANALYSES</b>								
Arsenic	ND	mg/L		0.001		5	E200.8	02/20/13 22:30/eli-ca
Barium	ND	mg/L		0.05		1	E200.8	02/19/13 18:34/eli-ca
Boron	2.10	mg/L		0.05		2	E200.7	02/27/13 15:00/eli-ca
Cadmium	ND	mg/L		0.001		1	E200.8	02/19/13 18:34/eli-ca
Chromium	ND	mg/L		0.005		5	E200.8	02/20/13 22:30/eli-ca
Copper	0.008	mg/L		0.005		5	E200.8	02/20/13 22:30/eli-ca
Iron	ND	mg/L		0.03		2	E200.7	02/27/13 15:00/eli-ca
Lead	ND	mg/L		0.001		5	E200.8	02/20/13 22:30/eli-ca
Manganese	ND	mg/L		0.001		5	E200.8	02/20/13 22:30/eli-ca
Molybdenum	0.003	mg/L		0.001		1	E200.8	02/19/13 18:34/eli-ca
Nickel	0.007	mg/L		0.005		5	E200.8	02/20/13 22:30/eli-ca
Selenium	0.038	mg/L		0.001		5	E200.8	02/20/13 22:30/eli-ca
Silver	ND	mg/L		0.001		1	E200.8	02/19/13 18:34/eli-ca
Uranium	0.0160	mg/L	D	0.0005		5	E200.8	02/20/13 22:30/eli-ca
Vanadium	ND	mg/L		0.01		5	E200.8	02/20/13 22:30/eli-ca
Zinc	0.02	mg/L		0.01		5	E200.8	02/20/13 22:30/eli-ca
Calcium	353	mg/L		1		2	E200.7	02/27/13 15:00/eli-ca
Magnesium	644	mg/L		1		2	E200.7	02/27/13 15:00/eli-ca
Potassium	9	mg/L		1		2	E200.7	02/27/13 15:00/eli-ca
Sodium	2220	mg/L	D	2		5	E200.7	02/28/13 19:34/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** R13020119-002  
**Client Sample ID:** DC-4 Dup

**Report Date:** 03/28/13  
**Collection Date:** 02/11/13 10:36  
**Date Received:** 02/12/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By
					QCL	DF		
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	11000	umhos/cm		5.0		1	A2510 B	02/13/13 11:46/tb
pH	7.42	su		0.01		1	A4500-HB	02/13/13 10:54/tb
Solids, Total Dissolved TDS @ 180 C	11300	mg/L		100		1	A2540 C	02/13/13 17:19/jmh
Alkalinity, Total as CaCO3	350	mg/L		5		1	A2320 B	02/15/13 17:19/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	02/15/13 17:19/ch
Bicarbonate as HCO3	427	mg/L		5		1	A2320 B	02/15/13 17:19/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	137	mg/L		1		1	E300.0	02/13/13 11:00/tb
Fluoride	1.9	mg/L		0.1		1	E300.0	02/13/13 11:00/tb
Sulfate	7870	mg/L	D	100		100	E300.0	02/13/13 11:18/tb
<b>DATA QUALITY PARAMETERS</b>								
Anions	175	meq/L		1.00		1	A1030 E	03/26/13 00:00/lk
Cations	166	meq/L		1.00		1	A1030 E	03/26/13 00:00/lk
Conductivity, Calculated	12100	umhos/cm		1.00		1	A1030 E	03/26/13 00:00/lk
TDS Ratio	0.990			0.0100		1	A1030 E	03/26/13 00:00/lk
A/C Balance	-2.56	%				1	A1030 E	03/26/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	1.9	mg/L	H	0.1		1	E300.0	02/13/13 11:00/tb
<b>RADIONUCLIDES - DISSOLVED</b>								
Gross Alpha	-10	pCi/L	U			1	E900.0	03/19/13 16:42/eli-ca
Gross Alpha precision (±)	20.6	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Gross Alpha MDC	35.7	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Gross Beta	-30	pCi/L	U			1	E900.0	03/19/13 16:42/eli-ca
Gross Beta precision (±)	27.1	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Gross Beta MDC	46.3	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Radium 228	-0.1	pCi/L	U			1	RA-05	02/26/13 17:20/eli-ca
Radium 228 precision (±)	1.2	pCi/L				1	RA-05	02/26/13 17:20/eli-ca
Radium 228 MDC	1.9	pCi/L				1	RA-05	02/26/13 17:20/eli-ca
Radium 226	0.06	pCi/L	U			1	E903.0	03/04/13 23:42/eli-ca
Radium 226 precision (±)	0.1	pCi/L				1	E903.0	03/04/13 23:42/eli-ca
Radium 226 MDC	0.2	pCi/L				1	E903.0	03/04/13 23:42/eli-ca
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222	4030	pCi/L				1	D5072-92	02/16/13 08:40/eli-ca
Radon 222 precision (±)	235	pCi/L				1	D5072-92	02/16/13 08:40/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 MDC - Minimum detectable concentration  
 H - Analysis performed past recommended holding time.

**MCL - Maximum contaminant level.**  
 ND - Not detected at the reporting limit.  
 D - RL increased due to sample matrix.  
 U - Not detected at minimum detectable concentration



**LABORATORY ANALYTICAL REPORT**

Prepared by Rapid City, SD Branch

**Client:** Powertech USA Inc  
**Project:** Alluvial Wells Dewey Burdock  
**Lab ID:** R13020119-002  
**Client Sample ID:** DC-4 Dup

**Report Date:** 03/28/13  
**Collection Date:** 02/11/13 10:36  
**Date Received:** 02/12/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		DF	Method	Analysis Date / By
				RL	QCL			
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222 MDC	310	pCi/L				1	D5072-92	02/16/13 08:40/eli-ca
<b>TOTAL METALS ANALYSES</b>								
Mercury	ND	mg/L		0.0001		1	E245.1	02/27/13 10:06/eli-ca
<b>DISSOLVED METALS ANALYSES</b>								
Arsenic	ND	mg/L		0.001		5	E200.8	02/20/13 22:33/eli-ca
Barium	ND	mg/L		0.05		1	E200.8	02/19/13 18:38/eli-ca
Boron	2.14	mg/L		0.05		2	E200.7	02/27/13 15:04/eli-ca
Cadmium	ND	mg/L		0.001		1	E200.8	02/19/13 18:38/eli-ca
Chromium	ND	mg/L		0.005		5	E200.8	02/20/13 22:33/eli-ca
Copper	0.008	mg/L		0.005		5	E200.8	02/20/13 22:33/eli-ca
Iron	ND	mg/L		0.03		2	E200.7	02/27/13 15:04/eli-ca
Lead	ND	mg/L		0.001		5	E200.8	02/20/13 22:33/eli-ca
Manganese	ND	mg/L		0.001		5	E200.8	02/20/13 22:33/eli-ca
Molybdenum	0.003	mg/L		0.001		1	E200.8	02/19/13 18:38/eli-ca
Nickel	0.007	mg/L		0.005		5	E200.8	02/20/13 22:33/eli-ca
Selenium	0.037	mg/L		0.001		5	E200.8	02/20/13 22:33/eli-ca
Silver	ND	mg/L		0.001		1	E200.8	02/19/13 18:38/eli-ca
Uranium	0.0157	mg/L	D	0.0005		5	E200.8	02/20/13 22:33/eli-ca
Vanadium	ND	mg/L		0.01		5	E200.8	02/20/13 22:33/eli-ca
Zinc	0.02	mg/L		0.01		5	E200.8	02/20/13 22:33/eli-ca
Calcium	353	mg/L		1		2	E200.7	02/27/13 15:04/eli-ca
Magnesium	641	mg/L		1		2	E200.7	02/27/13 15:04/eli-ca
Potassium	9	mg/L		1		2	E200.7	02/27/13 15:04/eli-ca
Sodium	2200	mg/L	D	2		5	E200.7	02/28/13 19:50/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** R13020119-003  
**Client Sample ID:** DC-2

**Report Date:** 03/28/13  
**Collection Date:** 02/11/13 12:01  
**Date Received:** 02/12/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>PHYSICAL PARAMETERS</b>							
Conductivity @ 25 C	5780	umhos/cm		5.0		1	A2510 B 02/13/13 11:53/tb
pH	7.14	su		0.01		1	A4500-H B 02/13/13 10:55/tb
Solids, Total Dissolved TDS @ 180 C	4690	mg/L		40		1	A2540 C 02/13/13 17:20/jmh
Alkalinity, Total as CaCO3	266	mg/L		5		1	A2320 B 02/19/13 13:23/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B 02/19/13 13:23/ch
Bicarbonate as HCO3	324	mg/L		5		1	A2320 B 02/19/13 13:23/ch
<b>INORGANIC PARAMETERS</b>							
Chloride	863	mg/L	D	50		50	E300.0 02/13/13 11:54/tb
Fluoride	0.6	mg/L		0.1		1	E300.0 02/13/13 11:36/tb
Sulfate	1970	mg/L	D	50		50	E300.0 02/13/13 11:54/tb
<b>DATA QUALITY PARAMETERS</b>							
Anions	70.7	meq/L		1.00		1	A1030 E 03/26/13 00:00/lk
Cations	70.8	meq/L		1.00		1	A1030 E 03/26/13 00:00/lk
Conductivity, Calculated	5540	umhos/cm		1.00		1	A1030 E 03/26/13 00:00/lk
TDS Ratio	1.06			0.0100		1	A1030 E 03/26/13 00:00/lk
A/C Balance	0.0800	%				1	A1030 E 03/26/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>							
Nitrogen, Nitrate as N	ND	mg/L		0.1		1	E300.0 02/13/13 11:36/tb
<b>RADIONUCLIDES - DISSOLVED</b>							
Gross Alpha	-5	pCi/L	U			1	E900.0 03/19/13 16:42/eli-ca
Gross Alpha precision (±)	7.3	pCi/L				1	E900.0 03/19/13 16:42/eli-ca
Gross Alpha MDC	12.9	pCi/L				1	E900.0 03/19/13 16:42/eli-ca
Gross Beta	5.4	pCi/L	U			1	E900.0 03/19/13 16:42/eli-ca
Gross Beta precision (±)	11.7	pCi/L				1	E900.0 03/19/13 16:42/eli-ca
Gross Beta MDC	19.5	pCi/L				1	E900.0 03/19/13 16:42/eli-ca
Radium 228	0.8	pCi/L	U			1	RA-05 02/26/13 17:20/eli-ca
Radium 228 precision (±)	1.1	pCi/L				1	RA-05 02/26/13 17:20/eli-ca
Radium 228 MDC	1.7	pCi/L				1	RA-05 02/26/13 17:20/eli-ca
Radium 226	0.2	pCi/L				1	E903.0 03/04/13 23:42/eli-ca
Radium 226 precision (±)	0.1	pCi/L				1	E903.0 03/04/13 23:42/eli-ca
Radium 226 MDC	0.2	pCi/L				1	E903.0 03/04/13 23:42/eli-ca
<b>RADIONUCLIDES - TOTAL</b>							
Radon 222	1990	pCi/L				1	D5072-92 02/16/13 08:40/eli-ca
Radon 222 precision (±)	209	pCi/L				1	D5072-92 02/16/13 08:40/eli-ca

**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:** R13020119-003  
**Client Sample ID:** DC-2

**Report Date:** 03/28/13  
**Collection Date:** 02/11/13 12:01  
**Date Received:** 02/12/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>RADIONUCLIDES - TOTAL</b>							
Radon 222 MDC	306	pCi/L				1 D5072-92	02/16/13 08:40/eli-ca
<b>TOTAL METALS ANALYSES</b>							
Mercury	ND	mg/L		0.0001		1 E245.1	02/27/13 10:07/eli-ca
<b>DISSOLVED METALS ANALYSES</b>							
Arsenic	ND	mg/L		0.001		5 E200.8	02/20/13 22:46/eli-ca
Barium	ND	mg/L		0.05		1 E200.8	02/19/13 18:43/eli-ca
Boron	0.30	mg/L		0.05		1 E200.8	02/19/13 18:43/eli-ca
Cadmium	ND	mg/L		0.001		1 E200.8	02/19/13 18:43/eli-ca
Chromium	ND	mg/L		0.005		5 E200.8	02/20/13 22:46/eli-ca
Copper	ND	mg/L		0.005		5 E200.8	02/20/13 22:46/eli-ca
Iron	0.92	mg/L		0.03		2 E200.7	02/27/13 15:09/eli-ca
Lead	ND	mg/L		0.001		5 E200.8	02/20/13 22:46/eli-ca
Manganese	2.96	mg/L		0.001		5 E200.8	02/20/13 22:46/eli-ca
Molybdenum	0.004	mg/L		0.001		1 E200.8	02/19/13 18:43/eli-ca
Nickel	0.010	mg/L		0.005		5 E200.8	02/20/13 22:46/eli-ca
Selenium	ND	mg/L		0.001		5 E200.8	02/20/13 22:46/eli-ca
Silver	ND	mg/L		0.001		1 E200.8	02/19/13 18:43/eli-ca
Uranium	0.0086	mg/L	D	0.0005		5 E200.8	02/20/13 22:46/eli-ca
Vanadium	ND	mg/L		0.01		5 E200.8	02/20/13 22:46/eli-ca
Zinc	ND	mg/L		0.01		5 E200.8	02/20/13 22:46/eli-ca
Calcium	483	mg/L		1		2 E200.7	02/27/13 15:09/eli-ca
Magnesium	139	mg/L		1		2 E200.7	02/27/13 15:09/eli-ca
Potassium	6	mg/L		1		2 E200.7	02/27/13 15:09/eli-ca
Sodium	808	mg/L	D	2		5 E200.7	02/28/13 19:54/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** R13020119-004  
**Client Sample ID:** BC-3

**Report Date:** 03/28/13  
**Collection Date:** 02/11/13 13:03  
**Date Received:** 02/12/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	3250	umhos/cm		5.0			1	A2510 B	02/13/13 11:55/tb
pH	7.17	su		0.01			1	A4500-H B	02/13/13 10:57/tb
Solids, Total Dissolved TDS @ 180 C	3180	mg/L		20			1	A2540 C	02/13/13 17:22/jmh
Alkalinity, Total as CaCO3	248	mg/L		5			1	A2320 B	02/19/13 13:29/ch
Carbonate as CO3	ND	mg/L		5			1	A2320 B	02/19/13 13:29/ch
Bicarbonate as HCO3	302	mg/L		5			1	A2320 B	02/19/13 13:29/ch
<b>INORGANIC PARAMETERS</b>									
Chloride	20	mg/L			1		1	E300.0	02/13/13 12:11/tb
Fluoride	0.6	mg/L			0.1		1	E300.0	02/13/13 12:11/tb
Sulfate	1870	mg/L	D		50		50	E300.0	02/13/13 12:29/tb
<b>DATA QUALITY PARAMETERS</b>									
Anions	44.4	meq/L		1.00			1	A1030 E	03/26/13 00:00/lkd
Cations	42.3	meq/L		1.00			1	A1030 E	03/26/13 00:00/lkd
Conductivity, Calculated	3620	umhos/cm		1.00			1	A1030 E	03/26/13 00:00/lkd
TDS Ratio	1.12			0.0100			1	A1030 E	03/26/13 00:00/lkd
A/C Balance	-2.49	%					1	A1030 E	03/26/13 00:00/lkd
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	0.2	mg/L		0.1			1	E300.0	02/13/13 12:11/tb
<b>RADIONUCLIDES - DISSOLVED</b>									
Gross Alpha	19.3	pCi/L					1	E900.0	03/19/13 16:42/eli-ca
Gross Alpha precision (±)	6.3	pCi/L					1	E900.0	03/19/13 16:42/eli-ca
Gross Alpha MDC	9.0	pCi/L					1	E900.0	03/19/13 16:42/eli-ca
Gross Beta	6.4	pCi/L	U				1	E900.0	03/19/13 16:42/eli-ca
Gross Beta precision (±)	7.6	pCi/L					1	E900.0	03/19/13 16:42/eli-ca
Gross Beta MDC	12.5	pCi/L					1	E900.0	03/19/13 16:42/eli-ca
Radium 228	1.2	pCi/L	U				1	RA-05	02/26/13 17:20/eli-ca
Radium 228 precision (±)	1.0	pCi/L					1	RA-05	02/26/13 17:20/eli-ca
Radium 228 MDC	1.7	pCi/L					1	RA-05	02/26/13 17:20/eli-ca
Radium 226	0.3	pCi/L					1	E903.0	03/04/13 23:42/eli-ca
Radium 226 precision (±)	0.1	pCi/L					1	E903.0	03/04/13 23:42/eli-ca
Radium 226 MDC	0.2	pCi/L					1	E903.0	03/04/13 23:42/eli-ca
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222	1970	pCi/L					1	D5072-92	02/16/13 08:40/eli-ca
Radon 222 precision (±)	207	pCi/L					1	D5072-92	02/16/13 08:40/eli-ca

**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:** R13020119-004  
**Client Sample ID:** BC-3

**Report Date:** 03/28/13  
**Collection Date:** 02/11/13 13:03  
**Date Received:** 02/12/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>RADIONUCLIDES - TOTAL</b>							
Radon 222 MDC	304	pCi/L				1 D5072-92	02/16/13 08:40/eli-ca
<b>TOTAL METALS ANALYSES</b>							
Mercury	ND	mg/L		0.0001		1 E245.1	02/27/13 10:09/eli-ca
<b>DISSOLVED METALS ANALYSES</b>							
Arsenic	ND	mg/L		0.001		1 E200.8	02/19/13 19:05/eli-ca
Barium	ND	mg/L		0.05		1 E200.8	02/19/13 19:05/eli-ca
Boron	0.47	mg/L		0.05		2 E200.7	02/27/13 15:13/eli-ca
Cadmium	ND	mg/L		0.001		1 E200.8	02/19/13 19:05/eli-ca
Chromium	ND	mg/L		0.005		1 E200.8	02/19/13 19:05/eli-ca
Copper	ND	mg/L		0.005		1 E200.8	02/19/13 19:05/eli-ca
Iron	0.05	mg/L		0.03		1 E200.8	02/19/13 19:05/eli-ca
Lead	ND	mg/L		0.001		1 E200.8	02/19/13 19:05/eli-ca
Manganese	0.557	mg/L		0.001		1 E200.8	02/19/13 19:05/eli-ca
Molybdenum	0.006	mg/L		0.001		1 E200.8	02/19/13 19:05/eli-ca
Nickel	ND	mg/L		0.005		1 E200.8	02/19/13 19:05/eli-ca
Selenium	0.002	mg/L		0.001		1 E200.8	02/19/13 19:05/eli-ca
Silver	ND	mg/L		0.001		1 E200.8	02/19/13 19:05/eli-ca
Uranium	0.0251	mg/L		0.0003		1 E200.8	02/19/13 19:05/eli-ca
Vanadium	ND	mg/L		0.01		2 E200.7	02/27/13 15:13/eli-ca
Zinc	ND	mg/L		0.01		1 E200.8	02/19/13 19:05/eli-ca
Calcium	475	mg/L		1		2 E200.7	02/27/13 15:13/eli-ca
Magnesium	139	mg/L		1		1 E200.8	02/19/13 19:05/eli-ca
Potassium	10	mg/L		1		2 E200.7	02/27/13 15:13/eli-ca
Sodium	157	mg/L		1		1 E200.8	02/19/13 19:05/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** R13020119-005  
**Client Sample ID:** BC-1

**Report Date:** 03/28/13  
**Collection Date:** 02/11/13 13:59  
**Date Received:** 02/12/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By	
				RL	QCL			
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	3740	umhos/cm		5.0		1	A2510 B	02/13/13 11:57/b
pH	7.25	su		0.01		1	A4500-H B	02/13/13 11:02/b
Solids, Total Dissolved TDS @ 180 C	3730	mg/L		40		1	A2540 C	02/13/13 17:24/jmh
Alkalinity, Total as CaCO3	292	mg/L		5		1	A2320 B	02/19/13 13:34/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	02/19/13 13:34/ch
Bicarbonate as HCO3	356	mg/L		5		1	A2320 B	02/19/13 13:34/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	27	mg/L		1		1	E300.0	02/13/13 12:47/b
Fluoride	0.6	mg/L		0.1		1	E300.0	02/13/13 12:47/b
Sulfate	2210	mg/L	D	50		50	E300.0	02/13/13 13:41/b
<b>DATA QUALITY PARAMETERS</b>								
Anions	52.6	meq/L		1.00		1	A1030 E	03/26/13 00:00/lkl
Cations	50.9	meq/L		1.00		1	A1030 E	03/26/13 00:00/lkl
Conductivity, Calculated	4190	umhos/cm		1.00		1	A1030 E	03/26/13 00:00/lkl
TDS Ratio	1.12			0.0100		1	A1030 E	03/26/13 00:00/lkl
A/C Balance	-1.65	%				1	A1030 E	03/26/13 00:00/lkl
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	0.2	mg/L		0.1		1	E300.0	02/13/13 12:47/b
<b>RADIONUCLIDES - DISSOLVED</b>								
Gross Alpha	108	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Gross Alpha precision (±)	13.0	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Gross Alpha MDC	15.9	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Gross Beta	22.8	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Gross Beta precision (±)	10.3	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Gross Beta MDC	16.3	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Radium 228	0.8	pCi/L	U			1	RA-05	02/26/13 17:20/eli-ca
Radium 228 precision (±)	1.0	pCi/L				1	RA-05	02/26/13 17:20/eli-ca
Radium 228 MDC	1.7	pCi/L				1	RA-05	02/26/13 17:20/eli-ca
Radium 226	0.1	pCi/L	U			1	E903.0	03/04/13 23:42/eli-ca
Radium 226 precision (±)	0.1	pCi/L				1	E903.0	03/04/13 23:42/eli-ca
Radium 226 MDC	0.2	pCi/L				1	E903.0	03/04/13 23:42/eli-ca
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222	2100	pCi/L				1	D5072-92	02/16/13 08:40/eli-ca
Radon 222 precision (±)	208	pCi/L				1	D5072-92	02/16/13 08:40/eli-ca

**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:** R13020119-005  
**Client Sample ID:** BC-1

**Report Date:** 03/28/13  
**Collection Date:** 02/11/13 13:59  
**Date Received:** 02/12/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/			Method	Analysis Date / By
				RL	QCL	DF		
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222 MDC	302	pCi/L				1	D5072-92	02/16/13 08:40/eli-ca
<b>TOTAL METALS ANALYSES</b>								
Mercury	ND	mg/L		0.0001		1	E245.1	02/27/13 10:14/eli-ca
<b>DISSOLVED METALS ANALYSES</b>								
Arsenic	ND	mg/L		0.001		1	E200.8	02/19/13 19:23/eli-ca
Barium	ND	mg/L		0.05		1	E200.8	02/19/13 19:23/eli-ca
Boron	0.70	mg/L		0.05		2	E200.7	02/27/13 15:20/eli-ca
Cadmium	ND	mg/L		0.001		1	E200.8	02/19/13 19:23/eli-ca
Chromium	ND	mg/L		0.005		1	E200.8	02/19/13 19:23/eli-ca
Copper	ND	mg/L		0.005		1	E200.8	02/19/13 19:23/eli-ca
Iron	0.05	mg/L		0.03		1	E200.8	02/19/13 19:23/eli-ca
Lead	ND	mg/L		0.001		1	E200.8	02/19/13 19:23/eli-ca
Manganese	0.040	mg/L		0.001		1	E200.8	02/19/13 19:23/eli-ca
Molybdenum	0.006	mg/L		0.001		1	E200.8	02/19/13 19:23/eli-ca
Nickel	0.006	mg/L		0.005		1	E200.8	02/19/13 19:23/eli-ca
Selenium	ND	mg/L		0.001		1	E200.8	02/19/13 19:23/eli-ca
Silver	ND	mg/L		0.001		1	E200.8	02/19/13 19:23/eli-ca
Uranium	0.111	mg/L		0.0003		1	E200.8	02/19/13 19:23/eli-ca
Vanadium	ND	mg/L		0.01		2	E200.7	02/27/13 15:20/eli-ca
Zinc	ND	mg/L		0.01		1	E200.8	02/19/13 19:23/eli-ca
Calcium	464	mg/L		1		2	E200.7	02/27/13 15:20/eli-ca
Magnesium	230	mg/L		1		1	E200.8	02/19/13 19:23/eli-ca
Potassium	11	mg/L		1		2	E200.7	02/27/13 15:20/eli-ca
Sodium	198	mg/L		1		1	E200.8	02/19/13 19:23/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** R13020119-006  
**Client Sample ID:** BC-2

