SAMPLING ACTIVITIES REPORT
2014 Sampling Season
Final, Revision 0

Carpenter Snow Creek
Cascade County, Montana

Prepared for:

United States Environmental Protection Agency, Region 8
Ecosystem Protection and Remediation – Program Support
1595 Wynkoop Street
Denver, Colorado 80202

Prepared By:

United States Environmental Protection Agency, Region 8
Environmental Services Assistance Team
Techlaw, Inc.
16194 West 45th Drive
Golden, Colorado 80403

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Distribution List
Sampling Activities Report – Carpenter-Snow Creek – Cascade County, Montana

The following is a distribution list of personnel who will receive a copy of the Sampling Activities Report for the 2014 sampling events at Carpenter-Snow Creek Mining District. Agency and contractor affiliations are listed for each individual.

Roger Hoogerheide	USEPA	hoogerheide.roger@epa.gov
Dan Wall	USEPA	wall.dan@epa.gov
Nicole Plescia	USEPA	plescia.nicole@epa.gov
Keith Large	DEQ	klarge@mt.gov
Beth Ihle	USFS	bihle@fs.fed.us
Karen Nelson	USFWS	karen_nelson@fws.gov
Sherry Skipper	USFWS	skipper.sherry@epa.gov
Steven Auer	ESAT Contractor	auer.steven@epa.gov

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Abbreviations and Acronyms List

COC	Chain of Custody
COPC	Contaminant of Potential Concern
CRQL	Contract Required Quantitation Limit
CSC	Carpenter/Snow Creek Mining District in Cascade County, Montana
DEQ	Department of Environmental Quality
DO	Dissolved Oxygen
EPA	United States Environmental Protection Agency
ESAT	Environmental Services Assistance Team
GPS	Global Positioning System
mL	Milliliter
MDL	Method Detection Limit
MSL	Mean Sea Level
PA#	Problem Area Number
RPD	Relative Percent Difference
SAP/QAPP	Sampling and Analysis Plan/Quality Assurance Project Plan
SAR	Sampling Activities Report
SOP	Standard Operating Procedure
USFS	United States Forest Service
USGS	United States Geological Survey
USFWS	United States Fish and Wildlife Service

1.0 INTRODUCTION

This document is the Sampling Activities Report (SAR) for the Carpenter-Snow Creek Mining District in Cascade County, Montana (CSC). This SAR summarizes activities, sample collection, field data, and analytical data for the June and September 2014 sampling events. Sampling was performed to further determine the spatial and temporal distribution of contamination. The following were sampled or assessed during the investigation: surface water (including adit discharges), groundwater, sediment, stream flows, field water quality measurements, and collection of Global Positioning System (GPS) data. Sampling occurred at locations specified in the *Sampling and Analysis Plan/Quality Assurance Project Plan* (SAP/QAPP) for *Carpenter Snow Creek Mining District Superfund Site* (Environmental Services Assistance Team [ESAT], 2014).

This summary report includes the following sections: Sampling Activities and Procedures (Section 2.0), Sample Quality Control (Section 3.0), Field Changes and Corrective Actions (Section 4.0), and References (Section 5.0).

1.1 Site Background and Description

The Carpenter Snow Creek Mining District is located in the southeastern portion of Cascade County, Montana, including the town of Neihart, and is approximately 60 miles southeast of Great Falls. The district can be accessed via Montana State Highway 89. The historical mining district is situated on the rugged and timbered northern flank of the Little Belt Mountains in the Lewis and Clark National Forest. Numerous abandoned mine sites are present in the district in the Carpenter and Snow Creek drainages, and in several other tributary drainages to Belt Creek which flows through the Neihart town site. The project sites in the two drainages are accessed from the west by Carpenter Creek Road (Forest Service Road No. 3323). The study area is shown entirely on the United States Geological Survey's (USGS's) Neihart, Montana 7.5-minute quadrangle. Elevations are over 6,000 feet above mean sea level (MSL) throughout most of the mining district. Pioneer Ridge and Poverty Ridge, which flank the two drainages, crest 7,600 feet above MSL. Vegetation in the area consists of dense, coniferous forest. The ridge and ravine topography is characterized by steep slopes with an estimated gradient of 30 degrees. Mining activities have occurred intermittently in the district since ore was discovered by prospectors in 1881 (United States Environmental Protection Agency [EPA], 2009 Carpenter-Snow Creek Record of Decision). The sample locations for the 2014 spring and fall sampling events are shown in Figures 1.1-1 and 1.1-2.

1.2 Objective

Two sampling events were conducted, one in June and one in September of 2014, in order to determine spatial and temporal variation in contaminants. The following data was collected during the event:

- Real-time field water quality measurements – pH, conductivity, dissolved oxygen (DO), temperature, and stream discharge measurements
- Surface water – dissolved metals and total recoverable metals
- Groundwater – total recoverable metals and dissolved metals
- Sediment – total recoverable metals
- Photo documentation

2.0 SAMPLING ACTIVITIES AND PROCEDURES

Sampling was conducted June 16-18 and September 8-10, 2014. The specific activities included the following:

- Real time field water quality measurements
- Stream discharge measurements
- Surface water sampling
- Adit discharge sampling
- Groundwater sampling of monitoring wells
- Sediment sampling (September only)
- GPS data
- Photo documentation

2.1 Sample Handling and Identification

Samples were collected, placed in containers, processed, and preserved in accordance with the ESAT Region 8 Standard Operating Procedure (SOP) #FLD-01.00 *Surface Water Sampling* (ESAT, 2012), ESAT SOP #FLD-04.00 *Groundwater Sampling* (ESAT, 2012), ESAT SOP #FLD-06.00 *Shallow Stream Sediment Sampling* (ESAT, 2012), ESAT SOP #FLD-03.00 *Sample Preservation* (ESAT, 2012), and as outlined in the final *Sampling and Analysis Plan/Quality Assurance Project Plan Carpenter Snow Creek Mining District Superfund Site* (ESAT, 2014). Sample tags, labels, and chain of custody records were completed in accordance with the ESAT Region 8 SOP #FLD-11.00 *Sample Custody and Labeling* (ESAT, 2012).

Surface water and sediment samples were identified by previously established nomenclature followed by a station number, while adit water samples were identified by the mine Problem Area number (PA#), followed by AD1 or the current sequential number. For example, locations in Carpenter Creek and Snow Creek were identified as CSC – XXX, with the station number corresponding to its location along the stream. Locations along Belt Creek were identified as ST-XXX. An example of a mine adit was 07-157-AD1. Duplicate samples were indicated with the abbreviation “Dup” immediately following the sampling location identification number. Duplicate water samples were collected by placing two bottles side by side and collecting both samples simultaneously, and duplicate sediment samples were taken by splitting each scoop into two different jars. Surface water and sediment sampling locations are shown in Figure 1.1-1. Below is a list of the mine identification numbers that were sampled in 2014:

- 07-163 Ripple Mines
- 07-156 Big Seven
- 07-112 Fairplay
- 07-179 Haystack

Groundwater samples collected during the event were identified by a prefix, MW (monitoring well), NMW (Neihart monitoring well) or CSC, followed by the monitoring well number. For example, a monitoring well located in the town of Neihart was labeled as NMW-3. Groundwater sampling locations are shown in Figure 1.1-2

Opportunistic samples were assigned identification numbers prior to relinquishing samples to the ESAT analytical department. One Opportunistic sample was taken at Big Seven because a new seep had developed near the previous seeps that have been collected for the last couple of years. This seep was named 07-156-SEEP4 during the June sampling event and 07-156-AD3 during the September sampling event. This opportunistic sample location can be seen in Figure 1.1-1 and is labeled 07-156-AD3.

2.2 Surface Water Sampling

Discrete surface water samples were collected at locations along Carpenter Creek, Snow Creek, Belt Creek, and adit discharges. Samples were first collected in triple rinsed 250 milliliter (mL) polyethylene bottles (total recoverable metals) and then transferred into 250 mL Nalgene® filter bottles (dissolved metals). Field water quality data (pH, temperature, DO, and specific conductance) were also collected at each sampling location using an In-Situ® multi-parameter meter. Readings were recorded in a project-dedicated field notebook. Additionally, stream flow measurements were made at select locations using a Flow Tracker® flow meter or cutthroat flume if conditions allowed. Sample locations that were not identified in past investigations were collected using a GPS. Sample locations are shown in Figure 1.1-1. Sample locations and coordinates are archived in the EPA Spatial Data Engine database.

After collection, surface water samples were filtered (for dissolved metals), preserved with nitric acid, and entered into a chain of custody (COC). After preservation, all samples were placed in a cooler with ice during transport and then were stored in the 4ºC laboratory walk-in cooler at the Region 8 EPA laboratory until analysis.

Surface water samples were analyzed for dissolved metals and total recoverable metals (EPA methods 200.7 and 200.8), and hardness (EPA method 2340B calculated from calcium and magnesium results). Analytical data are included in Tables 2.2-1 through 2.2-4.

2.3 Groundwater Sampling

Groundwater samples were collected at monitoring wells along Carpenter Creek, Snow Creek, and Belt Creek in accordance with SOP # FLD-04.00 *Groundwater Sampling* (ESAT, 2012). A peristaltic pump was used to purge the water. Pump tubing was station dedicated so no decontamination was required. When the monitoring wells were too deep for the peristaltic pump, a station dedicated bailer was used. Before sample collection, the monitoring well water was purged until water quality parameters (pH, conductivity, temperature and DO) were stabilized. Total recoverable metal samples were collected in 250ml polyethylene bottles and dissolved metal samples were collected in 250ml Nalgene filter bottles following procedures outlined in section 2.2.

After collection, groundwater samples were filtered (for dissolved metals), preserved with nitric acid, and entered into the COC. After preservation, all samples were placed in a cooler with ice for transportation and were then stored in the 4ºC laboratory walk-in cooler at the Region 8 EPA laboratory until ready for analysis. Groundwater samples were analyzed for dissolved metals and total recoverable metals (EPA methods 200.7 and 200.8), and hardness (EPA method 2340B calculated from calcium and magnesium results). Analytical results are shown in Tables 2.3-1 and 2.3-2.

2.4 Sediment Sampling

Sediment samples were collected during the September sampling event from select stations in Carpenter Creek, Snow Creek, and Belt Creek in order to determine contaminant loading in streambed sediments. Samples were collected in accordance with the protocols outlined in *Shallow Stream Sediment Sampling* SOP# FLD-06.00 (ESAT, 2012) and as described in the *Final Sampling and Analysis Plan/Quality Assurance Project Plan Carpenter Snow Creek Mining District Superfund Site* (ESAT, 2014). Samples were collected as composite samples in an area ranging from 50 meters upstream to 50 meters downstream of the specific station location. They were collected using a disposable Teflon™ scoop and placed in a four-ounce glass jar. Sediment samples were placed in a cooler with ice for transportation to the EPA Region 8 Laboratory and then stored in the four-degree Celsius laboratory walk-in cooler until they were analyzed. Sediment samples collected during the September event were analyzed for total recoverable metals (EPA methods 200.7 and 200.8) and the resulting data is included in Table 2.4-1.

2.5 Stream Discharge

Stream discharge measurements were collected using Flow Tracker® flow meters in accordance with ESAT SOP# FLD-08.00 *Flow Tracker Operation* (ESAT, 2012). Stream discharge measurements from sites with low flow rates were done with cutthroat flumes. Flume discharge measurements can be found in location sampling information in the field notebooks. See scanned pages from the field notebooks in Attachment B. Flow Tracker® summary sheets are included in Attachment A.

2.6 Sample Documentation

At the time of sampling, the following station location information was recorded in the site-dedicated logbook: sampling date, time, location, weather conditions, personnel, water quality data (pH, DO, specific conductivity, and temperature), equipment ID numbers, and other pertinent observations (*See* Attachment B). Groundwater Data Sheets (*See* Attachment D) include the following information: personnel, sampling date, time, location, well depth, well diameter, water quality data, number of gallons purged, and other pertinent observations. Water samples submitted for laboratory analysis were entered into a chain of custody system using Scribe. All analytical data and field water quality parameters collected during the event were also entered into Scribe.

3.0 SAMPLE QUALITY CONTROL

This section details the quality control methods used in the field for activities performed during the sampling effort. These include decontamination methods, field instrument calibration, duplicate sample collection, and field blanks.

3.1 Decontamination Methods

All sampling containers, scoops and other equipment were site-dedicated or disposable so no decontamination was necessary.

3.2 Field Instrument Calibration

Field instrumentation requiring calibration or routine function checks included the water quality meters and Flow Tracker® flow meters. The water quality meter consists of a pH probe, DO probe, conductivity probe, thermometer, and barometer. The pH and conductivity probes were calibrated daily and compared to certified pH buffers and conductivity standards. DO was calibrated using the saturated water approach on a daily basis and as needed in the field. All calibration procedures were recorded in the instrument's dedicated calibration notebook (Attachment E). The Flow Tracker® flow meters have routine internal function checks that are conducted in the field prior to data collection.

3.3 Duplicate Sample Collection

Duplicate samples were collected during these events at a 10% frequency in order to determine sampling precision and correlation between samples. Duplicate surface water samples were collected by placing two bottles side by side and collecting both samples simultaneously. Duplicate samples were collected at station locations MW-3, CSC-101, CSC-117, and 07-156-AD1 in June, and CSC-104A, CSC-107, CSC-112, ST010A, and MW-08 in September. According to the EPA *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (EPA, 2004), a control limit, 20% for water and 35% for sediment, for the Relative Percent Difference (RPD) shall be used for original and duplicate sample values equal to or greater than five times the Contract Required Quantitation Limit (CRQL). These are laboratory guidelines and may not apply to all field situations. RPD was evaluated for surface water total and dissolved metals, or Contaminants of Potential Concern (COPCs). RPD values were also calculated for total recoverable metals for sediment samples. RPD values were calculated using the following equation:

$$RPD = 100[ABS(\text{Sample Result} - \text{Duplicate Result})]/[0.5 * (\text{Sample Result} + \text{Duplicate Result})]$$

Tables 2.2-1 through 2.2-4 show RPD results for surface water samples collected in June and September. Tables 2.3-1 through 2.3-2 show RPD results for groundwater samples collected in June and September while Table 2.4-1 shows RPD results for sediment samples collected in September.

3.4 Blanks

In order to evaluate the potential of sample contamination during collection and transport to the laboratory, as well as contaminants introduced at the laboratory, aqueous blanks were processed in the field using E-pure deionized water. Field blanks were collected everyday sampling occurred and treated the same as a sample in all respects including collection and preservation. Blank samples were analyzed for total recoverable metals and dissolved metals. All blank results were either below, or just above the Method Detection Limit (MDL) for each analyte indicating no substantial contamination issue associated with the collection or laboratory analysis process.

4.0 FIELD CHANGES AND CORRECTIVE ACTIONS

Below is a summary of deviations from the SAP that occurred in the field during the June and September sampling events:

June 16-18, 2014

- Flow measurements were not collected at Belt Creek locations due to high flows creating unsafe conditions.
- Flow measurements were not collected at adit locations.
- Due to braiding of the stream, no flow measurements were collected at locations ST009B and CSC-107
- Samples were not collected at surface water locations 07-163-AD1, 07-156-AD2, 07-156-AD4, and 07-156-Seep1, and groundwater location MW-12 because they were dry.
- Groundwater location NMW-3 was blocked so no sample was collected.
- Locations CSC-111B, CSC-111C, and CSC-111D were being collected under a different sampling program so the RPM decided they did not need to be recollected.
- Location 07-156-SEEP4 was collected as an opportunity sample.

September 8-10, 2014

- No samples were collected at location CSC-117A because Tetra Tech was applying quick lime upstream which would affect the sample.
- Samples were not collected at locations 07-163-AD1, 07-163-AD2, 07-163-AD3, 07-163-AD4, 07-163-AD8, 07-156-AD1, 07-156-AD2, 07-156-AD4, and 07-156-Seep1.
- Groundwater location MW-6 was not collected because the lock was shot and the lid could not be removed.
- Groundwater location MW-12 was dry so no sample was collected.
- Locations CSC-111B, CSC-111C, and CSC-111D were being collected under a different sampling program so the RPM decided they did not need to be recollected.
- No flow measurements were collected at locations ST009B and CSC-107 due to braiding of the stream.

5.0 REFERENCES

Documents:

Environmental Services Assistance Team, *Sampling and Analysis Plan/Quality Assurance Project Plan Carpenter Snow Creek Mining District Superfund Site*, (2014).

Environmental Services Assistance Team, *Carpenter Snow Creek Health and Safety Plan*, (2014).

United States Environmental Protection Agency, *Carpenter-Snow Creek Record of Decision* (2009).

United States Environmental Protection Agency Contract Laboratory Program, *National Functional Guidelines for Inorganic Data Review* (EPA 540-R-10-011) (2004).

Standard Operating Procedures:

Environmental Services Assistance Team, *Surface Water Sampling*. SOP# FLD-01.00, (2012).

Environmental Services Assistance Team, *Sampling Equipment Decontamination.* SOP# FLD-02.00, (2012).

Environmental Services Assistance Team, *Sample Preservation*. SOP# FLD-03.00, (2012).

Environmental Services Assistance Team, *Groundwater Sampling*. SOP# FLD-04.00, (2012).

Environmental Services Assistance Team, *Shallow Stream Sediment Sampling*. SOP# FLD-06.00. (2012).

Environmental Services Assistance Team, *Flow Tracker Operation*. SOP# FLD-08.00, (2012).

Environmental Services Assistance Team, *Water Quality Measurements with the In-Situ® Multi-Parameter Meter*. SOP# FLD-09.00, (2012).

Environmental Services Assistance Team, *Sample Custody and Labeling*. SOP# FLD-11.00, (2012).

Tables

Table 2.2-1 Carpenter-Snow Creek
Surface Water Dissolved Metals Analytical Results and RPD Calculations
June 2014

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Hardness	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
07-112-AD1	Dissolved Metals	ug/L	812	<0.500U	<0.500U	7.25J	<2.00U	21.1	21400	<1.00U	4.74	34.9	81	<100U	31.3	6700	2020	10.1	<1.00U	8780	0.520J	56.7	<0.500U	<2.00U	5790
07-156-AD1	Dissolved Metals	ug/L	1430	<0.500U	<0.500U	15.0	<2.00U	13.3	10600	<1.00U	4.80	35.2	41	<100U	4.96	3590	1720	20.4	<1.00U	11600	0.802J	51.5	<0.500U	<2.00U	2980
07-156-outfall	Dissolved Metals	ug/L	465	<0.500U	0.515J	15.0	<2.00U	8.07	42700	<1.00U	0.246	2.49	187	<100U	0.704	19600	2060	57.9	<1.00U	12600	<0.500U	152	<0.500U	<2.00U	4750
07-156-Seep2	Dissolved Metals	ug/L	1720	<0.500U	2.06	13.6	4.74J	21.0	84600	<1.00U	124	25.7	392	34400	1.58	43800	37800	253	1.06J	19300	<0.500U	284	<0.500U	<2.00U	19800
07-156-SEEP4	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	<5.00U	<2.00U	<0.100U	5150	<1.00U	<0.100U	<0.500U	17	<100U	<0.100U	1120	<2.00U	<0.500U	<1.00U	6290	<0.500U	23.0	<0.500U	<2.00U	38.0
07-163-AD2	Dissolved Metals	ug/L	473	<0.500U	2.43	10.4	<2.00U	15.3	6670	<1.00U	3.21	55.9	26	1200	33.6	2160	1520	4.63	<1.00U	5210	<0.500U	28.1	<0.500U	<2.00U	3340
07-163-AD3	Dissolved Metals	ug/L	109	<0.500U	<0.500U	9.80J	<2.00U	6.67	5810	<1.00U	1.30	22.3	21	<100U	26.7	1690	725	1.83	<1.00U	4180	0.507J	25.8	<0.500U	<2.00U	1550
07-163-AD4	Dissolved Metals	ug/L	<20.0U	<0.500U	0.698J	9.60J	<2.00U	0.194J	6220	<1.00U	<0.100U	2.57	21	282	1.25	1330	16.2	<0.500U	<1.00U	4130	<0.500U	23.6	<0.500U	<2.00U	52.2
07-163-AD5	Dissolved Metals	ug/L	2080	<0.500U	144	16.1	<2.00U	52.7	25400	<1.00U	19.8	261	94	26200	30.2	7300	10500	25.4	<1.00U	8680	<0.500U	91.4	<0.500U	<2.00U	11800
07-163-AD6	Dissolved Metals	ug/L	25.1J	<0.500U	0.559J	6.12J	<2.00U	0.298	5870	<1.00U	0.119J	2.33	20	176J	2.32	1340	19.1	<0.500U	<1.00U	4320	<0.500U	22.4	<0.500U	<2.00U	85.4
07-163-AD7	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	6.76J	<2.00U	1.91	6490	<1.00U	0.518	13.6	24	<100U	2.11	1790	333	1.03	<1.00U	4880	<0.500U	24.8	<0.500U	<2.00U	442
07-163-AD8	Dissolved Metals	ug/L	2670	<0.500U	<0.500U	10.9	<2.00U	27.9	19300	<1.00U	4.40	207	78	<100U	20.5	7310	3260	21.3	<1.00U	13300	0.755J	68.8	<0.500U	<2.00U	5540
07-179-AD1	Dissolved Metals	ug/L	1210	<0.500U	<0.500U	14.2	7.88	23.3	55000	<1.00U	23.2	24.3	160	3370	64.6	5480	1280	13.3	<1.00U	44600	<0.500U	307	<0.500U	<2.00U	5230
CSC-101	Dissolved Metals	ug/L	42.4J	<0.500U	<0.500U	75.2	<2.00U	0.570	15200	<1.00U	<0.100U	5.11	56	<100U	0.545	4240	37.9	<0.500U	<1.00U	7610	<0.500U	122	<0.500U	<2.00U	137
CSC-101B	Dissolved Metals	ug/L	48.3J	<0.500U	<0.500U	67.2	<2.00U	0.361	13800	<1.00U	<0.100U	4.32	51	<100U	0.465	4040	16.3	<0.500U	<1.00U	8100	<0.500U	105	<0.500U	<2.00U	81.0
CSC-102	Dissolved Metals	ug/L	48.8J	<0.500U	<0.500U	84.7	<2.00U	<0.100U	15900	<1.00U	<0.100U	0.621J	57	<100U	0.365	4300	10.3	<0.500U	<1.00U	7140	<0.500U	132	<0.500U	<2.00U	36.5
CSC-103	Dissolved Metals	ug/L	47.2J	<0.500U	<0.500U	15.6	<2.00U	3.18	9950	<1.00U	<0.100U	31.3	39	<100U	3.28	3490	189	2.16	<1.00U	9930	<0.500U	60.0	<0.500U	<2.00U	674
CSC-104	Dissolved Metals	ug/L	59.7	<0.500U	<0.500U	16.3	<2.00U	4.62	9540	<1.00U	<0.100U	55.5	38	<100U	6.24	3380	281	2.16	<1.00U	10600	<0.500U	67.3	<0.500U	<2.00U	793
CSC-104A	Dissolved Metals	ug/L	59.2	<0.500U	<0.500U	16.8	<2.00U	4.50	9470	<1.00U	<0.100U	53.2	37	<100U	6.37	3340	283	1.94	<1.00U	10600	<0.500U	66.7	<0.500U	<2.00U	790
CSC-105	Dissolved Metals	ug/L	35.5J	<0.500U	<0.500U	9.18J	<2.00U	1.40	9290	<1.00U	0.121J	1.81	37	<100U	0.679	3460	106	2.55	<1.00U	8880	<0.500U	43.3	<0.500U	<2.00U	533
CSC-106	Dissolved Metals	ug/L	27.2J	<0.500U	<0.500U	9.04J	<2.00U	1.51	9430	<1.00U	0.151J	1.80	38	<100U	0.611	3530	124	2.77	<1.00U	8710	<0.500U	42.9	<0.500U	<2.00U	571
CSC-107	Dissolved Metals	ug/L	52.7	<0.500U	<0.500U	11.7	<2.00U	2.06	22200	<1.00U	0.183J	1.61	97	<100U	0.543	10100	152	15.2	<1.00U	10100	<0.500U	80.8	<0.500U	<2.00U	1880
CSC-108	Dissolved Metals	ug/L	56.6	<0.500U	<0.500U	13.8	<2.00U	6.95	15400	<1.00U	0.715	7.31	60	<100U	4.37	5290	818	7.53	<1.00U	10100	<0.500U	70.0	<0.500U	<2.00U	1980
CSC-111A	Dissolved Metals	ug/L	57.4	<0.500U	<0.500U	15.9	<2.00U	4.70	9140	<1.00U	<0.100U	55.5	37	<100U	6.59	3330	299	1.87	<1.00U	10300	<0.500U	65.2	<0.500U	<2.00U	816
CSC-112	Dissolved Metals	ug/L	52.0	<0.500U	<0.500U	15.6	<2.00U	4.69	8830	<1.00U	<0.100U	57.0	36	<100U	6.81	3310	312	1.90	<1.00U	10400	<0.500U	64.9	<0.500U	<2.00U	845
CSC-113	Dissolved Metals	ug/L	54.6	<0.500U	<0.500U	15.2	<2.00U	4.67	8670	<1.00U	<0.100U	56.0	35	<100U	7.04	3310	313	1.88	<1.00U	10200	<0.500U	62.8	<0.500U	<2.00U	830
CSC-114A	Dissolved Metals	ug/L	57.4	<0.500U	<0.500U	14.8	<2.00U	4.90	8820	<1.00U	<0.100U	59.4	36	<100U	7.40	3320	323	1.99	<1.00U	9770	<0.500U	63.0	<0.500U	<2.00U	834
CSC-115A	Dissolved Metals	ug/L	56.1	<0.500U	<0.500U	14.7	<2.00U	5.05	8440	<1.00U	<0.100U	57.2	35	<100U	7.61	3330	331	1.83	<1.00U	9340	<0.500U	60.9	<0.500U	<2.00U	853
CSC-116	Dissolved Metals	ug/L	20.0J	<0.500U	<0.500U	11.1	<2.00U	0.153J	5770	<1.00U	<0.100U	3.20	25	<100U	1.48	2540	<2.00U	<0.500U	<1.00U	7750	<0.500U	33.1	<0.500U	<2.00U	18.7J
CSC-116B	Dissolved Metals	ug/L	60.0	<0.500U	<0.500U	13.2	<2.00U	4.88	8210	<1.00U	<0.100U	60.6	34	<100U	7.62	3270	346	1.84	<1.00U	8990	<0.500U	58.4	<0.500U	<2.00U	804
CSC-117	Dissolved Metals	ug/L	1100	<2.50U	<2.50U	<25.0U	<2.00U	211D	131000	<5.00U	54.1D	2100D	524	2180	322D	47400	34700	84.8D	<5.00U	22500	<2.50U	1200	<2.50U	<10.0U	42600
CSC-117A	Dissolved Metals	ug/L	1310D	<2.50U	<2.50U	<25.0U	<10.0U	326D	176000D	<5.00U	113D	2710D	715D	9610D	621D	66900D	66100D	137D	<5.00U	21200D	<2.50U	1740D	<2.50U	<10.0U	70800D
CSC-119	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	30.3	<2.00U	1.43	12200	<1.00U	<0.100U	16.9	42	<100U	8.53	2740	7.33	<0.500U	<1.00U	14600	<0.500U	90.4	<0.500U	<2.00U	118
CSC-119B	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	8.99J	<2.00U	<0.100U	6250	<1.00U	<0.100U	0.631J	22	<100U	0.181J	1500	<2.00U	<0.500U	<1.00U	13200	<0.500U	41.6	<0.500U	<2.00U	16.8J
CSC-120A	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	9.78J	<2.00U	<0.100U	5450	<1.00U	<0.100U	<0.500U	24	<100U	0.146J	2420	<2.00U	<0.500U	<1.00U	8300	<0.500U	35.0	<0.500U	<2.00U	12.4J
Dup-01	Dissolved Metals	ug/L	39.6J	<0.500U	<0.500U	73.2	<2.00U	0.559	15300	<1.00U	<0.100U	5.09	55	<100U	1.03	4200	38.0	<0.500U	<1.00U	7690	<0.500U	122	<0.500U	<2.00U	139
Dup-02	Dissolved Metals	ug/L	1110	<2.50U	<2.50U	<25.0U	<2.00U	212D	134000	<5.00U	55.7D	2060D	532	2180	299D	48000	36000	88.2D	<5.00U	23700	<2.50U	1250	<2.50U	<10.0U	44500
Dup-03	Dissolved Metals	ug/L	1460	<0.500U	<0.500U	15.3	<2.00U	13.4	11100	<1.00U	5.01	34.3	43	<100U	4.20	3700	1880	21.0	<1.00U	12800	0.784J	56.4	<0.500U	<2.00U	3280
FB-01	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	<5.00U	<2.00U	<0.100U	<100U	<1.00U	<0.100U	<0.500U	<2U	<100U	<0.100U	<100U	<2.00U	<0.500U	<1.00U	<250U	<0.500U	<2.00U	<0.500U	<2.00U	<10.0U
FB-02	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	<5.00U	<2.00U	<0.100U	<100U	<1.00U	<0.100U	<0.500U	<2U	<100U	<0.100U	<100U	<2.00U	<0.500U	<1.00U	<250U	<0.500U	<2.00U	<0.500U	<2.00U	<10.0U
FB-03	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	<5.00U	<2.00U	<0.100U	<100U	<1.00U	<0.100U	<0.500U	<2U	<100U	<0.100U	<100U	<2.00U	<0.500U	<1.00U	<250U	<0.500U	<2.00U	<0.500U	<2.00U	<10.0U
ST004	Dissolved Metals	ug/L	54.4	<0.500U	<0.500U	91.0	<2.00U	<0.100U	16300	1.11J	<0.100U	<0.500U	59	<100U	<0.100U	4330	10.1	<0.500U	<1.00U	7370	<0.500U	138	<0.500U	<2.00U	36.3
ST005	Dissolved Metals	ug/L	44.1J	<0.500U	<0.500U	89.2	<2.00U	<0.100U	16500	1.14J	<0.100U	<0.500U	59	<100U	<0.100U	4380	11.2	<0.500U	<1.00U	7320	<0.500U	138	<0.500U	<2.00U	40.6
ST009B	Dissolved Metals	ug/L	26.9J	<0.500U	<0.500U	106	<2.00U	1.39	20300	<1.00U	0.239	0.719J	98	526	0.523	11500	540	2.17	<1.00U	7110	<0.500U	102	<0.500U	<2.00U	911
ST010A	Dissolved Metals	ug/L	32.1J	<0.500U	<0.500U	96.8	<2.00U	<0.100U	18900	1.06J	<0.100U	<0.500U	67	<100U	<0.100U	4740	<2.00U	<0.500U	<1.00U	7590	<0.500U	173	<0.500U	<2.00U	<10.0U
ST015	Dissolved Metals	ug/L	33.2J	<0.500U	<0.500U	16.9	<2.00U	17.7	26700	<1.00U	1.45	2.82	121	<100U	1.87	13200	2140	18.1	<1.00U	12900	<0.500U	90.6	<0.500U	<2.00U	10100
ST015A	Dissolved Metals	ug/L	58.6	<0.500U	<0.500U	88.3	<2.00U	0.413	16900	<1.00U	<0.100U	<0.500U	61	<100U	<0.100U	4650	55.4	<0.500U	<1.00U	7440	<0.500U	138	<0.500U	<2.00U	240
ST016	Dissolved Metals	ug/L	21.0J	<0.500U	<0.500U	11.2	<2.00U	1.66	39700	<1.00U	5.10	0.797J	199	<100U	<0.100U	24300	5010	24.2	<1.00U	9920	<0.500U	268	0.982J	<2.00U	1670
ST016A	Dissolved Metals	ug/L	49.4J	<0.500U	<0.500U	88.6	<2.00U	<0.100U	16500	1.06J	<0.100U	<0.500U	59	<100U	<0.100U	4360	8.57	<0.500U	<1.00U	7340	<0.500U	138	<0.500U	<2.00U	11.0J

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Hardness	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
CSC-101	Dissolved Metals	ug/L	42.4	<0.500U	<0.500U	75.2	<2.00U	0.570	15200	<1.00U	<0.100U	5.11	56	<100U	0.545	4240	37.9	<0.500U	<1.00U	7610	<0.500U	122	<0.500U	<2.00U	137
Dup-01	Dissolved Metals	ug/L	39.6	<0.500U	<0.500U	73.2	<2.00U	0.559	15300	<1.00U	<0.100U	5.09	55	<100U	1.03	4200	38.0	<0.500U	<1.00U	7690	<0.500U	122	<0.500U	<2.00U	139
	RPD	%	**6.83%**	N/A	N/A	**2.70%**	N/A	**1.95%**	**0.66%**	N/A	N/A	**0.39%**	**1.80%**	N/A	**61.59%**	**0.95%**	**0.26%**	N/A	N/A	**1.05%**	N/A	**0.00%**	N/A	N/A	**1.45%**

Note: Removed flags from values for RPD calculation

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Hardness	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
CSC-117	Dissolved Metals	ug/L	1100	<2.50U	<2.50U	<25.0U	<2.00U	211	131000	<5.00U	54.1	2100	524	2180	322	47400	34700	84.8	<5.00U	22500	<2.50U	1200	<2.50U	<10.0U	42600
Dup-02	Dissolved Metals	ug/L	1110	<2.50U	<2.50U	<25.0U	<2.00U	212	134000	<5.00U	55.7	2060	532	2180	299	48000	36000	88.2	<5.00U	23700	<2.50U	1250	<2.50U	<10.0U	44500
	RPD	%	**0.90%**	N/A	N/A	N/A	N/A	**0.47%**	**2.26%**	N/A	**2.91%**	**1.92%**	**1.52%**	**0.00%**	**7.41%**	**1.26%**	**3.68%**	**3.93%**	N/A	**5.19%**	N/A	**4.08%**	N/A	N/A	**4.36%**

Note: Removed flags from values for RPD calculation

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Hardness	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
07-156-AD1	Dissolved Metals	ug/L	1430	<0.500U	<0.500U	15.0	<2.00U	13.3	10600	<1.00U	4.80	35.2	41	<100U	4.96	3590	1720	20.4	<1.00U	11600	0.802	51.5	<0.500U	<2.00U	2980
Dup-03	Dissolved Metals	ug/L	1460	<0.500U	<0.500U	15.3	<2.00U	13.4	11100	<1.00U	5.01	34.3	43	<100U	4.20	3700	1880	21.0	<1.00U	12800	0.784	56.4	<0.500U	<2.00U	3280
	RPD	%	**2.08%**	N/A	N/A	**1.98%**	N/A	**0.75%**	**4.61%**	N/A	**4.28%**	**2.59%**	**4.76%**	N/A	**16.59%**	**3.02%**	**8.89%**	**2.90%**	N/A	**9.84%**	**2.27%**	**9.08%**	N/A	N/A	**9.58%**

Note: Removed flags from values for RPD calculation

Note: Data Qualifier Definitions Listed Below:

D The analyte was diluted prior to analysis.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 2.2-2 Carpenter-Snow Creek
Surface Water Total Recoverable Metals Analytical Results and RPD Calculations
June 2014

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	ilica (SiO2	Silver	Strontium	Thallium	Vanadium	Zinc
07-112-AD1	Total Metals	ug/L	2350	<2.50U	4.18JD	<25.0U	<2.00U	21.6D	21300	<5.00U	4.77D	40.2D	6690	157D	6500	2000	9.78D	<5.00U	8870	<2.50U	56.1	<2.50U	<10.0U	5370
07-156-AD1	Total Metals	ug/L	1390	<2.50U	<2.50U	<25.0U	<2.00U	13.1D	10600	<5.00U	4.98D	35.4D	<100U	5.27D	3480	1710	21.0D	<5.00U	11400	<2.50U	51.7	5.93D	<10.0U	2830
07-156-outfall	Total Metals	ug/L	471	<2.50U	<2.50U	<25.0U	<2.00U	7.86D	43200	<5.00U	<0.500U	8.34D	<100U	1.30D	19400	2080	61.0D	<5.00U	12400	<2.50U	154	6.56D	<10.0U	4450
07-156-Seep2	Total Metals	ug/L	1950	<2.50U	6.52JD	<25.0U	4.40J	20.8D	81700	<5.00U	130D	27.8D	38000	16.2D	41300	37000	265D	<5.00U	19900	<2.50U	280	<2.50U	<10.0U	18900
07-156-SEEP4	Total Metals	ug/L	63.3	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	5300	<5.00U	<0.500U	<2.50U	114J	1.03D	1160	6.26	<2.50U	<5.00U	6230	<2.50U	23.1	<2.50U	<10.0U	28.2
07-163-AD2	Total Metals	ug/L	463	<2.50U	2.77JD	<25.0U	<2.00U	14.7D	6470	<5.00U	3.25D	55.0D	1350	459D	2110	1520	5.01D	<5.00U	5220	<2.50U	28.5	<2.50U	<10.0U	3100
07-163-AD3	Total Metals	ug/L	397	<2.50U	20.9D	<25.0U	<2.00U	6.51D	5690	<5.00U	1.38D	26.9D	5130	142D	1680	736	<2.50U	<5.00U	4680	<2.50U	25.6	<2.50U	<10.0U	1450
07-163-AD4	Total Metals	ug/L	54.6	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	5920	<5.00U	<0.500U	4.16JD	586	2.89D	1270	32.1	<2.50U	<5.00U	4200	<2.50U	23.8	<2.50U	<10.0U	52.5
07-163-AD5	Total Metals	ug/L	2050	<2.50U	153D	<25.0U	2.27J	51.9D	25300	<5.00U	22.5D	285D	27200	27.7D	7210	10400	27.9D	<5.00U	8410	<2.50U	91.1	<2.50U	<10.0U	11000
07-163-AD6	Total Metals	ug/L	63.9	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	6010	<5.00U	<0.500U	3.26JD	405	7.99D	1360	19.8	<2.50U	<5.00U	4330	<2.50U	22.5	<2.50U	<10.0U	77.8
07-163-AD7	Total Metals	ug/L	297	<2.50U	<2.50U	<25.0U	<2.00U	3.07D	6520	<5.00U	1.30D	82.6D	1660	85.9D	1840	664	<2.50U	<5.00U	5260	9.11D	25.1	<2.50U	<10.0U	545
07-163-AD8	Total Metals	ug/L	2710	<2.50U	<2.50U	<25.0U	<2.00U	26.9D	19900	<5.00U	4.54D	213D	<100U	19.1D	7450	3280	21.9D	<5.00U	13100	<2.50U	69.6	<2.50U	<10.0U	5230
07-179-AD1	Total Metals	ug/L	1180	<2.50U	<2.50U	<25.0U	7.23	22.2D	55400	<5.00U	23.7D	24.1D	3960	59.2D	5340	1160	13.3D	<5.00U	40500	<2.50U	281	<2.50U	<10.0U	4540
CSC-101	Total Metals	ug/L	109	<2.50U	<2.50U	76.8D	<2.00U	<0.500U	15500	<5.00U	<0.500U	4.75JD	130J	1.47D	4260	41.0	<2.50U	<5.00U	7650	<2.50U	121	<2.50U	<10.0U	125
CSC-101B	Total Metals	ug/L	243	<2.50U	<2.50U	74.9D	<2.00U	<0.500U	14300	<5.00U	<0.500U	7.86D	296	10.6D	4130	51.9	<2.50U	<5.00U	8620	<2.50U	106	<2.50U	<10.0U	102
CSC-102	Total Metals	ug/L	165	<2.50U	<2.50U	88.5D	<2.00U	<0.500U	15500	<5.00U	<0.500U	<2.50U	136J	<0.500U	4230	12.8	<2.50U	<5.00U	7380	<2.50U	132	<2.50U	<10.0U	34.3
CSC-103	Total Metals	ug/L	65.5	<2.50U	<2.50U	<25.0U	<2.00U	3.12D	9760	<5.00U	<0.500U	34.5D	<100U	13.1D	3410	196	<2.50U	<5.00U	9790	<2.50U	59.9	<2.50U	<10.0U	627
CSC-104	Total Metals	ug/L	82.1	<2.50U	<2.50U	<25.0U	<2.00U	4.42D	9510	<5.00U	<0.500U	58.9D	<100U	11.3D	3310	282	<2.50U	<5.00U	10300	<2.50U	66.7	<2.50U	<10.0U	736
CSC-104A	Total Metals	ug/L	101	<2.50U	<2.50U	<25.0U	<2.00U	4.41D	9750	<5.00U	<0.500U	62.8D	116J	12.8D	3380	292	<2.50U	<5.00U	10700	<2.50U	70.1	<2.50U	<10.0U	762
CSC-105	Total Metals	ug/L	83.8	<2.50U	<2.50U	<25.0U	<2.00U	1.63D	9340	<5.00U	<0.500U	<2.50U	175J	4.18D	3410	149	2.71JD	<5.00U	8710	<2.50U	43.0	5.52D	<10.0U	523
CSC-106	Total Metals	ug/L	48.8J	<2.50U	<2.50U	<25.0U	<2.00U	1.34D	9810	<5.00U	<0.500U	<2.50U	<100U	1.81D	3550	127	2.61JD	<5.00U	8450	<2.50U	43.6	6.96D	<10.0U	529
CSC-107	Total Metals	ug/L	76.8	<2.50U	<2.50U	<25.0U	<2.00U	1.91D	23100	<5.00U	<0.500U	<2.50U	<100U	1.07D	10500	159	15.0D	<5.00U	9930	<2.50U	81.7	<2.50U	<10.0U	1780
CSC-108	Total Metals	ug/L	96.8	<2.50U	<2.50U	<25.0U	<2.00U	7.04D	15600	<5.00U	0.688JD	8.19D	<100U	9.38D	5390	825	7.40D	<5.00U	9920	<2.50U	71.2	<2.50U	<10.0U	1890
CSC-111A	Total Metals	ug/L	74.0	<2.50U	<2.50U	<25.0U	<2.00U	4.83D	9190	<5.00U	<0.500U	59.2D	<100U	10.0D	3320	309	<2.50U	<5.00U	10300	<2.50U	67.0	<2.50U	<10.0U	774
CSC-112	Total Metals	ug/L	85.6	<2.50U	<2.50U	<25.0U	<2.00U	4.91D	8860	<5.00U	<0.500U	65.7D	100J	14.5D	3330	312	<2.50U	<5.00U	10100	<2.50U	64.3	<2.50U	<10.0U	777
CSC-113	Total Metals	ug/L	74.6	<2.50U	<2.50U	<25.0U	<2.00U	4.85D	8680	<5.00U	<0.500U	63.3D	<100U	13.0D	3300	315	<2.50U	<5.00U	9940	<2.50U	63.3	<2.50U	<10.0U	771
CSC-114A	Total Metals	ug/L	77.2	<2.50U	<2.50U	<25.0U	<2.00U	5.08D	8600	<5.00U	<0.500U	63.4D	<100U	11.2D	3260	326	<2.50U	<5.00U	9670	<2.50U	63.9	<2.50U	<10.0U	788
CSC-115A	Total Metals	ug/L	80.8	<2.50U	<2.50U	<25.0U	<2.00U	4.90D	8480	<5.00U	<0.500U	65.5D	<100U	12.7D	3320	338	<2.50U	<5.00U	9490	<2.50U	62.1	<2.50U	<10.0U	809
CSC-116	Total Metals	ug/L	33.2J	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	5680	<5.00U	<0.500U	4.35JD	<100U	7.61D	2470	2.90J	<2.50U	<5.00U	8370	<2.50U	37.0	<2.50U	<10.0U	16.6J
CSC-116B	Total Metals	ug/L	81.3	<2.50U	<2.50U	<25.0U	<2.00U	4.68D	8240	<5.00U	<0.500U	66.3D	<100U	22.7D	3290	357	<2.50U	<5.00U	8900	<2.50U	59.6	<2.50U	<10.0U	759
CSC-117	Total Metals	ug/L	1180	<2.50U	<2.50U	<25.0U	<2.00U	218D	134000	<5.00U	54.6D	2040D	2950	334D	48800	35500	86.3D	<5.00U	22900	<2.50U	1250	<2.50U	<10.0U	41900
CSC-117A	Total Metals	ug/L	1350D	<2.50U	<2.50U	<25.0U	<10.0U	331D	179000D	<5.00U	107D	2520D	10800D	661D	67800D	65900D	130D	<5.00U	21000D	<2.50U	1750D	<2.50U	<10.0U	70100D
CSC-119	Total Metals	ug/L	35.8J	<2.50U	<2.50U	36.3JD	<2.00U	1.59D	12200	<5.00U	<0.500U	23.6D	127J	35.5D	2730	14.7	<2.50U	<5.00U	14700	<2.50U	93.2	<2.50U	<10.0U	111
CSC-119B	Total Metals	ug/L	33.6J	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	6300	<5.00U	<0.500U	<2.50U	<100U	<0.500U	1520	<2.00U	<2.50U	<5.00U	13000	<2.50U	42.1	<2.50U	<10.0U	12.5J
CSC-120A	Total Metals	ug/L	39.9J	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	5550	<5.00U	<0.500U	<2.50U	<100U	<0.500U	2520	<2.00U	<2.50U	<5.00U	8080	<2.50U	35.2	<2.50U	<10.0U	<10.0U
Dup-01	Total Metals	ug/L	134	<2.50U	<2.50U	75.8D	<2.00U	0.543JD	15400	<5.00U	<0.500U	5.12D	107J	1.75D	4350	40.7	<2.50U	<5.00U	7650	<2.50U	121	<2.50U	<10.0U	121
Dup-02	Total Metals	ug/L	1140	<2.50U	<2.50U	<25.0U	<2.00U	210D	131000	<5.00U	52.5D	1960D	2800	406D	48100	35200	82.6D	<5.00U	22700	<2.50U	1230	<2.50U	<10.0U	41300
Dup-03	Total Metals	ug/L	1480	<2.50U	<2.50U	<25.0U	<2.00U	12.3D	10700	<5.00U	4.57D	31.5D	<100U	5.85D	3660	1750	18.7D	<5.00U	11800	<2.50U	52.5	<2.50U	<10.0U	2900
FB-01	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	<100U	<5.00U	<0.500U	<2.50U	<100U	<0.500U	<100U	<2.00U	<2.50U	<5.00U	<250U	<2.50U	<2.00U	<2.50U	<10.0U	<10.0U
FB-02	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	<100U	<5.00U	<0.500U	<2.50U	<100U	<0.500U	<100U	<2.00U	<2.50U	<5.00U	<250U	<2.50U	<2.00U	<2.50U	<10.0U	<10.0U
FB-03	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	<100U	<5.00U	<0.500U	<2.50U	<100U	<0.500U	<100U	<2.00U	<2.50U	<5.00U	<250U	<2.50U	<2.00U	<2.50U	<10.0U	<10.0U
ST004	Total Metals	ug/L	123	<2.50U	<2.50U	97.1D	<2.00U	<0.500U	16500	<5.00U	<0.500U	<2.50U	<100U	<0.500U	4510	11.8	<2.50U	<5.00U	7500	<2.50U	141	<2.50U	<10.0U	34.8
ST005	Total Metals	ug/L	116	<2.50U	<2.50U	97.5D	<2.00U	<0.500U	16600	<5.00U	<0.500U	<2.50U	<100U	<0.500U	4510	12.9	<2.50U	<5.00U	7380	<2.50U	138	<2.50U	<10.0U	36.4
ST009B	Total Metals	ug/L	73.9	<2.50U	<2.50U	117D	<2.00U	2.05D	20500	<5.00U	<0.500U	<2.50U	846	2.46D	11800	531	<2.50U	<5.00U	6930	<2.50U	101	<2.50U	<10.0U	840
ST010A	Total Metals	ug/L	69.4	<2.50U	<2.50U	108D	<2.00U	<0.500U	19100	<5.00U	<0.500U	<2.50U	<100U	<0.500U	4850	<2.00U	<2.50U	<5.00U	7420	<2.50U	174	<2.50U	<10.0U	<10.0U
ST015	Total Metals	ug/L	130	<2.50U	<2.50U	<25.0U	<2.00U	17.9D	26400	<5.00U	1.40D	<2.50U	<100U	5.41D	12900	2090	16.7D	<5.00U	12300	<2.50U	89.7	<2.50U	<10.0U	9260
ST015A	Total Metals	ug/L	140	<2.50U	<2.50U	93.8D	<2.00U	<0.500U	17200	<5.00U	<0.500U	<2.50U	<100U	<0.500U	4780	53.4	<2.50U	<5.00U	7480	<2.50U	137	<2.50U	<10.0U	206
ST016	Total Metals	ug/L	39.7J	<2.50U	<2.50U	<25.0U	<2.00U	1.69D	39000	<5.00U	4.78D	<2.50U	293	2.96D	23700	4890	21.7D	<5.00U	9580	<2.50U	267	<2.50U	<10.0U	1560
ST016A	Total Metals	ug/L	108	<2.50U	<2.50U	93.5D	<2.00U	<0.500U	16800	<5.00U	<0.500U	<2.50U	<100U	<0.500U	4580	10.3	<2.50U	<5.00U	7210	<2.50U	138	<2.50U	<10.0U	<10.0U

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	ilica (SiO2	Silver	Strontium	Thallium	Vanadium	Zinc
CSC-101	Total Metals	ug/L	109	<2.50U	<2.50U	76.8	<2.00U	<0.500U	15500	<5.00U	<0.500U	4.75	130	1.47	4260	41.0	<2.50U	<5.00U	7650	<2.50U	121	<2.50U	<10.0U	125
Dup-01	Total Metals	ug/L	134	<2.50U	<2.50U	75.8	<2.00U	0.543JD	15400	<5.00U	<0.500U	5.12	107	1.75	4350	40.7	<2.50U	<5.00U	7650	<2.50U	121	<2.50U	<10.0U	121
	RPD	%	**20.58%**	N/A	N/A	**1.31%**	N/A	N/A	**0.65%**	N/A	N/A	**7.50%**	**19.41%**	**17.39%**	**2.09%**	**0.73%**	N/A	N/A	**0.00%**	N/A	**0.00%**	N/A	N/A	**3.25%**

Note: Removed flags from copper, lead, and zinc values for RPD calculation

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	ilica (SiO2	Silver	Strontium	Thallium	Vanadium	Zinc
CSC-117	Total Metals	ug/L	1180	<2.50U	<2.50U	<25.0U	<2.00U	218	134000	<5.00U	54.6	2040	2950	334	48800	35500	86.3	<5.00U	22900	<2.50U	1250	<2.50U	<10.0U	41900
Dup-02	Total Metals	ug/L	1140	<2.50U	<2.50U	<25.0U	<2.00U	210	131000	<5.00U	52.5	1960	2800	406	48100	35200	82.6	<5.00U	22700	<2.50U	1230	<2.50U	<10.0U	41300
	RPD	%	**3.45%**	N/A	N/A	N/A	N/A	**3.74%**	**2.26%**	N/A	**3.92%**	**4.00%**	**5.22%**	**19.46%**	**1.44%**	**0.85%**	**4.38%**	N/A	**0.88%**	N/A	**1.61%**	N/A	N/A	**1.44%**

Note: Removed flags from cadmium, copper, lead, and nickel values for RPD calculation

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	ilica (SiO2	Silver	Strontium	Thallium	Vanadium	Zinc
07-156-AD1	Total Metals	ug/L	1390	<2.50U	<2.50U	<25.0U	<2.00U	13.1	10600	<5.00U	4.98	35.4	<100U	5.27	3480	1710	21	<5.00U	11400	<2.50U	51.7	5.93D	<10.0U	2830
Dup-03	Total Metals	ug/L	1480	<2.50U	<2.50U	<25.0U	<2.00U	12.3	10700	<5.00U	4.57	31.5	<100U	5.85	3660	1750	18.7	<5.00U	11800	<2.50U	52.5	<2.50U	<10.0U	2900
	RPD	%	**6.27%**	N/A	N/A	N/A	N/A	**6.30%**	**0.94%**	N/A	**8.59%**	**11.66%**	N/A	**10.43%**	**5.04%**	**2.31%**	**11.59%**	N/A	**3.45%**	N/A	**1.54%**	N/A	N/A	**2.44%**

Note: Removed flags from cadmium, copper, lead, and nickel values for RPD calculation

Note: Data Qualifier Definitions Listed Below:

D The analyte was diluted prior to analysis.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 2.2-3 Carpenter-Snow Creek
Surface Water Dissolved Metals Analytical Data - September 2014

STATION ID	ANALYSIS	UNITS	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM	COBALT	COPPER	HARDNESS (mg/L)	IRON	LEAD	MAGNESIUM	MANGANESE	NICKEL	SELENIUM	SILICA (SiO2	SILVER	STRONTIUM	THALLIUM	VANADIUM	ZINC
07-112-AD1	Dissolved Metals	ug/L	98.6	<0.500U	<0.500U	9.05J	<2.00U	14.0	20900	<1.00U	3.18	12.1	77	<100U	2.09	6110	1480	6.50	<1.00U	7960	<0.500U	56.8	<0.500U	<2.00U	3680
07-156-AD3	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	<5.00U	<2.00U	0.150J	7550	<1.00U	<0.100U	<0.500U	26	<100U	0.125J	1620	<2.00U	<0.500U	<1.00U	6730	<0.500U	32.6	<0.500U	<2.00U	44.6
07-156-outfall	Dissolved Metals	ug/L	379	<0.500U	0.627J	14.4	<2.00U	3.96	43700	<1.00U	0.135J	1.41	191	<100U	0.767	20000	2370	51.0	<1.00U	13600	<0.500U	165	<0.500U	<2.00U	3720
07-156-Seep2	Dissolved Metals	ug/L	3220D	<2.50U	5.41JD	<25.0U	12.8JD	110D	140000D	<5.00U	287D	19.4D	661D	126000D	1.75D	75600D	88300D	522D	<5.00U	21900D	<2.50U	415D	<2.50U	<10.0U	45700D
07-163-AD5	Dissolved Metals	ug/L	1390	<0.500U	21.4	20.0	<2.00U	35.7	21400	<1.00U	14.5	160	79	12000	4.19	6300	7160	17.8	<1.00U	9340	<0.500U	89.1	<0.500U	<2.00U	8000
07-163-AD6	Dissolved Metals	ug/L	25.3J	<0.500U	<0.500U	10.2	<2.00U	0.181J	7570	<1.00U	<0.100U	1.02	26	<100U	1.45	1690	9.97	<0.500U	<1.00U	4800	<0.500U	30.5	<0.500U	<2.00U	45.3
07-163-AD7	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	7.24J	<2.00U	1.53	8370	<1.00U	0.283	5.11	31	<100U	1.78	2400	338	0.730J	<1.00U	5540	<0.500U	32.1	<0.500U	<2.00U	412
07-179-AD1	Dissolved Metals	ug/L	1050	<0.500U	<0.500U	11.5	7.06	16.9	45500	<1.00U	18.6	11.3	132	3920	51.6	4480	958	9.94	<1.00U	39500	<0.500U	238	<0.500U	<2.00U	4070
CSC-101	Dissolved Metals	ug/L	48.4J	<0.500U	<0.500U	91.4	<2.00U	0.883	18200	<1.00U	<0.100U	4.23	69	<100U	0.514	5660	57.9	<0.500U	<1.00U	8360	<0.500U	163	<0.500U	<2.00U	230
CSC-101B	Dissolved Metals	ug/L	25.6J	<0.500U	0.533J	82.4	<2.00U	0.516	17800	<1.00U	<0.100U	2.27	68	<100U	0.209	5710	15.0	<0.500U	<1.00U	9130	<0.500U	144	<0.500U	<2.00U	152
CSC-102	Dissolved Metals	ug/L	<20.0U	<0.500U	0.727J	108	<2.00U	0.158J	18400	<1.00U	<0.100U	<0.500U	69	<100U	0.164J	5680	25.4	<0.500U	<1.00U	7570	<0.500U	178	<0.500U	<2.00U	83.8
CSC-103	Dissolved Metals	ug/L	35.0J	<0.500U	<0.500U	21.5	<2.00U	4.36	14400	<1.00U	0.108J	24.0	56	<100U	2.95	4800	218	2.44	<1.00U	11800	<0.500U	89.1	<0.500U	<2.00U	900
CSC-104	Dissolved Metals	ug/L	36.4J	<0.500U	<0.500U	18.2	<2.00U	4.39	14000	<1.00U	0.163J	25.1	55	<100U	3.19	4860	263	3.14	<1.00U	11600	<0.500U	83.9	<0.500U	<2.00U	944
CSC-104A	Dissolved Metals	ug/L	54.6	<0.500U	<0.500U	22.0	<2.00U	5.86	13700	<1.00U	<0.100U	46.2	52	<100U	5.85	4420	317	1.95	<1.00U	12400	<0.500U	99.2	<0.500U	<2.00U	924
CSC-105	Dissolved Metals	ug/L	26.4J	<0.500U	<0.500U	13.8	<2.00U	2.69	14700	<1.00U	0.223	1.76	59	<100U	0.707	5470	208	4.24	<1.00U	10900	<0.500U	68.6	<0.500U	<2.00U	969
CSC-106	Dissolved Metals	ug/L	29.4J	<0.500U	<0.500U	14.1	<2.00U	2.58	15200	<1.00U	0.273	1.19	61	<100U	0.338	5650	234	3.95	<1.00U	10700	<0.500U	68.7	<0.500U	<2.00U	918
CSC-107	Dissolved Metals	ug/L	125	<0.500U	<0.500U	16.7	<2.00U	3.61	32400	<1.00U	<0.100U	1.55	143	<100U	0.400	15000	211	24.5	<1.00U	13100	<0.500U	122	<0.500U	<2.00U	3210
CSC-108	Dissolved Metals	ug/L	26.7J	<0.500U	<0.500U	19.8	<2.00U	10.9	21600	<1.00U	1.45	8.59	86	<100U	5.79	7740	1460	10.8	<1.00U	11600	<0.500U	100	<0.500U	<2.00U	2960
CSC-111A	Dissolved Metals	ug/L	53.5	<0.500U	<0.500U	22.3	<2.00U	6.18	13100	<1.00U	<0.100U	46.5	51	<100U	6.41	4440	345	2.09	<1.00U	12200	<0.500U	96.6	<0.500U	<2.00U	996
CSC-112	Dissolved Metals	ug/L	54.6	<0.500U	<0.500U	21.1	<2.00U	6.12	12500	<1.00U	<0.100U	52.7	49	<100U	6.94	4410	362	2.09	<1.00U	12000	<0.500U	93.3	<0.500U	<2.00U	1050
CSC-113	Dissolved Metals	ug/L	57.1	<0.500U	<0.500U	20.4	<2.00U	6.21	12100	<1.00U	<0.100U	57.5	48	<100U	7.60	4340	371	2.18	<1.00U	11900	<0.500U	93.3	<0.500U	<2.00U	1040
CSC-114A	Dissolved Metals	ug/L	61.3	<0.500U	<0.500U	20.6	<2.00U	6.37	12200	<1.00U	<0.100U	55.7	49	<100U	7.98	4370	386	2.16	<1.00U	11800	<0.500U	95.5	<0.500U	<2.00U	1100
CSC-115A	Dissolved Metals	ug/L	60.2	<0.500U	<0.500U	20.5	<2.00U	6.91	12300	<1.00U	<0.100U	60.6	49	<100U	8.95	4500	413	2.53	<1.00U	11000	<0.500U	92.7	<0.500U	<2.00U	1150
CSC-116	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	15.5	<2.00U	0.351	8270	<1.00U	<0.100U	3.95	34	<100U	2.89	3270	<2.00U	<0.500U	<1.00U	9810	<0.500U	54.9	<0.500U	<2.00U	39.6
CSC-116B	Dissolved Metals	ug/L	62.8	<0.500U	<0.500U	19.9	<2.00U	7.30	12700	<1.00U	<0.100U	70.1	51	<100U	10.3	4660	444	2.52	<1.00U	10700	<0.500U	95.6	<0.500U	<2.00U	1270
CSC-117	Dissolved Metals	ug/L	1100	<2.50U	<2.50U	<25.0U	<2.00U	216D	133000	<5.00U	49.0D	2090D	532	1300	352D	48700	34700	81.1D	<5.00U	24600	<2.50U	1270	<2.50U	<10.0U	43000
CSC-119	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	85.3	<2.00U	12.1	57700	<1.00U	0.204	44.8	202	<100U	26.4	14100	42.2	1.50	<1.00U	17400	<0.500U	414	<0.500U	<2.00U	839
CSC-119B	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	11.5	<2.00U	0.113J	7970	<1.00U	<0.100U	<0.500U	28	<100U	0.235	1880	<2.00U	<0.500U	<1.00U	14500	<0.500U	54.2	<0.500U	<2.00U	19.8J
CSC-120A	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	12.5	<2.00U	<0.100U	7580	<1.00U	<0.100U	<0.500U	32	<100U	0.147J	3160	<2.00U	<0.500U	<1.00U	9530	<0.500U	50.7	<0.500U	<2.00U	11.6J
Dup-01	Dissolved Metals	ug/L	55.0	<0.500U	<0.500U	22.4	<2.00U	5.69	13800	<1.00U	<0.100U	47.2	53	<100U	7.15	4510	325	1.92	<1.00U	12600	<0.500U	101	<0.500U	<2.00U	945
Dup-02	Dissolved Metals	ug/L	59.9	<0.500U	0.748J	21.3	<2.00U	6.29	12900	<1.00U	<0.100U	54.9	51	<100U	7.35	4550	369	2.19	<1.00U	12200	<0.500U	95.3	<0.500U	<2.00U	1070
Dup-03	Dissolved Metals	ug/L	<20.0U	<0.500U	0.709J	123	<2.00U	<0.100U	21000	<1.00U	<0.100U	<0.500U	77	<100U	<0.100U	5880	<2.00U	<0.500U	<1.00U	7930	<0.500U	228	<0.500U	<2.00U	<10.0U
Dup-04	Dissolved Metals	ug/L	127	<0.500U	<0.500U	16.7	<2.00U	3.60	33000	<1.00U	<0.100U	1.53	145	<100U	0.506	15300	215	24.5	<1.00U	13500	<0.500U	124	<0.500U	<2.00U	3300
ST004	Dissolved Metals	ug/L	<20.0U	<0.500U	0.644J	112	<2.00U	0.158J	19000	1.09J	<0.100U	<0.500U	71	<100U	0.304	5830	24.4	<0.500U	<1.00U	7480	<0.500U	181	<0.500U	<2.00U	83.5
ST005	Dissolved Metals	ug/L	<20.0U	<0.500U	0.606J	111	<2.00U	0.148J	18600	<1.00U	<0.100U	<0.500U	70	<100U	<0.100U	5710	29.4	<0.500U	<1.00U	7530	<0.500U	182	<0.500U	<2.00U	87.8
ST009B	Dissolved Metals	ug/L	<20.0U	<0.500U	0.640J	99.4	<2.00U	1.35	22600	<1.00U	0.196J	0.914J	116	525	0.494	14500	514	1.48	<1.00U	7020	<0.500U	107	<0.500U	<2.00U	823
ST010A	Dissolved Metals	ug/L	<20.0U	<0.500U	0.727J	122	<2.00U	<0.100U	20800	<1.00U	<0.100U	<0.500U	76	<100U	<0.100U	5880	<2.00U	<0.500U	<1.00U	7930	<0.500U	226	<0.500U	<2.00U	<10.0U
ST015	Dissolved Metals	ug/L	38.9J	<0.500U	<0.500U	18.3	<2.00U	20.3	30100	<1.00U	1.67	2.83	138	<100U	2.48	15300	2620	18.1	<1.00U	13800	<0.500U	102	<0.500U	<2.00U	11100
ST015A	Dissolved Metals	ug/L	<20.0U	<0.500U	0.700J	107	<2.00U	0.662	19100	<1.00U	0.100J	<0.500U	72	<100U	0.382	6030	102	<0.500U	<1.00U	7790	<0.500U	181	<0.500U	<2.00U	402
ST016	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	8.78J	<2.00U	1.21	35200	<1.00U	3.25	0.715J	178	<100U	0.251	21900	4100	18.3	<1.00U	9950	<0.500U	255	0.902J	<2.00U	1290
ST016A	Dissolved Metals	ug/L	<20.0U	<0.500U	0.716J	108	<2.00U	<0.100U	18400	<1.00U	<0.100U	<0.500U	69	<100U	0.371	5600	11.9	<0.500U	<1.00U	7530	<0.500U	182	<0.500U	<2.00U	12.6J
FB-01	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	<5.00U	<2.00U	<0.100U	<100U	<1.00U	<0.100U	<0.500U	<2U	<100U	0.151J	<100U	<2.00U	<0.500U	<1.00U	<250U	<0.500U	<2.00U	<0.500U	<2.00U	<10.0U
FB-02	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	<5.00U	<2.00U	<0.100U	<100U	<1.00U	<0.100U	<0.500U	<2U	<100U	<0.100U	<100U	<2.00U	<0.500U	<1.00U	<250U	<0.500U	<2.00U	<0.500U	<2.00U	<10.0U
FB-03	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	<5.00U	<2.00U	<0.100U	<100U	<1.00U	<0.100U	<0.500U	<2U	<100U	<0.100U	<100U	<2.00U	<0.500U	<1.00U	<250U	<0.500U	<2.00U	<0.500U	<2.00U	<10.0U

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	HARDNESS (mg/L)	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
CSC-104A	Dissolved Metals	ug/L	54.6	<0.500U	<0.500U	22.0	<2.00U	5.86	13700	<1.00U	<0.100U	46.2	52	<100U	5.85	4420	317	1.95	<1.00U	12400	<0.500U	99.2	<0.500U	<2.00U	924
Dup-01	Dissolved Metals	ug/L	55.0	<0.500U	<0.500U	22.4	<2.00U	5.69	13800	<1.00U	<0.100U	47.2	53	<100U	7.15	4510	325	1.92	<1.00U	12600	<0.500U	101	<0.500U	<2.00U	945
	RPD	%	**0.73%**	N/A	N/A	**1.80%**	N/A	**2.94%**	**0.73%**	N/A	N/A	**2.14%**	**1.90%**	N/A	**20.00%**	**2.02%**	**2.49%**	**1.55%**	N/A	**1.60%**	N/A	**1.80%**	N/A	N/A	**2.25%**

Note: Removed flags from values for RPD calculation

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	HARDNESS (mg/L)	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
CSC-112	Dissolved Metals	ug/L	54.6	<0.500U	<0.500U	21.1	<2.00U	6.12	12500	<1.00U	<0.100U	52.7	49	<100U	6.94	4410	362	2.09	<1.00U	12000	<0.500U	93.3	<0.500U	<2.00U	1050
Dup-02	Dissolved Metals	ug/L	59.9	<0.500U	0.748J	21.3	<2.00U	6.29	12900	<1.00U	<0.100U	54.9	51	<100U	7.35	4550	369	2.19	<1.00U	12200	<0.500U	95.3	<0.500U	<2.00U	1070
	RPD	%	**9.26%**	N/A	N/A	**0.94%**	N/A	**2.74%**	**3.15%**	N/A	N/A	**4.09%**	**4.00%**	N/A	**5.74%**	**3.13%**	**1.92%**	**4.67%**	N/A	**1.65%**	N/A	**2.12%**	N/A	N/A	**1.89%**

Note: Removed flags from values for RPD calculation

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	HARDNESS (mg/L)	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
ST010A	Dissolved Metals	ug/L	<20.0U	<0.500U	0.727	122	<2.00U	<0.100U	20800	<1.00U	<0.100U	<0.500U	76	<100U	<0.100U	5880	<2.00U	<0.500U	<1.00U	7930	<0.500U	226	<0.500U	<2.00U	<10.0U
Dup-03	Dissolved Metals	ug/L	<20.0U	<0.500U	0.709	123	<2.00U	<0.100U	21000	<1.00U	<0.100U	<0.500U	77	<100U	<0.100U	5880	<2.00U	<0.500U	<1.00U	7930	<0.500U	228	<0.500U	<2.00U	<10.0U
	RPD	%	N/A	N/A	**2.51%**	**0.82%**	N/A	N/A	**0.96%**	N/A	N/A	N/A	**1.31%**	N/A	N/A	**0.00%**	N/A	N/A	N/A	**0.00%**	N/A	**0.88%**	N/A	N/A	N/A

Note: Removed flags from values for RPD calculation

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	HARDNESS (mg/L)	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
CSC-107	Dissolved Metals	ug/L	125	<0.500U	<0.500U	16.7	<2.00U	3.61	32400	<1.00U	<0.100U	1.55	143	<100U	0.400	15000	211	24.5	<1.00U	13100	<0.500U	122	<0.500U	<2.00U	3210
Dup-04	Dissolved Metals	ug/L	127	<0.500U	<0.500U	16.7	<2.00U	3.60	33000	<1.00U	<0.100U	1.53	145	<100U	0.506	15300	215	24.5	<1.00U	13500	<0.500U	124	<0.500U	<2.00U	3300
	RPD	%	**1.59%**	N/A	N/A	**0.00%**	N/A	**0.28%**	**1.83%**	N/A	N/A	**1.30%**	**1.39%**	N/A	**23.40%**	**1.98%**	**1.88%**	**0.00%**	N/A	**3.01%**	N/A	**1.63%**	N/A	N/A	**2.76%**

Note: Removed flags from values for RPD calculation

Note: Data Qualifier Definitions Listed Below:

D The analyte was diluted prior to analysis.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 2.2-4 Carpenter-Snow Creek
Surface Water Total Recoverable Metals Analytical Data - September 2014

