

ACZ Laboratories Inc.

To: Analytical Staff
From: Kristen Russell
Cc: Audrey Stover, Matt Sowards
Date: July 16, 2007
Subject: CAR845

PT Study WP-147 [L62127]

Open: 4/16/07

Close: 5/31/07

ACZ received the results of ERA's WP – 147 study. Unacceptable results and corrective actions follow:

Not Acceptable Results							
Parameter	Method	Units	Reported Value	Assigned Value	Limits	%R	WG#
TSS	160.2	mg/L	20.0	30.4	21.5 – 36.4	66	223596
Co	6010B	ug/L	374	323	283 – 362	116	223740
Mn	6010B	ug/L	364	326	291 – 362	112	223740
Cr 6 ⁺	SM3500	ug/L	647	527	429 – 620	123	223423
SS	160.5	mL/L	39.0	30.0	23.7 – 38.5	130	223633

CORRECTIVE ACTIONS

Non-Filterable Residue (TSS) – TSS was analyzed and the value of 20.0 mg/L reported by methods EPA160.2 and SM2540D was outside of the acceptance limits. Recovery for the laboratory control standard (LCSW) analyzed with the workgroup was 95%. No problems with the analysis were noted.

L65282 was analyzed for QR092507F and the value of 42.0 mg/L reported for SM2540D was outside of the 52.6 – 73.9 mg/L acceptance limits (64% of assigned value). The low recovery may be due to insufficient mixing of the sample prior to analysis. CAR873 has been opened to further investigate low TSS recovery.

Cobalt – Co was analyzed by EPA 6010B and the reported value of 374 ug/L was outside of the acceptance limits. The ICV = 98%, CCV1 = 106%, and CCV2 = 107%. The CCB analyzed immediately before the sample was undetect. No problems or anomalies with the analysis were noted. The percent recovery of the reported value is within the 80 – 120% control limits for the method LCSW.

L62127-19 was re-logged-as project L65282. Following dilution of the PT concentrate, the sample was analyzed by EPA 6010B. The measured concentration of 343 ug/L is within the acceptance limits (106% of assigned value). The system is judged to be in control.

Manganese – Mn was analyzed by EPA6010B and the reported value of 326 ug/L was outside of the acceptance limits. The ICV = 98%, CCV1 = 105%, and CCV2 = 106%. The CCB analyzed immediately before the sample was undetect. No problems or anomalies with the analysis were noted. The percent recovery of reported value is within the 80 – 120% control limits for the method LCSW.

L62127-19 was re-logged-in project L65282. Following dilution of the PT concentrate, the sample was analyzed by EPA 6010B. The measured concentration of 337 ug/L is within the acceptance limits (104% of assigned value). The system is judged to be in control.

Hexavalent Chromium – Cr 6+ was analyzed by SM3500 Cr-D, and the reported value of 647 ug/L exceeded the acceptance limits (123% of assigned value). The QC associated with the analysis were acceptable (ICV = 106%; LFB = 109%; CCV = 98%) and no problems were noted. The prepared sample was analyzed on a 10x dilution prior to analysis. Performing any dilution may increase the variability of the result.

L64268 (QR080207A) was analyzed by SM3500 Cr-D and the reported value of 806 ug/L was within the 648 – 931 ug/L acceptance criteria (102% of assigned value). The system is judged to be in control.

Settleable Residue (SS) – SS was analyzed and the value of 39.0 mg/L reported by methods EPA160.5 and SM2540F exceeded the acceptance limits. No problems or anomalies with the analysis were noted.

L65282 was analyzed for QR092507F and the value of 26.0 mg/L reported for SM2540F was within the 21.1 – 34.6 mg/L acceptance limits (96% of assigned value). The system is judged to be in control.



**ENVIRONMENTAL
RESOURCE ASSOCIATES®**
The Industry Standard™

L 62127

**Matt Sowards
ACZ Laboratories
2773 Downhill Dr
Steamboat Springs, CO 80487**

WP-147



Final Report

WatR™ Pollution Proficiency Testing

WatR™ Pollution Study

Open Date: 04/16/07

Close Date: 05/31/07

Report Issued Date: 06/21/07



**ENVIRONMENTAL
RESOURCE ASSOCIATES®**
The Industry Standard™

Study: **WP-147**

ERA Laboratory Code: **A144801**

Laboratory Name: **ACZ Laboratories**

Inorganic Results





Matt Sowards
QA/QC Coordinator
ACZ Laboratories
2773 Downhill Dr
Steamboat Springs, CO 80487
970-879-6590 x531

EPA ID: CO00028
ERA Laboratory Code: A144801
Report Issued: 06/21/07
Study Dates: 04/16/07 - 05/31/07

Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
-----------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------

pH

0019	pH	S.U.	6.02	5.92	5.72 - 6.12	Acceptable	EPA 150.1
------	----	------	------	------	-------------	------------	-----------

pH

0019	pH	S.U.	6.02	5.92	5.72 - 6.12	Acceptable	SM 4500 H+ B
------	----	------	------	------	-------------	------------	--------------

Hardness

0072	Non-Filterable Residue (TSS)	mg/L	20.0	30.4	21.5 - 36.4	Not Acceptable	EPA 160.2
0023	Calcium	mg/L	37.4	36.5	32.5 - 41.5	Acceptable	EPA 200.7
0024	Magnesium	mg/L	26.9	26.3	22.5 - 30.2	Acceptable	EPA 200.7
1550	Calcium Hardness as CaCO3	mg/L		91.1	81.0 - 104	Not Reported	
0022	Total Hardness as CaCO3	mg/L	204	199	174 - 228	Acceptable	SM 2340 B