**Report Date:** 03/28/13  
**Collection Date:** 02/11/13 15:02  
**Date Received:** 02/12/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	3910	umhos/cm		5.0			1	A2510 B	02/13/13 11:58/tb
pH	7.19	su		0.01			1	A4500-HB	02/13/13 11:05/tb
Solids, Total Dissolved TDS @ 180 C	3900	mg/L		40			1	A2540 C	02/13/13 17:25/jmh
Alkalinity, Total as CaCO3	230	mg/L		5			1	A2320 B	02/19/13 13:37/ch
Carbonate as CO3	ND	mg/L		5			1	A2320 B	02/19/13 13:37/ch
Bicarbonate as HCO3	280	mg/L		5			1	A2320 B	02/19/13 13:37/ch
<b>INORGANIC PARAMETERS</b>									
Chloride	23	mg/L		1			1	E300.0	02/13/13 14:35/tb
Fluoride	0.7	mg/L		0.1			1	E300.0	02/13/13 14:35/tb
Sulfate	2360	mg/L	D	50			50	E300.0	02/13/13 14:53/tb
<b>DATA QUALITY PARAMETERS</b>									
Anions	54.4	meq/L		1.00			1	A1030 E	03/26/13 00:00/lk
Cations	52.8	meq/L		1.00			1	A1030 E	03/26/13 00:00/lk
Conductivity, Calculated	4340	umhos/cm		1.00			1	A1030 E	03/26/13 00:00/lk
TDS Ratio	1.11			0.0100			1	A1030 E	03/26/13 00:00/lk
A/C Balance	-1.54	%					1	A1030 E	03/26/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	0.3	mg/L		0.1			1	E300.0	02/13/13 14:35/tb
<b>RADIONUCLIDES - DISSOLVED</b>									
Gross Alpha	25.8	pCi/L					1	E900.0	03/19/13 16:42/eli-ca
Gross Alpha precision (±)	8.9	pCi/L					1	E900.0	03/19/13 16:42/eli-ca
Gross Alpha MDC	13.1	pCi/L					1	E900.0	03/19/13 16:42/eli-ca
Gross Beta	7.3	pCi/L	U				1	E900.0	03/19/13 16:42/eli-ca
Gross Beta precision (±)	9.2	pCi/L					1	E900.0	03/19/13 16:42/eli-ca
Gross Beta MDC	15.1	pCi/L					1	E900.0	03/19/13 16:42/eli-ca
Radium 228	0.7	pCi/L	U				1	RA-05	02/26/13 17:20/eli-ca
Radium 228 precision (±)	1.1	pCi/L					1	RA-05	02/26/13 17:20/eli-ca
Radium 228 MDC	1.7	pCi/L					1	RA-05	02/26/13 17:20/eli-ca
Radium 226	0.08	pCi/L	U				1	E903.0	03/04/13 23:42/eli-ca
Radium 226 precision (±)	0.1	pCi/L					1	E903.0	03/04/13 23:42/eli-ca
Radium 226 MDC	0.2	pCi/L					1	E903.0	03/04/13 23:42/eli-ca
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222	2830	pCi/L					1	D5072-92	02/16/13 08:40/eli-ca
Radon 222 precision (±)	215	pCi/L					1	D5072-92	02/16/13 08:40/eli-ca

**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:** R13020119-006  
**Client Sample ID:** BC-2

**Report Date:** 03/28/13  
**Collection Date:** 02/11/13 15:02  
**Date Received:** 02/12/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222 MDC	300	pCi/L					1	D5072-92	02/16/13 08:40/eli-ca
<b>TOTAL METALS ANALYSES</b>									
Mercury	ND	mg/L		0.0001			1	E245.1	02/27/13 10:15/eli-ca
<b>DISSOLVED METALS ANALYSES</b>									
Arsenic	ND	mg/L		0.001			1	E200.8	02/19/13 19:28/eli-ca
Barium	ND	mg/L		0.05			1	E200.8	02/19/13 19:28/eli-ca
Boron	0.47	mg/L		0.05			2	E200.7	02/27/13 15:24/eli-ca
Cadmium	ND	mg/L		0.001			1	E200.8	02/19/13 19:28/eli-ca
Chromium	ND	mg/L		0.005			1	E200.8	02/19/13 19:28/eli-ca
Copper	ND	mg/L		0.005			1	E200.8	02/19/13 19:28/eli-ca
Iron	ND	mg/L		0.03			1	E200.8	02/19/13 19:28/eli-ca
Lead	ND	mg/L		0.001			1	E200.8	02/19/13 19:28/eli-ca
Manganese	0.044	mg/L		0.001			1	E200.8	02/19/13 19:28/eli-ca
Molybdenum	0.014	mg/L		0.001			1	E200.8	02/19/13 19:28/eli-ca
Nickel	0.007	mg/L		0.005			1	E200.8	02/19/13 19:28/eli-ca
Selenium	ND	mg/L		0.001			1	E200.8	02/19/13 19:28/eli-ca
Silver	ND	mg/L		0.001			1	E200.8	02/19/13 19:28/eli-ca
Uranium	0.0297	mg/L		0.0003			1	E200.8	02/19/13 19:28/eli-ca
Vanadium	ND	mg/L		0.01			2	E200.7	02/27/13 15:24/eli-ca
Zinc	ND	mg/L		0.01			1	E200.8	02/19/13 19:28/eli-ca
Calcium	449	mg/L		1			2	E200.7	02/27/13 15:24/eli-ca
Magnesium	212	mg/L		1			1	E200.8	02/19/13 19:28/eli-ca
Potassium	11	mg/L		1			2	E200.7	02/27/13 15:24/eli-ca
Sodium	291	mg/L		1			1	E200.8	02/19/13 19:28/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** R13020119-007  
**Client Sample ID:** DC-1

**Report Date:** 03/28/13  
**Collection Date:** 02/12/13 09:30  
**Date Received:** 02/12/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/			Method	Analysis Date / By
				RL	QCL	DF		
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	6850	umhos/cm		5.0		1	A2510 B	02/13/13 12:00/tb
pH	7.13	su		0.01		1	A4500-HB	02/13/13 11:09/tb
Solids, Total Dissolved TDS @ 180 C	5580	mg/L		100		1	A2540 C	02/13/13 17:26/jmh
Alkalinity, Total as CaCO3	380	mg/L		5		1	A2320 B	02/19/13 13:39/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	02/19/13 13:39/ch
Bicarbonate as HCO3	463	mg/L		5		1	A2320 B	02/19/13 13:39/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	102	mg/L			1	1	E300.0	02/13/13 15:11/tb
Fluoride	1.1	mg/L		0.1		1	E300.0	02/13/13 15:11/tb
Sulfate	4030	mg/L	D	50		50	E300.0	02/13/13 15:29/tb
<b>DATA QUALITY PARAMETERS</b>								
Anions	95.4	meq/L		1.00		1	A1030 E	03/26/13 00:00/lk
Cations	97.4	meq/L		1.00		1	A1030 E	03/26/13 00:00/lk
Conductivity, Calculated	7130	umhos/cm		1.00		1	A1030 E	03/26/13 00:00/lk
TDS Ratio	0.880			0.0100		1	A1030 E	03/26/13 00:00/lk
A/C Balance	1.04	%				1	A1030 E	03/26/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	12.1	mg/L		0.1		1	E300.0	02/13/13 15:11/tb
<b>RADIONUCLIDES - DISSOLVED</b>								
Gross Alpha	1.0	pCi/L	U			1	E900.0	03/19/13 16:42/eli-ca
Gross Alpha precision (±)	12.8	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Gross Alpha MDC	21.5	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Gross Beta	-8	pCi/L	U			1	E900.0	03/19/13 16:42/eli-ca
Gross Beta precision (±)	16.7	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Gross Beta MDC	28.3	pCi/L				1	E900.0	03/19/13 16:42/eli-ca
Radium 228	1.0	pCi/L	U			1	RA-05	02/26/13 17:20/eli-ca
Radium 228 precision (±)	1.1	pCi/L				1	RA-05	02/26/13 17:20/eli-ca
Radium 228 MDC	1.9	pCi/L				1	RA-05	02/26/13 17:20/eli-ca
Radium 226	0.4	pCi/L				1	E903.0	03/04/13 23:42/eli-ca
Radium 226 precision (±)	0.2	pCi/L				1	E903.0	03/04/13 23:42/eli-ca
Radium 226 MDC	0.2	pCi/L				1	E903.0	03/04/13 23:42/eli-ca
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222	848	pCi/L				1	D5072-92	02/16/13 08:40/eli-ca
Radon 222 precision (±)	198	pCi/L				1	D5072-92	02/16/13 08:40/eli-ca

**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:** R13020119-007  
**Client Sample ID:** DC-1

**Report Date:** 03/28/13  
**Collection Date:** 02/12/13 09:30  
**Date Received:** 02/12/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222 MDC	313	pCi/L					1	D5072-92	02/16/13 08:40/eli-ca
<b>TOTAL METALS ANALYSES</b>									
Mercury	ND	mg/L		0.0001			1	E245.1	02/27/13 10:17/eli-ca
<b>DISSOLVED METALS ANALYSES</b>									
Arsenic	0.001	mg/L		0.001			2	E200.8	02/20/13 22:49/eli-ca
Barium	ND	mg/L		0.05			1	E200.8	02/19/13 19:32/eli-ca
Boron	1.42	mg/L		0.05			2	E200.7	02/27/13 16:06/eli-ca
Cadmium	ND	mg/L		0.001			1	E200.8	02/19/13 19:32/eli-ca
Chromium	ND	mg/L		0.005			2	E200.8	02/20/13 22:49/eli-ca
Copper	0.007	mg/L		0.005			2	E200.8	02/20/13 22:49/eli-ca
Iron	ND	mg/L		0.03			2	E200.7	02/27/13 16:06/eli-ca
Lead	ND	mg/L		0.001			2	E200.8	02/20/13 22:49/eli-ca
Manganese	0.474	mg/L		0.001			1	E200.8	02/19/13 19:32/eli-ca
Molybdenum	0.002	mg/L		0.001			1	E200.8	02/19/13 19:32/eli-ca
Nickel	0.061	mg/L		0.005			2	E200.8	02/20/13 22:49/eli-ca
Selenium	0.050	mg/L		0.001			2	E200.8	02/20/13 22:49/eli-ca
Silver	ND	mg/L		0.001			1	E200.8	02/19/13 19:32/eli-ca
Uranium	0.0164	mg/L		0.0003			2	E200.8	02/20/13 22:49/eli-ca
Vanadium	ND	mg/L		0.01			2	E200.8	02/20/13 22:49/eli-ca
Zinc	0.10	mg/L		0.01			2	E200.8	02/20/13 22:49/eli-ca
Calcium	405	mg/L		1			2	E200.7	02/27/13 16:06/eli-ca
Magnesium	349	mg/L		1			1	E200.8	02/19/13 19:32/eli-ca
Potassium	11	mg/L		1			2	E200.7	02/27/13 16:06/eli-ca
Sodium	1110	mg/L		1			2	E200.7	02/27/13 16:06/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 MDC - Minimum detectable concentration

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: 03/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13020119

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2320 B</b>								Batch: 130215A-ALK-SEL-W		
<b>Sample ID: LCS1_130215A</b>		Laboratory Control Sample				Run: PH_COND1-R_130215B			02/15/13 15:27	
Alkalinity, Total as CaCO3		952	mg/L	5.0	95	90	110			
<b>Sample ID: MBLK1_130215A</b>		Method Blank				Run: PH_COND1-R_130215B			02/15/13 15:41	
Alkalinity, Total as CaCO3		ND	mg/L	2						
<b>Sample ID: R13020080-007AMS</b>		Sample Matrix Spike				Run: PH_COND1-R_130215B			02/15/13 17:00	
Alkalinity, Total as CaCO3		332	mg/L	5.0	96	80	120			
<b>Method: A2320 B</b>								Batch: 130219A-ALK-SEL-W		
<b>Sample ID: LCS1_130219A</b>		Laboratory Control Sample				Run: PH_COND1-R_130219A			02/19/13 13:20	
Alkalinity, Total as CaCO3		960	mg/L	5.0	96	90	110			
<b>Sample ID: MBLK1_130219A</b>		Method Blank				Run: PH_COND1-R_130219A			02/19/13 13:22	
Alkalinity, Total as CaCO3		ND	mg/L	2						
<b>Sample ID: R13020119-003ADUP</b>	3	Sample Duplicate				Run: PH_COND1-R_130219A			02/19/13 13:26	
Alkalinity, Total as CaCO3		262	mg/L	5.0				1.5	10	
Carbonate as CO3		ND	mg/L	5.0					10	
Bicarbonate as HCO3		319	mg/L	5.0				1.5	10	
<b>Sample ID: R13020119-004AMS</b>		Sample Matrix Spike				Run: PH_COND1-R_130219A			02/19/13 13:32	
Alkalinity, Total as CaCO3		366	mg/L	5.0	98	80	120			

### 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: 03/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13020119

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2510 B</b>								Batch: 130213_1_COND-PROBE-W		
<b>Sample ID: MBLK-1_130213</b>		Method Blank								
Conductivity @ 25 C		ND	umhos/cm	5			Run: PH_COND2-R_130213B			02/13/13 11:39
<b>Sample ID: R13020119-001ADUP</b>		Sample Duplicate								
Conductivity @ 25 C		11100	umhos/cm	5.0			Run: PH_COND2-R_130213B	0.0	10	02/13/13 11:44

**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: 03/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13020119

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2540 C</b>								Batch: TDS130213A		
<b>Sample ID: MB-1_130213A</b>		Method Blank								
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	2						02/13/13 17:09
<b>Sample ID: LCS-2_130213A</b>		Laboratory Control Sample								
Solids, Total Dissolved TDS @ 180 C		500	mg/L	10	101	90	110			02/13/13 17:10
<b>Sample ID: R13020089-002A MS</b>		Sample Matrix Spike								
Solids, Total Dissolved TDS @ 180 C		2200	mg/L	20	104	90	110			02/13/13 17:14
<b>Sample ID: R13020119-007A DUP</b>		Sample Duplicate								
Solids, Total Dissolved TDS @ 180 C		5500	mg/L	100				0.5	5	02/13/13 17:27

**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: 03/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13020119

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
Method: A4500-H B								Analytical Run: PH_COND2-R_130213A			
Sample ID: ICV-1_130213		Initial Calibration Verification Standard						02/13/13 10:37			
pH		7.46	su	0.010	101	98	102				
Method: A4500-H B								Batch: 130213_1_PH-W			
Sample ID: ICV1-1_130213		Initial Calibration Verification Standard				Run: PH_COND2-R_130213A		02/13/13 10:32			
pH		12.0	su	0.010	100	99	101				

**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: 03/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13020119

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: D5072-92</b>								Batch: C_R170481		
<b>Sample ID: R13020119-007D</b>	3	Sample Duplicate					Run: SUB-C170481			02/16/13 08:40
Radon 222		908	pCi/L					6.8	20	
Radon 222 precision (±)		199	pCi/L							
Radon 222 MDC		313	pCi/L							
<b>Sample ID: MB-R170481</b>	3	Method Blank					Run: SUB-C170481			02/16/13 08:40
Radon 222		30	pCi/L							U
Radon 222 precision (±)		70	pCi/L							
Radon 222 MDC		100	pCi/L							
<b>Sample ID: LCS-R170481</b>		Laboratory Control Sample					Run: SUB-C170481			02/16/13 08:40
Radon 222		476	pCi/L	87		80	120			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 03/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13020119

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>										Analytical Run: SUB-C170815	
<b>Sample ID: ICV</b>	7	Initial Calibration Verification Standard							02/27/13 12:36		
Boron		1.0	mg/L	0.10	101	95	105				
Calcium		49	mg/L	0.50	97	95	105				
Iron		4.9	mg/L	0.030	98	95	105				
Magnesium		49	mg/L	0.50	98	95	105				
Potassium		49	mg/L	0.50	97	95	105				
Sodium		49	mg/L	0.50	98	95	105				
Vanadium		0.97	mg/L	0.10	97	95	105				
<b>Sample ID: ICSA</b>	7	Interference Check Sample A							02/27/13 12:51		
Boron		0.011	mg/L	0.10							
Calcium		420	mg/L	0.50	85	80	120				
Iron		170	mg/L	0.030	84	80	120				
Magnesium		480	mg/L	0.50	96	80	120				
Potassium		-0.0033	mg/L	0.50							
Sodium		0.44	mg/L	0.50							
Vanadium		-0.0018	mg/L	0.10							
<b>Sample ID: ICSAB</b>	7	Interference Check Sample AB							02/27/13 12:55		
Boron		0.0072	mg/L	0.10							
Calcium		430	mg/L	0.50	85	80	120				
Iron		170	mg/L	0.030	84	80	120				
Magnesium		480	mg/L	0.50	96	80	120				
Potassium		0.0062	mg/L	0.50							
Sodium		0.46	mg/L	0.50							
Vanadium		0.44	mg/L	0.10	88	80	120				
<b>Method: E200.7</b>										Batch: C_R170815	
<b>Sample ID: MB-130227A</b>	7	Method Blank							Run: SUB-C170815		02/27/13 13:14
Boron		0.009	mg/L	0.002							
Calcium		ND	mg/L	0.02							
Iron		ND	mg/L	0.002							
Magnesium		0.04	mg/L	0.01							
Potassium		ND	mg/L	0.04							
Sodium		ND	mg/L	0.2							
Vanadium		0.002	mg/L	0.001							
<b>Sample ID: LFB-130227A</b>	7	Laboratory Fortified Blank							Run: SUB-C170815		02/27/13 13:18
Boron		0.95	mg/L	0.10	94	85	115				
Calcium		47	mg/L	0.50	94	85	115				
Iron		0.94	mg/L	0.030	94	85	115				
Magnesium		47	mg/L	0.50	94	85	115				
Potassium		46	mg/L	0.50	92	85	115				
Sodium		46	mg/L	0.50	92	85	115				
Vanadium		0.94	mg/L	0.10	93	85	115				

### 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: 03/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13020119

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										Batch: C_R170815
<b>Sample ID: C13020685-001CMS2</b>	7	Sample Matrix Spike		Run: SUB-C170815			02/27/13 16:17			
Boron		2.02	mg/L	0.050	98	70	130			
Iron		1.96	mg/L	0.030	96	70	130			
Vanadium		1.96	mg/L	0.010	96	70	130			
Calcium		118	mg/L	1.0	96	70	130			
Magnesium		101	mg/L	1.0	98	70	130			
Potassium		98.7	mg/L	1.0	95	70	130			
Sodium		129	mg/L	1.0	95	70	130			
<b>Sample ID: C13020685-001CMSD</b>	7	Sample Matrix Spike Duplicate		Run: SUB-C170815			02/27/13 16:21			
Boron		2.00	mg/L	0.050	97	70	130	0.7	20	
Iron		1.97	mg/L	0.030	96	70	130	0.4	20	
Vanadium		1.96	mg/L	0.010	96	70	130	0.0	20	
Calcium		119	mg/L	1.0	97	70	130	0.9	20	
Magnesium		101	mg/L	1.0	98	70	130	0.2	20	
Potassium		98.6	mg/L	1.0	95	70	130	0.1	20	
Sodium		130	mg/L	1.0	96	70	130	0.6	20	
<b>Method: E200.7</b>										Analytical Run: SUB-C170863
<b>Sample ID: ICV</b>		Initial Calibration Verification Standard						02/28/13 12:40		
Sodium		52	mg/L	0.50	104	95	105			
<b>Sample ID: ICSA</b>		Interference Check Sample A						02/28/13 13:08		
Sodium		0.26	mg/L	0.50						
<b>Sample ID: ICSAB</b>		Interference Check Sample AB						02/28/13 13:12		
Sodium		0.20	mg/L	0.50						
<b>Method: E200.7</b>										Batch: C_R170863
<b>Sample ID: MB-130228A</b>		Method Blank		Run: SUB-C170863			02/28/13 13:36			
Sodium		ND	mg/L	0.3						
<b>Sample ID: LFB-130228A</b>		Laboratory Fortified Blank		Run: SUB-C170863			02/28/13 13:40			
Sodium		50	mg/L	0.50	100	85	115			
<b>Sample ID: R13020119-001C</b>		Sample Matrix Spike		Run: SUB-C170863			02/28/13 19:38			
Sodium		2360	mg/L	1.6		70	130			A
<b>Sample ID: R13020119-001C</b>		Sample Matrix Spike Duplicate		Run: SUB-C170863			02/28/13 19:42			
Sodium		2320	mg/L	1.6		70	130	1.4	20	A

### Qualifiers:

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MDC - Minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 03/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13020119

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.8										Analytical Run: SUB-C170556	
<b>Sample ID:</b> ICV	17	Initial Calibration Verification Standard							02/19/13 12:11		
Arsenic		0.0491	mg/L	0.0010	98	90	110				
Barium		0.0491	mg/L	0.0010	98	90	110				
Boron		0.0526	mg/L	0.0010	105	90	110				
Cadmium		0.0498	mg/L	0.0010	100	90	110				
Chromium		0.0469	mg/L	0.0010	94	90	110				
Copper		0.0488	mg/L	0.0010	98	90	110				
Iron		0.978	mg/L	0.0010	98	90	110				
Lead		0.0485	mg/L	0.0010	97	90	110				
Magnesium		9.95	mg/L	0.0027	99	90	110				
Manganese		0.0505	mg/L	0.0010	101	90	110				
Molybdenum		0.0492	mg/L	0.0010	99	90	110				
Nickel		0.0492	mg/L	0.0010	98	90	110				
Selenium		0.0487	mg/L	0.0010	97	90	110				
Silver		0.0205	mg/L	0.0010	102	90	110				
Sodium		9.92	mg/L	0.0043	99	90	110				
Uranium		0.0479	mg/L	0.00030	96	90	110				
Zinc		0.0508	mg/L	0.0010	101	90	110				

<b>Method:</b> E200.8										Batch: C_R170556	
<b>Sample ID:</b> LRB	17	Method Blank							Run: SUB-C170556		02/19/13 12:46
Arsenic		ND	mg/L	5E-05							
Barium		ND	mg/L	7E-05							
Boron		0.0006	mg/L	0.0004							
Cadmium		ND	mg/L	3E-05							
Chromium		ND	mg/L	4E-05							
Copper		ND	mg/L	3E-05							
Iron		ND	mg/L	0.0006							
Lead		ND	mg/L	2E-05							
Magnesium		ND	mg/L	0.003							
Manganese		ND	mg/L	3E-05							
Molybdenum		5E-05	mg/L	3E-05							
Nickel		ND	mg/L	9E-05							
Selenium		ND	mg/L	7E-05							
Silver		ND	mg/L	6E-05							
Sodium		0.006	mg/L	0.004							
Uranium		ND	mg/L	9E-06							
Zinc		ND	mg/L	0.0002							

<b>Sample ID:</b> LFB	17	Laboratory Fortified Blank							Run: SUB-C170556		02/19/13 12:51
Arsenic		0.0504	mg/L	0.0010	101	85	115				
Barium		0.0504	mg/L	0.0010	101	85	115				
Boron		0.0513	mg/L	0.0010	101	85	115				
Cadmium		0.0510	mg/L	0.0010	102	85	115				
Chromium		0.0486	mg/L	0.0010	97	85	115				

**Qualifiers:**

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MDC - Minimum detectable concentration





## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 03/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13020119

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>											
Batch: C_R170556											
<b>Sample ID: LFB</b>	17 Laboratory Fortified Blank			Run: SUB-C170556				02/19/13 12:51			
Copper		0.0498	mg/L	0.0010	100	85	115				
Iron		1.25	mg/L	0.0010	100	85	115				
Lead		0.0497	mg/L	0.0010	99	85	115				
Magnesium		12.9	mg/L	0.0027	103	85	115				
Manganese		0.0524	mg/L	0.0010	105	85	115				
Molybdenum		0.0500	mg/L	0.0010	100	85	115				
Nickel		0.0503	mg/L	0.0010	101	85	115				
Selenium		0.0506	mg/L	0.0010	101	85	115				
Silver		0.0207	mg/L	0.0010	103	85	115				
Sodium		12.8	mg/L	0.0043	102	85	115				
Uranium		0.0495	mg/L	0.00030	99	85	115				
Zinc		0.0520	mg/L	0.0010	104	85	115				
<b>Sample ID: R13020119-004C</b>	17 Post Digestion Spike			Run: SUB-C170556				02/19/13 19:10			
Arsenic		0.0556	mg/L	0.0010	111	70	130				
Barium		0.0734	mg/L	0.050	119	70	130				
Boron		0.496	mg/L	0.050		70	130			A	
Cadmium		0.0447	mg/L	0.0010	89	70	130				
Chromium		0.0566	mg/L	0.0050	113	70	130				
Copper		0.0461	mg/L	0.0050	92	70	130				
Iron		1.36	mg/L	0.030	105	70	130				
Lead		0.0567	mg/L	0.0010	113	70	130				
Manganese		0.625	mg/L	0.0010		70	130			A	
Molybdenum		0.0571	mg/L	0.0010	101	70	130				
Nickel		0.0554	mg/L	0.0050	101	70	130				
Selenium		0.0562	mg/L	0.0010	109	70	130				
Silver		0.0166	mg/L	0.0010	83	70	130				
Uranium		0.0902	mg/L	0.00030	130	70	130				
Zinc		0.0445	mg/L	0.010	87	70	130				
Magnesium		153	mg/L	1.0		70	130			A	
Sodium		174	mg/L	1.0		70	130			A	
<b>Sample ID: R13020119-004C</b>	17 Post Digestion Spike Duplicate			Run: SUB-C170556				02/19/13 19:14			
Arsenic		0.0541	mg/L	0.0010	108	70	130	2.7	20		
Barium		0.0743	mg/L	0.050	120	70	130	1.2	20		
Boron		0.499	mg/L	0.050		70	130	0.7	20	A	
Cadmium		0.0456	mg/L	0.0010	91	70	130	1.8	20		
Chromium		0.0537	mg/L	0.0050	107	70	130	5.4	20		
Copper		0.0444	mg/L	0.0050	89	70	130	3.7	20		
Iron		1.37	mg/L	0.030	106	70	130	0.7	20		
Lead		0.0578	mg/L	0.0010	116	70	130	2.1	20		
Manganese		0.625	mg/L	0.0010		70	130	0.1	20	A	
Molybdenum		0.0588	mg/L	0.0010	105	70	130	2.9	20		
Nickel		0.0528	mg/L	0.0050	96	70	130	4.7	20		
Selenium		0.0560	mg/L	0.0010	109	70	130	0.3	20		