STATION ID	ANALYSIS	UNITS	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM	COBALT	COPPER	IRON	LEAD	MAGNESIUM	MANGANESE	NICKEL	SELENIUM	SILICA (SiO2)	SILVER	STRONTIUM	THALIUM	VANADIUM	ZINC
07-112-AD1	Total Metals	ug/L	957	<2.50U	<2.50U	<25.0U	<2.00U	13.2D	20300	<5.00U	3.15D	22.0D	2760	54.8D	5960	1520	5.92D	<5.00U	8350	<2.50U	58.0	<2.50U	<10.0U	3630
07-156-AD3	Total Metals	ug/L	79.1	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	7690	<5.00U	<0.500U	<2.50U	157J	2.15D	1660	5.34	14.4D	<5.00U	6990	<2.50U	34.0	5.17D	<10.0U	47.9
07-156-outfall	Total Metals	ug/L	328	<2.50U	<2.50U	<25.0U	<2.00U	6.05D	44500	<5.00U	<0.500U	8.35D	223J	2.73D	20400	2550	49.4D	<5.00U	11300	<2.50U	169	5.46D	<10.0U	3070
07-156-Seep2	Total Metals	ug/L	4330D	<5.00U	9.78JD	<50.0U	12.3JD	114D	144000D	<10.0U	312D	24.4D	138000D	25.4D	77400D	93400D	584D	<10.0U	24300D	<5.00U	434D	<5.00U	<20.0U	49500D
07-163-AD5	Total Metals	ug/L	1180	<2.50U	35.1D	<25.0U	<2.00U	29.3D	20400	<5.00U	12.6D	141D	12200	4.96D	5750	6180	17.5D	<5.00U	8240	<2.50U	84.6	<2.50U	<10.0U	6660
07-163-AD6	Total Metals	ug/L	41.2J	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	7480	<5.00U	<0.500U	<2.50U	229J	4.69D	1660	11.6	<2.50U	<5.00U	4820	<2.50U	31.0	<2.50U	<10.0U	45.0
07-163-AD7	Total Metals	ug/L	92.0	<2.50U	3.86JD	<25.0U	<2.00U	1.57D	8460	<5.00U	<0.500U	15.1D	582	38.5D	2390	347	<2.50U	<5.00U	5660	<2.50U	32.5	<2.50U	<10.0U	403
07-179-AD1	Total Metals	ug/L	1050	<2.50U	<2.50U	<25.0U	7.60	16.3D	44800	<5.00U	20.0D	12.7D	4010	48.7D	4410	963	12.9D	<5.00U	38400	<2.50U	240	<2.50U	<10.0U	3960
CSC-101	Total Metals	ug/L	40.4J	<2.50U	<2.50U	95.4D	<2.00U	0.943JD	18000	<5.00U	<0.500U	5.50D	<100U	1.12D	5570	60.2	<2.50U	<5.00U	8210	<2.50U	164	<2.50U	<10.0U	222
CSC-101B	Total Metals	ug/L	47.3J	<2.50U	<2.50U	80.4D	<2.00U	0.532JD	17500	<5.00U	<0.500U	3.02JD	<100U	0.931JD	5610	19.7	2.95JD	<5.00U	9060	<2.50U	147	<2.50U	<10.0U	153
CSC-102	Total Metals	ug/L	46.4J	<2.50U	<2.50U	108D	<2.00U	<0.500U	18700	<5.00U	<0.500U	<2.50U	<100U	<0.500U	5730	28.7	2.57JD	<5.00U	7640	<2.50U	182	<2.50U	<10.0U	81.9
CSC-103	Total Metals	ug/L	53.1	<2.50U	<2.50U	<25.0U	<2.00U	4.38D	14400	<5.00U	<0.500U	29.2D	<100U	6.01D	4800	224	4.82JD	<5.00U	11900	<2.50U	90.9	<2.50U	<10.0U	887
CSC-104	Total Metals	ug/L	61.0	<2.50U	<2.50U	<25.0U	<2.00U	4.43D	14000	<5.00U	<0.500U	37.9D	107J	5.85D	4750	287	4.51JD	<5.00U	11800	<2.50U	89.7	<2.50U	<10.0U	920
CSC-104A	Total Metals	ug/L	74.4	<2.50U	<2.50U	<25.0U	<2.00U	5.30D	13800	<5.00U	<0.500U	55.9D	102J	8.32D	4450	324	3.56JD	<5.00U	12400	<2.50U	100	<2.50U	<10.0U	895
CSC-105	Total Metals	ug/L	52.6	<2.50U	<2.50U	<25.0U	<2.00U	2.70D	14700	<5.00U	<0.500U	<2.50U	121J	2.58D	5460	223	6.90D	<5.00U	10800	<2.50U	68.9	<2.50U	<10.0U	950
CSC-106	Total Metals	ug/L	477	<2.50U	<2.50U	<25.0U	<2.00U	2.96D	14900	<5.00U	0.634JD	6.38D	654	12.5D	5560	369	8.15D	<5.00U	11800	<2.50U	70.5	<2.50U	<10.0U	1020
CSC-107	Total Metals	ug/L	149	<2.50U	<2.50U	<25.0U	<2.00U	3.22D	32200	<5.00U	<0.500U	<2.50U	<100U	0.904JD	14700	218	27.3D	<5.00U	13000	<2.50U	124	<2.50U	<10.0U	3120
CSC-108	Total Metals	ug/L	119	<2.50U	<2.50U	<25.0U	<2.00U	10.4D	21900	<5.00U	1.50D	14.1D	159J	19.7D	7700	1490	12.7D	<5.00U	11500	<2.50U	102	<2.50U	<10.0U	2880
CSC-111A	Total Metals	ug/L	82.8	<2.50U	<2.50U	<25.0U	<2.00U	5.76D	13100	<5.00U	<0.500U	61.0D	<100U	13.6D	4410	353	4.81JD	<5.00U	12100	<2.50U	98.0	<2.50U	<10.0U	963
CSC-112	Total Metals	ug/L	72.3	<2.50U	<2.50U	<25.0U	<2.00U	6.11D	12300	<5.00U	<0.500U	66.4D	<100U	10.3D	4340	372	<2.50U	<5.00U	12100	<2.50U	96.0	<2.50U	<10.0U	1030
CSC-113	Total Metals	ug/L	75.0	<2.50U	<2.50U	<25.0U	<2.00U	6.40D	12200	<5.00U	<0.500U	66.3D	<100U	11.0D	4320	373	<2.50U	<5.00U	11800	<2.50U	93.9	5.06D	<10.0U	1010
CSC-114A	Total Metals	ug/L	73.8	<2.50U	<2.50U	<25.0U	<2.00U	6.19D	12000	<5.00U	<0.500U	64.7D	<100U	11.1D	4250	382	<2.50U	<5.00U	11300	<2.50U	93.8	5.27D	<10.0U	1030
CSC-115A	Total Metals	ug/L	74.0	<2.50U	<2.50U	<25.0U	<2.00U	6.51D	12100	<5.00U	<0.500U	74.0D	<100U	11.6D	4420	422	<2.50U	<5.00U	11100	<2.50U	93.9	<2.50U	<10.0U	1130
CSC-116	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	7660	<5.00U	<0.500U	4.76JD	<100U	5.00D	3030	2.58J	<2.50U	<5.00U	9790	<2.50U	55.3	<2.50U	<10.0U	37.6
CSC-116B	Total Metals	ug/L	81.0	<2.50U	<2.50U	<25.0U	<2.00U	7.07D	12000	<5.00U	<0.500U	82.2D	<100U	20.0D	4440	458	<2.50U	<5.00U	10700	<2.50U	92.1	<2.50U	<10.0U	1170
CSC-117	Total Metals	ug/L	1110	<2.50U	<2.50U	<25.0U	<2.00U	214D	131000	<5.00U	47.1D	1950D	1790	337D	47600	34200	75.0D	<5.00U	23800	<2.50U	1260	<2.50U	<10.0U	41100
CSC-119	Total Metals	ug/L	767	<2.50U	<2.50U	97.3D	<2.00U	11.5D	57300	<5.00U	0.978JD	80.2D	689	150D	14100	85.8	<2.50U	<5.00U	19200	<2.50U	419	<2.50U	<10.0U	862
CSC-119B	Total Metals	ug/L	24.4J	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	8020	<5.00U	<0.500U	<2.50U	<100U	0.925JD	1830	2.59J	<2.50U	<5.00U	14400	<2.50U	54.9	<2.50U	<10.0U	19.4J
CSC-120A	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	7310	<5.00U	<0.500U	<2.50U	<100U	<0.500U	3040	<2.00U	<2.50U	<5.00U	9360	<2.50U	51.3	<2.50U	<10.0U	10.2J
Dup-01	Total Metals	ug/L	75.8	<2.50U	<2.50U	<25.0U	<2.00U	5.46D	13600	<5.00U	<0.500U	50.4D	<100U	8.53D	4410	325	<2.50U	<5.00U	12400	<2.50U	101	<2.50U	<10.0U	892
Dup-02	Total Metals	ug/L	75.1	<2.50U	<2.50U	<25.0U	<2.00U	6.08D	12300	<5.00U	<0.500U	61.0D	<100U	11.6D	4380	368	<2.50U	<5.00U	12000	<2.50U	96.3	<2.50U	<10.0U	1010
Dup-03	Total Metals	ug/L	37.1J	<2.50U	<2.50U	129D	<2.00U	<0.500U	20700	<5.00U	<0.500U	<2.50U	<100U	<0.500U	5770	<2.00U	<2.50U	<5.00U	7830	<2.50U	230	<2.50U	<10.0U	<10.0U
Dup-04	Total Metals	ug/L	157	<2.50U	<2.50U	<25.0U	<2.00U	3.42D	33300	<5.00U	<0.500U	<2.50U	<100U	0.859JD	15400	216	23.2D	<5.00U	12900	<2.50U	123	<2.50U	<10.0U	3100
ST004	Total Metals	ug/L	45.0J	<2.50U	<2.50U	111D	<2.00U	<0.500U	18500	5.87JD	<0.500U	<2.50U	<100U	1.06D	5690	27.4	<2.50U	<5.00U	7420	<2.50U	186	<2.50U	<10.0U	79.2
ST005	Total Metals	ug/L	48.6J	<2.50U	<2.50U	104D	<2.00U	<0.500U	18900	<5.00U	<0.500U	<2.50U	<100U	<0.500U	5830	32.6	<2.50U	<5.00U	7570	<2.50U	187	<2.50U	<10.0U	85.6
ST009B	Total Metals	ug/L	170	<2.50U	<2.50U	108D	<2.00U	2.78D	23000	<5.00U	<0.500U	<2.50U	2430	7.79D	14500	704	<2.50U	<5.00U	7560	<2.50U	112	6.10D	<10.0U	905
ST010A	Total Metals	ug/L	40.8J	<2.50U	<2.50U	119D	<2.00U	<0.500U	20600	<5.00U	<0.500U	<2.50U	<100U	<0.500U	5750	<2.00U	<2.50U	<5.00U	7580	<2.50U	228	<2.50U	<10.0U	<10.0U
ST015	Total Metals	ug/L	105	<2.50U	<2.50U	<25.0U	<2.00U	19.6D	30700	<5.00U	1.66D	2.92JD	<100U	4.50D	15300	2650	17.7D	<5.00U	13600	<2.50U	106	<2.50U	<10.0U	10600
ST015A	Total Metals	ug/L	62.1	<2.50U	<2.50U	103D	<2.00U	0.754JD	19300	<5.00U	<0.500U	<2.50U	<100U	0.659JD	6030	122	<2.50U	<5.00U	7840	<2.50U	185	<2.50U	<10.0U	431
ST016	Total Metals	ug/L	26.2J	<2.50U	<2.50U	<25.0U	<2.00U	1.29D	35500	<5.00U	3.68D	<2.50U	918	6.27D	21900	4380	18.2D	<5.00U	10000	<2.50U	261	<2.50U	<10.0U	1520
ST016A	Total Metals	ug/L	43.9J	<2.50U	<2.50U	113D	<2.00U	<0.500U	18500	<5.00U	<0.500U	<2.50U	<100U	1.29D	5540	13.3	<2.50U	<5.00U	7520	<2.50U	189	<2.50U	<10.0U	11.0J
FB-01	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	<100U	<5.00U	<0.500U	<2.50U	<100U	<0.500U	<100U	<2.00U	<2.50U	<5.00U	<250U	<2.50U	<2.00U	<2.50U	<10.0U	<10.0U
FB-02	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	<100U	5.00JD	<0.500U	<2.50U	<100U	<0.500U	<100U	<2.00U	<2.50U	<5.00U	<250U	<2.50U	<2.00U	5.74D	<10.0U	<10.0U
FB-03	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	<100U	<5.00U	<0.500U	<2.50U	<100U	<0.500U	<100U	<2.00U	<2.50U	<5.00U	<250U	<2.50U	<2.00U	<2.50U	<10.0U	<10.0U

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
CSC-104A	Total Metals	ug/L	74.4	<2.50U	<2.50U	<25.0U	<2.00U	5.3	13800	<5.00U	<0.500U	55.9	102J	8.32	4450	324	3.56JD	<5.00U	12400	<2.50U	100	<2.50U	<10.0U	895
Dup-01	Total Metals	ug/L	75.8	<2.50U	<2.50U	<25.0U	<2.00U	5.46	13600	<5.00U	<0.500U	50.4	<100U	8.53	4410	325	<2.50U	<5.00U	12400	<2.50U	101	<2.50U	<10.0U	892
	RPD	%	**1.86%**	N/A	N/A	N/A	N/A	**2.97%**	**1.46%**	N/A	N/A	**10.35%**	N/A	**2.49%**	**0.90%**	**0.31%**	N/A	N/A	**0.00%**	N/A	**1.00%**	N/A	N/A	**0.34%**

Note: Removed flags from values for RPD calculation

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
CSC-112	Total Metals	ug/L	72.3	<2.50U	<2.50U	<25.0U	<2.00U	6.11	12300	<5.00U	<0.500U	66.4	<100U	10.3	4340	372	<2.50U	<5.00U	12100	<2.50U	96.0	<2.50U	<10.0U	1030
Dup-02	Total Metals	ug/L	75.1	<2.50U	<2.50U	<25.0U	<2.00U	6.08	12300	<5.00U	<0.500U	61	<100U	11.6	4380	368	<2.50U	<5.00U	12000	<2.50U	96.3	<2.50U	<10.0U	1010
	RPD	%	**3.80%**	N/A	N/A	N/A	N/A	**0.49%**	**0.00%**	N/A	N/A	**8.48%**	N/A	**11.87%**	**0.92%**	**1.08%**	N/A	N/A	**0.83%**	N/A	**0.31%**	N/A	N/A	**1.96%**

Note: Removed flags from values for RPD calculation

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
ST010A	Total Metals	ug/L	40.8	<2.50U	<2.50U	119	<2.00U	<0.500U	20600	<5.00U	<0.500U	<2.50U	<100U	<0.500U	5750	<2.00U	<2.50U	<5.00U	7580	<2.50U	228	<2.50U	<10.0U	<10.0U
Dup-03	Total Metals	ug/L	37.1	<2.50U	<2.50U	129	<2.00U	<0.500U	20700	<5.00U	<0.500U	<2.50U	<100U	<0.500U	5770	<2.00U	<2.50U	<5.00U	7830	<2.50U	230	<2.50U	<10.0U	<10.0U
	RPD	%	**9.50%**	N/A	N/A	**8.06%**	N/A	N/A	**0.48%**	N/A	N/A	N/A	N/A	N/A	**0.35%**	N/A	N/A	N/A	**3.24%**	N/A	**0.87%**	N/A	N/A	N/A

Note: Removed flags from values for RPD calculation

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
CSC-107	Total Metals	ug/L	149	<2.50U	<2.50U	<25.0U	<2.00U	3.22	32200	<5.00U	<0.500U	<2.50U	<100U	0.904	14700	218	27.3	<5.00U	13000	<2.50U	124	<2.50U	<10.0U	3120
Dup-04	Total Metals	ug/L	157	<2.50U	<2.50U	<25.0U	<2.00U	3.42	33300	<5.00U	<0.500U	<2.50U	<100U	0.859	15400	216	23.2	<5.00U	12900	<2.50U	123	<2.50U	<10.0U	3100
	RPD	%	**5.23%**	N/A	N/A	N/A	N/A	**6.02%**	**3.36%**	N/A	N/A	N/A	N/A	**5.10%**	**4.65%**	**0.92%**	**16.24%**	N/A	**0.77%**	N/A	**0.81%**	N/A	N/A	**0.64%**

Note: Removed flags from values for RPD calculation

Note: Data Qualifier Definitions Listed Below:

D The analyte was diluted prior to analysis.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 2.3-1 Carpenter-Snow Creek
Groundwater Analytical Results and RPD Calculations - June 2014

STATION	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Hardness	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
CSC-15	Dissolved Metals	ug/L	<20.0U	<0.500U	0.559J	59.2	<2.00U	<0.100U	27000	2.50	1.69	0.632J	123	8020	0.196J	13600	340	0.652J	<1.00U	17300	<0.500U	106	<0.500U	2.63J	29.8
CSC-25	Dissolved Metals	ug/L	<20.0U	<0.500U	1.97J	64.6	<2.00U	<0.100U	47900	2.72	7.70	<0.500U	175	8700	<0.100U	13500	2160	1.10	<1.00U	17700	<0.500U	177	<0.500U	<2.00U	453
CSC-5	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	68.3	<2.00U	5.89	60200	2.24	8.78	2.49	252	1380	0.227	24700	1030	3.37	<1.00U	13400	<0.500U	209	<0.500U	<2.00U	248
Dup-06	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	15.2	<2.00U	0.180J	48500	<1.00U	2.66	0.870J	136	<100U	<0.100U	3670	311	<0.500U	<1.00U	25900	<0.500U	334	<0.500U	<2.00U	50.7
MW-1	Dissolved Metals	ug/L	52.5	<0.500U	<0.500U	15.1	<2.00U	0.228	12200	<1.00U	<0.100U	2.39	42	<100U	0.293	2800	<2.00U	<0.500U	<1.00U	12800	<0.500U	60.8	<0.500U	<2.00U	52.7
MW-10	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	27.6	<2.00U	14.4	26500	<1.00U	<0.100U	2.89	98	<100U	0.501	7630	4.33J	7.75	<1.00U	18200	<0.500U	176	<0.500U	<2.00U	4640
MW-11	Dissolved Metals	ug/L	20.4J	<0.500U	<0.500U	16.2	<2.00U	<0.100U	11100	<1.00U	<0.100U	0.915J	38	<100U	0.241	2600	<2.00U	<0.500U	<1.00U	12900	<0.500U	76.1	<0.500U	<2.00U	<10.0U
MW-13	Dissolved Metals	ug/L	26.5J	<0.500U	<0.500U	13.6	<2.00U	0.156J	11600	<1.00U	<0.100U	0.926J	51	<100U	0.172J	5380	<2.00U	2.26	<1.00U	11700	<0.500U	49.3	<0.500U	<2.00U	146
MW-14	Dissolved Metals	ug/L	214	<0.500U	<0.500U	21.3	<2.00U	18.1	30200	2.62	0.502	4.99	121	<100U	0.160J	11000	160	22.2	<1.00U	17400	<0.500U	133	<0.500U	<2.00U	5490
MW-2	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	14.9	<2.00U	0.339	11100	<1.00U	<0.100U	1.07	44	<100U	<0.100U	3930	<2.00U	1.01	<1.00U	11100	<0.500U	52.2	<0.500U	<2.00U	209
MW-3	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	14.8	<2.00U	0.193J	48900	<1.00U	2.71	1.13	137	<100U	0.102J	3690	318	<0.500U	<1.00U	26300	<0.500U	339	<0.500U	<2.00U	47.8
MW-4A	Dissolved Metals	ug/L	547	<0.500U	<0.500U	20.2	<2.00U	0.265	8410	<1.00U	1.81	30.9	29	342	3.75	1880	92.0	1.83	<1.00U	23800	<0.500U	55.8	<0.500U	<2.00U	30.4
MW-5	Dissolved Metals	ug/L	448	<0.500U	<0.500U	7.25J	<2.00U	0.309	7510	<1.00U	0.134J	4.36	26	302	3.22	1700	4.06J	1.12	<1.00U	23400	<0.500U	36.0	<0.500U	<2.00U	63.6
MW-6	Dissolved Metals	ug/L	37.4J	<5.00U	<5.00U	<50.0U	<2.00U	4.39D	190000	<10.0U	1.08JD	<5.00U	646	<100U	9.07D	41500	653	9.72JD	<10.0U	13500	<5.00U	323	<5.00U	<20.0U	1310
MW-6A	Dissolved Metals	ug/L	472	<0.500U	<0.500U	21.2	<2.00U	<0.100U	3930	<1.00U	0.362	1.56	15	231J	0.496	1280	2.20J	1.04	<1.00U	25600	<0.500U	27.7	<0.500U	<2.00U	14.2J
MW-8	Dissolved Metals	ug/L	<20.0U	<0.500U	0.929J	65.5	<2.00U	0.346	17900	<1.00U	6.92	1.74	57	2130	0.184J	2940	2950	<0.500U	<1.00U	30200	<0.500U	130	<0.500U	<2.00U	59.5
MW-9	Dissolved Metals	ug/L	926	<2.50U	<2.50U	<25.0U	<2.00U	140D	105000	<5.00U	1.33D	954D	402	<100U	3.25D	34200	8750	66.7D	<5.00U	29800	<2.50U	861	<2.50U	<10.0U	28400
MW-9A	Dissolved Metals	ug/L	1030	<2.50U	<2.50U	<25.0U	<2.00U	148D	81700	<5.00U	0.888JD	1740D	320	<100U	4.06D	28000	5290	60.0D	<5.00U	24000	<2.50U	652	<2.50U	<10.0U	24500
NMW-1	Dissolved Metals	ug/L	172	<0.500U	<0.500U	75.7	<2.00U	<0.100U	11400	1.01J	<0.100U	0.566J	43	300	0.520	3500	95.0	<0.500U	<1.00U	8500	<0.500U	74.6	<0.500U	<2.00U	83.6
NMW-4	Dissolved Metals	ug/L	21.7J	<0.500U	<0.500U	24.5	<2.00U	1.26	82800	1.94J	0.144J	1.38	445	<100U	0.105J	58000	<2.00U	2.95	<1.00U	11500	<0.500U	350	<0.500U	<2.00U	604

STATION	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
CSC-15	Total Metals	ug/L	57.0	<2.50U	<2.50U	58.1D	<2.00U	<0.500U	27700	<5.00U	1.75D	<2.50U	8450	1.58D	14500	354	<2.50U	<5.00U	16900	<2.50U	108	<2.50U	<10.0U	24.5
CSC-25	Total Metals	ug/L	21.6J	<2.50U	<2.50U	66.4D	<2.00U	<0.500U	48200	<5.00U	7.92D	<2.50U	9360	2.20D	13700	2150	<2.50U	<5.00U	17400	<2.50U	178	10.3D	<10.0U	414
CSC-5	Total Metals	ug/L	4520	<2.50U	4.46JD	163D	<2.00U	5.16D	62200	6.80JD	11.9D	47.9D	18700	158D	26900	1250	6.87D	<5.00U	30000	<2.50U	223	10.8D	12.7JD	365
Dup-06	Total Metals	ug/L	25.4J	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	50800	<5.00U	2.73D	<2.50U	<100U	<0.500U	3950	313	<2.50U	<5.00U	25300	<2.50U	334	<2.50U	<10.0U	44.4
MW-1	Total Metals	ug/L	211	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	12200	<5.00U	<0.500U	<2.50U	134J	0.953JD	2880	<2.00U	<2.50U	<5.00U	12900	<2.50U	60.7	<2.50U	<10.0U	48.3
MW-10	Total Metals	ug/L	66.0	<2.50U	<2.50U	29.0JD	<2.00U	13.9D	25700	<5.00U	<0.500U	4.37JD	<100U	3.83D	7550	6.37	7.20D	<5.00U	17800	<2.50U	172	<2.50U	<10.0U	4230
MW-11	Total Metals	ug/L	65.4	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	11100	<5.00U	<0.500U	<2.50U	<100U	0.946JD	2660	<2.00U	<2.50U	<5.00U	12200	<2.50U	75.1	<2.50U	<10.0U	10.0J
MW-13	Total Metals	ug/L	78.8	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	11700	<5.00U	<0.500U	<2.50U	<100U	<0.500U	5600	2.64J	<2.50U	<5.00U	11400	<2.50U	48.6	<2.50U	<10.0U	130
MW-14	Total Metals	ug/L	270	<2.50U	<2.50U	<25.0U	<2.00U	17.6D	31400	5.72JD	0.597JD	4.61JD	<100U	1.42D	11400	160	22.4D	<5.00U	16800	<2.50U	133	<2.50U	<10.0U	5060
MW-2	Total Metals	ug/L	35.9J	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	10600	<5.00U	<0.500U	<2.50U	<100U	<0.500U	3880	<2.00U	<2.50U	<5.00U	10800	<2.50U	52.1	<2.50U	<10.0U	192
MW-3	Total Metals	ug/L	29.5J	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	49100	<5.00U	2.98D	<2.50U	<100U	<0.500U	3810	321	<2.50U	<5.00U	25400	<2.50U	336	<2.50U	<10.0U	46.5
MW-4A	Total Metals	ug/L	3150	<2.50U	<2.50U	31.6JD	<2.00U	<0.500U	8400	5.02JD	2.18D	44.0D	1880	9.84D	2170	101	<2.50U	<5.00U	32800	<2.50U	57.9	<2.50U	<10.0U	42.8
MW-5	Total Metals	ug/L	1970	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	7750	<5.00U	<0.500U	8.02D	1530	23.6D	1970	11.2	<2.50U	<5.00U	28400	<2.50U	37.7	<2.50U	<10.0U	75.3
MW-6	Total Metals	ug/L	1200	21.6D	<2.50U	116D	<2.00U	11.9D	187000	7.36JD	10.0D	240D	5730	6090D	53300	3430	15.8D	<5.00U	16300	4.11JD	288	11.7D	<10.0U	1760
MW-6A	Total Metals	ug/L	827	<2.50U	<2.50U	28.4JD	<2.00U	<0.500U	3950	<5.00U	0.654JD	<2.50U	1310	4.43D	1410	8.54	<2.50U	<5.00U	26100	<2.50U	28.9	12.3D	<10.0U	15.9J
MW-8	Total Metals	ug/L	3820	<2.50U	<2.50U	112D	<2.00U	6.38D	18300	<5.00U	14.3D	126D	7040	35.6D	3870	3000	4.08JD	<5.00U	43600	<2.50U	137	<2.50U	<10.0U	300
MW-9	Total Metals	ug/L	993	<2.50U	<2.50U	<25.0U	<2.00U	139D	103000	<5.00U	1.30D	813D	<100U	4.16D	34400	8510	58.1D	<5.00U	28400	<2.50U	851	<2.50U	<10.0U	26000
MW-9A	Total Metals	ug/L	1210	<2.50U	<2.50U	25.2JD	<2.00U	153D	81200	<5.00U	0.993JD	1600D	175J	8.68D	28300	5200	54.0D	<5.00U	23900	<2.50U	645	<2.50U	<10.0U	23200
NMW-1	Total Metals	ug/L	869	<2.50U	<2.50U	84.7D	<2.00U	<0.500U	10400	<5.00U	<0.500U	<2.50U	912	1.37D	3400	100	<2.50U	<5.00U	10700	<2.50U	74.2	<2.50U	<10.0U	67.6
NMW-4	Total Metals	ug/L	27.3J	<2.50U	<2.50U	26.9JD	<2.00U	1.16D	82400	<5.00U	<0.500U	<2.50U	<100U	<0.500U	58600	<2.00U	2.62JD	<5.00U	11000	<2.50U	347	<2.50U	<10.0U	548

STATION	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Hardness	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
MW-3	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	14.8	<2.00U	0.193	48900	<1.00U	2.71	1.13	137	<100U	0.102J	3690	318	<0.500U	<1.00U	26300	<0.500U	339	<0.500U	<2.00U	47.8
Dup-06	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	15.2	<2.00U	0.18	48500	<1.00U	2.66	0.87	136	<100U	<0.100U	3670	311	<0.500U	<1.00U	25900	<0.500U	334	<0.500U	<2.00U	50.7
	RPD	%	N/A	N/A	N/A	**2.67%**	N/A	**6.97%**	**0.82%**	N/A	**1.86%**	**26.00%**	**0.73%**	N/A	N/A	**0.54%**	**2.23%**	N/A	N/A	**1.53%**	N/A	**1.49%**	N/A	N/A	**5.89%**

Note: Removed flags from cadmium and copper values for RPD calculation

STATION	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
MW-3	Total Metals	ug/L	29.5	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	49100	<5.00U	2.98	<2.50U	<100U	<0.500U	3810	321	<2.50U	<5.00U	25400	<2.50U	336	<2.50U	<10.0U	46.5
Dup-06	Total Metals	ug/L	25.4	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	50800	<5.00U	2.73	<2.50U	<100U	<0.500U	3950	313	<2.50U	<5.00U	25300	<2.50U	334	<2.50U	<10.0U	44.4
	RPD	%	**14.94%**	N/A	N/A	N/A	N/A	N/A	**3.40%**	N/A	**8.76%**	N/A	N/A	N/A	**3.61%**	**2.52%**	N/A	N/A	**0.39%**	N/A	**0.60%**	N/A	N/A	**4.62%**

Note: Removed flags fromaluminum, cadmium and copper values for RPD calculation

Note: Data Qualifier Definitions Listed Below:

D The analyte was diluted prior to analysis.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 2.3-2 Carpenter-Snow Creek
Groundwater Analytical Data - September 2014

STATION ID	ANALYSIS	UNITS	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM	COBALT	COPPER	IRON	LEAD	MAGNESIUM	MANGANESE	NICKEL	SELENIUM	SILICA (SiO2)	SILVER	STRONTIUM	THALIUM	VANADIUM	ZINC
CSC-15	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	45.8JD	<2.00U	<0.500U	17200	<5.00U	0.982JD	<2.50U	5070	<0.500U	8440	212	<2.50U	<5.00U	18800	<2.50U	74.3	<2.50U	<10.0U	18.0J
CSC-25	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	81.8D	<2.00U	<0.500U	59100	<5.00U	7.71D	<2.50U	9490	<0.500U	14900	2540	<2.50U	<5.00U	18600	<2.50U	244	<2.50U	<10.0U	468
CSC-5	Total Metals	ug/L	13200	<2.50U	8.57JD	360D	<2.00U	2.94D	58300	17.1D	12.1D	117D	30300	359D	27600	998	11.9D	<5.00U	62800	2.83JD	244	<2.50U	29.9D	556
MW-1	Total Metals	ug/L	43.5J	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	14700	<5.00U	<0.500U	<2.50U	<100U	0.542JD	3440	<2.00U	<2.50U	<5.00U	13400	<2.50U	77.5	<2.50U	<10.0U	86.3
MW-10	Total Metals	ug/L	192	<2.50U	<2.50U	40.0JD	<2.00U	17.5D	38200	<5.00U	<0.500U	4.09JD	224J	6.70D	10500	8.26	20.5D	<5.00U	20000	<2.50U	269	5.14D	<10.0U	4970
MW-11	Total Metals	ug/L	28.8J	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	12900	<5.00U	<0.500U	<2.50U	<100U	<0.500U	3230	<2.00U	7.49D	<5.00U	13100	<2.50U	91.1	<2.50U	<10.0U	<10.0U
MW-13	Total Metals	ug/L	20.6J	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	17800	<5.00U	<0.500U	<2.50U	<100U	<0.500U	8450	<2.00U	7.74D	<5.00U	13000	<2.50U	79.6	<2.50U	<10.0U	182
MW-14	Total Metals	ug/L	254	<2.50U	<2.50U	<25.0U	<2.00U	20.0D	32300	6.75JD	<0.500U	5.41D	<100U	<0.500U	11900	175	26.9D	<5.00U	17100	<2.50U	150	<2.50U	<10.0U	5780
MW-2	Total Metals	ug/L	43.8J	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	13600	<5.00U	<0.500U	<2.50U	<100U	0.876JD	4830	<2.00U	<2.50U	<5.00U	12100	<2.50U	70.2	<2.50U	<10.0U	266
MW-3	Total Metals	ug/L	65.9	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	39400	<5.00U	2.56D	<2.50U	133J	1.45D	3340	271	<2.50U	<5.00U	24400	<2.50U	289	<2.50U	<10.0U	60.4
MW-4A	Total Metals	ug/L	2080	<2.50U	<2.50U	29.8JD	<2.00U	<0.500U	10100	6.71JD	2.68D	21.6D	1290	7.52D	2450	157	<2.50U	<5.00U	30400	<2.50U	71.9	<2.50U	<10.0U	39.0
MW-5	Total Metals	ug/L	2920	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	8220	7.06JD	0.522JD	9.95D	2420	14.7D	2170	12.4	<2.50U	<5.00U	33600	<2.50U	42.4	<2.50U	<10.0U	94.0
MW-6A	Total Metals	ug/L	1170	<2.50U	<2.50U	36.2JD	<2.00U	<0.500U	3990	5.37JD	<0.500U	<2.50U	1250	2.19D	1410	7.47	<2.50U	<5.00U	27900	<2.50U	31.0	<2.50U	<10.0U	18.2J
MW-8	Total Metals	ug/L	99.5	<2.50U	<2.50U	64.4D	<2.00U	<0.500U	17000	<5.00U	6.22D	<2.50U	2000	0.843JD	2840	2790	<2.50U	<5.00U	30900	<2.50U	131	<2.50U	<10.0U	56.5
MW-9	Total Metals	ug/L	1760	<2.50U	<2.50U	<25.0U	<2.00U	216D	135000	<5.00U	1.62D	1420D	<100U	5.16D	44800	12700	83.3D	<5.00U	31600	<2.50U	1180	<2.50U	<10.0U	36000
MW-9A	Total Metals	ug/L	1280	<2.50U	<2.50U	27.5JD	<2.00U	165D	95800	<5.00U	0.726JD	1820D	<100U	5.19D	32400	5890	56.9D	<5.00U	27300	<2.50U	812	<2.50U	<10.0U	25200
NMW-1	Total Metals	ug/L	736	<2.50U	<2.50U	75.8D	<2.00U	<0.500U	9710	<5.00U	<0.500U	<2.50U	836	1.02D	3230	80.5	<2.50U	<5.00U	11100	<2.50U	73.8	<2.50U	<10.0U	69.9
NMW-3	Total Metals	ug/L	42.9J	<2.50U	<2.50U	101D	<2.00U	<0.500U	35000	<5.00U	0.507JD	<2.50U	125J	<0.500U	16300	1760	3.55JD	<5.00U	11500	<2.50U	207	<2.50U	<10.0U	104
NMW-4	Total Metals	ug/L	28.3J	<2.50U	<2.50U	30.5JD	<2.00U	1.08D	95100	<5.00U	<0.500U	<2.50U	<100U	<0.500U	66600	8.96	<2.50U	<5.00U	13000	<2.50U	426	<2.50U	<10.0U	571
Dup-6	Total Metals	ug/L	72.1	<2.50U	<2.50U	70.1D	<2.00U	<0.500U	17100	<5.00U	6.09D	<2.50U	2000	0.644JD	2860	2780	<2.50U	<5.00U	31000	<2.50U	130	<2.50U	<10.0U	59.5

STATION ID	ANALYSIS	UNITS	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM	COBALT	COPPER	HARDNESS (mg/L)	IRON	LEAD	MAGNESIUM	MANGANESE	NICKEL	SELENIUM	SILICA (SiO2)	SILVER	STRONTIUM	THALLIUM	VANADIUM	ZINC
CSC-15	Dissolved Metals	ug/L	<20.0U	<0.500U	0.542J	42.4	<2.00U	<0.100U	17300	<1.00U	0.990	<0.500U	79	5140	0.179J	8590	212	<0.500U	<1.00U	19000	<0.500U	73.7	<0.500U	2.81J	16.7J
CSC-25	Dissolved Metals	ug/L	32.1J	<0.500U	2.10	80.6	<2.00U	<0.100U	63000	1.11J	8.23	0.504J	221	9420	0.111J	15500	2590	<0.500U	<1.00U	18900	<0.500U	254	<0.500U	<2.00U	462
CSC-5	Dissolved Metals	ug/L	20.4J	<0.500U	<0.500U	61.3	<2.00U	1.38	57600	<1.00U	4.14	3.52	243	527	0.766	24100	549	1.41	<1.00U	13300	<0.500U	202	<0.500U	<2.00U	221
MW-1	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	21.3	<2.00U	0.489	15600	<1.00U	0.110J	2.16	54	<100U	0.407	3650	<2.00U	<0.500U	<1.00U	13400	<0.500U	76.1	<0.500U	<2.00U	90.6
MW-10	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	38.8	<2.00U	19.8	37900	<1.00U	0.121J	3.78	139	<100U	0.957	10700	5.07	9.35	<1.00U	20300	<0.500U	258	<0.500U	<2.00U	5780
MW-11	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	21.3	<2.00U	0.116J	12800	<1.00U	<0.100U	0.573J	45	<100U	<0.100U	3210	<2.00U	<0.500U	<1.00U	13100	<0.500U	88.1	<0.500U	<2.00U	<10.0U
MW-13	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	21.8	<2.00U	0.250	17800	<1.00U	<0.100U	1.03	80	<100U	<0.100U	8500	<2.00U	2.96	<1.00U	13300	<0.500U	77.5	<0.500U	<2.00U	193
MW-14	Dissolved Metals	ug/L	248	<0.500U	<0.500U	18.9	<2.00U	20.3	32000	2.84	0.202	5.40	128	<100U	0.131J	11700	174	22.0	<1.00U	17500	0.675J	147	<0.500U	<2.00U	6110
MW-2	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	21.0	<2.00U	0.538	13700	<1.00U	<0.100U	0.975J	54	<100U	<0.100U	4890	<2.00U	1.05	<1.00U	12300	<0.500U	67.7	<0.500U	<2.00U	282
MW-3	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	15.0	<2.00U	0.248	39000	<1.00U	1.18	1.53	111	<100U	0.483	3290	227	<0.500U	<1.00U	24600	<0.500U	280	<0.500U	<2.00U	66.1
MW-4A	Dissolved Metals	ug/L	618	<0.500U	<0.500U	22.5	<2.00U	0.289	9920	<1.00U	2.50	15.8	34	446	4.43	2270	148	1.48	<1.00U	24900	<0.500U	67.2	<0.500U	<2.00U	33.5
MW-5	Dissolved Metals	ug/L	2570	<0.500U	<0.500U	13.5	<2.00U	0.334	7950	1.21J	0.269	6.37	28	1400	6.24	2030	7.81	1.26	<1.00U	32900	<0.500U	40.3	<0.500U	<2.00U	84.8
MW-6A	Dissolved Metals	ug/L	746	<0.500U	<0.500U	31.3	<2.00U	0.127J	3990	<1.00U	0.314	1.37	15	444	0.816	1330	3.23J	0.920J	<1.00U	27100	<0.500U	29.7	<0.500U	<2.00U	15.3J
MW-8	Dissolved Metals	ug/L	27.4J	<0.500U	1.11J	68.8	<2.00U	0.287	16700	<1.00U	6.22	1.56	53	1890	0.216	2830	2780	<0.500U	<1.00U	31300	<0.500U	128	<0.500U	<2.00U	65.6
MW-9	Dissolved Metals	ug/L	1740	<2.50U	<2.50U	<25.0U	<2.00U	219D	133000	<5.00U	1.76D	1550D	514	<100U	5.03D	44500	12600	90.0D	<5.00U	32300	<2.50U	1150	<2.50U	<10.0U	37700
MW-9A	Dissolved Metals	ug/L	1230	<0.500U	0.521J	25.9	<2.00U	168	93900	<1.00U	0.714	1730	366	<100U	4.39	32000	5750	56.2	1.11J	27100	<0.500U	783	<0.500U	<2.00U	25800
NMW-1	Dissolved Metals	ug/L	571	<0.500U	0.863J	74.5	<2.00U	0.119J	9730	<1.00U	<0.100U	1.07	38	506	0.562	3210	69.2	<0.500U	<1.00U	10600	<0.500U	71.3	<0.500U	<2.00U	70.7
NMW-3	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	94.4	<2.00U	0.581	34900	<1.00U	0.480	0.625J	154	<100U	0.146J	16200	1680	4.69	<1.00U	11800	<0.500U	200	<0.500U	<2.00U	106
NMW-4	Dissolved Metals	ug/L	24.1J	<0.500U	0.558J	30.6	<2.00U	1.29	94100	1.43J	0.162J	1.47	509	<100U	<0.100U	66600	8.60	2.32	<1.00U	13100	<0.500U	416	<0.500U	<2.00U	604
Dup-6	Dissolved Metals	ug/L	34.6J	<0.500U	1.07J	69.5	<2.00U	0.324	17700	<1.00U	5.85	1.44	56	1960	0.203	2970	2790	<0.500U	<1.00U	31500	<0.500U	129	<0.500U	<2.00U	65.5

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	HARDNESS (mg/L)	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
MW-8	Dissolved Metals	ug/L	27.4	<0.500U	1.11	68.8	<2.00U	0.287	16700	<1.00U	6.22	1.56	53	1890	0.216	2830	2780	<0.500U	<1.00U	31300	<0.500U	128	<0.500U	<2.00U	65.6
Dup-6	Dissolved Metals	ug/L	34.6	<0.500U	1.07	69.5	<2.00U	0.324	17700	<1.00U	5.85	1.44	56	1960	0.203	2970	2790	<0.500U	<1.00U	31500	<0.500U	129	<0.500U	<2.00U	65.5
	RPD	%	**23.23%**	N/A	**3.67%**	**1.01%**	N/A	**12.11%**	**5.81%**	N/A	**6.13%**	**8.00%**	**5.50%**	**3.64%**	**6.21%**	**4.83%**	**0.36%**	N/A	N/A	**0.64%**	N/A	**0.78%**	N/A	N/A	**0.15%**

Note: Removed flags from values for RPD calculation

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
MW-8	Total Metals	ug/L	99.5	<2.50U	<2.50U	64.4	<2.00U	<0.500U	17000	<5.00U	6.22	<2.50U	2000	0.843	2840	2790	<2.50U	<5.00U	30900	<2.50U	131	<2.50U	<10.0U	56.5
Dup-6	Total Metals	ug/L	72.1	<2.50U	<2.50U	70.1	<2.00U	<0.500U	17100	<5.00U	6.09	<2.50U	2000	0.644	2860	2780	<2.50U	<5.00U	31000	<2.50U	130	<2.50U	<10.0U	59.5
	RPD	%	**31.93%**	N/A	N/A	**8.48%**	N/A	N/A	**0.59%**	N/A	**2.11%**	N/A	**0.00%**	**26.77%**	**0.70%**	**0.36%**	N/A	N/A	**0.32%**	N/A	**0.77%**	N/A	N/A	**5.17%**

Note: Removed flags from values for RPD calculation

Note: Data Qualifier Definitions Listed Below:

D The analyte was diluted prior to analysis.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 2.4-1 Carpenter-Snow Creek
Sediment Analytical Data - September 2014

STATION_ID	ANALYSIS	Matrix	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
			mg/kg dry wt	ug/kg dry wt	ug/kg dry wt	ug/kg dry wt	mg/kg dry wt	ug/kg dry wt	mg/kg dry wt	ug/kg dry wt	ug/kg dry wt	ug/kg dry wt	mg/kg dry wt	mg/kg dry wt	mg/kg dry wt	mg/kg dry wt	ug/kg dry wt	ug/kg dry wt	mg/kg dry wt	ug/kg dry wt	mg/kg dry wt	ug/kg dry wt	ug/kg dry wt	mg/kg dry wt
CSC-101	Total Metals	Sediment	6200D	1240D	29200D	301000D	<2.01U	9380D	4120D	14900D	8530D	1310000D	28400D	3920D	3770D	2880D	15700D	<1000U	4280D	21500D	25.8D	<501U	22200D	2240D
CSC-101B	Total Metals	Sediment	6160D	661JD	17100D	283000D	<2.03U	5820D	4200D	16100D	8040D	485000D	21900D	1750D	4750D	2240D	15700D	<1010U	4060D	9600D	19.3D	1080D	22300D	1300D
CSC-102	Total Metals	Sediment	9150D	<503U	12000D	432000D	<2.01U	5560D	5900D	23700D	8770D	24900D	18400D	307D	5980D	1450D	26100D	<1010U	3990D	4360D	41.4D	1470D	15500D	1680D
CSC-103	Total Metals	Sediment	4220D	2220D	39000D	205000D	<2.01U	14700D	3000D	10400D	9610D	2100000D	34300D	6840D	2590D	4420D	11700D	<1000U	3940D	36900D	14.4D	<502U	25700D	2660D
CSC-104	Total Metals	Sediment	4910D	1540D	32400D	160000D	<2.00U	15600D	2040D	11700D	13400D	1220000D	27200D	3700D	3100D	5490D	20900D	<998U	3620D	17000D	10.9D	<499U	22400D	2490D
CSC-104A	Total Metals	Sediment	3920D	2030D	40000D	184000D	<2.03U	12300D	2100D	9950D	8040D	1960000D	32700D	5930D	2460D	3480D	8890D	<1010U	3720D	31900D	11.0D	<507U	24200D	2140D
CSC-105	Total Metals	Sediment	8480D	1080D	31200D	347000D	<2.02U	24600D	3120D	21000D	23700D	79700D	24900D	529D	5400D	9070D	52600D	<1010U	4060D	9350D	19.8D	<504U	23200D	4780D
CSC-106	Total Metals	Sediment	8910D	1360D	50900D	332000D	<1.98U	21500D	3520D	25900D	20900D	88200D	28000D	635D	5660D	7290D	48600D	<988U	4060D	17100D	17.9D	<494U	24300D	4540D
CSC-107	Total Metals	Sediment	9880D	3340D	111000D	213000D	<1.97U	14200D	3250D	61000D	29000D	68700D	31400D	674D	5960D	8090D	50000D	<985U	4250D	37300D	10.6D	530JD	24000D	2990D
CSC-108	Total Metals	Sediment	7880D	1600D	49200D	382000D	<1.98U	43500D	2950D	21900D	21100D	187000D	26200D	873D	4610D	12800D	51800D	<992U	3870D	20400D	14.2D	<496U	19800D	5240D
CSC-111A	Total Metals	Sediment	3970D	2210D	42000D	172000D	<2.03U	11500D	2460D	9880D	8310D	2050000D	36100D	6240D	2580D	3160D	10200D	<1010U	3720D	30100D	11.0D	<506U	25200D	2080D
CSC-112	Total Metals	Sediment	2840D	1690D	37900D	162000D	<2.01U	11200D	2080D	7630D	7220D	1910000D	32800D	6090D	1950D	3690D	7770D	<1000U	3460D	35600D	8.76JD	<502U	22600D	1900D
CSC-113	Total Metals	Sediment	2610D	2280D	40500D	180000D	<1.99U	9170D	2890D	7830D	6500D	2070000D	37000D	6290D	2280D	3960D	7980D	<994U	3540D	31700D	10.2D	<497U	24000D	1620D
CSC-114A	Total Metals	Sediment	3140D	2170D	55200D	190000D	<2.02U	10500D	2340D	8740D	8800D	2290000D	36200D	7700D	1890D	2910D	7700D	<1010U	3650D	48400D	10.1D	<505U	25500D	1650D
CSC-115A	Total Metals	Sediment	3220D	2200D	44900D	198000D	<1.97U	10400D	2700D	8710D	6670D	2470000D	35400D	8400D	1810D	2870D	7850D	<984U	3460D	42300D	12.1D	<492U	25600D	1900D
CSC-116	Total Metals	Sediment	2550D	2350D	47900D	196000D	<2.01U	7480D	2090D	7900D	5390D	2710000D	36400D	9980D	1440D	2030D	6030D	<1010U	3600D	46600D	9.58JD	<503U	23400D	1010D
CSC-116B	Total Metals	Sediment	3310D	1930D	39900D	203000D	<2.01U	7230D	2230D	9380D	7110D	2630000JD	35500D	7340D	1980D	3090D	6560D	<1010U	3450D	37300D	9.16JD	<503U	25700D	1260D
CSC-117	Total Metals	Sediment	8240D	878JD	33200D	99300D	<1.99U	6640D	2080D	15800D	44400D	908000D	50300D	4100D	4320D	8230D	10100D	<996U	4170D	20300D	16.1D	1330D	23800D	1220D
CSC-119	Total Metals	Sediment	2100D	2590D	40800D	171000D	<1.99U	9950D	1620D	6510D	4720D	2670000D	34100D	8810D	1110D	2020D	5580D	<996U	3220D	48800D	8.67JD	1360D	20400D	1160D
CSC-120A	Total Metals	Sediment	7700D	<509U	13600D	78900D	<2.04U	857D	4080D	14100D	10700D	19100D	18200D	339D	5800D	318D	10200D	<1020U	3520D	<509U	23.8D	<509U	36200D	255D
Dup-01	Total Metals	Sediment	3520D	2090D	33400D	130000D	<2.03U	12600D	1910D	8870D	7530D	2010000D	30000D	5580D	2320D	3120D	8300D	<1010U	3490D	30100D	9.78JD	<507U	22700D	2070D
Dup-02	Total Metals	Sediment	2710D	2040D	40500D	162000D	<2.01U	11100D	2240D	7290D	6980D	2060000D	33700D	6320D	1860D	3290D	7940D	<1000U	3410D	30000D	8.68JD	<501U	23000D	1860D
Dup-03	Total Metals	Sediment	8060D	<501U	4840D	175000D	<2.00U	314D	2440D	18900D	7200D	13300D	16700D	31.9D	5750D	277D	20700D	<1000U	3600D	<501U	21.7D	<501U	13600D	49.8D
Dup-04	Total Metals	Sediment	11600D	2980D	111000D	277000D	<2.00U	16100D	2890D	70000D	38300D	82000D	31600D	723D	6820D	8920D	65600D	<999U	4620D	39500D	11.2D	599JD	25900D	3120D
ST004	Total Metals	Sediment	7530D	<509U	7680D	129000D	<2.03U	1440D	3360D	15900D	6710D	16000D	18000D	116D	6060D	1050D	18900D	<1020U	3480D	<509U	23.5D	<509U	13100D	582D
ST005	Total Metals	Sediment	6990D	<508U	12000D	288000D	<2.03U	2890D	4180D	17900D	6370D	17400D	19000D	322D	5520D	1590D	19300D	<1020U	3980D	2490D	25.4D	<508U	13100D	1130D
ST009B	Total Metals	Sediment	4330D	1070D	36900D	882000D	<2.01U	37000D	23100D	9980D	10500D	29800D	60600D	499D	10200D	14400D	25200D	<1010U	6670D	7780D	27.8D	<504U	9930D	5660D
ST010A	Total Metals	Sediment	6840D	<505U	4760D	152000D	<2.02U	246D	2710D	17100D	6300D	10900D	16400D	22.0JD	4800D	280D	18600D	<1010U	3510D	<505U	20.6D	<505U	11200D	41.9D
ST015	Total Metals	Sediment	9350D	2430D	90000D	528000D	<1.97U	13600D	19300D	22800D	17200D	105000D	28000D	3810D	6970D	7230D	27000D	<986U	5050D	45800D	36.0D	1120D	24200D	5010D
ST015A	Total Metals	Sediment	7480D	<506U	6580D	179000D	<2.02U	964D	2510D	18000D	6770D	13600D	16500D	86.2D	5560D	714D	19600D	<1010U	3550D	547JD	20.2D	<506U	12500D	365D
ST016	Total Metals	Sediment	5120D	614JD	12200D	370000D	<2.02U	8110D	18900D	10900D	34500D	22200D	19400D	614D	5170D	20600D	75400D	<1010U	4150D	4610D	51.4D	7780D	14800D	4970D
ST016A	Total Metals	Sediment	6690D	<508U	6460D	172000D	<2.03U	698D	1990D	15500D	5680D	12400D	15300D	110D	4470D	388D	15400D	<1020U	3410D	<508U	18.1D	<508U	10700D	192D

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
CSC-104A	Total Metals	Sediment	3920	2030	40000	184000	<2.03U	12300	2100	9950	8040	1960000	32700	5930	2460	3480	8890	<1010U	3720	31900	11	<507U	24200	2140
Dup-01	Total Metals	Sediment	3520	2090	33400	130000	<2.03U	12600	1910	8870	7530	2010000	30000	5580	2320	3120	8300	<1010U	3490	30100	9.78	<507U	22700	2070
	RPD	%	**10.75%**	**2.91%**	**17.98%**	**34.39%**	N/A	**2.41%**	**9.48%**	**11.48%**	**6.55%**	**2.52%**	**8.61%**	**6.08%**	**5.86%**	**10.91%**	**6.86%**	N/A	**6.38%**	**5.81%**	**11.74%**	N/A	**6.40%**	**3.33%**

Note: Removed flags from values for RPD calculation

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
CSC-112	Total Metals	Sediment	2840	1690	37900	162000	<2.01U	11200	2080	7630	7220	1910000	32800	6090	1950	3690	7770	<1000U	3460	35600	8.76	<502U	22600	1900
Dup-02	Total Metals	Sediment	2710	2040	40500	162000	<2.01U	11100	2240	7290	6980	2060000	33700	6320	1860	3290	7940	<1000U	3410	30000	8.68	<501U	23000	1860
	RPD	%	**4.68%**	**18.77%**	**6.63%**	**0.00%**	N/A	**0.90%**	**7.41%**	**4.56%**	**3.38%**	**7.56%**	**2.71%**	**3.71%**	**4.72%**	**11.46%**	**2.16%**	N/A	N/A	**17.07%**	**0.92%**	N/A	**1.75%**	**2.13%**

Note: Removed flags from values for RPD calculation

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
ST010A	Total Metals	Sediment	6840	<505U	4760	152000	<2.02U	246	2710	17100	6300	10900	16400	22	4800	280	18600	<1010U	3510	<505U	20.6	<505U	11200	41.9
Dup-03	Total Metals	Sediment	8060	<501U	4840	175000	<2.00U	314	2440	18900	7200	13300	16700	31.9	5750	277	20700	<1000U	3600	<501U	21.7	<501U	13600	49.8
	RPD	%	**16.38%**	N/A	**1.67%**	**14.07%**	N/A	**24.29%**	**10.49%**	**10.00%**	**13.33%**	**19.83%**	**1.81%**	**36.73%**	**18.01%**	**1.08%**	**10.69%**	N/A	**2.53%**	N/A	**5.20%**	N/A	**19.35%**	**17.23%**

Note: Removed flags from values for RPD calculation

STATION_ID	ANALYSIS	UNITS	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
CSC-107	Total Metals	Sediment	9880	3340	111000	213000	<1.97U	14200	3250	61000	29000	68700	31400	674	5960	8090	50000	<985U	4250	37300	10.6	530	24000	2990
Dup-04	Total Metals	Sediment	11600	2980	111000	277000	<2.00U	16100	2890	70000	38300	82000	31600	723	6820	8920	65600	<999U	4620	39500	11.2	599	25900	3120
	RPD	%	**16.01%**	**11.39%**	**0.00%**	**26.12%**	N/A	**12.54%**	**11.73%**	**13.74%**	**27.64%**	**17.65%**	**0.63%**	**7.02%**	**13.46%**	**9.76%**	**26.99%**	N/A	**8.34%**	**5.73%**	**5.50%**	**12.22%**	**7.62%**	**4.26%**

Note: Removed flags from values for RPD calculation

Note: Data Qualifier Definitions Listed Below:

D The analyte was diluted prior to analysis.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Figures

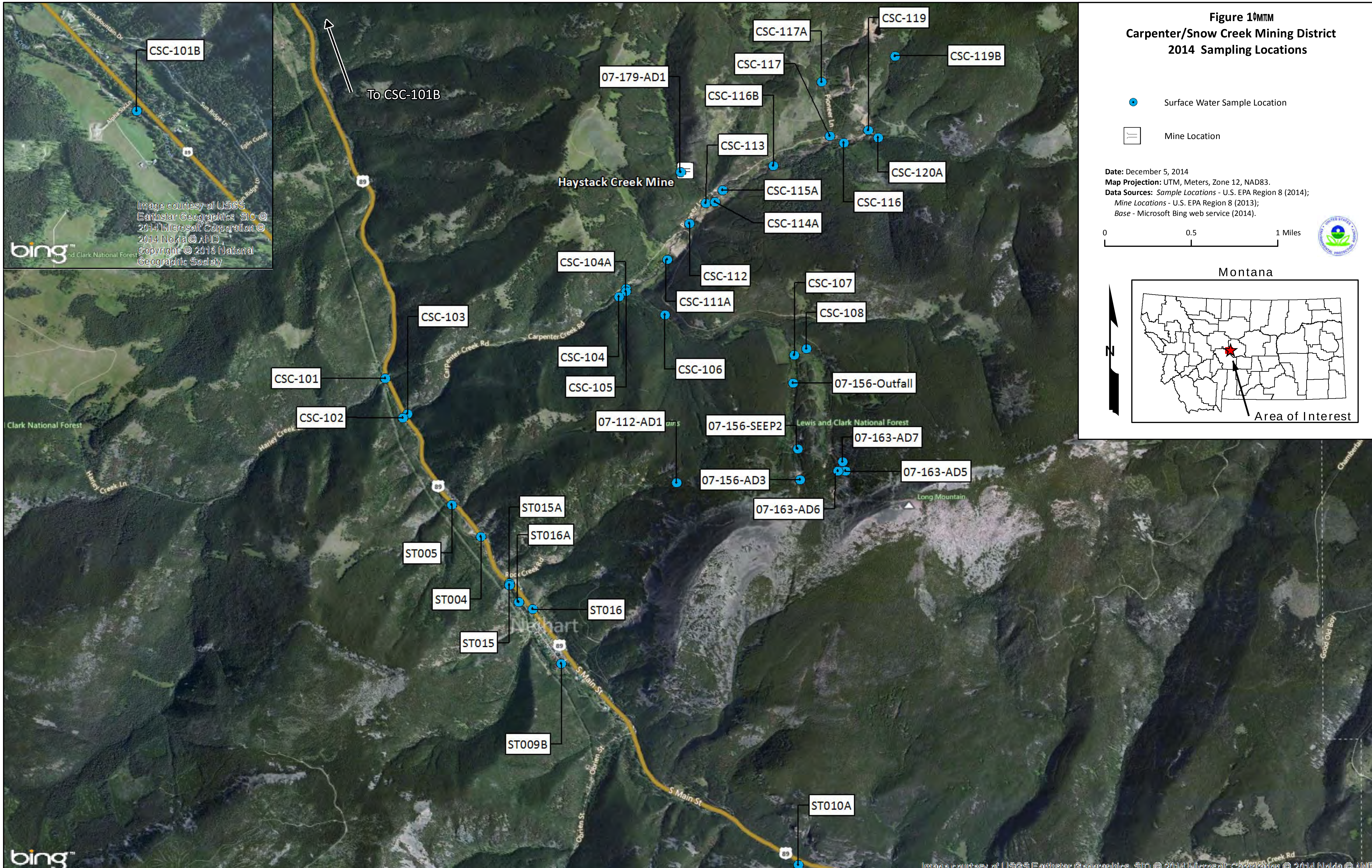


Figure 1ɸMπM
Carpenter/Snow Creek Mining District
2014 Sampling Locations
Surface Water Sample Location
Mine Location
Date: December 5, 2014
Map Projection: UTM, Meters, Zone 12, NAD83.
Data Sources: Sample Locations - U.S. EPA Region 8 (2014);
Mine Locations - U.S. EPA Region 8 (2013);
Base - Microsoft Bing web service (2014).
0
0.5
1 Miles
Montana
N
Area of Interest
CSC-101B
To CSC-101B
07-179-AD1
CSC-117A
CSC-119
CSC-119B
CSC-117
CSC-116B
CSC-113
Haystack Creek Mine
CSC-115A
CSC-114A
CSC-120A
CSC-116
CSC-104A
CSC-112
CSC-111A
CSC-107
CSC-108
CSC-103
CSC-104
CSC-106
CSC-105
07-156-Outfall
CSC-101
CSC-102
07-112-AD1
07-156-SEEP2
07-163-AD7
07-163-AD5
07-156-AD3
07-163-AD6
Long Mountain
Lewis and Clark National Forest
Carpenter Creek Rd
ST015A
ST016A
ST005
ST004
ST016
ST015
Neihart
ST009B
S Main St
ST010A
bing
Image courtesy of USGS Earthstar Geographics SIO © 2014 Microsoft Corporation © 2014 Nokia © AND
Image courtesy of USGS Earthstar Geographics SIO © 2014 Microsoft Corporation © 2014 Nokia © AND Copyright © 2013 National Geographic Society

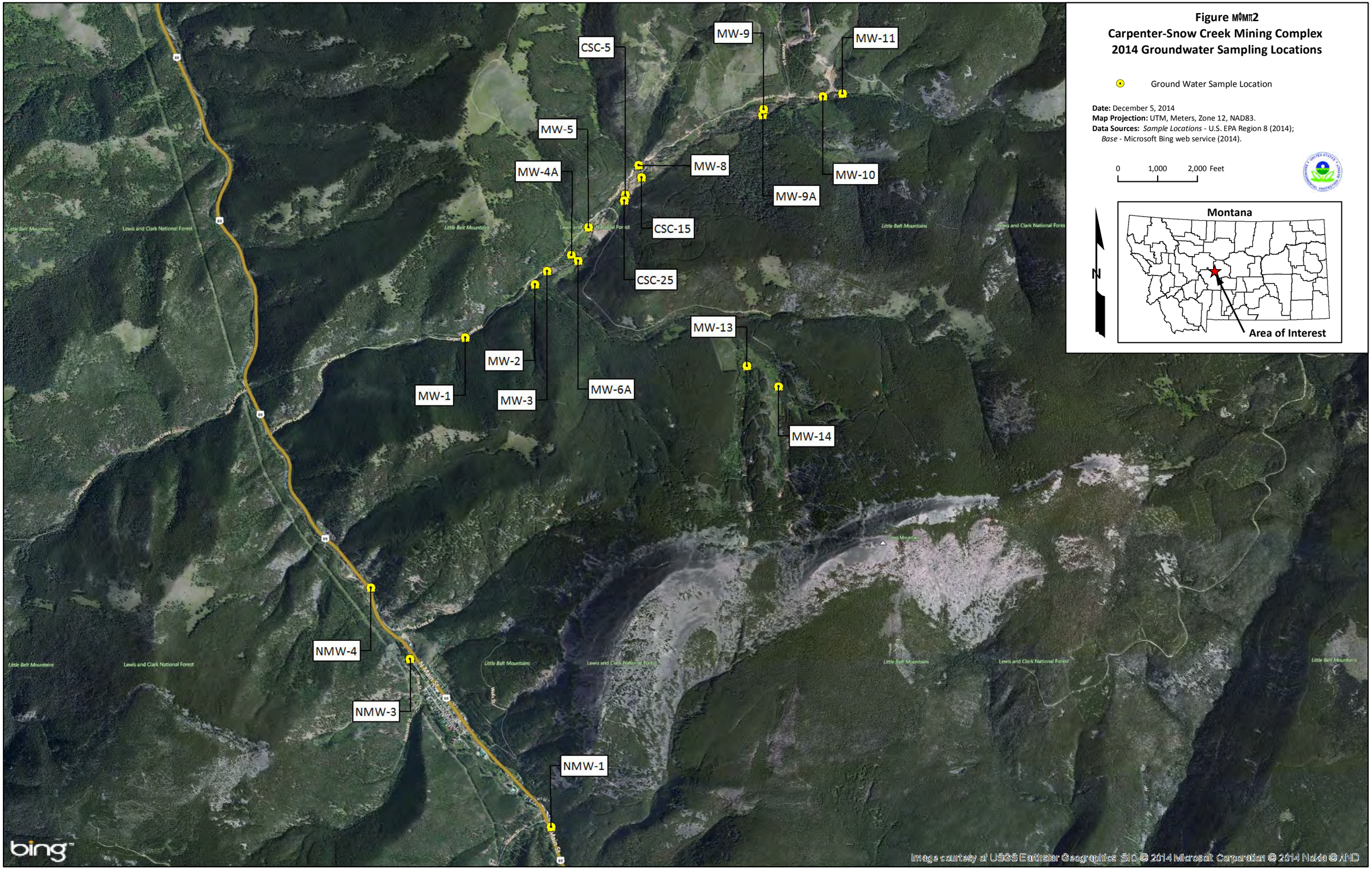


Figure MMT2
Carpenter-Snow Creek Mining Complex
2014 Groundwater Sampling Locations

⊙ Ground Water Sample Location

Date: December 5, 2014
Map Projection: UTM, Meters, Zone 12, NAD83.
Data Sources: *Sample Locations* - U.S. EPA Region 8 (2014);
Base - Microsoft Bing web service (2014).

0 1,000 2,000 Feet

Attachment A
Flow Data Sheets

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC102.WAD
Start Date and Time	2014/06/16 11:37:08

Site Details

Site Name	CSC102
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3512
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.2%	2.2%
Velocity	1.5%	9.3%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.3%	-
Overall	**3.5%**	**9.6%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	LEW	Total Width	15.100
Mean SNR	44.0 dB	Total Area	16.183
Mean Temp	45.89 °F	Mean Depth	1.072
Disch. Equation	Mid-Section	Mean Velocity	1.6302
		Total Discharge	**26.3816**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	11:37	5.50	None	0.350	0.0	0.0	0.0000	1.00	4.4012	0.123	0.5394	2.0
1	11:38	6.20	0.6	0.350	0.6	0.140	4.4012	1.00	4.4012	0.245	1.0787	4.1
2	*11:39*	*6.90*	*0.6*	*0.300*	*0.6*	*0.120*	*0.8241*	*1.00*	*0.8241*	*0.210*	*0.1730*	*0.7*
3	*11:42*	*7.60*	*0.6*	*0.700*	*0.6*	*0.280*	*0.2641*	*1.00*	*0.2641*	*0.490*	*0.1295*	*0.5*
4	11:43	8.30	0.6	0.800	0.6	0.320	0.6677	1.00	0.6677	0.560	0.3739	1.4
5	*11:44*	*9.00*	*0.6*	*1.000*	*0.6*	*0.400*	*0.6302*	*1.00*	*0.6302*	*0.700*	*0.4413*	*1.7*
6	11:45	9.70	0.6	1.050	0.6	0.420	0.8035	1.00	0.8035	0.735	0.5906	2.2
7	11:47	10.40	0.6	1.000	0.6	0.400	3.4078	1.00	3.4078	0.700	2.3859	9.0
8	*11:48*	*11.10*	*0.6*	*1.300*	*0.6*	*0.520*	*2.1926*	*1.00*	*2.1926*	*0.910*	*1.9954*	*7.6*
9	11:49	11.80	0.6	1.300	0.6	0.520	2.4941	1.00	2.4941	0.910	2.2698	8.6
10	11:51	12.50	0.6	1.400	0.6	0.560	0.8002	1.00	0.8002	0.980	0.7843	3.0
11	*11:52*	*13.20*	*0.6*	*1.450*	*0.6*	*0.580*	*1.3625*	*1.00*	*1.3625*	*1.015*	*1.3834*	*5.2*
12	*11:53*	*13.90*	*0.6*	*1.500*	*0.6*	*0.600*	*2.3757*	*1.00*	*2.3757*	*1.050*	*2.4949*	*9.5*
13	*11:55*	*14.60*	*0.6*	*1.800*	*0.6*	*0.720*	*1.9692*	*1.00*	*1.9692*	*1.260*	*2.4814*	*9.4*
14	*11:56*	*15.30*	*0.6*	*1.800*	*0.6*	*0.720*	*1.5928*	*1.00*	*1.5928*	*1.260*	*2.0072*	*7.6*
15	*11:58*	*16.00*	*0.6*	*1.500*	*0.6*	*0.600*	*1.8753*	*1.00*	*1.8753*	*1.050*	*1.9695*	*7.5*
16	*11:59*	*16.70*	*0.6*	*1.350*	*0.6*	*0.540*	*1.5253*	*1.00*	*1.5253*	*0.945*	*1.4417*	*5.5*
17	*12:00*	*17.40*	*0.6*	*1.300*	*0.6*	*0.520*	*1.2822*	*1.00*	*1.2822*	*0.910*	*1.1669*	*4.4*
18	*12:02*	*18.10*	*0.6*	*0.900*	*0.6*	*0.360*	*1.4350*	*1.00*	*1.4350*	*0.630*	*0.9042*	*3.4*
19	*12:03*	*18.80*	*0.6*	*0.800*	*0.6*	*0.320*	*1.1670*	*1.00*	*1.1670*	*0.560*	*0.6535*	*2.5*
20	*12:04*	*19.50*	*0.6*	*0.800*	*0.6*	*0.320*	*1.1906*	*1.00*	*1.1906*	*0.719*	*0.8559*	*3.2*
21	12:04	20.60	None	0.400	0.0	0.0	0.0000	1.00	1.1906	0.219	0.2613	1.0

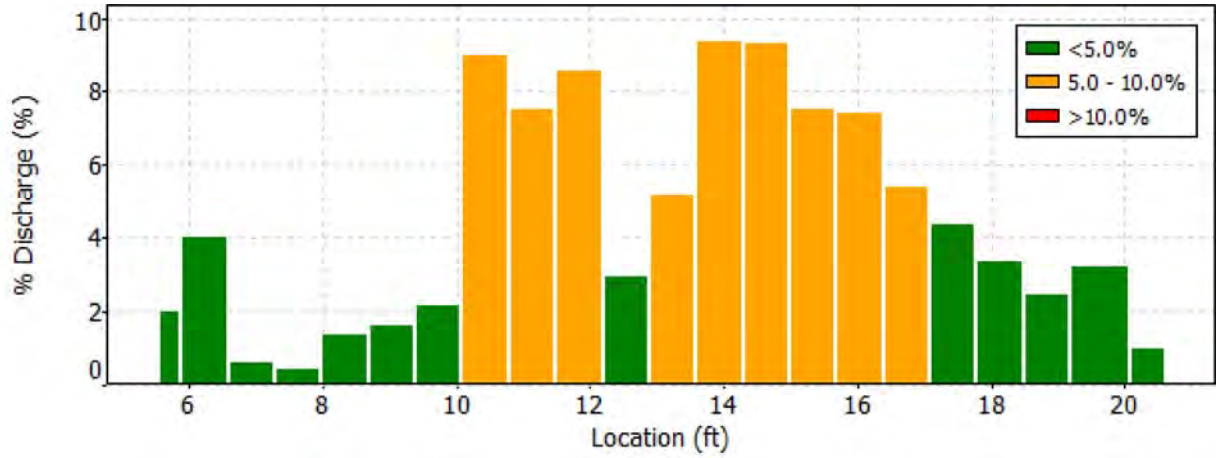
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

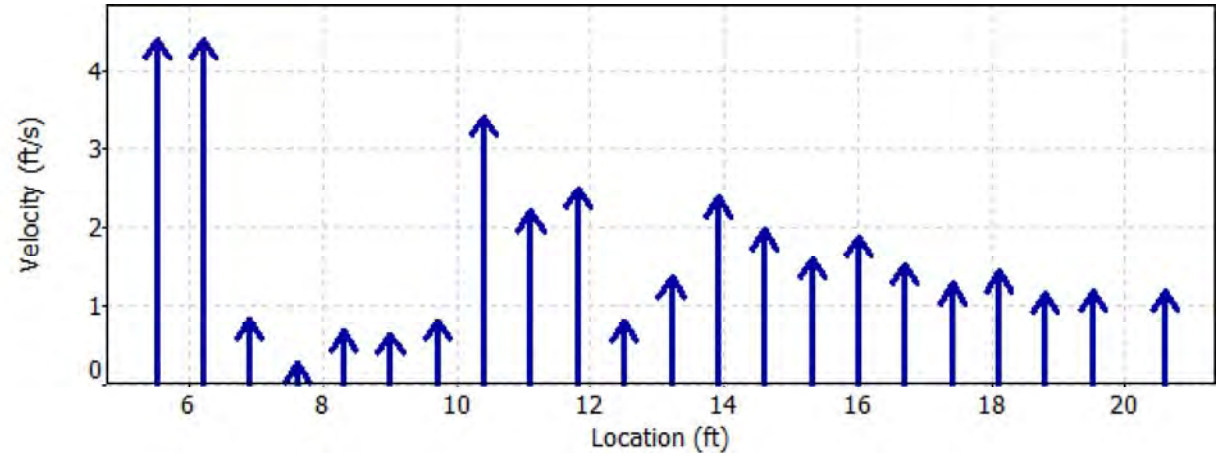
Discharge Measurement Summary

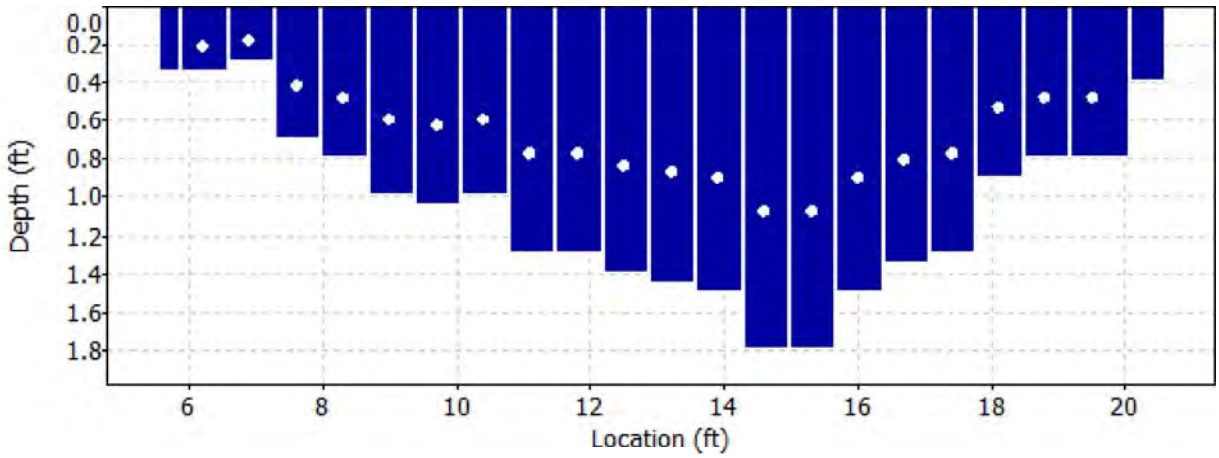
Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC102.WAD
Start Date and Time	2014/06/16 11:37:08

Site Details	
Site Name	CSC102
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC102.WAD
Start Date and Time	2014/06/16 11:37:08

Site Details

Site Name	CSC102
Operator(s)	LC

Quality Control

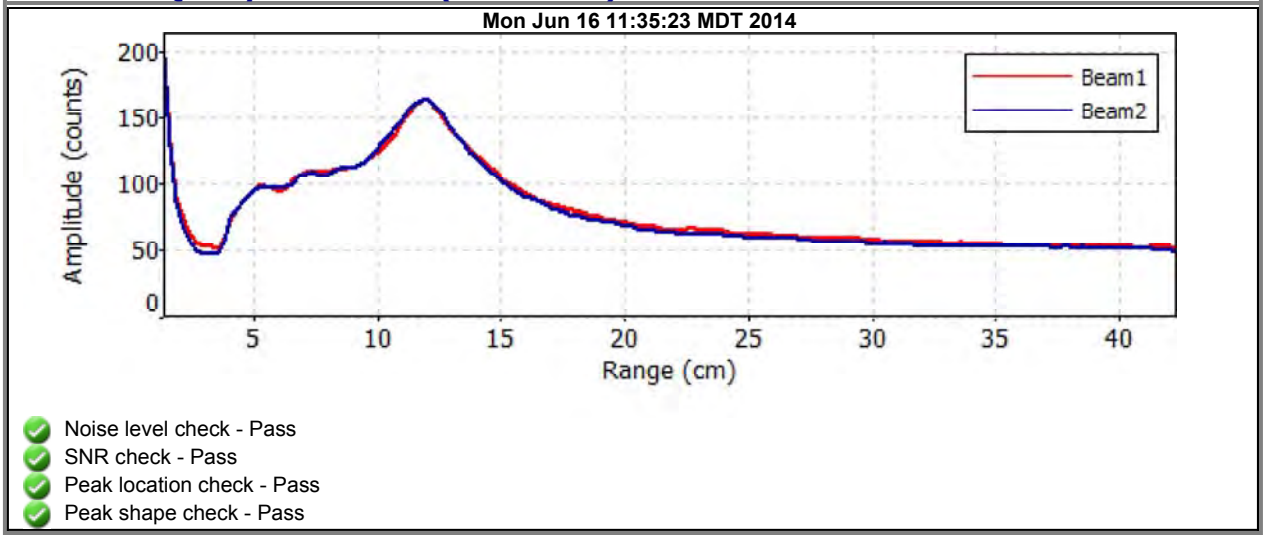
St	Loc	%Dep	Message
2	6.90	0.6	High angle: 34
3	7.60	0.6	High angle: -24
5	9.00	0.6	High standard error: 0.148
8	11.10	0.6	High standard error: 0.134
11	13.20	0.6	High standard error: 0.131
12	13.90	0.6	High standard error: 0.157
13	14.60	0.6	High angle: -30
14	15.30	0.6	High angle: -33
15	16.00	0.6	High angle: -40
16	16.70	0.6	High angle: -28
17	17.40	0.6	High angle: -34
18	18.10	0.6	High angle: -22
19	18.80	0.6	High angle: -36
20	19.50	0.6	High angle: -49

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	CSC102.WAD	Site Name	CSC102
Start Date and Time	2014/06/16 11:37:08	Operator(s)	LC

Automatic Quality Control Test (BeamCheck)



- Noise level check - Pass
- SNR check - Pass
- Peak location check - Pass
- Peak shape check - Pass

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC104.WAD
Start Date and Time	2014/06/16 12:58:13