Hardness

0072	Non-Filterable Residue (TSS)	mg/L	20.0	30.4	21.5 - 36.4	Not Acceptable	SM 2540 D
0023	Calcium	mg/L	41.2	36.5	32.5 - 41.5	Acceptable	EPA 6010B
0024	Magnesium	mg/L	28.9	26.3	22.5 - 30.2	Acceptable	EPA 6010B
1550	Calcium Hardness as CaCO3	mg/L		91.1	81.0 - 104	Not Reported	
0022	Total Hardness as CaCO3	mg/L		199	174 - 228	Not Reported	

Demand

0038	BOD	mg/L	154	142	72.0 - 212	Acceptable	EPA 405.1
0102	CBOD	mg/L	164	122	54.9 - 190	Acceptable	EPA 405.1
0036	COD	mg/L	227	230	180 - 259	Acceptable	EPA 410.4
0037	TOC	mg/L	87.6	91.0	76.1 - 104	Acceptable	EPA 415.1

Demand

0038	BOD	mg/L		142	72.0 - 212	Not Reported	
0102	CBOD	mg/L		122	54.9 - 190	Not Reported	
0036	COD	mg/L		230	180 - 259	Not Reported	
0037	TOC	mg/L	87.6	91.0	76.1 - 104	Acceptable	SM 5310 B

Simple Nutrients

0031	Ammonia as N	mg/L	4.38	4.46	3.22 - 5.74	Acceptable	EPA 350.1
1820	Nitrate + Nitrite as N	mg/L	4.76	4.67	3.80 - 5.44	Acceptable	EPA 353.2
0032	Nitrate as N	mg/L	4.76	4.67	3.64 - 5.65	Acceptable	EPA 353.2
0033	ortho-Phosphate as P	mg/L	1.65	1.74	1.39 - 2.11	Acceptable	EPA 365.1

Complex Nutrients

0034	Total Kjeldahl Nitrogen	mg/L	17.6	15.6	10.3 - 20.1	Acceptable	EPA 351.2
0035	Total phosphorus as P	mg/L	2.66	2.72	2.20 - 3.29	Acceptable	EPA 365.1

Total Cyanide

0071	Cyanide, total	mg/L	.218	0.223	0.0948 - 0.358	Acceptable	EPA 335.4
------	----------------	------	------	-------	----------------	------------	-----------

Total Phenolics (4-AAP)

0097	Phenolics, total	mg/L	1.16	1.02	0.564 - 1.49	Acceptable	EPA 420.4
------	------------------	------	------	------	--------------	------------	-----------





Matt Sowards
QA/QC Coordinator
ACZ Laboratories
2773 Downhill Dr
Steamboat Springs, CO 80487
970-879-6590 x531

EPA ID: CO00028
ERA Laboratory Code: A144801
Report Issued: 06/21/07
Study Dates: 04/16/07 - 05/31/07

Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
-----------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------

Oil & Grease

0104	Oil & Grease (Gravimetric)	mg/L	35.2	39.0	23.6 - 48.9	Acceptable	EPA 1664A
1860	Oil & Grease (Infrared)	mg/L		48.0	30.6 - 58.8	Not Reported	

Trace Metals

0001	Aluminum	µg/L	456	454	348 - 561	Acceptable	EPA 200.7
0016	Antimony	µg/L	288	295	201 - 358	Acceptable	EPA 200.7
0002	Arsenic	µg/L	333	314	261 - 369	Acceptable	EPA 200.7
1015	Barium	µg/L	316	310	268 - 349	Acceptable	EPA 200.7
0003	Beryllium	µg/L	500	502	427 - 567	Acceptable	EPA 200.7
1025	Boron	µg/L	1780	1700	1380 - 1980	Acceptable	EPA 200.7
0004	Cadmium	µg/L	165	164	139 - 187	Acceptable	EPA 200.7
0006	Chromium	µg/L	90.0	85.9	72.6 - 99.0	Acceptable	EPA 200.7
0005	Cobalt	µg/L	344	323	283 - 362	Acceptable	EPA 200.7
0007	Copper	µg/L	540	524	472 - 576	Acceptable	EPA 200.7
0008	Iron	µg/L	399	390	342 - 445	Acceptable	EPA 200.7
0012	Lead	µg/L	303	284	244 - 323	Acceptable	EPA 200.7
0010	Manganese	µg/L	342	326	291 - 362	Acceptable	EPA 200.7
0074	Molybdenum	µg/L	372	365	308 - 418	Acceptable	EPA 200.7
0011	Nickel	µg/L	500	480	430 - 538	Acceptable	EPA 200.7
0013	Selenium	µg/L	755	719	570 - 833	Acceptable	EPA 200.7
0017	Silver	µg/L	380	389	334 - 446	Acceptable	EPA 200.7
0075	Strontium	µg/L	105	104	88.4 - 120	Acceptable	EPA 200.7
0018	Thallium	µg/L		130	82.0 - 172	Not Reported	
0014	Vanadium	µg/L	1280	1250	1100 - 1400	Acceptable	EPA 200.7
0015	Zinc	µg/L	500	476	408 - 550	Acceptable	EPA 200.7





Matt Sowards
QA/QC Coordinator
ACZ Laboratories
2773 Downhill Dr
Steamboat Springs, CO 80487
970-879-6590 x531