**Qualifiers:**

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

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: 03/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13020119

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
Method: E200.8		Batch: C_R170556									
Sample ID: R13020119-004C	17 Post Digestion Spike Duplicate			Run: SUB-C170556				02/19/13 19:14			
Silver		0.0172	mg/L	0.0010	86	70	130	3.3	20		
Uranium		0.0917	mg/L	0.00030	133	70	130	1.6	20	S	
Zinc		0.0432	mg/L	0.010	85	70	130	3.0	20		
Magnesium		148	mg/L	1.0		70	130	3.2	20	A	
Sodium		168	mg/L	1.0		70	130	3.8	20	A	

### 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



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 03/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13020119

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: SUB-C170589		
<b>Sample ID: ICV</b>	10	Initial Calibration Verification Standard								02/20/13 13:40
Arsenic		0.0506	mg/L	0.0010	101	90	110			
Chromium		0.0504	mg/L	0.0010	101	90	110			
Copper		0.0500	mg/L	0.0010	100	90	110			
Lead		0.0503	mg/L	0.0010	101	90	110			
Manganese		0.0504	mg/L	0.0010	101	90	110			
Nickel		0.0502	mg/L	0.0010	100	90	110			
Selenium		0.0505	mg/L	0.0010	101	90	110			
Uranium		0.0505	mg/L	0.00030	101	90	110			
Vanadium		0.0515	mg/L	0.0010	103	90	110			
Zinc		0.0503	mg/L	0.0010	101	90	110			
<b>Method: E200.8</b>								Batch: C_R170589		
<b>Sample ID: LRB</b>	10	Method Blank						Run: SUB-C170589		02/20/13 14:05
Arsenic		ND	mg/L	0.00010						
Chromium		ND	mg/L	6E-05						
Copper		ND	mg/L	0.0001						
Lead		ND	mg/L	3E-05						
Manganese		ND	mg/L	2E-05						
Nickel		ND	mg/L	3E-05						
Selenium		0.0003	mg/L	0.0002						
Uranium		ND	mg/L	1E-05						
Vanadium		ND	mg/L	3E-05						
Zinc		0.002	mg/L	0.0006						
<b>Sample ID: LFB</b>	10	Laboratory Fortified Blank						Run: SUB-C170589		02/20/13 14:09
Arsenic		0.0515	mg/L	0.0010	103	85	115			
Chromium		0.0509	mg/L	0.0010	102	85	115			
Copper		0.0486	mg/L	0.0010	97	85	115			
Lead		0.0514	mg/L	0.0010	103	85	115			
Manganese		0.0504	mg/L	0.0010	101	85	115			
Nickel		0.0492	mg/L	0.0010	99	85	115			
Selenium		0.0515	mg/L	0.0010	102	85	115			
Uranium		0.0531	mg/L	0.00030	106	85	115			
Vanadium		0.0524	mg/L	0.0010	105	85	115			
Zinc		0.0514	mg/L	0.0010	100	85	115			
<b>Sample ID: R13020119-002C</b>	10	Post Digestion Spike						Run: SUB-C170589		02/20/13 22:36
Arsenic		0.244	mg/L	0.0010	97	70	130			
Chromium		0.251	mg/L	0.0050	99	70	130			
Copper		0.235	mg/L	0.0050	91	70	130			
Lead		0.258	mg/L	0.0010	103	70	130			
Manganese		0.241	mg/L	0.0010	96	70	130			
Nickel		0.236	mg/L	0.0050	92	70	130			
Selenium		0.270	mg/L	0.0013	93	70	130			
Uranium		0.293	mg/L	0.00050	111	70	130			

**Qualifiers:**

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MDC - Minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 03/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13020119

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Batch: C_R170589		
<b>Sample ID: R13020119-002C</b>	10	Post Digestion Spike				Run: SUB-C170589			02/20/13 22:36	
Vanadium		0.262	mg/L	0.010	104	70	130			
Zinc		0.225	mg/L	0.010	84	70	130			
<b>Sample ID: R13020119-002C</b>	10	Post Digestion Spike Duplicate				Run: SUB-C170589			02/20/13 22:39	
Arsenic		0.243	mg/L	0.0010	97	70	130	0.2	20	
Chromium		0.253	mg/L	0.0050	100	70	130	0.8	20	
Copper		0.233	mg/L	0.0050	90	70	130	0.8	20	
Lead		0.261	mg/L	0.0010	105	70	130	1.1	20	
Manganese		0.241	mg/L	0.0010	96	70	130	0.2	20	
Nickel		0.237	mg/L	0.0050	92	70	130	0.3	20	
Selenium		0.273	mg/L	0.0013	95	70	130	1.1	20	
Uranium		0.294	mg/L	0.00050	111	70	130	0.5	20	
Vanadium		0.262	mg/L	0.010	104	70	130	0.0	20	
Zinc		0.225	mg/L	0.010	84	70	130	0.0	20	

### 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: 03/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13020119

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E245.1</b>								Analytical Run: SUB-C170780		
<b>Sample ID: ICV</b>		Initial Calibration Verification Standard						02/27/13 09:49		
Mercury		0.0048	mg/L	0.00010	97	90	110			
<b>Method: E245.1</b>								Batch: C_36659A		
<b>Sample ID: MB-36659</b>		Method Blank				Run: SUB-C170780		02/27/13 09:55		
Mercury		ND	mg/L	7E-05						
<b>Sample ID: LCS-36659</b>		Laboratory Control Sample				Run: SUB-C170780		02/27/13 09:56		
Mercury		0.0049	mg/L	0.00010	97	85	115			
<b>Sample ID: R13020119-001B</b>		Sample Matrix Spike				Run: SUB-C170780		02/27/13 10:03		
Mercury		0.0045	mg/L	0.00010	90	70	130			
<b>Sample ID: R13020119-001B</b>		Sample Matrix Spike Duplicate				Run: SUB-C170780		02/27/13 10:04		
Mercury		0.0046	mg/L	0.00010	93	70	130	3.8	10	

### Qualifiers:

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MDC - Minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 03/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13020119

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>		Analytical Run: DIONEX_130212A								
<b>Sample ID: CCV021213-56</b>	4	Continuing Calibration Verification Standard								02/13/13 08:54
Chloride		72.9	mg/L	1.0	97	90	110			
Fluoride		7.50	mg/L	0.10	100	90	110			
Nitrogen, Nitrate as N		7.26	mg/L	0.10	97	90	110			
Sulfate		72.2	mg/L	1.0	96	90	110			
<b>Sample ID: CCV021213-70</b>	4	Continuing Calibration Verification Standard								02/13/13 13:05
Chloride		72.2	mg/L	1.0	96	90	110			
Fluoride		7.43	mg/L	0.10	99	90	110			
Nitrogen, Nitrate as N		7.21	mg/L	0.10	96	90	110			
Sulfate		71.7	mg/L	1.0	96	90	110			
<b>Method: E300.0</b>		Batch: R59948								
<b>Sample ID: LFB021213-14</b>	4	Laboratory Fortified Blank				Run: DIONEX_130212A		02/12/13 20:40		
Chloride		38.2	mg/L	1.0	95	90	110			
Fluoride		4.00	mg/L	0.10	100	90	110			
Nitrogen, Nitrate as N		3.89	mg/L	0.10	97	90	110			
Sulfate		38.8	mg/L	1.0	97	90	110			
<b>Sample ID: R13020071-008AMS</b>	4	Sample Matrix Spike				Run: DIONEX_130212A		02/13/13 09:48		
Chloride		2020	mg/L	50	88	90	110			S
Fluoride		268	mg/L	5.0	97	90	110			
Nitrogen, Nitrate as N		194	mg/L	5.0	97	90	110			
Sulfate		2980	mg/L	50	99	90	110			
<b>Sample ID: R13020071-008AMSD</b>	4	Sample Matrix Spike Duplicate				Run: DIONEX_130212A		02/13/13 10:06		
Chloride		2050	mg/L	50	90	90	110	1.2	10	
Fluoride		272	mg/L	5.0	99	90	110	1.5	10	
Nitrogen, Nitrate as N		194	mg/L	5.0	97	90	110	0.2	10	
Sulfate		2960	mg/L	50	98	90	110	0.7	10	
<b>Sample ID: R13020119-005AMS</b>	4	Sample Matrix Spike				Run: DIONEX_130212A		02/13/13 13:59		
Chloride		1940	mg/L	50	88	90	110			S
Fluoride		203	mg/L	5.0	97	90	110			
Nitrogen, Nitrate as N		196	mg/L	5.0	98	90	110			
Sulfate		4300	mg/L	50	105	90	110			
<b>Sample ID: R13020119-005AMSD</b>	4	Sample Matrix Spike Duplicate				Run: DIONEX_130212A		02/13/13 14:17		
Chloride		1960	mg/L	50	89	90	110	1.0	10	S
Fluoride		206	mg/L	5.0	99	90	110	1.4	10	
Nitrogen, Nitrate as N		198	mg/L	5.0	99	90	110	0.9	10	
Sulfate		4340	mg/L	50	106	90	110	0.8	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 03/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13020119

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E900.0</b>								Batch: C_GrAB-1486		
<b>Sample ID: Th230-GrAB-1486</b>	Laboratory Control Sample			Run: SUB-C171506			03/19/13 16:42			
Gross Alpha	98.6	pCi/L	94	80	120					
<b>Sample ID: Sr90-GrAB-1486</b>	Laboratory Control Sample			Run: SUB-C171506			03/19/13 16:42			
Gross Beta	205	pCi/L	113	80	120					
<b>Sample ID: MB-GrAB-1486</b>	6 Method Blank			Run: SUB-C171506			03/19/13 16:42			
Gross Alpha	-0.7	pCi/L								U
Gross Alpha precision (±)	0.7	pCi/L								
Gross Alpha MDC	1	pCi/L								
Gross Beta	-3	pCi/L								U
Gross Beta precision (±)	2	pCi/L								
Gross Beta MDC	3	pCi/L								
<b>Sample ID: R13020119-004E</b>	Sample Matrix Spike			Run: SUB-C171506			03/19/13 16:42			
Gross Alpha	320	pCi/L	61	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.										
<b>Sample ID: R13020119-004E</b>	Sample Matrix Spike Duplicate			Run: SUB-C171506			03/19/13 16:42			
Gross Alpha	280	pCi/L	52	70	130	15	19.7			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.										
<b>Sample ID: R13020119-004E</b>	Sample Matrix Spike			Run: SUB-C171506			03/19/13 16:42			
Gross Beta	990	pCi/L	113	70	130					
<b>Sample ID: R13020119-004E</b>	Sample Matrix Spike Duplicate			Run: SUB-C171506			03/19/13 16:42			
Gross Beta	1000	pCi/L	115	70	130	1.2	13.7			
<b>Sample ID: R13020119-006E</b>	6 Sample Duplicate			Run: SUB-C171506			03/19/13 16:42			
Gross Alpha	10.0	pCi/L				88	99.8			U
Gross Alpha precision (±)	8.7	pCi/L								
Gross Alpha MDC	14	pCi/L								
Gross Beta	13	pCi/L				55	189.3			U
Gross Beta precision (±)	9.7	pCi/L								
Gross Beta MDC	16	pCi/L								

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

S - Spike recovery outside of advisory limits.

U - Not detected at minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 03/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13020119

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E903.0</b>								Batch: C_RA226-6519		
<b>Sample ID: R13020119-001E</b>	3	Sample Duplicate				Run: SUB-C170959			03/04/13 23:42	
Radium 226		0.18	pCi/L					180	194.2	
Radium 226 precision (±)		0.13	pCi/L							
Radium 226 MDC		0.18	pCi/L							
<b>Sample ID: R13020119-005E</b>		Sample Matrix Spike				Run: SUB-C170959			03/04/13 23:42	
Radium 226		43	pCi/L	97	70	130				
<b>Sample ID: LCS-RA226-6519</b>		Laboratory Control Sample				Run: SUB-C170959			03/05/13 02:54	
Radium 226		22	pCi/L	97	80	120				
<b>Sample ID: MB-RA226-6519</b>	3	Method Blank				Run: SUB-C170959			03/05/13 02:54	
Radium 226		0.03	pCi/L						U	
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							

### 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

Report Date: 03/28/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13020119

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: RA-05</b>								Batch: C_RA228-4344		
<b>Sample ID: LCS-228-RA226-6519</b>		Laboratory Control Sample		Run: SUB-C170757				02/26/13 17:20		
Radium 228		9.6	pCi/L	102		80	120			
<b>Sample ID: MB-RA226-6519</b>		3 Method Blank		Run: SUB-C170757				02/26/13 17:20		
Radium 228		0.5	pCi/L							U
Radium 228 precision (±)		1	pCi/L							
Radium 228 MDC		2	pCi/L							
<b>Sample ID: R13020119-001E</b>		3 Sample Duplicate		Run: SUB-C170757				02/26/13 17:20		
Radium 228		1.0	pCi/L					45	308.3	U
Radium 228 precision (±)		1.2	pCi/L							
Radium 228 MDC		1.9	pCi/L							
<b>Sample ID: R13020119-007E</b>		Sample Matrix Spike		Run: SUB-C170757				02/26/13 17:20		
Radium 228		18.0	pCi/L	95		70	130			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration



# Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: <i>Scott Env.</i>	Project Name, PWS, Permit, Etc. <i>Scott Env Power Tech</i>	Sample Origin State:	EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>
Report Mail Address: <i>Scott Env./Power Tech</i>	Contact Name: <i>Allen Scott Lisa Schriest</i>	Phone/Fax:	Sampler: (Please Print) <i>Allen Scott</i>
Invoice Address: <i>PowerTech</i>	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats:			Number of Containers Sample Type: A W S V B O DW Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water <i>As Per Quote</i>	ANALYSIS REQUESTED					SEE ATTACHED Standard Turnaround (TAT) R U S H	Contact ELI prior to <b>RUSH</b> sample submittal for charges and scheduling - See Instruction Page	Shipped by:	
<input type="checkbox"/> DW <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> Format: _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC										Comments:	Receipt Temp <i>3.4</i> °C	On Ice:      Y N
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)			Collection Date	Collection Time	MATRIX						Custody Seal On Bottle      Y N On Cooler      Y N Intact      Y N Signature Match      Y N	
1	<i>DC-4</i>	<i>2-11-13</i>	<i>10:35</i>	<i>Water</i>	<input checked="" type="checkbox"/>						LABORATORY USE ONLY	
2	<i>DC-4 Dup.</i>	<i>2-11-13</i>	<i>10:36</i>	<i>u</i>	<input checked="" type="checkbox"/>							<i>002</i>
3	<i>DC-2</i>	<i>2-11-13</i>	<i>12:01</i>	<i>u</i>	<input checked="" type="checkbox"/>							<i>003</i>
4	<i>BC-3</i>	<i>2-11-13</i>	<i>13:03</i>	<i>u</i>	<input checked="" type="checkbox"/>							<i>004</i>
5	<i>BC-1</i>	<i>2-11-13</i>	<i>13:59</i>	<i>u</i>	<input checked="" type="checkbox"/>							<i>005</i>
6	<i>BC-2</i>	<i>2-11-13</i>	<i>15:02</i>	<i>u</i>	<input checked="" type="checkbox"/>							<i>006</i>
7	<i>708</i>	<i>2-11-13</i>	<i>15:51</i>	<i>u</i>	<input checked="" type="checkbox"/>							
8	<i>DC-1</i>	<i>2-12-13</i>	<i>9:30</i>	<i>u</i>	<input checked="" type="checkbox"/>							<i>007</i>
9	<i>DC-3</i>	<i>2-12-13</i>	<i>10:11</i>	<i>u</i>	<input checked="" type="checkbox"/>							
10												

<b>Custody Record MUST be Signed</b>	Relinquished by (print): <i>Allen Scott</i>	Date/Time: <i>2-12-13 13:08</i>	Signature: <i>Allen Scott</i>	Received by (print):	Date/Time:	Signature:
	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
	Sample Disposal:      Return to Client:      Lab Disposal:	Received by Laboratory: <i>Steve Triland 2-12-13 1308</i>				

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.energlab.com](http://www.energlab.com) for additional information, downloadable fee schedule, forms, and links.



## ANALYTICAL SUMMARY REPORT

February 26, 2013

Powertech USA Inc  
PO Box 812  
Edgemont, SD 57735

Workorder No.: R13020120                      Quote ID: R412  
Project Name: #708 Plus Alluvial

Energy Laboratories Inc. Rapid City SD received the following 2 samples for Powertech USA Inc on 2/12/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
R13020120-001	708	02/11/13 15:51	02/12/13	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Anion - Cation Balance Conductivity Anions by Ion Chromatography pH Dissolved Filtration Solids, Total Dissolved
R13020120-002	DC-3	02/12/13 10:00	02/12/13	Aqueous	Metals by ICP/ICPMS, Dissolved Anion - Cation Balance Anions by Ion Chromatography 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: 2013.02.26 10:38:57 -07:00



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Gillette, WY 866-686-7175 • Rapid City, SD 888-672-1225 • College Station, TX 888-690-2218

**CLIENT:** Powertech USA Inc  
**Project:** #708 Plus Alluvial  
**Sample Delivery Group:** R13020120

**Report Date:** 02/26/13

## **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 Plus Alluvial  
**Lab ID:** R13020120-001  
**Client Sample ID:** 708

**Report Date:** 02/26/13  
**Collection Date:** 02/11/13 15:51  
**Date Received:** 02/12/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By		
				RL	QCL				
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	6150	umhos/cm		5.0		1	A2510 B	02/13/13 12:02/b	
pH	7.25	su		0.01		1	A4500-HB	02/13/13 11:12/b	
Solids, Total Dissolved TDS @ 180 C	6180	mg/L		100		1	A2540 C	02/13/13 17:27/jmh	
Alkalinity, Total as CaCO3	288	mg/L		5		1	A2320 B	02/19/13 13:42/ch	
Carbonate as CO3	ND	mg/L		5		1	A2320 B	02/19/13 13:42/ch	
Bicarbonate as HCO3	351	mg/L		5		1	A2320 B	02/19/13 13:42/ch	
<b>INORGANIC PARAMETERS</b>									
Chloride	43	mg/L				1	E300.0	02/13/13 15:46/b	
Fluoride	1.0	mg/L				1	E300.0	02/13/13 15:46/b	
Sulfate	4170	mg/L	D			50	E300.0	02/13/13 16:04/b	
<b>DATA QUALITY PARAMETERS</b>									
Anions	93.8	meq/L		1.00		1	A1030 E	02/25/13 00:00/lk	
Cations	96.2	meq/L		1.00		1	A1030 E	02/25/13 00:00/lk	
Conductivity, Calculated	6930	umhos/cm		1.00		1	A1030 E	02/25/13 00:00/lk	
TDS Ratio	1.01			0.0100		1	A1030 E	02/25/13 00:00/lk	
A/C Balance	1.21	%				1	A1030 E	02/25/13 00:00/lk	
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	ND	mg/L		0.1		1	E300.0	02/13/13 15:46/b	
<b>DISSOLVED METALS ANALYSES</b>									
Calcium	445	mg/L				1	2	E200.7	02/19/13 18:09/eli-ca
Magnesium	502	mg/L				1	2	E200.7	02/19/13 18:09/eli-ca
Potassium	31	mg/L				1	2	E200.7	02/19/13 18:09/eli-ca
Sodium	731	mg/L				1	2	E200.7	02/19/13 18:09/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:** R13020120-002  
**Client Sample ID:** DC-3

**Report Date:** 02/26/13  
**Collection Date:** 02/12/13 10:00  
**Date Received:** 02/12/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/			Method	Analysis Date / By
				RL	QCL	DF		
<b>PHYSICAL PARAMETERS</b>								
Solids, Total Dissolved TDS @ 180 C	11100	mg/L		100		1	A2540 C	02/13/13 17:28/jmh
<b>INORGANIC PARAMETERS</b>								
Chloride	1480	mg/L	D	100		100	E300.0	02/13/13 16:40/tb
Fluoride	3.0	mg/L		0.1		1	E300.0	02/13/13 16:22/tb
Sulfate	6150	mg/L	D	100		100	E300.0	02/13/13 16:40/tb
<b>DATA QUALITY PARAMETERS</b>								
Anions	170	meq/L		1.00		1	A1030 E	02/25/13 00:00/lkd
Cations	170	meq/L		1.00		1	A1030 E	02/25/13 00:00/lkd
Conductivity, Calculated	12300	umhos/cm		1.00		1	A1030 E	02/25/13 00:00/lkd
TDS Ratio	1.02			0.0100		1	A1030 E	02/25/13 00:00/lkd
A/C Balance	-0.180	%				1	A1030 E	02/25/13 00:00/lkd
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	5.8	mg/L		0.1		1	E300.0	02/13/13 16:22/tb
<b>DISSOLVED METALS ANALYSES</b>								
Calcium	456	mg/L		1		2	E200.7	02/19/13 18:25/eli-ca
Magnesium	768	mg/L		1		2	E200.7	02/19/13 18:25/eli-ca
Potassium	40	mg/L		1		2	E200.7	02/19/13 18:25/eli-ca
Sodium	1870	mg/L	D	2		5	E200.7	02/20/13 17:31/eli-ca

**Report** RL - Analyte reporting limit.  
**Definitions:** 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: 02/26/13

Project: #708 Plus Alluvial

Work Order: R13020120

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2320 B</b>								Batch: 130219A-ALK-SEL-W		
<b>Sample ID: LCS1_130219A</b>	Laboratory Control Sample					Run: PH_COND1-R_130219A		02/19/13 13:20		
Alkalinity, Total as CaCO3		960	mg/L	5.0	96	90	110			
<b>Sample ID: MBLK1_130219A</b>	Method Blank					Run: PH_COND1-R_130219A		02/19/13 13:22		
Alkalinity, Total as CaCO3		ND	mg/L	2						
<b>Sample ID: R13020119-003ADUP</b>	3	Sample Duplicate				Run: PH_COND1-R_130219A		02/19/13 13:26		
Alkalinity, Total as CaCO3		262	mg/L	5.0			1.5	10		
Carbonate as CO3		ND	mg/L	5.0						
Bicarbonate as HCO3		319	mg/L	5.0			1.5	10		
<b>Sample ID: R13020119-004AMS</b>	Sample Matrix Spike					Run: PH_COND1-R_130219A		02/19/13 13:32		
Alkalinity, Total as CaCO3		366	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: 02/26/13

Project: #708 Plus Alluvial

Work Order: R13020120

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: A2510 B</b>								Batch: 130213_1_COND-PROBE-W			
<b>Sample ID: MBLK-1_130213</b>		Method Blank									
Conductivity @ 25 C		ND	umhos/cm	5			Run: PH_COND2-R_130213B			02/13/13 11:39	
<b>Sample ID: R13020119-001ADUP</b>		Sample Duplicate									
Conductivity @ 25 C		11100	umhos/cm	5.0			Run: PH_COND2-R_130213B	0.0	10	02/13/13 11:44	