Site Details

Site Name	CSC104
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3512
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.4%	2.5%
Velocity	1.3%	7.1%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.3%	-
Overall	**3.4%**	**7.6%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	REW	Total Width	17.400
Mean SNR	39.2 dB	Total Area	11.897
Mean Temp	46.19 °F	Mean Depth	0.684
Disch. Equation	Mid-Section	Mean Velocity	1.5671
		Total Discharge	**18.6434**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	12:58	18.40	None	0.200	0.0	0.0	0.0000	1.00	0.9505	0.080	0.0761	0.4
1	*12:58*	*19.20*	*0.6*	*0.400*	*0.6*	*0.160*	*0.9505*	*1.00*	*0.9505*	*0.320*	*0.3042*	*1.6*
2	12:59	20.00	0.6	0.600	0.6	0.240	2.5869	1.00	2.5869	0.480	1.2422	6.7
3	13:00	20.80	0.6	0.600	0.6	0.240	1.9350	1.00	1.9350	0.480	0.9291	5.0
4	*13:01*	*21.60*	*0.6*	*0.600*	*0.6*	*0.240*	*1.1499*	*1.00*	*1.1499*	*0.480*	*0.5522*	*3.0*
5	13:03	22.40	0.6	0.800	0.6	0.320	0.3891	1.00	0.3891	0.640	0.2490	1.3
6	13:04	23.20	0.6	0.700	0.6	0.280	1.4281	1.00	1.4281	0.560	0.8001	4.3
7	13:05	24.00	0.6	0.900	0.6	0.360	2.4029	1.00	2.4029	0.720	1.7304	9.3
8	*13:06*	*24.80*	*0.6*	*0.800*	*0.6*	*0.320*	*1.7267*	*1.00*	*1.7267*	*0.640*	*1.1052*	*5.9*
9	*13:07*	*25.60*	*0.6*	*0.800*	*0.6*	*0.320*	*0.7572*	*1.00*	*0.7572*	*0.640*	*0.4847*	*2.6*
10	13:08	26.40	0.6	0.800	0.6	0.320	2.2329	1.00	2.2329	0.640	1.4292	7.7
11	13:09	27.20	0.6	0.900	0.6	0.360	1.5525	1.00	1.5525	0.720	1.1180	6.0
12	13:10	28.00	0.6	0.950	0.6	0.380	2.3737	1.00	2.3737	0.760	1.8047	9.7
13	*13:12*	*28.80*	*0.6*	*0.850*	*0.6*	*0.340*	*2.2037*	*1.00*	*2.2037*	*0.680*	*1.4990*	*8.0*
14	*13:13*	*29.60*	*0.6*	*0.750*	*0.6*	*0.300*	*2.1243*	*1.00*	*2.1243*	*0.600*	*1.2749*	*6.8*
15	13:14	30.40	0.6	0.950	0.6	0.380	2.1030	1.00	2.1030	0.760	1.5989	8.6
16	*13:15*	*31.20*	*0.6*	*0.900*	*0.6*	*0.360*	*1.3465*	*1.00*	*1.3465*	*0.720*	*0.9696*	*5.2*
17	13:16	32.00	0.6	0.800	0.6	0.320	0.7717	1.00	0.7717	0.640	0.4939	2.6
18	13:17	32.80	0.6	0.550	0.6	0.220	0.9403	1.00	0.9403	0.440	0.4137	2.2
19	13:18	33.60	0.6	0.550	0.6	0.220	0.8589	1.00	0.8589	0.440	0.3779	2.0
20	13:19	34.40	0.6	0.350	0.6	0.140	0.4190	1.00	0.4190	0.384	0.1611	0.9
21	13:19	35.80	None	0.100	0.0	0.0	0.0000	1.00	0.4190	0.070	0.0293	0.2

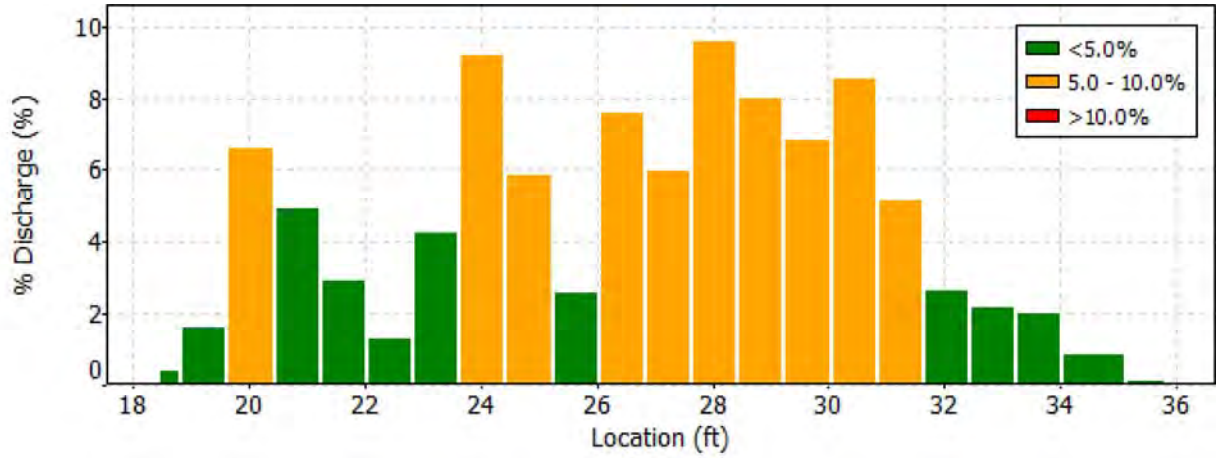
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

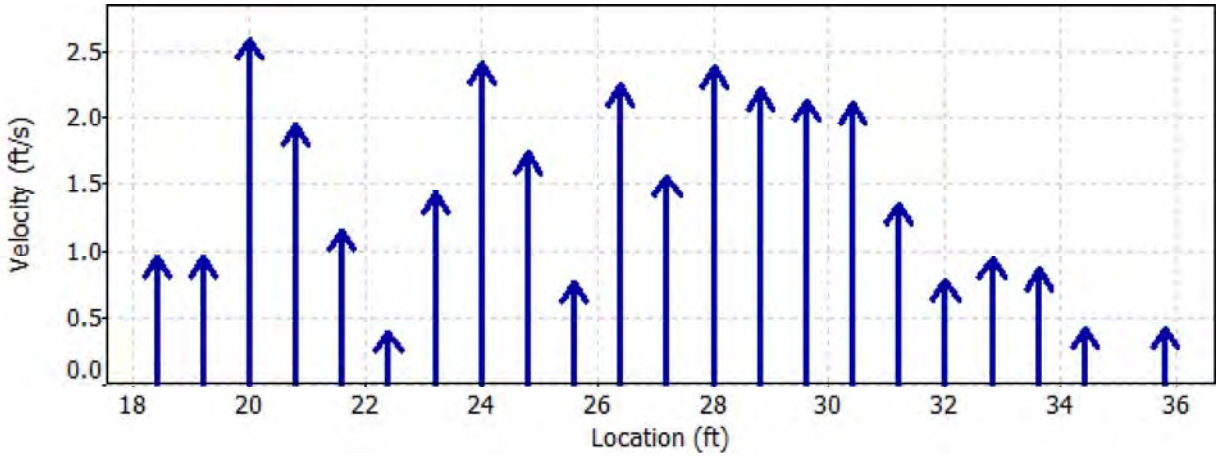
Discharge Measurement Summary

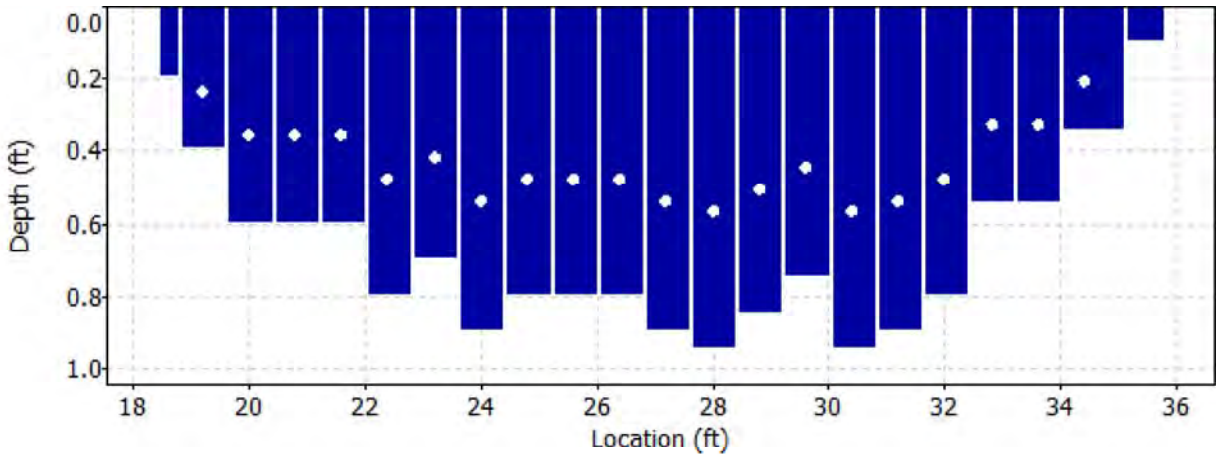
Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC104.WAD
Start Date and Time	2014/06/16 12:58:13

Site Details	
Site Name	CSC104
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC104.WAD
Start Date and Time	2014/06/16 12:58:13

Site Details	
Site Name	CSC104
Operator(s)	LC

Quality Control

St	Loc	%Dep	Message
1	19.20	0.6	High standard error: 0.113
4	21.60	0.6	High standard error: 0.122
8	24.80	0.6	High standard error: 0.139
9	25.60	0.6	High angle: 23
		0.6	High standard error: 0.118
13	28.80	0.6	High standard error: 0.120
14	29.60	0.6	High number of spikes: 5
16	31.20	0.6	High angle: -23

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC104A.WAD
Start Date and Time	2014/06/16 14:23:27

Site Details

Site Name	CSC104A
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3512
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.3%	2.3%
Velocity	1.4%	4.1%
Width	0.1%	0.1%
Method	1.7%	-
# Stations	2.0%	-
Overall	**3.1%**	**4.9%**

Summary

Averaging Int.	40	# Stations	26
Start Edge	REW	Total Width	14.700
Mean SNR	40.9 dB	Total Area	9.426
Mean Temp	46.74 °F	Mean Depth	0.641
Disch. Equation	Mid-Section	Mean Velocity	1.4045
		Total Discharge	**13.2383**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	14:23	6.60	None	0.200	0.0	0.0	0.0000	1.00	0.6831	0.065	0.0444	0.3
1	14:23	7.25	0.6	0.500	0.6	0.200	0.6831	1.00	0.6831	0.325	0.2220	1.7
2	14:25	7.90	0.6	0.500	0.6	0.200	0.7638	1.00	0.7638	0.325	0.2482	1.9
3	14:26	8.55	0.6	0.700	0.6	0.280	1.2156	1.00	1.2156	0.455	0.5531	4.2
4	14:27	9.20	0.6	0.550	0.6	0.220	1.5472	1.00	1.5472	0.357	0.5530	4.2
5	14:28	9.85	0.6	0.800	0.6	0.320	1.4318	1.00	1.4318	0.520	0.7443	5.6
6	*14:30*	*10.50*	*0.6*	*0.800*	*0.6*	*0.320*	*1.7844*	*1.00*	*1.7844*	*0.520*	*0.9277*	*7.0*
7	14:31	11.15	0.6	1.000	0.6	0.400	1.8179	1.00	1.8179	0.500	0.9093	6.9
8	*14:59*	*11.50*	*0.6*	*1.000*	*0.6*	*0.400*	*2.7628*	*1.00*	*2.7628*	*0.325*	*0.8978*	*6.8*
9	*14:33*	*11.80*	*0.6*	*1.000*	*0.6*	*0.400*	*2.2510*	*1.00*	*2.2510*	*0.475*	*1.0686*	*8.1*
10	*14:36*	*12.45*	*0.6*	*0.900*	*0.6*	*0.360*	*1.5049*	*1.00*	*1.5049*	*0.585*	*0.8802*	*6.6*
11	14:38	13.10	0.6	0.900	0.6	0.360	1.3337	1.00	1.3337	0.585	0.7801	5.9
12	14:40	13.75	0.6	0.950	0.6	0.380	1.1870	1.00	1.1870	0.618	0.7330	5.5
13	14:42	14.40	0.6	1.000	0.6	0.400	2.2858	1.00	2.2858	0.375	0.8579	6.5
14	15:06	14.50	0.6	0.900	0.6	0.360	2.0292	1.00	2.0292	0.135	0.2747	2.1
15	*15:01*	*14.70*	*0.6*	*0.850*	*0.6*	*0.340*	*1.9570*	*1.00*	*1.9570*	*0.213*	*0.4159*	*3.1*
16	15:04	15.00	0.6	0.850	0.6	0.340	1.4738	1.00	1.4738	0.148	0.2187	1.7
17	14:43	15.05	0.6	0.850	0.6	0.340	0.9738	1.00	0.9738	0.297	0.2894	2.2
18	*14:45*	*15.70*	*0.6*	*0.850*	*0.6*	*0.340*	*0.6982*	*1.00*	*0.6982*	*0.552*	*0.3857*	*2.9*
19	14:47	16.35	0.6	0.500	0.6	0.200	0.7700	1.00	0.7700	0.325	0.2502	1.9
20	14:48	17.00	0.6	0.500	0.6	0.200	1.0784	1.00	1.0784	0.325	0.3504	2.6
21	14:50	17.65	0.6	0.400	0.6	0.160	1.5781	1.00	1.5781	0.260	0.4102	3.1
22	14:51	18.30	0.6	0.400	0.6	0.160	1.3120	1.00	1.3120	0.260	0.3410	2.6
23	14:53	18.95	0.6	0.500	0.6	0.200	0.7772	1.00	0.7772	0.325	0.2526	1.9
24	14:56	19.60	0.6	0.400	0.6	0.160	1.1345	1.00	1.1345	0.470	0.5334	4.0
25	14:56	21.30	None	0.100	0.0	0.0	0.0000	1.00	1.1345	0.085	0.0966	0.7

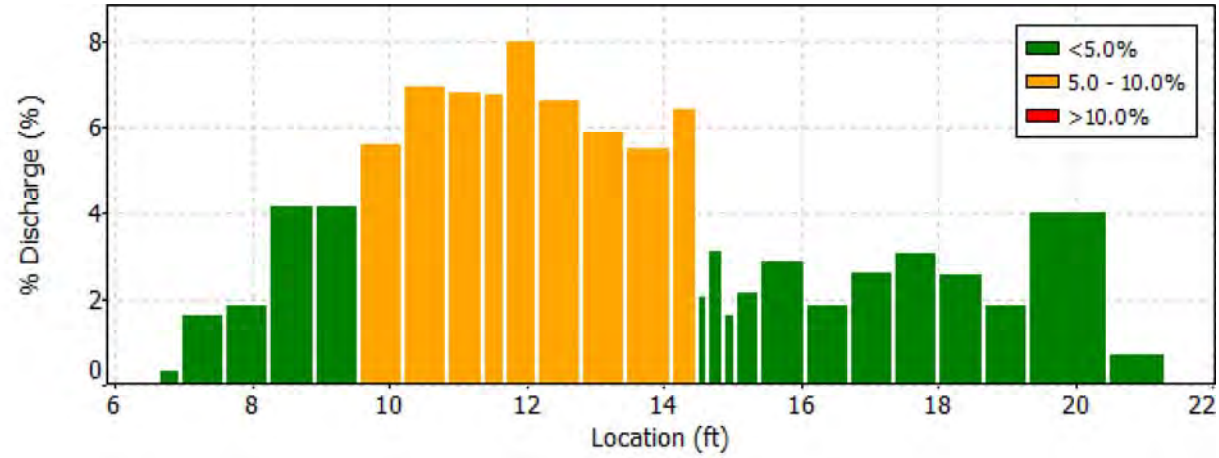
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

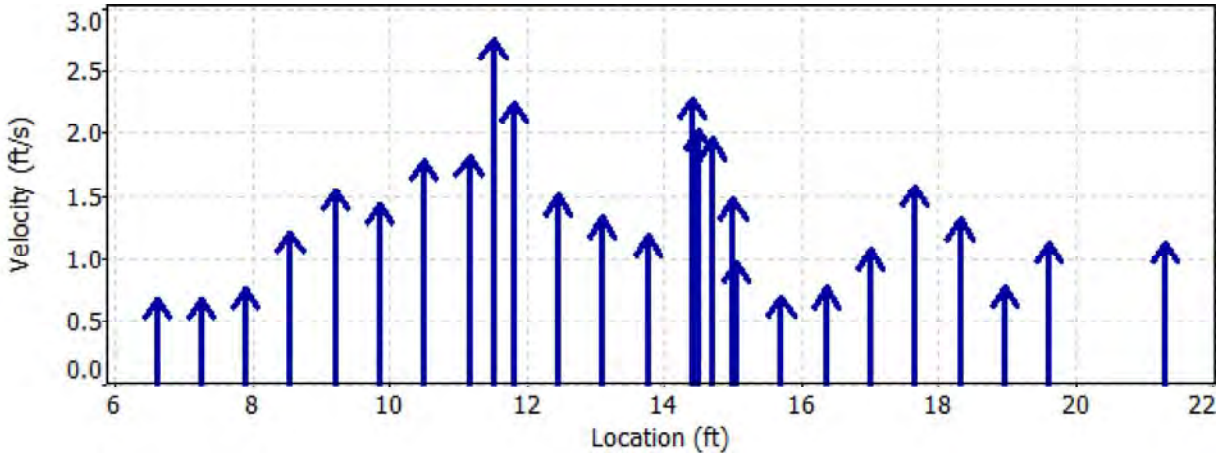
Discharge Measurement Summary

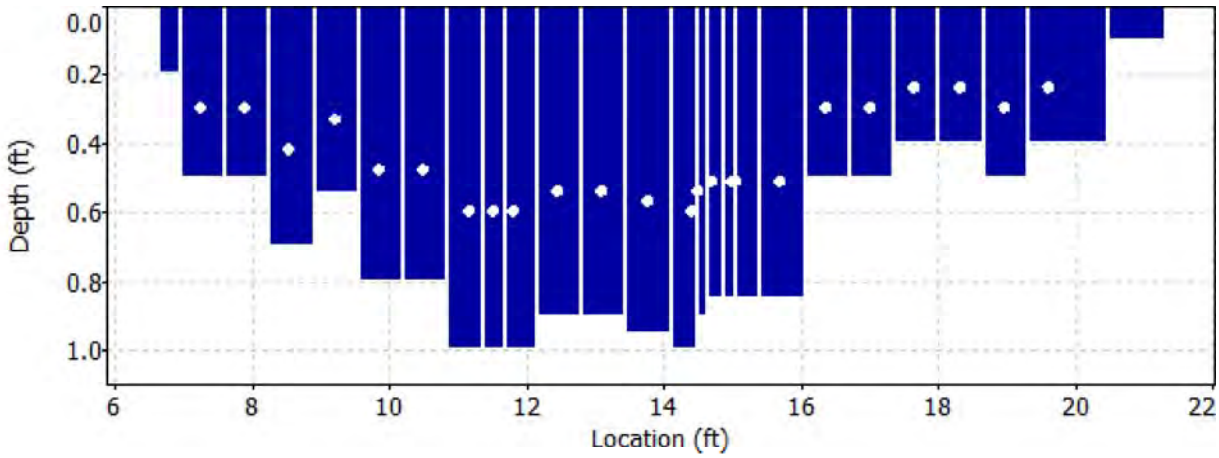
Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC104A.WAD
Start Date and Time	2014/06/16 14:23:27

Site Details	
Site Name	CSC104A
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC104A.WAD
Start Date and Time	2014/06/16 14:23:27

Site Details	
Site Name	CSC104A
Operator(s)	LC

Quality Control

St	Loc	%Dep	Message
6	10.50	0.6	High angle: 20
8	11.50	0.6	High SNR variation during measurement: 3.0,5.2
9	11.80	0.6	High angle: 25
		0.6	High standard error: 0.122
10	12.45	0.6	High angle: 21
15	14.70	0.6	High standard error: 0.132
18	15.70	0.6	High angle: 39

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC105.WAD
Start Date and Time	2014/06/16 13:31:43

Site Details

Site Name	CSC105
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3512
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.4%	1.8%
Velocity	1.8%	13.3%
Width	0.1%	0.1%
Method	2.0%	-
# Stations	2.3%	-
Overall	**3.7%**	**13.5%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	REW	Total Width	8.400
Mean SNR	42.6 dB	Total Area	5.383
Mean Temp	43.27 °F	Mean Depth	0.641
Disch. Equation	Mid-Section	Mean Velocity	1.5136
		Total Discharge	**8.1469**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	13:31	5.90	None	0.400	0.0	0.0	0.0000	1.00	1.0604	0.080	0.0848	1.0
1	*13:31*	*6.30*	*0.6*	*0.400*	*0.6*	*0.160*	*1.0604*	*1.00*	*1.0604*	*0.160*	*0.1697*	*2.1*
2	13:33	6.70	0.6	0.700	0.6	0.280	1.9377	1.00	1.9377	0.280	0.5430	6.7
3	13:35	7.10	0.6	0.750	0.6	0.300	1.1388	1.00	1.1388	0.300	0.3419	4.2
4	13:36	7.50	0.6	0.800	0.6	0.320	2.0177	1.00	2.0177	0.320	0.6460	7.9
5	13:38	7.90	0.6	1.000	0.6	0.400	1.2083	1.00	1.2083	0.400	0.4837	5.9
6	13:39	8.30	0.6	0.900	0.6	0.360	2.1955	1.00	2.1955	0.360	0.7909	9.7
7	13:41	8.70	0.6	0.800	0.6	0.320	2.3196	1.00	2.3196	0.320	0.7426	9.1
8	*13:41*	*9.10*	*0.6*	*0.750*	*0.6*	*0.300*	*2.4501*	*1.00*	*2.4501*	*0.300*	*0.7355*	*9.0*
9	*13:43*	*9.50*	*0.6*	*0.800*	*0.6*	*0.320*	*1.8081*	*1.00*	*1.8081*	*0.320*	*0.5789*	*7.1*
10	*13:44*	*9.90*	*0.6*	*0.800*	*0.6*	*0.320*	*1.2448*	*1.00*	*1.2448*	*0.320*	*0.3985*	*4.9*
11	*13:45*	*10.30*	*0.6*	*0.700*	*0.6*	*0.280*	*1.7369*	*1.00*	*1.7369*	*0.280*	*0.4867*	*6.0*
12	13:46	10.70	0.6	0.700	0.6	0.280	2.3740	1.00	2.3740	0.280	0.6653	8.2
13	*13:47*	*11.10*	*0.6*	*0.650*	*0.6*	*0.260*	*0.8031*	*1.00*	*0.8031*	*0.260*	*0.2089*	*2.6*
14	*13:48*	*11.50*	*0.6*	*0.700*	*0.6*	*0.280*	*0.1647*	*1.00*	*0.1647*	*0.280*	*0.0462*	*0.6*
15	13:50	11.90	0.6	0.600	0.6	0.240	2.6401	1.00	2.6401	0.240	0.6341	7.8
16	*13:51*	*12.30*	*0.6*	*0.550*	*0.6*	*0.220*	*-0.3458*	*1.00*	*-0.3458*	*0.220*	*-0.0761*	*-0.9*
17	*13:52*	*12.70*	*0.6*	*0.500*	*0.6*	*0.200*	*-0.0171*	*1.00*	*-0.0171*	*0.200*	*-0.0034*	*0.0*
18	*13:53*	*13.10*	*0.6*	*0.500*	*0.6*	*0.200*	*2.2694*	*1.00*	*2.2694*	*0.200*	*0.4542*	*5.6*
19	13:54	13.50	0.6	0.400	0.6	0.160	1.3468	1.00	1.3468	0.160	0.2156	2.6
20	*13:57*	*13.90*	*0.6*	*0.200*	*0.6*	*0.080*	*0.0007*	*1.00*	*0.0007*	*0.080*	*0.0001*	*0.0*
21	13:57	14.30	None	0.100	0.0	0.0	0.0000	1.00	0.0007	0.020	0.0000	0.0

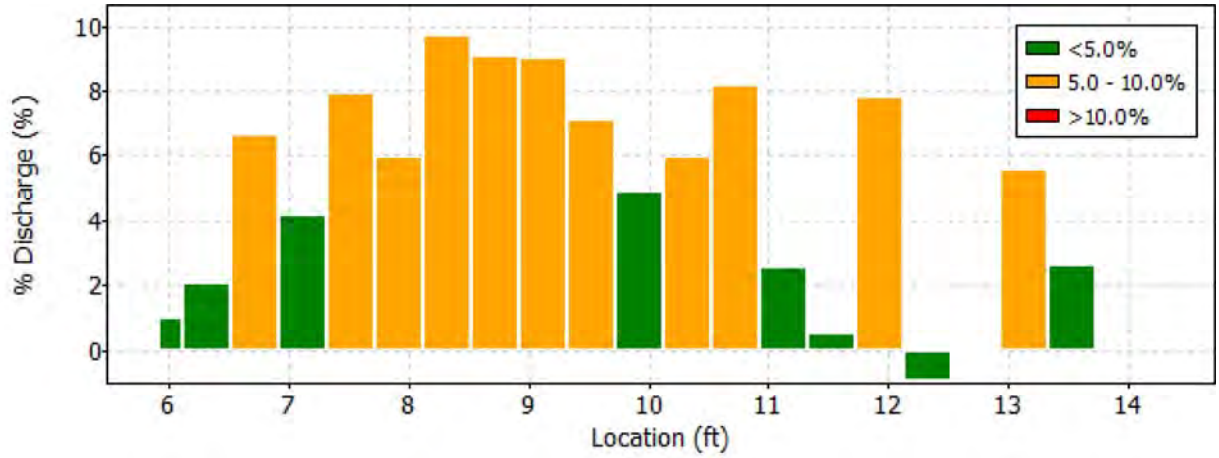
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

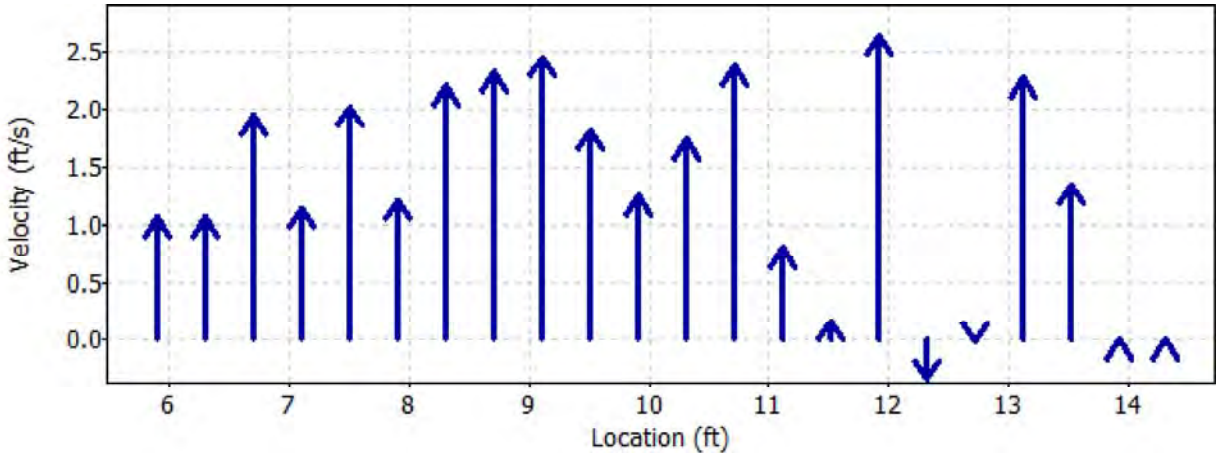
Discharge Measurement Summary

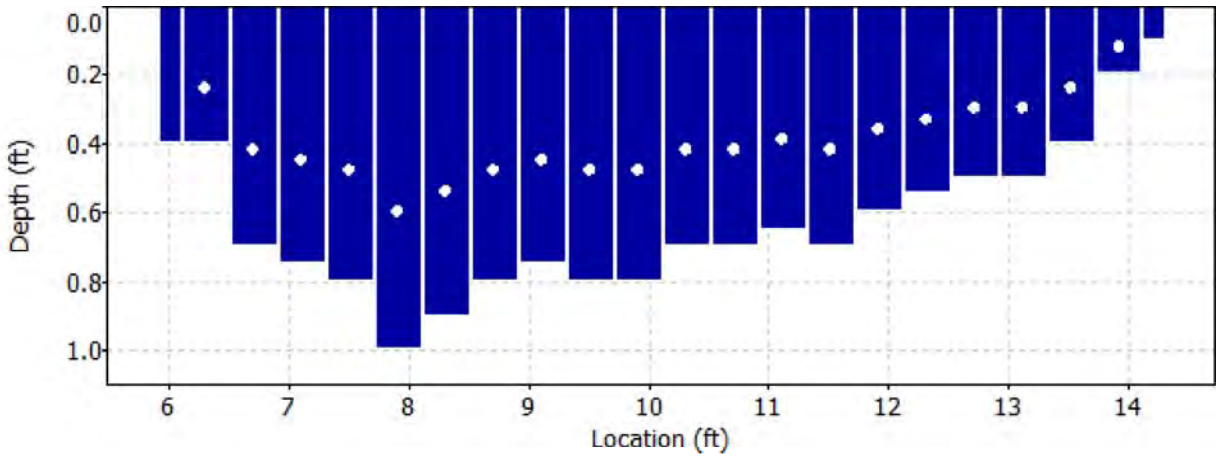
Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC105.WAD
Start Date and Time	2014/06/16 13:31:43

Site Details	
Site Name	CSC105
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC105.WAD
Start Date and Time	2014/06/16 13:31:43

Site Details

Site Name	CSC105
Operator(s)	LC

Quality Control

St	Loc	%Dep	Message
1	6.30	0.6	High angle: -25
8	9.10	0.6	High standard error: 0.134
9	9.50	0.6	High standard error: 0.177
10	9.90	0.6	High angle: 22
		0.6	High standard error: 0.138
11	10.30	0.6	High standard error: 0.144
13	11.10	0.6	High standard error: 0.177
14	11.50	0.6	High standard error: 0.161
16	12.30	0.6	High angle: -145
17	12.70	0.6	High number of spikes: 9
		0.6	High SNR variation during measurement: 4.7,5.2
18	13.10	0.6	High angle: 22
20	13.90	0.6	SNR (54.8) is different from typical SNR (42.6)

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC106.WAD
Start Date and Time	2014/06/18 08:17:16

Site Details

Site Name	CSC106
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3533
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.3%	2.2%
Velocity	3.2%	18.9%
Width	0.1%	0.1%
Method	2.0%	-
# Stations	1.6%	-
Overall	**4.2%**	**19.0%**

Summary

Averaging Int.	40	# Stations	33
Start Edge	REW	Total Width	12.601
Mean SNR	41.4 dB	Total Area	11.067
Mean Temp	38.24 °F	Mean Depth	0.878
Disch. Equation	Mid-Section	Mean Velocity	0.4527
		Total Discharge	**5.0103**

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC106.WAD
Start Date and Time	2014/06/18 08:17:16

Site Details	
Site Name	CSC106
Operator(s)	LC

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	08:17	4.00	None	0.500	0.0	0.0	0.0000	1.00	0.7211	0.150	0.1082	2.2
1	*08:17*	*4.60*	*0.6*	*0.800*	*0.6*	*0.320*	*0.7211*	*1.00*	*0.7211*	*0.480*	*0.3461*	*6.9*
2	*08:18*	*5.20*	*0.6*	*0.800*	*0.6*	*0.320*	*0.1608*	*1.00*	*0.1608*	*0.480*	*0.0771*	*1.5*
3	*09:07*	*5.80*	*0.6*	*0.750*	*0.6*	*0.300*	*1.5505*	*1.00*	*1.5505*	*0.225*	*0.3489*	*7.0*
4	08:20	5.80	0.6	0.600	0.6	0.240	1.9154	1.00	1.9154	0.090	0.1725	3.4
5	*09:04*	*6.10*	*0.8/0.6/0.2*	*0.750*	*0.2*	*0.600*	*2.0709*	*1.00*	*1.6225*	*0.225*	*0.3651*	*7.3*
5	*09:03*	*6.10*	*0.8/0.6/0.2*	*0.750*	*0.6*	*0.300*	*1.4882*					
5	*09:02*	*6.10*	*0.8/0.6/0.2*	*0.750*	*0.8*	*0.150*	*1.4426*					
6	08:22	6.40	0.6	0.800	0.6	0.320	0.0030	1.00	0.0030	0.360	0.0011	0.0
7	*08:23*	*7.00*	*0.6*	*0.850*	*0.6*	*0.340*	*-0.1257*	*1.00*	*-0.1257*	*0.467*	*-0.0587*	*-1.2*
8	*09:19*	*7.50*	*0.6*	*0.850*	*0.6*	*0.340*	*1.1860*	*1.00*	*1.1860*	*0.255*	*0.3023*	*6.0*
9	*09:09*	*7.60*	*0.6*	*1.000*	*0.6*	*0.400*	*2.5105*	*1.00*	*2.5105*	*0.050*	*0.1260*	*2.5*
10	*08:25*	*7.60*	*0.6*	*1.100*	*0.6*	*0.440*	*1.9787*	*1.00*	*1.9787*	*0.110*	*0.2175*	*4.3*
11	*09:16*	*7.80*	*0.6*	*1.100*	*0.6*	*0.440*	*2.1152*	*1.00*	*2.1152*	*0.165*	*0.3485*	*7.0*
12	*09:18*	*7.90*	*0.6*	*1.200*	*0.6*	*0.480*	*1.4147*	*1.00*	*1.4147*	*0.240*	*0.3401*	*6.8*
13	*08:27*	*8.20*	*0.6*	*0.950*	*0.6*	*0.380*	*0.5128*	*1.00*	*0.5128*	*0.428*	*0.2194*	*4.4*
14	*08:29*	*8.80*	*0.6*	*0.700*	*0.6*	*0.280*	*0.2306*	*1.00*	*0.2306*	*0.420*	*0.0969*	*1.9*
15	08:30	9.40	0.6	0.700	0.6	0.280	0.0105	1.00	0.0105	0.420	0.0044	0.1
16	*08:31*	*10.00*	*0.6*	*0.850*	*0.6*	*0.340*	*-0.1906*	*1.00*	*-0.1906*	*0.510*	*-0.0972*	*-1.9*
17	*08:33*	*10.60*	*0.6*	*0.900*	*0.6*	*0.360*	*-0.2431*	*1.00*	*-0.2431*	*0.405*	*-0.0984*	*-2.0*
18	*09:00*	*10.90*	*0.8/0.6/0.2*	*0.950*	*0.2*	*0.760*	*0.6650*	*1.00*	*0.9376*	*0.285*	*0.2673*	*5.3*
18	*08:59*	*10.90*	*0.8/0.6/0.2*	*0.950*	*0.6*	*0.380*	*1.1726*					
18	*08:57*	*10.90*	*0.8/0.6/0.2*	*0.950*	*0.8*	*0.190*	*0.7402*					
19	08:35	11.20	0.6	1.200	0.6	0.480	0.8123	1.00	0.8123	0.540	0.4387	8.8
20	09:10	11.80	0.6	1.200	0.6	0.480	1.3245	1.00	1.3245	0.360	0.4769	9.5
21	08:36	11.80	0.6	1.200	0.6	0.480	1.3346	1.00	1.3346	0.120	0.1603	3.2
22	*09:21*	*12.00*	*0.6*	*1.000*	*0.6*	*0.400*	*1.4600*	*1.00*	*1.4600*	*0.150*	*0.2184*	*4.4*
23	09:12	12.10	0.6	1.100	0.6	0.440	1.5430	1.00	1.5430	0.221	0.3403	6.8
24	08:38	12.40	0.6	1.150	0.6	0.460	1.0102	1.00	1.0102	0.230	0.2323	4.6
25	09:14	12.50	0.6	1.100	0.6	0.440	1.4541	1.00	1.4541	0.330	0.4799	9.6
26	*08:40*	*13.00*	*0.6*	*1.100*	*0.6*	*0.440*	*-0.3980*	*1.00*	*-0.3980*	*0.606*	*-0.2410*	*-4.8*
27	*08:42*	*13.60*	*0.6*	*1.150*	*0.6*	*0.460*	*-0.4183*	*1.00*	*-0.4183*	*0.690*	*-0.2886*	*-5.8*
28	*08:43*	*14.20*	*0.6*	*1.100*	*0.6*	*0.440*	*-0.0755*	*1.00*	*-0.0755*	*0.660*	*-0.0498*	*-1.0*
29	*08:44*	*14.80*	*0.6*	*0.900*	*0.6*	*0.360*	*0.2526*	*1.00*	*0.2526*	*0.540*	*0.1364*	*2.7*
30	*08:46*	*15.40*	*0.6*	*0.850*	*0.6*	*0.340*	*-0.0013*	*1.00*	*-0.0013*	*0.510*	*-0.0007*	*0.0*
31	*08:52*	*16.00*	*0.2/0.6/0.8*	*0.400*	*0.2*	*0.160*	*-0.5876*	*1.00*	*0.0586*	*0.240*	*0.0141*	*0.3*
31	*08:54*	*16.00*	*0.2/0.6/0.8*	*0.400*	*0.6*	*0.160*	*0.4101*					
31	*08:51*	*16.00*	*0.2/0.6/0.8*	*0.400*	*0.8*	*0.160*	*0.0016*					
32	08:51	16.60	None	0.350	0.0	0.0	0.0000	1.00	0.0586	0.105	0.0062	0.1

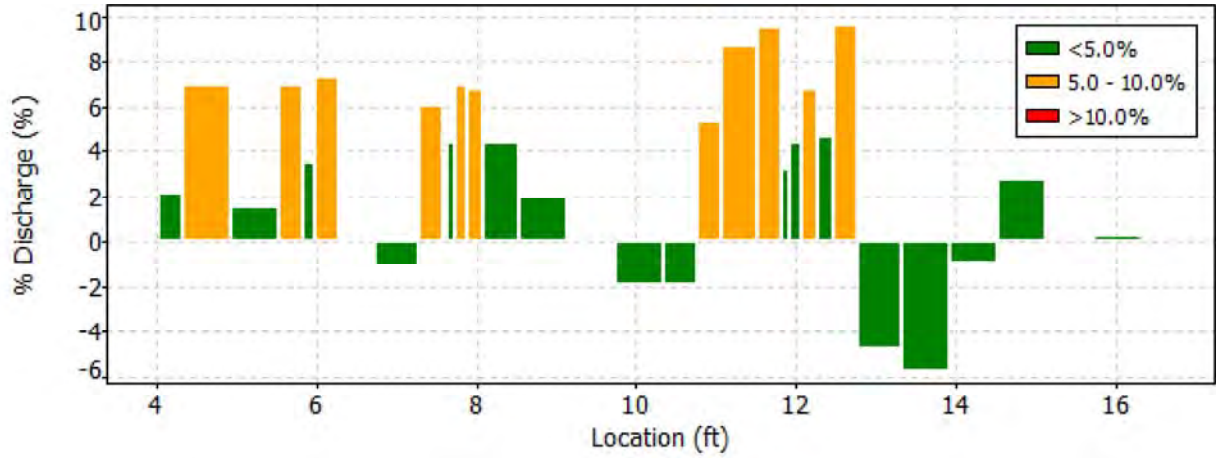
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

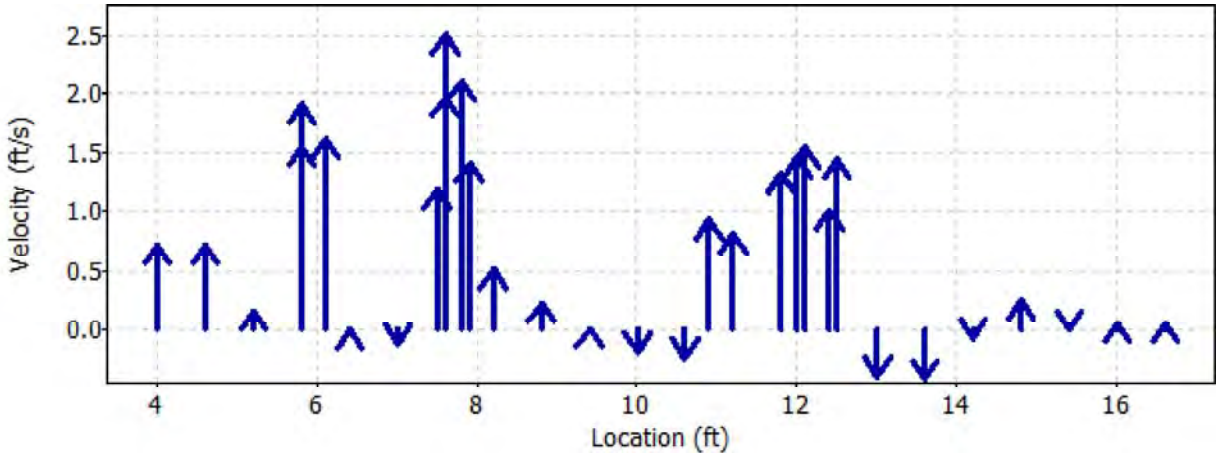
Discharge Measurement Summary

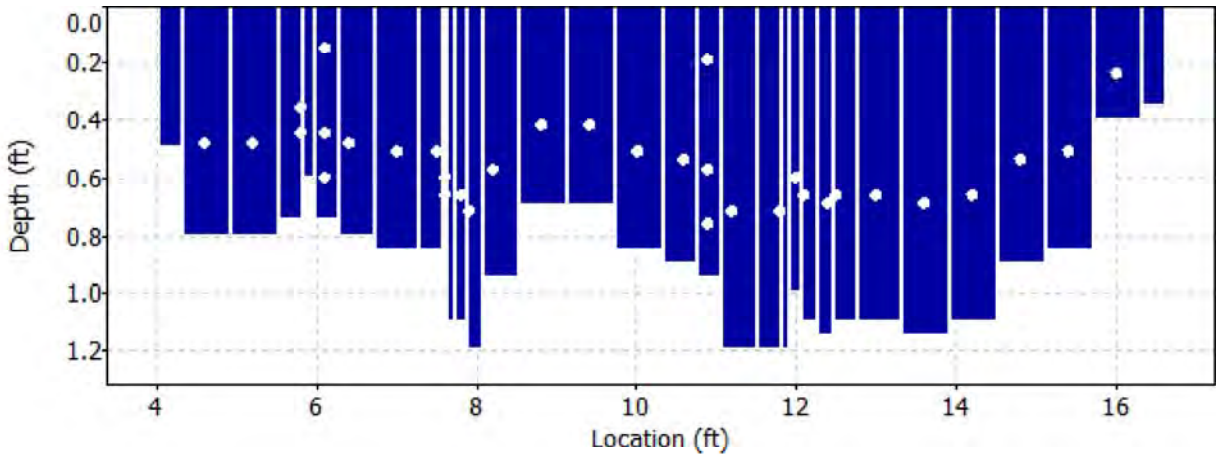
Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC106.WAD
Start Date and Time	2014/06/18 08:17:16

Site Details	
Site Name	CSC106
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	CSC106.WAD	Site Name	CSC106
Start Date and Time	2014/06/18 08:17:16	Operator(s)	LC

Quality Control

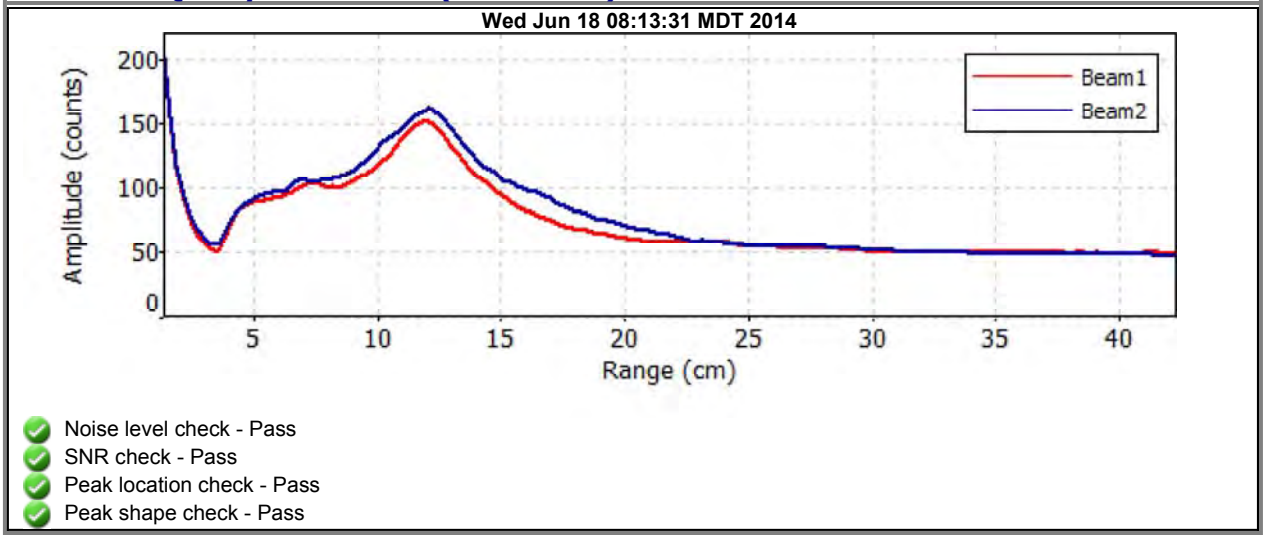
St	Loc	%Dep	Message
1	4.60	0.6	High angle: 42
2	5.20	0.6	High angle: 76
3	5.80	0.6	High angle: 29
5	6.10	0.2	High angle: 24
		0.6	High angle: 40
		0.8	High angle: 38
7	7.00	0.6	High angle: 140
		0.6	High standard error: 0.130
8	7.50	0.6	High standard error: 0.198
9	7.60	0.6	High standard error: 0.158
10	7.60	0.6	High angle: 36
11	7.80	0.6	High standard error: 0.133
12	7.90	0.6	High angle: 40
		0.6	High standard error: 0.129
13	8.20	0.6	High angle: 63
14	8.80	0.6	High angle: 66
16	10.00	0.6	High angle: -160
17	10.60	0.6	High angle: 137
18	10.90	0.2	High angle: 22
		0.2	High standard error: 0.139
		0.6	High angle: 24
		0.6	High standard error: 0.137
22	12.00	0.6	High standard error: 0.142
26	13.00	0.6	High angle: -161
27	13.60	0.6	High angle: -177
28	14.20	0.6	High angle: -118
29	14.80	0.6	High angle: 27
		0.6	SNR (26.9) is different from typical SNR (41.4)
30	15.40	0.6	SNR (56.8) is different from typical SNR (41.4)
31	16.00	0.2	High angle: -156
		0.2	Low SNR: 3.0,31.8
		0.2	High differences in beam SNR: 3.0,31.8
		0.2	SNR (17.4) is different from typical SNR (41.4)
		0.2	High standard error: 0.297
		0.6	High angle: -39
		0.6	High differences in beam SNR: 31.3,44.2
		0.8	High number of spikes: 10
		0.8	High differences in beam SNR: 49.4,60.6
		0.8	SNR (55.0) is different from typical SNR (41.4)
		0.8	High SNR variation during measurement: 7.7,9.5

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	CSC106.WAD	Site Name	CSC106
Start Date and Time	2014/06/18 08:17:16	Operator(s)	LC

Automatic Quality Control Test (BeamCheck)



- Noise level check - Pass
- SNR check - Pass
- Peak location check - Pass
- Peak shape check - Pass

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC108.WAD
Start Date and Time	2014/06/18 10:40:27

Site Details

Site Name	CSC108
Operator(s)	MGP

System Information

Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.4%	12.2%
Velocity	1.0%	8.7%
Width	0.1%	0.1%
Method	2.0%	-
# Stations	2.0%	-
Overall	**3.1%**	**15.0%**

Summary

Averaging Int.	40	# Stations	26
Start Edge	REW	Total Width	3.900
Mean SNR	39.9 dB	Total Area	1.090
Mean Temp	38.79 °F	Mean Depth	0.279
Disch. Equation	Mid-Section	Mean Velocity	1.1690
		Total Discharge	**1.2740**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	10:40	6.00	None	0.300	0.0	0.0	0.0000	1.00	1.1188	0.015	0.0168	1.3
1	*11:02*	*5.90*	*0.6*	*0.300*	*0.6*	*0.120*	*1.1188*	*1.00*	*1.1188*	*0.030*	*0.0336*	*2.6*
2	10:40	5.80	0.6	0.300	0.6	0.120	1.7133	1.00	1.7133	0.045	0.0771	6.1
3	10:41	5.60	0.6	0.300	0.6	0.120	1.7028	1.00	1.7028	0.060	0.1022	8.0
4	10:42	5.40	0.6	0.350	0.6	0.140	1.9701	1.00	1.9701	0.052	0.1034	8.1
5	*11:06*	*5.30*	*0.6*	*0.300*	*0.6*	*0.120*	*1.8543*	*1.00*	*1.8543*	*0.030*	*0.0556*	*4.4*
6	10:43	5.20	0.6	0.350	0.6	0.140	2.1358	1.00	2.1358	0.053	0.1123	8.8
7	*10:44*	*5.00*	*0.6*	*0.350*	*0.6*	*0.140*	*2.0741*	*1.00*	*2.0741*	*0.052*	*0.1087*	*8.5*
8	*11:03*	*4.90*	*0.6*	*0.000*	*0.6*	*0.120*	*1.6388*	*1.00*	*0.0000*	*0.000*	*0.0000*	*0.0*
9	*10:45*	*4.80*	*0.6*	*0.350*	*0.6*	*0.140*	*2.2854*	*1.00*	*2.2854*	*0.035*	*0.0799*	*6.3*
10	*11:05*	*4.70*	*0.6*	*0.000*	*0.6*	*0.120*	*1.1952*	*1.00*	*0.0000*	*0.000*	*0.0000*	*0.0*
11	10:46	4.60	0.6	0.300	0.6	0.120	2.4537	1.00	2.4537	0.045	0.1108	8.7
12	10:47	4.40	0.6	0.300	0.6	0.120	1.9314	1.00	1.9314	0.060	0.1159	9.1
13	10:48	4.20	0.6	0.300	0.6	0.120	2.2444	1.00	2.2444	0.045	0.1006	7.9
14	11:07	4.10	0.6	0.000	0.6	0.120	2.1726	1.00	0.0000	0.000	0.0000	0.0
15	*10:49*	*4.00*	*0.6*	*0.300*	*0.6*	*0.120*	*1.6722*	*1.00*	*1.6722*	*0.045*	*0.0756*	*5.9*
16	10:51	3.80	0.6	0.300	0.6	0.120	0.5266	1.00	0.5266	0.060	0.0316	2.5
17	10:52	3.60	0.6	0.300	0.6	0.120	0.3041	1.00	0.3041	0.060	0.0183	1.4
18	*10:53*	*3.40*	*0.6*	*0.300*	*0.6*	*0.120*	*0.2785*	*1.00*	*0.2785*	*0.060*	*0.0167*	*1.3*
19	*10:54*	*3.20*	*0.6*	*0.300*	*0.6*	*0.120*	*0.8179*	*1.00*	*0.8179*	*0.060*	*0.0491*	*3.9*
20	10:55	3.00	0.6	0.150	0.6	0.060	1.7667	1.00	1.7667	0.030	0.0530	4.2
21	10:57	2.80	0.6	0.300	0.6	0.120	-0.0010	1.00	-0.0010	0.060	-0.0001	0.0
22	10:58	2.60	0.6	0.400	0.6	0.160	-0.0033	1.00	-0.0033	0.080	-0.0003	0.0
23	*10:59*	*2.40*	*0.6*	*0.300*	*0.6*	*0.120*	*0.2126*	*1.00*	*0.2126*	*0.060*	*0.0128*	*1.0*
24	*11:00*	*2.20*	*0.6*	*0.300*	*0.6*	*0.120*	*0.0049*	*1.00*	*0.0049*	*0.045*	*0.0002*	*0.0*
25	11:00	2.10	None	0.150	0.0	0.0	0.0000	1.00	0.0049	0.007	0.0000	0.0

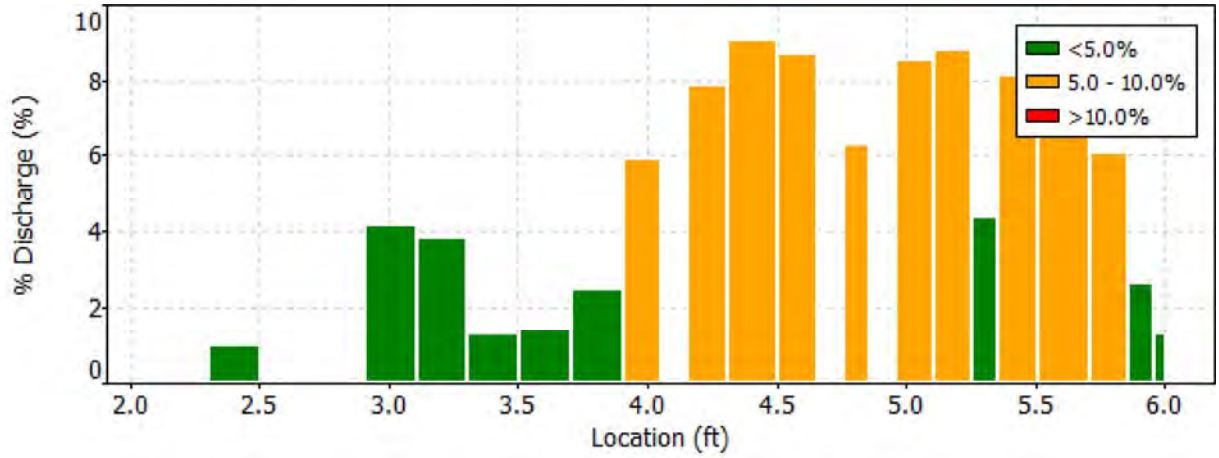
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

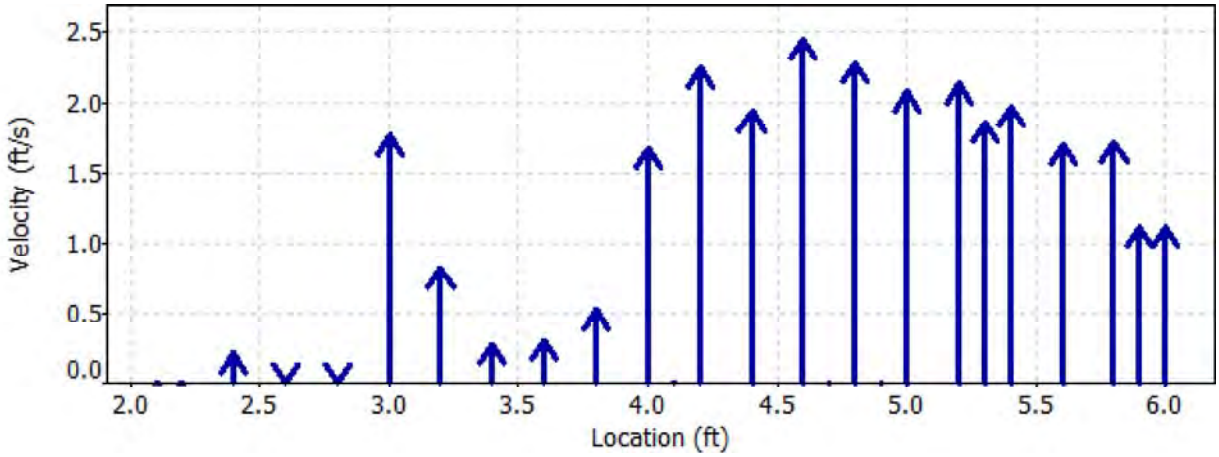
Discharge Measurement Summary

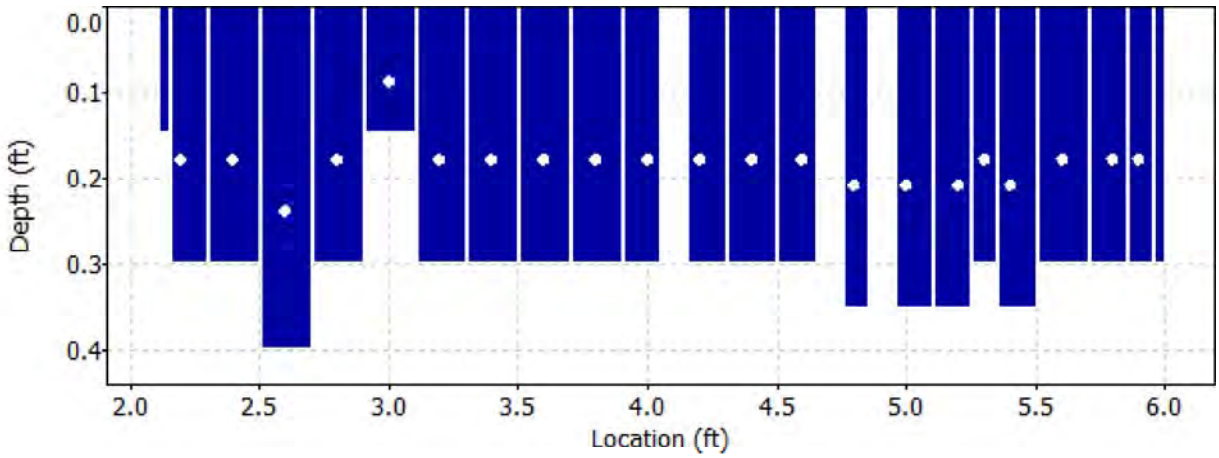
Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC108.WAD
Start Date and Time	2014/06/18 10:40:27

Site Details	
Site Name	CSC108
Operator(s)	MGP







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	CSC108.WAD	Site Name	CSC108
Start Date and Time	2014/06/18 10:40:27	Operator(s)	MGP

Quality Control

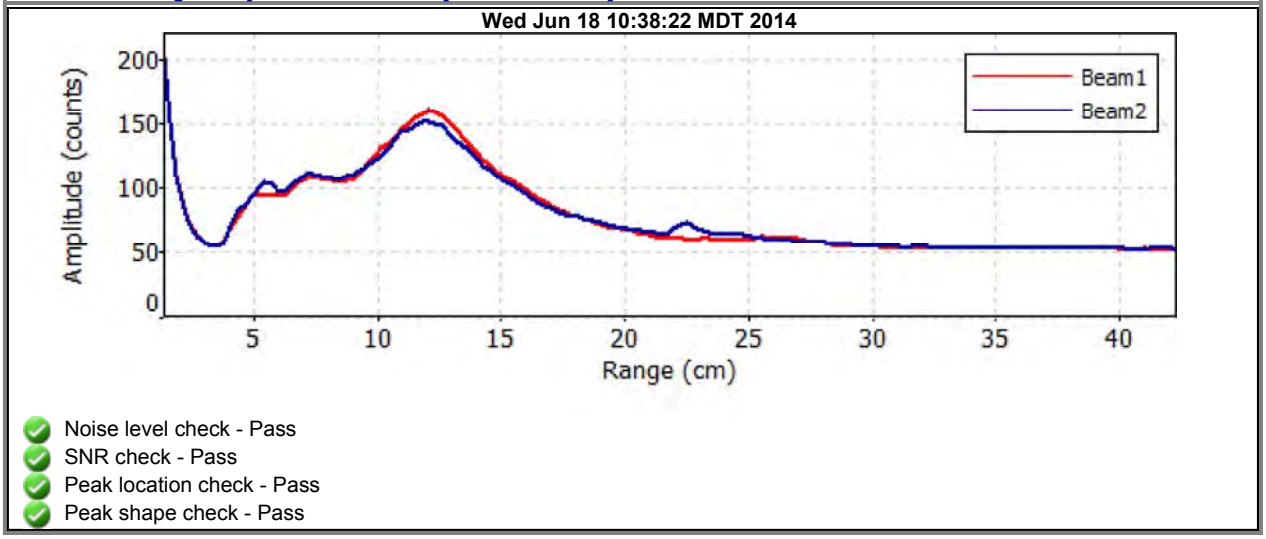
St	Loc	%Dep	Message
1	5.90	0.6	High angle: 33
5	5.30	0.6	High angle: 26
7	5.00	0.6	High angle: 22
8	4.90	0.6	High angle: 44
9	4.80	0.6	High number of spikes: 9
10	4.70	0.6	High angle: 47
15	4.00	0.6	High standard error: 0.104
18	3.40	0.6	High differences in beam SNR: 41.7,30.1
		0.6	High SNR variation during measurement: 1.3,7.3
19	3.20	0.6	High standard error: 0.103
23	2.40	0.6	High number of spikes: 5
		0.6	SNR (27.7) is different from typical SNR (39.9)
24	2.20	0.6	High number of spikes: 7
		0.6	SNR (17.8) is different from typical SNR (39.9)
		0.6	Boundary QC is Good; possible boundary interference

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	CSC108.WAD	Site Name	CSC108
Start Date and Time	2014/06/18 10:40:27	Operator(s)	MGP

Automatic Quality Control Test (BeamCheck)



- Noise level check - Pass
- SNR check - Pass
- Peak location check - Pass
- Peak shape check - Pass

Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information

File Name	CSC111A.WAD
Start Date and Time	2014/06/16 13:44:31

Site Details

Site Name	CSC111A
Operator(s)	DR

System Information

Sensor Type	FlowTracker
Serial #	P3568
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.4%	4.2%
Velocity	1.2%	10.3%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.2%	-
Overall	**3.3%**	**11.2%**

Summary

Averaging Int.	40	# Stations	23
Start Edge	REW	Total Width	18.202
Mean SNR	46.3 dB	Total Area	7.850
Mean Temp	45.51 °F	Mean Depth	0.431
Disch. Equation	Mid-Section	Mean Velocity	1.3833
		Total Discharge	**10.8594**

Measurement Results

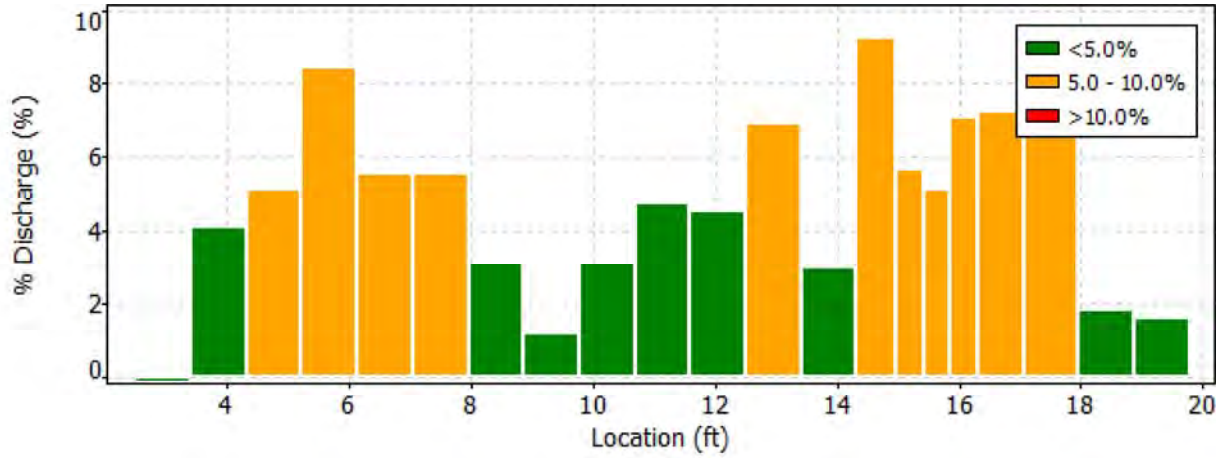
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	13:44	2.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	*13:44*	*2.91*	*0.6*	*0.300*	*0.6*	*0.120*	*-0.0696*	*1.00*	*-0.0696*	*0.273*	*-0.0190*	*-0.2*
2	*13:51*	*3.82*	*0.6*	*0.500*	*0.6*	*0.200*	*0.9774*	*1.00*	*0.9774*	*0.455*	*0.4448*	*4.1*
3	13:55	4.73	0.6	0.700	0.6	0.280	0.8766	1.00	0.8766	0.637	0.5586	5.1
4	13:56	5.64	0.6	0.400	0.6	0.160	2.5171	1.00	2.5171	0.364	0.9162	8.4
5	*13:57*	*6.55*	*0.6*	*0.500*	*0.6*	*0.200*	*1.3264*	*1.00*	*1.3264*	*0.455*	*0.6036*	*5.6*
6	*13:59*	*7.46*	*0.6*	*0.550*	*0.6*	*0.220*	*1.2136*	*1.00*	*1.2136*	*0.500*	*0.6073*	*5.6*
7	*14:00*	*8.37*	*0.6*	*0.400*	*0.6*	*0.160*	*0.9321*	*1.00*	*0.9321*	*0.364*	*0.3393*	*3.1*
8	*14:02*	*9.28*	*0.6*	*0.350*	*0.6*	*0.140*	*0.4177*	*1.00*	*0.4177*	*0.319*	*0.1331*	*1.2*
9	*14:04*	*10.19*	*0.6*	*0.300*	*0.6*	*0.120*	*1.2392*	*1.00*	*1.2392*	*0.273*	*0.3382*	*3.1*
10	*14:05*	*11.10*	*0.6*	*0.350*	*0.6*	*0.140*	*1.6253*	*1.00*	*1.6253*	*0.319*	*0.5178*	*4.8*
11	*14:06*	*12.01*	*0.6*	*0.400*	*0.6*	*0.160*	*1.3484*	*1.00*	*1.3484*	*0.364*	*0.4908*	*4.5*
12	*14:07*	*12.92*	*0.6*	*0.350*	*0.6*	*0.140*	*2.3566*	*1.00*	*2.3566*	*0.319*	*0.7508*	*6.9*
13	*14:08*	*13.83*	*0.6*	*0.550*	*0.6*	*0.220*	*0.6572*	*1.00*	*0.6572*	*0.500*	*0.3289*	*3.0*
14	*14:10*	*14.74*	*0.6*	*0.650*	*0.6*	*0.260*	*2.4380*	*1.00*	*2.4380*	*0.412*	*1.0052*	*9.3*
15	*14:20*	*15.10*	*0.6*	*0.650*	*0.6*	*0.260*	*2.0928*	*1.00*	*2.0928*	*0.296*	*0.6190*	*5.7*
16	*14:12*	*15.65*	*0.6*	*0.450*	*0.6*	*0.180*	*2.7415*	*1.00*	*2.7415*	*0.203*	*0.5553*	*5.1*
17	14:21	16.00	0.6	0.600	0.6	0.240	2.8297	1.00	2.8297	0.273	0.7727	7.1
18	14:13	16.56	0.6	0.650	0.6	0.260	1.6480	1.00	1.6480	0.478	0.7882	7.3
19	*14:15*	*17.47*	*0.6*	*0.500*	*0.6*	*0.200*	*1.6053*	*1.00*	*1.6053*	*0.455*	*0.7305*	*6.7*
20	14:16	18.38	0.6	0.350	0.6	0.140	0.6368	1.00	0.6368	0.319	0.2029	1.9
21	14:18	19.29	0.6	0.300	0.6	0.120	0.6430	1.00	0.6430	0.273	0.1755	1.6
22	14:18	20.20	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

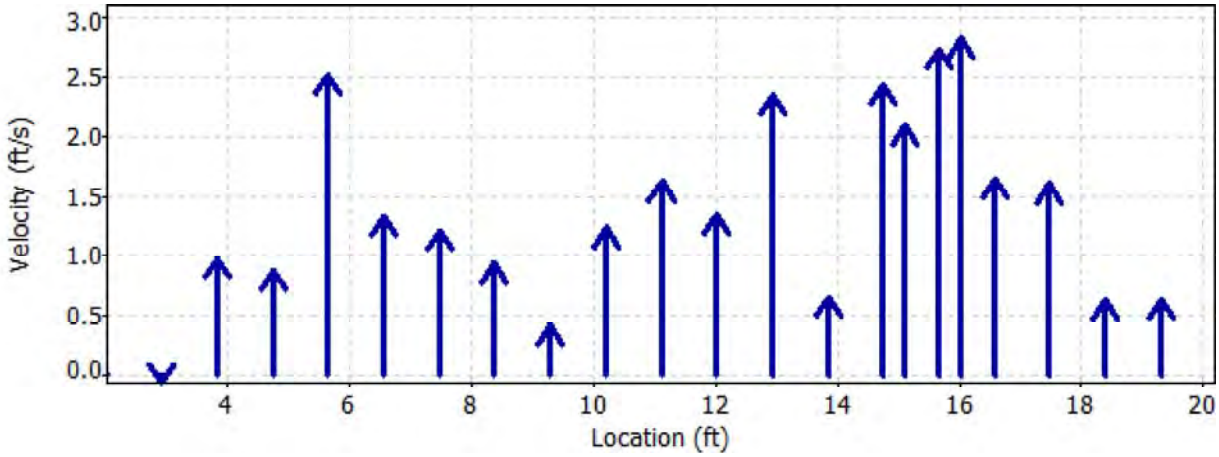
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

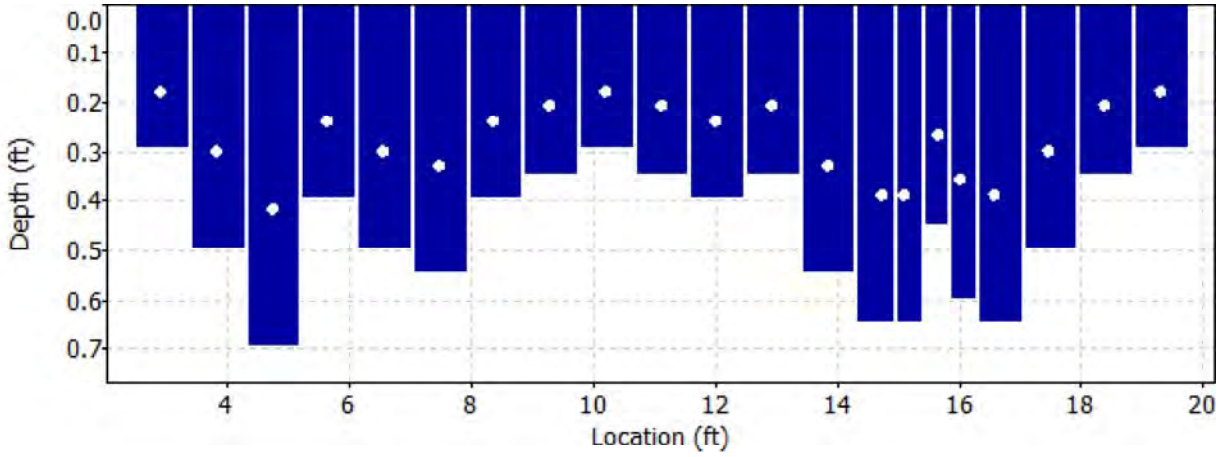
Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information		Site Details	
File Name	CSC111A.WAD	Site Name	CSC111A
Start Date and Time	2014/06/16 13:44:31	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information	
File Name	CSC111A.WAD
Start Date and Time	2014/06/16 13:44:31

Site Details	
Site Name	CSC111A
Operator(s)	DR

Quality Control

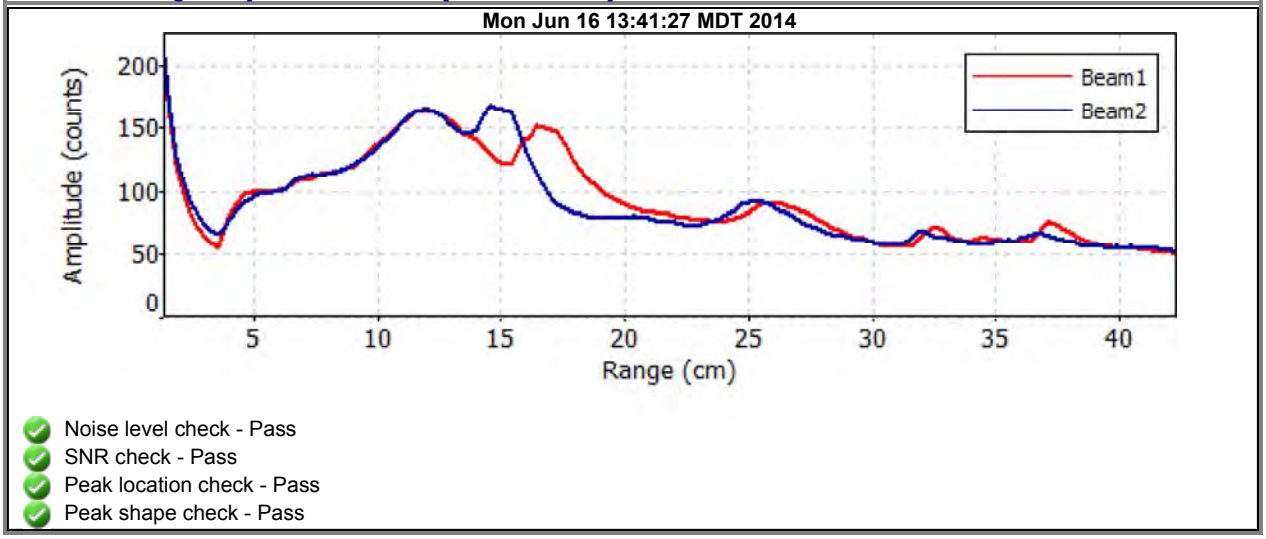
St	Loc	%Dep	Message
1	2.91	0.6	High angle: 113
2	3.82	0.6	High standard error: 0.119
5	6.55	0.6	High angle: 36
6	7.46	0.6	High angle: 27
7	8.37	0.6	High angle: 40
		0.6	High standard error: 0.098
8	9.28	0.6	High angle: 64
9	10.19	0.6	High angle: 43
10	11.10	0.6	High angle: 35
11	12.01	0.6	High angle: 24
12	12.92	0.6	High angle: 24
13	13.83	0.6	High angle: 66
14	14.74	0.6	High angle: 24
15	15.10	0.6	High angle: 23
16	15.65	0.6	High angle: 28
19	17.47	0.6	High angle: 22

Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information		Site Details	
File Name	CSC111A.WAD	Site Name	CSC111A
Start Date and Time	2014/06/16 13:44:31	Operator(s)	DR

Automatic Quality Control Test (BeamCheck)



- Noise level check - Pass
- SNR check - Pass
- Peak location check - Pass
- Peak shape check - Pass

Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information

File Name	CSC112.WAD
Start Date and Time	2014/06/16 15:59:17

Site Details

Site Name	CSC11A
Operator(s)	DWALL

System Information

Sensor Type	FlowTracker
Serial #	P3512
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.4%	3.1%
Velocity	1.4%	8.1%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.0%	-
Overall	**3.2%**	**8.8%**