EPA ID: CO00028
ERA Laboratory Code: A144801
Report Issued: 06/21/07
Study Dates: 04/16/07 - 05/31/07

Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Trace Metals							
0001	Aluminum	µg/L	469	454	348 - 561	Acceptable	EPA 200.8
0016	Antimony	µg/L	315	295	201 - 358	Acceptable	EPA 200.8
0002	Arsenic	µg/L	335	314	261 - 369	Acceptable	EPA 200.8
1015	Barium	µg/L	305	310	268 - 349	Acceptable	EPA 200.8
0003	Beryllium	µg/L	481	502	427 - 567	Acceptable	EPA 200.8
1025	Boron	µg/L		1700	1380 - 1980	Not Reported	
0004	Cadmium	µg/L	155	164	139 - 187	Acceptable	EPA 200.8
0006	Chromium	µg/L	83.5	85.9	72.6 - 99.0	Acceptable	EPA 200.8
0005	Cobalt	µg/L	326	323	283 - 362	Acceptable	EPA 200.8
0007	Copper	µg/L	513	524	472 - 576	Acceptable	EPA 200.8
0008	Iron	µg/L		390	342 - 445	Not Reported	
0012	Lead	µg/L	283	284	244 - 323	Acceptable	EPA 200.8
0010	Manganese	µg/L	323	326	291 - 362	Acceptable	EPA 200.8
0074	Molybdenum	µg/L	359	365	308 - 418	Acceptable	EPA 200.8
0011	Nickel	µg/L	478	480	430 - 538	Acceptable	EPA 200.8
0013	Selenium	µg/L	701	719	570 - 833	Acceptable	EPA 200.8
0017	Silver	µg/L	361	389	334 - 446	Acceptable	EPA 200.8
0075	Strontium	µg/L		104	88.4 - 120	Not Reported	
0018	Thallium	µg/L	124	130	82.0 - 172	Acceptable	EPA 200.8
0014	Vanadium	µg/L	1240	1250	1100 - 1400	Acceptable	EPA 200.8
0015	Zinc	µg/L	473	476	408 - 550	Acceptable	EPA 200.8





Matt Sowards
QA/QC Coordinator
ACZ Laboratories
2773 Downhill Dr
Steamboat Springs, CO 80487
970-879-6590 x531

EPA ID: CO00028
ERA Laboratory Code: A144801
Report Issued: 06/21/07
Study Dates: 04/16/07 - 05/31/07

Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Trace Metals							
0001	Aluminum	µg/L		454	348 - 561	Not Reported	
0016	Antimony	µg/L		295	201 - 358	Not Reported	
0002	Arsenic	µg/L		314	261 - 369	Not Reported	
1015	Barium	µg/L		310	268 - 349	Not Reported	
0003	Beryllium	µg/L		502	427 - 567	Not Reported	
1025	Boron	µg/L		1700	1380 - 1980	Not Reported	
0004	Cadmium	µg/L		164	139 - 187	Not Reported	
0006	Chromium	µg/L		85.9	72.6 - 99.0	Not Reported	
0005	Cobalt	µg/L		323	283 - 362	Not Reported	
0007	Copper	µg/L		524	472 - 576	Not Reported	
0008	Iron	µg/L		390	342 - 445	Not Reported	
0012	Lead	µg/L		284	244 - 323	Not Reported	
0010	Manganese	µg/L		326	291 - 362	Not Reported	
0074	Molybdenum	µg/L		365	308 - 418	Not Reported	
0011	Nickel	µg/L		480	430 - 538	Not Reported	
0013	Selenium	µg/L	776	719	570 - 833	Acceptable	SM 3114 B
0017	Silver	µg/L		389	334 - 446	Not Reported	
0075	Strontium	µg/L		104	88.4 - 120	Not Reported	
0018	Thallium	µg/L		130	82.0 - 172	Not Reported	
0014	Vanadium	µg/L		1250	1100 - 1400	Not Reported	
0015	Zinc	µg/L		476	408 - 550	Not Reported	





Matt Sowards
QA/QC Coordinator
ACZ Laboratories
2773 Downhill Dr
Steamboat Springs, CO 80487
970-879-6590 x531

EPA ID: CO00028
ERA Laboratory Code: A144801
Report Issued: 06/21/07
Study Dates: 04/16/07 - 05/31/07

Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Trace Metals							
0001	Aluminum	µg/L	482	454	348 - 561	Acceptable	EPA 6010B
0016	Antimony	µg/L	338	295	201 - 358	Acceptable	EPA 6010B
0002	Arsenic	µg/L	334	314	261 - 369	Acceptable	EPA 6010B
1015	Barium	µg/L	323	310	268 - 349	Acceptable	EPA 6010B
0003	Beryllium	µg/L	531	502	427 - 567	Acceptable	EPA 6010B
1025	Boron	µg/L	1820	1700	1380 - 1980	Acceptable	EPA 6010B
0004	Cadmium	µg/L	169	164	139 - 187	Acceptable	EPA 6010B
0006	Chromium	µg/L	96.0	85.9	72.6 - 99.0	Acceptable	EPA 6010B
0005	Cobalt	µg/L	374	323	283 - 362	Not Acceptable	EPA 6010B
0007	Copper	µg/L	549	524	472 - 576	Acceptable	EPA 6010B
0008	Iron	µg/L	404	390	342 - 445	Acceptable	EPA 6010B
0012	Lead	µg/L	279	284	244 - 323	Acceptable	EPA 6010B
0010	Manganese	µg/L	364	326	291 - 362	Not Acceptable	EPA 6010B
0074	Molybdenum	µg/L	416	365	308 - 418	Acceptable	EPA 6010B
0011	Nickel	µg/L	534	480	430 - 538	Acceptable	EPA 6010B
0013	Selenium	µg/L	768	719	570 - 833	Acceptable	EPA 6010B
0017	Silver	µg/L	409	389	334 - 446	Acceptable	EPA 6010B
0075	Strontium	µg/L	108	104	88.4 - 120	Acceptable	EPA 6010B
0018	Thallium	µg/L		130	82.0 - 172	Not Reported	
0014	Vanadium	µg/L	1350	1250	1100 - 1400	Acceptable	EPA 6010B
0015	Zinc	µg/L	538	476	408 - 550	Acceptable	EPA 6010B