**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: 02/26/13

Project: #708 Plus Alluvial

Work Order: R13020120

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2540 C</b>								Batch: TDS130213A		
<b>Sample ID: MB-1_130213A</b>		Method Blank						Run: BAL-TDS_130213A		
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	2						02/13/13 17:09
<b>Sample ID: LCS-2_130213A</b>		Laboratory Control Sample						Run: BAL-TDS_130213A		
Solids, Total Dissolved TDS @ 180 C		500	mg/L	10	101	90	110			02/13/13 17:10
<b>Sample ID: R13020089-002A MS</b>		Sample Matrix Spike						Run: BAL-TDS_130213A		
Solids, Total Dissolved TDS @ 180 C		2200	mg/L	20	104	90	110			02/13/13 17:14

**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: 02/26/13

Project: #708 Plus Alluvial

Work Order: R13020120

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-H B								Analytical Run: PH_COND2-R_130213A			
<b>Sample ID:</b> ICV-1_130213		Initial Calibration Verification Standard						02/13/13 10:37			
pH		7.46	su	0.010	101	98	102				
<b>Method:</b> A4500-H B								Batch: 130213_1_PH-W			
<b>Sample ID:</b> ICV1-1_130213		Initial Calibration Verification Standard				Run: PH_COND2-R_130213A		02/13/13 10:32			
pH		12.0	su	0.010	100	99	101				

•

**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: 02/26/13

Project: #708 Plus Alluvial

Work Order: R13020120

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: SUB-C170548			
<b>Sample ID: ICV</b>	4	Initial Calibration Verification Standard						02/19/13 13:19			
Calcium		51	mg/L	0.50	102	95	105				
Magnesium		51	mg/L	0.50	102	95	105				
Potassium		48	mg/L	0.50	96	95	105				
Sodium		52	mg/L	0.50	105	95	105				
<b>Sample ID: ICSA</b>	4	Interference Check Sample A						02/19/13 13:47			
Calcium		500	mg/L	0.50	99	80	120				
Magnesium		520	mg/L	0.50	103	80	120				
Potassium		0.00010	mg/L	0.50							
Sodium		0.066	mg/L	0.50							
<b>Sample ID: ICSAB</b>	4	Interference Check Sample AB						02/19/13 13:51			
Calcium		510	mg/L	0.50	102	80	120				
Magnesium		520	mg/L	0.50	105	80	120				
Potassium		-0.00060	mg/L	0.50							
Sodium		-0.063	mg/L	0.50							
<b>Method: E200.7</b>								Batch: C_R170548			
<b>Sample ID: MB-130219A</b>	4	Method Blank						Run: SUB-C170548 02/19/13 14:15			
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-130219A</b>	4	Laboratory Fortified Blank						Run: SUB-C170548 02/19/13 14:20			
Calcium		51	mg/L	0.50	103	85	115				
Magnesium		51	mg/L	0.50	102	85	115				
Potassium		47	mg/L	0.50	95	85	115				
Sodium		51	mg/L	0.50	101	85	115				
<b>Sample ID: R13020120-001B</b>	4	Sample Matrix Spike						Run: SUB-C170548 02/19/13 18:13			
Calcium		537	mg/L	1.0		70	130			A	
Magnesium		614	mg/L	1.0		70	130			A	
Potassium		123	mg/L	1.0	90	70	130				
Sodium		820	mg/L	1.0		70	130			A	
<b>Sample ID: R13020120-001B</b>	4	Sample Matrix Spike Duplicate						Run: SUB-C170548 02/19/13 18:17			
Calcium		538	mg/L	1.0		70	130	0.1	20	A	
Magnesium		613	mg/L	1.0		70	130	0.3	20	A	
Potassium		124	mg/L	1.0	91	70	130	0.7	20		
Sodium		817	mg/L	1.0		70	130	0.3	20	A	

### Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 02/26/13

Project: #708 Plus Alluvial

Work Order: R13020120

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: SUB-C170596		
<b>Sample ID: ICV</b>		Initial Calibration Verification Standard								
Sodium	51	mg/L	0.50	102	95	105				02/20/13 12:29
<b>Sample ID: ICSA</b>		Interference Check Sample A								
Sodium	0.0084	mg/L	0.50							02/20/13 12:57
<b>Sample ID: ICSAB</b>		Interference Check Sample AB								
Sodium	0.0045	mg/L	0.50							02/20/13 13:01
<b>Method: E200.7</b>								Batch: C_R170596		
<b>Sample ID: MB-130220A</b>		Method Blank								
Sodium	ND	mg/L	0.3				Run: SUB-C170596			02/20/13 13:25
<b>Sample ID: LFB-130220A</b>		Laboratory Fortified Blank								
Sodium	49	mg/L	0.50	98	85	115	Run: SUB-C170596			02/20/13 13:29
<b>Sample ID: C13020502-002CMS2</b>		Sample Matrix Spike								
Sodium	200	mg/L	1.0	106	70	130	Run: SUB-C170596			02/20/13 17:19
<b>Sample ID: C13020502-002CMSD</b>		Sample Matrix Spike Duplicate								
Sodium	201	mg/L	1.0	106	70	130	0.2	20		02/20/13 17:23

**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: 02/26/13

Project: #708 Plus Alluvial

Work Order: R13020120

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>								Analytical Run: DIONEX_130212A		
<b>Sample ID: CCV021213-70</b>	4	Continuing Calibration Verification Standard								02/13/13 13:05
Chloride		72.2	mg/L	1.0	96	90	110			
Fluoride		7.43	mg/L	0.10	99	90	110			
Nitrogen, Nitrate as N		7.21	mg/L	0.10	96	90	110			
Sulfate		71.7	mg/L	1.0	96	90	110			
<b>Sample ID: CCV021213-84</b>	4	Continuing Calibration Verification Standard								02/14/13 00:26
Chloride		72.2	mg/L	1.0	96	90	110			
Fluoride		7.38	mg/L	0.10	98	90	110			
Nitrogen, Nitrate as N		7.26	mg/L	0.10	97	90	110			
Sulfate		72.0	mg/L	1.0	96	90	110			
<b>Method: E300.0</b>								Batch: R59948		
<b>Sample ID: LFB021213-14</b>	4	Laboratory Fortified Blank								02/12/13 20:40
Chloride		38.2	mg/L	1.0	95	90	110			
Fluoride		4.00	mg/L	0.10	100	90	110			
Nitrogen, Nitrate as N		3.89	mg/L	0.10	97	90	110			
Sulfate		38.8	mg/L	1.0	97	90	110			
<b>Sample ID: R13020150-002AMS</b>	4	Sample Matrix Spike								02/13/13 22:21
Chloride		714	mg/L	10	84	90	110			S
Fluoride		40.9	mg/L	1.0	101	90	110			
Nitrogen, Nitrate as N		40.6	mg/L	1.0	100	90	110			
Sulfate		9320	mg/L	10		90	110			A
<b>Sample ID: R13020150-002AMSD</b>	4	Sample Matrix Spike Duplicate								02/13/13 22:39
Chloride		720	mg/L	10	85	90	110	0.8	10	S
Fluoride		41.4	mg/L	1.0	102	90	110	1.3	10	
Nitrogen, Nitrate as N		40.9	mg/L	1.0	101	90	110	0.7	10	
Sulfate		9360	mg/L	10		90	110	0.4	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.

S - Spike recovery outside of advisory limits.



# Chain of Custody and Analytical Request Record

**PLEASE PRINT (Provide as much information as possible.)**

Company Name: <i>Scott Env.</i>	Project Name, PWS, Permit, Etc. <i>Scott Env Power Tech</i>	Sample Origin State:	EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>
Report Mail Address: <i>Scott Env./Power Tech</i>	Contact Name: <i>Allen Scott Lisa Schriest</i>	Phone/Fax:	Sampler: (Please Print) <i>Allen Scott</i>
Invoice Address: <i>PowerTech</i>	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats:  <input type="checkbox"/> DW <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP <b>Format:</b> _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC	Number of Containers Sample Type: AW SV BO DW Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water  <i>As Per Quote</i>	<b>ANALYSIS REQUESTED</b>										Contact ELI prior to <b>RUSH</b> sample submittal for charges and scheduling - See Instruction Page  Comments:	Shipped by:
		SEE ATTACHED Standard Turnaround (TAT)											Cooler ID(s):
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)			Collection Date	Collection Time	MATRIX						Receipt Temp <i>34 °C</i>		
1	<i>DC-4</i>	<i>2-11-13</i>	<i>10:35</i>	<i>Water</i>	<input checked="" type="checkbox"/>						On Ice: Y N		
2	<i>DC-4 Dup.</i>	<i>2-11-13</i>	<i>10:36</i>	<i>"</i>	<input checked="" type="checkbox"/>						Custody Seal On Bottle Y N On Cooler Y N		
3	<i>DC-2</i>	<i>2-11-13</i>	<i>12:01</i>	<i>"</i>	<input checked="" type="checkbox"/>						Intact Y N Signature Match Y N		
4	<i>BC-3</i>	<i>2-11-13</i>	<i>13:03</i>	<i>"</i>	<input checked="" type="checkbox"/>						<b>LABORATORY USE ONLY</b>		
5	<i>BC-1</i>	<i>2-11-13</i>	<i>13:59</i>	<i>"</i>	<input checked="" type="checkbox"/>								
6	<i>BC-2</i>	<i>2-11-13</i>	<i>15:02</i>	<i>"</i>	<input checked="" type="checkbox"/>								
7	<i>708</i>	<i>2-11-13</i>	<i>15:51</i>	<i>"</i>	<input checked="" type="checkbox"/>								
8	<i>DC-1</i>	<i>2-12-13</i>	<i>9:36</i>	<i>"</i>	<input checked="" type="checkbox"/>								
9	<i>DC-3</i>	<i>2-12-13</i>	<i>10:11</i>	<i>"</i>	<input checked="" type="checkbox"/>								
10													

<b>Custody Record MUST be Signed</b>	Relinquished by (print): <i>Allen Scott</i>	Date/Time: <i>2-12-13 13:08</i>	Signature: <i>[Signature]</i>	Received by (print):	Date/Time:	Signature:
	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
	Sample Disposal: Return to Client:	Lab Disposal:	Received by Laboratory: <i>Debra Troiland</i>	Date/Time: <i>2-12-13 1308</i>	Signature: <i>[Signature]</i>	

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.



# ANALYTICAL SUMMARY REPORT

April 19, 2013

Powertech USA Inc  
PO Box 812  
Edgemont, SD 57735

Workorder No.: R13030030                      Quote ID: R411

Project Name: Alluvial Wells Dewey Burdock

Energy Laboratories Inc. Rapid City SD received the following 1 sample for Powertech USA Inc on 3/4/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
R13030030-001	DC-2	03/04/13 10:17	03/04/13	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

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: 2013.04.19 10:22:14 -06:00



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Gillette, WY 866-686-7175 • Rapid City, SD 888-672-1225 • College Station, TX 888-690-2218

**CLIENT:** Powertech USA Inc  
**Project:** Alluvial Wells Dewey Burdock  
**Sample Delivery Group:** R13030030

**Revised Date:** 04/19/13

**Report Date:** 04/15/13

## 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.

Report is revised due to a recheck on the fluoride. Original value was reported off of a dilution. The value was at the low end of the calibration and not accurate. Sample was re-run with no dilution. That value is reported here and reflects a H flag due to being confirmed after the hold time.





**LABORATORY ANALYTICAL REPORT**

Prepared by Rapid City, SD Branch

Revised Date: 04/19/13

Client: Powertech USA Inc

Report Date: 04/15/13

Project: Alluvial Wells Dewey Burdock

Collection Date: 03/04/13 10:17

Lab ID: R13030030-001

Date Received: 03/04/13

Client Sample ID: DC-2

Matrix: AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By
					QCL	DF		
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	5730	umhos/cm		5.0		1	A2510 B	03/05/13 10:41/tb
pH	7.20	su		0.01		1	A4500-HB	03/05/13 10:11/tb
Solids, Total Dissolved TDS @ 180 C	4700	mg/L		40		1	A2540 C	03/06/13 17:20/jmh
Alkalinity, Total as CaCO3	266	mg/L		5		1	A2320 B	03/14/13 10:46/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	03/14/13 10:46/ch
Bicarbonate as HCO3	324	mg/L		5		1	A2320 B	03/14/13 10:46/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	885	mg/L	D	50		50	E300.0	03/04/13 20:23/tb
Fluoride	0.6	mg/L	H	0.1		1	E300.0	04/18/13 21:55/tb
Sulfate	2030	mg/L	D	50		50	E300.0	03/04/13 20:23/tb
<b>DATA QUALITY PARAMETERS</b>								
Anions	73.1	meq/L		1.00		1	A1030 E	04/15/13 00:00/kl
Cations	69.1	meq/L		1.00		1	A1030 E	04/15/13 00:00/kl
Conductivity, Calculated	5580	umhos/cm		1.00		1	A1030 E	04/15/13 00:00/kl
TDS Ratio	1.05			0.0100		1	A1030 E	04/15/13 00:00/kl
A/C Balance	-2.81	%				1	A1030 E	04/15/13 00:00/kl
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	0.6	mg/L		0.1		1	E300.0	03/04/13 20:06/tb
<b>RADIONUCLIDES - DISSOLVED</b>								
Gross Alpha	7.3	pCi/L	U			1	E900.0	04/04/13 16:07/eli-ca
Gross Alpha precision (±)	8.4	pCi/L				1	E900.0	04/04/13 16:07/eli-ca
Gross Alpha MDC	13.4	pCi/L				1	E900.0	04/04/13 16:07/eli-ca
Gross Beta	18.0	pCi/L	U			1	E900.0	04/04/13 16:07/eli-ca
Gross Beta precision (±)	17.4	pCi/L				1	E900.0	04/04/13 16:07/eli-ca
Gross Beta MDC	28.7	pCi/L				1	E900.0	04/04/13 16:07/eli-ca
Radium 228	0.4	pCi/L	U			1	RA-05	03/14/13 20:08/eli-ca
Radium 228 precision (±)	0.7	pCi/L				1	RA-05	03/14/13 20:08/eli-ca
Radium 228 MDC	1.2	pCi/L				1	RA-05	03/14/13 20:08/eli-ca
Radium 226	0.6	pCi/L				1	E903.0	03/19/13 12:03/eli-ca
Radium 226 precision (±)	0.2	pCi/L				1	E903.0	03/19/13 12:03/eli-ca
Radium 226 MDC	0.1	pCi/L				1	E903.0	03/19/13 12:03/eli-ca
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222	2140	pCi/L				1	D5072-92	03/07/13 15:31/eli-ca
Radon 222 precision (±)	164	pCi/L				1	D5072-92	03/07/13 15:31/eli-ca

Report Definitions:  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 MDC - Minimum detectable concentration  
 H - Analysis performed past recommended holding time.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.  
 D - RL increased due to sample matrix.  
 U - Not detected at minimum detectable concentration



**LABORATORY ANALYTICAL REPORT**

Prepared by Rapid City, SD Branch

Revised Date: 04/19/13

Report Date: 04/15/13

Collection Date: 03/04/13 10:17

Date Received: 03/04/13

Matrix: AQUEOUS

Client: Powertech USA Inc  
Project: Alluvial Wells Dewey Burdock  
Lab ID: R13030030-001  
Client Sample ID: DC-2

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222 MDC	230	pCi/L					1	D5072-92	03/07/13 15:31/eli-ca
<b>TOTAL METALS ANALYSES</b>									
Mercury	ND	mg/L		0.0001			1	E245.1	03/15/13 11:08/eli-ca
<b>DISSOLVED METALS ANALYSES</b>									
Arsenic	0.001	mg/L		0.001			1	E200.8	03/07/13 13:44/eli-ca
Barium	ND	mg/L		0.05			1	E200.8	03/07/13 13:44/eli-ca
Boron	0.29	mg/L		0.05			1	E200.8	03/07/13 13:44/eli-ca
Cadmium	ND	mg/L		0.001			1	E200.8	03/07/13 13:44/eli-ca
Chromium	ND	mg/L		0.005			1	E200.8	03/07/13 13:44/eli-ca
Copper	ND	mg/L		0.005			1	E200.8	03/07/13 13:44/eli-ca
Iron	0.71	mg/L		0.03			1	E200.8	03/07/13 13:44/eli-ca
Lead	ND	mg/L		0.001			1	E200.8	03/07/13 13:44/eli-ca
Manganese	3.20	mg/L		0.001			1	E200.8	03/07/13 13:44/eli-ca
Molybdenum	0.004	mg/L		0.001			1	E200.8	03/07/13 13:44/eli-ca
Nickel	ND	mg/L		0.005			1	E200.8	03/07/13 13:44/eli-ca
Selenium	0.002	mg/L		0.001			1	E200.8	03/07/13 13:44/eli-ca
Silver	ND	mg/L		0.001			1	E200.8	03/08/13 22:00/eli-ca
Uranium	0.0111	mg/L		0.0003			1	E200.8	03/07/13 13:44/eli-ca
Vanadium	ND	mg/L		0.01			1	E200.8	03/07/13 13:44/eli-ca
Zinc	ND	mg/L		0.01			1	E200.8	03/07/13 13:44/eli-ca
Calcium	500	mg/L		1			5	E200.7	03/15/13 16:26/eli-ca
Magnesium	156	mg/L		1			1	E200.8	03/07/13 13:44/eli-ca
Potassium	8	mg/L		1			1	E200.8	03/07/13 13:44/eli-ca
Sodium	715	mg/L		1			5	E200.7	03/15/13 16:26/eli-ca

Report Definitions:  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 MDC - Minimum detectable concentration

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



### QA/QC Summary Report

Prepared by Rapid City, SD Branch

Revised Date: 04/19/13

Report Date: 04/15/13

Client: Powertech USA Inc

Project: Alluvial Wells Dewey Burdock

Work Order: R13030030

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2320 B</b>								Batch: 130314A-ALK-SEL-W		
<b>Sample ID: LCS1_130314A</b>	Laboratory Control Sample					Run: PH_COND1-R_130314A		03/14/13 10:38		
Alkalinity, Total as CaCO3	956	mg/L	5.0	96	90	110				
<b>Sample ID: MBLK1_130314A</b>	Method Blank					Run: PH_COND1-R_130314A		03/14/13 10:42		
Alkalinity, Total as CaCO3	ND	mg/L	2							
<b>Sample ID: R13030086-006AMS</b>	Sample Matrix Spike					Run: PH_COND1-R_130314A		03/14/13 14:17		
Alkalinity, Total as CaCO3	350	mg/L	5.0	98	80	120				

**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

Revised Date: 04/19/13

Client: Powertech USA Inc

Report Date: 04/15/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13030030

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A2510 B								Batch: 130305_1_COND-PROBE-W		
<b>Sample ID:</b> MBLK-1_130305		Method Blank					Run: PH_COND2-R_130305B		03/05/13 10:32	
Conductivity @ 25 C		ND	umhos/cm	5						
<b>Sample ID:</b> R13020223-001ADUP		Sample Duplicate					Run: PH_COND2-R_130305B		03/05/13 10:36	
Conductivity @ 25 C		1100	umhos/cm	5.0				0.0	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

Revised Date: 04/19/13

Report Date: 04/15/13

Client: Powertech USA Inc

Work Order: R13030030

Project: Alluvial Wells Dewey Burdock

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2540 C</b>								Batch: TDS130306A		
<b>Sample ID: MB-1_130306A</b>		Method Blank				Run: BAL-TDS_130306A			03/06/13 13:54	
Solids, Total Dissolved TDS @ 180 C		10	mg/L	2						
<b>Sample ID: LCS-2_130306A</b>		Laboratory Control Sample				Run: BAL-TDS_130306A			03/06/13 13:56	
Solids, Total Dissolved TDS @ 180 C		480	mg/L	10	93	90	110			
<b>Sample ID: R13020314-001A DUP</b>		Sample Duplicate				Run: BAL-TDS_130306A			03/06/13 13:57	
Solids, Total Dissolved TDS @ 180 C		210	mg/L	10				2.8	5	
<b>Sample ID: R13030030-001AMS</b>		Sample Matrix Spike				Run: BAL-TDS_130306A			03/06/13 17:21	
Solids, Total Dissolved TDS @ 180 C		6800	mg/L	40	106	90	110			

### 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  
Project: Alluvial Wells Dewey Burdock

Revised Date: 04/19/13  
Report Date: 04/15/13  
Work Order: R13030030

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-H B								Analytical Run: PH_COND2-R_130305A		
<b>Sample ID:</b> ICV-1_130305		Initial Calibration Verification Standard						03/05/13 09:59		
pH		7.43	su	0.010	100	98	102			
<b>Method:</b> A4500-H B								Batch: 130305_1_PH-W		
<b>Sample ID:</b> R13030007-001CDUP		Sample Duplicate				Run: PH_COND2-R_130305A		03/05/13 10:06		
pH		7.80	su	0.010				0.0	3	

**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

Revised Date: 04/19/13

Report Date: 04/15/13

Client: Powertech USA Inc

Project: Alluvial Wells Dewey Burdock

Work Order: R13030030

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: D5072-92</b>								Batch: C_R171132		
<b>Sample ID: C13030131-003GDUP</b> 3 Sample Duplicate										
Radon 222		3410	pCi/L					14	20	
Radon 222 precision (±)		330	pCi/L							
Radon 222 MDC		478	pCi/L							
<b>Sample ID: MB-R171132</b> 3 Method Blank										
Radon 222		50	pCi/L							U
Radon 222 precision (±)		80	pCi/L							
Radon 222 MDC		100	pCi/L							
<b>Sample ID: LCS-R171132</b> Laboratory Control Sample										
Radon 222		479	pCi/L	84		80	120			03/07/13 15:31

### 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

Revised Date: 04/19/13

Report Date: 04/15/13

Client: Powertech USA Inc

Work Order: R13030030

Project: Alluvial Wells Dewey Burdock

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>											
Analytical Run: SUB-C171399											
<b>Sample ID: ICV</b>	2	Initial Calibration Verification Standard									03/15/13 13:47
Calcium		49	mg/L	0.50	99	95	105				
Sodium		50	mg/L	0.50	100	95	105				
<b>Sample ID: ICSA</b>	2	Interference Check Sample A									03/15/13 14:02
Calcium		440	mg/L	0.50	88	80	120				
Sodium		-0.16	mg/L	0.50							
<b>Sample ID: ICSAB</b>	2	Interference Check Sample AB									03/15/13 14:06
Calcium		440	mg/L	0.50	89	80	120				
Sodium		-0.13	mg/L	0.50							
<b>Method: E200.7</b>											
Batch: C_R171399											
<b>Sample ID: MB-130315A</b>	2	Method Blank									03/15/13 14:25
Calcium		ND	mg/L	0.02							
Sodium		ND	mg/L	0.2							
<b>Sample ID: LFB-130315A</b>	2	Laboratory Fortified Blank									03/15/13 14:28
Calcium		47	mg/L	0.50	95	85	115				
Sodium		47	mg/L	0.50	95	85	115				
<b>Sample ID: C13030489-001BMS2</b>	2	Sample Matrix Spike									03/15/13 14:43
Calcium		644	mg/L	1.0	83	70	130				
Sodium		354	mg/L	1.0	90	70	130				
<b>Sample ID: C13030489-001BMSD</b>	2	Sample Matrix Spike Duplicate									03/15/13 14:46
Calcium		644	mg/L	1.0	83	70	130	0.1	20		
Sodium		352	mg/L	1.0	89	70	130	0.5	20		

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Work Order: R13030030

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: SUB-C171112	
<b>Sample ID: ICV</b>	17	Initial Calibration Verification Standard						03/07/13 10:37			
Arsenic		0.0502	mg/L	0.0010	100	90	110				
Barium		0.0491	mg/L	0.0010	98	90	110				
Boron		0.0542	mg/L	0.0010	108	90	110				
Cadmium		0.0496	mg/L	0.0010	99	90	110				
Chromium		0.0482	mg/L	0.0010	96	90	110				
Copper		0.0495	mg/L	0.0010	99	90	110				
Iron		1.02	mg/L	0.0010	102	90	110				
Lead		0.0490	mg/L	0.0010	98	90	110				
Magnesium		9.97	mg/L	0.0027	100	90	110				
Manganese		0.0502	mg/L	0.0010	100	90	110				
Molybdenum		0.0490	mg/L	0.0010	98	90	110				
Nickel		0.0507	mg/L	0.0010	101	90	110				
Potassium		9.73	mg/L	0.0041	97	90	110				
Selenium		0.0514	mg/L	0.0010	103	90	110				
Uranium		0.0491	mg/L	0.00030	98	90	110				
Vanadium		0.0483	mg/L	0.0010	97	90	110				
Zinc		0.0515	mg/L	0.0010	103	90	110				