Summary

Averaging Int.	40	# Stations	25
Start Edge	REW	Total Width	12.001
Mean SNR	37.8 dB	Total Area	9.489
Mean Temp	45.15 °F	Mean Depth	0.791
Disch. Equation	Mid-Section	Mean Velocity	1.1930
		Total Discharge	**11.3197**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	15:59	1.40	None	0.600	0.0	0.0	0.0000	1.00	1.2215	0.180	0.2199	1.9
1	*16:00*	*2.00*	*0.6*	*0.700*	*0.6*	*0.280*	*1.2215*	*1.00*	*1.2215*	*0.420*	*0.5132*	*4.5*
2	*16:01*	*2.60*	*0.6*	*0.700*	*0.6*	*0.280*	*1.8556*	*1.00*	*1.8556*	*0.420*	*0.7796*	*6.9*
3	*16:03*	*3.20*	*0.6*	*0.700*	*0.6*	*0.280*	*1.6988*	*1.00*	*1.6988*	*0.420*	*0.7137*	*6.3*
4	*16:04*	*3.80*	*0.6*	*0.950*	*0.6*	*0.380*	*2.3934*	*1.00*	*2.3934*	*0.428*	*1.0232*	*9.0*
5	16:26	4.10	0.6	0.800	0.6	0.320	2.6332	1.00	2.6332	0.240	0.6319	5.6
6	16:05	4.40	0.6	0.850	0.6	0.340	2.8711	1.00	2.8711	0.255	0.7323	6.5
7	16:27	4.70	0.6	0.800	0.6	0.320	3.0256	1.00	3.0256	0.240	0.7261	6.4
8	*16:06*	*5.00*	*0.6*	*0.800*	*0.6*	*0.320*	*2.8297*	*1.00*	*2.8297*	*0.240*	*0.6787*	*6.0*
9	16:30	5.30	0.6	0.700	0.6	0.280	3.2218	1.00	3.2218	0.210	0.6768	6.0
10	*16:07*	*5.60*	*0.6*	*0.900*	*0.6*	*0.360*	*2.4190*	*1.00*	*2.4190*	*0.405*	*0.9799*	*8.7*
11	*16:31*	*6.20*	*0.6*	*0.900*	*0.6*	*0.360*	*1.3435*	*1.00*	*1.3435*	*0.270*	*0.3628*	*3.2*
12	*16:08*	*6.20*	*0.6*	*0.900*	*0.6*	*0.360*	*1.0276*	*1.00*	*1.0276*	*0.270*	*0.2776*	*2.5*
13	16:10	6.80	0.6	0.800	0.6	0.320	2.3471	1.00	2.3471	0.480	1.1266	10.0
14	16:11	7.40	0.6	1.200	0.6	0.480	0.1447	1.00	0.1447	0.720	0.1042	0.9
15	16:12	8.00	0.6	1.100	0.6	0.440	0.7011	1.00	0.7011	0.660	0.4628	4.1
16	16:13	8.60	0.6	0.800	0.6	0.320	0.6929	1.00	0.6929	0.480	0.3326	2.9
17	16:15	9.20	0.6	0.900	0.6	0.360	0.6470	1.00	0.6470	0.540	0.3494	3.1
18	16:16	9.80	0.6	0.750	0.6	0.300	0.4528	1.00	0.4528	0.450	0.2038	1.8
19	16:17	10.40	0.6	0.650	0.6	0.260	0.6339	1.00	0.6339	0.390	0.2472	2.2
20	16:19	11.00	0.6	0.650	0.6	0.260	0.0594	1.00	0.0594	0.390	0.0232	0.2
21	16:20	11.60	0.6	0.750	0.6	0.300	0.2904	1.00	0.2904	0.450	0.1307	1.2
22	*16:21*	*12.20*	*0.6*	*0.800*	*0.6*	*0.320*	*-0.0456*	*1.00*	*-0.0456*	*0.480*	*-0.0219*	*-0.2*
23	*16:22*	*12.80*	*0.6*	*0.500*	*0.6*	*0.200*	*0.1014*	*1.00*	*0.1014*	*0.300*	*0.0304*	*0.3*
24	16:22	13.40	None	0.500	0.0	0.0	0.0000	1.00	0.1014	0.150	0.0152	0.1

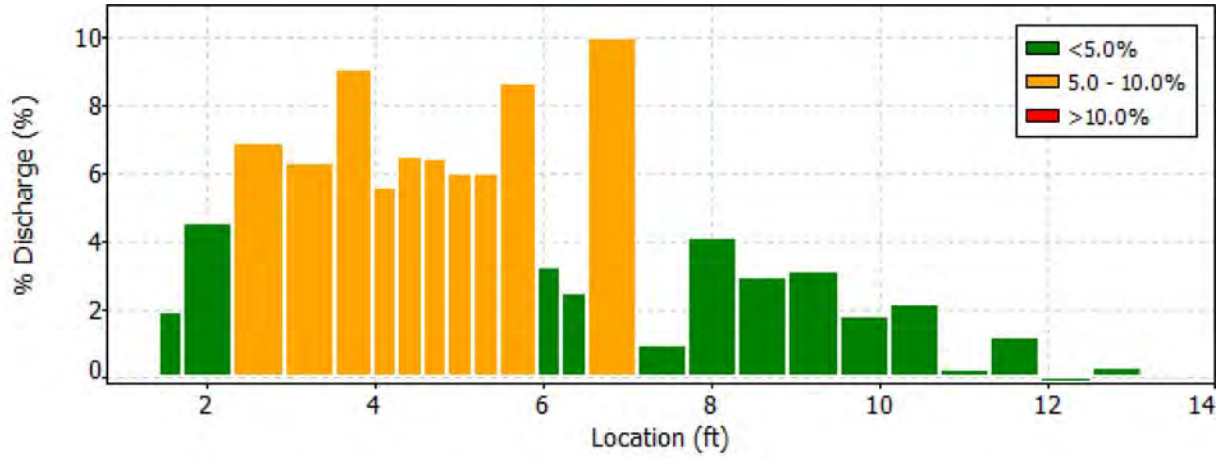
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

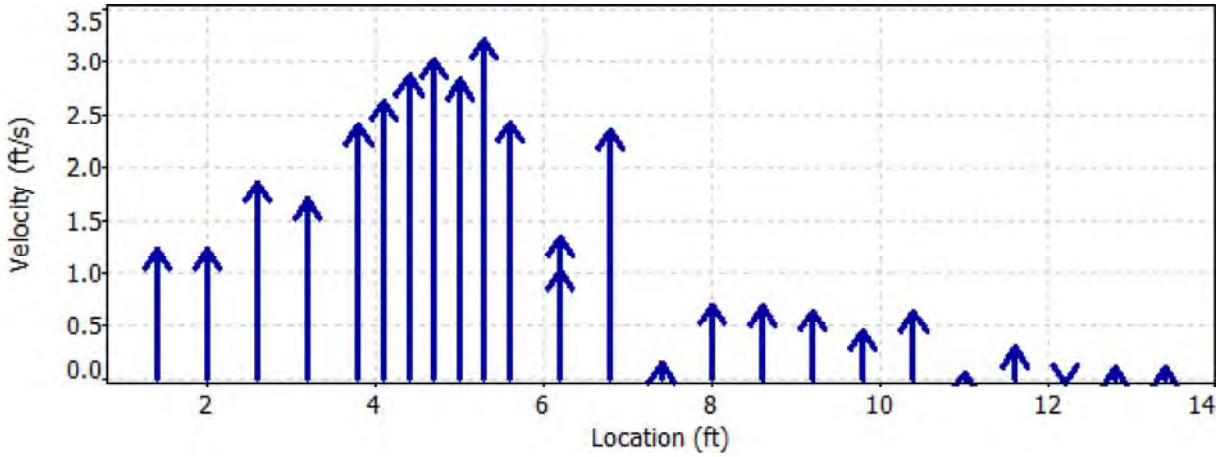
Discharge Measurement Summary

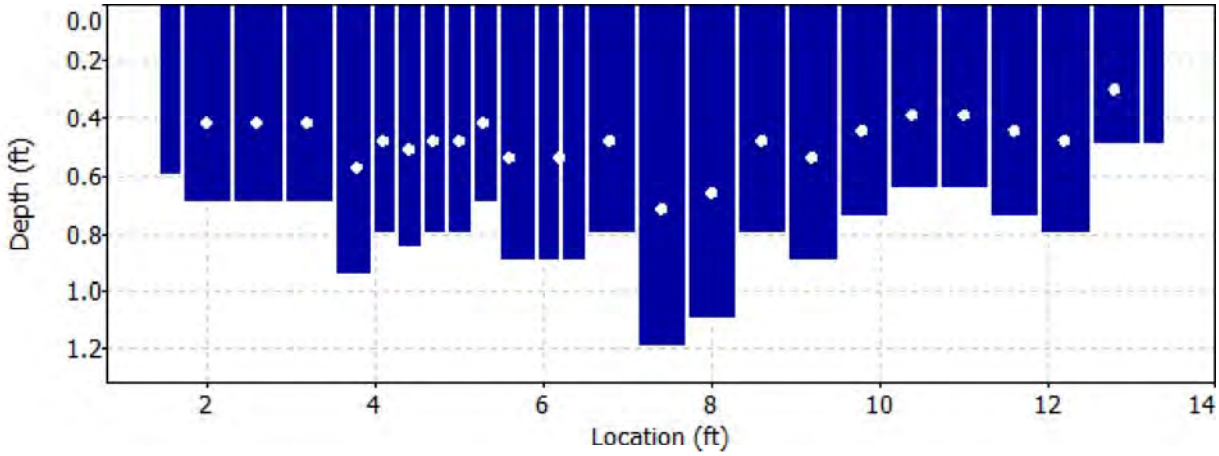
Date Generated: Wed Dec 24 2014

File Information	
File Name	CSC112.WAD
Start Date and Time	2014/06/16 15:59:17

Site Details	
Site Name	CSC11A
Operator(s)	DWALL







Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information		Site Details	
File Name	CSC112.WAD	Site Name	CSC11A
Start Date and Time	2014/06/16 15:59:17	Operator(s)	DWALL

Quality Control

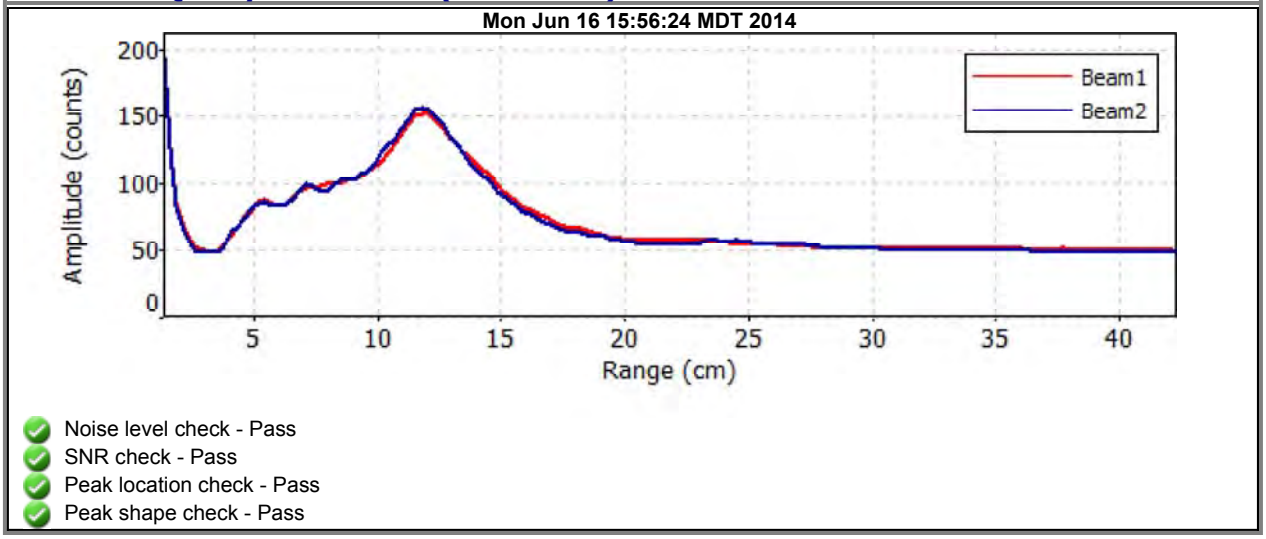
St	Loc	%Dep	Message
1	2.00	0.6	High standard error: 0.105
2	2.60	0.6	High angle: 25
		0.6	High standard error: 0.115
3	3.20	0.6	High standard error: 0.121
4	3.80	0.6	High standard error: 0.120
8	5.00	0.6	High angle: 25
10	5.60	0.6	High angle: 28
11	6.20	0.6	High angle: 27
12	6.20	0.6	High angle: 31
22	12.20	0.6	High angle: 117
23	12.80	0.6	High angle: 67

Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information		Site Details	
File Name	CSC112.WAD	Site Name	CSC11A
Start Date and Time	2014/06/16 15:59:17	Operator(s)	DWALL

Automatic Quality Control Test (BeamCheck)



- Noise level check - Pass
- SNR check - Pass
- Peak location check - Pass
- Peak shape check - Pass

Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information

File Name	CSC113.WAD
Start Date and Time	2014/06/16 14:52:01

Site Details

Site Name	CSC113
Operator(s)	DR

System Information

Sensor Type	FlowTracker
Serial #	P3568
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.3%	1.6%
Velocity	1.3%	2.6%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.1%	-
Overall	**3.3%**	**3.2%**

Summary

Averaging Int.	40	# Stations	24
Start Edge	REW	Total Width	12.601
Mean SNR	43.1 dB	Total Area	9.046
Mean Temp	44.73 °F	Mean Depth	0.718
Disch. Equation	Mid-Section	Mean Velocity	1.1825
		Total Discharge	**10.6967**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	14:52	1.50	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	14:52	2.10	0.6	0.400	0.6	0.160	0.3327	1.00	0.3327	0.240	0.0798	0.7
2	14:53	2.70	0.6	0.600	0.6	0.240	0.2966	1.00	0.2966	0.360	0.1068	1.0
3	*14:54*	*3.30*	*0.6*	*0.700*	*0.6*	*0.280*	*0.4131*	*1.00*	*0.4131*	*0.420*	*0.1735*	*1.6*
4	14:55	3.90	0.6	0.750	0.6	0.300	0.7815	1.00	0.7815	0.450	0.3517	3.3
5	14:56	4.50	0.6	0.750	0.6	0.300	0.8570	1.00	0.8570	0.450	0.3857	3.6
6	14:57	5.10	0.6	0.800	0.6	0.320	0.6729	1.00	0.6729	0.480	0.3230	3.0
7	14:58	5.70	0.6	0.800	0.6	0.320	0.7110	1.00	0.7110	0.480	0.3412	3.2
8	14:59	6.30	0.6	0.900	0.6	0.360	1.2365	1.00	1.2365	0.540	0.6678	6.2
9	15:00	6.90	0.6	1.100	0.6	0.440	1.4439	1.00	1.4439	0.660	0.9531	8.9
10	15:03	7.50	0.6	1.100	0.6	0.440	1.4370	1.00	1.4370	0.660	0.9486	8.9
11	*15:05*	*8.10*	*0.6*	*1.000*	*0.6*	*0.400*	*1.9695*	*1.00*	*1.9695*	*0.450*	*0.8856*	*8.3*
12	15:21	8.40	0.6	1.000	0.6	0.400	2.1335	1.00	2.1335	0.300	0.6401	6.0
13	15:07	8.70	0.6	1.000	0.6	0.400	2.1463	1.00	2.1463	0.300	0.6440	6.0
14	*15:23*	*9.00*	*0.6*	*1.000*	*0.6*	*0.400*	*1.9869*	*1.00*	*1.9869*	*0.300*	*0.5961*	*5.6*
15	15:08	9.30	0.6	0.900	0.6	0.360	2.3478	1.00	2.3478	0.405	0.9517	8.9
16	15:10	9.90	0.6	0.900	0.6	0.360	1.8238	1.00	1.8238	0.540	0.9849	9.2
17	*15:12*	*10.50*	*0.6*	*0.900*	*0.6*	*0.360*	*1.5948*	*1.00*	*1.5948*	*0.540*	*0.8612*	*8.1*
18	15:13	11.10	0.6	0.750	0.6	0.300	1.1880	1.00	1.1880	0.450	0.5347	5.0
19	15:14	11.70	0.6	0.550	0.6	0.220	0.5407	1.00	0.5407	0.330	0.1784	1.7
20	*15:15*	*12.30*	*0.6*	*0.600*	*0.6*	*0.240*	*0.2402*	*1.00*	*0.2402*	*0.360*	*0.0865*	*0.8*
21	*15:16*	*12.90*	*0.6*	*0.300*	*0.6*	*0.120*	*0.1004*	*1.00*	*0.1004*	*0.180*	*0.0181*	*0.2*
22	*15:19*	*13.50*	*0.6*	*0.250*	*0.6*	*0.100*	*-0.1056*	*1.00*	*-0.1056*	*0.150*	*-0.0158*	*-0.1*
23	15:19	14.10	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

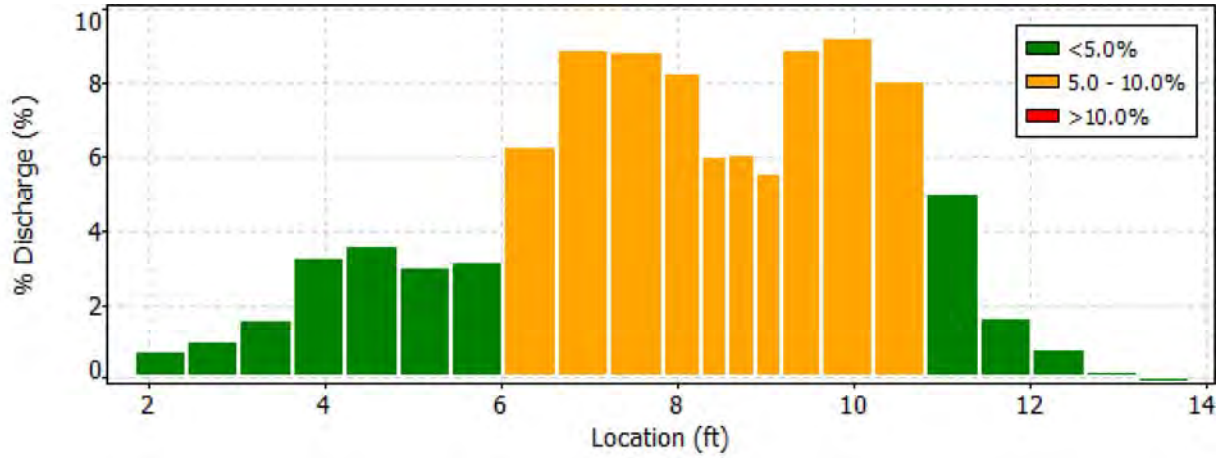
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

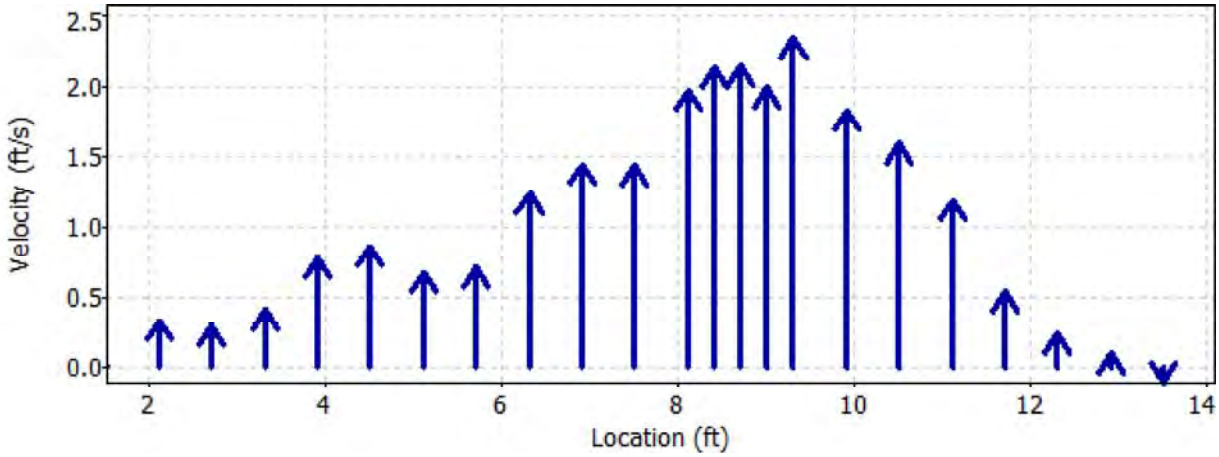
Discharge Measurement Summary

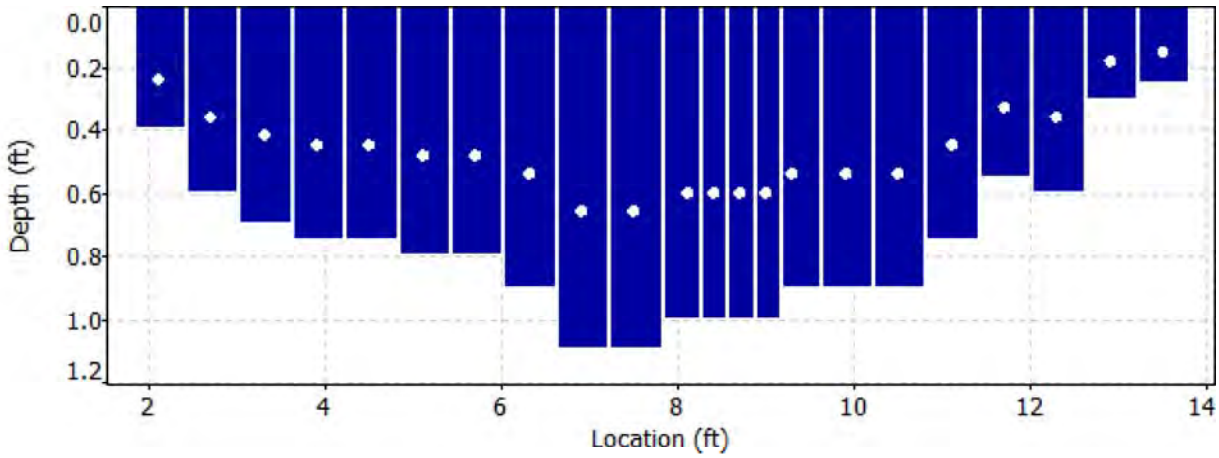
Date Generated: Wed Dec 24 2014

File Information	
File Name	CSC113.WAD
Start Date and Time	2014/06/16 14:52:01

Site Details	
Site Name	CSC113
Operator(s)	DR







Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information

File Name	CSC113.WAD
Start Date and Time	2014/06/16 14:52:01

Site Details

Site Name	CSC113
Operator(s)	DR

Quality Control

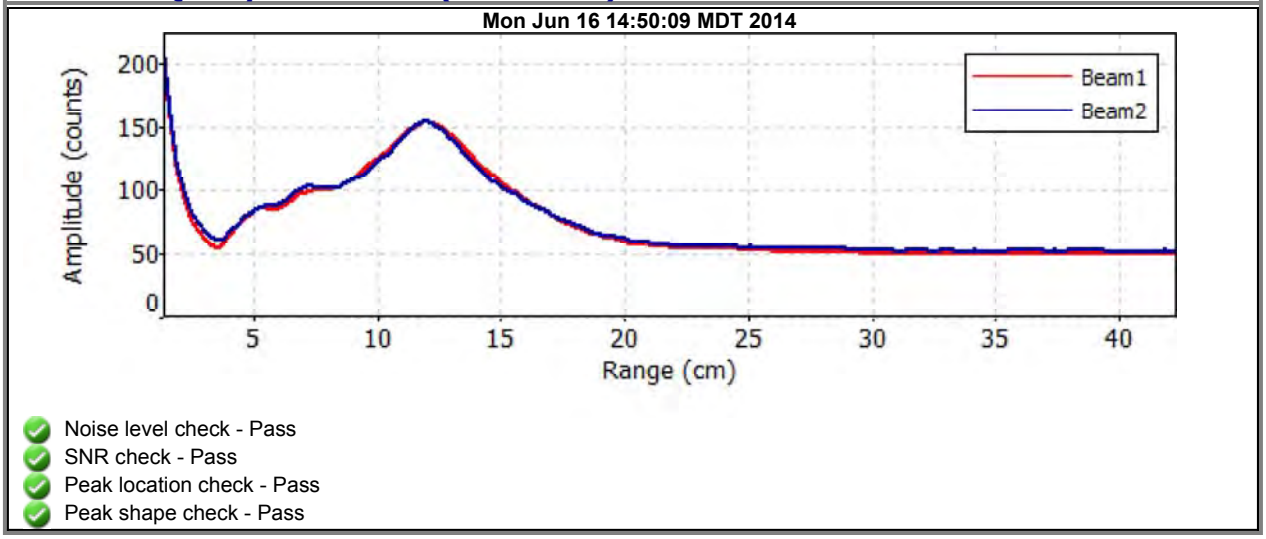
St	Loc	%Dep	Message
3	3.30	0.6	High angle: -20
11	8.10	0.6	High standard error: 0.103
14	9.00	0.6	High standard error: 0.128
17	10.50	0.6	High standard error: 0.086
20	12.30	0.6	High angle: 44
21	12.90	0.6	High angle: 64
22	13.50	0.6	High angle: -164

Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information		Site Details	
File Name	CSC113.WAD	Site Name	CSC113
Start Date and Time	2014/06/16 14:52:01	Operator(s)	DR

Automatic Quality Control Test (BeamCheck)



- Noise level check - Pass
- SNR check - Pass
- Peak location check - Pass
- Peak shape check - Pass

Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information

File Name	CSC114A.WAD
Start Date and Time	2014/06/16 16:03:02

Site Details

Site Name	CSC114A
Operator(s)	MGP

System Information

Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.3%	1.7%
Velocity	1.7%	8.2%
Width	0.1%	0.1%
Method	2.0%	-
# Stations	2.1%	-
Overall	**3.5%**	**8.5%**

Summary

Averaging Int.	40	# Stations	24
Start Edge	REW	Total Width	12.600
Mean SNR	38.7 dB	Total Area	10.767
Mean Temp	44.56 °F	Mean Depth	0.855
Disch. Equation	Mid-Section	Mean Velocity	0.8694
		Total Discharge	**9.3608**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	16:03	5.00	None	0.150	0.0	0.0	0.0000	1.00	0.0640	0.045	0.0029	0.0
1	*16:03*	*5.60*	*0.6*	*0.500*	*0.6*	*0.200*	*0.0640*	*1.00*	*0.0640*	*0.300*	*0.0192*	*0.2*
2	16:04	6.20	0.6	0.550	0.6	0.220	0.3392	1.00	0.3392	0.330	0.1119	1.2
3	*16:05*	*6.80*	*0.6*	*0.600*	*0.6*	*0.240*	*0.3232*	*1.00*	*0.3232*	*0.360*	*0.1164*	*1.2*
4	*16:07*	*7.40*	*0.6*	*0.600*	*0.6*	*0.240*	*0.1220*	*1.00*	*0.1220*	*0.360*	*0.0439*	*0.5*
5	*16:09*	*8.00*	*0.6*	*0.700*	*0.6*	*0.280*	*0.3753*	*1.00*	*0.3753*	*0.420*	*0.1577*	*1.7*
6	*16:11*	*8.60*	*0.6*	*0.750*	*0.6*	*0.300*	*0.9091*	*1.00*	*0.9091*	*0.450*	*0.4091*	*4.4*
7	*16:12*	*9.20*	*0.6*	*0.900*	*0.6*	*0.360*	*1.3986*	*1.00*	*1.3986*	*0.540*	*0.7553*	*8.1*
8	16:14	9.80	0.6	1.000	0.6	0.400	1.5098	1.00	1.5098	0.600	0.9060	9.7
9	*16:15*	*10.40*	*0.6*	*1.000*	*0.6*	*0.400*	*1.3442*	*1.00*	*1.3442*	*0.600*	*0.8066*	*8.6*
10	16:16	11.00	0.6	0.900	0.6	0.360	1.0344	1.00	1.0344	0.540	0.5586	6.0
11	16:18	11.60	0.6	0.950	0.6	0.380	1.5561	1.00	1.5561	0.570	0.8872	9.5
12	16:19	12.20	0.6	0.900	0.6	0.360	1.8228	1.00	1.8228	0.315	0.5735	6.1
13	16:36	12.30	0.6	0.800	0.6	0.320	2.1512	1.00	2.1512	0.240	0.5163	5.5
14	*16:22*	*12.80*	*0.6*	*1.050*	*0.6*	*0.420*	*-0.0026*	*1.00*	*-0.0026*	*0.578*	*-0.0015*	*0.0*
15	*16:24*	*13.40*	*0.6*	*1.050*	*0.6*	*0.420*	*-0.1755*	*1.00*	*-0.1755*	*0.630*	*-0.1106*	*-1.2*
16	*16:25*	*14.00*	*0.6*	*1.000*	*0.6*	*0.400*	*1.5410*	*1.00*	*1.5410*	*0.350*	*0.5387*	*5.8*
17	16:34	14.10	0.6	1.100	0.6	0.440	1.8192	1.00	1.8192	0.330	0.6004	6.4
18	*16:27*	*14.60*	*0.6*	*0.900*	*0.6*	*0.360*	*1.5620*	*1.00*	*1.5620*	*0.495*	*0.7739*	*8.3*
19	*16:28*	*15.20*	*0.6*	*1.000*	*0.6*	*0.400*	*0.8615*	*1.00*	*0.8615*	*0.600*	*0.5170*	*5.5*
20	16:29	15.80	0.6	1.000	0.6	0.400	1.0896	1.00	1.0896	0.600	0.6538	7.0
21	*16:30*	*16.40*	*0.6*	*1.050*	*0.6*	*0.420*	*0.6240*	*1.00*	*0.6240*	*0.630*	*0.3931*	*4.2*
22	16:32	17.00	0.6	1.050	0.6	0.420	0.1486	1.00	0.1486	0.629	0.0935	1.0
23	16:32	17.60	None	0.850	0.0	0.0	0.0000	1.00	0.1486	0.254	0.0378	0.4

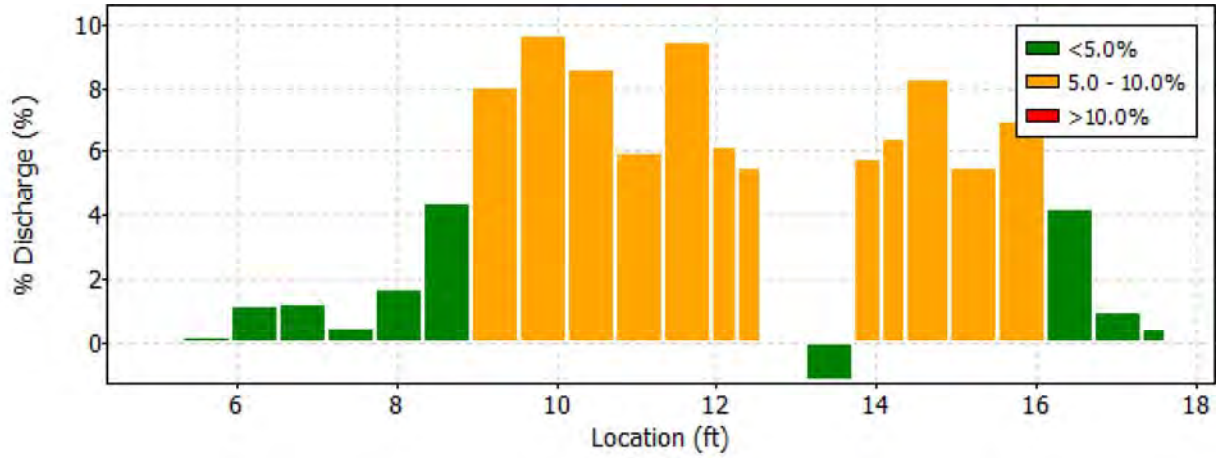
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

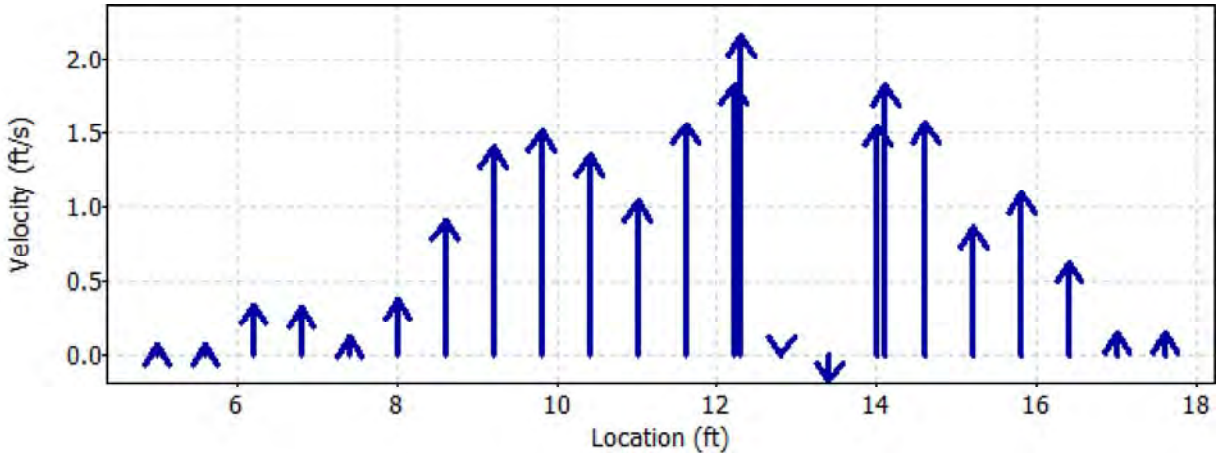
Discharge Measurement Summary

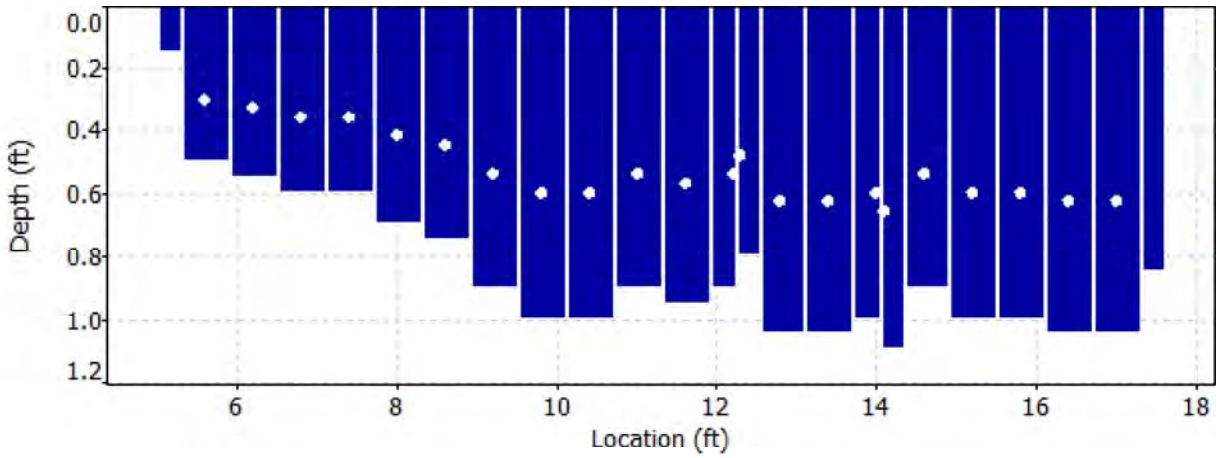
Date Generated: Wed Dec 24 2014

File Information	
File Name	CSC114A.WAD
Start Date and Time	2014/06/16 16:03:02

Site Details	
Site Name	CSC114A
Operator(s)	MGP







Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information

File Name	CSC114A.WAD
Start Date and Time	2014/06/16 16:03:02

Site Details

Site Name	CSC114A
Operator(s)	MGP

Quality Control

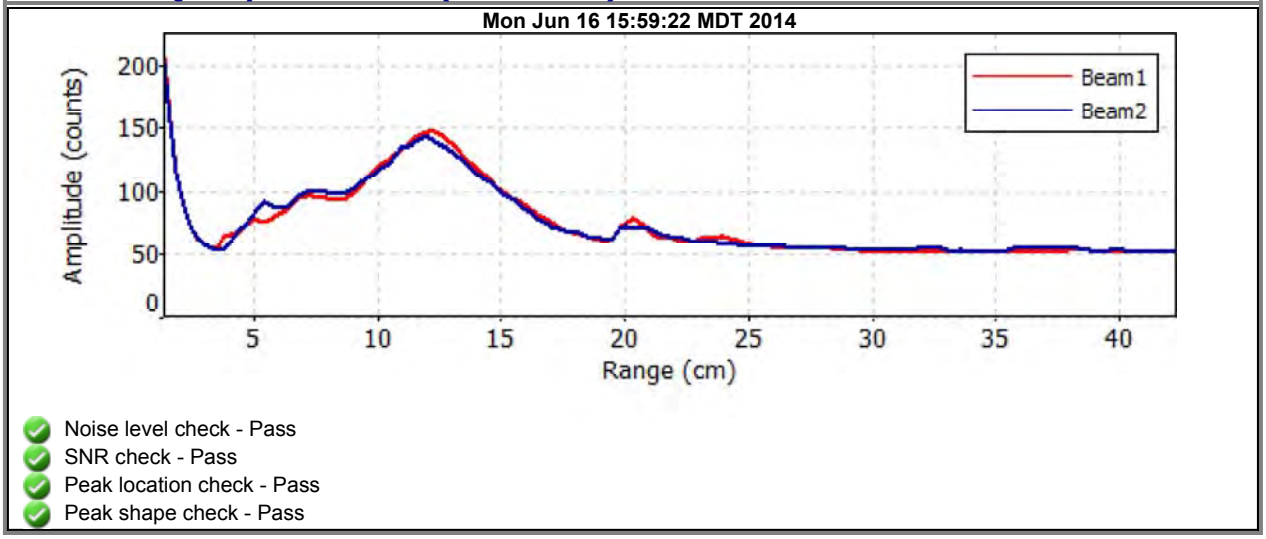
St	Loc	%Dep	Message
1	5.60	0.6	High angle: -59
3	6.80	0.6	High angle: 29
4	7.40	0.6	High angle: 63
5	8.00	0.6	High angle: 45
6	8.60	0.6	High angle: 35
7	9.20	0.6	High angle: 22
9	10.40	0.6	High standard error: 0.120
14	12.80	0.6	High number of spikes: 8
		0.6	High SNR variation during measurement: 4.3,9.0
15	13.40	0.6	High angle: -117
16	14.00	0.6	High standard error: 0.117
18	14.60	0.6	High angle: 20
19	15.20	0.6	High angle: 21
		0.6	High standard error: 0.114
21	16.40	0.6	High angle: -27
		0.6	High standard error: 0.092

Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information		Site Details	
File Name	CSC114A.WAD	Site Name	CSC114A
Start Date and Time	2014/06/16 16:03:02	Operator(s)	MGP

Automatic Quality Control Test (BeamCheck)



- Noise level check - Pass
- SNR check - Pass
- Peak location check - Pass
- Peak shape check - Pass

Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information

File Name	CSC115A.WAD
Start Date and Time	2014/06/16 16:13:25

Site Details

Site Name	CSC115A
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3533
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.2%	1.1%
Velocity	1.4%	3.9%
Width	0.1%	0.1%
Method	2.0%	-
# Stations	2.2%	-
Overall	**3.4%**	**4.2%**

Summary

Averaging Int.	40	# Stations	23
Start Edge	REW	Total Width	6.500
Mean SNR	41.9 dB	Total Area	6.686
Mean Temp	44.39 °F	Mean Depth	1.029
Disch. Equation	Mid-Section	Mean Velocity	1.4426
		Total Discharge	**9.6449**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	16:13	3.00	None	0.700	0.0	0.0	0.0000	1.00	2.5938	0.105	0.2723	2.8
1	*16:13*	*3.30*	*0.6*	*0.800*	*0.6*	*0.320*	*2.5938*	*1.00*	*2.5938*	*0.240*	*0.6221*	*6.5*
2	16:14	3.60	0.6	1.100	0.6	0.440	2.6339	1.00	2.6339	0.248	0.6521	6.8
3	16:36	3.75	0.6	1.100	0.6	0.440	2.7221	1.00	2.7221	0.165	0.4490	4.7
4	16:15	3.90	0.6	1.100	0.6	0.440	3.3402	1.00	3.3402	0.247	0.8258	8.6
5	*16:17*	*4.20*	*0.6*	*1.300*	*0.6*	*0.520*	*2.4613*	*1.00*	*2.4613*	*0.390*	*0.9594*	*9.9*
6	16:18	4.50	0.6	1.200	0.6	0.480	0.8599	1.00	0.8599	0.360	0.3095	3.2
7	*16:19*	*4.80*	*0.6*	*1.200*	*0.6*	*0.480*	*0.1237*	*1.00*	*0.1237*	*0.360*	*0.0445*	*0.5*
8	*16:20*	*5.10*	*0.6*	*1.250*	*0.6*	*0.500*	*-0.2320*	*1.00*	*-0.2320*	*0.375*	*-0.0869*	*-0.9*
9	*16:21*	*5.40*	*0.6*	*1.200*	*0.6*	*0.480*	*0.1280*	*1.00*	*0.1280*	*0.360*	*0.0460*	*0.5*
10	*16:22*	*5.70*	*0.6*	*1.200*	*0.6*	*0.480*	*0.9131*	*1.00*	*0.9131*	*0.360*	*0.3286*	*3.4*
11	16:23	6.00	0.6	1.150	0.6	0.460	2.0138	1.00	2.0138	0.345	0.6944	7.2
12	16:24	6.30	0.6	1.200	0.6	0.480	2.4341	1.00	2.4341	0.360	0.8760	9.1
13	16:25	6.60	0.6	1.300	0.6	0.520	2.0144	1.00	2.0144	0.390	0.7852	8.1
14	16:26	6.90	0.6	1.350	0.6	0.540	1.8845	1.00	1.8845	0.405	0.7629	7.9
15	16:27	7.20	0.6	1.200	0.6	0.480	2.1453	1.00	2.1453	0.360	0.7721	8.0
16	16:28	7.50	0.6	1.200	0.6	0.480	1.3734	1.00	1.3734	0.360	0.4942	5.1
17	16:29	7.80	0.6	1.100	0.6	0.440	1.1089	1.00	1.1089	0.330	0.3658	3.8
18	16:30	8.10	0.6	1.000	0.6	0.400	0.8251	1.00	0.8251	0.300	0.2474	2.6
19	16:31	8.40	0.6	0.800	0.6	0.320	0.4528	1.00	0.4528	0.240	0.1086	1.1
20	16:33	8.70	0.6	0.550	0.6	0.220	0.2028	1.00	0.2028	0.165	0.0334	0.3
21	*16:34*	*9.00*	*0.6*	*0.400*	*0.6*	*0.160*	*0.3691*	*1.00*	*0.3691*	*0.160*	*0.0592*	*0.6*
22	16:34	9.50	None	0.250	0.0	0.0	0.0000	1.00	0.3691	0.063	0.0232	0.2

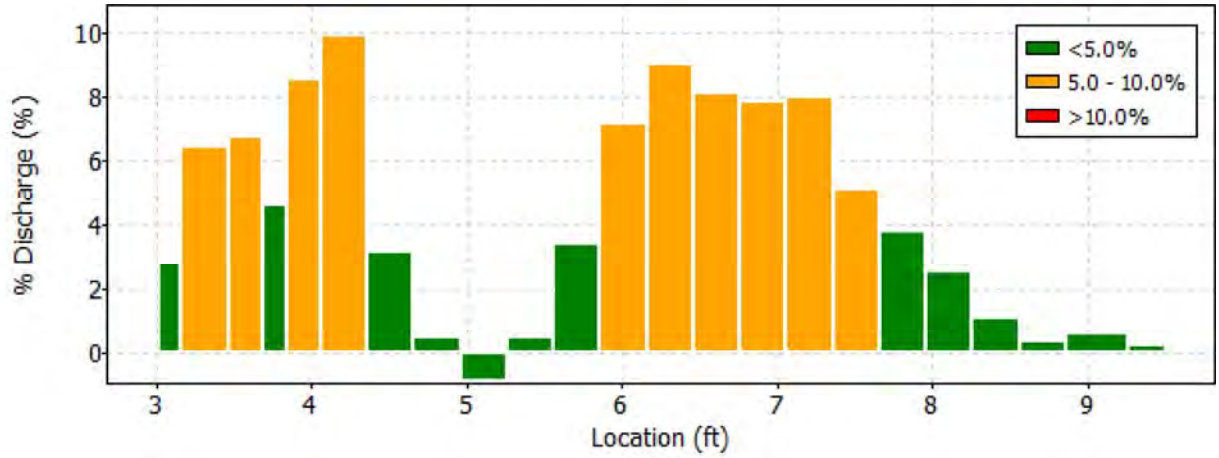
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

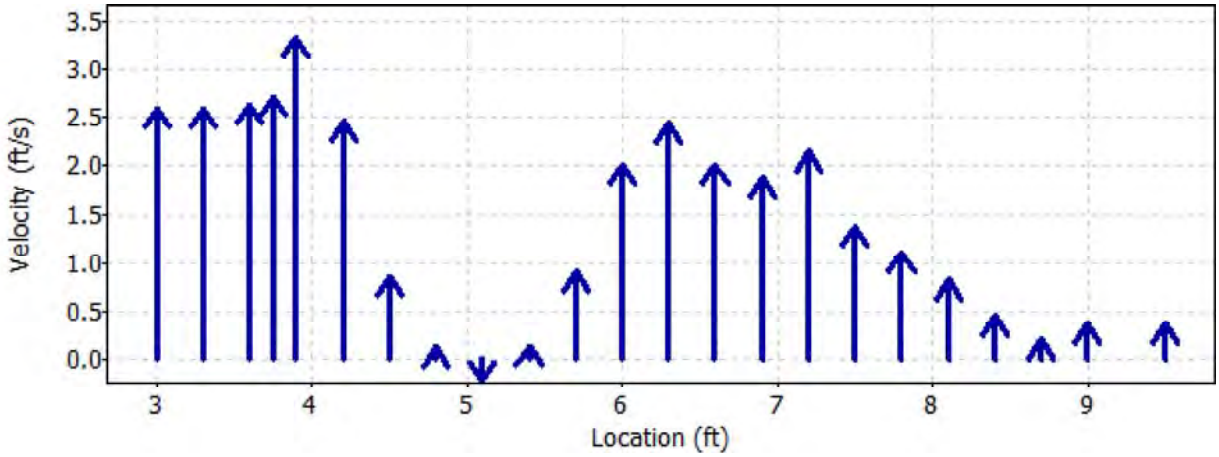
Discharge Measurement Summary

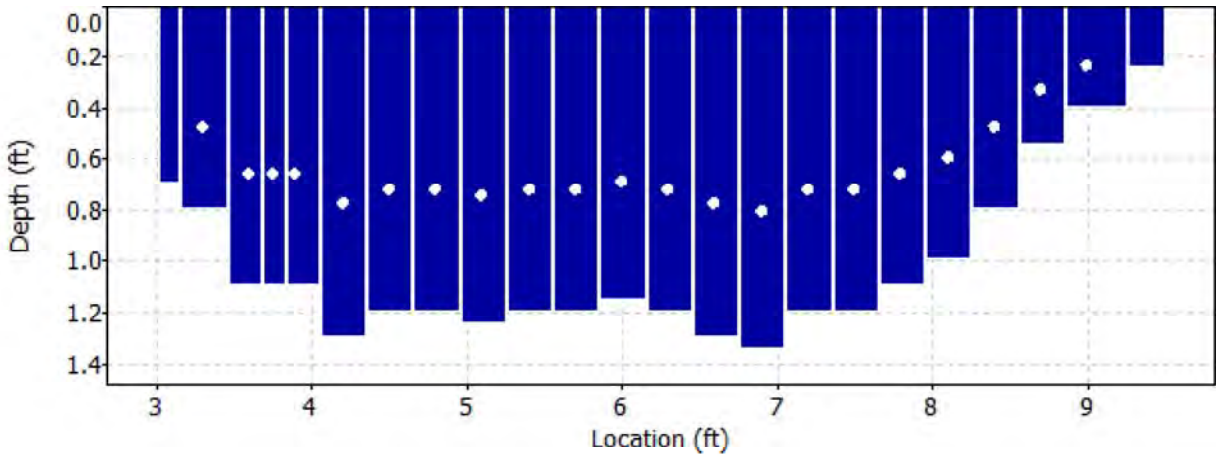
Date Generated: Wed Dec 24 2014

File Information	
File Name	CSC115A.WAD
Start Date and Time	2014/06/16 16:13:25

Site Details	
Site Name	CSC115A
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information

File Name	CSC115A.WAD
Start Date and Time	2014/06/16 16:13:25

Site Details

Site Name	CSC115A
Operator(s)	LC

Quality Control

St	Loc	%Dep	Message
1	3.30	0.6	High standard error: 0.135
5	4.20	0.6	High standard error: 0.145
7	4.80	0.6	High angle: -49
8	5.10	0.6	High angle: -134
		0.6	High standard error: 0.123
9	5.40	0.6	High angle: 32
		0.6	High standard error: 0.118
10	5.70	0.6	High standard error: 0.113
21	9.00	0.6	High angle: 36

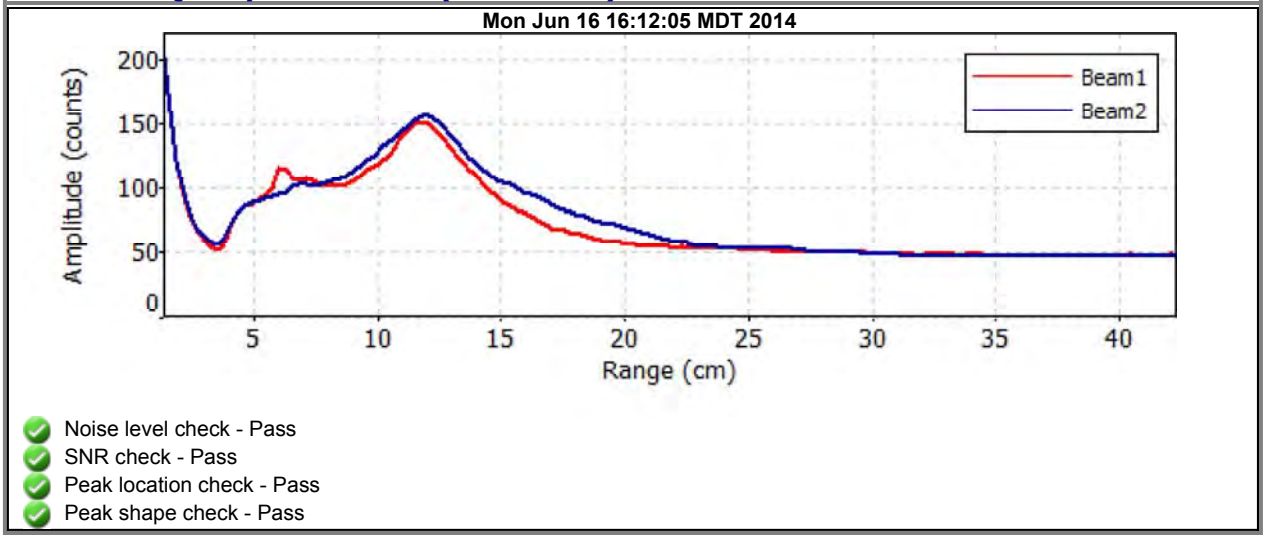
Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information	
File Name	CSC115A.WAD
Start Date and Time	2014/06/16 16:13:25

Site Details	
Site Name	CSC115A
Operator(s)	LC

Automatic Quality Control Test (BeamCheck)



- Noise level check - Pass
- SNR check - Pass
- Peak location check - Pass
- Peak shape check - Pass

Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information

File Name	CSC116.WAD
Start Date and Time	2014/06/16 17:22:19

Site Details

Site Name	CSC116
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.3%	2.4%
Velocity	2.0%	12.3%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.0%	-
Overall	**3.6%**	**12.5%**

Summary

Averaging Int.	40	# Stations	26
Start Edge	LEW	Total Width	13.000
Mean SNR	41.7 dB	Total Area	9.103
Mean Temp	41.77 °F	Mean Depth	0.700
Disch. Equation	Mid-Section	Mean Velocity	0.9697
		Total Discharge	**8.8269**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	17:22	12.00	None	0.100	0.0	0.0	0.0000	1.00	0.7313	0.065	0.0476	0.5
1	17:22	13.30	0.6	0.200	0.6	0.080	0.7313	1.00	0.7313	0.190	0.1390	1.6
2	*17:23*	*13.90*	*0.6*	*0.300*	*0.6*	*0.120*	*0.8366*	*1.00*	*0.8366*	*0.180*	*0.1505*	*1.7*
3	17:24	14.50	0.6	0.350	0.6	0.140	1.1955	1.00	1.1955	0.210	0.2511	2.8
4	17:26	15.10	0.6	0.500	0.6	0.200	1.6978	1.00	1.6978	0.300	0.5094	5.8
5	17:27	15.70	0.6	0.600	0.6	0.240	1.6115	1.00	1.6115	0.360	0.5803	6.6
6	*17:28*	*16.30*	*0.6*	*0.800*	*0.6*	*0.320*	*1.9587*	*1.00*	*1.9587*	*0.320*	*0.6266*	*7.1*
7	*17:53*	*16.50*	*0.6*	*0.850*	*0.6*	*0.340*	*0.5200*	*1.00*	*0.5200*	*0.255*	*0.1326*	*1.5*
8	*17:30*	*16.90*	*0.6*	*1.100*	*0.6*	*0.440*	*-0.0420*	*1.00*	*-0.0420*	*0.550*	*-0.0231*	*-0.3*
9	17:31	17.50	0.6	1.000	0.6	0.400	1.0804	1.00	1.0804	0.600	0.6483	7.3
10	17:32	18.10	0.6	0.800	0.6	0.320	0.7730	1.00	0.7730	0.480	0.3710	4.2
11	*17:33*	*18.70*	*0.6*	*0.850*	*0.6*	*0.340*	*1.2060*	*1.00*	*1.2060*	*0.510*	*0.6152*	*7.0*
12	*17:34*	*19.30*	*0.6*	*0.800*	*0.6*	*0.320*	*1.3720*	*1.00*	*1.3720*	*0.480*	*0.6585*	*7.5*
13	*17:36*	*19.90*	*0.6*	*0.700*	*0.6*	*0.280*	*-0.2507*	*1.00*	*-0.2507*	*0.420*	*-0.1053*	*-1.2*
14	*17:37*	*20.50*	*0.6*	*0.600*	*0.6*	*0.240*	*-0.1102*	*1.00*	*-0.1102*	*0.360*	*-0.0397*	*-0.4*
15	*17:38*	*21.10*	*0.6*	*0.600*	*0.6*	*0.240*	*1.2428*	*1.00*	*1.2428*	*0.360*	*0.4475*	*5.1*
16	*17:39*	*21.70*	*0.6*	*0.850*	*0.6*	*0.340*	*0.5184*	*1.00*	*0.5184*	*0.382*	*0.1981*	*2.2*
17	17:51	22.00	0.6	0.900	0.6	0.360	2.3835	1.00	2.3835	0.270	0.6436	7.3
18	17:41	22.30	0.6	0.950	0.6	0.380	2.1001	1.00	2.1001	0.285	0.5987	6.8
19	17:50	22.60	0.6	1.100	0.6	0.440	2.0000	1.00	2.0000	0.330	0.6601	7.5
20	17:42	22.90	0.6	0.900	0.6	0.360	2.1056	1.00	2.1056	0.405	0.8536	9.7
21	17:43	23.50	0.6	1.100	0.6	0.440	1.1060	1.00	1.1060	0.385	0.4253	4.8
22	17:48	23.60	0.6	1.100	0.6	0.440	0.4291	1.00	0.4291	0.330	0.1416	1.6
23	17:45	24.10	0.6	1.000	0.6	0.400	0.5220	1.00	0.5220	0.551	0.2874	3.3
24	*17:46*	*24.70*	*0.6*	*1.000*	*0.6*	*0.400*	*0.0171*	*1.00*	*0.0171*	*0.449*	*0.0077*	*0.1*
25	17:46	25.00	None	0.500	0.0	0.0	0.0000	1.00	0.0171	0.075	0.0013	0.0

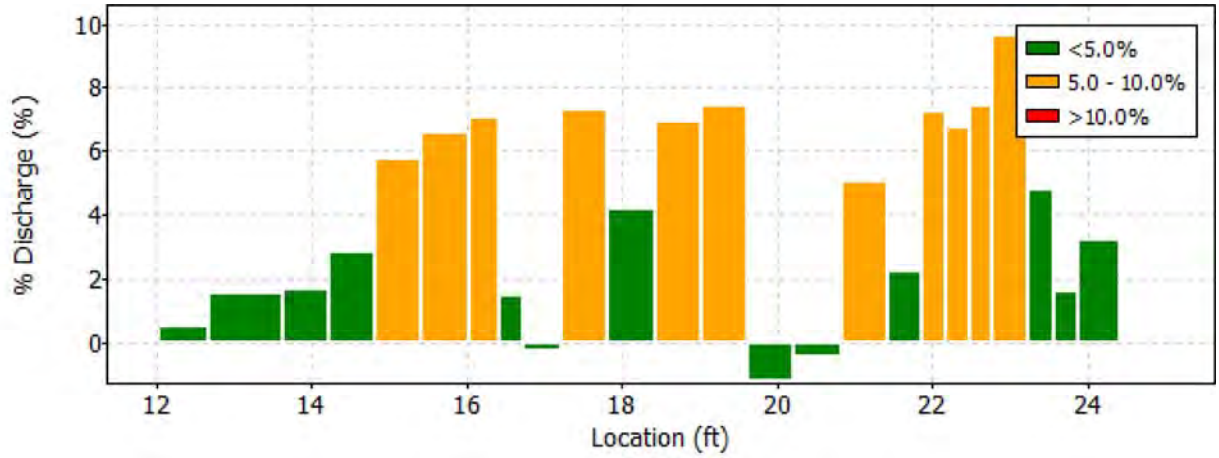
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

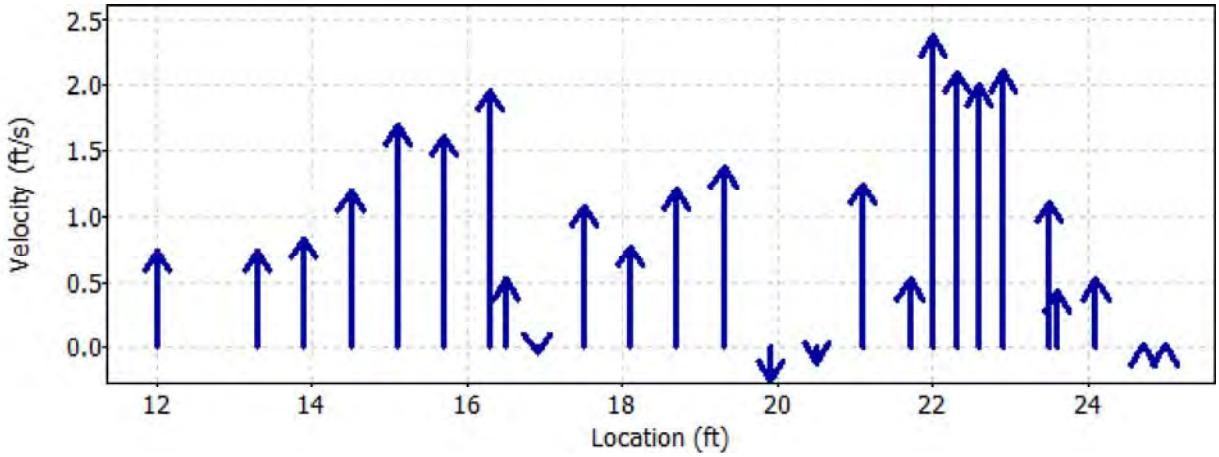
Discharge Measurement Summary

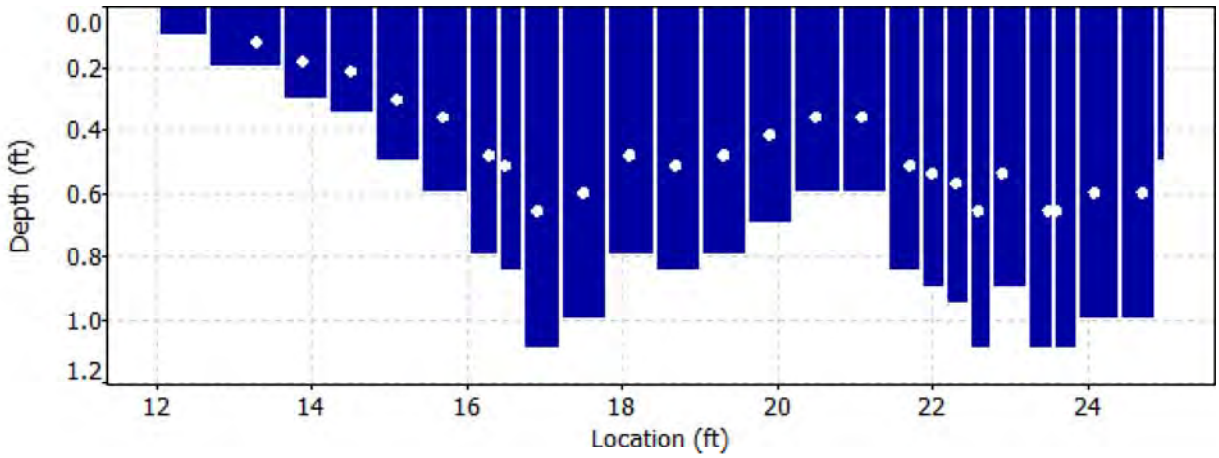
Date Generated: Wed Dec 24 2014

File Information	
File Name	CSC116.WAD
Start Date and Time	2014/06/16 17:22:19

Site Details	
Site Name	CSC116
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information

File Name	CSC116.WAD
Start Date and Time	2014/06/16 17:22:19

Site Details

Site Name	CSC116
Operator(s)	LC

Quality Control

St	Loc	%Dep	Message
2	13.90	0.6	High angle: 23
6	16.30	0.6	High standard error: 0.126
7	16.50	0.6	High standard error: 0.167
8	16.90	0.6	High angle: 104
11	18.70	0.6	High angle: -26
12	19.30	0.6	High angle: -22
13	19.90	0.6	High angle: -142
14	20.50	0.6	High angle: -106
15	21.10	0.6	High standard error: 0.204
16	21.70	0.6	High standard error: 0.133
24	24.70	0.6	High number of spikes: 11
		0.6	SNR (14.0) is different from typical SNR (41.7)

Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information

File Name	CSC116B.WAD
Start Date and Time	2014/06/16 15:51:34

Site Details

Site Name	CSC116B
Operator(s)	DR

System Information

Sensor Type	FlowTracker
Serial #	P3568
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.2%	1.3%
Velocity	1.5%	4.1%
Width	0.1%	0.1%
Method	2.0%	-
# Stations	2.1%	-
Overall	**3.4%**	**4.4%**

Summary

Averaging Int.	40	# Stations	24
Start Edge	REW	Total Width	15.000
Mean SNR	43.4 dB	Total Area	10.426
Mean Temp	43.15 °F	Mean Depth	0.695
Disch. Equation	Mid-Section	Mean Velocity	1.1495
		Total Discharge	**11.9847**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	15:51	1.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	*15:51*	*1.75*	*0.6*	*0.100*	*0.6*	*0.040*	*0.1529*	*1.00*	*0.1529*	*0.075*	*0.0115*	*0.1*
2	*15:52*	*2.50*	*0.6*	*0.150*	*0.6*	*0.060*	*0.2270*	*1.00*	*0.2270*	*0.112*	*0.0255*	*0.2*
3	*15:54*	*3.25*	*0.6*	*0.150*	*0.6*	*0.060*	*0.2139*	*1.00*	*0.2139*	*0.112*	*0.0241*	*0.2*
4	*15:55*	*4.00*	*0.6*	*0.250*	*0.6*	*0.100*	*0.2346*	*1.00*	*0.2346*	*0.188*	*0.0440*	*0.4*
5	15:56	4.75	0.6	0.400	0.6	0.160	0.3786	1.00	0.3786	0.300	0.1136	0.9
6	15:57	5.50	0.6	0.550	0.6	0.220	0.4839	1.00	0.4839	0.412	0.1996	1.7
7	15:59	6.25	0.6	0.650	0.6	0.260	0.7349	1.00	0.7349	0.487	0.3582	3.0
8	16:02	7.00	0.6	0.800	0.6	0.320	1.2533	1.00	1.2533	0.600	0.7518	6.3
9	16:03	7.75	0.6	0.800	0.6	0.320	1.8245	1.00	1.8245	0.600	1.0945	9.1
10	*16:04*	*8.50*	*0.6*	*0.750*	*0.6*	*0.300*	*0.7418*	*1.00*	*0.7418*	*0.563*	*0.4173*	*3.5*
11	*16:05*	*9.25*	*0.6*	*0.750*	*0.6*	*0.300*	*-0.1115*	*1.00*	*-0.1115*	*0.563*	*-0.0627*	*-0.5*
12	*16:06*	*10.00*	*0.6*	*0.850*	*0.6*	*0.340*	*0.2844*	*1.00*	*0.2844*	*0.638*	*0.1814*	*1.5*
13	16:07	10.75	0.6	1.050	0.6	0.420	0.9400	1.00	0.9400	0.787	0.7401	6.2
14	*16:08*	*11.50*	*0.6*	*1.100*	*0.6*	*0.440*	*1.7254*	*1.00*	*1.7254*	*0.633*	*1.0913*	*9.1*
15	*16:09*	*11.90*	*0.6*	*1.100*	*0.6*	*0.440*	*2.2451*	*1.00*	*2.2451*	*0.413*	*0.9262*	*7.7*
16	16:10	12.25	0.6	1.200	0.6	0.480	2.4265	1.00	2.4265	0.420	1.0194	8.5
17	16:11	12.60	0.6	1.100	0.6	0.440	2.1411	1.00	2.1411	0.413	0.8832	7.4
18	16:12	13.00	0.6	1.200	0.6	0.480	1.9262	1.00	1.9262	0.480	0.9245	7.7
19	*16:18*	*13.40*	*0.6*	*1.100*	*0.6*	*0.440*	*1.9984*	*1.00*	*1.9984*	*0.413*	*0.8244*	*6.9*
20	*16:14*	*13.75*	*0.6*	*1.000*	*0.6*	*0.400*	*1.5892*	*1.00*	*1.5892*	*0.550*	*0.8741*	*7.3*
21	*16:14*	*14.50*	*0.6*	*1.000*	*0.6*	*0.400*	*1.0843*	*1.00*	*1.0843*	*0.750*	*0.8132*	*6.8*
22	16:15	15.25	0.6	0.850	0.6	0.340	0.7940	1.00	0.7940	0.638	0.5062	4.2
23	16:15	16.00	None	0.750	0.0	0.0	0.0000	1.00	0.7940	0.281	0.2233	1.9

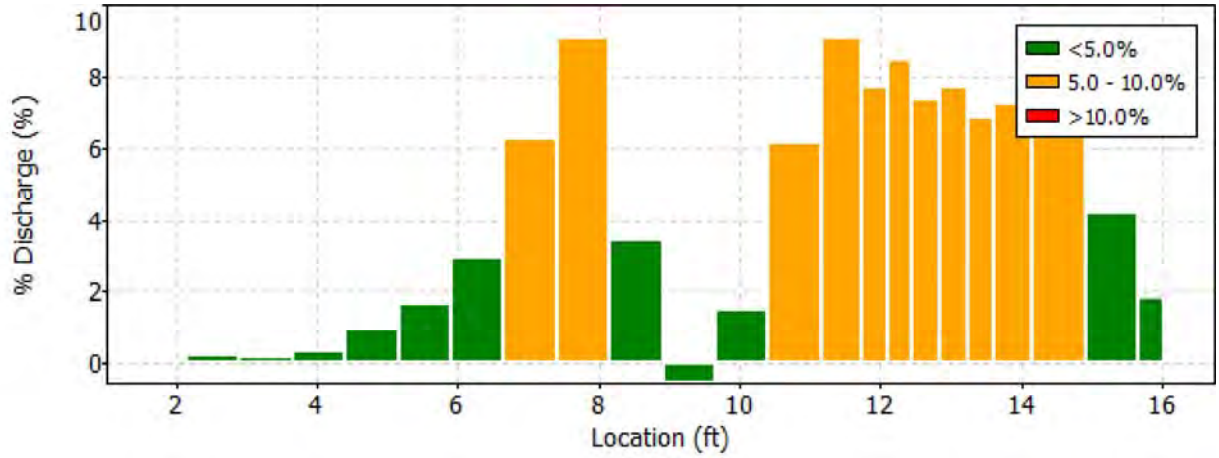
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

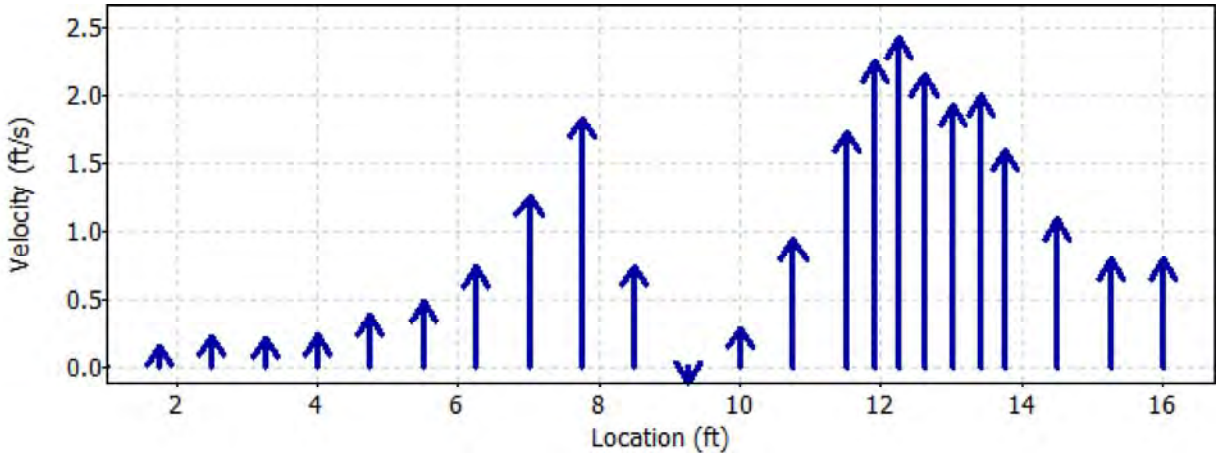
Discharge Measurement Summary

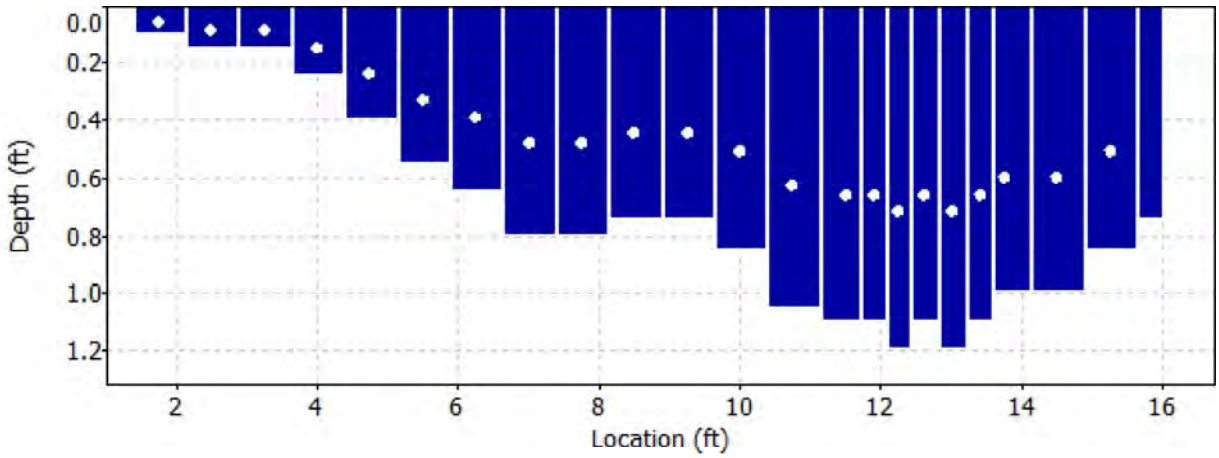
Date Generated: Wed Dec 24 2014

File Information	
File Name	CSC116B.WAD
Start Date and Time	2014/06/16 15:51:34

Site Details	
Site Name	CSC116B
Operator(s)	DR







Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information

File Name	CSC116B.WAD
Start Date and Time	2014/06/16 15:51:34

Site Details

Site Name	CSC116B
Operator(s)	DR

Quality Control

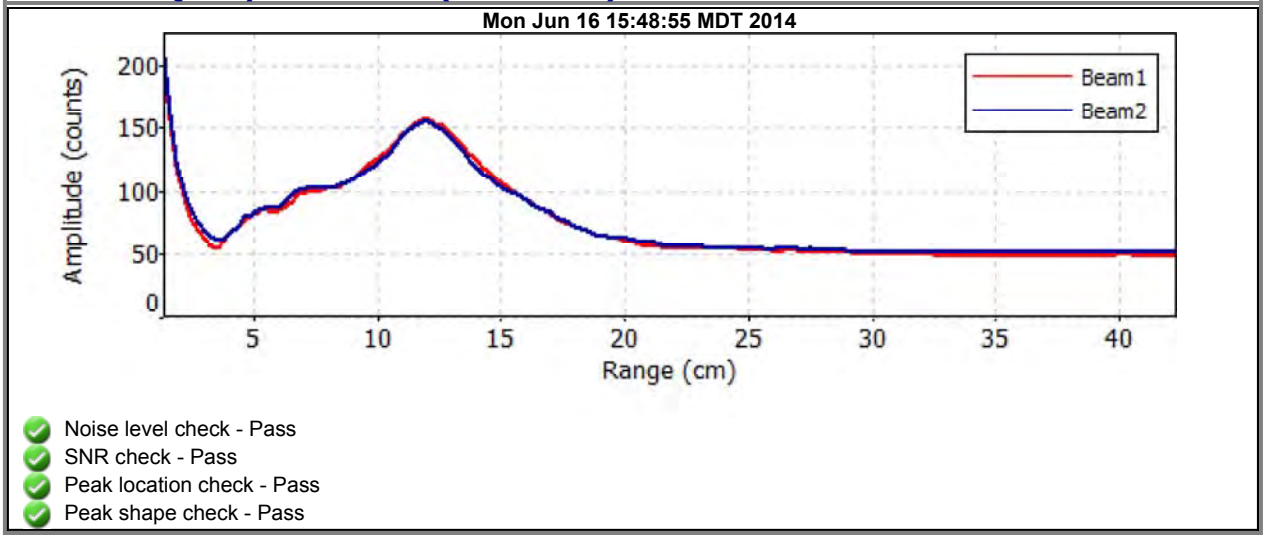
St	Loc	%Dep	Message
1	1.75	0.6	High angle: -50
2	2.50	0.6	High angle: -50
3	3.25	0.6	High angle: -44
4	4.00	0.6	High angle: -21
10	8.50	0.6	High angle: 25
11	9.25	0.6	High angle: 147
12	10.00	0.6	High angle: -22
14	11.50	0.6	High standard error: 0.114
15	11.90	0.6	High standard error: 0.135
19	13.40	0.6	High standard error: 0.123
20	13.75	0.6	High angle: 23
21	14.50	0.6	High angle: 21

Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information		Site Details	
File Name	CSC116B.WAD	Site Name	CSC116B
Start Date and Time	2014/06/16 15:51:34	Operator(s)	DR

Automatic Quality Control Test (BeamCheck)



- Noise level check - Pass
- SNR check - Pass
- Peak location check - Pass
- Peak shape check - Pass

Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information

File Name	CSC120A.WAD
Start Date and Time	2014/06/16 17:45:16

Site Details

Site Name	CSC120A
Operator(s)	DWALL

System Information

Sensor Type	FlowTracker
Serial #	P3512
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.3%	2.5%
Velocity	0.8%	2.8%
Width	0.1%	0.1%
Method	1.7%	-
# Stations	2.0%	-
Overall	**3.0%**	**3.8%**

Summary

Averaging Int.	40	# Stations	25
Start Edge	LEW	Total Width	10.750
Mean SNR	36.7 dB	Total Area	8.137
Mean Temp	41.07 °F	Mean Depth	0.757
Disch. Equation	Mid-Section	Mean Velocity	1.1532
		Total Discharge	**9.3838**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	17:45	4.00	None	0.500	0.0	0.0	0.0000	1.00	0.1135	0.125	0.0142	0.2
1	*17:45*	*4.50*	*0.6*	*0.550*	*0.6*	*0.220*	*0.1135*	*1.00*	*0.1135*	*0.275*	*0.0312*	*0.3*
2	*17:46*	*5.00*	*0.6*	*0.700*	*0.6*	*0.280*	*1.1906*	*1.00*	*1.1906*	*0.350*	*0.4168*	*4.4*
3	17:47	5.50	0.6	0.750	0.6	0.300	1.6991	1.00	1.6991	0.375	0.6372	6.8
4	17:48	6.00	0.6	0.800	0.6	0.320	1.5636	1.00	1.5636	0.400	0.6254	6.7
5	*17:49*	*6.50*	*0.6*	*0.800*	*0.6*	*0.320*	*1.5059*	*1.00*	*1.5059*	*0.400*	*0.6023*	*6.4*
6	17:50	7.00	0.6	0.900	0.6	0.360	1.4616	1.00	1.4616	0.450	0.6577	7.0
7	17:51	7.50	0.6	0.900	0.6	0.360	1.2359	1.00	1.2359	0.450	0.5561	5.9
8	*17:52*	*8.00*	*0.6*	*1.000*	*0.6*	*0.400*	*0.9567*	*1.00*	*0.9567*	*0.500*	*0.4783*	*5.1*
9	17:53	8.50	0.6	0.950	0.6	0.380	0.8789	1.00	0.8789	0.475	0.4176	4.4
10	*17:55*	*9.00*	*0.6*	*0.800*	*0.6*	*0.320*	*0.8990*	*1.00*	*0.8990*	*0.400*	*0.3595*	*3.8*
11	17:56	9.50	0.6	0.800	0.6	0.320	0.8310	1.00	0.8310	0.400	0.3324	3.5
12	*17:57*	*10.00*	*0.6*	*0.550*	*0.6*	*0.220*	*0.6877*	*1.00*	*0.6877*	*0.275*	*0.1891*	*2.0*
13	*17:58*	*10.50*	*0.6*	*0.500*	*0.6*	*0.200*	*0.7310*	*1.00*	*0.7310*	*0.250*	*0.1827*	*1.9*
14	*17:59*	*11.00*	*0.6*	*0.500*	*0.6*	*0.200*	*0.7349*	*1.00*	*0.7349*	*0.250*	*0.1837*	*2.0*
15	*18:01*	*11.50*	*0.6*	*0.700*	*0.6*	*0.280*	*0.8235*	*1.00*	*0.8235*	*0.350*	*0.2883*	*3.1*
16	18:02	12.00	0.6	0.700	0.6	0.280	0.8793	1.00	0.8793	0.350	0.3078	3.3
17	18:03	12.50	0.6	0.750	0.6	0.300	1.0066	1.00	1.0066	0.375	0.3775	4.0
18	18:04	13.00	0.6	0.900	0.6	0.360	0.8392	1.00	0.8392	0.337	0.2832	3.0
19	18:09	13.25	0.6	0.700	0.6	0.280	0.9764	1.00	0.9764	0.175	0.1709	1.8
20	18:05	13.50	0.6	1.000	0.6	0.400	1.7684	1.00	1.7684	0.375	0.6631	7.1
21	18:06	14.00	0.6	0.900	0.6	0.360	2.1906	1.00	2.1906	0.337	0.7393	7.9
22	18:11	14.25	0.6	1.000	0.6	0.400	1.8264	1.00	1.8264	0.250	0.4566	4.9
23	*18:08*	*14.50*	*0.6*	*0.850*	*0.6*	*0.340*	*1.9432*	*1.00*	*1.9432*	*0.213*	*0.4130*	*4.4*
24	18:08	14.75	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

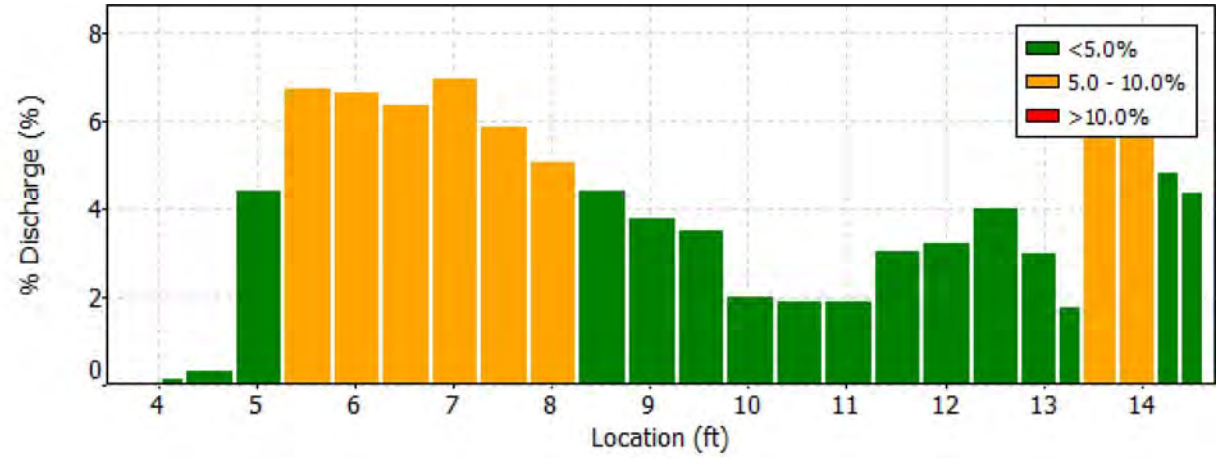
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

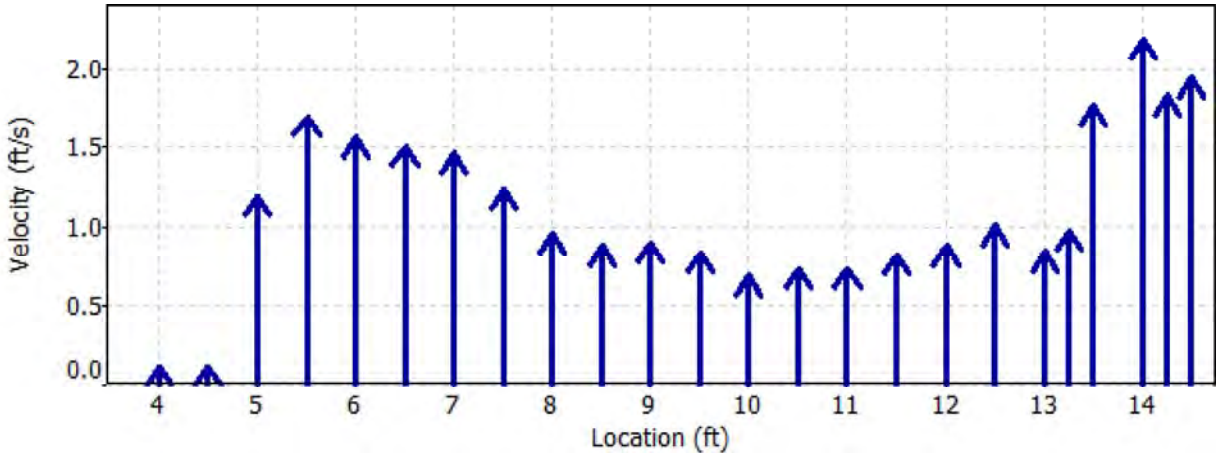
Discharge Measurement Summary

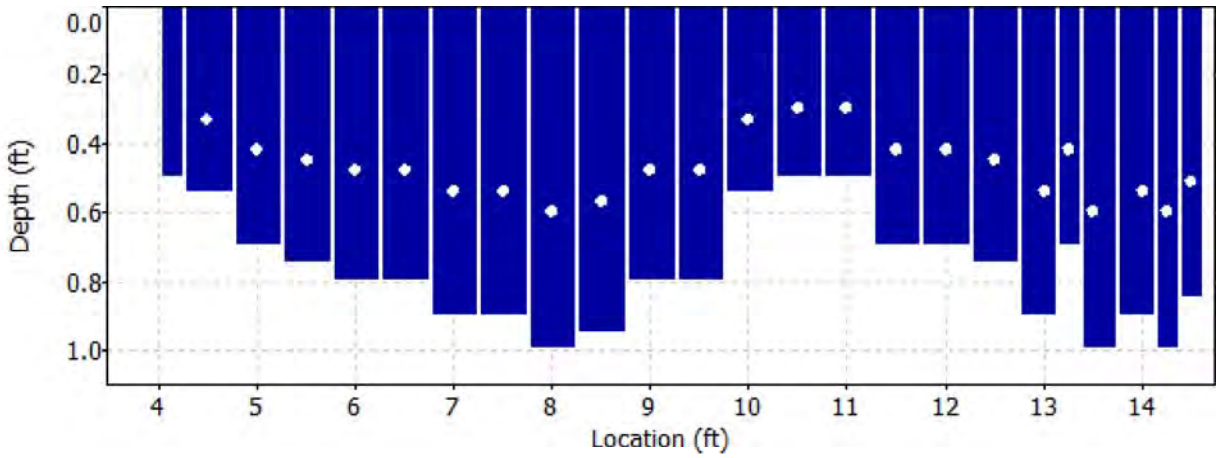
Date Generated: Wed Dec 24 2014

File Information	
File Name	CSC120A.WAD
Start Date and Time	2014/06/16 17:45:16

Site Details	
Site Name	CSC120A
Operator(s)	DWALL







Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information

File Name	CSC120A.WAD
Start Date and Time	2014/06/16 17:45:16

Site Details

Site Name	CSC120A
Operator(s)	DWALL

Quality Control

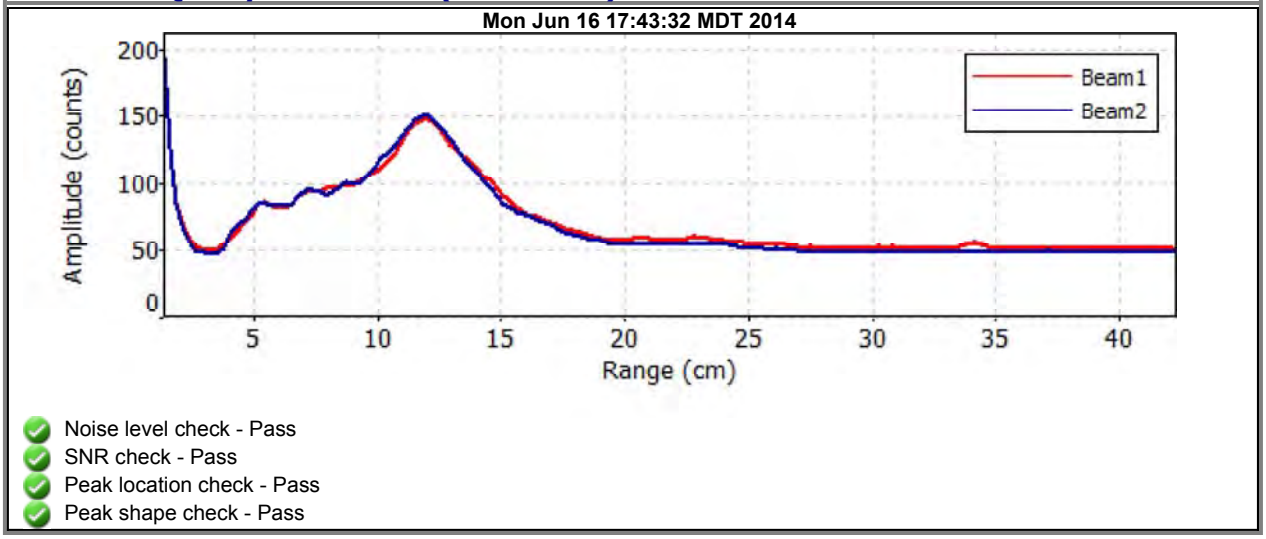
St	Loc	%Dep	Message
1	4.50	0.6	High SNR variation during measurement: 3.4,6.5
		0.6	Boundary QC is Good; possible boundary interference
2	5.00	0.6	High standard error: 0.084
5	6.50	0.6	High angle: -23
8	8.00	0.6	High angle: -23
10	9.00	0.6	High angle: -24
12	10.00	0.6	High angle: -27
13	10.50	0.6	High angle: -36
14	11.00	0.6	High angle: -23
15	11.50	0.6	High angle: -22
23	14.50	0.6	High standard error: 0.134

Discharge Measurement Summary

Date Generated: Wed Dec 24 2014

File Information		Site Details	
File Name	CSC120A.WAD	Site Name	CSC120A
Start Date and Time	2014/06/16 17:45:16	Operator(s)	DWALL

Automatic Quality Control Test (BeamCheck)



- Noise level check - Pass
- SNR check - Pass
- Peak location check - Pass
- Peak shape check - Pass

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC101.WAD
Start Date and Time	2014/09/08 10:55:20

Site Details

Site Name	CSC101
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.1%	1.0%
Velocity	1.5%	10.9%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.3%	-
Overall	**3.5%**	**11.0%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	REW	Total Width	30.000
Mean SNR	30.7 dB	Total Area	36.625
Mean Temp	44.64 °F	Mean Depth	1.221
Disch. Equation	Mid-Section	Mean Velocity	1.3852
		Total Discharge	**50.7340**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	10:55	9.00	None	0.550	0.0	0.0	0.0000	1.00	1.0272	0.412	0.4236	0.8
1	*10:55*	*10.50*	*0.6*	*0.800*	*0.6*	*0.320*	*1.0272*	*1.00*	*1.0272*	*1.200*	*1.2325*	*2.4*
2	*10:56*	*12.00*	*0.6*	*1.100*	*0.6*	*0.440*	*0.9459*	*1.00*	*0.9459*	*1.650*	*1.5608*	*3.1*
3	*10:57*	*13.50*	*0.6*	*1.200*	*0.6*	*0.480*	*1.3655*	*1.00*	*1.3655*	*1.800*	*2.4581*	*4.8*
4	*10:59*	*15.00*	*0.6*	*1.150*	*0.6*	*0.460*	*1.8215*	*1.00*	*1.8215*	*1.725*	*3.1419*	*6.2*
5	11:00	16.50	0.6	1.300	0.6	0.520	1.5059	1.00	1.5059	1.950	2.9362	5.8
6	11:01	18.00	0.6	1.350	0.6	0.540	1.7533	1.00	1.7533	2.025	3.5506	7.0
7	11:02	19.50	0.6	1.600	0.6	0.640	0.2067	1.00	0.2067	2.400	0.4961	1.0
8	*11:03*	*21.00*	*0.6*	*1.550*	*0.6*	*0.620*	*2.1168*	*1.00*	*2.1168*	*2.325*	*4.9211*	*9.7*
9	11:04	22.50	0.6	1.500	0.6	0.600	2.0387	1.00	2.0387	2.250	4.5871	9.0
10	*11:06*	*24.00*	*0.6*	*1.550*	*0.6*	*0.620*	*1.5604*	*1.00*	*1.5604*	*1.937*	*3.0230*	*6.0*
11	11:19	25.00	0.6	1.600	0.6	0.640	1.9738	1.00	1.9738	1.200	2.3686	4.7
12	*11:07*	*25.50*	*0.6*	*1.500*	*0.6*	*0.600*	*2.4085*	*1.00*	*2.4085*	*1.500*	*3.6127*	*7.1*
13	*11:08*	*27.00*	*0.6*	*1.400*	*0.6*	*0.560*	*1.5039*	*1.00*	*1.5039*	*2.100*	*3.1581*	*6.2*
14	*11:10*	*28.50*	*0.6*	*1.300*	*0.6*	*0.520*	*0.4301*	*1.00*	*0.4301*	*1.950*	*0.8386*	*1.7*
15	11:11	30.00	0.6	1.200	0.6	0.480	2.5003	1.00	2.5003	1.800	4.5011	8.9
16	11:12	31.50	0.6	1.200	0.6	0.480	1.3445	1.00	1.3445	1.800	2.4203	4.8
17	11:13	33.00	0.6	1.200	0.6	0.480	0.3035	1.00	0.3035	1.800	0.5463	1.1
18	11:14	34.50	0.6	1.150	0.6	0.460	0.9764	1.00	0.9764	1.725	1.6842	3.3
19	11:15	36.00	0.6	1.000	0.6	0.400	1.7208	1.00	1.7208	1.500	2.5812	5.1
20	*11:16*	*37.50*	*0.6*	*0.800*	*0.6*	*0.320*	*0.4393*	*1.00*	*0.4393*	*1.200*	*0.5271*	*1.0*
21	11:16	39.00	None	0.500	0.0	0.0	0.0000	1.00	0.4393	0.375	0.1647	0.3

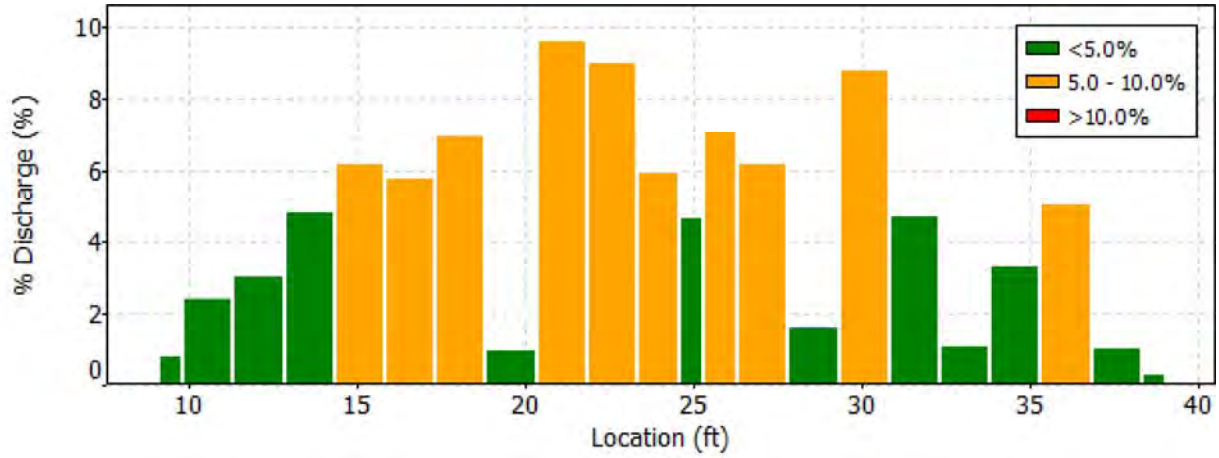
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

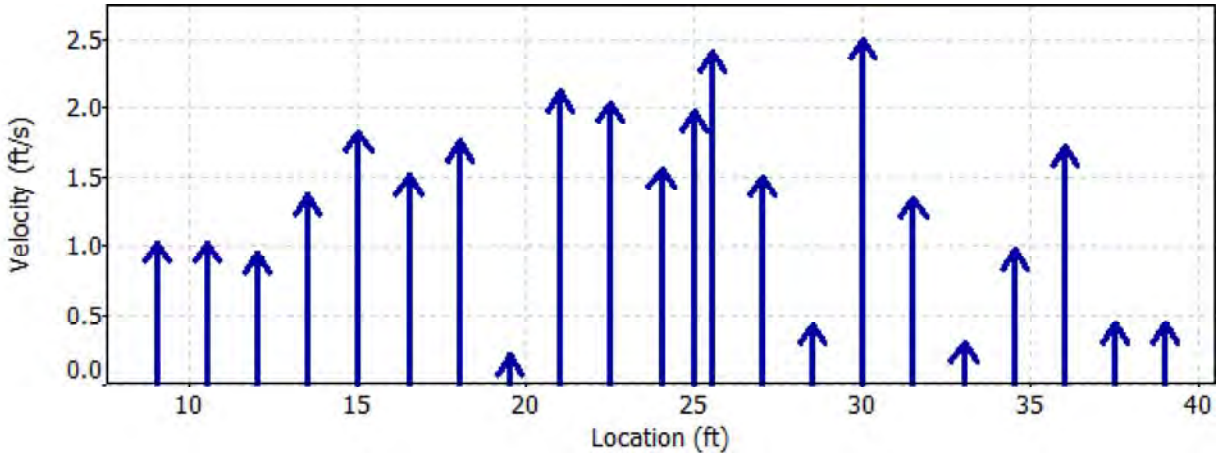
Discharge Measurement Summary

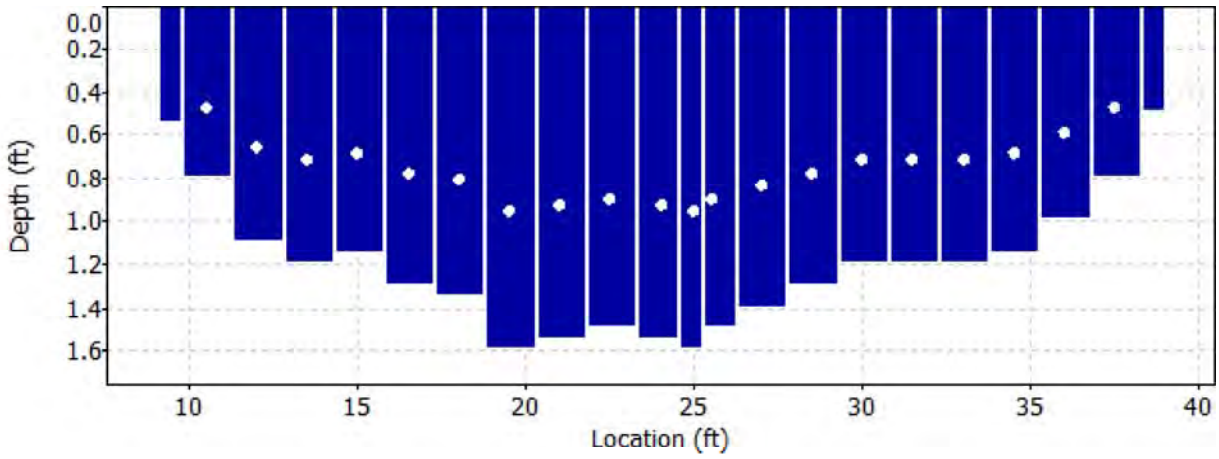
Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC101.WAD
Start Date and Time	2014/09/08 10:55:20

Site Details	
Site Name	CSC101
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	CSC101.WAD	Site Name	CSC101
Start Date and Time	2014/09/08 10:55:20	Operator(s)	LC

Quality Control

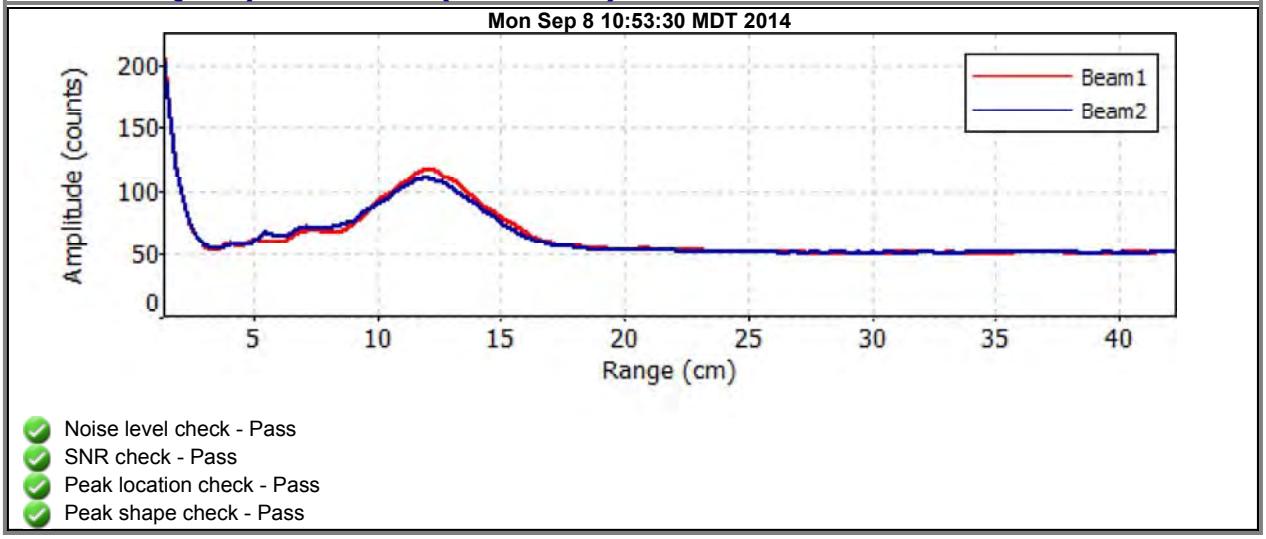
St	Loc	%Dep	Message
1	10.50	0.6	High angle: 32
2	12.00	0.6	High angle: 26
3	13.50	0.6	High angle: 21
		0.6	High standard error: 0.126
4	15.00	0.6	High angle: 25
8	21.00	0.6	High standard error: 0.132
10	24.00	0.6	High standard error: 0.133
12	25.50	0.6	High number of spikes: 5
13	27.00	0.6	High number of spikes: 5
14	28.50	0.6	High angle: 48
20	37.50	0.6	High SNR variation during measurement: 14.2,13.3

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	CSC101.WAD	Site Name	CSC101
Start Date and Time	2014/09/08 10:55:20	Operator(s)	LC

Automatic Quality Control Test (BeamCheck)



- Noise level check - Pass
- SNR check - Pass
- Peak location check - Pass
- Peak shape check - Pass

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC101B.WAD
Start Date and Time	2014/09/10 10:22:08

Site Details

Site Name	CSC101B
Operator(s)	SA

System Information

Sensor Type	FlowTracker
Serial #	P3512
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.2%	3.4%
Velocity	1.1%	6.2%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.1%	-
Overall	**3.2%**	**7.1%**

Summary

Averaging Int.	40	# Stations	24
Start Edge	REW	Total Width	40.597
Mean SNR	26.6 dB	Total Area	39.057
Mean Temp	40.48 °F	Mean Depth	0.962
Disch. Equation	Mid-Section	Mean Velocity	1.6683
		Total Discharge	**65.1598**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	10:22	7.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	10:22	8.00	0.6	0.900	0.6	0.360	0.5938	1.00	0.5938	1.260	0.7481	1.1
2	10:23	9.80	0.6	1.100	0.6	0.440	0.4085	1.00	0.4085	1.980	0.8087	1.2
3	10:24	11.60	0.6	1.300	0.6	0.520	2.0535	1.00	2.0535	2.340	4.8043	7.4
4	*10:25*	*13.40*	*0.6*	*1.300*	*0.6*	*0.520*	*1.2631*	*1.00*	*1.2631*	*2.340*	*2.9552*	*4.5*
5	*10:26*	*15.20*	*0.6*	*1.100*	*0.6*	*0.440*	*2.3881*	*1.00*	*2.3881*	*1.980*	*4.7284*	*7.3*
6	*10:28*	*17.00*	*0.6*	*1.500*	*0.6*	*0.600*	*1.6631*	*1.00*	*1.6631*	*2.700*	*4.4899*	*6.9*
7	*10:29*	*18.80*	*0.6*	*1.200*	*0.6*	*0.480*	*2.3222*	*1.00*	*2.3222*	*2.160*	*5.0161*	*7.7*
8	*10:30*	*20.60*	*0.6*	*0.800*	*0.6*	*0.320*	*2.0023*	*1.00*	*2.0023*	*1.440*	*2.8826*	*4.4*
9	10:31	22.40	0.6	0.900	0.6	0.360	2.0604	1.00	2.0604	1.620	3.3373	5.1
10	10:32	24.20	0.6	1.300	0.6	0.520	2.2159	1.00	2.2159	2.340	5.1843	8.0
11	*10:33*	*26.00*	*0.6*	*1.400*	*0.6*	*0.560*	*1.8422*	*1.00*	*1.8422*	*2.520*	*4.6418*	*7.1*
12	*10:35*	*27.80*	*0.6*	*1.200*	*0.6*	*0.480*	*1.7172*	*1.00*	*1.7172*	*2.160*	*3.7093*	*5.7*
13	*10:36*	*29.60*	*0.6*	*0.900*	*0.6*	*0.360*	*1.7451*	*1.00*	*1.7451*	*1.620*	*2.8266*	*4.3*
14	*10:37*	*31.40*	*0.6*	*0.900*	*0.6*	*0.360*	*1.3517*	*1.00*	*1.3517*	*1.620*	*2.1894*	*3.4*
15	*10:38*	*33.20*	*0.6*	*1.300*	*0.6*	*0.520*	*1.6198*	*1.00*	*1.6198*	*2.340*	*3.7896*	*5.8*
16	10:39	35.00	0.6	1.000	0.6	0.400	2.4206	1.00	2.4206	1.800	4.3568	6.7
17	10:40	36.80	0.6	0.700	0.6	0.280	2.4603	1.00	2.4603	1.260	3.1003	4.8
18	*10:41*	*38.60*	*0.6*	*0.900*	*0.6*	*0.360*	*1.2293*	*1.00*	*1.2293*	*1.620*	*1.9912*	*3.1*
19	*10:42*	*40.40*	*0.6*	*0.600*	*0.6*	*0.240*	*1.4367*	*1.00*	*1.4367*	*1.080*	*1.5517*	*2.4*
20	10:43	42.20	0.6	0.600	0.6	0.240	0.8031	1.00	0.8031	1.080	0.8674	1.3
21	*10:45*	*44.00*	*0.6*	*0.600*	*0.6*	*0.240*	*0.6243*	*1.00*	*0.6243*	*1.080*	*0.6743*	*1.0*
22	*10:46*	*45.80*	*0.6*	*0.400*	*0.6*	*0.160*	*0.7034*	*1.00*	*0.7034*	*0.720*	*0.5063*	*0.8*
23	10:46	47.60	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

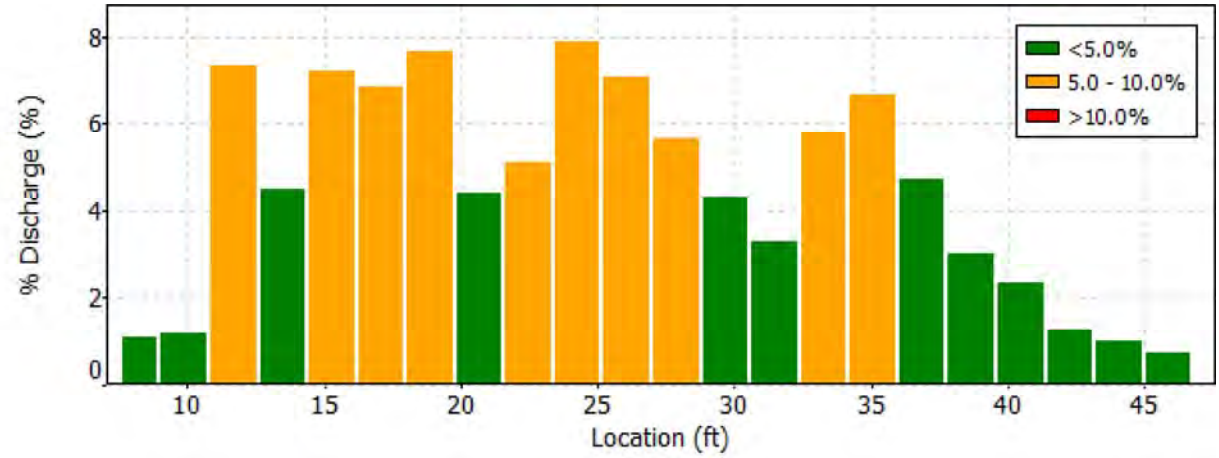
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

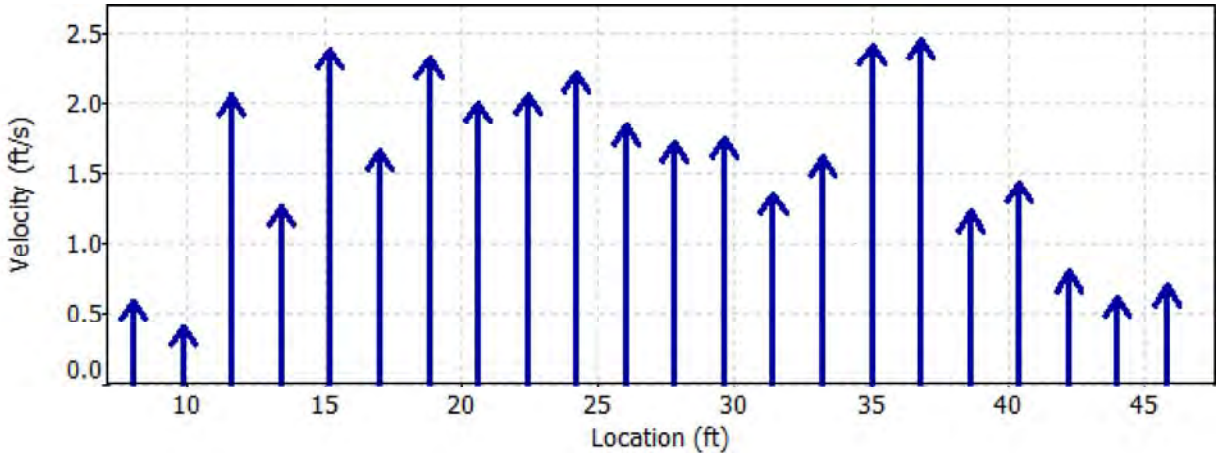
Discharge Measurement Summary

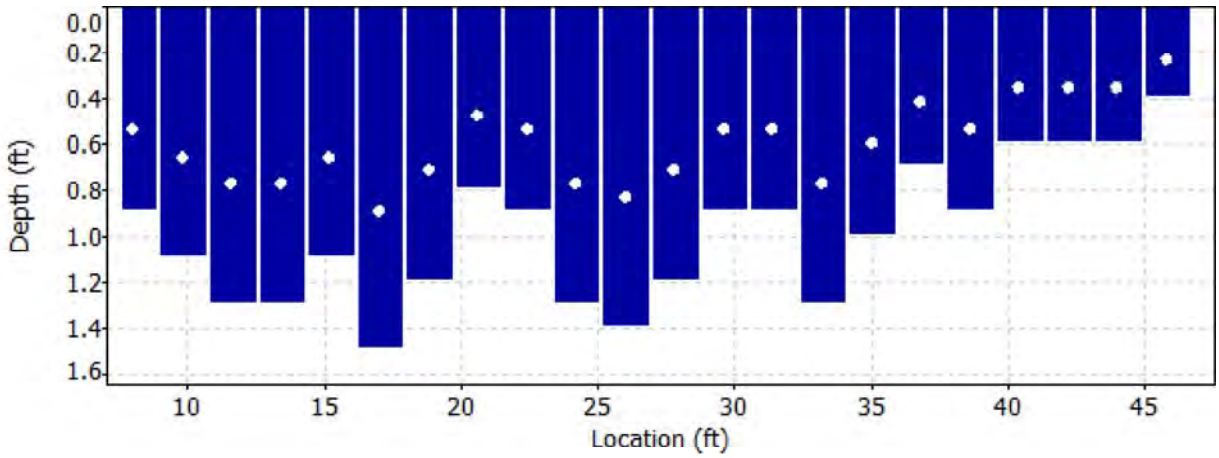
Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC101B.WAD
Start Date and Time	2014/09/10 10:22:08

Site Details	
Site Name	CSC101B
Operator(s)	SA







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	CSC101B.WAD	Site Name	CSC101B
Start Date and Time	2014/09/10 10:22:08	Operator(s)	SA

Quality Control

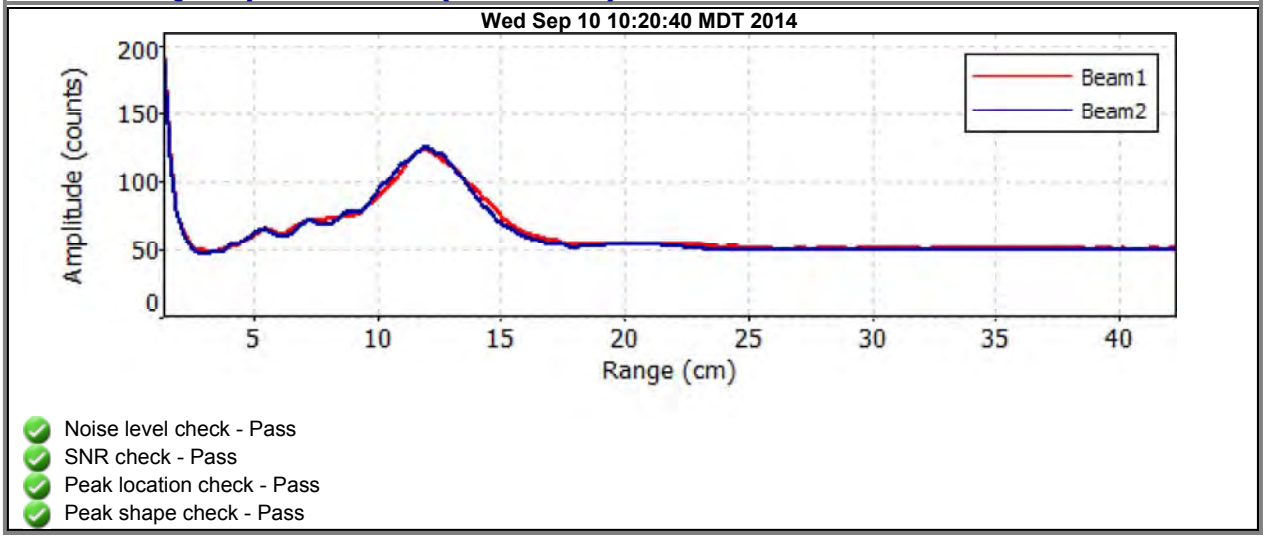
St	Loc	%Dep	Message
4	13.40	0.6	High standard error: 0.101
5	15.20	0.6	High angle: 22
		0.6	High standard error: 0.123
6	17.00	0.6	High angle: 22
		0.6	High standard error: 0.104
7	18.80	0.6	High angle: 23
8	20.60	0.6	High angle: 22
11	26.00	0.6	High angle: 32
12	27.80	0.6	High angle: 31
13	29.60	0.6	High angle: 25
14	31.40	0.6	High angle: 23
15	33.20	0.6	High standard error: 0.104
18	38.60	0.6	High angle: 24
19	40.40	0.6	High number of spikes: 5
		0.6	High angle: 31
21	44.00	0.6	High angle: 25
22	45.80	0.6	High angle: 21

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	CSC101B.WAD	Site Name	CSC101B
Start Date and Time	2014/09/10 10:22:08	Operator(s)	SA

Automatic Quality Control Test (BeamCheck)



- Noise level check - Pass
- SNR check - Pass
- Peak location check - Pass
- Peak shape check - Pass

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC102.WAD
Start Date and Time	2014/09/08 11:39:29

Site Details

Site Name	CSC102
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.2%	2.5%
Velocity	1.2%	8.9%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.1%	-
Overall	**3.2%**	**9.3%**

Summary

Averaging Int.	40	# Stations	24
Start Edge	REW	Total Width	26.000
Mean SNR	37.5 dB	Total Area	22.900
Mean Temp	46.61 °F	Mean Depth	0.881
Disch. Equation	Mid-Section	Mean Velocity	2.0065
		Total Discharge	**45.9491**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	11:39	5.00	None	0.800	0.0	0.0	0.0000	1.00	1.5361	0.400	0.6143	1.3
1	*11:39*	*6.00*	*0.6*	*0.600*	*0.6*	*0.240*	*1.5361*	*1.00*	*1.5361*	*0.600*	*0.9218*	*2.0*
2	*11:40*	*7.00*	*0.6*	*1.000*	*0.6*	*0.400*	*1.5781*	*1.00*	*1.5781*	*1.000*	*1.5781*	*3.4*
3	*11:41*	*8.00*	*0.6*	*0.900*	*0.6*	*0.360*	*0.7283*	*1.00*	*0.7283*	*0.900*	*0.6555*	*1.4*
4	*11:42*	*9.00*	*0.6*	*1.050*	*0.6*	*0.420*	*0.9547*	*1.00*	*0.9547*	*1.050*	*1.0023*	*2.2*
5	11:43	10.00	0.6	1.200	0.6	0.480	1.3301	1.00	1.3301	1.200	1.5962	3.5
6	*11:45*	*11.00*	*0.6*	*1.100*	*0.6*	*0.440*	*0.7927*	*1.00*	*0.7927*	*1.100*	*0.8720*	*1.9*
7	11:46	12.00	0.6	0.800	0.6	0.320	0.0075	1.00	0.0075	0.800	0.0060	0.0
8	*11:47*	*13.00*	*0.6*	*1.000*	*0.6*	*0.400*	*1.1414*	*1.00*	*1.1414*	*1.000*	*1.1414*	*2.5*
9	*11:48*	*14.00*	*0.6*	*1.000*	*0.6*	*0.400*	*1.4255*	*1.00*	*1.4255*	*1.000*	*1.4255*	*3.1*
10	11:50	15.00	0.6	1.200	0.6	0.480	2.5059	1.00	2.5059	1.200	3.0074	6.5
11	*11:51*	*16.00*	*0.6*	*1.200*	*0.6*	*0.480*	*2.9459*	*1.00*	*2.9459*	*1.200*	*3.5354*	*7.7*
12	11:52	17.00	0.6	1.300	0.6	0.520	4.0128	1.00	4.0128	0.975	3.9121	8.5
13	12:06	17.50	0.6	1.350	0.6	0.540	3.6217	1.00	3.6217	0.675	2.4448	5.3
14	*11:54*	*18.00*	*0.6*	*1.300*	*0.6*	*0.520*	*3.3747*	*1.00*	*3.3747*	*0.650*	*2.1933*	*4.8*
15	12:05	18.50	0.6	1.400	0.6	0.560	3.8678	1.00	3.8678	0.700	2.7073	5.9
16	11:55	19.00	0.6	1.400	0.6	0.560	3.6844	1.00	3.6844	1.050	3.8684	8.4
17	11:56	20.00	0.6	1.200	0.6	0.480	3.4367	1.00	3.4367	1.200	4.1245	9.0
18	*11:57*	*21.00*	*0.6*	*0.900*	*0.6*	*0.360*	*0.2346*	*1.00*	*0.2346*	*0.900*	*0.2111*	*0.5*
19	11:58	22.00	0.6	0.700	0.6	0.280	3.2979	1.00	3.2979	0.700	2.3090	5.0
20	12:01	23.00	0.6	0.400	0.6	0.160	1.8589	1.00	1.8589	0.600	1.1152	2.4
21	*12:02*	*25.00*	*0.6*	*0.600*	*0.6*	*0.240*	*0.5627*	*1.00*	*0.5627*	*1.200*	*0.6753*	*1.5*
22	12:03	27.00	0.6	0.600	0.6	0.240	2.1542	1.00	2.1542	1.800	3.8780	8.4
23	12:03	31.00	None	0.500	0.0	0.0	0.0000	1.00	2.1542	1.000	2.1542	4.7

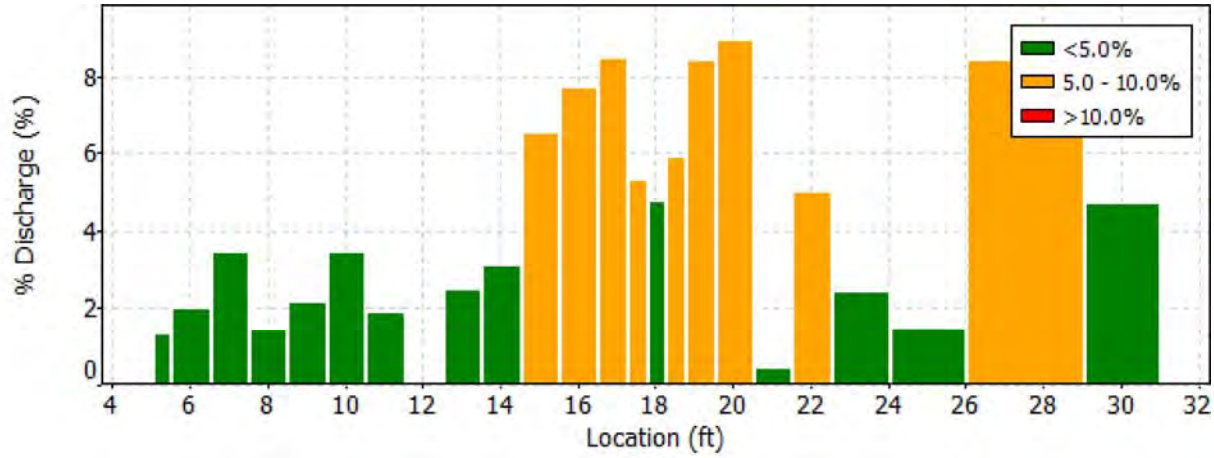
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

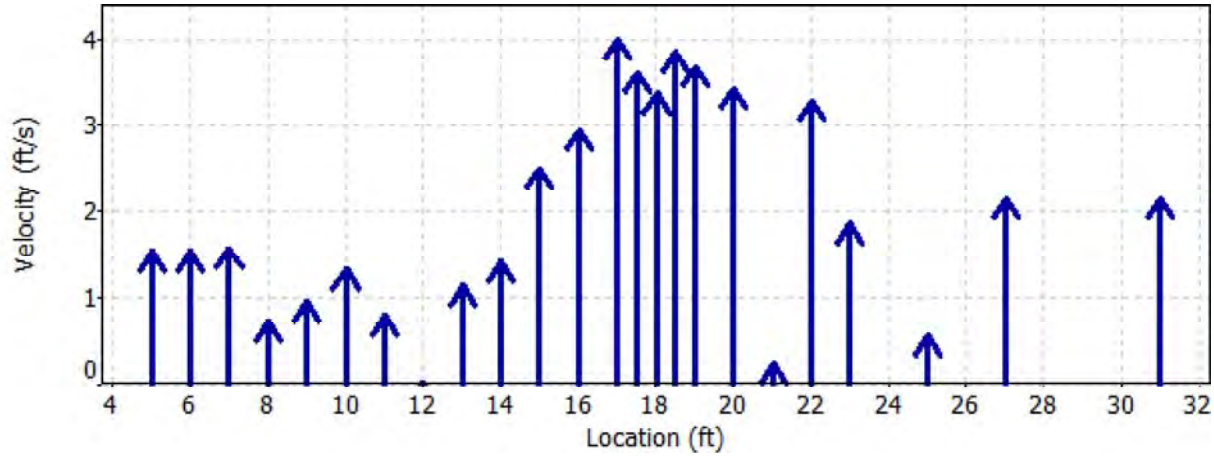
Discharge Measurement Summary

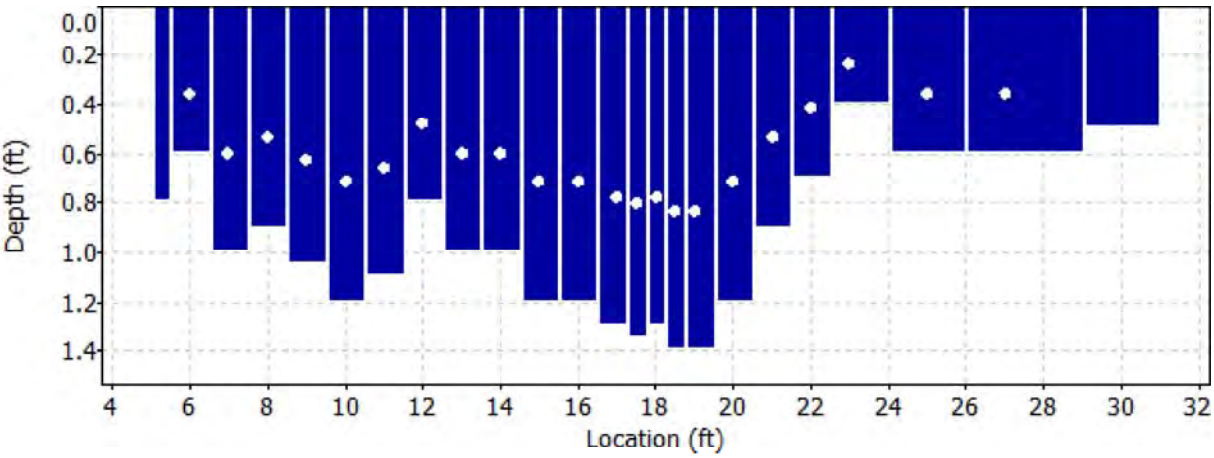
Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC102.WAD
Start Date and Time	2014/09/08 11:39:29

Site Details	
Site Name	CSC102
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC102.WAD
Start Date and Time	2014/09/08 11:39:29

Site Details

Site Name	CSC102
Operator(s)	LC

Quality Control

St	Loc	%Dep	Message
1	6.00	0.6	High angle: 24
2	7.00	0.6	High angle: 22
3	8.00	0.6	High angle: 53
4	9.00	0.6	High angle: 23
		0.6	High standard error: 0.144
6	11.00	0.6	High angle: 34
8	13.00	0.6	High angle: -38
9	14.00	0.6	High angle: 23
11	16.00	0.6	High standard error: 0.183
14	18.00	0.6	High angle: 24
18	21.00	0.6	High angle: 63
		0.6	High standard error: 0.195
21	25.00	0.6	High angle: -42

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC103.WAD
Start Date and Time	2014/09/08 12:19:40

Site Details

Site Name	CSC103
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.2%	1.2%
Velocity	2.2%	12.1%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	1.8%	-
Overall	**3.6%**	**12.2%**

Summary

Averaging Int.	40	# Stations	28
Start Edge	LEW	Total Width	12.349
Mean SNR	42.2 dB	Total Area	11.400
Mean Temp	46.79 °F	Mean Depth	0.923
Disch. Equation	Mid-Section	Mean Velocity	0.7301
		Total Discharge	**8.3232**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	12:19	4.00	None	0.300	0.0	0.0	0.0000	1.00	-0.0262	0.097	-0.0026	0.0
1	*12:19*	*4.65*	*0.6*	*0.600*	*0.6*	*0.240*	*-0.0262*	*1.00*	*-0.0262*	*0.390*	*-0.0102*	*-0.1*
2	*12:21*	*5.30*	*0.6*	*0.550*	*0.6*	*0.220*	*0.0994*	*1.00*	*0.0994*	*0.357*	*0.0355*	*0.4*
3	*12:22*	*5.95*	*0.6*	*0.600*	*0.6*	*0.240*	*-0.0748*	*1.00*	*-0.0748*	*0.390*	*-0.0292*	*-0.4*
4	*12:23*	*6.60*	*0.6*	*0.850*	*0.6*	*0.340*	*-0.0892*	*1.00*	*-0.0892*	*0.552*	*-0.0493*	*-0.6*
5	12:24	7.25	0.6	0.800	0.6	0.320	0.6470	1.00	0.6470	0.480	0.3105	3.7
6	*12:46*	*7.80*	*0.6*	*0.800*	*0.6*	*0.320*	*1.8698*	*1.00*	*1.8698*	*0.260*	*0.4860*	*5.8*
7	*12:25*	*7.90*	*0.6*	*0.800*	*0.6*	*0.320*	*2.6093*	*1.00*	*2.6093*	*0.160*	*0.4177*	*5.0*
8	*12:44*	*8.20*	*0.6*	*0.800*	*0.6*	*0.320*	*2.2635*	*1.00*	*2.2635*	*0.260*	*0.5883*	*7.1*
9	*12:26*	*8.55*	*0.6*	*0.800*	*0.6*	*0.320*	*0.2526*	*1.00*	*0.2526*	*0.400*	*0.1010*	*1.2*
10	*12:27*	*9.20*	*0.6*	*1.000*	*0.6*	*0.400*	*0.9403*	*1.00*	*0.9403*	*0.650*	*0.6111*	*7.3*
11	12:28	9.85	0.6	0.900	0.6	0.360	1.0932	1.00	1.0932	0.585	0.6394	7.7
12	12:29	10.50	0.6	1.000	0.6	0.400	0.8701	1.00	0.8701	0.650	0.5655	6.8
13	12:30	11.15	0.6	1.100	0.6	0.440	1.4757	1.00	1.4757	0.495	0.7310	8.8
14	*12:42*	*11.40*	*0.6*	*1.100*	*0.6*	*0.440*	*0.3986*	*1.00*	*0.3986*	*0.357*	*0.1425*	*1.7*
15	*12:31*	*11.80*	*0.6*	*1.100*	*0.6*	*0.440*	*1.2238*	*1.00*	*1.2238*	*0.440*	*0.5386*	*6.5*
16	12:40	12.20	0.6	1.250	0.6	0.500	1.1870	1.00	1.1870	0.406	0.4822	5.8
17	12:32	12.45	0.6	1.400	0.6	0.560	1.0531	1.00	1.0531	0.420	0.4421	5.3
18	12:39	12.80	0.6	1.400	0.6	0.560	1.4948	1.00	1.4948	0.316	0.4716	5.7
19	12:47	12.90	0.6	1.400	0.6	0.560	1.6726	1.00	1.6726	0.140	0.2343	2.8
20	12:48	13.00	0.6	1.400	0.6	0.560	1.7142	1.00	1.7142	0.139	0.2390	2.9
21	12:33	13.10	0.6	1.400	0.6	0.560	1.5919	1.00	1.5919	0.105	0.1671	2.0
22	12:50	13.15	0.6	1.400	0.6	0.560	1.4993	1.00	1.4993	0.455	0.6821	8.2
23	*12:34*	*13.75*	*0.6*	*1.200*	*0.6*	*0.480*	*0.5354*	*1.00*	*0.5354*	*0.749*	*0.4013*	*4.8*
24	12:35	14.40	0.6	1.100	0.6	0.440	0.2677	1.00	0.2677	0.715	0.1914	2.3
25	*12:36*	*15.05*	*0.6*	*1.000*	*0.6*	*0.400*	*-0.1112*	*1.00*	*-0.1112*	*0.650*	*-0.0723*	*-0.9*
26	12:37	15.70	0.6	1.000	0.6	0.400	0.0108	1.00	0.0108	0.650	0.0070	0.1
27	12:37	16.35	None	0.400	0.0	0.0	0.0000	1.00	0.0108	0.130	0.0014	0.0

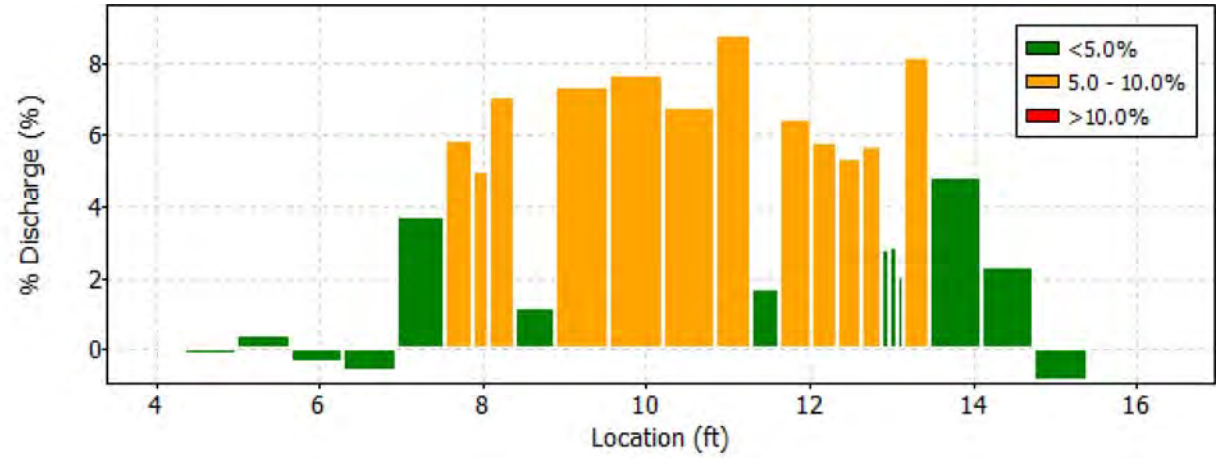
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

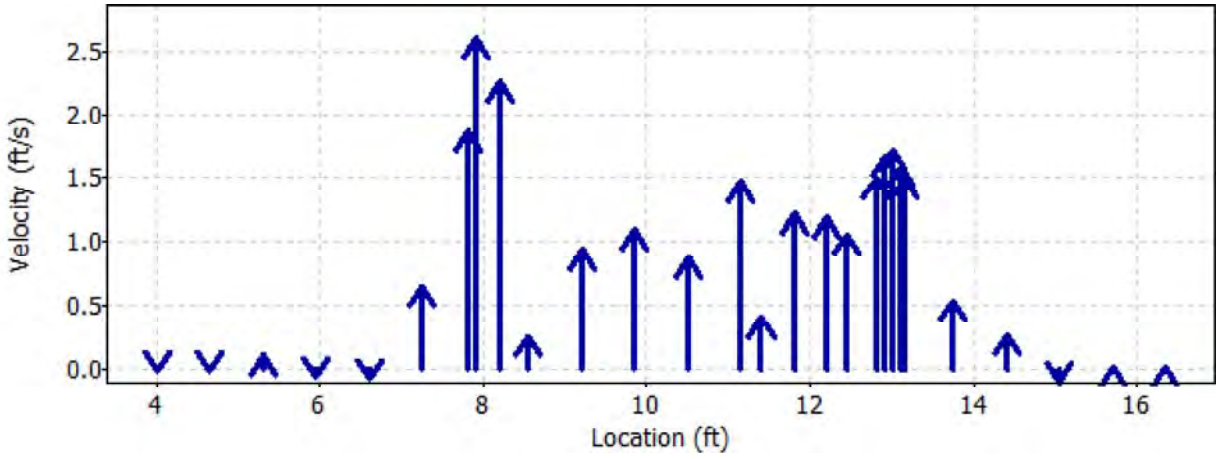
Discharge Measurement Summary

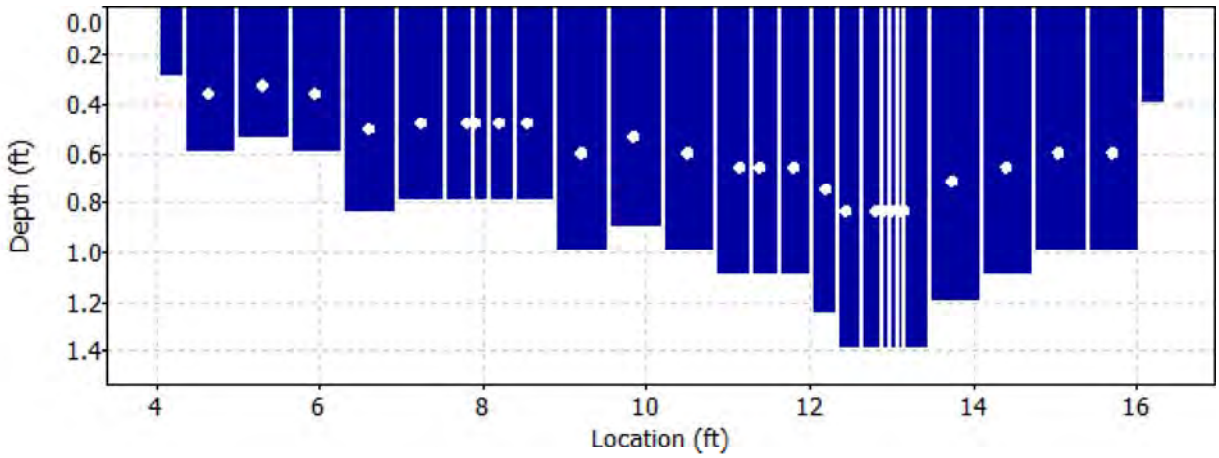
Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC103.WAD
Start Date and Time	2014/09/08 12:19:40

Site Details	
Site Name	CSC103
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC103.WAD
Start Date and Time	2014/09/08 12:19:40

Site Details

Site Name	CSC103
Operator(s)	LC

Quality Control

St	Loc	%Dep	Message
1	4.65	0.6	High angle: -106
2	5.30	0.6	High angle: -28
3	5.95	0.6	High angle: 170
4	6.60	0.6	High angle: -152
6	7.80	0.6	High standard error: 0.146
7	7.90	0.6	High standard error: 0.132
8	8.20	0.6	High standard error: 0.121
9	8.55	0.6	High standard error: 0.155
10	9.20	0.6	High standard error: 0.130
14	11.40	0.6	High angle: -22
15	11.80	0.6	High number of spikes: 5
23	13.75	0.6	High angle: -20
25	15.05	0.6	High angle: -159

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC104.WAD
Start Date and Time	2014/09/08 13:10:08

Site Details

Site Name	CSC104
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.3%	3.2%
Velocity	0.9%	2.3%
Width	0.1%	0.1%
Method	1.7%	-
# Stations	2.3%	-
Overall	**3.2%**	**4.1%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	REW	Total Width	15.200
Mean SNR	39.4 dB	Total Area	6.533
Mean Temp	51.01 °F	Mean Depth	0.430
Disch. Equation	Mid-Section	Mean Velocity	1.4205
		Total Discharge	**9.2802**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	13:10	8.80	None	0.200	0.0	0.0	0.0000	1.00	0.6204	0.070	0.0435	0.5
1	13:10	9.50	0.6	0.400	0.6	0.160	0.6204	1.00	0.6204	0.280	0.1737	1.9
2	13:11	10.20	0.6	0.400	0.6	0.160	0.8222	1.00	0.8222	0.280	0.2302	2.5
3	13:12	10.90	0.6	0.400	0.6	0.160	1.1818	1.00	1.1818	0.280	0.3309	3.6
4	13:13	11.60	0.6	0.500	0.6	0.200	1.2881	1.00	1.2881	0.350	0.4509	4.9
5	13:14	12.30	0.6	0.450	0.6	0.180	1.4154	1.00	1.4154	0.315	0.4461	4.8
6	13:15	13.00	0.6	0.450	0.6	0.180	1.5046	1.00	1.5046	0.315	0.4742	5.1
7	13:16	13.70	0.6	0.400	0.6	0.160	1.9462	1.00	1.9462	0.280	0.5449	5.9
8	13:17	14.40	0.6	0.550	0.6	0.220	1.6417	1.00	1.6417	0.385	0.6320	6.8
9	*13:18*	*15.10*	*0.6*	*0.550*	*0.6*	*0.220*	*1.2490*	*1.00*	*1.2490*	*0.385*	*0.4808*	*5.2*
10	13:19	15.80	0.6	0.300	0.6	0.120	1.3704	1.00	1.3704	0.210	0.2877	3.1
11	13:21	16.50	0.6	0.450	0.6	0.180	1.2733	1.00	1.2733	0.315	0.4013	4.3
12	13:22	17.20	0.6	0.400	0.6	0.160	1.5456	1.00	1.5456	0.280	0.4328	4.7
13	13:23	17.90	0.6	0.450	0.6	0.180	1.9245	1.00	1.9245	0.315	0.6065	6.5
14	13:24	18.60	0.6	0.400	0.6	0.160	2.2051	1.00	2.2051	0.280	0.6174	6.7
15	13:25	19.30	0.6	0.450	0.6	0.180	2.1191	1.00	2.1191	0.315	0.6678	7.2
16	13:26	20.00	0.6	0.500	0.6	0.200	1.6565	1.00	1.6565	0.350	0.5799	6.2
17	13:27	20.70	0.6	0.450	0.6	0.180	1.6506	1.00	1.6506	0.315	0.5202	5.6
18	*13:28*	*21.40*	*0.6*	*0.500*	*0.6*	*0.200*	*1.7251*	*1.00*	*1.7251*	*0.350*	*0.6039*	*6.5*
19	13:29	22.10	0.6	0.450	0.6	0.180	1.0771	1.00	1.0771	0.315	0.3394	3.7
20	13:30	22.80	0.6	0.450	0.6	0.180	0.7605	1.00	0.7605	0.427	0.3248	3.5
21	13:30	24.00	None	0.200	0.0	0.0	0.0000	1.00	0.7605	0.120	0.0911	1.0

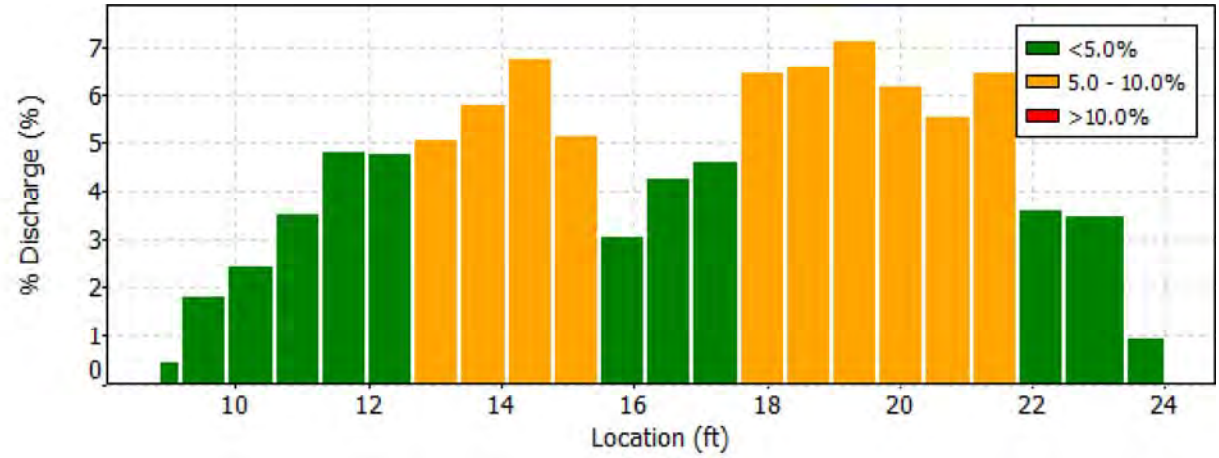
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

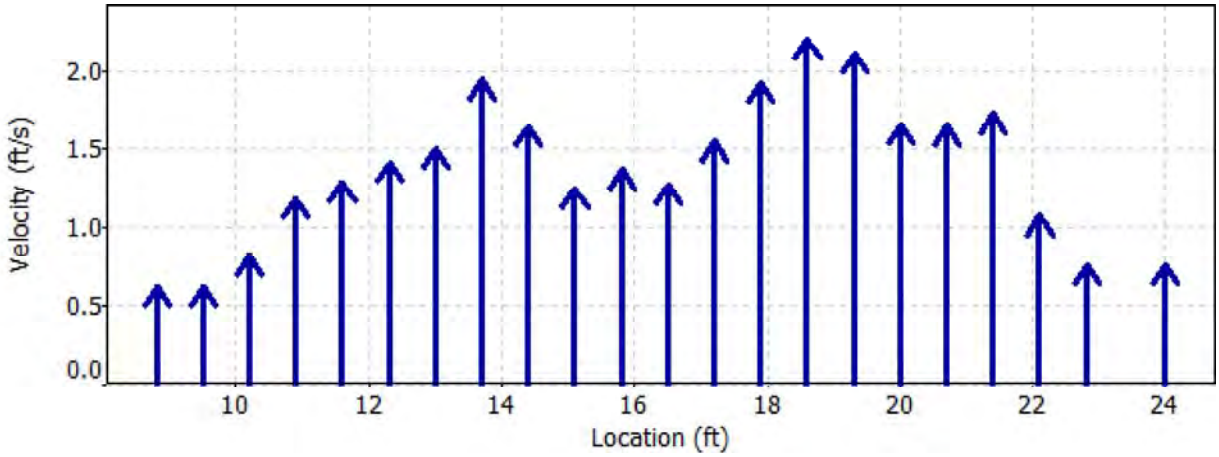
Discharge Measurement Summary

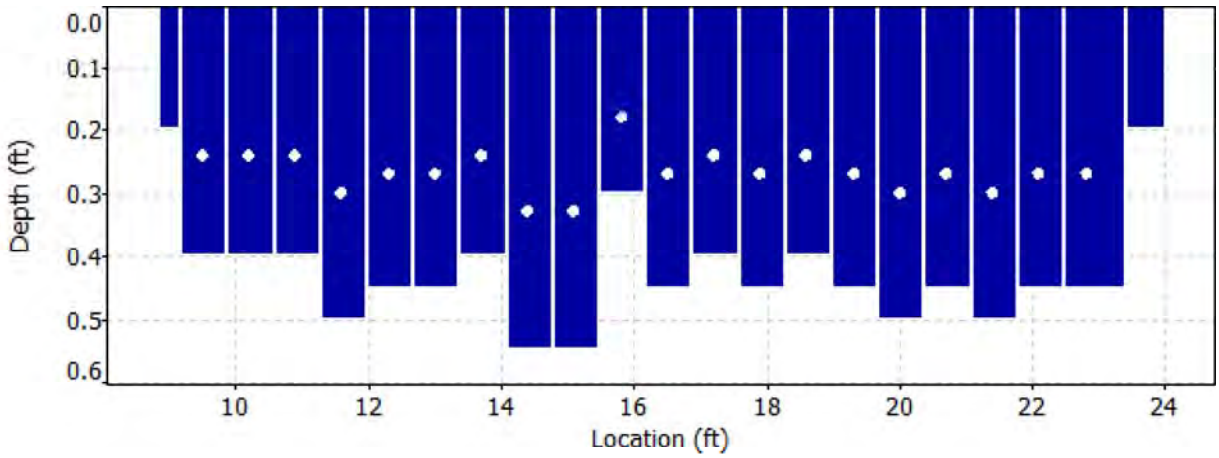
Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC104.WAD
Start Date and Time	2014/09/08 13:10:08

Site Details	
Site Name	CSC104
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC104.WAD
Start Date and Time	2014/09/08 13:10:08

Site Details

Site Name	CSC104
Operator(s)	LC

Quality Control

St	Loc	%Dep	Message
9	15.10	0.6	High angle: 27
		0.6	High standard error: 0.094
18	21.40	0.6	High number of spikes: 7

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC108.WAD
Start Date and Time	2014/09/10 08:57:21

Site Details

Site Name	CSC108
Operator(s)	DR

System Information

Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.4%	1.1%
Velocity	1.3%	3.4%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.3%	-
Overall	**3.4%**	**3.7%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	REW	Total Width	3.149
Mean SNR	39.1 dB	Total Area	0.757
Mean Temp	37.67 °F	Mean Depth	0.240
Disch. Equation	Mid-Section	Mean Velocity	0.9604
		Total Discharge	**0.7272**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	08:57	1.20	None	0.200	0.0	0.0	0.0000	1.00	0.9682	0.015	0.0145	2.0
1	09:12	1.35	0.6	0.250	0.6	0.100	0.9682	1.00	0.9682	0.037	0.0363	5.0
2	09:13	1.50	0.6	0.250	0.6	0.100	1.0945	1.00	1.0945	0.037	0.0410	5.6
3	09:14	1.65	0.6	0.250	0.6	0.100	1.5292	1.00	1.5292	0.037	0.0573	7.9
4	*09:15*	*1.80*	*0.6*	*0.250*	*0.6*	*0.100*	*1.5430*	*1.00*	*1.5430*	*0.037*	*0.0578*	*8.0*
5	09:17	1.95	0.6	0.250	0.6	0.100	1.6572	1.00	1.6572	0.037	0.0621	8.5
6	*09:17*	*2.10*	*0.6*	*0.250*	*0.6*	*0.100*	*1.4793*	*1.00*	*1.4793*	*0.037*	*0.0555*	*7.6*
7	09:19	2.25	0.6	0.250	0.6	0.100	1.5495	1.00	1.5495	0.037	0.0581	8.0
8	09:20	2.40	0.6	0.300	0.6	0.120	1.2789	1.00	1.2789	0.045	0.0575	7.9
9	09:21	2.55	0.6	0.300	0.6	0.120	1.0945	1.00	1.0945	0.045	0.0492	6.8
10	09:22	2.70	0.6	0.300	0.6	0.120	1.0171	1.00	1.0171	0.045	0.0457	6.3
11	09:23	2.85	0.6	0.250	0.6	0.100	0.9678	1.00	0.9678	0.037	0.0363	5.0
12	*09:24*	*3.00*	*0.6*	*0.250*	*0.6*	*0.100*	*0.6112*	*1.00*	*0.6112*	*0.037*	*0.0229*	*3.2*
13	09:25	3.15	0.6	0.250	0.6	0.100	0.7356	1.00	0.7356	0.037	0.0276	3.8
14	09:26	3.30	0.6	0.250	0.6	0.100	0.6440	1.00	0.6440	0.037	0.0241	3.3
15	09:27	3.45	0.6	0.250	0.6	0.100	0.4075	1.00	0.4075	0.037	0.0153	2.1
16	09:28	3.60	0.6	0.200	0.6	0.080	0.8009	1.00	0.8009	0.030	0.0240	3.3
17	09:30	3.75	0.6	0.200	0.6	0.080	0.6112	1.00	0.6112	0.030	0.0183	2.5
18	09:31	3.90	0.6	0.200	0.6	0.080	0.2654	1.00	0.2654	0.030	0.0080	1.1
19	09:32	4.05	0.6	0.200	0.6	0.080	0.4715	1.00	0.4715	0.030	0.0141	1.9
20	*09:34*	*4.20*	*0.6*	*0.200*	*0.6*	*0.080*	*0.0397*	*1.00*	*0.0397*	*0.030*	*0.0012*	*0.2*
21	09:34	4.35	None	0.100	0.0	0.0	0.0000	1.00	0.0397	0.008	0.0003	0.0