Matt Sowards
QA/QC Coordinator
ACZ Laboratories
2773 Downhill Dr
Steamboat Springs, CO 80487
970-879-6590 x531

EPA ID: CO00028
ERA Laboratory Code: A144801
Report Issued: 06/21/07
Study Dates: 04/16/07 - 05/31/07

Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
-----------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------

Trace Metals

0001	Aluminum	µg/L	478	454	348 - 561	Acceptable	EPA 6020
0016	Antimony	µg/L	320	295	201 - 358	Acceptable	EPA 6020
0002	Arsenic	µg/L	343	314	261 - 369	Acceptable	EPA 6020
1015	Barium	µg/L	318	310	268 - 349	Acceptable	EPA 6020
0003	Beryllium	µg/L	518	502	427 - 567	Acceptable	EPA 6020
1025	Boron	µg/L		1700	1380 - 1980	Not Reported	
0004	Cadmium	µg/L	164	164	139 - 187	Acceptable	EPA 6020
0006	Chromium	µg/L	85.8	85.9	72.6 - 99.0	Acceptable	EPA 6020
0005	Cobalt	µg/L	335	323	283 - 362	Acceptable	EPA 6020
0007	Copper	µg/L	537	524	472 - 576	Acceptable	EPA 6020
0008	Iron	µg/L		390	342 - 445	Not Reported	
0012	Lead	µg/L	287	284	244 - 323	Acceptable	EPA 6020
0010	Manganese	µg/L	325	326	291 - 362	Acceptable	EPA 6020
0074	Molybdenum	µg/L	381	365	308 - 418	Acceptable	EPA 6020
0011	Nickel	µg/L	491	480	430 - 538	Acceptable	EPA 6020
0013	Selenium	µg/L	691	719	570 - 833	Acceptable	EPA 6020
0017	Silver	µg/L	396	389	334 - 446	Acceptable	EPA 6020
0075	Strontium	µg/L		104	88.4 - 120	Not Reported	
0018	Thallium	µg/L	134	130	82.0 - 172	Acceptable	EPA 6020
0014	Vanadium	µg/L	1240	1250	1100 - 1400	Acceptable	EPA 6020
0015	Zinc	µg/L	492	476	408 - 550	Acceptable	EPA 6020

Mercury

0009	Mercury	µg/L	9.04	9.16	5.64 - 12.4	Acceptable	EPA 245.1
------	---------	------	------	------	-------------	------------	-----------

Mercury

0009	Mercury	µg/L	9.37	9.16	5.64 - 12.4	Acceptable	EPA 7470A
------	---------	------	------	------	-------------	------------	-----------

Minerals

0027	Alkalinity as CaCO3	mg/L	92.4	96.2	85.2 - 106	Acceptable	SM 2320 B
0028	Chloride	mg/L	67.3	66.7	56.9 - 76.8	Acceptable	EPA 300.0
0020	Conductivity at 25°C	µmhos/cm	456	462	415 - 510	Acceptable	EPA 120.1
0029	Fluoride	mg/L	2.35	2.30	1.89 - 2.72	Acceptable	EPA 300.0
0026	Potassium	mg/L	27.5	24.9	20.5 - 29.7	Acceptable	EPA 200.7
0025	Sodium	mg/L	94.6	86.2	73.2 - 98.8	Acceptable	EPA 200.7
0030	Sulfate	mg/L	25.5	24.8	19.6 - 29.4	Acceptable	EPA 300.0
0021	Total Dissolved Solids at 180°C	mg/L	366	357	271 - 444	Acceptable	EPA 160.1
1950	Total Solids at 105°C	mg/L	372	382	338 - 420	Acceptable	EPA 160.3





Matt Sowards
QA/QC Coordinator
ACZ Laboratories
2773 Downhill Dr
Steamboat Springs, CO 80487
970-879-6590 x531

EPA ID: CO00028
ERA Laboratory Code: A144801
Report Issued: 06/21/07
Study Dates: 04/16/07 - 05/31/07

Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Minerals							
0027	Alkalinity as CaCO3	mg/L		96.2	85.2 - 106	Not Reported	
0028	Chloride	mg/L	66.3	66.7	56.9 - 76.8	Acceptable	EPA 325.2
0020	Conductivity at 25°C	µmhos/cm	456	462	415 - 510	Acceptable	SM 2510 B
0029	Fluoride	mg/L		2.30	1.89 - 2.72	Not Reported	
0026	Potassium	mg/L	24.8	24.9	20.5 - 29.7	Acceptable	EPA 6010B
0025	Sodium	mg/L	88.2	86.2	73.2 - 98.8	Acceptable	EPA 6010B
0030	Sulfate	mg/L	19.8	24.8	19.6 - 29.4	Acceptable	SM 4500 SO4- D
0021	Total Dissolved Solids at 180°C	mg/L	366	357	271 - 444	Acceptable	SM 2540 C
1950	Total Solids at 105°C	mg/L	372	382	338 - 420	Acceptable	SM 2540 B