<b>Method: E200.8</b>										Batch: C_R171112	
<b>Sample ID: LRB</b>	17	Method Blank						Run: SUB-C171112		03/07/13 11:30	
Arsenic		ND	mg/L	5E-05							
Barium		ND	mg/L	7E-05							
Boron		ND	mg/L	0.0004							
Cadmium		ND	mg/L	3E-05							
Chromium		ND	mg/L	4E-05							
Copper		ND	mg/L	3E-05							
Iron		ND	mg/L	0.0006							
Lead		ND	mg/L	2E-05							
Magnesium		ND	mg/L	0.003							
Manganese		ND	mg/L	3E-05							
Molybdenum		7E-05	mg/L	3E-05							
Nickel		ND	mg/L	9E-05							
Potassium		0.01	mg/L	0.004							
Selenium		ND	mg/L	7E-05							
Uranium		1E-05	mg/L	9E-06							
Vanadium		ND	mg/L	4E-05							
Zinc		ND	mg/L	0.0002							

<b>Sample ID: LFB</b>	17	Laboratory Fortified Blank						Run: SUB-C171112		03/07/13 11:34	
Arsenic		0.0525	mg/L	0.0010	105	85	115				
Barium		0.0523	mg/L	0.0010	105	85	115				
Boron		0.0526	mg/L	0.0010	105	85	115				
Cadmium		0.0518	mg/L	0.0010	103	85	115				
Chromium		0.0530	mg/L	0.0010	106	85	115				

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Work Order: R13030030

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.8										Batch: C_R171112	
<b>Sample ID:</b> LFB	17	Laboratory Fortified Blank			Run: SUB-C171112				03/07/13 11:34		
Copper		0.0515	mg/L	0.0010	103	85	115				
Iron		1.29	mg/L	0.0010	103	85	115				
Lead		0.0516	mg/L	0.0010	103	85	115				
Magnesium		12.7	mg/L	0.0027	102	85	115				
Manganese		0.0536	mg/L	0.0010	107	85	115				
Molybdenum		0.0516	mg/L	0.0010	103	85	115				
Nickel		0.0531	mg/L	0.0010	106	85	115				
Potassium		12.8	mg/L	0.0041	102	85	115				
Selenium		0.0526	mg/L	0.0010	105	85	115				
Uranium		0.0513	mg/L	0.00030	103	85	115				
Vanadium		0.0513	mg/L	0.0010	103	85	115				
Zinc		0.0537	mg/L	0.0010	107	85	115				
<b>Sample ID:</b> C13030220-004BMS4	17	Post Digestion Spike			Run: SUB-C171112				03/07/13 14:06		
Arsenic		0.0599	mg/L	0.0010	119	70	130				
Barium		0.0846	mg/L	0.050	120	70	130				
Boron		0.104	mg/L	0.050	96	70	130				
Cadmium		0.0485	mg/L	0.0010	97	70	130				
Chromium		0.0579	mg/L	0.0050	114	70	130				
Copper		0.0498	mg/L	0.0050	97	70	130				
Iron		1.47	mg/L	0.030	105	70	130				
Lead		0.0579	mg/L	0.0010	115	70	130				
Manganese		0.0958	mg/L	0.0010	110	70	130				
Molybdenum		0.0526	mg/L	0.0010	104	70	130				
Nickel		0.0623	mg/L	0.0050	102	70	130				
Selenium		0.441	mg/L	0.0010		70	130			A	
Uranium		0.409	mg/L	0.00030		70	130			A	
Vanadium		0.0565	mg/L	0.010	112	70	130				
Zinc		0.0578	mg/L	0.010	94	70	130				
Magnesium		95.5	mg/L	1.0		70	130			A	
Potassium		27.4	mg/L	1.0	114	70	130				
<b>Sample ID:</b> C13030220-004BMSD	17	Post Digestion Spike Duplicate			Run: SUB-C171112				03/07/13 14:10		
Arsenic		0.0606	mg/L	0.0010	120	70	130	1.1	20		
Barium		0.0822	mg/L	0.050	115	70	130	2.9	20		
Boron		0.102	mg/L	0.050	92	70	130	1.9	20		
Cadmium		0.0477	mg/L	0.0010	95	70	130	1.7	20		
Chromium		0.0581	mg/L	0.0050	114	70	130	0.2	20		
Copper		0.0505	mg/L	0.0050	98	70	130	1.3	20		
Iron		1.54	mg/L	0.030	110	70	130	4.3	20		
Lead		0.0574	mg/L	0.0010	114	70	130	0.8	20		
Manganese		0.0913	mg/L	0.0010	101	70	130	4.8	20		
Molybdenum		0.0523	mg/L	0.0010	104	70	130	0.6	20		
Nickel		0.0629	mg/L	0.0050	103	70	130	0.9	20		
Selenium		0.458	mg/L	0.0010		70	130	3.6	20	A	

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ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



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Prepared by Rapid City, SD Branch

Revised Date: 04/19/13

Report Date: 04/15/13

Client: Powertech USA Inc

Project: Alluvial Wells Dewey Burdock

Work Order: R13030030

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Batch: C_R171112		
<b>Sample ID: C13030220-004BMSD</b>		17 Post Digestion Spike Duplicate				Run: SUB-C171112		03/07/13 14:10		
Uranium		0.400	mg/L	0.00030		70	130	2.2	20	A
Vanadium		0.0570	mg/L	0.010	113	70	130	0.8	20	
Zinc		0.0579	mg/L	0.010	95	70	130	0.3	20	
Magnesium		97.3	mg/L	1.0		70	130	1.9	20	A
Potassium		27.5	mg/L	1.0	115	70	130	0.5	20	
<b>Method: E200.8</b>								Analytical Run: SUB-C171145		
<b>Sample ID: ICV</b>		Initial Calibration Verification Standard						03/08/13 12:42		
Silver		0.0211	mg/L	0.0010	105	90	110			
<b>Method: E200.8</b>								Batch: C_R171145		
<b>Sample ID: LRB</b>		Method Blank				Run: SUB-C171145		03/08/13 13:17		
Silver		0.0002	mg/L	6E-05						
<b>Sample ID: LFB</b>		Laboratory Fortified Blank				Run: SUB-C171145		03/08/13 13:22		
Silver		0.0211	mg/L	0.0010	105	85	115			
<b>Sample ID: C13030264-001BMS4</b>		Post Digestion Spike				Run: SUB-C171145		03/08/13 22:09		
Silver		0.0376	mg/L	0.0010	94	70	130			
<b>Sample ID: C13030264-001BMSD</b>		Post Digestion Spike Duplicate				Run: SUB-C171145		03/08/13 22:13		
Silver		0.0390	mg/L	0.0010	98	70	130	3.6	20	

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Work Order: R13030030

Client: Powertech USA Inc

Project: Alluvial Wells Dewey Burdock

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E245.1</b>								Analytical Run: SUB-C171379		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Mercury		0.0046	mg/L	0.00010	92	90	110			03/15/13 10:17
<b>Method: E245.1</b>								Batch: C_36806		
<b>Sample ID: MB-36806</b>	Method Blank									
Mercury		ND	mg/L	7E-05						03/15/13 10:48
<b>Sample ID: LCS-36806</b>	Laboratory Control Sample									
Mercury		0.0043	mg/L	0.00010	86	85	115			03/15/13 10:49
<b>Sample ID: R13030086-001B</b>	Sample Matrix Spike									
Mercury		0.0048	mg/L	0.00010	96	70	130			03/15/13 11:13
<b>Sample ID: R13030086-001B</b>	Sample Matrix Spike Duplicate									
Mercury		0.0050	mg/L	0.00010	99	70	130	3.4	10	03/15/13 11:14
<b>Sample ID: C13030214-001DMS</b>	Sample Matrix Spike									
Mercury		0.0048	mg/L	0.00010	96	70	130			03/15/13 11:03
<b>Sample ID: C13030214-001DMSD</b>	Sample Matrix Spike Duplicate									
Mercury		0.0047	mg/L	0.00010	95	70	130	1.6	10	03/15/13 11:05
<b>Method: E245.1</b>								Batch: C_R171379		
<b>Sample ID: IPC</b>	Instrument Performance Check Sample									
Mercury		0.0052	mg/L	0.00010	103	95	105			03/15/13 10:20

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Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E300.0</b>										Analytical Run: DIONEX_130304A	
<b>Sample ID: CCV030413-21</b>	4	Continuing Calibration Verification Standard								03/04/13 18:18	
Chloride		71.7	mg/L	1.0	96	90	110				
Fluoride		7.32	mg/L	0.10	98	90	110				
Nitrogen, Nitrate as N		7.17	mg/L	0.10	96	90	110				
Sulfate		71.5	mg/L	1.0	95	90	110				
<b>Method: E300.0</b>										Batch: R80185	
<b>Sample ID: LFB030413-14</b>	4	Laboratory Fortified Blank						Run: DIONEX_130304A		03/04/13 14:25	
Chloride		37.5	mg/L	1.0	94	90	110				
Fluoride		3.93	mg/L	0.10	98	90	110				
Nitrogen, Nitrate as N		3.82	mg/L	0.10	96	90	110				
Sulfate		37.9	mg/L	1.0	95	90	110				
<b>Sample ID: R13030031-007AMS</b>	4	Sample Matrix Spike						Run: DIONEX_130304A		03/04/13 19:12	
Chloride		39.1	mg/L	1.0	86	90	110			S	
Fluoride		4.41	mg/L	0.10	95	90	110				
Nitrogen, Nitrate as N		3.98	mg/L	0.10	91	90	110				
Sulfate		48.5	mg/L	1.0	92	90	110				
<b>Sample ID: R13030031-007AMSD</b>	4	Sample Matrix Spike Duplicate						Run: DIONEX_130304A		03/04/13 19:30	
Chloride		39.2	mg/L	1.0	86	90	110	0.2	10	S	
Fluoride		4.42	mg/L	0.10	95	90	110	0.2	10		
Nitrogen, Nitrate as N		3.98	mg/L	0.10	91	90	110	0.0	10		
Sulfate		48.6	mg/L	1.0	93	90	110	0.1	10		

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S - Spike recovery outside of advisory limits.



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Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E900.0</b>								Batch: C_GrAB-1495		
<b>Sample ID: Th230-GrAB-1495</b>	Laboratory Control Sample			Run: SUB-C172245			04/04/13 16:07			
Gross Alpha	112		pCi/L	107		80	120			
<b>Sample ID: Sr90-GrAB-1495</b>	Laboratory Control Sample			Run: SUB-C172245			04/04/13 16:07			
Gross Beta	165		pCi/L	91		80	120			
<b>Sample ID: MB-GrAB-1495</b>	6 Method Blank			Run: SUB-C172245			04/04/13 16:07			
Gross Alpha		-0.6	pCi/L							U
Gross Alpha precision (±)		0.9	pCi/L							
Gross Alpha MDC		2	pCi/L							
Gross Beta		-0.7	pCi/L							U
Gross Beta precision (±)		2	pCi/L							
Gross Beta MDC		3	pCi/L							
<b>Sample ID: C13030892-003EMS</b>	Sample Matrix Spike			Run: SUB-C172245			04/04/13 16:07			
Gross Alpha	220		pCi/L	74		70	130			
<b>Sample ID: C13030892-003EMSD</b>	Sample Matrix Spike Duplicate			Run: SUB-C172245			04/04/13 16:07			
Gross Alpha	230		pCi/L	76		70	130	1.0	14.3	
<b>Sample ID: C13030892-003EMS</b>	Sample Matrix Spike			Run: SUB-C172245			04/04/13 16:07			
Gross Beta	200		pCi/L	103		70	130			
<b>Sample ID: C13030892-003EMSD</b>	Sample Matrix Spike Duplicate			Run: SUB-C172245			04/04/13 16:07			
Gross Beta	200		pCi/L	99		70	130	4.0	13.8	
<b>Sample ID: C13030895-001FDUP</b>	6 Sample Duplicate			Run: SUB-C172245			04/05/13 04:09			
Gross Alpha		8.2	pCi/L					30	53.2	
Gross Alpha precision (±)		1.7	pCi/L							
Gross Alpha MDC		2.2	pCi/L							
Gross Beta		0.46	pCi/L					90	573.2	U
Gross Beta precision (±)		3.0	pCi/L							
Gross Beta MDC		5.0	pCi/L							

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Work Order: R13030030

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E903.0</b>								Batch: C_RA226-6549		
<b>Sample ID: C13030204-002DMS</b>	Sample Matrix Spike			Run: SUB-C171561			03/19/13 12:03			
Radium 226	22	pCi/L		92		70	130			
<b>Sample ID: C13030204-002DMSD</b>	Sample Matrix Spike Duplicate			Run: SUB-C171561			03/19/13 12:03			
Radium 226	24	pCi/L		100		70	130	8.1	21.5	
<b>Sample ID: MB-RA226-6549</b>	3 Method Blank			Run: SUB-C171561			03/19/13 14:09			
Radium 226		-0.1	pCi/L							U
Radium 226 precision (±)		0.09	pCi/L							
Radium 226 MDC		0.2	pCi/L							
<b>Sample ID: LCS-RA226-6549</b>	Laboratory Control Sample			Run: SUB-C171561			03/19/13 14:09			
Radium 226	11	pCi/L		102		80	120			

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Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: RA-05</b>								Batch: C_RA228-4359		
<b>Sample ID: LCS-228-RA226-6549</b>	Laboratory Control Sample			Run: SUB-C171512			03/14/13 18:35			
Radium 228		4.6	pCi/L	83		80	120			
<b>Sample ID: MB-RA226-6549</b>	3	Method Blank		Run: SUB-C171512			03/14/13 18:35			
Radium 228		0.04	pCi/L							U
Radium 228 precision (±)		0.8	pCi/L							
Radium 228 MDC		1	pCi/L							
<b>Sample ID: C13030214-001FMS</b>	Sample Matrix Spike			Run: SUB-C171512			03/14/13 18:35			
Radium 228		9.3	pCi/L	87		70	130			
<b>Sample ID: C13030214-001FMSD</b>	Sample Matrix Spike Duplicate			Run: SUB-C171512			03/14/13 18:35			
Radium 228		8.0	pCi/L	75		70	130	15		48.3

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# 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>PowerTech alluvia/wells</i>	Sample Origin State:	EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>
Report Mail Address: <i>PowerTech/Scott Env.</i>	Contact Name: <i>Allen Scott / Lisa Schinost</i>	Phone/Fax:	Email:
Invoice Address: <i>PowerTech</i>	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats:			ANALYSIS REQUESTED	SEE ATTACHED	Standard Turnaround (TAT)	RUSH	Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page	Shipped by:
<input type="checkbox"/> DW <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> Format: _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC							Comments:	Cooler ID(s):
Number of Containers: _____ Sample Type: <input type="checkbox"/> AW <input type="checkbox"/> SV <input type="checkbox"/> BO <input type="checkbox"/> DW <input type="checkbox"/> Air <input type="checkbox"/> Water <input type="checkbox"/> Soils/Solids <input type="checkbox"/> Vegetation <input type="checkbox"/> Bioassay <input type="checkbox"/> Other <input type="checkbox"/> DW - Drinking Water			MATRIX <i>Alper Quate</i>	Receipt Temp <i>4.0 °C</i>	On Ice: <input checked="" type="radio"/> Y <input type="radio"/> N	Custody Seal On Bottle Y N On Cooler Y N Intact Y N Signature Match Y N	Signature <i>13030639-001</i>	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time						
1 <i>DC-2</i>	<i>3-4-13</i>	<i>10:17</i>						
2								
3								
4								
5								
6								
7								
8								
9								
10								

<b>Custody Record MUST be Signed</b>	Relinquished by (print): <i>Allen Scott</i> Date/Time: <i>3-4-13 12:50</i> Signature: <i>[Signature]</i>	Received by (print): _____      Date/Time: _____      Signature: _____
	Relinquished by (print): _____      Date/Time: _____      Signature: _____	Received by (print): _____      Date/Time: _____      Signature: _____
	Sample Disposal: Return to Client: _____      Lab Disposal: _____	Received by Laboratory: <i>Steve Traubel</i> Date/Time: <i>3-4-13 12:50</i> Signature: <i>[Signature]</i>

LABORATORY USE ONLY

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.energy-lab.com](http://www.energy-lab.com) for additional information. Downloadable for sub-contract forms and data.



# ANALYTICAL SUMMARY REPORT

March 25, 2013

Powertech USA Inc  
PO Box 812  
Edgemont, SD 57735

Workorder No.: R13030085      Quote ID: R412  
Project Name: #708 Plus Alluvial

Energy Laboratories Inc. Rapid City SD received the following 2 samples for Powertech USA Inc on 3/6/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
R13030085-001	708	03/05/13 14:57	03/06/13	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Anion - Cation Balance Conductivity Anions by Ion Chromatography pH Dissolved Filtration Solids, Total Dissolved
R13030085-002	DC-3	03/05/13 08:42	03/06/13	Aqueous	Metals by ICP/ICPMS, Dissolved Anion - Cation Balance Anions by Ion Chromatography 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: 2013.03.25 14:06:58 -06:00



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Gillette, WY 866-686-7175 • Rapid City, SD 888-672-1225 • College Station, TX 888-690-2218

**CLIENT:** Powertech USA Inc  
**Project:** #708 Plus Alluvial  
**Sample Delivery Group:** R13030085

**Report Date:** 03/25/13

## **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 Plus Alluvial  
**Lab ID:** R13030085-001  
**Client Sample ID:** 708

**Report Date:** 03/25/13  
**Collection Date:** 03/05/13 14:57  
**Date Received:** 03/06/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/			Method	Analysis Date / By
				RL	QCL	DF		
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	6040	umhos/cm		5.0		1	A2510 B	03/07/13 10:16/tb
pH	7.16	su		0.01		1	A4500-H B	03/07/13 09:22/tb
Solids, Total Dissolved TDS @ 180 C	5950	mg/L		100		1	A2540 C	03/11/13 17:00/jmh
Alkalinity, Total as CaCO3	296	mg/L		5		1	A2320 B	03/14/13 12:59/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	03/14/13 12:59/ch
Bicarbonate as HCO3	361	mg/L		5		1	A2320 B	03/14/13 12:59/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	41	mg/L		1		1	E300.0	03/07/13 02:37/tb
Fluoride	0.9	mg/L		0.1		1	E300.0	03/07/13 02:37/tb
Sulfate	4040	mg/L	D	50		50	E300.0	03/07/13 02:55/tb
<b>DATA QUALITY PARAMETERS</b>								
Anions	91.2	meq/L		1.00		1	A1030 E	03/25/13 00:00/lk
Cations	87.6	meq/L		1.00		1	A1030 E	03/25/13 00:00/lk
Conductivity, Calculated	6730	umhos/cm		1.00		1	A1030 E	03/25/13 00:00/lk
TDS Ratio	1.02			0.0100		1	A1030 E	03/25/13 00:00/lk
A/C Balance	-1.99	%				1	A1030 E	03/25/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	ND	mg/L		0.1		1	E300.0	03/07/13 02:37/tb
<b>DISSOLVED METALS ANALYSES</b>								
Calcium	410	mg/L		1		5	E200.7	03/13/13 13:39/eli-ca
Magnesium	480	mg/L		1		5	E200.7	03/13/13 13:39/eli-ca
Potassium	27	mg/L		1		5	E200.7	03/13/13 13:39/eli-ca
Sodium	620	mg/L		1		5	E200.7	03/13/13 13:39/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:** R13030085-002  
**Client Sample ID:** DC-3

**Report Date:** 03/25/13  
**Collection Date:** 03/05/13 08:42  
**Date Received:** 03/06/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>PHYSICAL PARAMETERS</b>							
Solids, Total Dissolved TDS @ 180 C	11300	mg/L		100		1 A2540 C	03/11/13 17:00/jmh
<b>INORGANIC PARAMETERS</b>							
Chloride	1450	mg/L	D	100		100 E300.0	03/07/13 03:31/tb
Fluoride	3.4	mg/L		0.1		1 E300.0	03/07/13 03:13/tb
Sulfate	6080	mg/L	D	100		100 E300.0	03/07/13 03:31/tb
<b>DATA QUALITY PARAMETERS</b>							
Anions	168	meq/L		1.00		1 A1030 E	03/25/13 00:00/lk
Cations	152	meq/L		1.00		1 A1030 E	03/25/13 00:00/lk
Conductivity, Calculated	11600	umhos/cm		1.00		1 A1030 E	03/25/13 00:00/lk
TDS Ratio	1.09			0.0100		1 A1030 E	03/25/13 00:00/lk
A/C Balance	-5.03	%				1 A1030 E	03/25/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>							
Nitrogen, Nitrate as N	7.9	mg/L		0.1		1 E300.0	03/07/13 03:13/tb
<b>DISSOLVED METALS ANALYSES</b>							
Calcium	422	mg/L		1		5 E200.7	03/13/13 13:55/eli-ca
Magnesium	715	mg/L		1		5 E200.7	03/13/13 13:55/eli-ca
Potassium	36	mg/L		1		5 E200.7	03/13/13 13:55/eli-ca
Sodium	1640	mg/L		1		5 E200.7	03/13/13 13:55/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: 03/25/13

Project: #708 Plus Alluvial

Work Order: R13030085

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2320 B</b>								Batch: 130314A-ALK-SEL-W		
<b>Sample ID: LCS1_130314A</b>	Laboratory Control Sample					Run: PH_COND1-R_130314A		03/14/13 10:38		
Alkalinity, Total as CaCO3	956	mg/L		5.0	96	90	110			
<b>Sample ID: MBLK1_130314A</b>	Method Blank					Run: PH_COND1-R_130314A		03/14/13 10:42		
Alkalinity, Total as CaCO3	ND	mg/L		2						
<b>Sample ID: R13030086-006AMS</b>	Sample Matrix Spike					Run: PH_COND1-R_130314A		03/14/13 14:17		
Alkalinity, Total as CaCO3	350	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: 03/25/13

Project: #708 Plus Alluvial

Work Order: R13030085

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A2510 B								Batch: 130307_1_COND-PROBE-W		
<b>Sample ID:</b> MBLK-1_130307		Method Blank		Run: PH_COND2-R_130307B			03/07/13 10:05			
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: 03/25/13

Project: #708 Plus Alluvial

Work Order: R13030085

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2540 C</b>								Batch: TDS130311A		
<b>Sample ID: MB-1_130311A</b>		Method Blank					Run: BAL-TDS_130311A			03/11/13 16:51
Solids, Total Dissolved TDS @ 180 C	4	mg/L		2						
<b>Sample ID: LCS-2_130311A</b>		Laboratory Control Sample					Run: BAL-TDS_130311A			03/11/13 16:54
Solids, Total Dissolved TDS @ 180 C	500	mg/L		10	98	90	110			
<b>Sample ID: R13030076-007A MS</b>		Sample Matrix Spike					Run: BAL-TDS_130311A			03/11/13 16:58
Solids, Total Dissolved TDS @ 180 C	2900	mg/L		20	104	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: 03/25/13

Project: #708 Plus Alluvial

Work Order: R13030085

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-H B								Analytical Run: PH_COND2-R_130307A		
<b>Sample ID:</b> ICV-1_130307		Initial Calibration Verification Standard						03/07/13 09:02		
pH		7.44	su	0.010	100	98	102			
<b>Method:</b> A4500-H B								Batch: 130307_1_PH-W		
<b>Sample ID:</b> ICV1-1_130307		Initial Calibration Verification Standard						Run: PH_COND2-R_130307A		
pH		12.0	su	0.010	100	99	101			03/07/13 08:59

**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: 03/25/13

Project: #708 Plus Alluvial

Work Order: R13030085

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: SUB-C171313		
<b>Sample ID: ICV</b>	4	Initial Calibration Verification Standard								03/13/13 12:51
Calcium		49	mg/L	0.50	98	95	105			
Magnesium		49	mg/L	0.50	97	95	105			
Potassium		48	mg/L	0.50	96	95	105			
Sodium		49	mg/L	0.50	98	95	105			
<b>Sample ID: ICVA</b>	4	Interference Check Sample A								03/13/13 13:06
Calcium		430	mg/L	0.50	87	80	120			
Magnesium		480	mg/L	0.50	96	80	120			
Potassium		0.0082	mg/L	0.50						
Sodium		0.17	mg/L	0.50						
<b>Sample ID: ICVAB</b>	4	Interference Check Sample AB								03/13/13 13:10
Calcium		440	mg/L	0.50	87	80	120			
Magnesium		480	mg/L	0.50	96	80	120			
Potassium		0.0068	mg/L	0.50						
Sodium		-0.047	mg/L	0.50						
<b>Method: E200.7</b>								Batch: C_R171313		
<b>Sample ID: MB-130313A</b>	4	Method Blank						Run: SUB-C171313	03/13/13 13:29	
Calcium		ND	mg/L	0.02						
Magnesium		0.03	mg/L	0.01						
Potassium		ND	mg/L	0.04						
Sodium		ND	mg/L	0.2						
<b>Sample ID: LFB-130313A</b>	4	Laboratory Fortified Blank						Run: SUB-C171313	03/13/13 13:32	
Calcium		47	mg/L	0.50	93	85	115			
Magnesium		46	mg/L	0.50	93	85	115			
Potassium		45	mg/L	0.50	91	85	115			
Sodium		46	mg/L	0.50	91	85	115			
<b>Sample ID: R13030085-001B</b>	4	Sample Matrix Spike						Run: SUB-C171313	03/13/13 13:43	
Calcium		610	mg/L	1.0	78	70	130			
Magnesium		687	mg/L	1.0	81	70	130			
Potassium		250	mg/L	1.0	87	70	130			
Sodium		808	mg/L	1.0	74	70	130			
<b>Sample ID: R13030085-001B</b>	4	Sample Matrix Spike Duplicate						Run: SUB-C171313	03/13/13 13:47	
Calcium		617	mg/L	1.0	81	70	130	1.2	20	
Magnesium		694	mg/L	1.0	84	70	130	1.1	20	
Potassium		251	mg/L	1.0	88	70	130	0.3	20	
Sodium		815	mg/L	1.0	77	70	130	0.9	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: 03/25/13