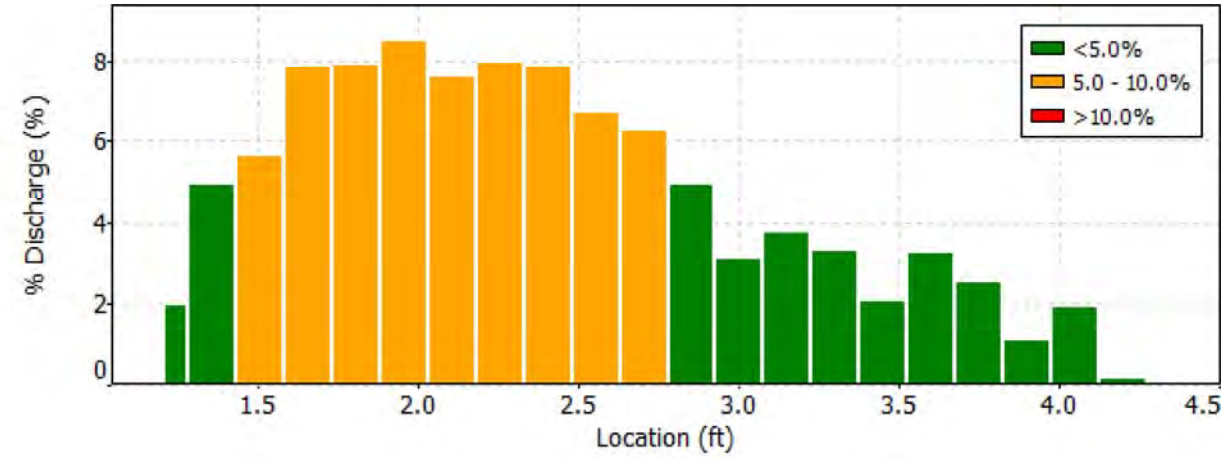
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

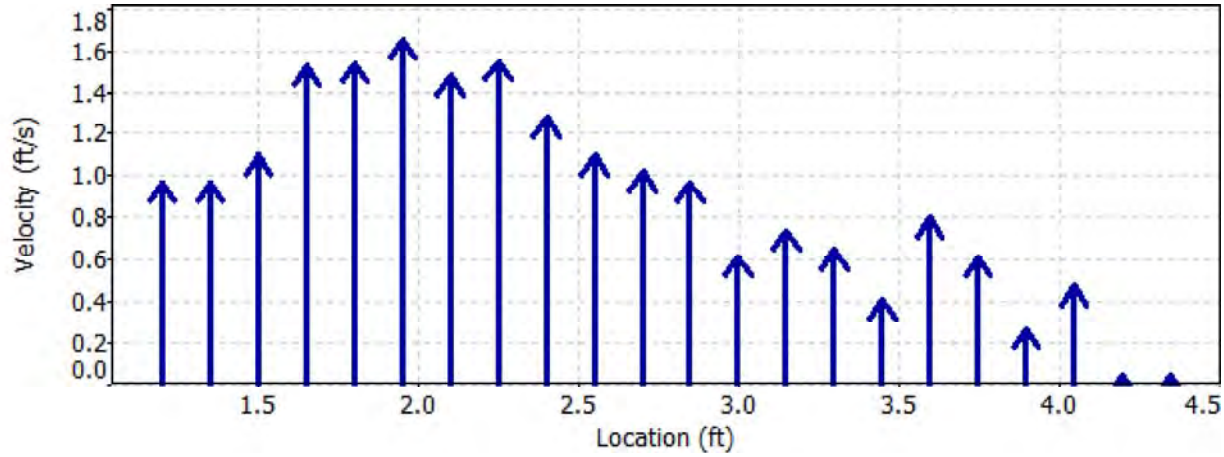
Discharge Measurement Summary

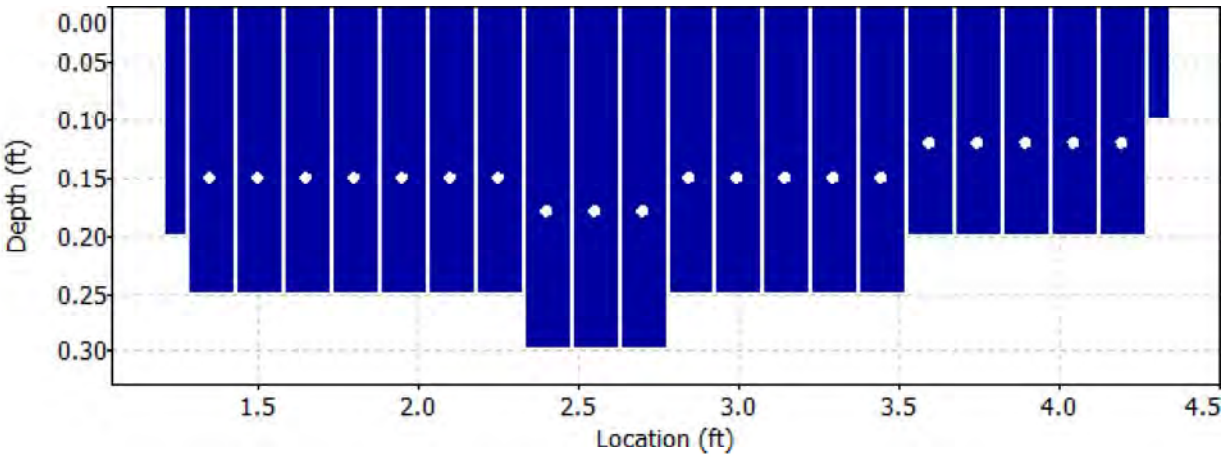
Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC108.WAD
Start Date and Time	2014/09/10 08:57:21

Site Details	
Site Name	CSC108
Operator(s)	DR







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC108.WAD
Start Date and Time	2014/09/10 08:57:21

Site Details

Site Name	CSC108
Operator(s)	DR

Quality Control

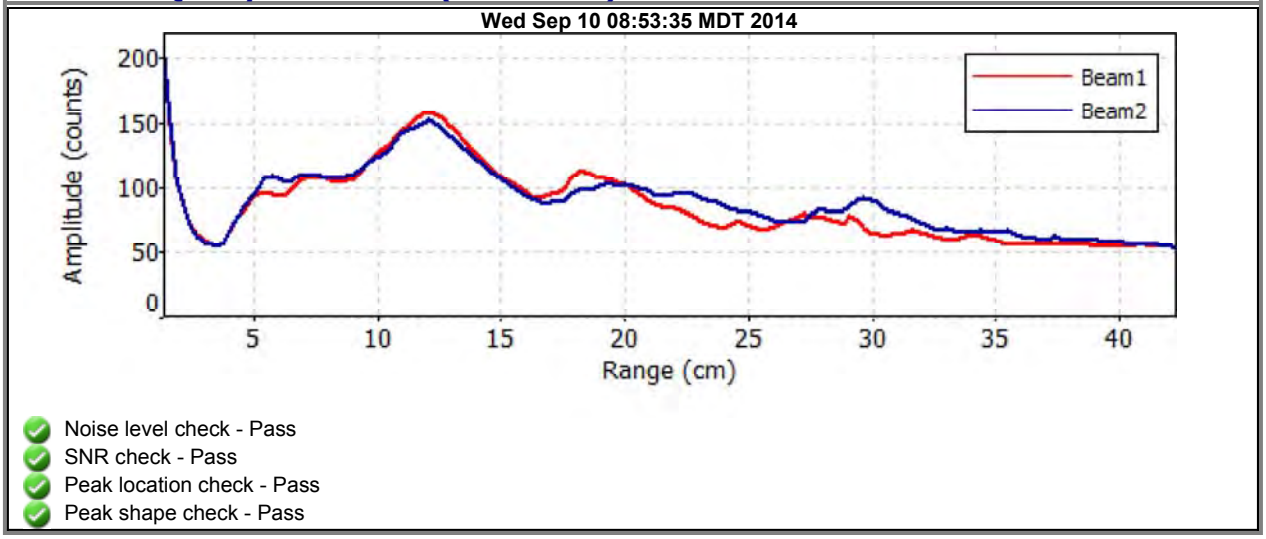
St	Loc	%Dep	Message
4	1.80	0.6	High standard error: 0.096
6	2.10	0.6	High standard error: 0.084
12	3.00	0.6	High standard error: 0.084
20	4.20	0.6	Boundary QC is Fair; possible boundary interference

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	CSC108.WAD	Site Name	CSC108
Start Date and Time	2014/09/10 08:57:21	Operator(s)	DR

Automatic Quality Control Test (BeamCheck)



- Noise level check - Pass
- SNR check - Pass
- Peak location check - Pass
- Peak shape check - Pass

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC106.WAD
Start Date and Time	2014/09/09 15:44:02

Site Details

Site Name	CSC106
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.3%	0.8%
Velocity	2.1%	5.2%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.0%	-
Overall	**3.6%**	**5.3%**

Summary

Averaging Int.	40	# Stations	26
Start Edge	REW	Total Width	6.698
Mean SNR	41.7 dB	Total Area	4.948
Mean Temp	42.13 °F	Mean Depth	0.739
Disch. Equation	Mid-Section	Mean Velocity	0.4900
		Total Discharge	**2.4247**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	15:44	4.20	None	0.400	0.0	0.0	0.0000	1.00	0.1713	0.160	0.0274	1.1
1	*15:44*	*5.00*	*0.6*	*0.300*	*0.6*	*0.120*	*0.1713*	*1.00*	*0.1713*	*0.195*	*0.0334*	*1.4*
2	*15:46*	*5.50*	*0.6*	*0.350*	*0.6*	*0.140*	*-0.0479*	*1.00*	*-0.0479*	*0.140*	*-0.0067*	*-0.3*
3	*15:47*	*5.80*	*0.6*	*0.450*	*0.6*	*0.180*	*-0.0240*	*1.00*	*-0.0240*	*0.135*	*-0.0032*	*-0.1*
4	15:48	6.10	0.6	0.600	0.6	0.240	0.0092	1.00	0.0092	0.180	0.0017	0.1
5	*15:49*	*6.40*	*0.6*	*0.700*	*0.6*	*0.280*	*0.2077*	*1.00*	*0.2077*	*0.210*	*0.0436*	*1.8*
6	15:50	6.70	0.6	0.750	0.6	0.300	0.3527	1.00	0.3527	0.225	0.0793	3.3
7	15:51	7.00	0.6	0.900	0.6	0.360	0.6076	1.00	0.6076	0.270	0.1640	6.8
8	15:52	7.30	0.6	0.950	0.6	0.380	0.9885	1.00	0.9885	0.214	0.2117	8.7
9	16:08	7.45	0.6	0.950	0.6	0.380	0.9386	1.00	0.9386	0.142	0.1337	5.5
10	15:53	7.60	0.6	0.900	0.6	0.360	1.0899	1.00	1.0899	0.135	0.1471	6.1
11	*16:09*	*7.75*	*0.6*	*1.000*	*0.6*	*0.400*	*1.0636*	*1.00*	*1.0636*	*0.150*	*0.1595*	*6.6*
12	*15:54*	*7.90*	*0.6*	*1.000*	*0.6*	*0.400*	*1.0469*	*1.00*	*1.0469*	*0.150*	*0.1570*	*6.5*
13	16:10	8.05	0.6	1.000	0.6	0.400	1.0597	1.00	1.0597	0.150	0.1589	6.6
14	15:55	8.20	0.6	1.000	0.6	0.400	1.0427	1.00	1.0427	0.224	0.2340	9.6
15	*15:56*	*8.50*	*0.6*	*1.000*	*0.6*	*0.400*	*0.9938*	*1.00*	*0.9938*	*0.226*	*0.2242*	*9.2*
16	*16:12*	*8.65*	*0.6*	*1.000*	*0.6*	*0.400*	*0.8068*	*1.00*	*0.8068*	*0.150*	*0.1210*	*5.0*
17	15:57	8.80	0.6	1.000	0.6	0.400	0.9541	1.00	0.9541	0.150	0.1432	5.9
18	16:13	8.95	0.6	1.000	0.6	0.400	0.6654	1.00	0.6654	0.150	0.0998	4.1
19	15:58	9.10	0.6	0.950	0.6	0.380	0.9281	1.00	0.9281	0.213	0.1976	8.1
20	16:00	9.40	0.6	1.000	0.6	0.400	0.2871	1.00	0.2871	0.300	0.0861	3.6
21	16:01	9.70	0.6	0.900	0.6	0.360	0.2018	1.00	0.2018	0.270	0.0545	2.2
22	*16:02*	*10.00*	*0.6*	*0.850*	*0.6*	*0.340*	*-0.1201*	*1.00*	*-0.1201*	*0.255*	*-0.0306*	*-1.3*
23	*16:03*	*10.30*	*0.6*	*0.850*	*0.6*	*0.340*	*-0.0469*	*1.00*	*-0.0469*	*0.255*	*-0.0120*	*-0.5*
24	*16:06*	*10.60*	*0.6*	*0.900*	*0.6*	*0.360*	*-0.0003*	*1.00*	*-0.0003*	*0.270*	*-0.0001*	*0.0*
25	16:06	10.90	None	0.200	0.0	0.0	0.0000	1.00	-0.0003	0.030	0.0000	0.0

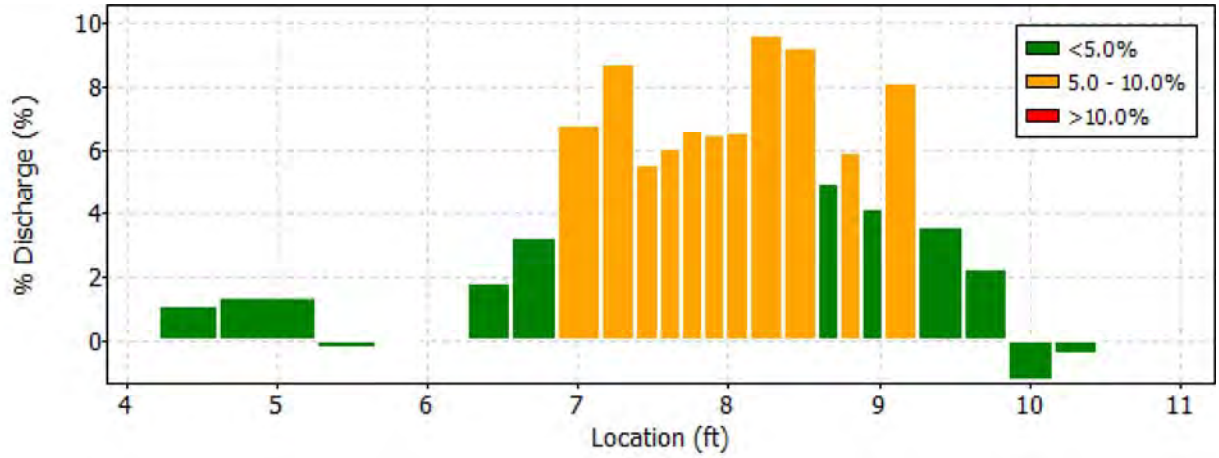
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

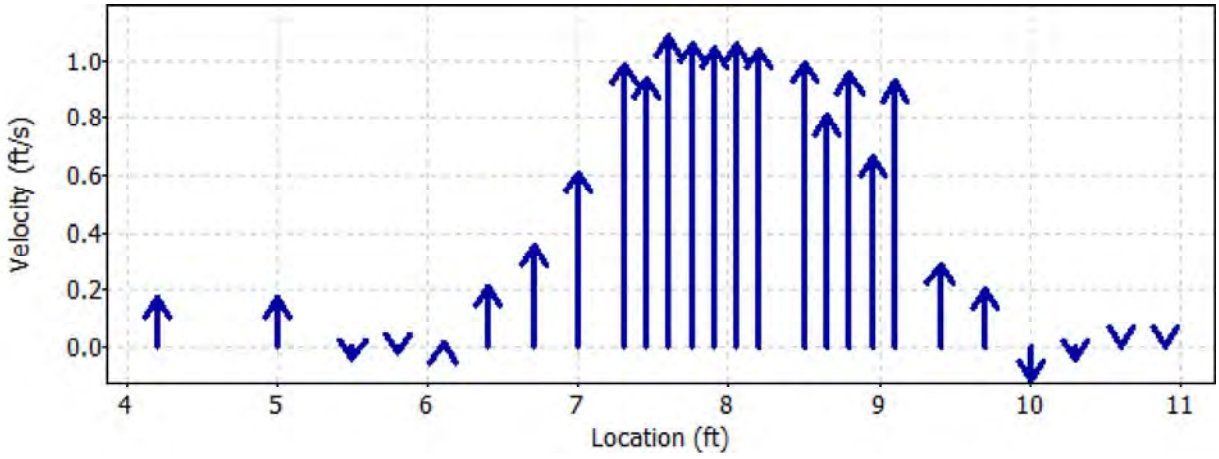
Discharge Measurement Summary

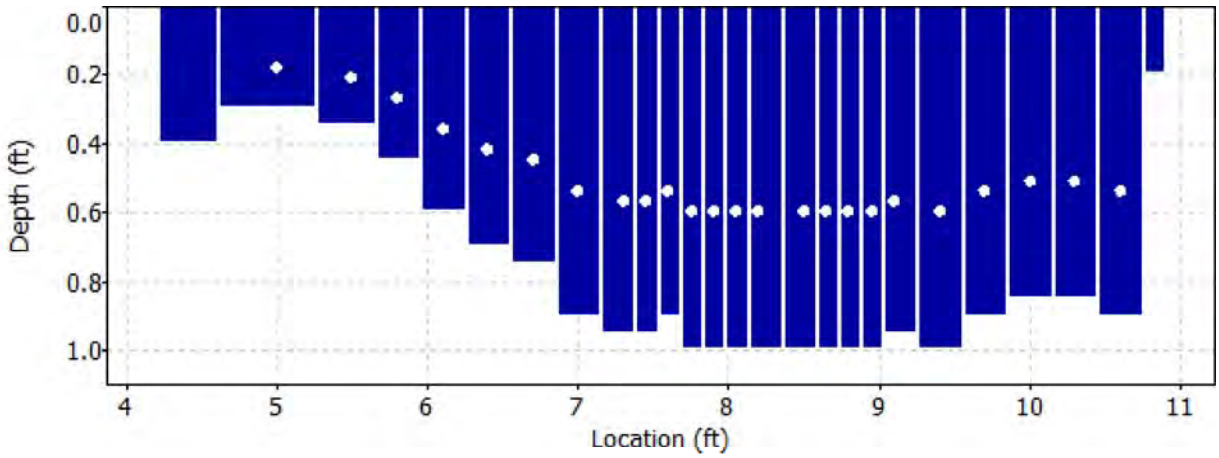
Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC106.WAD
Start Date and Time	2014/09/09 15:44:02

Site Details	
Site Name	CSC106
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC106.WAD
Start Date and Time	2014/09/09 15:44:02

Site Details

Site Name	CSC106
Operator(s)	LC

Quality Control

St	Loc	%Dep	Message
1	5.00	0.6	High angle: -73
2	5.50	0.6	High angle: -98
3	5.80	0.6	High angle: -94
5	6.40	0.6	High angle: -32
11	7.75	0.6	High standard error: 0.083
12	7.90	0.6	High standard error: 0.096
15	8.50	0.6	High standard error: 0.087
16	8.65	0.6	High standard error: 0.092
22	10.00	0.6	High angle: -175
23	10.30	0.6	High angle: -125
24	10.60	0.6	High number of spikes: 5

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC104A.WAD
Start Date and Time	2014/09/08 13:16:51

Site Details

Site Name	CSC 104A
Operator(s)	SA

System Information

Sensor Type	FlowTracker
Serial #	P3512
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.4%	5.3%
Velocity	1.6%	7.1%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	1.8%	-
Overall	**3.2%**	**8.9%**

Summary

Averaging Int.	40	# Stations	29
Start Edge	REW	Total Width	10.300
Mean SNR	40.3 dB	Total Area	5.530
Mean Temp	53.98 °F	Mean Depth	0.537
Disch. Equation	Mid-Section	Mean Velocity	0.8471
		Total Discharge	**4.6850**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	13:16	4.50	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	*13:16*	*4.90*	*0.6*	*0.250*	*0.6*	*0.100*	*0.7700*	*1.00*	*0.7700*	*0.100*	*0.0770*	*1.6*
2	*13:18*	*5.30*	*0.6*	*0.300*	*0.6*	*0.120*	*0.6198*	*1.00*	*0.6198*	*0.135*	*0.0836*	*1.8*
3	13:19	5.80	0.6	0.350	0.6	0.140	0.2759	1.00	0.2759	0.175	0.0483	1.0
4	*13:21*	*6.30*	*0.6*	*0.350*	*0.6*	*0.140*	*0.0148*	*1.00*	*0.0148*	*0.175*	*0.0026*	*0.1*
5	*13:22*	*6.80*	*0.6*	*0.500*	*0.6*	*0.200*	*0.1191*	*1.00*	*0.1191*	*0.250*	*0.0298*	*0.6*
6	13:23	7.30	0.6	0.500	0.6	0.200	1.9757	1.00	1.9757	0.150	0.2964	6.3
7	*13:51*	*7.40*	*0.6*	*0.500*	*0.6*	*0.200*	*2.1398*	*1.00*	*2.1398*	*0.125*	*0.2675*	*5.7*
8	*13:24*	*7.80*	*0.6*	*0.500*	*0.6*	*0.200*	*1.0860*	*1.00*	*1.0860*	*0.225*	*0.2443*	*5.2*
9	13:25	8.30	0.6	0.600	0.6	0.240	0.6860	1.00	0.6860	0.300	0.2058	4.4
10	*13:26*	*8.80*	*0.6*	*0.600*	*0.6*	*0.240*	*0.4541*	*1.00*	*0.4541*	*0.300*	*0.1362*	*2.9*
11	*13:27*	*9.30*	*0.6*	*0.650*	*0.6*	*0.260*	*0.9849*	*1.00*	*0.9849*	*0.325*	*0.3201*	*6.8*
12	13:29	9.80	0.6	0.650	0.6	0.260	1.8494	1.00	1.8494	0.195	0.3606	7.7
13	13:42	9.90	0.6	0.600	0.6	0.240	1.5292	1.00	1.5292	0.090	0.1377	2.9
14	*13:49*	*10.10*	*0.6*	*0.700*	*0.6*	*0.280*	*1.5190*	*1.00*	*1.5190*	*0.140*	*0.2127*	*4.5*
15	*13:30*	*10.30*	*0.6*	*0.700*	*0.6*	*0.280*	*0.7717*	*1.00*	*0.7717*	*0.245*	*0.1890*	*4.0*
16	*13:31*	*10.80*	*0.6*	*0.600*	*0.6*	*0.240*	*0.8980*	*1.00*	*0.8980*	*0.270*	*0.2425*	*5.2*
17	13:43	11.20	0.6	0.700	0.6	0.280	2.3901	1.00	2.3901	0.175	0.4183	8.9
18	13:32	11.30	0.6	0.700	0.6	0.280	2.9580	1.00	2.9580	0.070	0.2069	4.4
19	13:47	11.40	0.6	0.000	0.6	0.280	3.0459	1.00	0.0000	0.000	0.0000	0.0
20	13:45	11.70	0.6	0.700	0.6	0.280	2.9711	1.00	2.9711	0.140	0.4160	8.9
21	13:33	11.80	0.6	0.800	0.6	0.320	2.3123	1.00	2.3123	0.160	0.3699	7.9
22	13:48	12.10	0.6	0.700	0.6	0.280	1.0768	1.00	1.0768	0.175	0.1885	4.0
23	*13:34*	*12.30*	*0.6*	*0.600*	*0.6*	*0.240*	*0.6371*	*1.00*	*0.6371*	*0.210*	*0.1338*	*2.9*
24	*13:36*	*12.80*	*0.6*	*0.700*	*0.6*	*0.280*	*0.0840*	*1.00*	*0.0840*	*0.350*	*0.0294*	*0.6*
25	*13:37*	*13.30*	*0.6*	*0.700*	*0.6*	*0.280*	*0.3235*	*1.00*	*0.3235*	*0.350*	*0.1132*	*2.4*
26	*13:37*	*13.80*	*0.6*	*0.700*	*0.6*	*0.280*	*-0.1289*	*1.00*	*-0.1289*	*0.350*	*-0.0451*	*-1.0*
27	*13:38*	*14.30*	*0.6*	*0.700*	*0.6*	*0.280*	*0.0000*	*1.00*	*0.0000*	*0.350*	*0.0000*	*0.0*
28	13:38	14.80	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

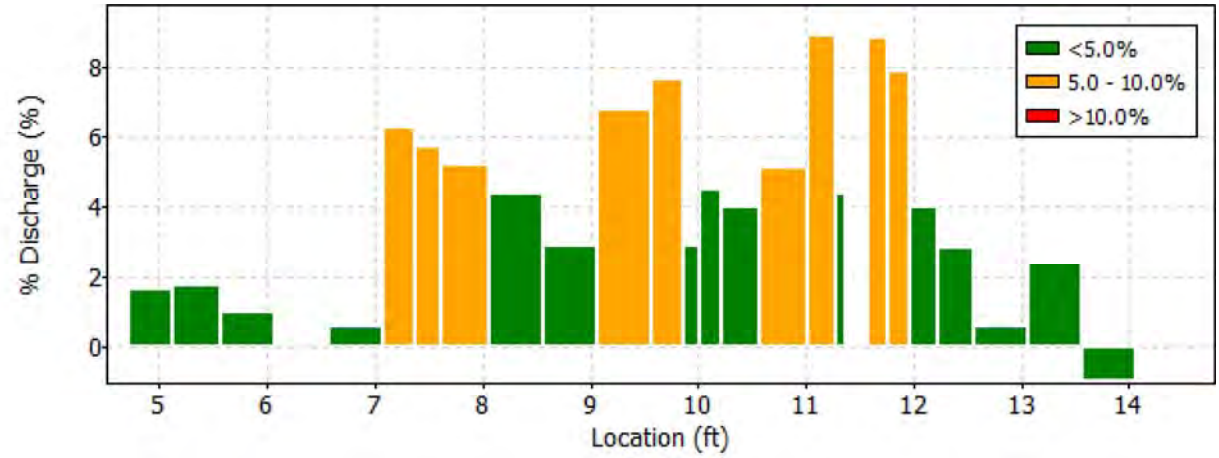
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

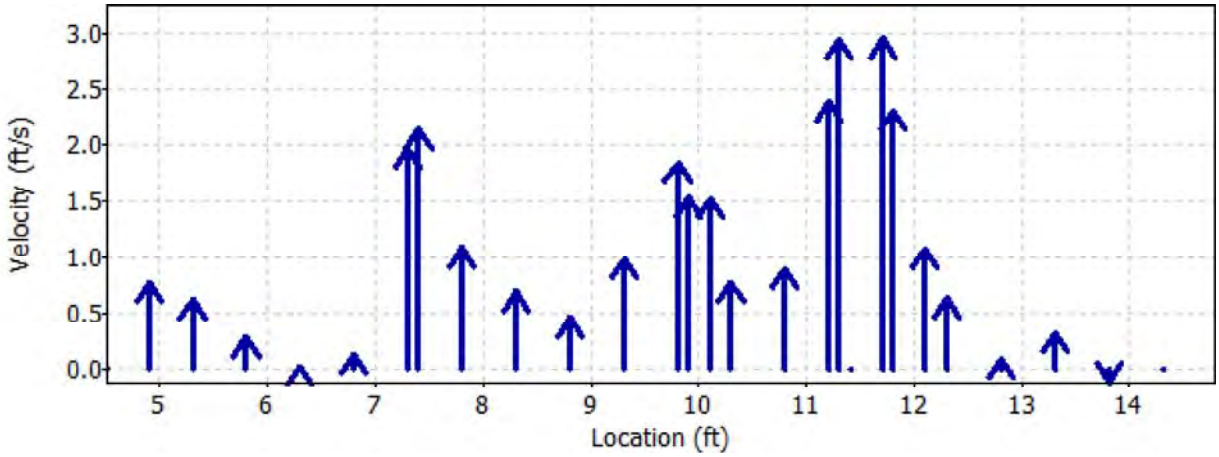
Discharge Measurement Summary

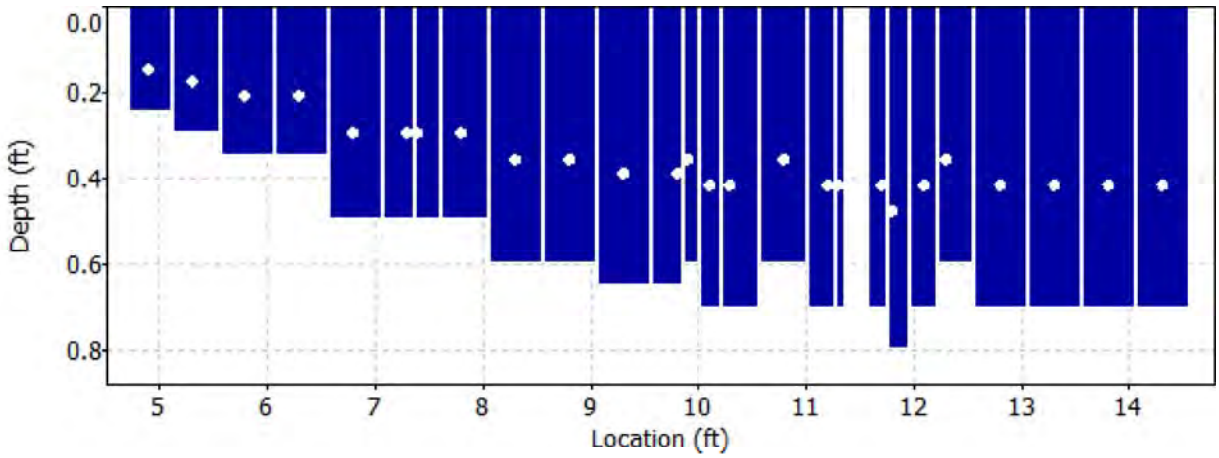
Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC104A.WAD
Start Date and Time	2014/09/08 13:16:51

Site Details	
Site Name	CSC 104A
Operator(s)	SA







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC104A.WAD
Start Date and Time	2014/09/08 13:16:51

Site Details

Site Name	CSC 104A
Operator(s)	SA

Quality Control

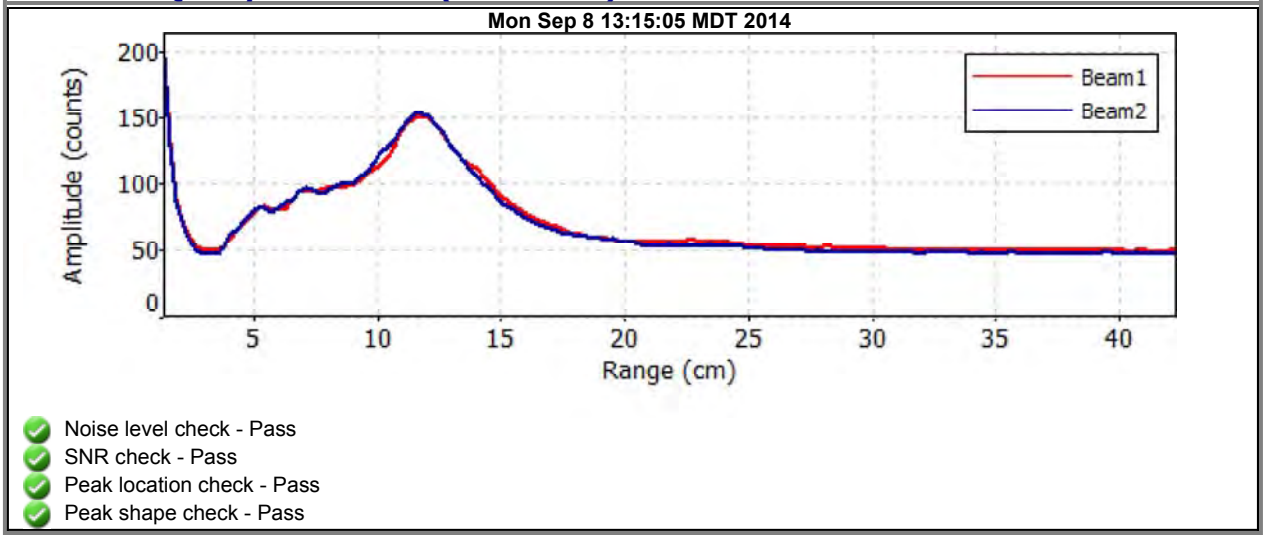
St	Loc	%Dep	Message
1	4.90	0.6	High angle: 26
2	5.30	0.6	High angle: 26
4	6.30	0.6	High number of spikes: 9
		0.6	High differences in beam SNR: 36.1,25.7
5	6.80	0.6	High angle: 40
7	7.40	0.6	High number of spikes: 6
8	7.80	0.6	High angle: 20
10	8.80	0.6	High angle: 25
11	9.30	0.6	High angle: 21
		0.6	High standard error: 0.109
14	10.10	0.6	High standard error: 0.095
15	10.30	0.6	High angle: 23
		0.6	High standard error: 0.094
16	10.80	0.6	High standard error: 0.096
23	12.30	0.6	High angle: 23
24	12.80	0.6	High angle: 51
25	13.30	0.6	High angle: 33
26	13.80	0.6	High angle: 124
27	14.30	0.6	SNR (66.4) is different from typical SNR (40.3)

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	CSC104A.WAD	Site Name	CSC 104A
Start Date and Time	2014/09/08 13:16:51	Operator(s)	SA

Automatic Quality Control Test (BeamCheck)



- Noise level check - Pass
- SNR check - Pass
- Peak location check - Pass
- Peak shape check - Pass

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	ST016A.WAD
Start Date and Time	2014/09/09 12:25:12

Site Details

Site Name	ST016A
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.1%	1.3%
Velocity	1.4%	5.0%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.3%	-
Overall	**3.4%**	**5.3%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	LEW	Total Width	24.500
Mean SNR	32.9 dB	Total Area	27.359
Mean Temp	44.94 °F	Mean Depth	1.117
Disch. Equation	Mid-Section	Mean Velocity	1.2014
		Total Discharge	**32.8684**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	12:25	4.70	None	0.950	0.0	0.0	0.0000	1.00	0.7618	0.546	0.4162	1.3
1	12:25	5.85	0.6	1.200	0.6	0.480	0.7618	1.00	0.7618	1.380	1.0514	3.2
2	12:26	7.00	0.6	1.200	0.6	0.480	1.4032	1.00	1.4032	1.380	1.9365	5.9
3	12:27	8.15	0.6	1.250	0.6	0.500	1.2769	1.00	1.2769	1.437	1.8354	5.6
4	12:28	9.30	0.6	1.400	0.6	0.560	1.6175	1.00	1.6175	1.610	2.6038	7.9
5	12:29	10.45	0.6	1.500	0.6	0.600	1.2907	1.00	1.2907	1.725	2.2263	6.8
6	*12:30*	*11.60*	*0.6*	*1.400*	*0.6*	*0.560*	*1.3524*	*1.00*	*1.3524*	*1.610*	*2.1771*	*6.6*
7	12:31	12.75	0.6	1.250	0.6	0.500	1.7936	1.00	1.7936	1.437	2.5782	7.8
8	*12:33*	*13.90*	*0.6*	*1.200*	*0.6*	*0.480*	*2.0010*	*1.00*	*2.0010*	*1.380*	*2.7615*	*8.4*
9	12:33	15.05	0.6	1.000	0.6	0.400	2.2562	1.00	2.2562	1.150	2.5945	7.9
10	12:35	16.20	0.6	1.050	0.6	0.420	1.8035	1.00	1.8035	1.207	2.1773	6.6
11	12:36	17.35	0.6	1.000	0.6	0.400	1.4744	1.00	1.4744	1.150	1.6955	5.2
12	*12:37*	*18.50*	*0.6*	*1.000*	*0.6*	*0.400*	*1.0305*	*1.00*	*1.0305*	*1.150*	*1.1850*	*3.6*
13	*12:39*	*19.65*	*0.6*	*1.000*	*0.6*	*0.400*	*0.6919*	*1.00*	*0.6919*	*1.150*	*0.7957*	*2.4*
14	12:40	20.80	0.6	0.950	0.6	0.380	1.6995	1.00	1.6995	1.093	1.8568	5.6
15	12:41	21.95	0.6	1.200	0.6	0.480	1.0381	1.00	1.0381	1.380	1.4326	4.4
16	12:42	23.10	0.6	1.200	0.6	0.480	0.8488	1.00	0.8488	1.380	1.1713	3.6
17	12:44	24.25	0.6	1.300	0.6	0.520	0.6926	1.00	0.6926	1.495	1.0353	3.1
18	12:46	25.40	0.6	1.100	0.6	0.440	0.8806	1.00	0.8806	1.265	1.1139	3.4
19	*12:47*	*26.55*	*0.6*	*0.950*	*0.6*	*0.380*	*0.1785*	*1.00*	*0.1785*	*1.093*	*0.1950*	*0.6*
20	12:48	27.70	0.6	0.700	0.6	0.280	0.0217	1.00	0.0217	0.928	0.0201	0.1
21	12:48	29.20	None	0.550	0.0	0.0	0.0000	1.00	0.0217	0.413	0.0089	0.0

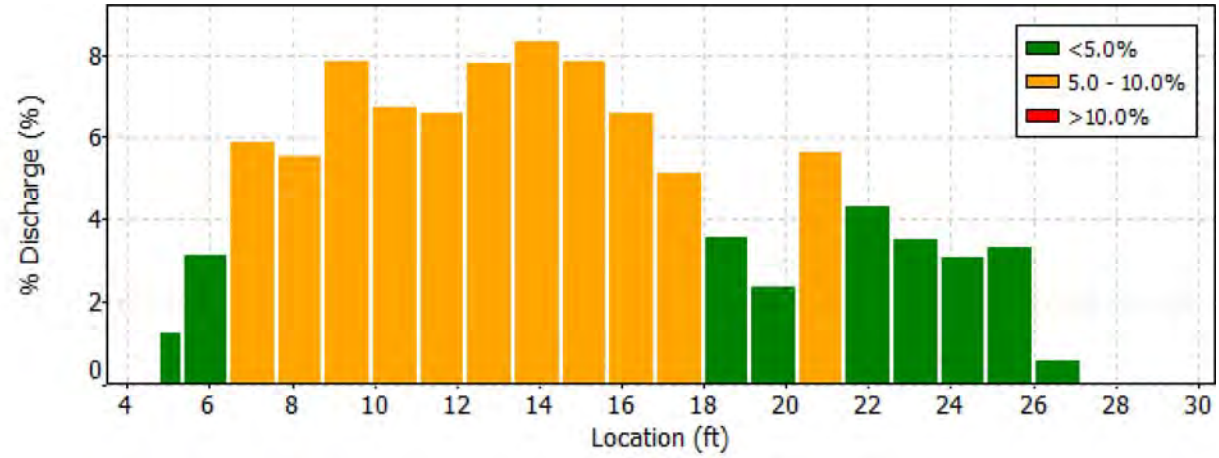
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

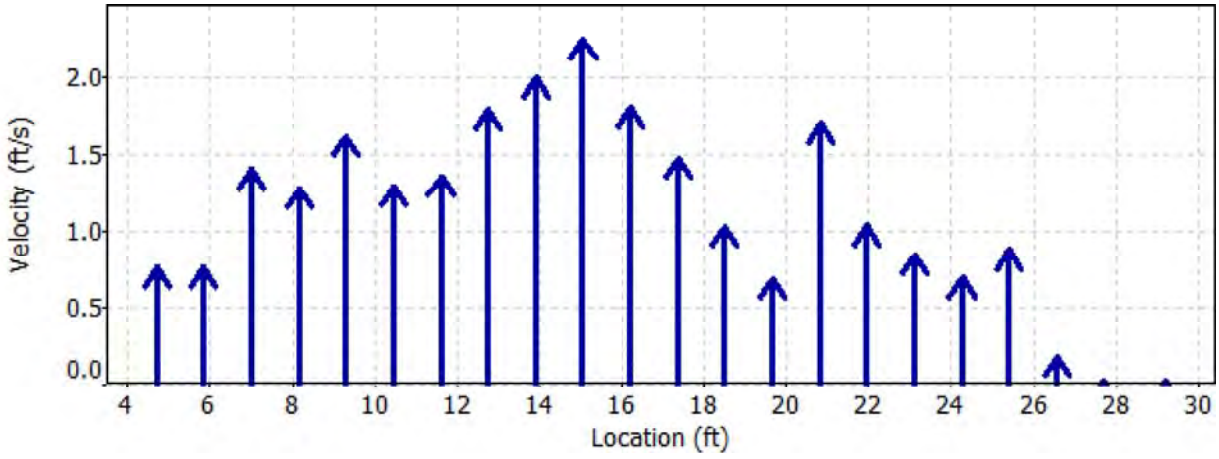
Discharge Measurement Summary

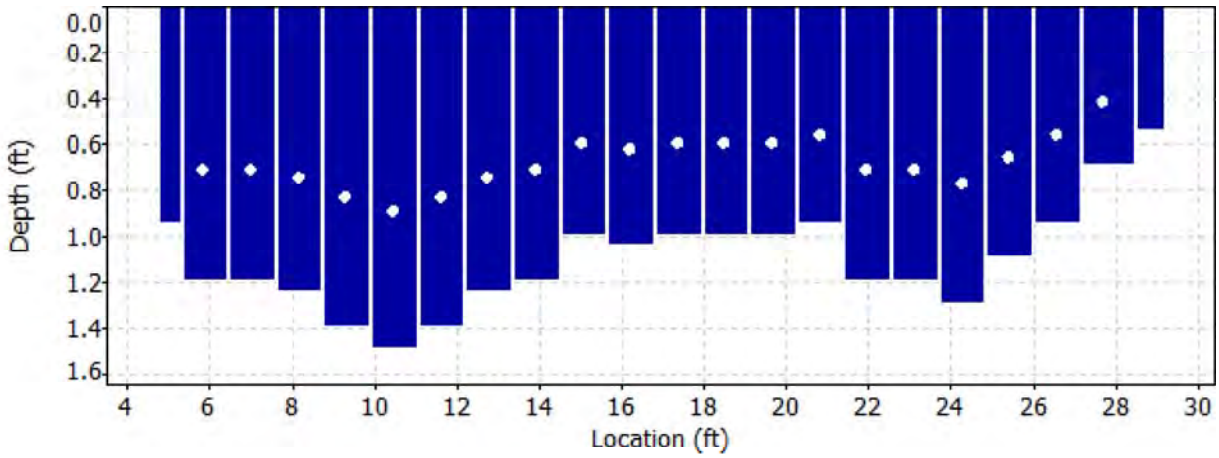
Date Generated: Tue Dec 23 2014

File Information	
File Name	ST016A.WAD
Start Date and Time	2014/09/09 12:25:12

Site Details	
Site Name	ST016A
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information	
File Name	ST016A.WAD
Start Date and Time	2014/09/09 12:25:12

Site Details	
Site Name	ST016A
Operator(s)	LC

Quality Control

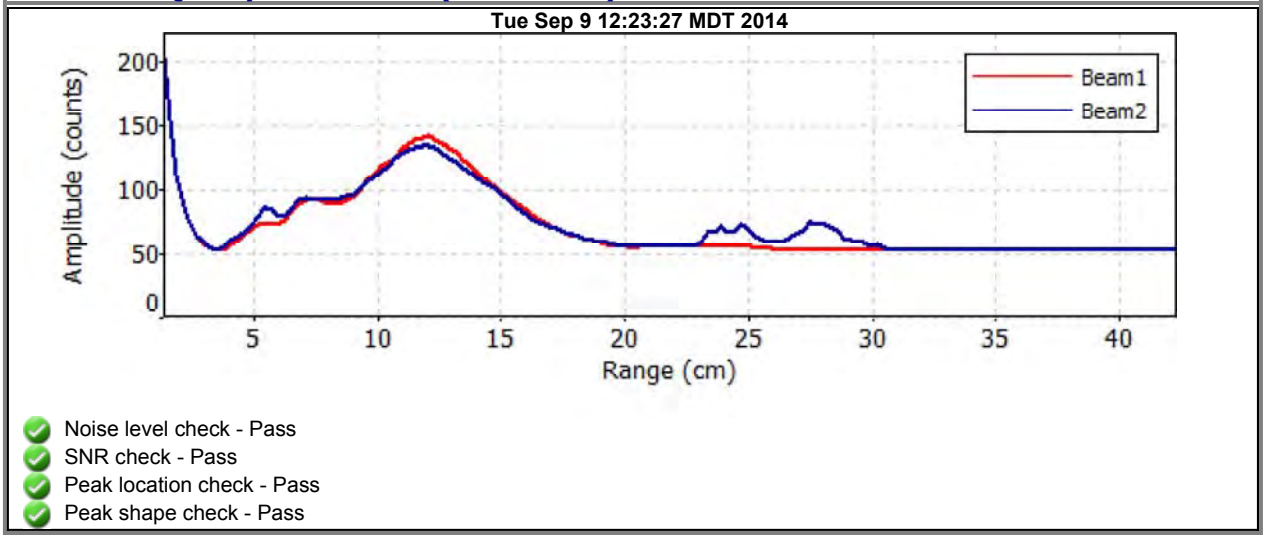
St	Loc	%Dep	Message
6	11.60	0.6	High standard error: 0.115
8	13.90	0.6	High standard error: 0.107
12	18.50	0.6	High standard error: 0.116
13	19.65	0.6	High standard error: 0.100
19	26.55	0.6	High angle: 21

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	ST016A.WAD	Site Name	ST016A
Start Date and Time	2014/09/09 12:25:12	Operator(s)	LC

Automatic Quality Control Test (BeamCheck)



- Noise level check - Pass
- SNR check - Pass
- Peak location check - Pass
- Peak shape check - Pass

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	ST015A.WAD
Start Date and Time	2014/09/09 10:48:29

Site Details

Site Name	ST015A
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.2%	2.3%
Velocity	1.5%	12.5%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.2%	-
Overall	**3.4%**	**12.7%**

Summary

Averaging Int.	40	# Stations	23
Start Edge	REW	Total Width	31.500
Mean SNR	33.4 dB	Total Area	27.897
Mean Temp	43.57 °F	Mean Depth	0.886
Disch. Equation	Mid-Section	Mean Velocity	1.7775
		Total Discharge	**49.5865**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	10:48	3.00	None	0.250	0.0	0.0	0.0000	1.00	0.6509	0.188	0.1220	0.2
1	10:48	4.50	0.6	1.000	0.6	0.400	0.6509	1.00	0.6509	1.500	0.9764	2.0
2	*10:49*	*6.00*	*0.6*	*1.000*	*0.6*	*0.400*	*1.0394*	*1.00*	*1.0394*	*1.500*	*1.5591*	*3.1*
3	10:50	7.50	0.6	1.100	0.6	0.440	1.8596	1.00	1.8596	1.650	3.0685	6.2
4	10:52	9.00	0.6	1.300	0.6	0.520	1.2067	1.00	1.2067	1.950	2.3528	4.7
5	10:53	10.50	0.6	1.000	0.6	0.400	1.9098	1.00	1.9098	1.500	2.8647	5.8
6	10:54	12.00	0.6	1.000	0.6	0.400	3.0374	1.00	3.0374	1.500	4.5561	9.2
7	10:55	13.50	0.6	1.000	0.6	0.400	2.0161	1.00	2.0161	1.500	3.0241	6.1
8	*10:57*	*15.00*	*0.6*	*1.100*	*0.6*	*0.440*	*2.1660*	*1.00*	*2.1660*	*1.650*	*3.5741*	*7.2*
9	10:58	16.50	0.6	1.000	0.6	0.400	3.1486	1.00	3.1486	1.500	4.7229	9.5
10	*11:00*	*18.00*	*0.6*	*1.000*	*0.6*	*0.400*	*1.2572*	*1.00*	*1.2572*	*1.150*	*1.4457*	*2.9*
11	*11:15*	*18.80*	*0.6*	*1.000*	*0.6*	*0.400*	*1.2470*	*1.00*	*1.2470*	*0.750*	*0.9353*	*1.9*
12	11:01	19.50	0.6	1.100	0.6	0.440	3.5600	1.00	3.5600	1.210	4.3082	8.7
13	*11:02*	*21.00*	*0.6*	*1.100*	*0.6*	*0.440*	*1.6152*	*1.00*	*1.6152*	*1.650*	*2.6652*	*5.4*
14	*11:05*	*22.50*	*0.6*	*0.900*	*0.6*	*0.360*	*-0.0758*	*1.00*	*-0.0758*	*1.350*	*-0.1023*	*-0.2*
15	*11:06*	*24.00*	*0.6*	*1.000*	*0.6*	*0.400*	*2.5075*	*1.00*	*2.5075*	*1.500*	*3.7613*	*7.6*
16	*11:07*	*25.50*	*0.6*	*0.800*	*0.6*	*0.320*	*0.5896*	*1.00*	*0.5896*	*1.200*	*0.7074*	*1.4*
17	11:09	27.00	0.6	0.500	0.6	0.200	2.0049	1.00	2.0049	0.750	1.5037	3.0
18	11:11	28.50	0.6	0.500	0.6	0.200	1.7923	1.00	1.7923	0.750	1.3442	2.7
19	11:12	30.00	0.6	0.500	0.6	0.200	2.3448	1.00	2.3448	0.750	1.7586	3.5
20	11:13	31.50	0.6	0.500	0.6	0.200	0.7382	1.00	0.7382	0.750	0.5536	1.1
21	*11:17*	*33.00*	*0.6*	*0.850*	*0.6*	*0.340*	*2.3543*	*1.00*	*2.3543*	*1.275*	*3.0020*	*6.1*
22	11:17	34.50	None	0.500	0.0	0.0	0.0000	1.00	2.3543	0.375	0.8829	1.8

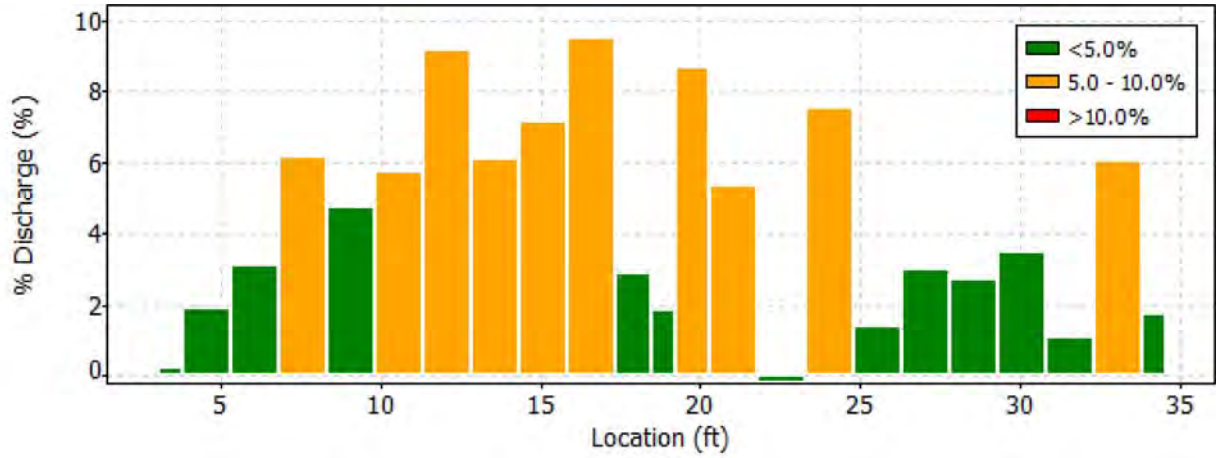
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

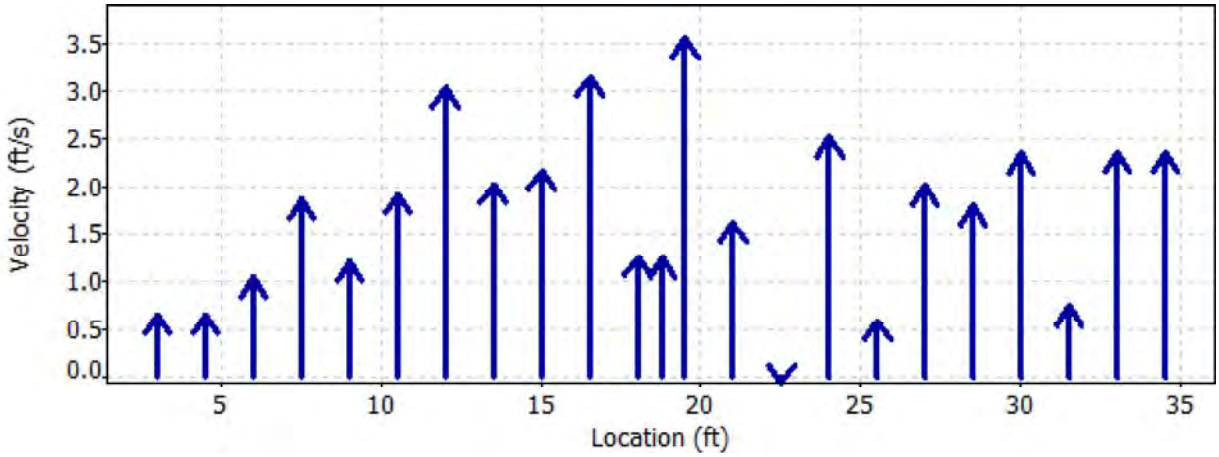
Discharge Measurement Summary

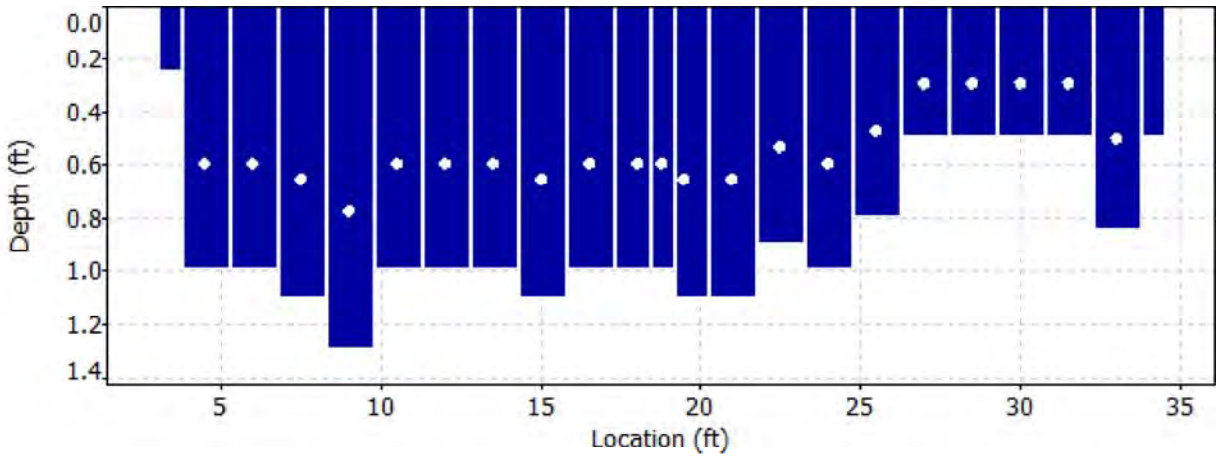
Date Generated: Tue Dec 23 2014

File Information	
File Name	ST015A.WAD
Start Date and Time	2014/09/09 10:48:29

Site Details	
Site Name	ST015A
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information	
File Name	ST015A.WAD
Start Date and Time	2014/09/09 10:48:29

Site Details	
Site Name	ST015A
Operator(s)	LC

Quality Control

St	Loc	%Dep	Message
2	6.00	0.6	High angle: -27
8	15.00	0.6	High standard error: 0.221
10	18.00	0.6	High angle: -21
11	18.80	0.6	High angle: -30
13	21.00	0.6	High angle: -22
14	22.50	0.6	High angle: -104
15	24.00	0.6	High angle: -21
		0.6	High standard error: 0.194
16	25.50	0.6	High angle: -39
21	33.00	0.6	High standard error: 0.143

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	ST010A.WAD
Start Date and Time	2014/09/09 13:55:00

Site Details

Site Name	ST010A
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.1%	0.9%
Velocity	1.7%	6.4%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.1%	-
Overall	**3.5%**	**6.5%**

Summary

Averaging Int.	40	# Stations	24
Start Edge	REW	Total Width	15.600
Mean SNR	33.2 dB	Total Area	22.566
Mean Temp	45.90 °F	Mean Depth	1.447
Disch. Equation	Mid-Section	Mean Velocity	1.1580
		Total Discharge	**26.1306**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	13:54	10.60	None	0.300	0.0	0.0	0.0000	1.00	1.0417	0.105	0.1093	0.4
1	13:54	11.30	0.6	0.800	0.6	0.320	1.0417	1.00	1.0417	0.560	0.5831	2.2
2	13:56	12.00	0.6	0.900	0.6	0.360	0.9183	1.00	0.9183	0.630	0.5783	2.2
3	13:57	12.70	0.6	0.950	0.6	0.380	0.3071	1.00	0.3071	0.665	0.2042	0.8
4	*13:58*	*13.40*	*0.6*	*1.000*	*0.6*	*0.400*	*-0.1519*	*1.00*	*-0.1519*	*0.700*	*-0.1063*	*-0.4*
5	13:59	14.10	0.6	1.150	0.6	0.460	0.1086	1.00	0.1086	0.805	0.0874	0.3
6	14:00	14.80	0.6	1.400	0.6	0.560	0.3435	1.00	0.3435	0.980	0.3365	1.3
7	14:01	15.50	0.6	1.500	0.6	0.600	0.9987	1.00	0.9987	1.050	1.0483	4.0
8	14:02	16.20	0.6	1.500	0.6	0.600	0.6509	1.00	0.6509	1.050	0.6833	2.6
9	14:04	16.90	0.6	1.500	0.6	0.600	0.6115	1.00	0.6115	1.050	0.6419	2.5
10	*14:05*	*17.60*	*0.6*	*1.400*	*0.6*	*0.560*	*0.9373*	*1.00*	*0.9373*	*0.980*	*0.9183*	*3.5*
11	14:06	18.30	0.6	1.400	0.6	0.560	2.3855	1.00	2.3855	0.980	2.3370	8.9
12	14:08	19.00	0.6	1.600	0.6	0.640	1.5102	1.00	1.5102	1.120	1.6910	6.5
13	14:08	19.70	0.6	1.600	0.6	0.640	1.8333	1.00	1.8333	1.120	2.0528	7.9
14	14:10	20.40	0.6	1.600	0.6	0.640	2.2372	1.00	2.2372	1.120	2.5051	9.6
15	14:10	21.10	0.6	1.600	0.6	0.640	1.7687	1.00	1.7687	1.120	1.9805	7.6
16	14:12	21.80	0.6	1.600	0.6	0.640	1.8301	1.00	1.8301	1.120	2.0492	7.8
17	14:13	22.50	0.6	1.900	0.6	0.760	2.1480	1.00	2.1480	0.953	2.0465	7.8
18	*14:21*	*22.80*	*0.6*	*1.900*	*0.6*	*0.760*	*2.1365*	*1.00*	*2.1365*	*0.665*	*1.4203*	*5.4*
19	14:14	23.20	0.6	1.900	0.6	0.760	2.1834	1.00	2.1834	1.042	2.2742	8.7
20	14:15	23.90	0.6	1.900	0.6	0.760	1.1670	1.00	1.1670	1.330	1.5516	5.9
21	14:17	24.60	0.6	1.900	0.6	0.760	0.0079	1.00	0.0079	1.330	0.0105	0.0
22	*14:18*	*25.30*	*0.6*	*1.600*	*0.6*	*0.640*	*0.5377*	*1.00*	*0.5377*	*1.283*	*0.6900*	*2.6*
23	14:18	26.20	None	1.800	0.0	0.0	0.0000	1.00	0.5377	0.814	0.4376	1.7

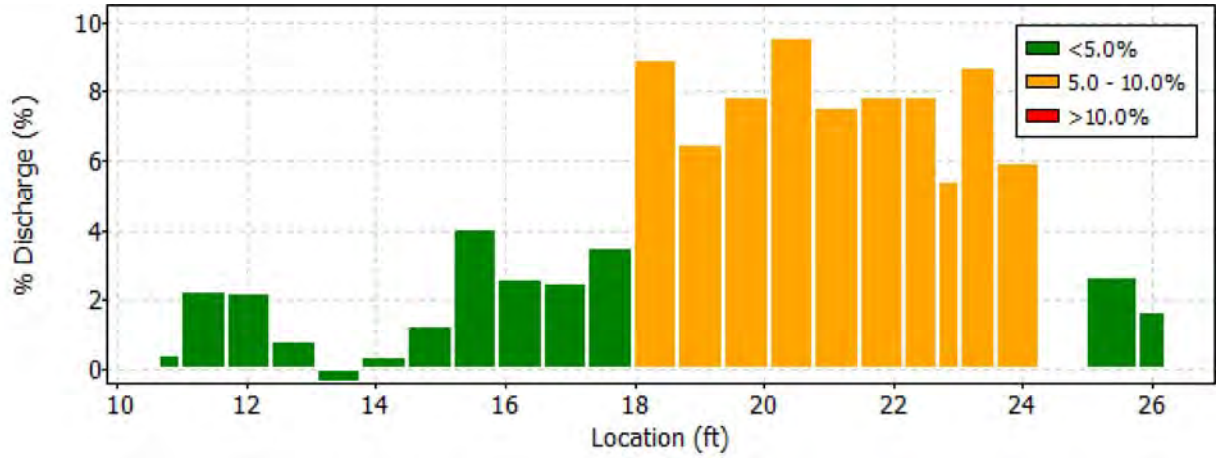
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

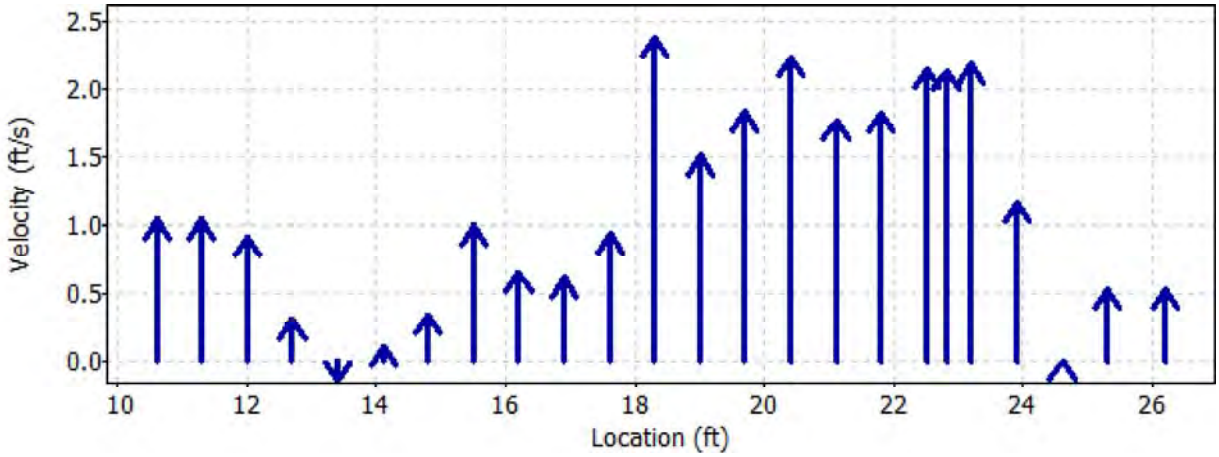
Discharge Measurement Summary

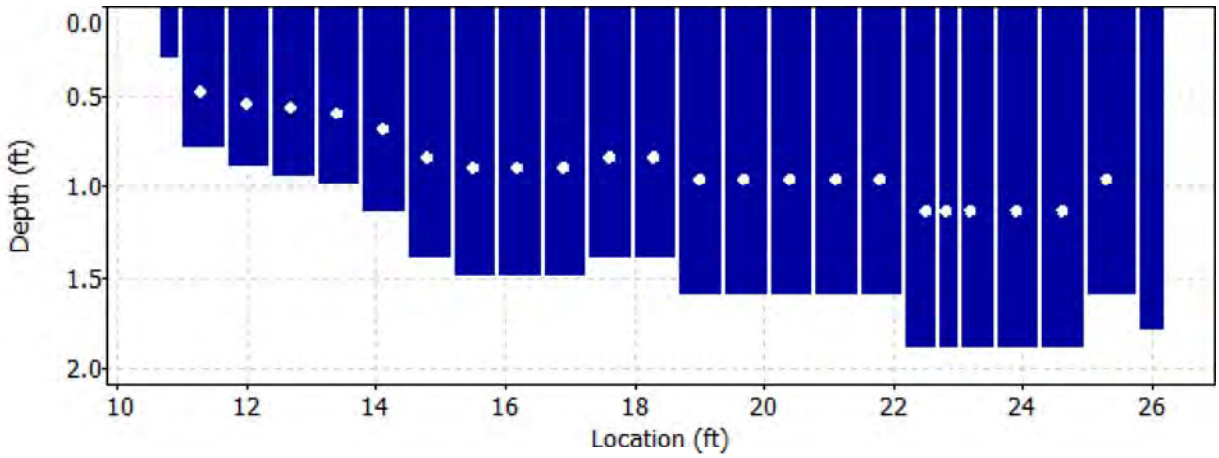
Date Generated: Tue Dec 23 2014

File Information	
File Name	ST010A.WAD
Start Date and Time	2014/09/09 13:55:00

Site Details	
Site Name	ST010A
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information	
File Name	ST010A.WAD
Start Date and Time	2014/09/09 13:55:00

Site Details	
Site Name	ST010A
Operator(s)	LC

Quality Control

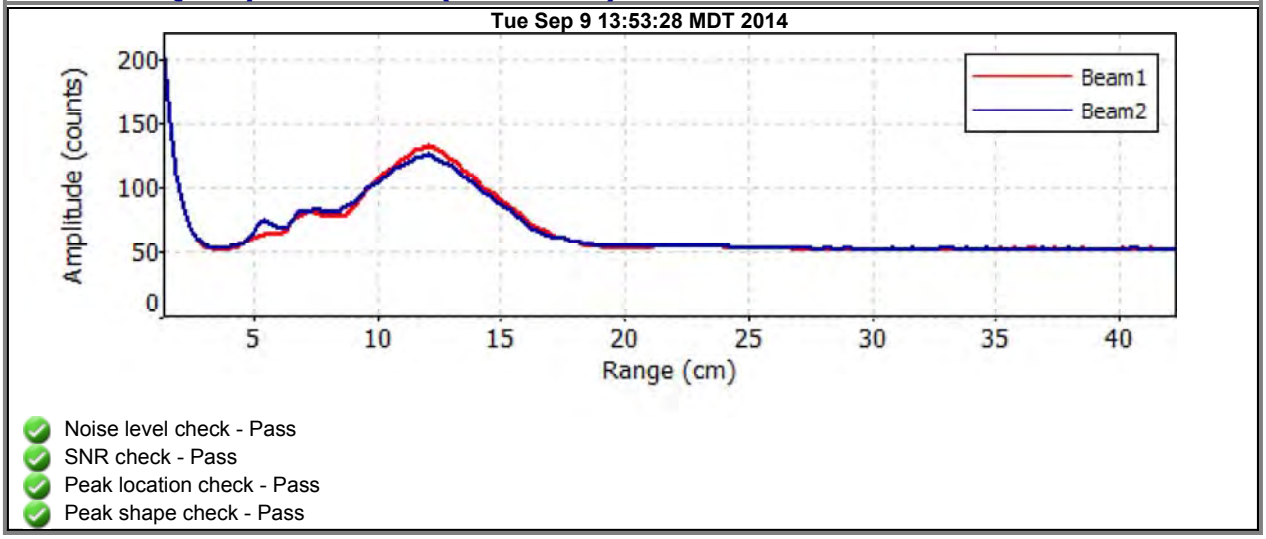
St	Loc	%Dep	Message
4	13.40	0.6	High angle: 166
10	17.60	0.6	High standard error: 0.148
18	22.80	0.6	High standard error: 0.131
22	25.30	0.6	High angle: 43

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	ST010A.WAD	Site Name	ST010A
Start Date and Time	2014/09/09 13:55:00	Operator(s)	LC

Automatic Quality Control Test (BeamCheck)



- Noise level check - Pass
- SNR check - Pass
- Peak location check - Pass
- Peak shape check - Pass

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	ST005.WAD
Start Date and Time	2014/09/09 08:39:57

Site Details

Site Name	ST005
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.2%	2.2%
Velocity	0.9%	6.6%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.3%	-
Overall	**3.2%**	**7.0%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	LEW	Total Width	21.000
Mean SNR	36.0 dB	Total Area	21.100
Mean Temp	42.69 °F	Mean Depth	1.005
Disch. Equation	Mid-Section	Mean Velocity	1.8706
		Total Discharge	**39.4697**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	08:39	6.00	None	0.200	0.0	0.0	0.0000	1.00	1.8783	0.100	0.1880	0.5
1	*08:39*	*7.00*	*0.6*	*0.350*	*0.6*	*0.140*	*1.8783*	*1.00*	*1.8783*	*0.350*	*0.6575*	*1.7*
2	08:41	8.00	0.6	0.600	0.6	0.240	2.4370	1.00	2.4370	0.600	1.4624	3.7
3	*08:42*	*9.00*	*0.6*	*0.700*	*0.6*	*0.280*	*2.2333*	*1.00*	*2.2333*	*0.700*	*1.5636*	*4.0*
4	*08:43*	*10.00*	*0.6*	*1.100*	*0.6*	*0.440*	*2.3770*	*1.00*	*2.3770*	*1.100*	*2.6148*	*6.6*
5	08:44	11.00	0.6	1.000	0.6	0.400	2.4495	1.00	2.4495	1.000	2.4495	6.2
6	*08:45*	*12.00*	*0.6*	*1.100*	*0.6*	*0.440*	*1.5781*	*1.00*	*1.5781*	*1.100*	*1.7360*	*4.4*
7	08:46	13.00	0.6	1.150	0.6	0.460	2.6191	1.00	2.6191	1.150	3.0118	7.6
8	08:48	14.00	0.6	1.200	0.6	0.480	2.9797	1.00	2.9797	1.200	3.5760	9.1
9	08:49	15.00	0.6	1.250	0.6	0.500	2.5627	1.00	2.5627	1.250	3.2033	8.1
10	*08:50*	*16.00*	*0.6*	*1.150*	*0.6*	*0.460*	*1.0909*	*1.00*	*1.0909*	*1.150*	*1.2544*	*3.2*
11	08:51	17.00	0.6	1.000	0.6	0.400	2.0804	1.00	2.0804	1.000	2.0804	5.3
12	*08:52*	*18.00*	*0.6*	*1.100*	*0.6*	*0.440*	*1.0994*	*1.00*	*1.0994*	*1.100*	*1.2094*	*3.1*
13	*08:53*	*19.00*	*0.6*	*1.050*	*0.6*	*0.420*	*2.3599*	*1.00*	*2.3599*	*1.050*	*2.4776*	*6.3*
14	08:54	20.00	0.6	1.000	0.6	0.400	2.4961	1.00	2.4961	1.000	2.4961	6.3
15	*08:55*	*21.00*	*0.6*	*0.900*	*0.6*	*0.360*	*1.7671*	*1.00*	*1.7671*	*0.900*	*1.5902*	*4.0*
16	*08:57*	*22.00*	*0.6*	*1.100*	*0.6*	*0.440*	*1.2044*	*1.00*	*1.2044*	*1.100*	*1.3249*	*3.4*
17	*08:58*	*23.00*	*0.6*	*0.950*	*0.6*	*0.380*	*1.3442*	*1.00*	*1.3442*	*0.950*	*1.2771*	*3.2*
18	08:59	24.00	0.6	1.250	0.6	0.500	1.5636	1.00	1.5636	1.250	1.9546	5.0
19	*09:00*	*25.00*	*0.6*	*1.400*	*0.6*	*0.560*	*0.4285*	*1.00*	*0.4285*	*1.400*	*0.5998*	*1.5*
20	09:02	26.00	0.6	1.250	0.6	0.500	1.6621	1.00	1.6621	1.250	2.0776	5.3
21	09:02	27.00	None	0.800	0.0	0.0	0.0000	1.00	1.6621	0.400	0.6647	1.7

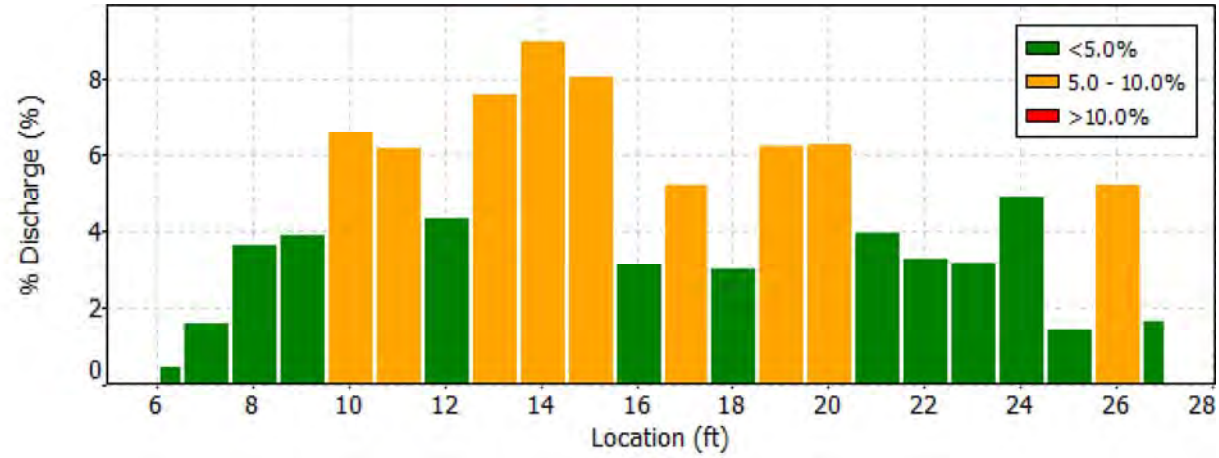
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