Minerals							
0027	Alkalinity as CaCO3	mg/L		96.2	85.2 - 106	Not Reported	
0028	Chloride	mg/L	66.3	66.7	56.9 - 76.8	Acceptable	SM 4500 Cl- E
0020	Conductivity at 25°C	µmhos/cm		462	415 - 510	Not Reported	
0029	Fluoride	mg/L		2.30	1.89 - 2.72	Not Reported	
0026	Potassium	mg/L		24.9	20.5 - 29.7	Not Reported	
0025	Sodium	mg/L		86.2	73.2 - 98.8	Not Reported	
0030	Sulfate	mg/L		24.8	19.6 - 29.4	Not Reported	
0021	Total Dissolved Solids at 180°C	mg/L		357	271 - 444	Not Reported	
1950	Total Solids at 105°C	mg/L		382	338 - 420	Not Reported	

Hexavalent Chromium							
1045	Hexavalent Chromium	µg/L	647	527	429 - 620	Not Acceptable	SM 3500 Cr D

Nitrite							
1840	Nitrite as N	mg/L	2.73	2.48	2.09 - 2.86	Acceptable	EPA 353.2

Turbidity							
2055	Turbidity	NTU	11.8	12.6	10.7 - 14.1	Acceptable	EPA 180.1

Settleable Solids							
1965	Settleable Solids	mL/L	39.0	30.0	23.7 - 38.5	Not Acceptable	EPA 160.5

Settleable Solids							
1965	Settleable Solids	mL/L	39.0	30.0	23.7 - 38.5	Not Acceptable	SM 2540 F

Tin & Titanium							
1175	Tin	µg/L	4300	4160	3280 - 5070	Acceptable	EPA 200.7
0076	Titanium	µg/L	201	201	172 - 227	Acceptable	EPA 200.7

Tin & Titanium							
1175	Tin	µg/L	4220	4160	3280 - 5070	Acceptable	EPA 6010B
0076	Titanium	µg/L	209	201	172 - 227	Acceptable	EPA 6010B

Volatile Solids							
1970	Volatile Solids	mg/L	166	212	162 - 247	Acceptable	EPA 160.4





Matt Sowards
QA/QC Coordinator
ACZ Laboratories
2773 Downhill Dr
Steamboat Springs, CO 80487
970-879-6590 x531

EPA ID: CO00028
ERA Laboratory Code: A144801
Report Issued: 06/21/07
Study Dates: 04/16/07 - 05/31/07

Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Acidity							
1500	Acidity as CaCO3	mg/L	850	869	765 - 956	Acceptable	SM 2310 B
Bromide							
1540	Bromide	mg/L	7.25	6.87	5.84 - 7.90	Acceptable	EPA 300.0
Silica							
1990	Silica as SiO2	mg/L	152	144	108 - 180	Acceptable	EPA 200.7
Silica							
1990	Silica as SiO2	mg/L	157	144	108 - 180	Acceptable	EPA 6010B
Low-Level Mercury							
1095	Low Level Mercury	ng/L	55.0	49.9	38.4 - 61.4	Acceptable	EPA 1631E





**ENVIRONMENTAL
RESOURCE ASSOCIATES®**
The Industry Standard™

Study: **WP-147**

ERA Laboratory Code: **A144801**

Laboratory Name: **ACZ Laboratories**

Organic Results





Matt Sowards
QA/QC Coordinator
ACZ Laboratories
2773 Downhill Dr
Steamboat Springs, CO 80487
970-879-6590 x531

EPA ID: CO00028
ERA Laboratory Code: A144801
Report Issued: 06/21/07
Study Dates: 04/16/07 - 05/31/07

Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Volatiles							
4315	Acetone	µg/L	89.9	120	23.7 - 195	Acceptable	EPA 8260B
4320	Acetonitrile	µg/L		0.00		Not Reported	
4325	Acrolein	µg/L		0.00		Not Reported	
4340	Acrylonitrile	µg/L	< 40.0	0.00		Acceptable	EPA 8260B
0065	Benzene	µg/L	93.2	91.1	66.6 - 115	Acceptable	EPA 8260B
0060	Bromodichloromethane	µg/L	84.5	88.5	62.9 - 120	Acceptable	EPA 8260B
0062	Bromoform	µg/L	74.3	84.4	54.9 - 117	Acceptable	EPA 8260B
4950	Bromomethane	µg/L	< 10.0	0.00		Acceptable	EPA 8260B
4410	2-Butanone (MEK)	µg/L	< 30.0	0.00		Acceptable	EPA 8260B
5000	tert-Butyl methyl ether (MTBE)	µg/L	44.7	50.9	31.9 - 72.0	Acceptable	EPA 8260B
4450	Carbon disulfide	µg/L	< 10.0	0.00		Acceptable	EPA 8260B
0058	Carbon tetrachloride	µg/L	57.0	63.7	34.8 - 86.8	Acceptable	EPA 8260B
0064	Chlorobenzene	µg/L	60.7	61.4	44.3 - 77.0	Acceptable	EPA 8260B
0061	Chlorodibromomethane	µg/L	27.4	29.8	20.2 - 39.5	Acceptable	EPA 8260B
4485	Chloroethane	µg/L	< 10.0	0.00		Acceptable	EPA 8260B
4500	2-Chloroethylvinylether	µg/L	< 30.0	0.00		Acceptable	EPA 8260B
0055	Chloroform	µg/L	76.0	78.8	54.6 - 101	Acceptable	EPA 8260B
4960	Chloromethane	µg/L	< 10.0	0.00		Acceptable	EPA 8260B
4570	1,2-Dibromo-3-chloropropane (DBCP)	µg/L	< 10.0	0.00		Acceptable	EPA 8260B
4585	1,2-Dibromoethane (EDB)	µg/L	< 10.0	0.00		Acceptable	EPA 8260B
4595	Dibromomethane	µg/L	21.4	22.3	14.9 - 30.5	Acceptable	EPA 8260B
0094	1,2-Dichlorobenzene	µg/L	13.1	14.1	9.20 - 18.8	Acceptable	EPA 8260B
0096	1,3-Dichlorobenzene	µg/L	14.3	15.7	9.88 - 20.6	Acceptable	EPA 8260B
0095	1,4-Dichlorobenzene	µg/L	34.2	37.4	25.0 - 47.6	Acceptable	EPA 8260B
4625	Dichlorodifluoromethane	µg/L	< 20.0	0.00		Acceptable	EPA 8260B
4630	1,1-Dichloroethane	µg/L	59.8	59.1	40.5 - 81.0	Acceptable	EPA 8260B
0054	1,2-Dichloroethane	µg/L	92.3	101	70.2 - 132	Acceptable	EPA 8260B
4640	1,1-Dichloroethylene	µg/L	< 10.0	0.00		Acceptable	EPA 8260B
4645	cis-1,2-Dichloroethylene	µg/L	21.1	22.0	14.9 - 29.5	Acceptable	EPA 8260B
4700	trans-1,2-Dichloroethylene	µg/L	< 10.0	0.00		Acceptable	EPA 8260B
4655	1,2-Dichloropropane	µg/L	38.2	40.1	26.0 - 53.3	Acceptable	EPA 8260B
4680	cis-1,3-Dichloropropylene	µg/L	30.1	33.0	23.1 - 42.9	Acceptable	EPA 8260B





Matt Sowards
QA/QC Coordinator
ACZ Laboratories
2773 Downhill Dr
Steamboat Springs, CO 80487
970-879-6590 x531

EPA ID: CO00028
ERA Laboratory Code: A144801
Report Issued: 06/21/07
Study Dates: 04/16/07 - 05/31/07

Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Volatiles (Continued)							
4685	trans-1,3-Dichloropropylene	µg/L	< 10.0	0.00		Acceptable	EPA 8260B
0066	Ethylbenzene	µg/L	60.7	64.7	44.6 - 82.1	Acceptable	EPA 8260B
4835	Hexachlorobutadiene	µg/L	108	139	16.9 - 163	Acceptable	EPA 8260B
4860	2-Hexanone	µg/L	109	124	63.6 - 182	Acceptable	EPA 8260B
0063	Methylene chloride	µg/L	74.6	77.7	47.6 - 108	Acceptable	EPA 8260B
4995	4-Methyl-2-pentanone (MIBK)	µg/L	< 50.0	0.00		Acceptable	EPA 8260B
5005	Naphthalene	µg/L	32.9	42.5	13.4 - 53.7	Acceptable	EPA 8260B
5100	Styrene	µg/L	47.9	50.4	32.5 - 68.7	Acceptable	EPA 8260B
5105	1,1,1,2-Tetrachloroethane	µg/L	32.0	34.6	21.8 - 47.1	Acceptable	EPA 8260B
5110	1,1,2,2-Tetrachloroethane	µg/L	41.3	44.3	24.9 - 66.3	Acceptable	EPA 8260B
0059	Tetrachloroethylene	µg/L	61.5	65.5	36.8 - 85.6	Acceptable	EPA 8260B
0067	Toluene	µg/L	59.9	61.5	42.7 - 77.0	Acceptable	EPA 8260B
5155	1,2,4-Trichlorobenzene	µg/L	68.8	76.9	16.2 - 93.3	Acceptable	EPA 8260B
0056	1,1,1-Trichloroethane	µg/L	79.3	77.4	48.2 - 102	Acceptable	EPA 8260B
5165	1,1,2-Trichloroethane	µg/L	< 10.0	0.00		Acceptable	EPA 8260B
0057	Trichloroethylene	µg/L	52.1	54.6	34.7 - 71.4	Acceptable	EPA 8260B
5175	Trichlorofluoromethane	µg/L	37.4	51.2	20.5 - 81.9	Acceptable	EPA 8260B
5180	1,2,3-Trichloropropane (TCP)	µg/L	54.5	55.8	23.8 - 87.0	Acceptable	EPA 8260B
5225	Vinyl acetate	µg/L	< 10.0	0.00		Acceptable	EPA 8260B
5235	Vinyl chloride	µg/L	< 10.0	0.00		Acceptable	EPA 8260B
5260	Xylenes, total	µg/L	188	186	107 - 249	Acceptable	EPA 8260B





Matt Sowards
QA/QC Coordinator
ACZ Laboratories
2773 Downhill Dr
Steamboat Springs, CO 80487
970-879-6590 x531

EPA ID: CO00028
ERA Laboratory Code: A144801
Report Issued: 06/21/07
Study Dates: 04/16/07 - 05/31/07

Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Base/Neutrals							
5500	Acenaphthene	µg/L	51.1	65.7	26.7 - 79.1	Acceptable	EPA 8270C
5505	Acenaphthylene	µg/L	58.4	78.2	30.8 - 95.5	Acceptable	EPA 8270C
5145	2-Amino-1-methylbenzene (o-toluidine)	µg/L		0.00		Not Reported	
5545	Aniline	µg/L		0.00		Not Reported	
5555	Anthracene	µg/L	33.5	41.1	17.8 - 52.7	Acceptable	EPA 8270C
5595	Benzidine	µg/L		0.00		Not Reported	
5575	Benzo(a)anthracene	µg/L	43.3	54.0	24.3 - 68.9	Acceptable	EPA 8270C
5585	Benzo(b)fluoranthene	µg/L	43.8	55.8	20.4 - 75.7	Acceptable	EPA 8270C
5600	Benzo(k)fluoranthene	µg/L	42.3	53.0	12.6 - 78.6	Acceptable	EPA 8270C
5590	Benzo(g,h,i)perylene	µg/L	< 10.0	0.00		Acceptable	EPA 8270C
5580	Benzo(a)pyrene	µg/L	27.6	42.8	13.0 - 56.0	Acceptable	EPA 8270C
5630	Benzyl alcohol	µg/L	< 10.0	0.00		Acceptable	EPA 8270C
5660	4-Bromophenyl-phenylether	µg/L	21.8	27.0	10.3 - 38.2	Acceptable	EPA 8270C
5670	Butylbenzylphthalate	µg/L	92.1	113	21.0 - 161	Acceptable	EPA 8270C
5680	Carbazole	µg/L		124	71.4 - 179	Not Reported	
5745	4-Chloroaniline	µg/L	< 10.0	0.00		Acceptable	EPA 8270C
5760	bis(2-Chloroethoxy)methane	µg/L	114	145	57.4 - 171	Acceptable	EPA 8270C
5765	bis(2-Chloroethyl)ether	µg/L	71.7	70.0	19.8 - 87.3	Acceptable	EPA 8270C
5780	bis(2-Chloroisopropyl)ether	µg/L	91.1	138	33.4 - 167	Acceptable	EPA 8270C
5790	1-Chloronaphthalene	µg/L		0.00		Not Reported	
5795	2-Chloronaphthalene	µg/L	< 10.0	0.00		Acceptable	EPA 8270C
5825	4-Chlorophenyl-phenylether	µg/L	43.3	57.3	21.8 - 72.9	Acceptable	EPA 8270C
5855	Chrysene	µg/L	12.0	12.7	6.24 - 20.1	Acceptable	EPA 8270C
5895	Dibenz(a,h)anthracene	µg/L	< 10.0	0.00		Acceptable	EPA 8270C
5905	Dibenzofuran	µg/L	31.2	37.5	14.3 - 50.0	Acceptable	EPA 8270C
5925	Di-n-butylphthalate	µg/L	113	166	53.3 - 212	Acceptable	EPA 8270C
4610	1,2-Dichlorobenzene	µg/L	50.7	62.0	6.56 - 76.6	Acceptable	EPA 8270C
4615	1,3-Dichlorobenzene	µg/L	74.3	124	15.0 - 144	Acceptable	EPA 8270C
4620	1,4-Dichlorobenzene	µg/L	49.1	74.1	7.41 - 90.4	Acceptable	EPA 8270C
5945	3,3'-Dichlorobenzidine	µg/L	< 20.0	0.00		Acceptable	EPA 8270C
6070	Diethylphthalate	µg/L	108	159	30.3 - 215	Acceptable	EPA 8270C
6135	Dimethylphthalate	µg/L	106	150	15.0 - 216	Acceptable	EPA 8270C





Matt Sowards
QA/QC Coordinator
ACZ Laboratories
2773 Downhill Dr
Steamboat Springs, CO 80487
970-879-6590 x531

EPA ID: **CO00028**
ERA Laboratory Code: **A144801**
Report Issued: **06/21/07**
Study Dates: **04/16/07 - 05/31/07**

Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Base/Neutrals (Continued)							
6185	2,4-Dinitrotoluene	µg/L	92.6	126	47.3 - 155	Acceptable	EPA 8270C
6190	2,6-Dinitrotoluene	µg/L	71.8	93.4	38.5 - 117	Acceptable	EPA 8270C
6200	Di-n-octylphthalate	µg/L	47.7	54.7	16.0 - 82.9	Acceptable	EPA 8270C
6255	bis(2-Ethylhexyl)phthalate	µg/L	94.6	120	35.3 - 164	Acceptable	EPA 8270C
6265	Fluoranthene	µg/L	44.9	58.1	26.5 - 72.7	Acceptable	EPA 8270C
6270	Fluorene	µg/L	116	176	78.9 - 204	Acceptable	EPA 8270C
6275	Hexachlorobenzene	µg/L	122	161	70.8 - 195	Acceptable	EPA 8270C
4835	Hexachlorobutadiene	µg/L	33.3	52.9	5.29 - 67.3	Acceptable	EPA 8270C
6285	Hexachlorocyclopentadiene	µg/L	62.1	163	16.3 - 210	Acceptable	EPA 8270C
4840	Hexachloroethane	µg/L	88.7	179	19.1 - 208	Acceptable	EPA 8270C
6315	Indeno(1,2,3-cd)pyrene	µg/L	28.8	43.4	9.01 - 59.6	Acceptable	EPA 8270C
6320	Isophorone	µg/L	83.9	105	41.1 - 135	Acceptable	EPA 8270C
6385	2-Methylnaphthalene	µg/L	38.3	45.7	7.13 - 59.8	Acceptable	EPA 8270C
5005	Naphthalene	µg/L	85.1	112	29.6 - 133	Acceptable	EPA 8270C
6460	2-Nitroaniline	µg/L	< 50.0	0.00		Acceptable	EPA 8270C
6465	3-Nitroaniline	µg/L	< 50.0	0.00		Acceptable	EPA 8270C
6470	4-Nitroaniline	µg/L	< 50.0	0.00		Acceptable	EPA 8270C
5015	Nitrobenzene	µg/L	77.3	97.8	30.6 - 119	Acceptable	EPA 8270C
6525	N-Nitrosodiethylamine	µg/L		0.00		Not Reported	
6530	N-Nitrosodimethylamine	µg/L	77.9	116	11.6 - 137	Acceptable	EPA 8270C
6535	N-Nitrosodiphenylamine	µg/L	< 10.0	0.00		Acceptable	EPA 8270C
6545	N-Nitroso-di-n-propylamine	µg/L	45.7	59.0	15.1 - 79.6	Acceptable	EPA 8270C
6590	Pentachlorobenzene	µg/L		20.4	9.29 - 22.4	Not Reported	
6615	Phenanthrene	µg/L	45.9	56.7	27.2 - 70.5	Acceptable	EPA 8270C
6665	Pyrene	µg/L	31.1	35.3	11.4 - 51.8	Acceptable	EPA 8270C
5095	Pyridine	µg/L		0.00		Not Reported	
6715	1,2,4,5-Tetrachlorobenzene	µg/L		0.00		Not Reported	
5155	1,2,4-Trichlorobenzene	µg/L	60.2	87.7	18.9 - 106	Acceptable	EPA 8270C





Matt Sowards
QA/QC Coordinator
ACZ Laboratories
2773 Downhill Dr
Steamboat Springs, CO 80487
970-879-6590 x531

EPA ID: CO00028
ERA Laboratory Code: A144801
Report Issued: 06/21/07
Study Dates: 04/16/07 - 05/31/07

Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
-----------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------

Acids

5610	Benzoic acid	µg/L	< 50.0	0.00		Acceptable	EPA 8270C
5700	4-Chloro-3-methylphenol	µg/L	75.0	107	41.5 - 138	Acceptable	EPA 8270C
5800	2-Chlorophenol	µg/L	62.6	89.8	26.6 - 113	Acceptable	EPA 8270C
6000	2,4-Dichlorophenol	µg/L	48.3	63.1	19.2 - 80.7	Acceptable	EPA 8270C
6005	2,6-Dichlorophenol	µg/L		147	51.0 - 182	Not Reported	
6130	2,4-Dimethylphenol	µg/L	50.3	74.4	14.5 - 98.4	Acceptable	EPA 8270C
6360	4,6-Dinitro-2-methylphenol	µg/L	100	132	45.2 - 187	Acceptable	EPA 8270C
6175	2,4-Dinitrophenol	µg/L	58.9	106	10.6 - 152	Acceptable	EPA 8270C
6400	2-Methylphenol	µg/L	71.1	102	19.2 - 126	Acceptable	EPA 8270C
6410	4-Methylphenol	µg/L	72.5	109	10.9 - 141	Acceptable	EPA 8270C
6490	2-Nitrophenol	µg/L	88.2	116	28.2 - 151	Acceptable	EPA 8270C
6500	4-Nitrophenol	µg/L	78.7	129	12.9 - 174	Acceptable	EPA 8270C
6605	Pentachlorophenol	µg/L	65.8	84.3	20.4 - 116	Acceptable	EPA 8270C
6625	Phenol	µg/L	82.8	133	13.3 - 179	Acceptable	EPA 8270C
6735	2,3,4,6-Tetrachlorophenol	µg/L		0.00		Not Reported	
6835	2,4,5-Trichlorophenol	µg/L	51.3	64.2	24.2 - 84.8	Acceptable	EPA 8270C
6840	2,4,6-Trichlorophenol	µg/L	103	138	44.1 - 172	Acceptable	EPA 8270C

Gasoline Range Organics (GRO) in Water

9408	Gasoline Range Organics (GRO)	µg/L	1420	2210	860 - 3900	Acceptable	EPA 8015B
4375	Benzene in GRO	µg/L		13.9	5.99 - 23.3	Not Reported	
4765	Ethylbenzene in GRO	µg/L		61.2	34.9 - 85.6	Not Reported	
5140	Toluene in GRO	µg/L		173	92.8 - 230	Not Reported	
5260	Xylenes, total in GRO	µg/L		246	140 - 332	Not Reported	

Diesel Range Organics (DRO) in Water

9369	Diesel Range Organics (DRO)	µg/L	2690	3110	756 - 4020	Acceptable	EPA 8015B
------	-----------------------------	------	------	------	------------	------------	-----------

BTEX & MTBE in Water

4375	Benzene	µg/L	78.3	88.0	64.2 - 111	Acceptable	EPA 8021B
5000	tert-Butyl methyl ether (MTBE)	µg/L	37.2	37.3	22.9 - 53.4	Acceptable	EPA 8021B
4765	Ethylbenzene	µg/L	78.0	94.0	65.0 - 119	Acceptable	EPA 8021B
5140	Toluene	µg/L	40.5	45.4	31.5 - 57.1	Acceptable	EPA 8021B
5260	Xylenes, total	µg/L	167	192	110 - 257	Acceptable	EPA 8021B