Project: #708 Plus Alluvial

Work Order: R13030085

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>										
Analytical Run: DIONEX_130306A										
<b>Sample ID: CCV030613-28</b>	4	Continuing Calibration Verification Standard								03/07/13 00:14
Chloride		71.1	mg/L	1.0	95	90	110			
Fluoride		7.24	mg/L	0.10	97	90	110			
Nitrogen, Nitrate as N		7.13	mg/L	0.10	95	90	110			
Sulfate		71.2	mg/L	1.0	95	90	110			
<b>Method: E300.0</b>										
Batch: R60206										
<b>Sample ID: LFB030613-14</b>	4	Laboratory Fortified Blank								03/06/13 20:21
Run: DIONEX_130306A										
Chloride		36.7	mg/L	1.0	92	90	110			
Fluoride		3.88	mg/L	0.10	97	90	110			
Nitrogen, Nitrate as N		3.72	mg/L	0.10	93	90	110			
Sulfate		37.0	mg/L	1.0	92	90	110			
<b>Sample ID: R13030076-008AMS</b>	4	Sample Matrix Spike								03/07/13 01:08
Run: DIONEX_130306A										
Chloride		1970	mg/L	50	87	90	110			S
Fluoride		272	mg/L	5.0	96	90	110			
Nitrogen, Nitrate as N		189	mg/L	5.0	95	90	110			
Sulfate		2860	mg/L	50	94	90	110			
<b>Sample ID: R13030076-008AMSD</b>	4	Sample Matrix Spike Duplicate								03/07/13 01:26
Run: DIONEX_130306A										
Chloride		1950	mg/L	50	86	90	110	0.8	10	S
Fluoride		270	mg/L	5.0	94	90	110	0.8	10	
Nitrogen, Nitrate as N		189	mg/L	5.0	95	90	110	0.0	10	
Sulfate		2870	mg/L	50	94	90	110	0.3	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: <i>Scott Environmental</i>	Project Name, PWS, Permit, Etc. <i>Powertech Alluvial Wells</i>	Sample Origin State:	EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>
Report Mail Address: <i>Powertech / Scott Env.</i>	Contact Name: <i>Allen Scott / Lisa Schimert</i>	Phone/Fax:	Email:
Invoice Address: <i>Powertech</i>	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats:				ANALYSIS REQUESTED												Shipped by:		
<input type="checkbox"/> DW <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP <b>Format:</b> _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC				Number of Containers Sample Type: A W S V B O DW Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water	SEE ATTACHED Standard Turnaround (TAT)												Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page	
																	Receipt Temp <i>2.2 °C</i>	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date	Collection Time	MATRIX													Cooler ID(s):	
1 DC-1		3-5-13	8:19	Water													Receipt Temp	
2 DC-3		3-5-13	8:42	"													On Ice: <input checked="" type="radio"/> Y <input type="radio"/> N	
3 DC-4		3-5-13	9:35	"													Custody Seal	
4 BC-3		3-5-13	11:15	"													On Bottle Y N	
5 BC-3 Dup.		3-5-13	11:16	"													On Cooler Y N	
6 BC-1		3-5-13	12:47	"													Intact Y N	
7 BC-2		3-5-13	14:05	"													Signature Match Y N	
8 708		3-5-13	14:57	"													<i>13030085</i> <i>002</i>	
9																		
10																	<i>001</i>	

<b>Custody Record MUST be Signed</b>	Relinquished by (print): <i>Allen Scott</i>	Date/Time: <i>13:29</i>	Signature: <i>Allen Scott</i>	Received by (print):	Date/Time:	Signature:
	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
	Sample Disposal: Return to Client:	Lab Disposal:	Received by Laboratory: <i>Jennifer Hartman</i>	Date/Time: <i>3/6/13</i>	Signature: <i>1329</i>	

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.

Page 11 of 11



# ANALYTICAL SUMMARY REPORT

April 19, 2013

Powertech USA Inc  
PO Box 812  
Edgemont, SD 57735

Workorder No.: R13030086                      Quote ID: R411

Project Name: Alluvial Wells Dewey Burdock

Energy Laboratories Inc. Rapid City SD received the following 6 samples for Powertech USA Inc on 3/6/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
R13030086-001	DC-1	03/05/13 08:19	03/06/13	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
R13030086-002	DC-4	03/05/13 09:35	03/06/13	Aqueous	Same As Above
R13030086-003	BC-3	03/05/13 11:15	03/06/13	Aqueous	Same As Above
R13030086-004	BC-3 Dup	03/05/13 11:16	03/06/13	Aqueous	Same As Above
R13030086-005	BC-1	03/05/13 12:47	03/06/13	Aqueous	Same As Above
R13030086-006	BC-2	03/05/13 14:05	03/06/13	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: 2013.04.19 16:58:30 -06:00



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Gillette, WY 866-686-7175 • Rapid City, SD 888-672-1225 • College Station, TX 888-690-2218

**CLIENT:** Powertech USA Inc  
**Project:** Alluvial Wells Dewey Burdock  
**Sample Delivery Group:** R13030086

**Report Date:** 04/19/13

## **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:** R13030086-001  
**Client Sample ID:** DC-1

**Report Date:** 04/19/13  
**Collection Date:** 03/05/13 08:19  
**Date Received:** 03/06/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	6860	umhos/cm		5.0			1	A2510 B	03/07/13 10:19/tb
pH	6.99	su		0.01			1	A4500-H B	03/07/13 09:25/tb
Solids, Total Dissolved TDS @ 180 C	6600	mg/L		100			1	A2540 C	03/11/13 17:01/jmh
Alkalinity, Total as CaCO3	388	mg/L		5			1	A2320 B	03/14/13 13:05/ch
Carbonate as CO3	ND	mg/L		5			1	A2320 B	03/14/13 13:05/ch
Bicarbonate as HCO3	473	mg/L		5			1	A2320 B	03/14/13 13:05/ch
<b>INORGANIC PARAMETERS</b>									
Chloride	102	mg/L			1		1	E300.0	03/07/13 03:49/tb
Fluoride	0.8	mg/L			0.1		1	E300.0	03/07/13 03:49/tb
Sulfate	4190	mg/L	D		50		50	E300.0	03/07/13 04:07/tb
<b>DATA QUALITY PARAMETERS</b>									
Anions	98.5	meq/L		1.00			1	A1030 E	04/15/13 00:00/lk
Cations	104	meq/L		1.00			1	A1030 E	04/15/13 00:00/lk
Conductivity, Calculated	7440	umhos/cm		1.00			1	A1030 E	04/15/13 00:00/lk
TDS Ratio	1.00			0.0100			1	A1030 E	04/15/13 00:00/lk
A/C Balance	2.92	%					1	A1030 E	04/15/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	9.4	mg/L		0.1			1	E300.0	03/07/13 03:49/tb
<b>RADIONUCLIDES - DISSOLVED</b>									
Gross Alpha	15.9	pCi/L	U				1	E900.0	03/18/13 19:53/eli-ca
Gross Alpha precision (±)	14.2	pCi/L					1	E900.0	03/18/13 19:53/eli-ca
Gross Alpha MDC	22.6	pCi/L					1	E900.0	03/18/13 19:53/eli-ca
Gross Beta	9.2	pCi/L	U				1	E900.0	03/18/13 19:53/eli-ca
Gross Beta precision (±)	16.3	pCi/L					1	E900.0	03/18/13 19:53/eli-ca
Gross Beta MDC	27.0	pCi/L					1	E900.0	03/18/13 19:53/eli-ca
Radium 228	1.2	pCi/L	U				1	RA-05	03/14/13 23:54/eli-ca
Radium 228 precision (±)	1.3	pCi/L					1	RA-05	03/14/13 23:54/eli-ca
Radium 228 MDC	2.0	pCi/L					1	RA-05	03/14/13 23:54/eli-ca
Radium 226	1.3	pCi/L					1	E903.0	03/19/13 08:32/eli-ca
Radium 226 precision (±)	0.3	pCi/L					1	E903.0	03/19/13 08:32/eli-ca
Radium 226 MDC	0.2	pCi/L					1	E903.0	03/19/13 08:32/eli-ca
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222	1650	pCi/L					1	D5072-92	03/09/13 06:54/eli-ca
Radon 222 precision (±)	175	pCi/L					1	D5072-92	03/09/13 06:54/eli-ca

**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:** R13030086-001  
**Client Sample ID:** DC-1

**Report Date:** 04/19/13  
**Collection Date:** 03/05/13 08:19  
**Date Received:** 03/06/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222 MDC	258	pCi/L					1	D5072-92	03/09/13 06:54/eli-ca
<b>TOTAL METALS ANALYSES</b>									
Mercury	ND	mg/L		0.0001			1	E245.1	03/15/13 11:11/eli-ca
<b>DISSOLVED METALS ANALYSES</b>									
Arsenic	0.001	mg/L		0.001			10	E200.8	03/13/13 16:04/eli-ca
Barium	ND	mg/L		0.05			1	E200.8	03/11/13 14:09/eli-ca
Boron	1.40	mg/L		0.05			5	E200.7	03/21/13 18:51/eli-ca
Cadmium	0.001	mg/L		0.001			1	E200.8	03/11/13 14:09/eli-ca
Chromium	0.007	mg/L		0.005			10	E200.8	03/13/13 16:04/eli-ca
Copper	0.009	mg/L		0.005			10	E200.8	03/13/13 16:04/eli-ca
Iron	ND	mg/L		0.03			5	E200.7	03/21/13 18:51/eli-ca
Lead	ND	mg/L		0.001			1	E200.8	03/11/13 14:09/eli-ca
Manganese	0.484	mg/L		0.001			10	E200.8	03/13/13 16:04/eli-ca
Molybdenum	0.002	mg/L		0.001			1	E200.8	03/11/13 14:09/eli-ca
Nickel	0.070	mg/L		0.005			10	E200.8	03/13/13 16:04/eli-ca
Selenium	0.054	mg/L	D	0.003			10	E200.8	03/13/13 16:04/eli-ca
Silver	ND	mg/L		0.001			1	E200.8	03/11/13 14:09/eli-ca
Uranium	0.0148	mg/L		0.0003			1	E200.8	03/11/13 14:09/eli-ca
Vanadium	ND	mg/L		0.01			10	E200.8	03/13/13 16:04/eli-ca
Zinc	0.14	mg/L		0.01			10	E200.8	03/13/13 16:04/eli-ca
Calcium	424	mg/L		1			5	E200.7	03/21/13 18:51/eli-ca
Magnesium	394	mg/L		1			5	E200.7	03/21/13 18:51/eli-ca
Potassium	14	mg/L		1			5	E200.7	03/21/13 18:51/eli-ca
Sodium	1160	mg/L		1			5	E200.7	03/21/13 18:51/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** R13030086-002  
**Client Sample ID:** DC-4

**Report Date:** 04/19/13  
**Collection Date:** 03/05/13 09:35  
**Date Received:** 03/06/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By
					QCL	DF		
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	10800	umhos/cm		5.0		1	A2510 B	03/07/13 10:21/lb
pH	7.36	su		0.01		1	A4500-HB	03/07/13 09:27/lb
Solids, Total Dissolved TDS @ 180 C	11400	mg/L		100		1	A2540 C	03/11/13 17:02/jmh
Alkalinity, Total as CaCO3	358	mg/L		5		1	A2320 B	03/14/13 13:27/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	03/14/13 13:27/ch
Bicarbonate as HCO3	436	mg/L		5		1	A2320 B	03/14/13 13:27/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	138	mg/L			1	1	E300.0	03/07/13 05:54/lb
Fluoride	1.6	mg/L		0.1		1	E300.0	03/07/13 05:54/lb
Sulfate	7650	mg/L	D	100		100	E300.0	03/07/13 05:01/lb
<b>DATA QUALITY PARAMETERS</b>								
Anions	171	meq/L		1.00		1	A1030 E	04/15/13 00:00/lk
Cations	166	meq/L		1.00		1	A1030 E	04/15/13 00:00/lk
Conductivity, Calculated	11100	umhos/cm		1.00		1	A1030 E	04/15/13 00:00/lk
TDS Ratio	1.03			0.0100		1	A1030 E	04/15/13 00:00/lk
A/C Balance	-1.51	%				1	A1030 E	04/15/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	1.9	mg/L		0.1		1	E300.0	03/07/13 05:54/lb
<b>RADIONUCLIDES - DISSOLVED</b>								
Gross Alpha	3.7	pCi/L	U			1	E900.0	03/18/13 19:53/eli-ca
Gross Alpha precision (±)	22.9	pCi/L				1	E900.0	03/18/13 19:53/eli-ca
Gross Alpha MDC	38.3	pCi/L				1	E900.0	03/18/13 19:53/eli-ca
Gross Beta	8.7	pCi/L	U			1	E900.0	03/18/13 19:53/eli-ca
Gross Beta precision (±)	27.3	pCi/L				1	E900.0	03/18/13 19:53/eli-ca
Gross Beta MDC	45.6	pCi/L				1	E900.0	03/18/13 19:53/eli-ca
Radium 228	0.02	pCi/L	U			1	RA-05	03/14/13 21:43/eli-ca
Radium 228 precision (±)	0.9	pCi/L				1	RA-05	03/14/13 21:43/eli-ca
Radium 228 MDC	1.6	pCi/L				1	RA-05	03/14/13 21:43/eli-ca
Radium 226	0.3	pCi/L				1	E903.0	03/19/13 08:32/eli-ca
Radium 226 precision (±)	0.2	pCi/L				1	E903.0	03/19/13 08:32/eli-ca
Radium 226 MDC	0.2	pCi/L				1	E903.0	03/19/13 08:32/eli-ca
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222	5160	pCi/L				1	D5072-92	03/09/13 06:54/eli-ca
Radon 222 precision (±)	214	pCi/L				1	D5072-92	03/09/13 06:54/eli-ca

**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:** R13030086-002  
**Client Sample ID:** DC-4

**Report Date:** 04/19/13  
**Collection Date:** 03/05/13 09:35  
**Date Received:** 03/06/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>RADIONUCLIDES - TOTAL</b>							
Radon 222 MDC	258	pCi/L				1 D5072-92	03/09/13 06:54/eli-ca
<b>TOTAL METALS ANALYSES</b>							
Mercury	ND	mg/L		0.0001		1 E245.1	03/15/13 11:16/eli-ca
<b>DISSOLVED METALS ANALYSES</b>							
Arsenic	0.002	mg/L		0.001		10 E200.8	03/13/13 16:13/eli-ca
Barium	ND	mg/L		0.05		1 E200.8	03/11/13 14:18/eli-ca
Boron	2.26	mg/L		0.05		5 E200.7	03/21/13 18:54/eli-ca
Cadmium	ND	mg/L		0.001		1 E200.8	03/11/13 14:18/eli-ca
Chromium	0.009	mg/L		0.005		10 E200.8	03/13/13 16:13/eli-ca
Copper	0.009	mg/L		0.005		10 E200.8	03/13/13 16:13/eli-ca
Iron	ND	mg/L		0.03		5 E200.7	03/21/13 18:54/eli-ca
Lead	ND	mg/L		0.001		1 E200.8	03/11/13 14:18/eli-ca
Manganese	0.001	mg/L		0.001		10 E200.8	03/13/13 16:13/eli-ca
Molybdenum	0.003	mg/L		0.001		1 E200.8	03/11/13 14:18/eli-ca
Nickel	0.007	mg/L		0.005		10 E200.8	03/13/13 16:13/eli-ca
Selenium	0.040	mg/L	D	0.003		10 E200.8	03/13/13 16:13/eli-ca
Silver	ND	mg/L		0.001		1 E200.8	03/11/13 14:18/eli-ca
Uranium	0.0160	mg/L		0.0003		1 E200.8	03/11/13 14:18/eli-ca
Vanadium	ND	mg/L		0.01		10 E200.8	03/13/13 16:13/eli-ca
Zinc	0.02	mg/L		0.01		10 E200.8	03/13/13 16:13/eli-ca
Calcium	402	mg/L		1		5 E200.7	03/21/13 18:54/eli-ca
Magnesium	708	mg/L		1		5 E200.7	03/21/13 18:54/eli-ca
Potassium	11	mg/L		1		5 E200.7	03/21/13 18:54/eli-ca
Sodium	2000	mg/L		1		5 E200.7	03/21/13 18:54/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** R13030086-003  
**Client Sample ID:** BC-3

**Report Date:** 04/19/13  
**Collection Date:** 03/05/13 11:15  
**Date Received:** 03/06/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	3200	umhos/cm		5.0			1	A2510 B	03/07/13 10:23/b
pH	7.13	su		0.01			1	A4500-HB	03/07/13 09:29/b
Solids, Total Dissolved TDS @ 180 C	3160	mg/L		20			1	A2540 C	03/11/13 17:03/jmh
Alkalinity, Total as CaCO3	242	mg/L		5			1	A2320 B	03/14/13 13:35/ch
Carbonate as CO3	ND	mg/L		5			1	A2320 B	03/14/13 13:35/ch
Bicarbonate as HCO3	295	mg/L		5			1	A2320 B	03/14/13 13:35/ch
<b>INORGANIC PARAMETERS</b>									
Chloride	19	mg/L			1		1	E300.0	03/07/13 06:12/b
Fluoride	0.5	mg/L			0.1		1	E300.0	03/07/13 06:12/b
Sulfate	1830	mg/L	D		50		50	E300.0	03/07/13 06:30/b
<b>DATA QUALITY PARAMETERS</b>									
Anions	43.6	meq/L		1.00			1	A1030 E	04/16/13 00:00/lk
Cations	46.8	meq/L		1.00			1	A1030 E	04/16/13 00:00/lk
Conductivity, Calculated	3720	umhos/cm		1.00			1	A1030 E	04/16/13 00:00/lk
TDS Ratio	1.10			0.0100			1	A1030 E	04/16/13 00:00/lk
A/C Balance	3.60	%					1	A1030 E	04/16/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	0.2	mg/L		0.1			1	E300.0	03/07/13 06:12/b
<b>RADIONUCLIDES - DISSOLVED</b>									
Gross Alpha	22.4	pCi/L					1	E900.0	03/18/13 19:53/eli-ca
Gross Alpha precision (±)	8.5	pCi/L					1	E900.0	03/18/13 19:53/eli-ca
Gross Alpha MDC	12.9	pCi/L					1	E900.0	03/18/13 19:53/eli-ca
Gross Beta	12.0	pCi/L	U				1	E900.0	03/18/13 19:53/eli-ca
Gross Beta precision (±)	8.0	pCi/L					1	E900.0	03/18/13 19:53/eli-ca
Gross Beta MDC	13.1	pCi/L					1	E900.0	03/18/13 19:53/eli-ca
Radium 228	1.7	pCi/L	U				1	RA-05	03/14/13 23:54/eli-ca
Radium 228 precision (±)	1.2	pCi/L					1	RA-05	03/14/13 23:54/eli-ca
Radium 228 MDC	1.9	pCi/L					1	RA-05	03/14/13 23:54/eli-ca
Radium 226	0.2	pCi/L	U				1	E903.0	03/19/13 08:32/eli-ca
Radium 226 precision (±)	0.2	pCi/L					1	E903.0	03/19/13 08:32/eli-ca
Radium 226 MDC	0.2	pCi/L					1	E903.0	03/19/13 08:32/eli-ca
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222	1630	pCi/L					1	D5072-92	03/09/13 06:54/eli-ca
Radon 222 precision (±)	177	pCi/L					1	D5072-92	03/09/13 06:54/eli-ca

**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:** R13030086-003  
**Client Sample ID:** BC-3

**Report Date:** 04/19/13  
**Collection Date:** 03/05/13 11:15  
**Date Received:** 03/06/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>RADIONUCLIDES - TOTAL</b>							
Radon 222 MDC	262	pCi/L				1 D5072-92	03/09/13 06:54/eli-ca
<b>TOTAL METALS ANALYSES</b>							
Mercury	ND	mg/L		0.0001		1 E245.1	03/15/13 11:17/eli-ca
<b>DISSOLVED METALS ANALYSES</b>							
Arsenic	0.002	mg/L		0.001		10 E200.8	03/13/13 16:16/eli-ca
Barium	ND	mg/L		0.05		10 E200.8	03/13/13 16:16/eli-ca
Boron	0.49	mg/L		0.05		2 E200.8	03/15/13 15:50/eli-ca
Cadmium	ND	mg/L		0.001		2 E200.8	03/15/13 15:50/eli-ca
Chromium	0.007	mg/L		0.005		10 E200.8	03/13/13 16:16/eli-ca
Copper	ND	mg/L		0.005		10 E200.8	03/13/13 16:16/eli-ca
Iron	0.20	mg/L		0.03		5 E200.7	04/16/13 00:56/eli-ca
Lead	ND	mg/L		0.001		10 E200.8	03/13/13 16:16/eli-ca
Manganese	0.594	mg/L		0.001		10 E200.8	03/13/13 16:16/eli-ca
Molybdenum	0.007	mg/L		0.001		10 E200.8	03/13/13 16:16/eli-ca
Nickel	0.010	mg/L		0.005		10 E200.8	03/13/13 16:16/eli-ca
Selenium	0.003	mg/L	D	0.003		10 E200.8	03/13/13 16:16/eli-ca
Silver	ND	mg/L		0.001		10 E200.8	03/13/13 16:16/eli-ca
Uranium	0.0204	mg/L	D	0.001		10 E200.8	03/13/13 16:16/eli-ca
Vanadium	ND	mg/L		0.01		10 E200.8	03/13/13 16:16/eli-ca
Zinc	0.02	mg/L		0.01		10 E200.8	03/13/13 16:16/eli-ca
Calcium	541	mg/L		1		5 E200.7	04/16/13 00:56/eli-ca
Magnesium	151	mg/L		1		2 E200.8	03/15/13 15:50/eli-ca
Potassium	12	mg/L		1		2 E200.8	03/15/13 15:50/eli-ca
Sodium	163	mg/L		1		2 E200.8	03/15/13 15:50/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** R13030086-004  
**Client Sample ID:** BC-3 Dup

**Report Date:** 04/19/13  
**Collection Date:** 03/05/13 11:16  
**Date Received:** 03/06/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>PHYSICAL PARAMETERS</b>									
Conductivity @ 25 C	3250	umhos/cm		5.0			1	A2510 B	03/07/13 10:25/tb
pH	7.06	su		0.01			1	A4500-HB	03/07/13 09:33/tb
Solids, Total Dissolved TDS @ 180 C	3180	mg/L		20			1	A2540 C	03/11/13 17:04/jmh
Alkalinity, Total as CaCO3	250	mg/L		5			1	A2320 B	03/14/13 13:42/ch
Carbonate as CO3	ND	mg/L		5			1	A2320 B	03/14/13 13:42/ch
Bicarbonate as HCO3	305	mg/L		5			1	A2320 B	03/14/13 13:42/ch
<b>INORGANIC PARAMETERS</b>									
Chloride	20	mg/L		1			1	E300.0	03/07/13 06:48/tb
Fluoride	0.5	mg/L		0.1			1	E300.0	03/07/13 06:48/tb
Sulfate	2190	mg/L	D	50		50		E300.0	03/07/13 07:06/tb
<b>DATA QUALITY PARAMETERS</b>									
Anions	51.2	meq/L		1.00			1	A1030 E	04/15/13 00:00/lk
Cations	47.6	meq/L		1.00			1	A1030 E	04/15/13 00:00/lk
Conductivity, Calculated	4080	umhos/cm		1.00			1	A1030 E	04/15/13 00:00/lk
TDS Ratio	0.980			0.0100			1	A1030 E	04/15/13 00:00/lk
A/C Balance	-3.70	%					1	A1030 E	04/15/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>									
Nitrogen, Nitrate as N	0.2	mg/L		0.1			1	E300.0	03/07/13 06:48/tb
<b>RADIONUCLIDES - DISSOLVED</b>									
Gross Alpha	17.7	pCi/L					1	E900.0	03/18/13 19:53/eli-ca
Gross Alpha precision (±)	5.9	pCi/L					1	E900.0	03/18/13 19:53/eli-ca
Gross Alpha MDC	8.3	pCi/L					1	E900.0	03/18/13 19:53/eli-ca
Gross Beta	11.5	pCi/L	U				1	E900.0	03/18/13 19:53/eli-ca
Gross Beta precision (±)	7.6	pCi/L					1	E900.0	03/18/13 19:53/eli-ca
Gross Beta MDC	12.4	pCi/L					1	E900.0	03/18/13 19:53/eli-ca
Radium 228	0.6	pCi/L	U				1	RA-05	03/14/13 23:54/eli-ca
Radium 228 precision (±)	1.1	pCi/L					1	RA-05	03/14/13 23:54/eli-ca
Radium 228 MDC	1.9	pCi/L					1	RA-05	03/14/13 23:54/eli-ca
Radium 226	0.2	pCi/L	U				1	E903.0	03/19/13 08:32/eli-ca
Radium 226 precision (±)	0.2	pCi/L					1	E903.0	03/19/13 08:32/eli-ca
Radium 226 MDC	0.2	pCi/L					1	E903.0	03/19/13 08:32/eli-ca
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222	1720	pCi/L					1	D5072-92	03/09/13 06:54/eli-ca
Radon 222 precision (±)	179	pCi/L					1	D5072-92	03/09/13 06:54/eli-ca