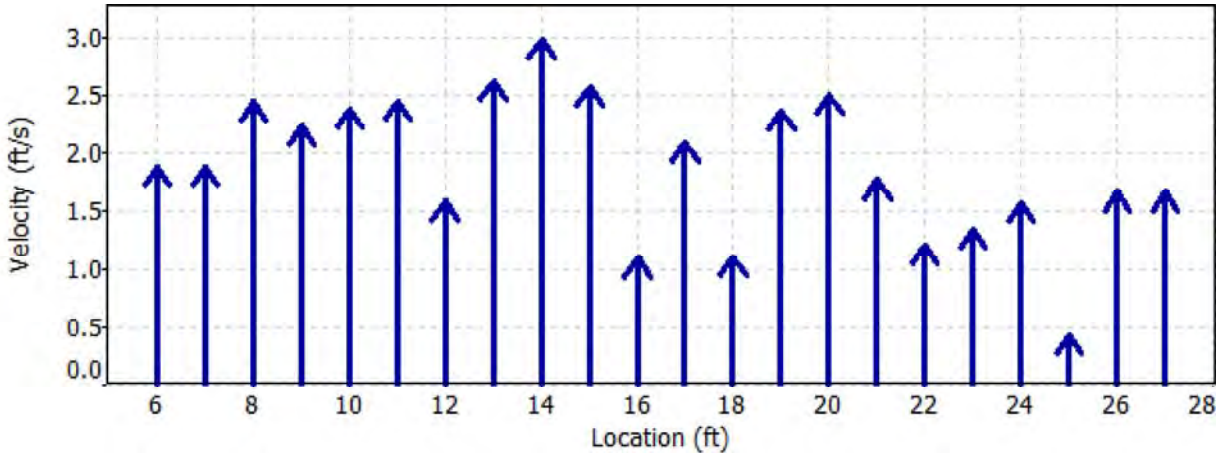
Discharge Measurement Summary

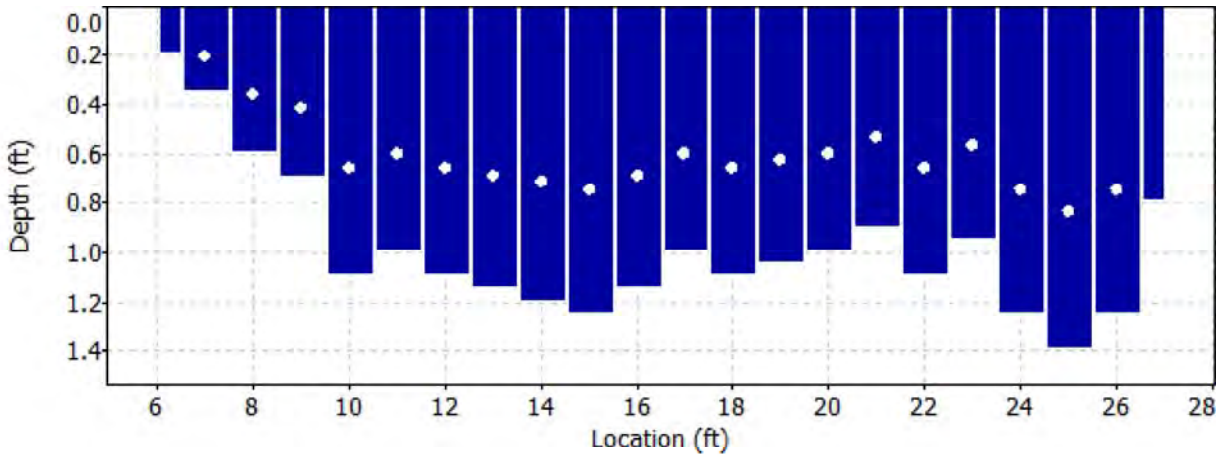
Date Generated: Tue Dec 23 2014

File Information	
File Name	ST005.WAD
Start Date and Time	2014/09/09 08:39:57

Site Details	
Site Name	ST005
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	ST005.WAD	Site Name	ST005
Start Date and Time	2014/09/09 08:39:57	Operator(s)	LC

Quality Control

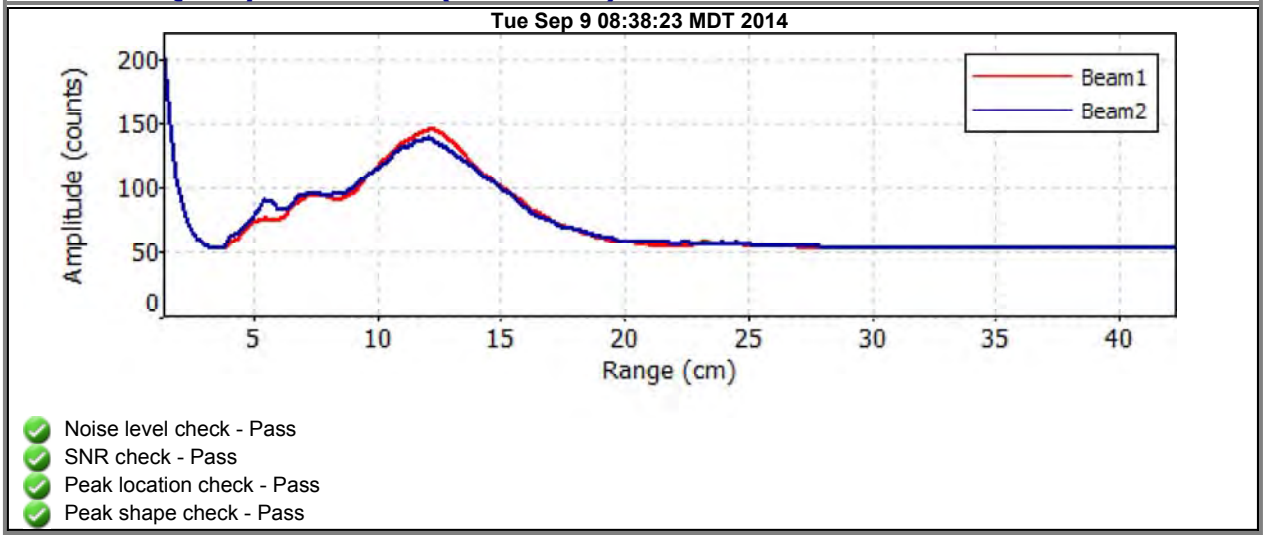
St	Loc	%Dep	Message
1	7.00	0.6	High angle: 31
3	9.00	0.6	High angle: 21
4	10.00	0.6	High angle: 21
6	12.00	0.6	High standard error: 0.132
10	16.00	0.6	High standard error: 0.104
12	18.00	0.6	High standard error: 0.114
13	19.00	0.6	High angle: 20
15	21.00	0.6	High angle: 26
16	22.00	0.6	High angle: 25
17	23.00	0.6	High angle: 22
19	25.00	0.6	High angle: -31

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	ST005.WAD	Site Name	ST005
Start Date and Time	2014/09/09 08:39:57	Operator(s)	LC

Automatic Quality Control Test (BeamCheck)



- Noise level check - Pass
- SNR check - Pass
- Peak location check - Pass
- Peak shape check - Pass

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	ST004.WAD
Start Date and Time	2014/09/09 09:28:47

Site Details

Site Name	ST004
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.2%	2.3%
Velocity	1.3%	9.4%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.2%	-
Overall	**3.3%**	**9.8%**

Summary

Averaging Int.	40	# Stations	23
Start Edge	REW	Total Width	24.100
Mean SNR	33.4 dB	Total Area	24.155
Mean Temp	42.86 °F	Mean Depth	1.002
Disch. Equation	Mid-Section	Mean Velocity	1.7412
		Total Discharge	**42.0592**

Measurement Results

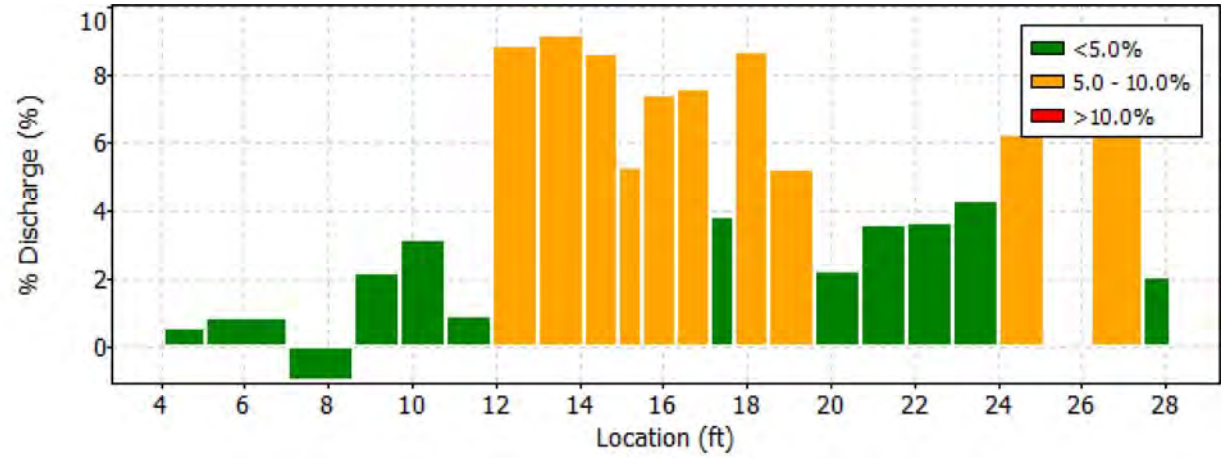
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	09:28	4.00	None	0.400	0.0	0.0	0.0000	1.00	0.6047	0.400	0.2418	0.6
1	09:28	6.00	0.6	0.300	0.6	0.120	0.6047	1.00	0.6047	0.600	0.3626	0.9
2	*09:30*	*8.00*	*0.6*	*0.600*	*0.6*	*0.240*	*-0.4459*	*1.00*	*-0.4459*	*0.930*	*-0.4147*	*-1.0*
3	09:31	9.10	0.6	0.700	0.6	0.280	1.1804	1.00	1.1804	0.770	0.9092	2.2
4	09:32	10.20	0.6	0.800	0.6	0.320	1.5262	1.00	1.5262	0.880	1.3430	3.2
5	09:33	11.30	0.6	1.000	0.6	0.400	0.3606	1.00	0.3606	1.100	0.3966	0.9
6	09:35	12.40	0.6	1.600	0.6	0.640	2.1247	1.00	2.1247	1.760	3.7398	8.9
7	09:36	13.50	0.6	1.600	0.6	0.640	2.1955	1.00	2.1955	1.760	3.8645	9.2
8	09:37	14.60	0.6	1.500	0.6	0.600	2.8632	1.00	2.8632	1.275	3.6501	8.7
9	09:56	15.20	0.6	1.500	0.6	0.600	2.6962	1.00	2.6962	0.825	2.2245	5.3
10	09:39	15.70	0.6	1.500	0.6	0.600	2.6027	1.00	2.6027	1.200	3.1240	7.4
11	*09:41*	*16.80*	*0.6*	*1.500*	*0.6*	*0.600*	*2.5066*	*1.00*	*2.5066*	*1.275*	*3.1949*	*7.6*
12	*09:55*	*17.40*	*0.6*	*1.200*	*0.6*	*0.480*	*2.4344*	*1.00*	*2.4344*	*0.660*	*1.6070*	*3.8*
13	09:43	17.90	0.6	1.550	0.6	0.620	2.9567	1.00	2.9567	1.240	3.6676	8.7
14	*09:44*	*19.00*	*0.6*	*1.400*	*0.6*	*0.560*	*1.4281*	*1.00*	*1.4281*	*1.540*	*2.1994*	*5.2*
15	*09:45*	*20.10*	*0.6*	*1.100*	*0.6*	*0.440*	*0.7815*	*1.00*	*0.7815*	*1.210*	*0.9457*	*2.2*
16	*09:46*	*21.20*	*0.6*	*0.900*	*0.6*	*0.360*	*1.5197*	*1.00*	*1.5197*	*0.990*	*1.5045*	*3.6*
17	*09:47*	*22.30*	*0.6*	*0.900*	*0.6*	*0.360*	*1.5443*	*1.00*	*1.5443*	*0.990*	*1.5288*	*3.6*
18	09:48	23.40	0.6	0.900	0.6	0.360	1.8241	1.00	1.8241	0.990	1.8059	4.3
19	09:49	24.50	0.6	0.900	0.6	0.360	2.6532	1.00	2.6532	0.990	2.6266	6.2
20	*09:51*	*25.60*	*0.6*	*1.000*	*0.6*	*0.400*	*0.0548*	*1.00*	*0.0548*	*1.100*	*0.0603*	*0.1*
21	*09:52*	*26.70*	*0.6*	*1.000*	*0.6*	*0.400*	*2.0830*	*1.00*	*2.0830*	*1.250*	*2.6027*	*6.2*
22	09:52	28.10	None	0.600	0.0	0.0	0.0000	1.00	2.0830	0.420	0.8743	2.1

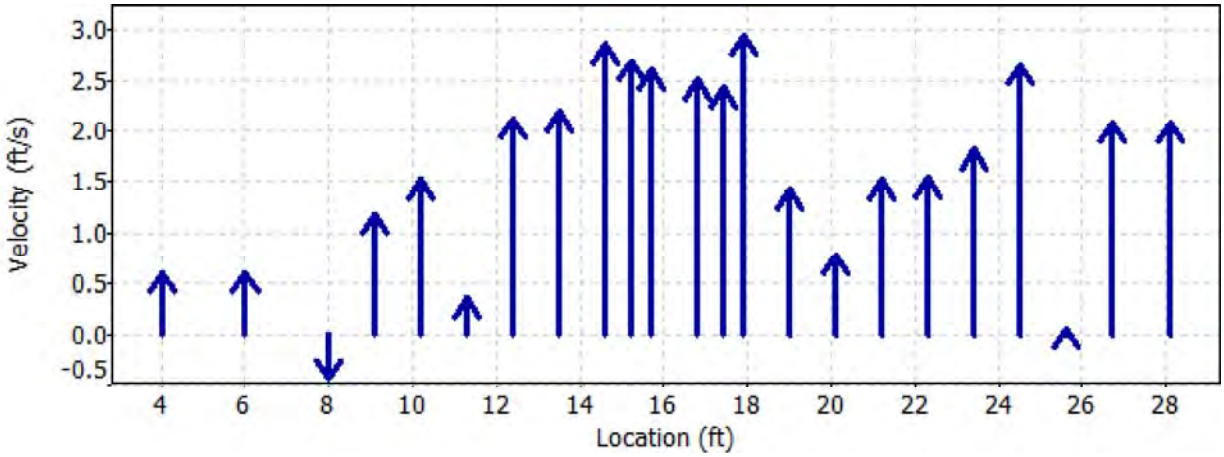
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

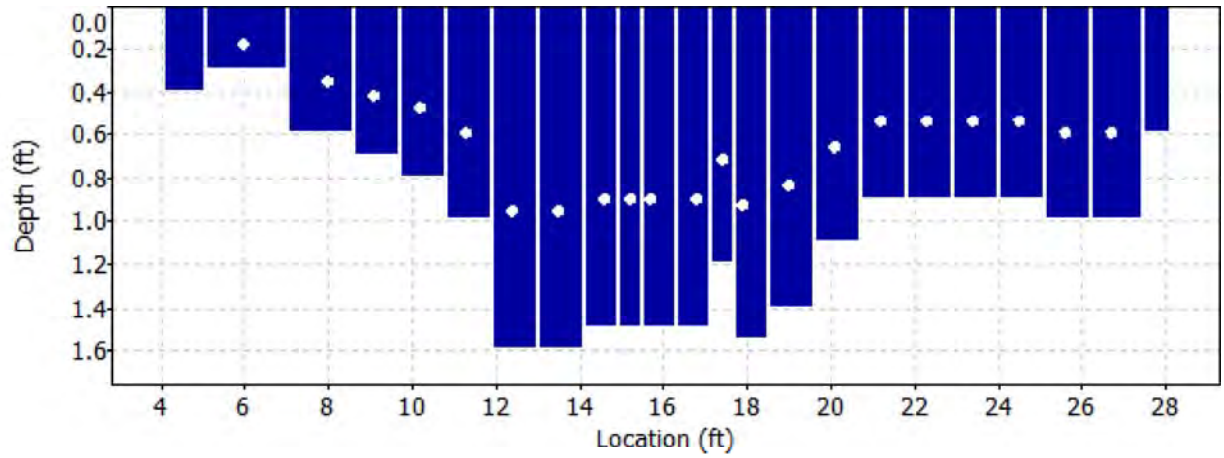
Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	ST004.WAD	Site Name	ST004
Start Date and Time	2014/09/09 09:28:47	Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information	
File Name	ST004.WAD
Start Date and Time	2014/09/09 09:28:47

Site Details	
Site Name	ST004
Operator(s)	LC

Quality Control

St	Loc	%Dep	Message
2	8.00	0.6	High angle: -143
11	16.80	0.6	High standard error: 0.135
12	17.40	0.6	High angle: 24
14	19.00	0.6	High angle: 34
15	20.10	0.6	High angle: 39
16	21.20	0.6	High standard error: 0.170
17	22.30	0.6	High standard error: 0.203
20	25.60	0.6	High angle: 39
21	26.70	0.6	High angle: -27

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC116B.WAD
Start Date and Time	2014/09/08 18:02:32

Site Details

Site Name	CSC116B
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3512
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.3%	2.3%
Velocity	2.2%	6.0%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.0%	-
Overall	**3.6%**	**6.5%**

Summary

Averaging Int.	40	# Stations	25
Start Edge	REW	Total Width	7.999
Mean SNR	39.5 dB	Total Area	5.199
Mean Temp	47.66 °F	Mean Depth	0.650
Disch. Equation	Mid-Section	Mean Velocity	0.7337
		Total Discharge	**3.8148**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	18:02	5.00	None	0.200	0.0	0.0	0.0000	1.00	1.0561	0.040	0.0423	1.1
1	18:02	5.40	0.6	0.350	0.6	0.140	1.0561	1.00	1.0561	0.140	0.1479	3.9
2	18:03	5.80	0.6	0.600	0.6	0.240	0.5791	1.00	0.5791	0.240	0.1390	3.6
3	*18:04*	*6.20*	*0.6*	*0.550*	*0.6*	*0.220*	*0.6309*	*1.00*	*0.6309*	*0.220*	*0.1387*	*3.6*
4	*18:06*	*6.60*	*0.6*	*0.600*	*0.6*	*0.240*	*0.7451*	*1.00*	*0.7451*	*0.210*	*0.1565*	*4.1*
5	18:32	6.90	0.6	0.700	0.6	0.280	1.9341	1.00	1.9341	0.140	0.2708	7.1
6	*18:08*	*7.00*	*0.6*	*0.700*	*0.6*	*0.280*	*1.8169*	*1.00*	*1.8169*	*0.105*	*0.1909*	*5.0*
7	*18:26*	*7.20*	*0.6*	*0.700*	*0.6*	*0.280*	*1.4039*	*1.00*	*1.4039*	*0.140*	*0.1965*	*5.2*
8	*18:09*	*7.40*	*0.6*	*0.700*	*0.6*	*0.280*	*1.3153*	*1.00*	*1.3153*	*0.210*	*0.2760*	*7.2*
9	*18:10*	*7.80*	*0.6*	*0.900*	*0.6*	*0.360*	*0.5331*	*1.00*	*0.5331*	*0.360*	*0.1919*	*5.0*
10	*18:11*	*8.20*	*0.6*	*0.800*	*0.6*	*0.320*	*0.5184*	*1.00*	*0.5184*	*0.320*	*0.1658*	*4.3*
11	*18:12*	*8.60*	*0.6*	*0.900*	*0.6*	*0.360*	*0.5823*	*1.00*	*0.5823*	*0.360*	*0.2096*	*5.5*
12	*18:13*	*9.00*	*0.6*	*1.000*	*0.6*	*0.400*	*0.8796*	*1.00*	*0.8796*	*0.300*	*0.2642*	*6.9*
13	*18:30*	*9.20*	*0.6*	*0.900*	*0.6*	*0.360*	*1.1982*	*1.00*	*1.1982*	*0.180*	*0.2156*	*5.7*
14	*18:15*	*9.40*	*0.6*	*0.900*	*0.6*	*0.360*	*1.6125*	*1.00*	*1.6125*	*0.180*	*0.2902*	*7.6*
15	18:28	9.60	0.6	0.850	0.6	0.340	1.4862	1.00	1.4862	0.170	0.2526	6.6
16	*18:17*	*9.80*	*0.6*	*0.750*	*0.6*	*0.300*	*0.9281*	*1.00*	*0.9281*	*0.225*	*0.2085*	*5.5*
17	*18:18*	*10.20*	*0.6*	*0.950*	*0.6*	*0.380*	*0.6020*	*1.00*	*0.6020*	*0.380*	*0.2288*	*6.0*
18	*18:19*	*10.60*	*0.6*	*0.850*	*0.6*	*0.340*	*0.7464*	*1.00*	*0.7464*	*0.340*	*0.2538*	*6.7*
19	*18:20*	*11.00*	*0.6*	*0.700*	*0.6*	*0.280*	*0.2152*	*1.00*	*0.2152*	*0.280*	*0.0603*	*1.6*
20	*18:21*	*11.40*	*0.6*	*0.400*	*0.6*	*0.160*	*0.0236*	*1.00*	*0.0236*	*0.160*	*0.0038*	*0.1*
21	*18:22*	*11.80*	*0.6*	*0.450*	*0.6*	*0.180*	*-0.0850*	*1.00*	*-0.0850*	*0.180*	*-0.0153*	*-0.4*
22	*18:23*	*12.20*	*0.6*	*0.400*	*0.6*	*0.160*	*-0.1781*	*1.00*	*-0.1781*	*0.160*	*-0.0285*	*-0.7*
23	*18:24*	*12.60*	*0.6*	*0.400*	*0.6*	*0.160*	*-0.2812*	*1.00*	*-0.2812*	*0.160*	*-0.0450*	*-1.2*
24	18:24	13.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

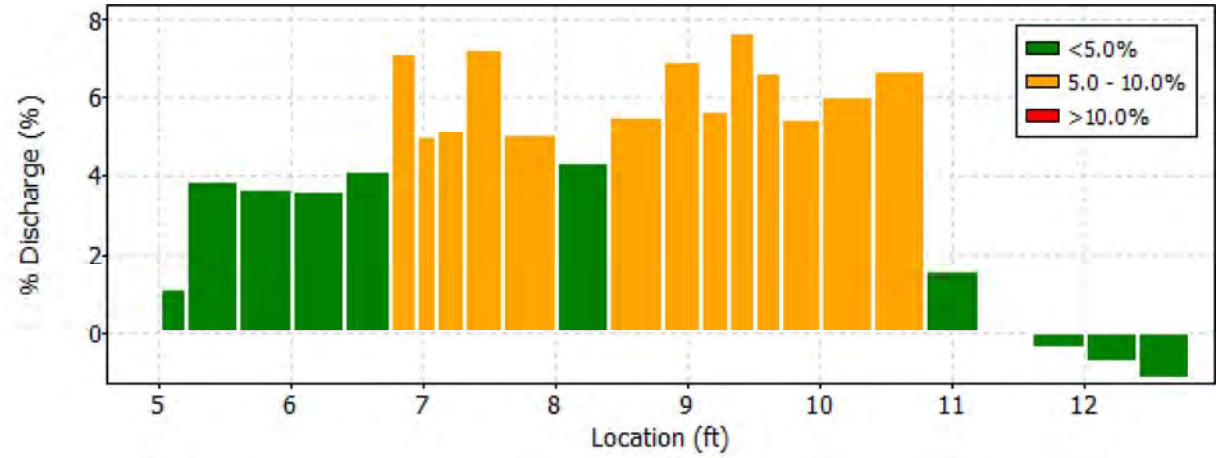
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

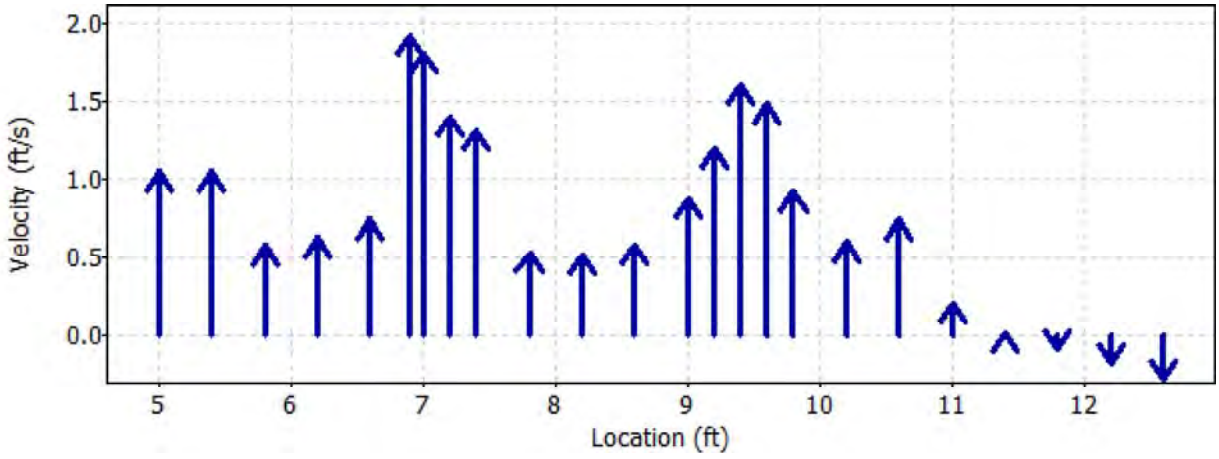
Discharge Measurement Summary

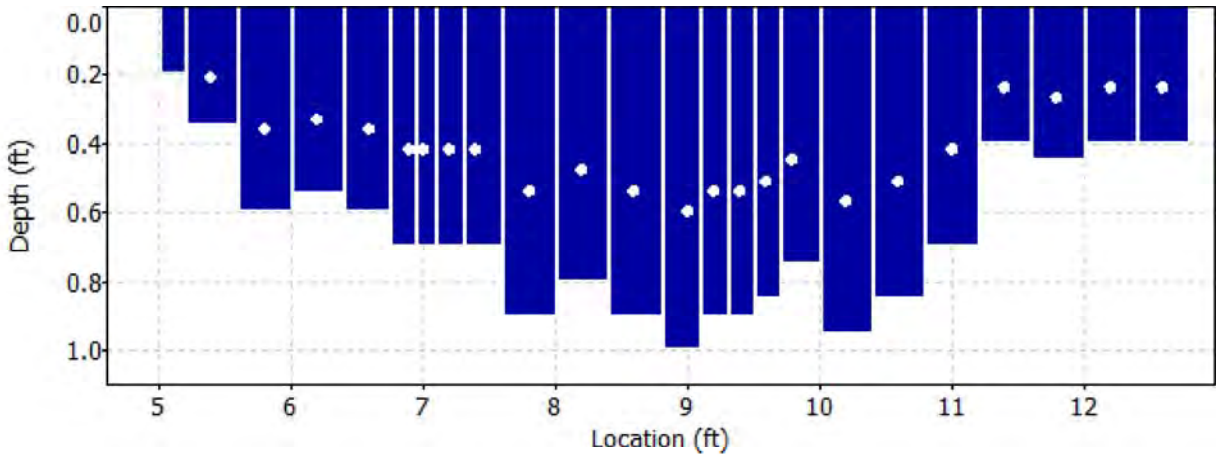
Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC116B.WAD
Start Date and Time	2014/09/08 18:02:32

Site Details	
Site Name	CSC116B
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	CSC116B.WAD	Site Name	CSC116B
Start Date and Time	2014/09/08 18:02:32	Operator(s)	LC

Quality Control

St	Loc	%Dep	Message
3	6.20	0.6	High angle: 22
4	6.60	0.6	High angle: 25
		0.6	High standard error: 0.108
6	7.00	0.6	High angle: 23
7	7.20	0.6	High angle: 34
8	7.40	0.6	High angle: 32
		0.6	High standard error: 0.112
9	7.80	0.6	High angle: 39
10	8.20	0.6	High angle: 36
11	8.60	0.6	High angle: 29
12	9.00	0.6	High angle: 24
13	9.20	0.6	High angle: 24
		0.6	High standard error: 0.124
14	9.40	0.6	High angle: 27
16	9.80	0.6	High angle: 26
17	10.20	0.6	High angle: 40
18	10.60	0.6	High angle: 35
19	11.00	0.6	High angle: 56
20	11.40	0.6	High angle: 86
21	11.80	0.6	High angle: 104
22	12.20	0.6	High angle: 129
23	12.60	0.6	High angle: 141

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC115A.WAD
Start Date and Time	2014/09/08 16:54:37

Site Details

Site Name	CSC115A
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3512
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.4%	2.1%
Velocity	1.6%	6.3%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.1%	-
Overall	**3.4%**	**6.8%**

Summary

Averaging Int.	40	# Stations	24
Start Edge	LEW	Total Width	6.500
Mean SNR	38.6 dB	Total Area	4.556
Mean Temp	51.40 °F	Mean Depth	0.701
Disch. Equation	Mid-Section	Mean Velocity	0.8802
		Total Discharge	**4.0101**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	16:54	15.40	None	0.200	0.0	0.0	0.0000	1.00	0.0315	0.030	0.0009	0.0
1	*16:54*	*15.70*	*0.6*	*0.250*	*0.6*	*0.100*	*0.0315*	*1.00*	*0.0315*	*0.075*	*0.0024*	*0.1*
2	*16:55*	*16.00*	*0.6*	*0.450*	*0.6*	*0.180*	*0.0187*	*1.00*	*0.0187*	*0.135*	*0.0025*	*0.1*
3	*16:57*	*16.30*	*0.6*	*0.450*	*0.6*	*0.180*	*0.4265*	*1.00*	*0.4265*	*0.135*	*0.0576*	*1.4*
4	16:59	16.60	0.6	0.650	0.6	0.260	0.4669	1.00	0.4669	0.195	0.0911	2.3
5	17:00	16.90	0.6	0.750	0.6	0.300	0.9341	1.00	0.9341	0.225	0.2103	5.2
6	17:01	17.20	0.6	0.850	0.6	0.340	1.2766	1.00	1.2766	0.255	0.3258	8.1
7	17:02	17.50	0.6	0.850	0.6	0.340	1.6578	1.00	1.6578	0.191	0.3162	7.9
8	17:18	17.65	0.6	0.800	0.6	0.320	1.7549	1.00	1.7549	0.120	0.2107	5.3
9	17:03	17.80	0.6	0.800	0.6	0.320	1.7106	1.00	1.7106	0.120	0.2054	5.1
10	17:19	17.95	0.6	0.900	0.6	0.360	1.6335	1.00	1.6335	0.135	0.2207	5.5
11	17:04	18.10	0.6	0.950	0.6	0.380	1.3035	1.00	1.3035	0.215	0.2798	7.0
12	17:05	18.40	0.6	1.000	0.6	0.400	1.1234	1.00	1.1234	0.300	0.3372	8.4
13	*17:06*	*18.70*	*0.6*	*1.000*	*0.6*	*0.400*	*1.0079*	*1.00*	*1.0079*	*0.300*	*0.3026*	*7.5*
14	*17:07*	*19.00*	*0.6*	*0.900*	*0.6*	*0.360*	*0.5144*	*1.00*	*0.5144*	*0.270*	*0.1390*	*3.5*
15	*17:08*	*19.30*	*0.6*	*0.750*	*0.6*	*0.300*	*-0.2805*	*1.00*	*-0.2805*	*0.225*	*-0.0632*	*-1.6*
16	*17:09*	*19.60*	*0.6*	*0.800*	*0.6*	*0.320*	*-0.3547*	*1.00*	*-0.3547*	*0.240*	*-0.0852*	*-2.1*
17	*17:10*	*19.90*	*0.6*	*0.700*	*0.6*	*0.280*	*0.0272*	*1.00*	*0.0272*	*0.210*	*0.0057*	*0.1*
18	*17:11*	*20.20*	*0.6*	*0.800*	*0.6*	*0.320*	*-0.0243*	*1.00*	*-0.0243*	*0.240*	*-0.0058*	*-0.1*
19	*17:13*	*20.50*	*0.6*	*0.600*	*0.6*	*0.240*	*1.6112*	*1.00*	*1.6112*	*0.180*	*0.2902*	*7.2*
20	*17:13*	*20.80*	*0.6*	*0.600*	*0.6*	*0.240*	*1.4108*	*1.00*	*1.4108*	*0.180*	*0.2541*	*6.3*
21	17:15	21.10	0.6	0.700	0.6	0.280	1.4029	1.00	1.4029	0.210	0.2949	7.4
22	17:16	21.40	0.6	0.550	0.6	0.220	1.6781	1.00	1.6781	0.219	0.3674	9.2
23	17:16	21.90	None	0.600	0.0	0.0	0.0000	1.00	1.6781	0.149	0.2498	6.2

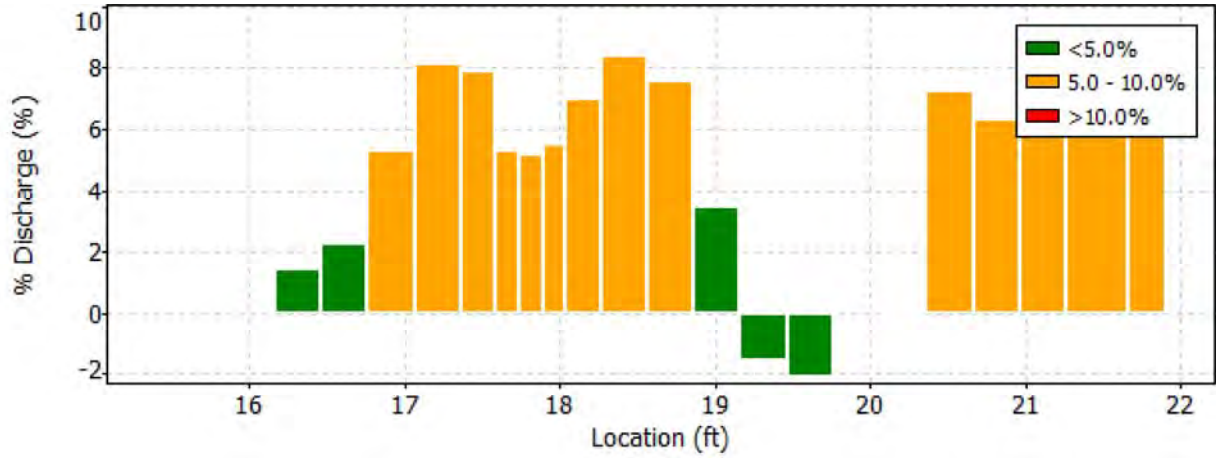
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

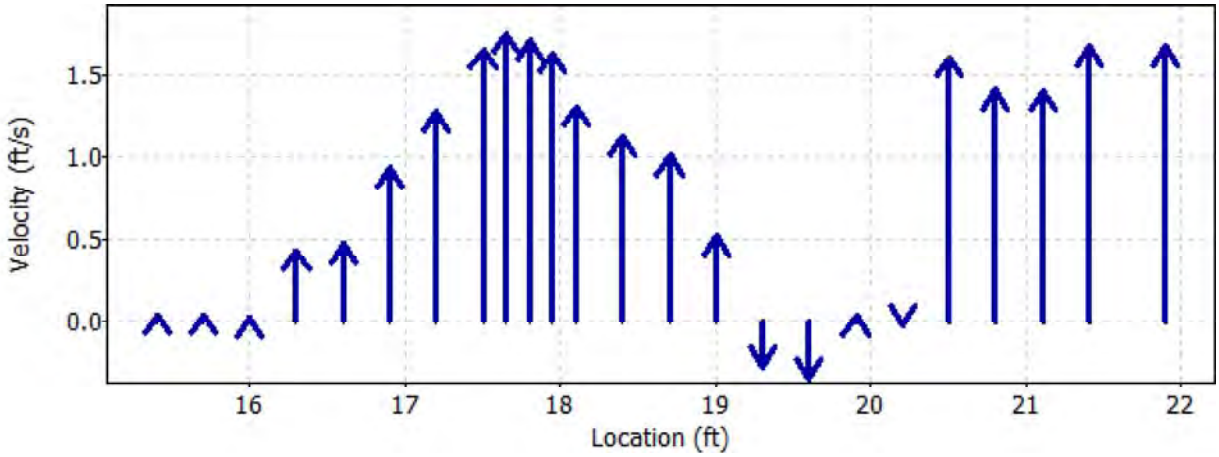
Discharge Measurement Summary

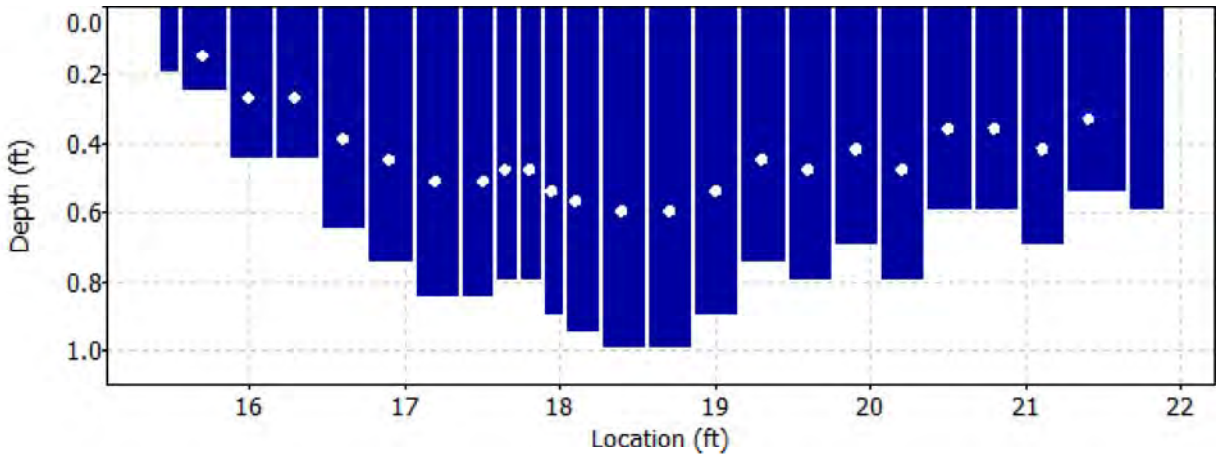
Date Generated: Tue Dec 23 2014

File Information	
File Name	CSC115A.WAD
Start Date and Time	2014/09/08 16:54:37

Site Details	
Site Name	CSC115A
Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC115A.WAD
Start Date and Time	2014/09/08 16:54:37

Site Details

Site Name	CSC115A
Operator(s)	LC

Quality Control

St	Loc	%Dep	Message
1	15.70	0.6	SNR (28.6) is different from typical SNR (38.6)
2	16.00	0.6	Boundary QC is Good; possible boundary interference
3	16.30	0.6	Boundary QC is Good; possible boundary interference
13	18.70	0.6	High standard error: 0.087
14	19.00	0.6	High standard error: 0.099
15	19.30	0.6	High angle: 134
16	19.60	0.6	High angle: 134
17	19.90	0.6	High angle: 82
18	20.20	0.6	High angle: 94
19	20.50	0.6	High standard error: 0.095
20	20.80	0.6	High standard error: 0.095

Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC111A.WAD
Start Date and Time	2014/09/08 16:11:14

Site Details

Site Name	CSC111A
Operator(s)	LC

System Information

Sensor Type	FlowTracker
Serial #	P3512
CPU Firmware Version	3.7
Software Ver	2.30
Mounting Correction	0.0%

Units (English Units)

Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.4%	3.2%
Velocity	1.6%	8.1%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.3%	-
Overall	**3.5%**	**8.8%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	REW	Total Width	8.700
Mean SNR	37.9 dB	Total Area	4.384
Mean Temp	54.95 °F	Mean Depth	0.504
Disch. Equation	Mid-Section	Mean Velocity	0.9956
		Total Discharge	**4.3652**

Measurement Results

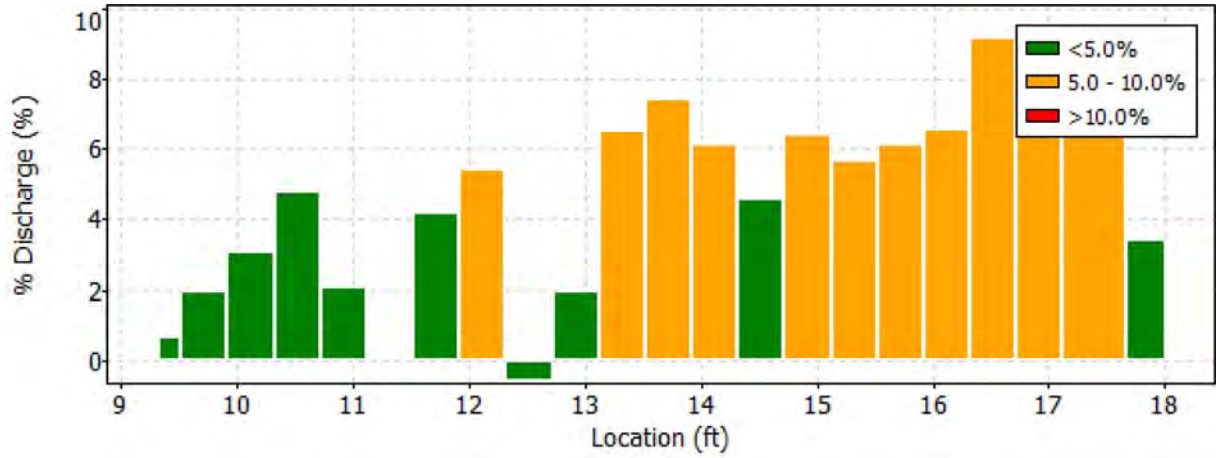
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	16:11	9.30	None	0.300	0.0	0.0	0.0000	1.00	0.4820	0.060	0.0289	0.7
1	16:11	9.70	0.6	0.450	0.6	0.180	0.4820	1.00	0.4820	0.180	0.0868	2.0
2	16:12	10.10	0.6	0.550	0.6	0.220	0.6181	1.00	0.6181	0.220	0.1360	3.1
3	16:13	10.50	0.6	0.500	0.6	0.200	1.0525	1.00	1.0525	0.200	0.2106	4.8
4	16:15	10.90	0.6	0.300	0.6	0.120	0.7579	1.00	0.7579	0.120	0.0910	2.1
5	*16:16*	*11.30*	*0.6*	*0.400*	*0.6*	*0.160*	*0.0049*	*1.00*	*0.0049*	*0.160*	*0.0008*	*0.0*
6	*16:17*	*11.70*	*0.6*	*0.500*	*0.6*	*0.200*	*0.9104*	*1.00*	*0.9104*	*0.200*	*0.1822*	*4.2*
7	16:18	12.10	0.6	0.500	0.6	0.200	1.1824	1.00	1.1824	0.200	0.2366	5.4
8	*16:19*	*12.50*	*0.6*	*0.500*	*0.6*	*0.200*	*-0.1306*	*1.00*	*-0.1306*	*0.200*	*-0.0261*	*-0.6*
9	16:20	12.90	0.6	0.450	0.6	0.180	0.4803	1.00	0.4803	0.180	0.0865	2.0
10	16:21	13.30	0.6	0.500	0.6	0.200	1.4255	1.00	1.4255	0.200	0.2853	6.5
11	16:22	13.70	0.6	0.400	0.6	0.160	2.0285	1.00	2.0285	0.160	0.3247	7.4
12	16:23	14.10	0.6	0.400	0.6	0.160	1.6683	1.00	1.6683	0.160	0.2671	6.1
13	16:24	14.50	0.6	0.600	0.6	0.240	0.8343	1.00	0.8343	0.240	0.2004	4.6
14	16:25	14.90	0.6	0.500	0.6	0.200	1.4006	1.00	1.4006	0.200	0.2803	6.4
15	16:27	15.30	0.6	0.600	0.6	0.240	1.0272	1.00	1.0272	0.240	0.2467	5.7
16	16:27	15.70	0.6	0.500	0.6	0.200	1.3363	1.00	1.3363	0.200	0.2674	6.1
17	*16:29*	*16.10*	*0.6*	*0.500*	*0.6*	*0.200*	*1.4364*	*1.00*	*1.4364*	*0.200*	*0.2875*	*6.6*
18	*16:30*	*16.50*	*0.6*	*0.700*	*0.6*	*0.280*	*1.4337*	*1.00*	*1.4337*	*0.280*	*0.4018*	*9.2*
19	16:31	16.90	0.6	0.700	0.6	0.280	1.2093	1.00	1.2093	0.278	0.3367	7.7
20	*16:32*	*17.30*	*0.6*	*0.600*	*0.6*	*0.240*	*0.8615*	*1.00*	*0.8615*	*0.329*	*0.2831*	*6.5*
21	16:32	18.00	None	0.500	0.0	0.0	0.0000	1.00	0.8615	0.175	0.1508	3.5

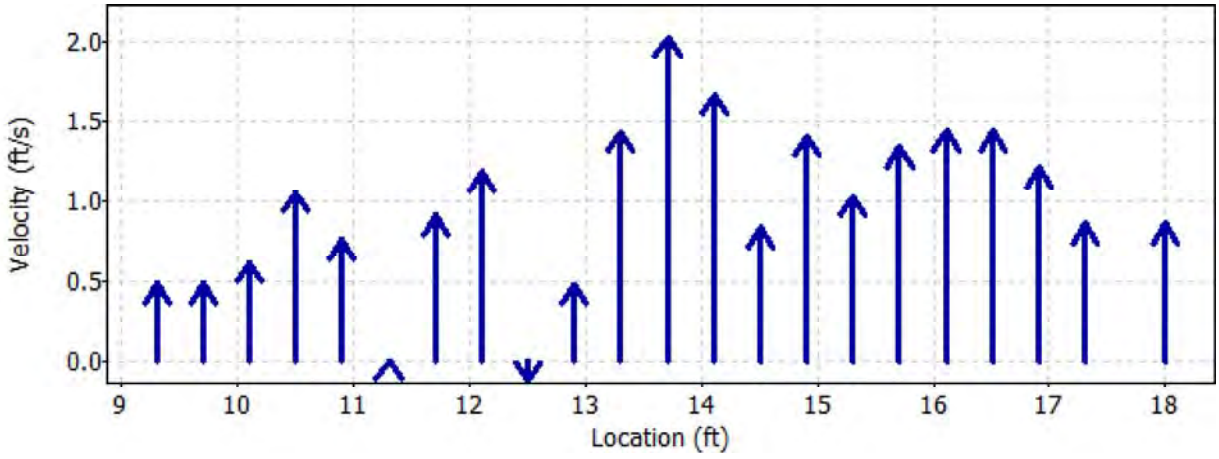
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

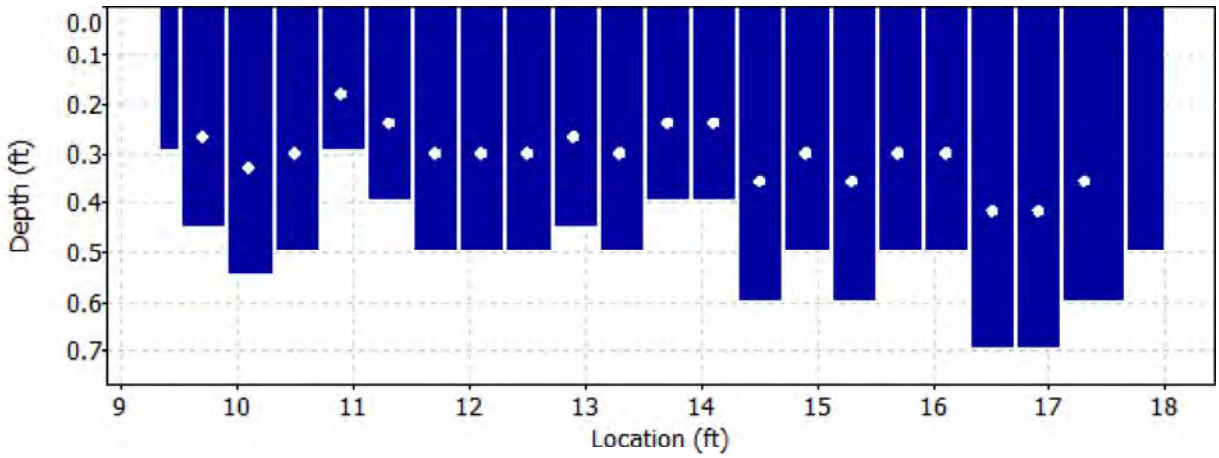
Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information		Site Details	
File Name	CSC111A.WAD	Site Name	CSC111A
Start Date and Time	2014/09/08 16:11:14	Operator(s)	LC







Discharge Measurement Summary

Date Generated: Tue Dec 23 2014

File Information

File Name	CSC111A.WAD
Start Date and Time	2014/09/08 16:11:14

Site Details

Site Name	CSC111A
Operator(s)	LC

Quality Control

St	Loc	%Dep	Message
5	11.30	0.6	SNR (51.1) is different from typical SNR (37.9)
		0.6	High SNR variation during measurement: 9.9,8.6
6	11.70	0.6	High standard error: 0.107
8	12.50	0.6	High angle: -150
17	16.10	0.6	High standard error: 0.099
18	16.50	0.6	High standard error: 0.112
20	17.30	0.6	High standard error: 0.095

Attachment B
Scanned Field Logbook Pages

Location Neihart, MT Date 9/11/13
Project / Client Carpenter Creek Fall '13

07-163-AD5
Time: 1145
Temp: 8.13 °C
pH: 6.98 su
Cond: 73.0
D.O.: 10.06 mg/L
- Samples collected by DW for TM, DM
- no photos taken
- Another riffle adit down from AD-1, AD-5

Location Neihart, MT Date 6/16/14
Project / Client Carpenter Creek Spring 14

1050 Arrive on site with Tech Crew Field team: Leslie Christner, Matt Paul, and Mark Pantoja. Skies are cloudy, Light Breeze. High of 66°F fore-casted. Current temp ~ 60°F. In situ Flow meters calibrated Matt Paul (MGP) collected Sample CSC-101 and Dupe for Total metals (TM) and Dissolved metals (DM). Flow meter Deployed.
Temp: 6.62° C
pH: 7.60 SU
Condo: 111.6 ~~mV/cm~~ (µs) ms/cm
DO: 10.02 mg/L
Flow too High to take Flow rate readings.

1130 ~~MGP and Mark Pantoja (MP)~~ (N)
MGP and Mark Pantoja (MP) arrive at CSC-102 and Collect TM and DM.
Water Quality (WQ):
Temp: 6.74°C

MGP 6/16/14

Location Neihart MT Date 6/14/14

Project / Client Carpenter Creek Spring Event 2014

pH: 7.93 su
Condo: 115.0 ms/cm
DO: 9.96 mg/L

1150 ADDENDUM: Leslie Christen took photos 100-0001 and 100-0002 of CSC-101. MP took photos 100-0003 and 100-0004

1200 MP and MKP travel to CSC-103 and Collect CSC-103TM&DM.

WQ:
Temp: 7.8°C
pH: 7.41 SU
Condo: 94.01 ms/cm
DO: 9.69 mg/L
MP took Photo 100-0005, UPStream of location CSC-103 and 100-0006 Down-Stream of CSC-103
Flow: 26.391 cfs

Location Neihart, MT Date 6/14/14

Project / Client Carpenter Snow Creek 2014 - 2:25 pm

pH: 7.95 CSC-101B
condo: 106.0 mg/cm
DO: 9.68 mg/L
temp: 8.94
time: 2:25: overcast, possibility of rain
Cool breeze.

baro: 24.95

photo & sample taken by: RH

CSC-119B 9/8/14
18:30

Sunny, almost dusk. Vegetation is matted indicating heavy precipitation recently. Photo taken by Steve Auer. Sample taken by Roger H.

pH 7.25		DO 9.08 mg/L
cond. 70.1 us/cm		temp 8.7°C
flow 1"	Ha 0.27 Hb 0.14	flow taken by Steve Auer

Location _____ Date _____

Project / Client _____

CSC-117A 9/8/14
18:45

Photos taken by Steve A but no samples taken. Tetra Tech had applied quicklime at beginning of creek and sampling team felt it would affect the results

07-112-AD1 9/9/14
7:00

Sampling team Steve A & Roger H. Sample collected at portal entrance where water pools. weather is calm, mostly cloudy, low 30s. Steve took photo with his cell phone. Sample also collected by Steve

temp 4.75°C cond 189.2 us/cm
pH 6.29 DO 6.45 mg/L

Location _____ Date _____

Project / Client _____

CONTENTS

PAGE	REFERENCE	DATE

Location Neihart MT Date 6/17/~~15~~14

Project / Client

Arrived 8:30 at NMW-4

NMW-4
Top - 7ft 8in
Bottom - 17ft 9in
Diameter ~~+ 3/4 in~~ 2in
~~11/2 in~~

10ft 1in high at ~~1 1/2 in~~ 2in
= ~~.92 gal~~ (M)
1.6 gal

Aderdum
2 in diameter well has 0.632 gal/ft

This means since we have 10ft 1in we have 1.7gals. Pumped out three times we removed 5.1 gals.

Vol removed - 5.1gal Time: 9:50
Temp - 8.93 DO - 5.56mg/L
pH - 6.38
Condo - ~~4575~~ 2us/cm
WQMonitor 965488

Location Niehart, MT Date

Project / Client Carpenter Creek Field Sampling Event

1015 Arrived at NMW-3. Field Team Mark Purge and Matt Paul. Rainy. Deploy water leveler. ~~Water~~ Well is dry. Wait 5 minutes retest. Well is Dry.

1030 Arrived at NMW-1.
Top of Screen 0.9
Bottom of Screen 14.6
13.5" of water.
Volume = 2.2 gals
Purge Volume = 6.6 gals.

1123 Sample collected by MGP, TM + DM for NMW-1.
Final reading: WQM: 965488
Temp: 8.62°C
pH: 6.13
Condo: 106 mS/cm
DO: 4.13 mg/L

1200 Arrived at MW-1.
Top of water: 8.2 feet
Bottom: 22.1
13.9" of water
Volume: ~~[illegible]~~ 1.9 gal
Purge Volume: 5.7 gal

Location Niehart, MT Date

Project / Client Carpenter Creek Sampling Event.

Temp: 5.18°C
pH: 5.62
Condo: 84 WQM 1965488
DO: 5.79

1246 Collected MW-1 TM + DM, Sampler was MGP

1320 Arrived at MW-4A.
Top of water 5.2 feet
Bottom of water 17.9 feet
12.3 feet of water
Volume = 2.0.

1346 MGP collected sample MW-4A TM + DM.
Final Reading: WQM: 965488
Temp: 7.31°C
pH: 5.46 su
Condo: 67 ms/cm
DO: 8.66 mg/L.

1457 Arrived at MW-4A. Note Previous MW-4A was actually MW-5 Chain of Custody updated and Labels updated.
Top of water 4.2 feet
Bottom 17.7
13.5 feet of water

Location Niehant, MT Date 6/17/14
Project / Client Carpenter Creek Spring Sampling Event 2014

Volume: 2.2 gals
1529 Final Water Quality: 965488
Temp: 7.61°C
pH: ~~66 uS/cm~~ (M) 5.56 su
Cond: 66 uS/cm
DO: 0.88 mg/L
MGP collected Sample MW-4A DM & TM.
1548 Arrived at MW-6A.
Top of water 9.8 ft.
Bottom: 18.2 ft.
~~Casing~~ (M) Water Height: 8.4 feet.
Volume: 1.4 gallons.
Water Quality: 965488
Temp: 7.64°C
pH: 5.27 su
Cond: 45 uS/cm
DO: 9.24 mg/L
Photo 16 of Camera S82852 is
~~16~~ (M) of MW-6A, facing Southwest.
1615 Photo 17 of Camera S82852 of MW-4A, facing South.
1731 Collect Sample MW-8 TM and DO, by MGP.
Top of water: 4.9 ft

Location Niehant, MT Date 6/17/14
Project / Client Carpenter Creek Spring Sampling Event 2014

Bottom of Water: 15 ft.
Height: 10.1
Volume: 1.6 gals
Water Quality Monitor: 965488
Temp: 4.92°C
pH: 5.99 su
Cond: 152 uS/cm
DO: 1.26 mg/L
1740 Photo 18: MW-8, facing Southwest Camera S82852
1752 Arrived at CSC-15
Top: 6.9
Bottom: 14.3
~~He~~ (M) Water column total: 7.4 ft
Volume: 1.2 gallon
1821 ~~MGP~~ (M) MGP collected ~~water~~ (M) CSC-15.
Water Quality Monitor: 965488
Temp: 5.65°C
pH: 5.98 su
~~242~~ (M) Cond: 242 uS/cm
DO: 2.68 mg/L
Photo 19: ~~CSC~~ (M) CSC-15 Facing Southwest. Camera S82852

Location Nehart, MT Date 6/18/14

Project / Client Carpenter Creek Spring 2014 Sampling event.

0800 Arrive at CSC-106. Field team is Matt Pantzer (MP), Matthew Gorman Pool (MGP), and Steven Nelson (SN: US Fish and Wildlife). MGP deployed FlowTracker # 965842 and began FlowTracker activities.
MP Began Water Quality Measurements.
~~0840~~ (MP) WATER Quality:
0840 TEMP: 3.52°C
pH: 7.2 SU
Condo: 94.25 µS/cm
DO: 10.75 mg/L
MP Collected CSC-106 TM & DM.
Picture 100-00030 is upstream of CSC-106, and Picture 100-00031 is Downstream.
1100 MP Arrived at CSC-107. Begin Water Quality Measurements and DM & TM Sample Collection activities.
WATER Quality Measurements:
TEMP: 4.92°C
pH: 6.42 SU
CONDO: 232.0 µS/cm
DO: 10.11 mg/L

Location Nehart, MT Date 6/18/14

Project / Client Carpenter Creek Spring 2014 Sampling Event

MP took Sample CSC-107
Photo 100-00022 is upstream of CSC-107 and photo 100-00023 is Downstream. Camera: 582852
1130 MP AND MGP arrived CSC-108.
MGP Performed Flow Tracking Procedures with FlowTracker 965844.
MGP Collected CSC-108 TM & DM.
WATER QUALITY MEASUREMENTS:
Temp: 3.83°C
pH: 7.02 SU
Condo: 154.4 µS/cm
DO: 10.46 mg/L
Photo 100-00024 is upstream of CSC-108 and 100-00025 is Downstream of CSC-108.
Camera 582852
1300 Arrived at MW-101. Team is MGP and MP. Begin Water Level: Top 4.9'. Bottom 16.5'. Casing Volume: 1.2 Gals. Volume: 1.6 gals.

Location Niehart, MT Date 6/18/14

Project / Client Carpenter Creek Spring Sampling Event 2014

1311	Sample MW-~~14~~13 for TM+ DM Collected by MGP. Water Quality Measurements: Temp: 3.75°C pH: 5.64 su Condo: ~~2.8~~ 29.7 µS/cm DO: 9.34 mg/L Photo 100-0026 is of MW-14 facing North west.
1415	Arrived at MW-11. Top of water: 7.2 ft. Bottom of water: 16 ft. Water column Height 8.8 ft. Volume: 14 gals.
1424	Final Water Quality Measurements: TEMP: 4.25°C pH: 6.67 su Condo: 84.32 µS/cm DO: 6.7 mg/L
1445	MW-11 sampled for TM+ DM by MP Photo 100-0027 is of MW-11 Facing South.
1510	Arrived at MW-10, Team MP and ~~MP~~ MGP.

Location Niehart, MT Date 6/18/14

Project / Client Carpenter Creek Spring Sampling Event 2014

	Top of water Volume: 14.8 ft. Bottom of water Volume: 25 ft. Total Volume in Height: 10.2 ft. Volume in gallons: 1.6 gals.
1530	MGP Traveled to MW-12. The well was dry, the Bottom of the well was 14.9 ft.
1545	MGP collected MW-10 TM+ DM. Final Water Quality Measurements: TEMP: 4.76°C pH: 6.09 su Condo: 238.4 µS/cm DO: 6.17 mg/L Photo 100-0028 is of MW-10 facing South west. Camera S82952
1600	Photo 100-0029 is of MW-5 facing Southeast.
1602	Photo 100-0030 is of MW-1 facing West. Camera S82952
1609	Photo 100-0031 is of NMW-4 facing North West. Camera S82952
1620	Returned to NMW-3 to

Location Nichent, MT Date 6/18/14

Project / Client Chapel Ma Creek Spring 2014 Sampling Event

try and get through obstruction. Did Not work. Shined light inside and saw something Bottle Cap lodged inside.

1628 Photo - 100-0033 R of NMW-1 facing Southeast.

Location CSC-101 Date 7/8/14

Project / Client Carpenter Snow Creek

CSC-101

Time 11:00
Temp 7.31 °C
pH 7.71 pS/cm
DO 9.93 mg/L
Cond 144.6 µS/cm
Collected water samples for Total and dissolved metals
Collected sediment samples for Total Recoverable metals
Samples collected by Steve Ance
Collected Field Blank
Time 10:20

Leslie Christner collected flow measurements using Flow Tracker flow meter Unit #1

- Weather was Sunny warm and water very clear
- 2 photographs Taken

14

Location CSC-102 Date 9/8/14

Project / Client Carpenter Snow Creek

Time 11:46
pH 7.97 S.U.
Temp 8.03 °C
D.O. 9.91 mg/L
Cond 145.2 µs/cm

Water Quality measurements collected with ESAT In-Situ

2 photographs using ESAT Blue Camera

Collected water samples ~~as~~ for Total and Dissolved metals by Steve Auer
Collated sediment samples for Total Recoverable metals by Steve Auer

Weather - Sunny warm + breezy

Flows were collected using Flow Tracker flow meter by Leslie Christner with ESAT Unit #1

15

Location CSC-103 Date 9/8/14

Project / Client Carpenter/Snow Creek

Time 12:20
pH 7.48 S.U.
Temp 8.14 °C
D.O. 9.85 mg/L
Cond 137.3 µs/cm

Water Quality measurements collected with ESAT In Situ

2 photographs using ESAT Blue Camera

Collected grab samples for Total and dissolved metals by Steve Auer

Collected sediment samples for Total Recoverable metals by Steve Auer

Weather was sunny warm + windy

Flows were collected ~~for~~ using Flow Tracker flow meter unit #1

16

Location CSC - 104 Date 9-8-14

Project / Client Carpenter / Snow Creek

Calibrating Multiparameter Troll 9500 SN 51017

Time - 1315

pH - 7.48 s.u.

Temp - ~~10.84~~ 10.84 °c

DO - 9.09 mg/L

Cond - 133.7 us/cm

Measurements taken with Insitu Inc. Troll 9500 SN 51017 water quality measurement collected with ESAT In-Situ

3 photographs taken with blue camera

Collected water samples for total & dissolved metals by R. Hoogerheide.

Collected stream sediment samples for total recoverable metals by R. Hoogerheide

Weather - sunny, warm (75°F est) windy

Flows were collected by Leslie Christner using Flow tracker flow meter - Esat unit #1

Location CSC - 105 Date 9-8-14

Project / Client Carpenter / Snow Creek

Time - 1335

pH - 7.45 s.u.

Temp - 8.14 °C

DO - 9.56 mg/L

Cond - 146.5

Measurements taken with In Situ Inc Troll 9500 - SN 51017

3 Photographs taken with blue camera

collected water samples for total & dissolved metals - by R. Hoogerheide

Collected stream sediment samples for total recoverable metals by R. Hoogerheide

Weather - sunny, warm 75°F est

Flows collected by Leslie Christner using flow-tracker flowmeter - ESAT unit #1

Location CSC-104A Date 9-8-19

Project / Client Carpenter - Snow Creek

Time - 1355
pH - 7.56 s.u.
Temp - ~~7.56~~ 12.63 °C
DO - 8.75 mg/l
Sp Cond - 131.4 uS/cm

Measurements taken with In Situ, Inc Troll 9500 SN 51Ø17 ~~wat~~ - water quality

Photographs with blue camera - 3

Collected water samples for total & dissolved metals by R. Haugen keide
Collected stream sed samples for total recoverable metals by R. Haugen keide

* Dups 001 for water and sediment

Weather - Sunny, warm, breezy

Flows collected using Flow Tracker #1 Flow meter by Steve Auer

Location Snow Creek Date 9-8-19

Project / Client Carpenter - Snow Creek
07-163-ADS - Ripple

Time - 1505
pH - 3.33 s.u.
Temp - 5.88 °C
DO - 8.45 mg/l
Spec Cond - 563 uS/cm

Measurements taken with In Situ Inc Troll 9500 SN 51Ø17

Photographs with blue camera - 3

Collected seep water samples for total & dissolved metals by R. Haugen keide

* Installed S. Auer cutthroat flume at flow of 07-163-ADS
Ha - 0.8
Hb - 0.35

Note - slight contribution of flow from erosion off ADS

Weather - sunny, warm, breezy

Location Carpenter - Snow Cr Date 9-8-14

Project / Client

07-163-AD6 - Ripple (upper)

Time - 1525
pH - ~~6~~ 6.19
Temp - ~~7.51~~ 7.95 °C
DO - ~~7.35~~ 9.19
SpecCond - 61.92 uS/cm

Measurements taken with In Situ, Inc
Troll 9500 SN 51917

Photographs with blue camera - 3

Collected water samples for total & dissolved metals
R. Hargreaves
(Note: due to limited flow stuck at a pool area, sample taken higher than in spring.)
Installed cutthroat flume to capture seep flow - 5. Aver

Ht a - 0.7
Ht b - 0.3

Location C Date 9-8-14

Project / Client Carpenter Snow Cr

(Note - site was full of snow in June 2013 so no sample)

Time - 1540
pH - 6.4 s.u. clear
Temp - °C
DO - mg/L
specCond - uS/cm

Location _____ Date 9-8-14

Project / Client Carpenter - Snow Cr

07-163-AD7 seep Ripple

Time - 1550

pH - 6.61 s.u.

temp - 5.07 °C

DO - 10.31 mg/L

Spec Cond - 74.08 uS/cm

Measurements taken with In Situ, Inc Troll 9500 SN 51017

Photographs taken - blue camera - 3

Collected Water samples for total + dissolve. metals - R. Hoogenhaide

Installed cutthroat flume to capture seep flow - S. Auer

Ha - ~~0.1~~ 0.11

Hb - 0.04

Location _____ Date 9-8-14

Project / Client Carpenter / Snow

07-156-AD3 Big Snow new seep

Time - 1625

pH - ~~3.1~~ 6.91

temp - 3.18 °C

DO - 9.80 mg/L

Spec cond 62.30 uS/cm

Measurements taken with In Situ, Inc Troll 9500 SN 51017

Photographs taken - blue camera -

collected water samples for total & dissolved metals - bottle

Installed cut throat flume to capture seep flow - S. Auer

Ha - 0.15

Hb - 0.06

Location CSC Date 9/8/14

Project / Client

~~Big Seven seep~~

07-156-Seep 2 16:40

Red seep above building 5 at Big Seven - 6" black plastic culvert.

Time - 1640
~~Temp~~ - 4.98 ~~SU~~
Temp - 4.45 °C,
DO - 8.01 mg/l
Spec Cond - 1800 uS/cm
Measurements taken with In Situ Inc Troll 9500 SN 51017
Photographs in blue Camera - 3
(Photos of transformers after)

Collected water samples for total & dissolved metals - bimle

Location Date 9-8-14

Project / Client ~~Carpenter-Snow Cr~~

Big Seven Tailings Dam pond - lowest impoundment

Time - 1710 07-156-Outfall
pH - ~~SU~~ 5.48 s.u
Temp - 9.46 °C
DO - 9.72 mg/l
Spec Cond - 446.8 uS/cm

Measurement taken with In Situ Inc Troll 9500 SN 51017

Photographs - many. Includes access road work by NWE to get to power poles

Collected water samples for total & dissolved metals - r.hoogendoorn

6

Location ST005 Date 6/17/14

Project / Client

Time: 0840
Temp: 5.53°C
pH: 7.73 s.u
condo: 93.1 us/cm
DO: 12.97 mg/L

Team:
Karen Nelson
Sheerie Skipper

Total and dissolved metals grab samples collected by LC

Camera 582854 2 photos
38 upstream
39 downstream

Flows to high to safetly get flow measurements

7

Location ST004 Date 6/17/14

Project / Client

Time: 0900
Temp: 5.81
pH: 7.81
condo: 92.1
DO: 12.97

Total and dissolved metals samples collected by LC

Camera 582854 2 photos
40 upstream
41 downstream

Flow is high, not safe to collect flow measurement

Cloudy rain on and off.
Temps in the upper 50's

8

Location Neihart, MT Date 8/6/14

Project / Client

Rock Creek 0935 ST015 SS/LC
TEMP: 7.30° C SN: S2552
pH: 6.94 units FWS
Cond: 263.4 us/cm
DO: 12.29 mg/L

Rock Creek - clear flow
Ha: 2.9 4" flume
Hb. 1.0 # 0000007

light drizzle - 50's S82854
photos - upstream 42
downstream 43

TR + DM collected by SS

9

Location Date

Project / Client

CC ST016 SS/LC 0950
Ha: 0.19 4" flume
Hb: 0.8 # 0000007
TEMP: 8.48° C SN S2552
pH: 7.72 units FWS
Cond: 380.3 us/cm
DO: 11.95 mg/L

Compromise Creek - clear flow

Light drizzle - 50's S82854
photos upstream: 44
downstream: 45

TR + DM collected by SS

Location _____ Date 6/17/14

Project / Client _____

ST015A
down stream of Rock Creek
Time: 1030
Temp: 5.84°C S.N. 52552 FWS
pH: 7.92 s.u.
condo: 95.2 µs/cm
DO: 12.91 mg/L

Flow to high to safely collect flow measurements

light drizzle cloudy Temps in the 50's

Tm + DM collected by KN

2 photos S 82854
upstream: 46
down stream: 47

Location _____ Date 6/17/14

Project / Client _____

ST016A
down stream of compromise creek
Time: 1050
Temp: 5.90°C SN 52552 FWS
pH: 7.95 s.u.
condo: 91.3 µs/cm
DO: 12.92 mg/L

Unsafe flow conditions did not take flow measurement.

light drizzle and cloudy
Temps in the 50's
TM + DM samples collected by KN

2 photos S 82854
upstream: 48
downstream: 49

Location _____ Date 6/17/14

Project / Client _____

ST009B
Time: 1105
Temp: 8.95°C SN. S2552
pH: 7.31 su
Condo: 189.4 us/cm
DO: 10.46 mg/L

Marshy (standing dispersed water) no good location to take flow.

TM and DM samples collected by KN

2 photos S82854
upstream 50
downstream: 51

Cloudy temps in the 50's

Location _____ Date 6/17/14

Project / Client _____

ST010A
Time: 1125
Temp: 6.00°C SN S2552
pH: 7.97 s.u.
Condo: 104.1 us/cm
DO: 12.85 mg/L

Flow to high to safely collect measurement.

TM and DM samples collected by KN

2 photos S82854
upstream: 52
downstream: 53

Location _____ Date _____

Project / Client _____

mw-2 6/17/14

SWL: 7.72 Sample Team:
TD: 19.02 KN
LC

Sample Time: 1050

Final Readings
Temp: 4.97°C
pH: 6.57 SN S2552
Condo: 79.0 FWS
Do: 10.60

1 photo S82854
54

partly cloudy Temps in the 50's

FWS GeoPump used

Location _____ Date _____

Project / Client _____

mw-3 6/17/14

SWL: 5.90ft
TD: 16.40 ft
sample time: 1351
Final Readings:
Temp: 5.70°C
pH: 6.53 s.u. SN. S2552
condo: 280.8. FWS
DO: 1.81

1 photo 55 S82854

Partly Cloudy, breezy, Temps in the 50's
FWS GeoPump Used

Dup-6 collected here

Location _____ Date 6/17/14

Project / Client _____

LSC-5 MW - on top of tailings

28.35 · SWL ·
31.70 TD

Sample collected 1620

Sample collected w/ bailer, no purging -

Temp 7.03 °C
pH 6.23
Sc 461.2 us/cm
Do 3.7 mg/L

Location _____ Date 6/17/14

Project / Client _____

MW-9
SWL 6.55
TD: 16.6

Sample Time: 1758
Final reading
Temp: 7.03
pH: 4.81
Condo: 811.9
DO: 7.26

partly cloudy

Location _____ Date 6/17/14

Project / Client _____

MW9A - Closer to Carpenter Creek Than MW9

SWL - 6.84 ft
TD 17.46 ft

CSC - 6/18/14
MW13 - Started pumping @ 10:58

New monitoring well, not locked located above Wetland sample location CSC-107

Pumped with USFWS Geopump and water quality parameters collected w/ USFWS Hydrolab MS-5.
Picture taken on Olympus S82854 - Picture 59

Sample collected at 1130

Location _____ Date _____

Project / Client _____

Water Quality parameters at time of collection

T 3.87
pH 6.10
Sc 97.3 us/cm
DO 9.3 mg/L

9/10/14

CSC-101b 1030
Cloudy. sample taken by NP. TM+DM & Sediment collected, photo taken by NP. Flows taken by SA.
temp 4.07 cond 147.5
DO 10.83 pH 6.96

07-179-AD1 1205
cloudy and cold ~30°F. WQ Sample collected by NP. TM+DM collected. photo taken. minimal flow out of adit. no flow collected. sample taken in pool above haystack Creek.

Location ____ Date 9/10/14

Project / Client ____

pH 4.05
temp 5.04
DO 7.05
cond 428.1

MW-12 1315

well is dry. top of casing is 14.9 ft. access well from sth-mem creek road towards repository at pullout #5 which is located immediately south of repository. walk downhill through new tree growth ~500 ft.

CSC-5 1345

SA pulled 2 samples prior to purging
Reading at 250 ml. 1406
temp 5.38
pH 5.82
cond 492.3
DO 2.46

Location ____ Date 9/10/14

Project / Client ____

Reading at 500 ml 1409
pH 6.05
temp 5.21
DO 5.36
cond 490.1

Reading at 750 ml 1410
pH 6.08
DO 2.59
temp 5.27
cond 490.7

Reading at 1500 ml 1416
pH 6.16
DO 3.35
temp 4.95
cond 492.5

Reading at 2250 ml 1422
pH 6.13
DO 2.24
temp 5.16
cond 493.7
1 volume achieved.