**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:** R13030086-004  
**Client Sample ID:** BC-3 Dup

**Report Date:** 04/19/13  
**Collection Date:** 03/05/13 11:16  
**Date Received:** 03/06/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By	
					QCL	DF			
<b>RADIONUCLIDES - TOTAL</b>									
Radon 222 MDC	262	pCi/L					1	D5072-92	03/09/13 06:54/eli-ca
<b>TOTAL METALS ANALYSES</b>									
Mercury	ND	mg/L		0.0001			1	E245.1	03/15/13 11:22/eli-ca
<b>DISSOLVED METALS ANALYSES</b>									
Arsenic	0.002	mg/L		0.001			10	E200.8	03/13/13 16:19/eli-ca
Barium	ND	mg/L		0.05			10	E200.8	03/13/13 16:19/eli-ca
Boron	0.50	mg/L		0.05			2	E200.8	03/15/13 16:08/eli-ca
Cadmium	ND	mg/L		0.001			2	E200.8	03/15/13 16:08/eli-ca
Chromium	0.006	mg/L		0.005			10	E200.8	03/13/13 16:19/eli-ca
Copper	ND	mg/L		0.005			10	E200.8	03/13/13 16:19/eli-ca
Iron	0.11	mg/L		0.03			5	E200.7	04/17/13 12:11/eli-ca
Lead	ND	mg/L		0.001			10	E200.8	03/13/13 16:19/eli-ca
Manganese	0.595	mg/L		0.001			10	E200.8	03/13/13 16:19/eli-ca
Molybdenum	0.007	mg/L		0.001			10	E200.8	03/13/13 16:19/eli-ca
Nickel	0.011	mg/L		0.005			10	E200.8	03/13/13 16:19/eli-ca
Selenium	0.005	mg/L	D	0.003			10	E200.8	03/13/13 16:19/eli-ca
Silver	ND	mg/L		0.001			10	E200.8	03/13/13 16:19/eli-ca
Uranium	0.0203	mg/L	D	0.001			10	E200.8	03/13/13 16:19/eli-ca
Vanadium	ND	mg/L		0.01			10	E200.8	03/13/13 16:19/eli-ca
Zinc	0.02	mg/L		0.01			10	E200.8	03/13/13 16:19/eli-ca
Calcium	565	mg/L		1			2	E200.8	03/15/13 16:08/eli-ca
Magnesium	147	mg/L		1			2	E200.8	03/15/13 16:08/eli-ca
Potassium	11	mg/L		1			2	E200.8	03/15/13 16:08/eli-ca
Sodium	160	mg/L		1			2	E200.8	03/15/13 16:08/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** R13030086-005  
**Client Sample ID:** BC-1

**Report Date:** 04/19/13  
**Collection Date:** 03/05/13 12:47  
**Date Received:** 03/06/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	RL	MCL/		Method	Analysis Date / By
					QCL	DF		
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	3710	umhos/cm		5.0		1	A2510 B	03/07/13 10:27/b
pH	7.09	su		0.01		1	A4500-HB	03/07/13 09:35/b
Solids, Total Dissolved TDS @ 180 C	3740	mg/L		40		1	A2540 C	03/11/13 17:06/jmh
Alkalinity, Total as CaCO3	300	mg/L		5		1	A2320 B	03/14/13 13:57/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	03/14/13 13:57/ch
Bicarbonate as HCO3	366	mg/L		5		1	A2320 B	03/14/13 13:57/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	26	mg/L		1		1	E300.0	03/07/13 07:24/b
Fluoride	0.5	mg/L		0.1		1	E300.0	03/07/13 07:24/b
Sulfate	2290	mg/L	D	50		50	E300.0	03/07/13 07:42/b
<b>DATA QUALITY PARAMETERS</b>								
Anions	54.4	meq/L		1.00		1	A1030 E	04/15/13 00:00/lk
Cations	53.5	meq/L		1.00		1	A1030 E	04/15/13 00:00/lk
Conductivity, Calculated	4340	umhos/cm		1.00		1	A1030 E	04/15/13 00:00/lk
TDS Ratio	1.08			0.0100		1	A1030 E	04/15/13 00:00/lk
A/C Balance	-0.870	%				1	A1030 E	04/15/13 00:00/lk
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	0.3	mg/L		0.1		1	E300.0	03/07/13 07:24/b
<b>RADIONUCLIDES - DISSOLVED</b>								
Gross Alpha	72.1	pCi/L				1	E900.0	03/18/13 19:53/eli-ca
Gross Alpha precision (±)	10.2	pCi/L				1	E900.0	03/18/13 19:53/eli-ca
Gross Alpha MDC	12.3	pCi/L				1	E900.0	03/18/13 19:53/eli-ca
Gross Beta	17.4	pCi/L				1	E900.0	03/18/13 19:53/eli-ca
Gross Beta precision (±)	9.7	pCi/L				1	E900.0	03/18/13 19:53/eli-ca
Gross Beta MDC	15.5	pCi/L				1	E900.0	03/18/13 19:53/eli-ca
Radium 228	-0.5	pCi/L	U			1	RA-05	03/14/13 23:54/eli-ca
Radium 228 precision (±)	1.1	pCi/L				1	RA-05	03/14/13 23:54/eli-ca
Radium 228 MDC	1.8	pCi/L				1	RA-05	03/14/13 23:54/eli-ca
Radium 226	0.2	pCi/L				1	E903.0	03/19/13 08:32/eli-ca
Radium 226 precision (±)	0.2	pCi/L				1	E903.0	03/19/13 08:32/eli-ca
Radium 226 MDC	0.2	pCi/L				1	E903.0	03/19/13 08:32/eli-ca
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222	2040	pCi/L				1	D5072-92	03/09/13 06:54/eli-ca
Radon 222 precision (±)	180	pCi/L				1	D5072-92	03/09/13 06:54/eli-ca

**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:** R13030086-005  
**Client Sample ID:** BC-1

**Report Date:** 04/19/13  
**Collection Date:** 03/05/13 12:47  
**Date Received:** 03/06/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>RADIONUCLIDES - TOTAL</b>							
Radon 222 MDC	259	pCi/L				1 D5072-92	03/09/13 06:54/eli-ca
<b>TOTAL METALS ANALYSES</b>							
Mercury	ND	mg/L		0.0001		1 E245.1	03/15/13 11:24/eli-ca
<b>DISSOLVED METALS ANALYSES</b>							
Arsenic	0.002	mg/L		0.001		10 E200.8	03/13/13 16:23/eli-ca
Barium	ND	mg/L		0.05		5 E200.8	03/13/13 14:59/eli-ca
Boron	0.67	mg/L		0.05		5 E200.7	03/21/13 19:02/eli-ca
Cadmium	ND	mg/L		0.001		5 E200.8	03/13/13 14:59/eli-ca
Chromium	0.007	mg/L		0.005		10 E200.8	03/13/13 16:23/eli-ca
Copper	ND	mg/L		0.005		10 E200.8	03/13/13 16:23/eli-ca
Iron	ND	mg/L		0.03		5 E200.7	03/21/13 19:02/eli-ca
Lead	ND	mg/L		0.001		1 E200.8	03/11/13 14:28/eli-ca
Manganese	0.031	mg/L		0.001		10 E200.8	03/13/13 16:23/eli-ca
Molybdenum	0.006	mg/L		0.001		5 E200.8	03/13/13 14:59/eli-ca
Nickel	0.009	mg/L		0.005		10 E200.8	03/13/13 16:23/eli-ca
Selenium	0.008	mg/L	D	0.003		10 E200.8	03/13/13 16:23/eli-ca
Silver	ND	mg/L		0.001		5 E200.8	03/13/13 14:59/eli-ca
Uranium	0.0891	mg/L		0.0003		1 E200.8	03/11/13 14:28/eli-ca
Vanadium	ND	mg/L		0.01		10 E200.8	03/13/13 16:23/eli-ca
Zinc	0.02	mg/L		0.01		10 E200.8	03/13/13 16:23/eli-ca
Calcium	500	mg/L		1		5 E200.7	03/21/13 19:02/eli-ca
Magnesium	243	mg/L		1		5 E200.7	03/21/13 19:02/eli-ca
Potassium	11	mg/L		1		5 E200.7	03/21/13 19:02/eli-ca
Sodium	190	mg/L		1		5 E200.7	03/21/13 19:02/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 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:** R13030086-006  
**Client Sample ID:** BC-2

**Report Date:** 04/19/13  
**Collection Date:** 03/05/13 14:05  
**Date Received:** 03/06/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/			Method	Analysis Date / By
				RL	QCL	DF		
<b>PHYSICAL PARAMETERS</b>								
Conductivity @ 25 C	3920	umhos/cm		5.0		1	A2510 B	03/07/13 10:29/tb
pH	7.07	su		0.01		1	A4500-H B	03/07/13 09:37/tb
Solids, Total Dissolved TDS @ 180 C	3900	mg/L		40		1	A2540 C	03/11/13 17:07/jmh
Alkalinity, Total as CaCO3	232	mg/L		5		1	A2320 B	03/14/13 14:13/ch
Carbonate as CO3	ND	mg/L		5		1	A2320 B	03/14/13 14:13/ch
Bicarbonate as HCO3	283	mg/L		5		1	A2320 B	03/14/13 14:13/ch
<b>INORGANIC PARAMETERS</b>								
Chloride	22	mg/L				1	E300.0	03/07/13 08:00/tb
Fluoride	0.6	mg/L				1	E300.0	03/07/13 08:00/tb
Sulfate	2530	mg/L	DH			20	E300.0	04/15/13 20:22/jmh
<b>DATA QUALITY PARAMETERS</b>								
Anions	57.9	meq/L		1.00		1	A1030 E	04/16/13 00:00/lkd
Cations	56.2	meq/L		1.00		1	A1030 E	04/16/13 00:00/lkd
Conductivity, Calculated	4590	umhos/cm		1.00		1	A1030 E	04/16/13 00:00/lkd
TDS Ratio	1.05			0.0100		1	A1030 E	04/16/13 00:00/lkd
A/C Balance	-1.51	%				1	A1030 E	04/16/13 00:00/lkd
<b>NUTRIENT PARAMETERS</b>								
Nitrogen, Nitrate as N	0.3	mg/L		0.1		1	E300.0	03/07/13 08:00/tb
<b>RADIONUCLIDES - DISSOLVED</b>								
Gross Alpha	32.5	pCi/L				1	E900.0	03/18/13 19:53/eli-ca
Gross Alpha precision (±)	8.9	pCi/L				1	E900.0	03/18/13 19:53/eli-ca
Gross Alpha MDC	12.7	pCi/L				1	E900.0	03/18/13 19:53/eli-ca
Gross Beta	12.0	pCi/L	U			1	E900.0	03/18/13 19:53/eli-ca
Gross Beta precision (±)	8.8	pCi/L				1	E900.0	03/18/13 19:53/eli-ca
Gross Beta MDC	14.3	pCi/L				1	E900.0	03/18/13 19:53/eli-ca
Radium 228	0.5	pCi/L	U			1	RA-05	03/14/13 23:54/eli-ca
Radium 228 precision (±)	1.1	pCi/L				1	RA-05	03/14/13 23:54/eli-ca
Radium 228 MDC	1.9	pCi/L				1	RA-05	03/14/13 23:54/eli-ca
Radium 226	0.4	pCi/L				1	E903.0	03/19/13 08:32/eli-ca
Radium 226 precision (±)	0.2	pCi/L				1	E903.0	03/19/13 08:32/eli-ca
Radium 226 MDC	0.2	pCi/L				1	E903.0	03/19/13 08:32/eli-ca
<b>RADIONUCLIDES - TOTAL</b>								
Radon 222	2800	pCi/L				1	D5072-92	03/09/13 06:54/eli-ca
Radon 222 precision (±)	188	pCi/L				1	D5072-92	03/09/13 06:54/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 MDC - Minimum detectable concentration  
 H - Analysis performed past recommended holding time.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.  
 D - RL increased due to sample matrix.  
 U - Not detected at minimum detectable concentration



### LABORATORY ANALYTICAL REPORT

Prepared by Rapid City, SD Branch

**Client:** Powertech USA Inc  
**Project:** Alluvial Wells Dewey Burdock  
**Lab ID:** R13030086-006  
**Client Sample ID:** BC-2

**Report Date:** 04/19/13  
**Collection Date:** 03/05/13 14:05  
**Date Received:** 03/06/13  
**Matrix:** AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>RADIONUCLIDES - TOTAL</b>							
Radon 222 MDC	256	pCi/L				1 D5072-92	03/09/13 06:54/eli-ca
<b>TOTAL METALS ANALYSES</b>							
Mercury	ND	mg/L		0.0001		1 E245.1	03/15/13 11:25/eli-ca
<b>DISSOLVED METALS ANALYSES</b>							
Arsenic	ND	mg/L		0.001		1 E200.8	03/11/13 14:44/eli-ca
Barium	ND	mg/L		0.05		1 E200.8	03/11/13 14:44/eli-ca
Boron	0.52	mg/L		0.05		5 E200.7	03/21/13 19:05/eli-ca
Cadmium	ND	mg/L		0.001		1 E200.8	03/11/13 14:44/eli-ca
Chromium	ND	mg/L		0.005		10 E200.8	03/13/13 16:26/eli-ca
Copper	ND	mg/L		0.005		10 E200.8	03/13/13 16:26/eli-ca
Iron	ND	mg/L		0.03		5 E200.7	03/21/13 19:05/eli-ca
Lead	ND	mg/L		0.001		1 E200.8	03/11/13 14:44/eli-ca
Manganese	0.038	mg/L		0.001		10 E200.8	03/13/13 16:26/eli-ca
Molybdenum	0.014	mg/L		0.001		1 E200.8	03/11/13 14:44/eli-ca
Nickel	0.006	mg/L		0.005		1 E200.8	03/11/13 14:44/eli-ca
Selenium	0.001	mg/L		0.001		1 E200.8	03/11/13 14:44/eli-ca
Silver	ND	mg/L		0.001		1 E200.8	03/11/13 14:44/eli-ca
Uranium	0.0246	mg/L		0.0003		1 E200.8	03/11/13 14:44/eli-ca
Vanadium	ND	mg/L		0.01		10 E200.8	03/13/13 16:26/eli-ca
Zinc	ND	mg/L		0.01		1 E200.8	03/11/13 14:44/eli-ca
Calcium	520	mg/L		0.5		5 E200.7	04/16/13 01:00/eli-ca
Magnesium	220	mg/L		1		5 E200.7	03/21/13 19:05/eli-ca
Potassium	12	mg/L		1		5 E200.7	03/21/13 19:05/eli-ca
Sodium	272	mg/L		1		5 E200.7	03/21/13 19:05/eli-ca

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 MDC - Minimum detectable concentration

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: 04/19/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2320 B</b>							Batch: 130314A-ALK-SEL-W		
<b>Sample ID: LCS1_130314A</b>	Laboratory Control Sample					Run: PH_COND1-R_130314A			03/14/13 10:38
Alkalinity, Total as CaCO3	956	mg/L	5.0	96	90	110			
<b>Sample ID: MBLK1_130314A</b>	Method Blank					Run: PH_COND1-R_130314A			03/14/13 10:42
Alkalinity, Total as CaCO3	ND	mg/L	2						
<b>Sample ID: R13030086-005ADUP</b>	Sample Duplicate					Run: PH_COND1-R_130314A			03/14/13 14:02
Alkalinity, Total as CaCO3	300	mg/L	5.0				0.0	10	
Carbonate as CO3	ND	mg/L	5.0					10	
Bicarbonate as HCO3	366	mg/L	5.0				0.0	10	
<b>Sample ID: R13030086-006AMS</b>	Sample Matrix Spike					Run: PH_COND1-R_130314A			03/14/13 14:17
Alkalinity, Total as CaCO3	350	mg/L	5.0	98	80	120			

### 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: 04/19/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2510 B</b>							Batch: 130307_1_COND-PROBE-W		
<b>Sample ID: MBLK-1_130307</b>	Method Blank					Run: PH_COND2-R_130307B			03/07/13 10:05
Conductivity @ 25 C	ND	umhos/cm	5						
<b>Sample ID: R13030086-006ADUP</b>	Sample Duplicate					Run: PH_COND2-R_130307B			03/07/13 10:30
Conductivity @ 25 C	3900	umhos/cm	5.0				0.5	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: 04/19/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2540 C</b>							Batch: TDS130311A		
<b>Sample ID: MB-1_130311A</b>	Method Blank					Run: BAL-TDS_130311A			03/11/13 16:51
Solids, Total Dissolved TDS @ 180 C	4	mg/L	2						
<b>Sample ID: LCS-2_130311A</b>	Laboratory Control Sample					Run: BAL-TDS_130311A			03/11/13 16:54
Solids, Total Dissolved TDS @ 180 C	500	mg/L	10	98	90	110			
<b>Sample ID: R13030076-007A MS</b>	Sample Matrix Spike					Run: BAL-TDS_130311A			03/11/13 16:58
Solids, Total Dissolved TDS @ 180 C	2900	mg/L	20	104	90	110			
<b>Sample ID: R13030086-005A DUP</b>	Sample Duplicate					Run: BAL-TDS_130311A			03/11/13 17:06
Solids, Total Dissolved TDS @ 180 C	3800	mg/L	40				1.3	5	

### 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: 04/19/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-H B</b>							Analytical Run: PH_COND2-R_130307A		
<b>Sample ID: ICV-1_130307</b>	Initial Calibration Verification Standard						03/07/13 09:02		
pH	7.44	su	0.010	100	98	102			
<b>Method: A4500-H B</b>							Batch: 130307_1_PH-W		
<b>Sample ID: ICV1-1_130307</b>	Initial Calibration Verification Standard						Run: PH_COND2-R_130307A 03/07/13 08:59		
pH	12.0	su	0.010	100	99	101			
<b>Sample ID: R13030086-003ADUP</b>	Sample Duplicate						Run: PH_COND2-R_130307A 03/07/13 09:31		
pH	7.13	su	0.010				0.0	3	

### 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  
Project: Alluvial Wells Dewey Burdock

Report Date: 04/19/13  
Work Order: R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: D5072-92</b>							Batch: C_R171184		
<b>Sample ID: R13030086-006D</b>		Sample Duplicate		Run: SUB-C171184			03/09/13 06:54		
Radon 222	2780	pCi/L					0.7	20	
Radon 222 precision (±)	188	pCi/L							
Radon 222 MDC	256	pCi/L							

**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: 04/19/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>							Batch: C_R171610		
<b>Sample ID: MB-130321A</b>	Method Blank		Run: SUB-C171610				03/21/13 15:07		
Boron	0.003	mg/L	0.002						
Calcium	ND	mg/L	0.02						
Iron	ND	mg/L	0.002						
Magnesium	0.04	mg/L	0.01						
Potassium	ND	mg/L	0.04						
Sodium	ND	mg/L	0.2						
<b>Sample ID: LFB-130321A</b>	Laboratory Fortified Blank		Run: SUB-C171610				03/21/13 15:11		
Boron	0.97	mg/L	0.10	97	85	115			
Calcium	48	mg/L	0.50	97	85	115			
Iron	0.96	mg/L	0.030	96	85	115			
Magnesium	48	mg/L	0.50	96	85	115			
Potassium	47	mg/L	0.50	93	85	115			
Sodium	48	mg/L	0.50	95	85	115			
<b>Sample ID: C13030687-001BMS2</b>	Sample Matrix Spike		Run: SUB-C171610				03/21/13 18:17		
Boron	1.89	mg/L	0.050	90	70	130			
Iron	1.89	mg/L	0.030	93	70	130			
Calcium	345	mg/L	1.0	90	70	130			
Magnesium	155	mg/L	1.0	94	70	130			
Potassium	104	mg/L	1.0	94	70	130			
Sodium	292	mg/L	1.0	93	70	130			
<b>Sample ID: C13030687-001BMSD2</b>	Sample Matrix Spike Duplicate		Run: SUB-C171610				03/21/13 18:21		
Boron	1.94	mg/L	0.050	93	70	130	2.7	20	
Iron	1.92	mg/L	0.030	94	70	130	1.7	20	
Calcium	350	mg/L	1.0	95	70	130	1.6	20	
Magnesium	158	mg/L	1.0	96	70	130	1.6	20	
Potassium	107	mg/L	1.0	97	70	130	3.2	20	
Sodium	298	mg/L	1.0	99	70	130	2.1	20	

### 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: 04/19/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>							Batch: C_R172485		
<b>Sample ID: MB-1304015A</b>	Method Blank					Run: SUB-C172485			04/15/13 11:46
Calcium	ND	mg/L	0.02						
Iron	ND	mg/L	0.002						
<b>Sample ID: LFB-1304015A</b>	Laboratory Fortified Blank					Run: SUB-C172485			04/15/13 11:49
Calcium	48	mg/L	0.50	96	85	115			
Iron	0.98	mg/L	0.030	98	85	115			
<b>Sample ID: C13040401-004BMS2</b>	Sample Matrix Spike					Run: SUB-C172485			04/15/13 21:16
Iron	2.17	mg/L	0.030	101	70	130			
Calcium	333	mg/L	1.0	92	70	130			
<b>Sample ID: C13040401-004BMSD2</b>	Sample Matrix Spike Duplicate					Run: SUB-C172485			04/15/13 21:20
Iron	2.15	mg/L	0.030	100	70	130	1.0	20	
Calcium	331	mg/L	1.0	89	70	130	0.8	20	

<b>Method: E200.7</b>							Batch: C_R172580		
<b>Sample ID: MB-1304017A</b>	Method Blank					Run: SUB-C172580			04/17/13 12:00
Iron	ND	mg/L	0.002						
<b>Sample ID: LFB-1304017A</b>	Laboratory Fortified Blank					Run: SUB-C172580			04/17/13 12:04
Iron	0.97	mg/L	0.030	97	85	115			
<b>Sample ID: C13040333-002BMS2</b>	Sample Matrix Spike					Run: SUB-C172580			04/17/13 12:18
Iron	1.94	mg/L	0.030	95	70	130			
<b>Sample ID: C13040333-002BMSD2</b>	Sample Matrix Spike Duplicate					Run: SUB-C172580			04/17/13 12:22
Iron	1.93	mg/L	0.030	95	70	130	0.4	20	

**Qualifiers:**

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## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 04/19/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>							Analytical Run: SUB-C171199		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard						03/11/13 12:37		
Arsenic	0.0494	mg/L	0.0010	99	90	110			
Barium	0.0483	mg/L	0.0010	97	90	110			
Cadmium	0.0486	mg/L	0.0010	97	90	110			
Lead	0.0488	mg/L	0.0010	98	90	110			
Molybdenum	0.0496	mg/L	0.0010	99	90	110			
Nickel	0.0492	mg/L	0.0010	98	90	110			
Selenium	0.0495	mg/L	0.0010	99	90	110			
Silver	0.0197	mg/L	0.0010	98	90	110			
Uranium	0.0496	mg/L	0.00030	99	90	110			
Zinc	0.0492	mg/L	0.0010	98	90	110			
<b>Method: E200.8</b>							Batch: C_R171199		
<b>Sample ID: LRB</b>	Method Blank		Run: SUB-C171199				03/11/13 13:02		
Arsenic	ND	mg/L	0.00010						
Barium	ND	mg/L	3E-05						
Cadmium	ND	mg/L	2E-05						
Lead	ND	mg/L	3E-05						
Molybdenum	ND	mg/L	4E-05						
Nickel	ND	mg/L	3E-05						
Selenium	0.0005	mg/L	0.0002						
Silver	ND	mg/L	5E-05						
Uranium	ND	mg/L	1E-05						
Zinc	0.002	mg/L	0.0006						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank		Run: SUB-C171199				03/11/13 13:06		
Arsenic	0.0521	mg/L	0.0010	104	85	115			
Barium	0.0521	mg/L	0.0010	104	85	115			
Cadmium	0.0519	mg/L	0.0010	104	85	115			
Lead	0.0517	mg/L	0.0010	103	85	115			
Molybdenum	0.0523	mg/L	0.0010	105	85	115			
Nickel	0.0517	mg/L	0.0010	103	85	115			
Selenium	0.0524	mg/L	0.0010	104	85	115			
Silver	0.0203	mg/L	0.0010	102	85	115			
Uranium	0.0523	mg/L	0.00030	105	85	115			
Zinc	0.0545	mg/L	0.0010	106	85	115			
<b>Sample ID: R13030086-001C</b>	Post Digestion Spike		Run: SUB-C171199				03/11/13 14:12		
Arsenic	0.0576	mg/L	0.0010	113	70	130			
Barium	0.0651	mg/L	0.050	108	70	130			
Cadmium	0.0485	mg/L	0.0010	95	70	130			
Lead	0.0539	mg/L	0.0010	108	70	130			
Molybdenum	0.0573	mg/L	0.0010	112	70	130			
Nickel	0.115	mg/L	0.0050	103	70	130			

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## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 04/19/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>							Batch: C_R171199		
<b>Sample ID: R13030086-001C</b>	Post Digestion Spike		Run: SUB-C171199			03/11/13 14:12			
Selenium	0.123	mg/L	0.0010	115	70	130			
Silver	0.0159	mg/L	0.0010	80	70	130			
Uranium	0.0697	mg/L	0.00030	110	70	130			
Zinc	0.163	mg/L	0.010	97	70	130			
<b>Sample ID: R13030086-001C</b>	Post Digestion Spike Duplicate		Run: SUB-C171199			03/11/13 14:15			
Arsenic	0.0567	mg/L	0.0010	111	70	130	1.6	20	
Barium	0.0649	mg/L	0.050	108	70	130	0.4	20	
Cadmium	0.0480	mg/L	0.0010	94	70	130	0.9	20	
Lead	0.0538	mg/L	0.0010	108	70	130	0.2	20	
Molybdenum	0.0573	mg/L	0.0010	112	70	130	0.0	20	
Nickel	0.113	mg/L	0.0050	100	70	130	1.6	20	
Selenium	0.121	mg/L	0.0010	112	70	130	1.5	20	
Silver	0.0168	mg/L	0.0010	84	70	130	5.6	20	
Uranium	0.0683	mg/L	0.00030	107	70	130	2.0	20	
Zinc	0.162	mg/L	0.010	95	70	130	0.6	20	
<b>Sample ID: C13030309-004CMS4</b>	Post Digestion Spike		Run: SUB-C171199			03/11/13 15:00			
Arsenic	0.0529	mg/L	0.0010	105	70	130			
Barium	0.0785	mg/L	0.050	104	70	130			
Cadmium	0.0501	mg/L	0.0010	100	70	130			
Lead	0.0515	mg/L	0.0010	103	70	130			
Molybdenum	0.0513	mg/L	0.0010	102	70	130			
Nickel	0.0489	mg/L	0.0050	94	70	130			
Selenium	0.0532	mg/L	0.0010	106	70	130			
Silver	0.0182	mg/L	0.0010	91	70	130			
Uranium	0.0562	mg/L	0.00030	108	70	130			
Zinc	0.0536	mg/L	0.010	97	70	130			
<b>Sample ID: C13030309-004CMSD4</b>	Post Digestion Spike Duplicate		Run: SUB-C171199			03/11/13 15:03			
Arsenic	0.0541	mg/L	0.0010	107	70	130	2.2	20	
Barium	0.0793	mg/L	0.050	106	70	130	1.1	20	
Cadmium	0.0508	mg/L	0.0010	102	70	130	1.4	20	
Lead	0.0524	mg/L	0.0010	105	70	130	1.7	20	
Molybdenum	0.0523	mg/L	0.0010	104	70	130	2.0	20	
Nickel	0.0496	mg/L	0.0050	96	70	130	1.4	20	
Selenium	0.0544	mg/L	0.0010	109	70	130	2.2	20	
Silver	0.0193	mg/L	0.0010	96	70	130	6.0	20	
Uranium	0.0566	mg/L	0.00030	109	70	130	0.8	20	
Zinc	0.0545	mg/L	0.010	99	70	130	1.6	20	

### Qualifiers:

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MDC - Minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 04/19/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>							Analytical Run: SUB-C171323		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard							03/13/13 12:49	
Arsenic	0.0499	mg/L	0.0010	100	90	110			
Barium	0.0501	mg/L	0.0010	100	90	110			
Cadmium	0.0506	mg/L	0.0010	101	90	110			
Chromium	0.0506	mg/L	0.0010	101	90	110			
Copper	0.0499	mg/L	0.0010	100	90	110			
Lead	0.0506	mg/L	0.0010	101	90	110			
Manganese	0.0512	mg/L	0.0010	102	90	110			
Molybdenum	0.0506	mg/L	0.0010	101	90	110			
Nickel	0.0501	mg/L	0.0010	100	90	110			
Selenium	0.0499	mg/L	0.0010	100	90	110			
Silver	0.0204	mg/L	0.0010	102	90	110			
Uranium	0.0505	mg/L	0.00030	101	90	110			
Vanadium	0.0513	mg/L	0.0010	103	90	110			
Zinc	0.0497	mg/L	0.0010	99	90	110			

<b>Method: E200.8</b>							Batch: C_R171323			
<b>Sample ID: LRB</b>	Method Blank							Run: SUB-C171323		03/13/13 13:15
Arsenic	ND	mg/L	0.00010							
Barium	ND	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	ND	mg/L	2E-05							
Molybdenum	ND	mg/L	4E-05							
Nickel	ND	mg/L	3E-05							
Selenium	0.0004	mg/L	0.0002							
Silver	ND	mg/L	5E-05							
Uranium	ND	mg/L	1E-05							
Vanadium	ND	mg/L	3E-05							
Zinc	ND	mg/L	0.0006							

<b>Sample ID: LFB</b>	Laboratory Fortified Blank							Run: SUB-C171323		03/13/13 13:18
Arsenic	0.0502	mg/L	0.0010	100	85	115				
Barium	0.0508	mg/L	0.0010	101	85	115				
Cadmium	0.0505	mg/L	0.0010	101	85	115				
Chromium	0.0509	mg/L	0.0010	102	85	115				
Copper	0.0505	mg/L	0.0010	101	85	115				
Lead	0.0503	mg/L	0.0010	101	85	115				
Manganese	0.0518	mg/L	0.0010	104	85	115				
Molybdenum	0.0509	mg/L	0.0010	102	85	115				
Nickel	0.0504	mg/L	0.0010	101	85	115				
Selenium	0.0495	mg/L	0.0010	98	85	115				

### 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  
Project: Alluvial Wells Dewey Burdock

Report Date: 04/19/13  
Work Order: R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>									
Batch: C_R171323									
<b>Sample ID: LFB</b>	Laboratory Fortified Blank				Run: SUB-C171323			03/13/13 13:18	
Silver	0.0198	mg/L	0.0010	99	85	115			
Uranium	0.0508	mg/L	0.00030	102	85	115			
Vanadium	0.0517	mg/L	0.0010	103	85	115			
Zinc	0.0513	mg/L	0.0010	103	85	115			
<b>Sample ID: R13030086-001C</b>	Post Digestion Spike				Run: SUB-C171323			03/13/13 14:25	
Arsenic	0.251	mg/L	0.0010	100	70	130			
Barium	0.267	mg/L	0.050	102	70	130			
Cadmium	0.245	mg/L	0.0010	98	70	130			
Chromium	0.261	mg/L	0.0050	101	70	130			
Copper	0.247	mg/L	0.0050	96	70	130			
Lead	0.256	mg/L	0.0010	102	70	130			
Manganese	0.710	mg/L	0.0010	87	70	130			
Molybdenum	0.269	mg/L	0.0010	107	70	130			
Nickel	0.307	mg/L	0.0050	95	70	130			
Selenium	0.300	mg/L	0.0013	99	70	130			
Silver	0.0888	mg/L	0.0010	89	70	130			
Uranium	0.283	mg/L	0.00050	107	70	130			
Vanadium	0.266	mg/L	0.010	105	70	130			
Zinc	0.357	mg/L	0.010	89	70	130			
<b>Sample ID: R13030086-001C</b>	Post Digestion Spike Duplicate				Run: SUB-C171323			03/13/13 14:28	
Arsenic	0.272	mg/L	0.0010	108	70	130	7.9	20	
Barium	0.287	mg/L	0.050	111	70	130	7.2	20	
Cadmium	0.261	mg/L	0.0010	104	70	130	6.5	20	
Chromium	0.283	mg/L	0.0050	110	70	130	7.9	20	
Copper	0.265	mg/L	0.0050	103	70	130	7.0	20	
Lead	0.272	mg/L	0.0010	109	70	130	6.4	20	
Manganese	0.762	mg/L	0.0010	108	70	130	7.0	20	
Molybdenum	0.291	mg/L	0.0010	116	70	130	7.9	20	
Nickel	0.331	mg/L	0.0050	104	70	130	7.4	20	
Selenium	0.323	mg/L	0.0013	108	70	130	7.6	20	
Silver	0.0997	mg/L	0.0010	100	70	130	12	20	
Uranium	0.298	mg/L	0.00050	114	70	130	5.5	20	
Vanadium	0.286	mg/L	0.010	113	70	130	7.3	20	
Zinc	0.384	mg/L	0.010	99	70	130	7.3	20	
<b>Sample ID: C13030403-004BMS4</b>	Post Digestion Spike				Run: SUB-C171323			03/13/13 19:10	
Arsenic	0.0527	mg/L	0.0010	105	70	130			
Barium	0.358	mg/L	0.050		70	130			A
Cadmium	0.0506	mg/L	0.0010	101	70	130			
Chromium	0.0516	mg/L	0.0050	95	70	130			
Copper	0.0524	mg/L	0.0050	98	70	130			
Lead	0.0513	mg/L	0.0010	101	70	130			

**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  
**Project:** Alluvial Wells Dewey Burdock

**Report Date:** 04/19/13  
**Work Order:** R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>							Batch: C_R171323		
<b>Sample ID: C13030403-004BMS4</b>	Post Digestion Spike		Run: SUB-C171323				03/13/13 19:10		
Manganese	0.0563	mg/L	0.0010	100	70	130			
Molybdenum	0.0522	mg/L	0.0010	99	70	130			
Nickel	0.0491	mg/L	0.0050	98	70	130			
Selenium	0.0543	mg/L	0.0010	109	70	130			
Silver	0.0186	mg/L	0.0010	93	70	130			
Uranium	0.0522	mg/L	0.00030	104	70	130			
Vanadium	0.0514	mg/L	0.010	101	70	130			
Zinc	0.0586	mg/L	0.010	102	70	130			
<b>Sample ID: C13030403-004BMSD4</b>	Post Digestion Spike Duplicate		Run: SUB-C171323				03/13/13 19:13		
Arsenic	0.0526	mg/L	0.0010	105	70	130	0.3	20	
Barium	0.370	mg/L	0.050		70	130	3.1	20	A
Cadmium	0.0513	mg/L	0.0010	103	70	130	1.5	20	
Chromium	0.0520	mg/L	0.0050	96	70	130	0.8	20	
Copper	0.0530	mg/L	0.0050	99	70	130	1.1	20	
Lead	0.0526	mg/L	0.0010	104	70	130	2.5	20	
Manganese	0.0578	mg/L	0.0010	103	70	130	2.6	20	
Molybdenum	0.0530	mg/L	0.0010	101	70	130	1.6	20	
Nickel	0.0500	mg/L	0.0050	100	70	130	1.8	20	
Selenium	0.0533	mg/L	0.0010	107	70	130	2.0	20	
Silver	0.0193	mg/L	0.0010	96	70	130	3.7	20	
Uranium	0.0535	mg/L	0.00030	107	70	130	2.5	20	
Vanadium	0.0523	mg/L	0.010	103	70	130	1.8	20	
Zinc	0.0605	mg/L	0.010	106	70	130	3.2	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

Report Date: 04/19/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>							Analytical Run: SUB-C171396		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard						03/15/13 12:46		
Boron	0.0539	mg/L	0.0010	108	90	110			
Cadmium	0.0493	mg/L	0.0010	99	90	110			
Calcium	10.2	mg/L	0.0066	102	90	110			
Magnesium	10.2	mg/L	0.0027	102	90	110			
Potassium	9.86	mg/L	0.0041	99	90	110			
Sodium	10.0	mg/L	0.0043	100	90	110			

**Method: E200.8** Batch: C\_R171396

<b>Sample ID: LRB</b>	Method Blank		Run: SUB-C171396				03/15/13 13:21		
Boron	ND	mg/L	0.0004						
Cadmium	ND	mg/L	3E-05						
Calcium	ND	mg/L	0.007						
Magnesium	ND	mg/L	0.003						
Potassium	0.005	mg/L	0.004						
Sodium	ND	mg/L	0.004						

<b>Sample ID: LFB</b>	Laboratory Fortified Blank		Run: SUB-C171396				03/15/13 13:25		
Boron	0.0536	mg/L	0.0010	107	85	115			
Cadmium	0.0522	mg/L	0.0010	104	85	115			
Calcium	12.7	mg/L	0.0068	102	85	115			
Magnesium	12.6	mg/L	0.0027	101	85	115			
Potassium	12.5	mg/L	0.0041	100	85	115			
Sodium	12.5	mg/L	0.0043	100	85	115			

<b>Sample ID: R13030086-003C</b>	Post Digestion Spike		Run: SUB-C171396				03/15/13 15:54		
Boron	0.597	mg/L	0.050		70	130			A
Cadmium	0.0981	mg/L	0.0010	98	70	130			
Calcium	611	mg/L	1.0		70	130			A
Magnesium	173	mg/L	1.0		70	130			A
Potassium	39.4	mg/L	1.0	111	70	130			
Sodium	188	mg/L	1.0		70	130			A

<b>Sample ID: R13030086-003C</b>	Post Digestion Spike Duplicate		Run: SUB-C171396				03/15/13 15:59		
Boron	0.591	mg/L	0.050		70	130	1.0	20	A
Cadmium	0.102	mg/L	0.0010	102	70	130	4.0	20	
Calcium	610	mg/L	1.0		70	130	0.1	20	A
Magnesium	170	mg/L	1.0		70	130	1.5	20	A
Potassium	38.9	mg/L	1.0	109	70	130	1.2	20	
Sodium	185	mg/L	1.0		70	130	1.4	20	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: 04/19/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1									Batch: C_36806
<b>Sample ID:</b> MB-36806	Method Blank								Run: SUB-C171379 03/15/13 10:48
Mercury	ND	mg/L	7E-05						
<b>Sample ID:</b> LCS-36806	Laboratory Control Sample								Run: SUB-C171379 03/15/13 10:49
Mercury	0.0043	mg/L	0.00010	86	85	115			
<b>Sample ID:</b> R13030086-001B	Sample Matrix Spike								Run: SUB-C171379 03/15/13 11:13
Mercury	0.0048	mg/L	0.00010	96	70	130			
<b>Sample ID:</b> R13030086-001B	Sample Matrix Spike Duplicate								Run: SUB-C171379 03/15/13 11:14
Mercury	0.0050	mg/L	0.00010	99	70	130	3.4	10	
<b>Sample ID:</b> C13030214-001DMS	Sample Matrix Spike								Run: SUB-C171379 03/15/13 11:03
Mercury	0.0048	mg/L	0.00010	96	70	130			
<b>Sample ID:</b> C13030214-001DMSD	Sample Matrix Spike Duplicate								Run: SUB-C171379 03/15/13 11:05
Mercury	0.0047	mg/L	0.00010	95	70	130	1.6	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  
Project: Alluvial Wells Dewey Burdock

Report Date: 04/19/13  
Work Order: R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E300.0</b>							Analytical Run: DIONEX_130306A			
<b>Sample ID: CCV030613-28</b>	Continuing Calibration Verification Standard								03/07/13 00:14	
Chloride	71.1	mg/L	1.0	95	90	110				
Fluoride	7.24	mg/L	0.10	97	90	110				
Nitrogen, Nitrate as N	7.13	mg/L	0.10	95	90	110				
Sulfate	71.2	mg/L	1.0	95	90	110				
<b>Sample ID: CCV030613-34</b>	Continuing Calibration Verification Standard								03/07/13 04:25	
Chloride	71.3	mg/L	1.0	95	90	110				
Fluoride	7.28	mg/L	0.10	97	90	110				
Nitrogen, Nitrate as N	7.11	mg/L	0.10	95	90	110				
Sulfate	70.8	mg/L	1.0	94	90	110				
<b>Method: E300.0</b>							Batch: R60206			
<b>Sample ID: LFB030613-14</b>	Laboratory Fortified Blank				Run: DIONEX_130306A		03/06/13 20:21			
Chloride	36.7	mg/L	1.0	92	90	110				
Fluoride	3.88	mg/L	0.10	97	90	110				
Nitrogen, Nitrate as N	3.72	mg/L	0.10	93	90	110				
Sulfate	37.0	mg/L	1.0	92	90	110				
<b>Sample ID: R13030086-002AMS</b>	Sample Matrix Spike				Run: DIONEX_130306A		03/07/13 05:19			
Chloride	3830	mg/L	100	85	90	110			S	
Fluoride	387	mg/L	10	94	90	110				
Nitrogen, Nitrate as N	380	mg/L	10	89	90	110			S	
Sulfate	11700	mg/L	100	100	90	110				
<b>Sample ID: R13030086-002AMSD</b>	Sample Matrix Spike Duplicate				Run: DIONEX_130306A		03/07/13 05:36			
Chloride	3870	mg/L	100	86	90	110	1.0	10	S	
Fluoride	393	mg/L	10	95	90	110	1.5	10		
Nitrogen, Nitrate as N	382	mg/L	10	90	90	110	0.4	10		
Sulfate	11700	mg/L	100	102	90	110	0.7	10		
<b>Method: E300.0</b>							Batch: R60642			
<b>Sample ID: LFB041513-14</b>	Laboratory Fortified Blank				Run: DIONEX_130415A		04/15/13 20:04			
Sulfate	39.0	mg/L	1.0	98	90	110				
<b>Sample ID: R13030086-006AMS</b>	Sample Matrix Spike				Run: DIONEX_130415A		04/15/13 20:40			
Sulfate	3470	mg/L	20	118	90	110			S	
<b>Sample ID: R13030086-006AMSD</b>	Sample Matrix Spike Duplicate				Run: DIONEX_130415A		04/15/13 20:58			
Sulfate	3470	mg/L	20	118	90	110	0.0	10	S	

### Qualifiers:

RL - Analyte reporting limit.  
MDC - 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: 04/19/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E900.0</b>							Batch: C_GrAB-1482		
<b>Sample ID: R13030086-003E</b>	Sample Duplicate		Run: SUB-C171505			03/18/13 19:53			
Gross Alpha	17	pCi/L					28	87	
Gross Alpha precision (±)	6.6	pCi/L							
Gross Alpha MDC	9.8	pCi/L							
Gross Beta	7.5	pCi/L					46	170.7	U
Gross Beta precision (±)	8.1	pCi/L							
Gross Beta MDC	13	pCi/L							
<b>Sample ID: R13030086-004E</b>	Sample Matrix Spike		Run: SUB-C171505			03/18/13 19:53			
Gross Alpha	250	pCi/L	48	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.									
<b>Sample ID: R13030086-004E</b>	Sample Matrix Spike Duplicate		Run: SUB-C171505			03/18/13 19:53			
Gross Alpha	260	pCi/L	50	70	130	3.3	20.4		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.									
<b>Sample ID: R13030086-004E</b>	Sample Matrix Spike		Run: SUB-C171505			03/18/13 19:53			
Gross Beta	840	pCi/L	100	70	130				
<b>Sample ID: R13030086-004E</b>	Sample Matrix Spike Duplicate		Run: SUB-C171505			03/18/13 19:53			
Gross Beta	840	pCi/L	100	70	130	0.2	14.1		

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

S - Spike recovery outside of advisory limits.

U - Not detected at minimum detectable concentration



## QA/QC Summary Report

Prepared by Rapid City, SD Branch

Client: Powertech USA Inc

Report Date: 04/19/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E903.0</b>							Batch: C_RA226-6551		
<b>Sample ID: C13030268-001DMS</b>	Sample Matrix Spike				Run: SUB-C171464				03/19/13 06:19
Radium 226	29	pCi/L	124		70	130			
<b>Sample ID: C13030268-001DMSD</b>	Sample Matrix Spike Duplicate				Run: SUB-C171464				03/19/13 06:19
Radium 226	30	pCi/L	129		70	130	3.9	22.1	

### 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: 04/19/13

Project: Alluvial Wells Dewey Burdock

Work Order: R13030086

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: RA-05</b>							Batch: C_RA228-4360		
<b>Sample ID: R13030086-002E</b>	Sample Matrix Spike					Run: SUB-C171539			03/14/13 21:43
Radium 228	12	pCi/L	111		70	130			
<b>Sample ID: R13030086-002E</b>	Sample Matrix Spike Duplicate					Run: SUB-C171539			03/14/13 21:43
Radium 228	12	pCi/L	105		70	130	5.0	52.3	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



# 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>Powertech Alluvial Wells</i>	Sample Origin State:	EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>
Report Mail Address: <i>Powertech/Scott Env.</i>	Contact Name: <i>Allen Scott / Lisa Schmitt</i>	Phone/Fax:	Email:
Invoice Address: <i>Powertech</i>	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats:  <input type="checkbox"/> DW <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP <b>Format:</b> _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC			ANALYSIS REQUESTED SEE ATTACHED Standard Turnaround (TAT)	<b>RUSH</b> Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page Comments:	Shipped by:
Number of Containers: _____ Sample Type: <input type="checkbox"/> AW <input type="checkbox"/> SV <input type="checkbox"/> BO <input type="checkbox"/> DW <input type="checkbox"/> Air <input type="checkbox"/> Water <input type="checkbox"/> Soils/Solids <input type="checkbox"/> Vegetation <input type="checkbox"/> Bioassay <input type="checkbox"/> Other <input type="checkbox"/> DW - Drinking Water					Cooler ID(s):
Receipt Temp: <i>2.2</i> °C On Ice: <input checked="" type="radio"/> Y <input type="radio"/> N			Custody Seal		
On Bottle: Y N On Cooler: Y N			Intact: Y N		
Signature Match: Y N			Signature Match: Y N <i>R13030086-101A</i>		
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)    Collection Date    Collection Time    MATRIX			LABORATORY USE ONLY <i>002</i> <i>003</i> <i>004</i> <i>005</i> <i>006</i> <del>007</del>		
1 <i>DC-1</i> <i>3-5-13</i> <i>8:19</i> <i>Water</i> <input checked="" type="checkbox"/>					
2 <i>DC-3</i> <i>3-5-13</i> <i>8:42</i> <i>"</i> <input checked="" type="checkbox"/>					
3 <i>DC-4</i> <i>3-5-13</i> <i>9:35</i> <i>"</i> <input checked="" type="checkbox"/>					
4 <i>BC-3</i> <i>3-5-13</i> <i>11:15</i> <i>"</i> <input checked="" type="checkbox"/>					
5 <i>BC-3 Dup.</i> <i>3-5-13</i> <i>11:16</i> <i>"</i> <input checked="" type="checkbox"/>					
6 <i>BC-1</i> <i>3-5-13</i> <i>12:47</i> <i>"</i> <input checked="" type="checkbox"/>					
7 <i>BC-2</i> <i>3-5-13</i> <i>14:05</i> <i>"</i> <input checked="" type="checkbox"/>					
8 <i>708</i> <i>3-5-13</i> <i>14:57</i> <i>"</i> <input checked="" type="checkbox"/>					
9					
10					

<b>Custody Record MUST be Signed</b>	Relinquished by (print): <i>Allen Scott</i> Date/Time: <i>13:29</i> Signature: <i>Allen Scott</i>	Received by (print): _____                      Date/Time: _____                      Signature: _____
	Relinquished by (print): _____                      Date/Time: _____                      Signature: _____	Received by (print): _____                      Date/Time: _____                      Signature: _____
	Sample Disposal: Return to Client: _____                      Lab Disposal: _____	Received by Laboratory: <i>Jennifer Hartman</i> Date/Time: <i>3/6/13 1329</i> Signature: _____

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.