Location _____ Date 9/10/14

Project / Client _____

LOJ

Reading at 2850 ml 1425
pH 6.12
temp 5.29
DO 1.59
Cond 497.1

Reading at 3100 ml 1429
pH 6.16
temp 5.33
DO 3.52
cond 494.7

Reading at 3450 ml 1432
pH 6.16
temp 5.22
DO 2.34
Cond 497.9
2 volume achieved

Reading at 3800 ml 1435
pH 6.14
temp 5.14
DO 1.48
cond 499.4

Location _____ Date 9/10/14

Project / Client _____

Reading at 4550 ml 1440
pH 6.18
temp 5.26
DO 3.54
Cond 494.1

Reading at 5200 ml 1444
pH 6.15
temp 5.29
DO 2.15
Cond 493.9
3 volumes achieved

SA pulled 2 samples after 1447
purging, TM + DM

52

Location _____ Date 9/11/13

Project / Client Carpenter

MW-11 · Depth to water 7.42
Total depth 15.35

#1 Time: 12.30
Vol: 2L
Temp: 10.43°C
pH: 6.57
Condo: 100.8 µS/cm
DO: 4.84 mg/L

#2 Time: 12:33
Vol: 2.5L
Temp: 10.29°C
pH: 6.64
condo: 100.1 µs/cm
DO: 4.94 mg/L

#3 Time: 12.36
Vol: 3.5L
Temp: ~~6.67~~ 10.34°C
pH: 6.67
condo: 100.3
DO: 5.22

#4 Time 1240
Vol: 4L
Temp: 10.17
pH: 6.67
condo: 100.5
DO: 5.05

Sample collected at 10.42

53

Location Niehart, MT Date 9th 6/16/14

Project / Client Carpenter Creek Spring 2014 EVENT

1315 MP Arrived at CSC-104 collect TM & DM
WQ:
Temp: 8.95
pH: 7.1 su
Condo: 90.41 us/cm
DO: 9.25 mg/L
PHOTO 1: Downstream of CSC-104
PHOTO 2: Upstream of CSC-104
Flow: 18.643 cfs

1340 MP Arrived at CSC-104A and collected TM & DM
WQ:
~~9.08 (Temp)~~ (MP)
Temp: 9.08C
pH: 7.16 SU
Condo: 90.35 us/cm
DO: 9.23 mg/L
PHOTO 3: Upstream CSC-104A
PHOTO 4: Downstream CSC-104A

Flow:
(M) ~~13.437~~
13.237

Location Niehart MT Date 6/16/14
Project / Client Carpenter Creek

14:15 Arrived at CSC-105
collected TM and DM.
WQ:
Temp: 6.19 °C
pH: 7.24 su
Condo: 89.58 µs/cm
DO: 10.03 mg/L
photo 1: upstream of CSC-105
photo 2: down stream of CSC-105
Flow: 8.147 ft³ (M)

1600 CSC-112 SS (Sherry Skipper)
DW (Dan Watt)
overcast, intermittent rain, high 50's
TEMP: 7.26 °C ESAT #3 meter used for in-situ
pH: 7.22 units
COND: 85.03 uS/cm
DO: 9.56 mg/L
photos: upstream 100-007
downstream 100-008
Water is running clear: no signs of recent local flooding. Flows by DW. Sample taken upstream of one lane bridge.

Location Neihart, MT Date 06/16/14
Project / Client Carpenter Creek

CSC-117A 1720
SS/DW

DW flume - 4" unit #2
H_b 0.22
H_a 0.75
photos - 100-009, 100-010

overcast, upper 50's
water clear, bottom + sides orange
TEMP 9.81 °C Esat #3 in-situ
pH 4.34 units
COND 1575 mS/cm
DO: 8.59 mg/L
photos upstream: 100-011
downstream: 100-012

CSC-120A 17:50 SS/DW
overcast, very light drizzle starting
water clear, substrate normal
Temp: 5.07 °C unit #3 ESAT in-situ
pH 6.20 units
COND 50.04 mS/cm
DO 9.96 mg/L
photos upstream: 100-013
downstream 100-014

DW - flows

56

Location CSC-112 Date 9/8/14

Project / Client Carpenter

15:00 LC (Leslie Christner)
DR (David Rouse)

Sunny skies with breeze. DUP 2 collected at this site. Water is clear.

temp: 12.5°C
pH: 6.88 pH units
cond: 116 µs/cm
DO: 6.70 mg/L

- YSI: 9C05488
- Fish/wildlife
- flowtracker

DR - flows
LC - samples TR, DH, sediments

photos upstream: 0001 · SC2852
downstream: 0002

57

Location CSC-111A Date 9/8/14

Project / Client Carpenter

1621 - Sunny - breezy. (KN)-Karen Nolan
CSC upstream of Lucy Creek, downstream of tailings

photos taken on camera SC2852
upstream - 0003
downstream 0004

Water clear.
LC - flows
KN - water & Sediment

YSI readings
T 12.84
SC 118
DO 6.76 mg/L 64%
pH 6.82

58

Location CSC 115A Date 9/08/14

Project / Client Carpenter

1716
Collected Water sample below bridge

Pictures taken on camera 582852
upstream 0005
downstream 0006

KN collected water and sediments
LC collected flows

Sunny and calm, water clear

YSI reading
T 10.89
SC 113 us/cm
DO 6.31 mg/L 57%
pH 7.06

59

Location

Project / Client

KN = Karen Nelson
SS = Sherry Skipper

9/8/14

CSC-117 1805 - KN, SS
Sihmem Creek
Temp 11.59°C
pH 4.48
Cond 114 us/cm
DO 7.22 mg/L
equipment 965488

Breezy, 70's. Samples taken just upstream of Carpenter Creek Rd
Stream red - water clear,
sediment reddish - orange - brown

samples - DM, TR (H2O)
- TR (sed)
photos - upstream 3037
- downstream 3038
- S. Skipper's camera

flume - KN
Larger front 1.6 → based on LC Hb, Ha
Flume #2 back 0.08 should be 0.16
4"

Location CSC - 119 Date 9/08/14

Project / Client Carpenter

Collected Water Sample and Water Quality parameters upstream of road crossing.

YSI readings

T 10.83°C
Sc 411 µs/cm
DO 7.01 mg/L 63.6 %
pH 7.23

photos:
S. Skipper camera
upstream: 3043
downstream: 3044 + 3045

CSC-120A 9/8/14 18:50
Light breez sunny. Water clear.
Substrate normal
Temp 7.23°C
pH 7.42 pH units
Cond 66 mS/cm
~~pH~~ DO: 6.58 mg/L
YSI/Sonde:
samples collected:
Sed (TR), Dis (H2O), TR (H2O) — SS

Location Date

Project / Client

CSC-120A Continued 9/8/14
upstream: 3040
photos downstream: 3041
Camera: SS

9/09/14 0925 STOOS

Collected water sed. met (CKW) and flows (LC)

Water Quality parameters.
T 6.02 °C
SC 144 µS/cm
DO 10.82 mg/L 61.4%
pH 7.08

photos Taken on USFWS camera
upstream - 42
downstream - 43

Location _____ Date 9/9/14

Project / Client _____

ST004
Time: 1040
Temp. 6.26°C
pH: 7.41 su
Cond: 146 us/cm
DO: 10.87 mg/L

Sampling Team
Karen Nelson
Leslie Christner

TM + DM water samples collected by LC
Sed collected by KN
Temps in the 40s cloudy
Water clear
Flow collected on FlowTracker unit #1 by LC
2 photos taken on FWS camera
547 546

Location _____ Date _____

Project / Client _____

ST015A 9/09/14 1055

Water, sediment and flows collected by KN + LC

Water clear, weather cloudy w/ slight breeze, temps in the 40s

Water Quality parameters collected w/ YSI
T 6.44°C
SC 149 us/cm
DO 88.4% 10.88 mg/L
pH 7.51

Photos taken on USFWS camera
upstream 046
downstream 047

64

Location CSC Date 9/09/14

Project / Client

ST015 – Rock creek sample (water)
Collected upstream of culvert 1127

Water Quality parameters YSI

T 7.68°C
SC 334 uS/cm
DO 87.9% 10.43 mg/L
pH 6.77

pictures taken on USFWS camera
upstream 48
downstream 49

4" Flume Tag# 000008
Ha: 0.18
Hb: 0.06

65

Location CSC Date 9/09/14

Project / Client

ST016A 1232
Overcast and cool, water clear
Sampled water, sediment and
Collected fish (KN + LC)
Water quality parameters collected
w/ YSI.
T 7.17°C
SC 140 uS/cm
DO 87.9% 10.62 mg/L
pH 7.30

pictures taken on USFWS camera
upstream 50
downstream 51

66

Location CSC Date 9/9/14

Project / Client

ST016 - Compromise Creek -1307
Water sample collected upstream of road culvert

Water Quality paramaters collected with YSI

T 9.65°c
SC 384 µs/cm
DO 10.29 mg/L 89%
pH 7.37

Pictures taken w/ USFWS camera
upstream 52
downstream 53.

Used flume to determin flows

low clouds and fog moving in
water clear w/ orange stained rocks

1" Flume Tag # 0000006
Ha: 0.25
Hb 0.08

67

Location CSC Date

Project / Client

ST009B Collected water and 1333
Sediment samples upstream of Culvert

Water quality paramaters collected w/ YSI
T 9.82
SC 256 µs/cm
DO 80.7%, 9.14 mg/L
pH 7.28

pictures taken w/ USFWS camera
upstream 54
Downstream 55

Flow measurement not collected because of braiding of stream

Location CSC Date 9/9/14

Project / Client

ST010A - Collected water & sed. met samples (KN) @1400 and flows. (LC)
Collected Dup 3 at this location @1422
Water quality parameters collected w/ YSI
T 7.79°C
Sc 153 µS/cm
DO 89.4% 10.64 mg/L
pH 7.62

Pictures taken w/ USFWS camera
upstream 57
Downstream 56 (
Weather
low clouds and cool, water clear

Samples collected just downstream of FWP's fish boxes.

Location CSC Date 9/9/14

Project / Client

CSC. 106. Time 1551

Collected Water and Sediment (KN) and Flows (LC)

Water Quality Parameters Collected w/ YSI
T 5.7°C
Sc 145 µS/cm
DO 90.5% 11.30 mg/L
pH 7.78

Weather, low clouds and cold,
Water cloudy

Pictures taken w/ USFWS camera
upstream 58
downstream 59

Location _____ Date _____

Project / Client _____

CSC-108 9/10/14
Time: 1050
Temp 3.24
pH 6.66
Cond: 2.11
DO 8.84

Flow measurements measured on Flow tracker by DR

TM + DM water samples collected by LC
Sed sample for TRM collected by LC

Temps. in the low 30's; snowing

2 photos taken on FWS camera
upstream
downstream

Location _____ Date 9/10/14

Project / Client _____

CSC-107 9/10/14
Temp 4.58 C. Time: 0940
pH: 6.55
Cond: 257 uS/cm
DO: 7.64 mg/L

No Flow measurements collected due to braiding of stream

Dup-04 collected here

TM, DM, and Sed samples collected by LC

2 photos taken on FWS camera

Snowing, Temps in the low 30's

Wetland area

62

Location Niehart, MT Date 6/16/14

Project / Client ~~Const~~ (10) Carpenter Creek
Spring '14 Sampling Event.

1440 MP and Rouse, David, from Fish and Wildlife arrive at CSC-111A
MP takes DM and TM samples.
WQ: WQM monitor: 965488
Temp: 7.05°C
pH: 6.77 su
Condo: 84 µS/cm
DO: 9.93 mg/L
MP took Photo 22: upstream of 111A
Photo 23: Downstream of CSC-111A.

1556 MP, David Rouse (DR), and Karen Nelson (KN; US Fish and Wildlife) arrive at CSC-113. KN collected CSC-113 TM and DM.
Water Chemistry: WQM 965488
Temp: 7.15°C
pH: 6.94 su
Condo: 8 µS/cm
DO: 9.95 mg/L
Photo 24: upstream of CSC-113
Photo 25: Downstream of CSC-113

6/16/14

63

Location Niehart, MT Date 6/16/14

Project / Client Carpenter Creek
Spring '14 Sampling Event

1608 MP and KN arrived at CSC-114A
KN collected CSC-114 TM and DM
Water Chemistry: WQM 965488
Temp: 7.06°C
pH: 7.19 su
DO: 10.38 mg/L
Condo: 80 µS/cm
Photo 26: upstream of CSC-114A
Photo 27: Downstream of CSC-114A

1618 MP and KN arrived at CSC-115A.
KN collected CSC-115A TM & DM.
WATER CHEMISTRY: WQM 965488
Temp: 6.99°C
pH: 7.16 su
Condo: 78 µS/cm
DO: 10.22 mg/L
Photo 28: upstream of CSC-115A
Photo 29: DOWNSTREAM OF 115A

6/16/14

64

Location Niehart, MT Date 6/16/14

Project / Client Carpenter Creek Spring '14 Sampling Event

1655 MP, KN, and DR arrived at CSC-116B.
KN collected CSC-116B TM-6 DM.
WATER CHEMISTRY: WQM965488
Temp: 6.41°C
pH: 7.22 SU
CoNDo: 75 NS/cm
DO: 11.22 mg/L
Photo 30: Upstream of CSC-116B
Photo 31: Downstream of CSC-116B

1711 MP & KN Arrive at CSC-117.
KN collected CSC-117 TM-6 DM.
WATER CHEMISTRY: WQM965488
Temp: 9.79
pH: 4.33 SU
CoNDO: 1095 NS/cm
DO: 9.80 mg/L
Dupe-2 collected by KN.
4" Flume tag # FM 0000007Hz0.3
Hb 0.13

6/16/14

65

Location Niehart, MT Date 6/16/14

Project / Client Carpenter Creek Spring '16

1728 MP & KN Arrived at CSC-116.
KN collected CSC-116 TM-6 DM
WATER CHEMISTRY:
WATER Quality Monitor: 965488
Temp: 5.62 °C
pH: 6.09 SU
CONDO: 48 NS/cm
DO: 11.55 mg/L
Photo 34: Upstream of CSC-116
Photo 35: Downstream of CSC-116

1750 MP, KN, & DR Arrived at CSC-119
KN collected TM-6 DM at CSC-119.
DR Performed Flume activities.
WATER CHEMISTRY
WATER QUALITY MONITOR:
965488
TEMP: 8.5°C
pH: 6.35 SU
Condo: 95 NS/cm
DO: 10.46 mg/L

6/16/14

Location Niehardt, MT Date 6/16/14

Project / Client Carpenter Creek Spring '14

Photo 36: Upstream of CSC-119
Photo 37: Downstream of CSC-119
Flume tag 0000007
~~...~~ (us) Ha. 2
H5.06

Location Carpenter Snow Cr. Date 6/13/14

Project / Client

07-112-AD1 Fairplay Adit
Time: 0815
Temp: 3.9°C
pH: 5.67 s.u.
cond: 187 us/cm
DO: 7.96 mg/L

EPA# ~~SN~~ 965488
"
Team RH
DR
LC

TM + DM samples collected by DR
Snowing + Cloudy
1 photo on S82853

CSC 119B
Time: 9:30
Temp 4.58°C
pH 7.23
cond 50 us/cm
DO 11.27 mg/L

Field parameters collected using YSI meter EPA # 965488, Collected by RH

Photo taken of Leslie C + Dave R installing flume. Another taken of sample location.

CSC 119B (cont) 9:30

Water flow collected using Flume #1 0000008. Water sample collected by RH.

Front .15
Rear .05

GPS coordinates taken by ~~SCH~~ (RH)

0000019 - Trimble Unit used to get coordinate

Olympus camera 582853 used to take picture.

Cloudy, breezy, mid-40s.

07-179-ADI 10:20 am

Water sample taken with a syringe by Leslie C. Field parameters taken using YSI meter 965488, 2 photos taken of Leslie collecting sample using Olympus camera 582853.

cond. 393 µs/cm pH 4.05
temp 5.32°C DO 9.22 mg/L

Cloudy, breezy, mid-40s.

Location Carpenter Date 6/18/14

Project / Client

~~07-179~~

07-156-Outfall

Time: 1100

Temp: 4.79°c EPA# 965488 Tag

pH: 4.87

condo 372 us/cm

DO: 10.61 mg/L

DR collected TM and DM sample

GPS point collected on Timbie 4

4 photos collected by RH. Camera 582853

Pond with wooden structures in middle below big 7

No Flow collected

Location Carpenter Date 6/18/14

Project / Client

07-156-SEEP2

Time: 1125 EPA# 965488 Tag

Temp: 3.48°c

pH: 4.65 SU

condo: 863 us/cm

DO: 10.12 mg/L

2 photos collected on camera 582853 by RH

DR collected TM and DM samples

C body temps in the 40's

Flow too low to collect measurement

Orange substrate

Location Carpenter Date 6/18/14

Project / Client

07-156-AD1 On left side of road
Time: 1135 before it crosses road
Temp: 2.51°C
pH: 4.41 su EPA Tag# 965485
condo: 124 us/cm
DO: 12.28

1 photo looking upstream
on camera 582853 by RH
Duplicate sample collected here
TM and DM samples collected
by DR
Cloudy Temps in the 40's
Snow on trees
Substrate stained slightly
Orange

Location Carpenter Date 6/18/14

Project / Client

07-156-Seep 4
This is a new seep
next to 07-156-AD1. They
merge on road crossing.

2 photos taken by RH on
camera #582853
TM and DM samples collected
by DR

Time: 1140
Temp: 2.60°C
pH: 5.52 su
condo: 37 us/cm
DO: 86.5
water looks very clear with
no staining of substrate

07-156-Seep 1
Dry no sample collected

Location Carpenter Date 6/18/14

Project / Client

07-163-AD8
Time: 1220
Temp 2.8°C YSI EPA tag# 965488
pH 4.22 su
cond 221 us/cm
*DO ~~12.66 mg/L~~ LL 6/18/14 12.38 mg/L

TM + DM samples collected by DR
1 photo taken by RH on camera S82853

lightly snowing Snow covering base of adit
water is clear no staining
temps in the 30's

No Flows collected

Location Carpenter Date 6/18/14

Project / Client

07-163-AD7
Time: 1235
Temp. 2.05°C YSI EPA tag# 965488
pH 5.78 su
cond 57 us/cm
*DO 16.75 mg/L
DO reading seems high
TM and DM samples collected by DR
1 photo taken by RH on camera S82853
1 photo looking Down on Upper Rebelion

lightly snowing temps in the 30's

water is clear with little to no staining

No Flows collected

Location Carpenter Date 6/18/14

Project / Client

07-163-AD5
Time: 1250
Temp: 1.69°C YSI EPA Tag# 965488
pH: 3.15
Cond: 488 uS/cm
* DO: 16.56
DO reading seems high
TM + DM samples collected by DR

Snow bank covering Adit
lightly snowing temps in the 30's
Water is clear with Orange Substrate.
1 photo ~~taken~~ taken on camera #582853

Location Carpenter Date 6/18/14

Project / Client

07-163-AD6
Time: 1300
Temp: 2.47°C YSI EPA # 965488
pH: 5.67 su
cond: ~~34 uS/cm~~ 43 uS/cm
DO: 8.12

TM + DM samples collected by DR
Collected by AD5 Adit
lightly snowing temps in the 30's
Water is clear substrate stained orange

Location Carpenter Creek Date 6/18/14

Project / Client

07-163-AD2 YSI Tag# 965486
Time: 1320
Temp: 2.78°C
pH: 3.57 su
condo: 158 us/cm
* DO: 14.42 mg/L
DO reading seems high

TM + DM samples collected by DR
lightly snowing temps in the 30's
water is clear with yellow and red staining
2 photos collected by RH with camera # 982553

Location Carpenter Creek Date 6/18/14

Project / Client

07-163-AD4 YSI Tag # 965488
Time: 1330
Temp: 1.17°C
pH: 5.71 su
condo: 40 us/cm
* DO: 13.22 mg/L
DO Readings seem high

TM + DM samples collected by DR
lightly snowing temps in the 30's
Water is clear substrate stained orange
3 photos taken by RH camera # 982553
2 photos looking down on 07-163-AD5 and AD6 and 1 photo looking up at 07-163-AD4

Location _____ Date 6/19/14

Project / Client _____

07-163-AD1
Dry 1 photo taken on camera# 582853
Covered in snow no water present

07-163-AD3
Time: 1355
Temp: 1.00°C
pH: 4.78 su
Condo: 62 us/cm
* DO: 14.48 mg/L
DO seems high
Tm + DM samples collected by DR
Cloudy lightly snowing temps in the 30's
Water clear substrate stained reddish orange.

2 photos collected on camera# 582853 - 1 looking down on the location and 1 looking at adit

Location _____ Date _____

Project / Client _____

SS = Sherry Stripper
NP = nickel plastic

CSC-111B, CSC-111C, and CSC-111D were not collected because they are being collected under a different sampling program

07-156-AD2 and 07-156-AD4 were dry so no samples were collected.

CSC-113 9/8/14 equipment
1630 SS NP Sonde 96587 w
Temp: 11.43°C flowmeter - USFS
pH: 6.6 camera SS
Condo: 116 ms/cm
~~pH~~
DO: 8.10 mg/L

breezy in 70's sunny Taken below haystack creek + drainage canal for tailings pile
Samples Collected: H2O DM, TM & SS
Sediment - NP

flows - DR
photos - upstream 3028
downstream 3026

Location _____ Date _____

Project / Client _____

09/8/14

CSC-114A SS NP

1645

Breezy, 70's, Sample taken above confluence with Haystack Creek

Samples taken - H_2O - TM, DR - NP
- sed - NP

Temp 11.28°C
pH 6.79 pH units
Cond 115 ms/cm
DO 8.2 mg/L

flows - DR
photos - upstream: 3031
downstream: 3032

equipment - Sonde 965487
- flowmeter - USFWS
- camera - S Skypper

Location _____ Date _____

Project / Client _____

09/8/14

CSC-116 - SS, NP

17:40

pH 7.29 pH units
Temp 8.1°C
Cond 72 us/cm
DO 8.58 mg/L

Breezy, 70's, samples taken above confluence with Berg Creek

H_2O - TM, DR - NP, SS
sed - NP

Equipment: Sonde 965487
flowmeter: USFWS
Camera: SS
photos upstream: 3034
downstream: 3035

Location _____ Date _____

Project / Client _____

9/8/14

LSC-116b NP. LC
18:15

Sunny, water is clear. samples taken

temp: 8.73°C
pH: 7.11
cond: 111 ms/cm²
DO: 8.49 mg/L

flows: LC
photos: upstream: 0006
downstream: 0007

equipment: YSI 965487
flowtracker 965843
ESAT camera

Location _____ Date _____

Project / Client _____

9/9/14 NMW-4 0903 SS, KN
See data sheet
~~Sample~~ TR DIN - Oz KN
36F ~~40's~~ overcast
photos: 3061, 3062 - S. Skipper camera
YSI: 965488
Temp 12:40°F
pH 6.35 pH units
Cond 955 uS/cm
DO 6.71 mg/L

9/9/14 NWW-1 10:25 SS
See data sheet
sample taken @11:12 - TR, DIN - SS
Photo 3065, 3064 Skipper camera
Temp 10.89°C
pH 6.51 pH units
Cond 104 mS/cm
DO 6.34 mg/L

YSI: 965488

Location _____ Date _____

Project / Client _____

9/9/14 NW3 11:41 SS
Blocked

9/9/14 MW-1 12:12 SS
36°F; overcast
Photos - Skip's Camera 3069
Time: 1306
Temp: 9.36°C
pH: DS 6.50 pH units
DO: 5.57 mg/L
Cond: 119 mS/cm
Samples DR TM
YSI: 965488

9/9/14 MW-3 1512 SS
36°F overcast
Photos skip's camera 3071
Time 1526
Temp 8.40C
pH 6.38 pH units
DO ~~DS~~ 4.26 mg/L
Cond 276 mS/cm
Samples DR/TM
YSI: 965488

Location _____ Date _____

Project / Client _____

CSC-25 ~~DS~~
9/9/14 ~~MW-6~~ 1625 SS
Time 1625 36°F overcast, flurries
Temp 7.97°C
pH 6.29
Cond 498 mS/cm
DO 3.94 mg/L
YSI: ~~DS~~ 965488

CCT-25 on inside of well cap
Beside assayer shack by snow
creek Road
photo - skipper camera 3073

9/9/14 MW-8 SS
Time 1740
Temp 6.93°C
pH 6.32 pH units
Cond 161 ~~DS~~ uS/cm
DO 3.12 mg/L
YSI: 965488
Photos 3075

Dup 6 SS
See above

Location Carpenter Date

Project / Client

09/10/14 MW-11 δ Skipper
Snow 32°F
uppermost well in CS?

Time 0925
Temp 7.02°C
pH 6.54 pH units
Cond 99 mS/cm
DO mg/L
photo 3082 - Skipper
YSI: 965487

09/10/14 MW-10 δδ
snow 32°F
2nd well from top;
Time 10:30
Temp 7.65°C
pH 6.04 pH units
DO 6.15 mg/L
Cond 320 mS/cm
photo 3084 - Skipper camera
YSI 965487

Location Date

Project / Client

09/10/14 MW-9 SS, DR
34°F - no snow
@ house w/ green roof
Time 1131
Temp 9.55°C
pH 4.56 pH units
Cond 1071 mS/cm
DO 527 mg/L
photo 3085 Skipper
YSI: 965487

09/10/14 MW-9A SS DR
34°F - no snow
@ House w/ green roof
toward creek
Time ~~1131~~ ~~8.5°C~~ 12:12
Temp ~~9~~ ~~4.578~~ 8.5°C
pH 4.57 pH units
DO 7.61
photo 3088 Skipper
YSI: 965487
Cond: 809

Location ______ Date ______

Project / Client ______

9/10/14 MW-5 SS, DR
on roadside of tailing
34°F - no snow
Time: 1324
Temp 9.20°C
pH 5.74 pH units
cond 76 µS/cm
DO 7.82 mg/L
picture: skipper
YSI: 965487
photo - Shemskipper camera : 3091

MW-6 - lock shot c̄ bullet -
can't get it off well lid.
No sample

9/10/14 MW-2 - SS, DR
opposite side of Carpenter, just
downstream of Snow Creek
34°F - Grazplers
Time: ~~7.60°C~~ 1420 DO 7.7 mg/L
Temp: 7.60°C photo: 3094 skipper
pH: 5.95 pH units YSI 965487
Cond: 131 µS/cm

Location ______ Date ______

Project / Client ______

09/10/14 - MW12 - Dry (SA)
no sample

Attachment C
Site Photos

Attachment C
Carpenter/Snow Creek Photo Log
June 2014

CSC-101 upstream

CSC-101 downstream

CSC-102 upstream

CSC-102 downstream

CSC-103 upstream

CSC-103 downstream

CSC-101B upstream

CSC-101B downstream

CSC-111A upstream

CSC-111A downstream

CSC-113 upstream

CSC-113 downstream

CSC-114 upstream

CSC-114 downstream

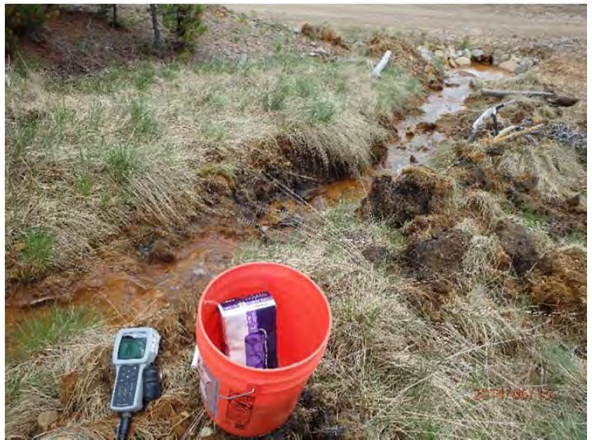
CSC-115A upstream

CSC-115A downstream

CSC-116B upstream

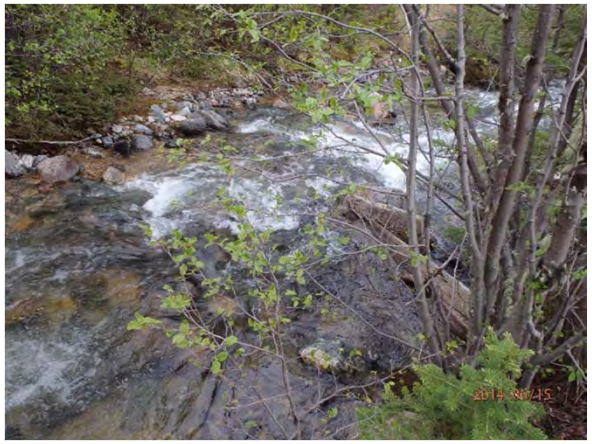
CSC-116B downstream

CSC-117 upstream



CSC-117 downstream

CSC-116 upstream



CSC-116 downstream

CSC-119 upstream

CSC-119 downstream

CSC-104 downstream

CSC-104 downstream

CSC-104A upstream

CSC-104A downstream

CSC-105 upstream

CSC-105 downstream

CSC-112 upstream

CSC-112 downstream

CSC-117A

CSC-117A

CSC-117A upstream

CSC-117A downstream

CSC-120A upstream

CSC-120A downstream

ST005 upstream

ST005 downstream

ST004 upstream

ST004 downstream

ST015 upstream

ST015 downstream

ST016 upstream

ST016 downstream

ST015A upstream

ST015A downstream

ST016A upstream

ST016A downstream

ST009B upstream

ST009B downstream

ST010A upstream

ST010A downstream

MW-2

MW-6

MW-5

MW-6A

MW-4A

MW-8

CSC-15

MW-13

CSC-106 upstream

CSC-106 downstream

CSC-107 upstream

CSC-107 downstream

CSC-108 upstream

CSC-108 downstream

MW-14

MW-11

MW-10

MW-5

MW-1

NMW-4

NMW-3

NMW-1

07-112-AD1

CSC-119B downstream

CSC-119B downstream

07-179-AD1 downstream

07-179-AD1 downstream

07-156-outfall

07-156-outfall

07-156-outfall

07-156-outfall

07-156-outfall

07-156-Seep2

07-156-Seep2

07-156-AD1 upstream

07-156-AD1 upstream

07-156-Seep4 upstream

07-156-Seep4 downstream

07-156-Seep1 dry

07-163-AD8

07-163-AD7 upstream

07-163-AD7 downstream

07-163-AD5

07-163-AD6

07-163-AD6

07-163-AD2

07-163-AD2

07-163-AD5

07-163-AD4

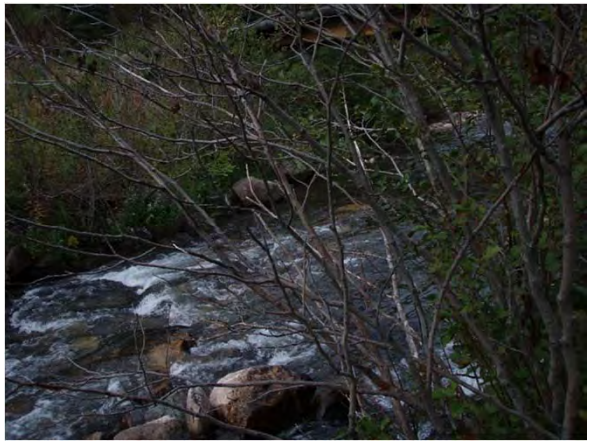
07-163-AD1

07-163-AD3

07-163-AD3

Attachment C
Carpenter/Snow Creek Photo Log
September 2014

ST005 upstream



ST005 downstream

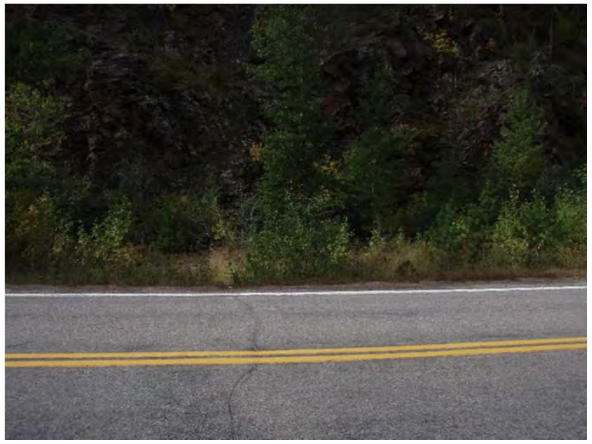
ST004 upstream

ST004 downstream

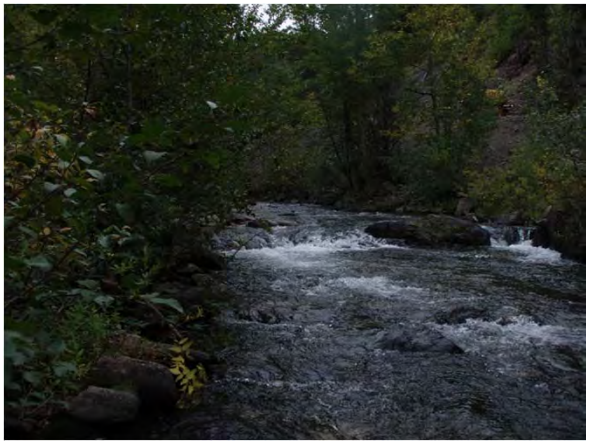
ST015A upstream

ST015A downstream

ST015 upstream



ST105 downstream



ST016A upstream

ST016A downstream

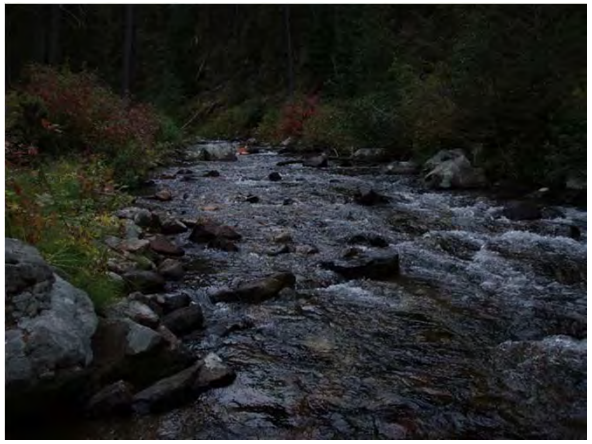
ST016 upstream

ST016 downstream

ST009B upstream

ST009B downstream

ST010A downstream



ST010A upstream

CSC-106 upstream

CSC-106 downstream

CSC-107 upstream

CSC-107 downstream

CSC-108 upstream

CSC-108 downstream

CSC-113 downstream

CSC-113 upstream

CSC-114A downstream

CSC-114A upstream

CSC-116 downstream

CSC-116 upstream

CSC-117 downstream

CSC-117 upstream

CSC-119 downstream

CSC-119 upstream

CSC-119 upstream

CSC-120A downstream

CSC-120A upstream

MW-1 well

MW-2 well

MW-3 well

MW-5 well

MW-6 well

MW-8 well

MW-9 well

MW-9A well

MW-10 well

MW-11 well

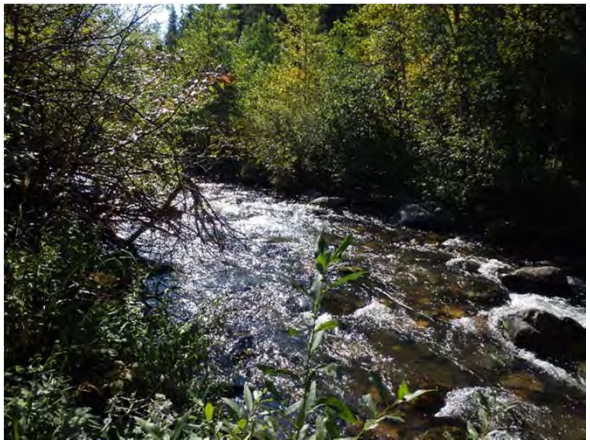
MW-11 well

NMW-1 well

NMW-4 well

CSC-101 upstream

CSC-101 downstream



CSC-102 upstream

CSC-102 downstream

CSC-103 upstream

CSC-103 downstream

CSC-112

CSC-112 downstream

CSC-111A

CSC-111A downstream

CSC-115A downstream

CSC-115A downstream

CSC-116

CSC-104 upstream

CSC-104 upstream

CSC-104

CSC-105

CSC-104A downstream

CSC-104A upstream

CSC-104A upstream

07-163-AD5 upstream

07-163-AD5 downstream

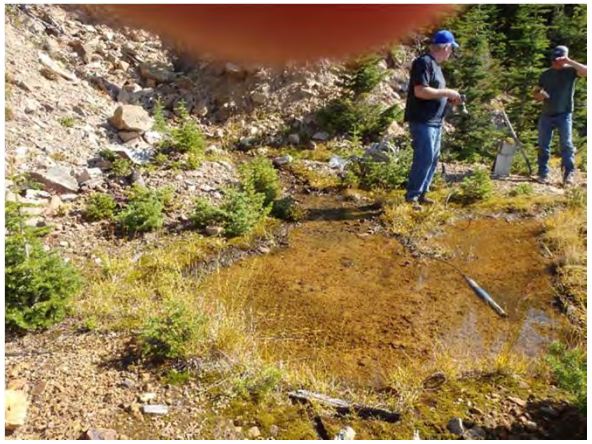
07-163-AD5 upstream

07-163-AD6

07-163-AD6

07-163-AD6

07-163-AD7



07-163-AD7

07-163-AD7

07-156-AD3

07-156-AD3

07-156-Seep2

07-156-Seep2

07-156-Seep2

Transformers-Big Seven

Transformers-Big Seven

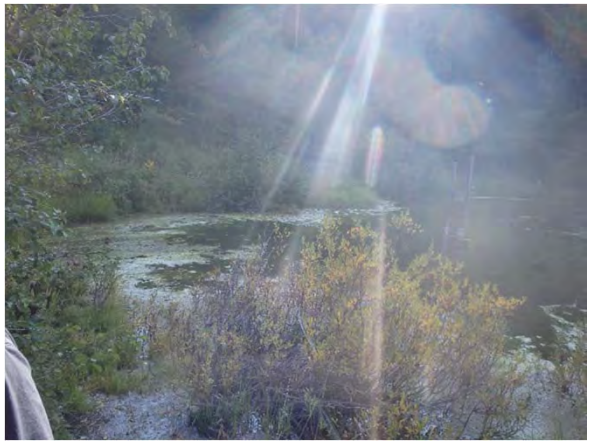
Big Seven

Transformers-Big Seven

Transformers-Big Seven

Transformers-Big Seven

07-156-outfall



07-156-outfall

07-156-outfall

CSC-119B

CSC-119B

CSC-119B

CSC-119B

CSC-117A

CSC-117A

CSC-5

NMW-3

Attachment D
Groundwater Data Sheets

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION MW-13-14

PROJECT _____

PROJECT NUMBER _____

SAMPLING PERSONNEL MP, MWP

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 4.9

SAMPLE ID MW-13-14

SAMPLE DATE 6/18/14

SAMPLE TIME 1249 MP 1311

WELL DEPTH (TD)(ft below MP/GS) 16.5 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = 11.6 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = 1.8 gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1305	\	3.0	3.72	5.71	299.7	\	9.34	\	Initial
1308	\	\	3.73	5.62	289.6	\	9.35	\	
1311	\	\	3.78	5.54	289.7	\	9.34	\	Final

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION MW-10

PROJECT _____

PROJECT NUMBER _____

SAMPLING PERSONNEL MP, MPG

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 14.9

SAMPLE ID MW-10

SAMPLE DATE 6/18/14

SAMPLE TIME 1545

WELL DEPTH (TD)(ft below MP/GS) 25 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = 10.2 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = 1.6 gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1538	~	3.0	4.72	6.10	238.0	~	6.26	~	Initial
1541	~	~	4.74	6.10	237.9	~	6.20	~	
1544	~		4.76	6.09	238.4	~	6.17	~	Final

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION MW-9A

PROJECT Carpenter Creek Spring 2014
PROJECT NUMBER _____
SAMPLING PERSONNEL KN, SS, LC
STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 6.84
WELL DEPTH (TD)(ft below MP/GS) 17.46 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___
MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____
WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION closer to Carpenter Creek than MW9

SAMPLE ID MW-9A
SAMPLE DATE 6/17/14
SAMPLE TIME 1830

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM:** **RESIDENTIAL/INDUSTRIAL TAP____** **MONITORING WELL ____**
CASING VOLUME (gals) = _____ FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = 1.73 gals
ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____
COMMENTS: _____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1807	Started Purging								
1820		6 QTS	5.66	4.87	689.4		6.94		
1822		8 QTS	5.49	4.71	673.4		6.69		
1828		10 QTS	5.4	4.71	665.0		6.99		
1830		11 QTS	5.40	4.67	660.4		7.16		

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION MW-9

PROJECT _____

PROJECT NUMBER _____

SAMPLING PERSONNEL KN, LC

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 6.55

SAMPLE ID MW-9

SAMPLE DATE 6/17/14

SAMPLE TIME 17:58

WELL DEPTH (TD)(ft below MP/GS) 16.6 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) ~~6.55~~ KM _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) 2 WELL LOCATION DESCRIPTION in front of New Log Home

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = 1.64 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

_____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1728	started Purging								
1740		6 QTS	7.30	5.44	814		3.93		
1745		8 QTS	7.38	5.17	816.6		6.51		
1750		9.8 QTS	7.28	4.96	814.9		5.71		
1755		11 QTS	7.24	4.89	813.6		6.09		
1758		12 QTS	7.03	4.81	811.9		~~7.~~ 7.28		

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION _____

PROJECT Carpenter Snow Creek NPL Site

PROJECT NUMBER _____

SAMPLING PERSONNEL KN, LC

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 5.31

SAMPLE ID CSC-25

SAMPLE DATE 6/17/2014

SAMPLE TIME 16:20

WELL DEPTH (TD)(ft below MP/GS) 10.10 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION 1st left off of Snow Creek road

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM:** **RESIDENTIAL/INDUSTRIAL TAP**____ **MONITORING WELL** ____

CASING VOLUME (gals) = 0.78 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

_____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
~~15:58~~ 15:52	started Purge								
16:03		3QTS	6.96	6.48	358.7		1.14		
1607		5QTS	6.72	6.28	359.3		1.14		
16:09		6QTS	6.91	6.27	359.0		1.89		
16:10		7QTS	6.56	6.27	359.5		1.24		
DUMP 16:12		8QTS	6.54	6.38	356.6		3.23		
		7QTS	6.58	6.24	357.3		1.03		
16:18		8QTS	6.42	6.23	359.3		1.15		
16:20		~~8~~ QTS	6.34	6.20	358.9		1.27		
16:21		12QTS	6.44	6.24	358.5		1.17		

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION MW-6

PROJECT _____

PROJECT NUMBER _____

SAMPLING PERSONNEL _____

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 22.43

SAMPLE ID MW-6

SAMPLE DATE 6/17/14

SAMPLE TIME 1500

WELL DEPTH (TD)(ft below MP/GS) 28.53 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION On lower tailings Pile, Lock is broken

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM:** **RESIDENTIAL/INDUSTRIAL TAP____** **MONITORING WELL ____**

CASING VOLUME (gals) = _____ FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: Used bailer to sample. Did not purge due to low water levels. DO and Temp may not be accurate due to the bailing

measured from top of metal casing since PVC casing has been sheared off

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
			12.52	6.99	~~1287~~ ~~1287~~ 1287 u		6.15		

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION MW-3

PROJECT Carpenter Creek Spring 2014
PROJECT NUMBER _____
SAMPLING PERSONNEL _____
STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 5.90
WELL DEPTH (TD)(ft below MP/GS) 16.40 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___
MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____
WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION Between Medium and High Mammal trapping

SAMPLE ID MW-3
SAMPLE DATE 6/17/14
SAMPLE TIME 1351

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM:** **RESIDENTIAL/INDUSTRIAL TAP**____ **MONITORING WELL** ____
CASING VOLUME (gals) = 1.8 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals
ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____
COMMENTS: 10ft off road by Stump

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (~~mS/cm~~ µS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1317	Started Purging								
1326		4 QTS	5.99	6.51	292.8		1.61		
1328		4.5 QTS	5.51	6.48	296.4		2.3		
1331		5 QTS	5.53	6.54	290.2		2.76		
1334		6.5 QTS	5.52	6.54	289.5		2.45		
1337		8 QTS	5.90	6.59	285.0		2.39		
1341		9.5 QTS	5.98	6.62	282.5		2.75		
1343		11 QTS	5.83	6.56	278.9		1.83		
1345		11.5 QTS	5.69	6.54	280.8		1.94		
1347		12.5 QTS	5.68	6.50	280.0		1.97		
1350		13 QTS	5.65	6.57	277.9		1.86		
1351		14 QTS	5.70	6.53	280.0		1.81		

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION MW-2

PROJECT Carpenter Creek Spring 2014
PROJECT NUMBER _____
SAMPLING PERSONNEL KN, LC
STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 7.72
WELL DEPTH (TD)(ft below MP/GS) 19.02 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___
MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____
WELL DIAMETER (inside/inches) 2 WELL LOCATION DESCRIPTION Confluence of SNOW Creek and Carpenter Creek

SAMPLE ID MW-2
SAMPLE DATE 6/17/14
SAMPLE TIME 10:50

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM:** **RESIDENTIAL/INDUSTRIAL TAP**_____ **MONITORING WELL** _____
CASING VOLUME (gals) = 1.8 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals
ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____
COMMENTS: _____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1220	Started Purging								
1230		4 QTS	6.49	7.62	81.7		9.95		
1232		4.1 QTS	5.49	7.23	79.3		10.89		
1233		4.5 QTS	5.12	7.07	79.8		10.91		
1235		5.0 QTS	5.11	6.98	78.9		10.90		
1239		6.3 QTS	5.08	6.78	78.7		10.66		
1240		6.5 QTS	5.06	6.75	78.5		10.67		
1242		8.00 QTS	5.05	6.70	79.1		10.8		
1246		8.75 QTS	4.99	6.66	79.0		10.74		
1248		10 QTS	4.97	6.57	79.0		10.60		

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION _____

PROJECT CSC-NPL Site

PROJECT NUMBER _____

SAMPLING PERSONNEL Karen Nelson

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 6.0

SAMPLE ID MW-13

SAMPLE DATE 4/15/14

SAMPLE TIME 11:30

WELL DEPTH (TD)(ft below MP/GS) 18.5 MEAS___ RPTD___ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION Just above

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = ~~1163~~ 2.04 FEET OF WATER (TD-SWL) x 12.5 GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = 2.04 gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
10:38	Starter Pumping								
11:10		6 QTS	3.94	6.65	97.7		7.6		
11:13		7.5 QTS	3.91	6.53	97.6		9.5		
11:15		8 QTS	3.92	6.42	97.2		9.5		
11:18		9 QTS	3.93	6.32	97.7		9.4		
11:20		10 QTS	3.89	6.13	97.2		9.3		
11:23		11 QTS	3.85	6.11	97.0		9.3		
11:26		12 QTS	3.87	6.10	97.3		9.3		
Sample collected at 11:30									

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION _____

PROJECT _____

PROJECT NUMBER _____

SAMPLING PERSONNEL Matthew Paul and Mark Pantoya

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) _____

SAMPLE ID NMW-4

SAMPLE DATE 06/17/14

SAMPLE TIME ~~0940~~ 8:40

WELL DEPTH (TD)(ft below MP/GS) _____ MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) 2-in WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = 10 FEET OF WATER (TD-SWL) x 0.16 GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = 1.6 gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
0940		5.1	8.9	6.5	753		5.6		
0943		5.1	8.9	6.4	753		5.55		
0947		5.1	8.93	6.38	752		5.56		Final

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID NMW-4 DATE 6/17/14 TIME 0940

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION ____________________

PROJECT Carpenter

PROJECT NUMBER ____________________

SAMPLING PERSONNEL MP & MGP

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) __________

SAMPLE ID NMW-1

SAMPLE DATE 6/17/14

SAMPLE TIME 1123

WELL DEPTH (TD)(ft below MP/GS) ______ MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) ____________ SWL ELEV (ft amsl) ____________ WELL STICKUP (ft +/- GS) ______

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION Top of Water 0.9", Bottom 14.6"

LOW—FLOW SAMPLING DATA: SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____

CASING VOLUME (gals) = 2.2 FEET OF WATER (TD-SWL) x ______ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = __________ gals

ACTUAL VOLUME REMOVED (gals) _______ WATER LEVEL RECOVERY INFORMATION ____________________

COMMENTS: ____________________

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1115		6.6	8.47	6.03	106	—	3.61	4.22	Initial Reads
1119		—	8.54	6.10	106	—	4.15	—	
1121		—	8.62	6.13	106	—	4.13		Final

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID ____________________ DATE __________ TIME __________

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION _____

PROJECT _____

PROJECT NUMBER _____

SAMPLING PERSONNEL _____

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) _____

SAMPLE ID MW-1

SAMPLE DATE 6/17/14

SAMPLE TIME 1240

WELL DEPTH (TD)(ft below MP/GS) _____ MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = _____ FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

_____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1240	\	6.0	5.12	5.53	85	\	5.81	\	First
1244	\	\	5.13	5.55	94	\	5.72	\	
1246	\	\	5.18	5.62	84	\	5.74	\	Final

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION MW-5

PROJECT _____

PROJECT NUMBER _____

SAMPLING PERSONNEL _____

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) _____

SAMPLE ID MW-4A-5

SAMPLE DATE 6/17/14

SAMPLE TIME 1346

WELL DEPTH (TD)(ft below MP/GS) _____ MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = _____ FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

_____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1341	\	3.00	7.20	5.5	67	\	8.75	\	Initial
1344	\	\	7.29	5.46	68	\	8.68	\	
1346	\	\	7.31	5.46	67	\	8.66	\	Final

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION _____

PROJECT _____

PROJECT NUMBER _____

SAMPLING PERSONNEL _____

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 4.2

WELL DEPTH (TD)(ft below MP/GS) 15.7 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

SAMPLE ID MW-4A

SAMPLE DATE 6/12/14

SAMPLE TIME 1529

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = 2.2 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1518		3.0	7.46	5.66	67		1.17		Initial
1521			7.44	5.55	66		0.98		
1526			7.52	5.50	66		0.98		
1529			7.61	5.56	66		0.88		Final

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION _____

PROJECT _____

PROJECT NUMBER _____

SAMPLING PERSONNEL _____

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 9.8

SAMPLE ID MW-6A

SAMPLE DATE 6/17/14

SAMPLE TIME 16:13

WELL DEPTH (TD)(ft below MP/GS) 19.2 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM:** **RESIDENTIAL/INDUSTRIAL TAP**____ **MONITORING WELL** ____

CASING VOLUME (gals) = 8.4 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = 1.4 gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

_____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1605		3.0	6.95	5.43	45		9.45		Initial
1608			7.01	5.38	45		9.29		
1610			7.02	5.26	45		9.25		
1613			7.04	5.27	45		9.29		Final

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION CSC-15

PROJECT _____

PROJECT NUMBER _____

SAMPLING PERSONNEL _____

SAMPLE ID CSC-15

SAMPLE DATE 6/17/14

SAMPLE TIME 1021

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 6.9

WELL DEPTH (TD)(ft below MP/GS) 14.3 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM:** **RESIDENTIAL/INDUSTRIAL TAP**____ **MONITORING WELL** ____

CASING VOLUME (gals) = 7.4 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = 1.2 gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

_____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1813	~	3.0	5.00	5.92	240	~	2.63	~	Initial
1816	~	~	5.00	5.93	240	~	2.23	~	
1818	~	~	5.03	5.95	241	~	2.15	~	
1821	~	~	5.05	5.98	242	~	2.09	~	Final

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION MW-8

PROJECT _____

PROJECT NUMBER _____

SAMPLING PERSONNEL _____

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 4.9

SAMPLE ID MW-8

SAMPLE DATE 6/17/16

SAMPLE TIME 1831

WELL DEPTH (TD)(ft below MP/GS) 15 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = 0.1 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = 1.6 gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

_____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1721		3.0	4.93	6.01	154		2.00		Turbid
1723			4.95	5.98	153		1.58		
1726			4.91	5.93	152		1.45		
1729			4.92	5.95	152		1.33		
1731			4.92	5.99	152		1.26		final

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION MW4-11

PROJECT _____

PROJECT NUMBER _____

SAMPLING PERSONNEL _____

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 7.2

SAMPLE ID MW4-11

SAMPLE DATE 6/14

SAMPLE TIME 1445

WELL DEPTH (TD)(ft below MP/GS) 16 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = 8.8 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = 1.4 gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1439		3.0	4.35	6.69	84.32		6.85		Initial
1441			4.29	6.68	84.33		6.75		
1444			4.25	6.67	84.37		6.70		Final

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION MW-14

PROJECT Sept. 2014

PROJECT NUMBER

SAMPLING PERSONNEL KN + LC

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 8.09

SAMPLE ID MW-14

SAMPLE DATE 9/10/14

SAMPLE TIME 1123

WELL DEPTH (TD)(ft below MP/GS) 16.22 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM:** **RESIDENTIAL/INDUSTRIAL TAP**____ **MONITORING WELL** ____

CASING VOLUME (gals) = 1.34 / 8.13 ft FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = 1.34 / 1.33 gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

_____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1055									started purging
1103		1g	4.21	5.69	305		10.42		
1107		2g	4.17	5.18	311		11.0		
1114		2.5g	4.3	5.1	3.13		10.9		
1118		3.0g	4.34	5.01	313		10.25		
1122		3.5g	4.45	5.01	313		10.7		

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION

PROJECT CSC

PROJECT NUMBER

SAMPLING PERSONNEL KN + LC

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 4.54

SAMPLE ID MW4A

SAMPLE DATE 9/10/14

SAMPLE TIME 11:22

WELL DEPTH (TD)(ft below MP/GS) 17.40 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) 4.54 WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = 12.36 FEET OF WATER (TD-SWL) x 0.163 GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = 2.00 gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1318									Started purging
1324		1 gal	9.95	5.82	90		8.32		
1328		2 gal	9.91	5.98	91		5.25		
1335		2.5 gal	9.92	5.96	91		4.82		
1339		3 g	10.14	5.94	91		4.55		
1342									Sample collected

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION _____

PROJECT CSC

PROJECT NUMBER _____

SAMPLING PERSONNEL KN+LC

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 9.86

SAMPLE ID MW6A

SAMPLE DATE 9/10/14

SAMPLE TIME 14:10

WELL DEPTH (TD)(ft below MP/GS) 17.82 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = 1.29 FEET OF WATER (TD-SWL) * 7.96 GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1357									Started purging
1358		1gal	8.72	5.84	50		5.52		
1402		2 gal	8.72	5.66	51		7.17		
1406		2.5 gal	8.56	5.64	51		7.24		
1408		3 gal	8.63	5.61	52		7.30		
1410									Sampled

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION _____

PROJECT CSC

PROJECT NUMBER _____

SAMPLING PERSONNEL Karen Nelson

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 6.70

SAMPLE ID MW 13

SAMPLE DATE 9/10/14

SAMPLE TIME 9.59

WELL DEPTH (TD)(ft below MP/GS) 18.1 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) 2 WELL LOCATION DESCRIPTION upstream of CSC wetland pond

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM:** **RESIDENTIAL/INDUSTRIAL TAP**____ **MONITORING WELL** X

CASING VOLUME (gals) = 1.85 FEET OF WATER (TD-SWL) x 1.4 GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
9:20	started								
9:30	1gal	1gal	6.92	6.54	187		6.97		
9:36		2gal	6.58	6.38	185		7.37		
9:41		1/2gal	6.64	6.08	186		6.6		
9:49		1/2gal	6.53	6.86	186		7.14		
9:48		1/2gal	6.52	6.03	189		5.09		
9:51		1/2gal	6.75	5.97	186		7.64		
9:57		1/2gal	6.79	5.94	183		5.19		
9:59	Sampled well.								

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

SR MW-2 Sept 2014

WELL IDENTIFICATION MW-2

PROJECT MW-2 Sept 2014

PROJECT NUMBER

SAMPLING PERSONNEL SR, DK

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 8.4

SAMPLE ID MW-2

SAMPLE DATE 09/10/14

SAMPLE TIME 14:20

WELL DEPTH (TD)(ft below MP/GS) 19.01 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = 1.73 FEET OF WATER (TD-SWL) x _____ GALLONS/FOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

19.01 - 8.4 = 10.61

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1355									start pumping
1408	2 gal		7.52	5.62	127		9.01		
1415	3 gal		7.57	5.9	131		7.84		
1420	~~1.5~~ 2 gal		7.60	5.98	131		7.7		Sample taken

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION CSC-15

PROJECT Sept 2014

PROJECT NUMBER

SAMPLING PERSONNEL LC

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 7.65

SAMPLE ID CSC-15

SAMPLE DATE 9/19/14

SAMPLE TIME 17.55

WELL DEPTH (TD)(ft below MP/GS) 14 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = 1.09 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: above upper tailings ~~across~~ across Carpenter from road

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC ~~(mS/cm)~~ µS/cm	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1732									start purging
1738		1 gal	7.8	7.10	179		2.96		
1745		2 gal	7.95	6.92	176		1.68		
1748		2.5 gal	7.8	6.72	182		2.71		
1750		3 gal	7.84	6.66	185		2.13		
1755		3.5 gal	7.85	6.68	188		2.24		

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION MW-9S

PROJECT Sept 2014

PROJECT NUMBER

SAMPLING PERSONNEL SS, DR

SAMPLE ID MW-9S

SAMPLE DATE 09/10/14

SAMPLE TIME 12:12

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 6.32

WELL DEPTH (TD)(ft below MP/GS) 17.7 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = 1.85 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
	—	—	—	—	—	—	—	—	17.7 - 6.32 = 11.38
11:44	—	—	—	—	—	—	—	—	start purging
1200	3gal		8.33	4.53	840		6.9		
1208	4gal		8.42	4.57	818		8.4		
1212	5gal		8.5	4.57	809		7.61		sample taken

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION MW-5

PROJECT Sept 2014

PROJECT NUMBER

SAMPLING PERSONNEL SS, PR

SAMPLE ID MW-5

SAMPLE DATE 09/10/14

SAMPLE TIME 13:24

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 5.62

WELL DEPTH (TD)(ft below MP/GS) 17.6 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = 1.95 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

17.6 - 5.62 = 11.98

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
12:50	—	—	—	—	—	—	—	—	start pumping
1301	2 gal		8.9	5.13	139		8.30		
1310	3 gal		9.38	5.67	79		7.67		
1320	4 gal		9.32	5.72	76		7.84		
1324	4.5 gal		9.20	5.74	76		7.82		

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION MW-10

PROJECT Sept 2014

PROJECT NUMBER _____

SAMPLING PERSONNEL _____

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 14.65

SAMPLE ID MW-10

SAMPLE DATE 9/10/14

SAMPLE TIME 0950

WELL DEPTH (TD)(ft below MP/GS) _____ MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) 24.65 SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = 1.63 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

_____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
									24.65 - 14.65 = 10
									0.163 constant
1000									start pumping
1014	10 gals	7	7.04	6.12	261		7.26		
1018	12 gals		7.76	5.95	318		6.89		
1023	16 gals		7.65	6.13	321		6.43		
1026	18 gals		7.65	6.04	320		6.15		
1030									take sample

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION MW-9

PROJECT Sept 2014

PROJECT NUMBER

SAMPLING PERSONNEL SR, DK

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 6.9

SAMPLE ID MW-9

SAMPLE DATE 09/10/14

SAMPLE TIME 11:31

WELL DEPTH (TD)(ft below MP/GS) 16.82 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = 1.62 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
									16.82 - 6.9 = 9.92
11:10	2 gal		9.42	5.35	1053		5.6		
11:16	3 gal		9.48	4.95	1071		5.29		
11:25	4 gal		9.33	4.93	1068		8.70		
11:31	5 gal		9.55	4.56	1071		5.27		sample taken

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION _____

PROJECT Sept. 2014

PROJECT NUMBER _____

SAMPLING PERSONNEL SF

SAMPLE ID MW-8

SAMPLE DATE 09/04/14

SAMPLE TIME 17:40

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 5.01

WELL DEPTH (TD)(ft below MP/GS) 15.01 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM:** **RESIDENTIAL/INDUSTRIAL TAP**____ **MONITORING WELL** ____

CASING VOLUME (gals) = 1.63 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

0.163

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1715									start pumping 10 gal
1726	9 gpm		7.28	6.52	188		4.37		
1735	3 gal		7.08	6.35	1166		3.41		
1740	4 gal		6.93	6.32	1166		3.12		sample taken
									Dupb

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION ~~MW-11~~ MW-11

PROJECT Sept 2014

PROJECT NUMBER

SAMPLING PERSONNEL

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 7.05

SAMPLE ID MW-11

SAMPLE DATE 9/10/14

SAMPLE TIME 9:25

WELL DEPTH (TD)(ft below MP/GS) 15.33 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = 1.35 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION

COMMENTS:

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
6:53									15.33 - 7.05 = 8.28 × 0.163 constant = 1.35
9:02 ~~8:55~~	8 gals		7.04	6.92	108		7.13		started pump
9:10	11 gals		6.98	6.75	105		6.06		
09:14	13 gals		6.99	6.68	99		5.76		
09:19	18 gals		6.96	6.58	99	~~80~~	~~6.50~~ 5.59		
09:25	21 gals		7.12	6.54	99		5.98		take sample

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

.163

WELL IDENTIFICATION _____

PROJECT Supt 2014

PROJECT NUMBER _____

SAMPLING PERSONNEL SK

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 6.7

SAMPLE ID MW-3

SAMPLE DATE 09/09/14

SAMPLE TIME 15:26

WELL DEPTH (TD)(ft below MP/GS) 16.45 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____

CASING VOLUME (gals) = 1.71 1.68 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) 1.85 WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

_____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1450									start pumps / 10.35=dft
1505	3 gal		9.06	6.54	307		5.13		
1510	4 gal		8.74	6.61	173		5.15		
1514	5 gal		8.58	6.37	264		4.09		
1521	6 gal		8.45	6.63	281		5.89		
1526	7 gal		8.4	6.38	276		4.26		sample taken

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION NMW-4

PROJECT Sept 2014

PROJECT NUMBER _____

SAMPLING PERSONNEL SS, KN

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 8.99

SAMPLE ID NMW-4

SAMPLE DATE 9/9/14

SAMPLE TIME 0923

WELL DEPTH (TD)(ft below MP/GS) 17.90 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL** ✓

CASING VOLUME (gals) = 1.26 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

_____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
9:45									
9:51	1gal		12.4	6.23	952		6.71		
9:57	2gal		12.45	6.33	958		6.94		
10:03	3gal		12.46	6.35	955		6.71		Sampled

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION _____ By core building CCT-25 on inside lid CSC-25

PROJECT September 2014

PROJECT NUMBER _____

SAMPLING PERSONNEL SF

SAMPLE ID MW-6

SAMPLE DATE 09/09/14

SAMPLE TIME 16:25

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 5.41

WELL DEPTH (TD)(ft below MP/GS) 10.3 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = 0.8 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1610									start pumping 4.8 gal x
1615	2 gal		8.03	6.16	485		4.23		
1620	3 gal		7.9	6.27	498		4.0		
1625	3 gal + 3 gals		7.97	6.29	498		3.94		sample taken

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION _____

PROJECT Sept 2014

PROJECT NUMBER _____

SAMPLING PERSONNEL BT

SAMPLE ID MW-1

SAMPLE DATE 09/09/14

SAMPLE TIME 13:06

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 8.62

WELL DEPTH (TD)(ft below MP/GS) 22.05 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM:** **RESIDENTIAL/INDUSTRIAL TAP____** **MONITORING WELL ____**

CASING VOLUME (gals) = 2.19 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
1229 1242									Start pumping
—									22.05 - 8.62 = 13.43
1235	1 gallon		9.25	6.12	118		5.6		1st reading
1241	2 gallon		9.47	6.36	119		6.1		2nd reading
1240	3 Gallon		9.47	6.12	75		6.48		3rd reading
1253	4 Gallon		9.45	6.3	119		~~6.38~~ 4.12		4th reading
1300	5 Gallon		9.47	6.46	119		5.46		5th reading
1306	6 Gallons		9.36	6.56	119		5.51		6th reading

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION _____

PROJECT Sept 2014

PROJECT NUMBER _____

SAMPLING PERSONNEL SR

SAMPLE ID NinW-1

SAMPLE DATE 09/08/14

SAMPLE TIME 11:12

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 1.70

WELL DEPTH (TD)(ft below MP/GS) 14.55 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) 2.0 WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) =2.085 FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments Bottom - top
1025			SR	SR	SR		SR		14.55 - 1.70 = 12.85
~~1045~~			~~10.93~~	~~6.87~~	~~145~~		6.22		start pumping
1051	1gal		6.93	6.87	145		6.22 SR		1st sample
1058	2gal		11.06	6.46	107		~~4.39~~ 6.34		
1105	3gal		10.77	6.52	104		6.05		
1112	4gal		10.59	6.51	104		6.34		sample take

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

CARPENTER-SNOW CREEK
GROUNDWATER SAMPLING DATA SHEET

WELL IDENTIFICATION _____

PROJECT Sept 2014

PROJECT NUMBER _____

SAMPLING PERSONNEL SA

STATIC WATER LEVEL (SWL) (ft below Measuring Point (MP)) 9.75

SAMPLE ID NMW-3

SAMPLE DATE 9/10/14

SAMPLE TIME 15:55

WELL DEPTH (TD)(ft below MP/GS) 16.4 MEAS__ RPTD__ MP DESCRIPTION: Ground Surface (GS)___ Top of Casing (TOC)___

MP ELEVATION (ft amsl) _____ SWL ELEV (ft amsl) _____ WELL STICKUP (ft +/- GS) _____

WELL DIAMETER (inside/inches) ____ WELL LOCATION DESCRIPTION _____

LOW—FLOW SAMPLING DATA: **SAMPLE COLLECTED FROM: RESIDENTIAL/INDUSTRIAL TAP____ MONITORING WELL ____**

CASING VOLUME (gals) = _____ FEET OF WATER (TD-SWL) x _____ GALLONS/FOOT ***(1/25(TD-SWL)X(DIA)^2)*** = _____ gals

ACTUAL VOLUME REMOVED (gals) _____ WATER LEVEL RECOVERY INFORMATION _____

COMMENTS: _____

_____

PURGING/SAMPLING DATA

TIME (hr:min)	DISCHARGE RATE (GPM)	VOL REMOVED (Gal)	T (°C)	pH	SC (mS/cm)	ORP (mv)	DO (mg/L)	Turb (NTU)	Comments
15:24			10.13	6.82	333		0.81		
15:30			10.10	6.47	331.1		0.00		
15:33			10.10	6.41	334.3		0.02		
15:45			10.05	6.40	339.5		0.01		
15:55			10.03	6.40	346		0.02		

GROUNDWATER SAMPLES COLLECTED

ANALYSIS	CONTAINER TYPE	VOLUME	PRESERVATIVE

QUALITY CONTROL SAMPLES COLLECTED: SAMPLE ID _____ DATE _____ TIME _____

Tetra Tech EM Inc.

Attachment E
Calibration Notebooks

Location _____ Date 6/16/14

Project / Client Carpenter Creek, Neihart, MT

Parameter	Stimulus	Response
pH 4.0	4.0	4.0
	Response: 141.577mV	
pH 7.0	7.0	7.0
	Response: -30.169	
	Slope: -57.2474 mV/pH	
	offset: 370.567mV	
Condo	998 µs/cm	998 µS/cm
	Resp: 384.609 ohms	
	Temp: 13.5799 °C	
	Kcell: 0.300116	
DO	Sat Point: 8.60 mg/L	
	16.98°C	
	825.38 mBar	
	offset: 0.00 mg/L	

Location Carpenter Creek Date 9/8/14

Project / Client Neihart, Mt

parameter	stimulus	Final
pH 4.0	4.0	4.0
	response: 163.88mV	
pH 7.0	7.0	7.0
	response: -13.2124mV	
	slope: -59.0307mV/pH	
	offset 400.002mV	
Condo	1000uS/cm	1000uS/cm
	response: 387.543ohms	
	temp: 20.0777°C	
	Kcell: 0.357	
DO	sat point: 8.21mg/L	
	19.87°C	
	850.85mbar	
	slope 0.90mg(L)/(mg/L)	
	offset 0.03mg/L	

Location Carpenter Creek Date 6/16/14

Project / Client Neihart, MT

Calibration parameter	Response	Final
pH - 4.00	91.8673 mV	4.0 pH
pH 7.00	-77.7217 mV	7.0 pH

slope: -56.5297 mV/pH
offset: 317.86 mV

Conductivity	998 µS/cm	317.076 ohms
K cell	0.2853	
Final	998 µS/cm	

DO
sat point: 8.59 mg/L
bars: 826.99 mbar
Temp: 17.03 °C
slope: 0.91 (mg/L)/(mg/L)
offset: 0.00 mg/L

Location Weiland, MT Date 6/17/14

Project / Client Carpenter Creek Spring Sampling Event 2014

Parameter	Stimulus	Response
pH 4.01	4.01	4.01
~~pH 7.0~~ pH 7.0	~~Response: 91.8673 mV~~ Response: 90.2716 mV Response: -81.4045 mV Slope: -57.4167 mV/pH offset: 320.513 mV	
Cond	998 µs/cm Response: 364.638 ohms Temp: 14.2462°C Kcell: 0.289162	998 µs/cm

Location R&B Lab Golden CO Date 7/7/14

Project / Client

Parameter	Stimulus	Final

6/16/14 Neihart, MT

pH calibration	initial	Final
pH 4.0	4.11	4.00
gain: 4.9 offset: -183.418		
pH 7.0	6.98	7.00

Conductivity 998 µs/cm		1100 µs/cm	998 µs/cm
constant: 4.663			
DO		98.6%	80.8%
gain: 0.7335			

6/17/14 Neihart, MT

pH calibration	initial	Final
pH 4.0	4.01	4.00
pH 7.0	7.00	7.00
gain: -4.9716	offset: -186.842	

Conductivity 998 µs/cm	1039 µs/cm	998 µs/cm
constant: 4.478		
DO	90.2%	80.2%
gain: 0.6523		

6/17/14 Neihart, MT

~~pH 4.0~~	initial	Final
pH 4.0	4.02	4.00
pH 7.0	6.98	7.00
gain: -4.9996 offset: -187.43		

condo 998 µs/cm		
	1003 µs/cm	998 µs/cm
constant 4.439		
DO	83.4%	80.8%
gain 0.6323		

6/27/14 calibration check

	initial	Final
condo	893 µs/cm	998 µs/cm
constant: 4.96107		
DO	3.73 mg/L	7.21 mg/L
	41.9%	81.0%
gain: 1.2198	offset: -12.189	

lk Gulch

	initial	Final
	7.02	7.00
	3.96	4.01

offset: 231.89 gain: - 4.86

	986 us/cm	1000 us/cm

cal constant: 4.954

	77.8	73.8

gain: 0.785

stimulus	Final
998 us/cm	958 us/cm
7.0	7.02
4.0	4.04

9/8/14 Carpenter Creek

	initial	Final
pH 4.0	4.02	4.00
pH 7.0	6.98	7.00

pH offset: -235.947 gain: -4.8923

conductivity 1000 us/cm	1050 us/cm	1000 us/cm

cal constant: 4.71756

DO	96.2%	81.0%

gain: -4.8923

9/9/14 Carpenter Creek -SK

	initial	final
pH 4.0	4.08	4.00
pH 7	6.95	7.00
Conductivity	934 us/cm	998 us/cm
DO	77.8%	81.6%

pH offset: -247.694 gain: -4.9916
DO gain: 0.6904
Conductivity 5.04041

9/10/14 carpenter

	initial	Final
pH 4.0	3.97	4.00
pH 7.0	7.06	7.00

gain: -4.8825 offset: -12.189

Cond 4" 1024 998
998 us/cm

cal constant 4.91374

~~71.9%~~

DO 81.8% 81.6%

gain: 0.78674

Post cal

	Reading
Condo 998 us/cm	965 us/cm
pH 7.0	7.05 su
pH 4.0	4.05 su

9/15/14 Captain Jack

	initial	Final
pH 4.0	3.97	4.00
pH 7.0	6.98	7.00

gain: -4.910 offset: 24.407

Condo 1000 us/cm 100 us/cm 1000 us/cm
1000 us/cm

cal constant 4.91233

DO 8.64 6.51

9/15/14
Changed DO mem

DO
gai

9/16/14 captain

pH 4.0
pH 7.0
gain offse

condo
1000 us/cm
DO % Sat

Cal Con
DO gain:
Cond: 4.
Pressure offs
pH offset
pH gain (p

9/16/14 Post ca
condo
1000 us/cm
pH 7.0

Nelson Tunnel Post cal

	reading
condo at 1000 us/cm	990 us/cm
pH 7.0	6.93 ~~us~~ SU
pH 4.0	3.97 SU

89/8/14 Carpenter Creek

	Initial	Final
pH 4.0	3.84	4.00
pH 7.0	7.05	7.00

pH offset: -230.333 gain: -4.9563

Condo 1000 us/cm	1007 us/cm	1000 us/cm

cal constants: 4.81728

DO

~~141.8%~~ LC 9/8/14

82.7% 80.3%

gain: 0.83218

9/9/14 carpenter Creek

	Initial	Final
pH 4.0	4.04	4.00
pH 7.0	6.95	7.00

pH gain: -5.0406 offset: -231.754

Condo	983 us/cm	998 us/cm

calconstant: 4.89489

DO	81.8%	81.6%

DO gain 0.83042

9/10/14 S. Shaffer

	initial	final
pH 4.0	4.02 cf	4.0 sf
pH 7.0	~~7.04~~ 7.03	~~7.0~~ 6.99
Conductivity	0.999 → 0.984	0.998
dissolved O_2	90.9%	81.7%

pH gain −4.9848
offset −237.846
Condo cal constant 4.88692
DO Gain - 0.74604

post calibration:
condo - 0.998 reading 0.976
pH 7.0 - 7.0 Reading 7.03
pH 4.0 4.0 reading 3.99

9/16/14 captain Jack

	initial	Final
pH 4.0	3.97	4.00
pH 7.0	6.99	7.00

gain: -5.014 offset: -225.728
cal constant: 4.4119

condo	1109 µs/cm	1000 µs/cm
DO	114.5%	will not calibrate
changed membrane	70.5%	73.4%

gain: 0.79304