SAMPLING ACTIVITIES REPORT
2013 Sampling Events
Final, Revision 0

Barker-Hughesville Mining District Superfund Site
Cascade and Judith Basin Counties, Montana

Prepared for:

United States Environmental Protection Agency, Region 8
Ecosystem Protection and Remediation – Program Support

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January 2014

Contract No: EP-W-13-028
TDF: F004
DCN: EP8-1-1081

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2013 Sampling Activities Report – Barker-Hughesville Mining District Superfund Site – Cascade County and Judith Basin Counties, Montana

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Abbreviation List

COC	Chain of Custody
COPC	Contaminant of Potential Concern
EPA	United States Environmental Protection Agency
ESAT	Environmental Services Assistance Team
GPS	Global Positioning System
mL	Milliliter
ROD	Record of Decision
RPD	Relative Percent Difference
SAP/QAPP	Sampling Analysis Plan/Quality Assurance Project Plan
SAR	Sampling Activities Report
SOP	Standard Operating Procedure
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
yd^3	Cubic Yard

1.0 INTRODUCTION

This document serves as the Sampling Activities Report (SAR) for the Barker-Hughesville Mining District Superfund Site in Cascade and Judith Basin Counties, Montana. This SAR summarizes activities, sample collection, field data, and analytical data for the June and September 2013 sampling events. The purpose of the sampling events was to add to the existing data set and to further determine the spatial and temporal distribution of contamination from historic mining activities within the watershed. The following were sampled or assessed during the investigations: surface water, sediment, stream discharge, and field water quality. Sampling occurred at locations specified in the *Sampling and Analysis Plan/Quality Assurance Project Plan* (SAP/QAPP) *Barker Hughesville Mining District Superfund Site* (Environmental Services Assistance Team [ESAT], 2013).

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

1.1 Site Background and Description

The Barker-Hughesville Mining District Superfund Site is located in west-central Montana east of the town of Monarch, within the very western portion of Judith Basin County and adjacent Cascade County. The site is situated in the Little Belt Mountains mostly within the Dry Fork Belt Creek Watershed and covers about 9600 acres of mostly forested land within the Lewis and Clark National Forest. The site includes the floodplain of Dry Fork Belt Creek, four tributary drainages (Galena Creek, McKay Gulch Creek, Spruce Creek, and Smoke-in-Hole Creek), and the upper portion of the Otter Creek drainage. Otter Creek flows toward the north and does not connect to the Dry Fork Belt Creek.

The area is most renowned for its rich mining legacy that prospered through the later part of the 19th century and early 20th century. During this period, the historic mining camps of Barker and Hughesville were home to more than 500 people, most of whom were miners who serviced numerous underground mines and ore processing facilities. Large-scale mining in the area ended in 1943. Several attempts after World War II to reopen the mines were relatively unsuccessful. Limited exploration or mining activity has occurred in the district since the 1980s. Mines in the area are abandoned and inactive and in various states of disrepair, with dilapidated buildings, open adits, and large volumes of un-reclaimed mining-related wastes. Environmental data collected primarily by state agencies and the United States Forest Service (USFS) since the 1970s indicate that arsenic and heavy metals leaching from waste rock dumps and tailings within the district have severely degraded surface water and groundwater quality.

The greatest concern are 45 known abandoned mine sites and associated waste rock dumps, discharging mine adits, streamside tailings deposits, and tailing impoundments. Abandoned mine sites are mostly located within the Galena Creek Drainage, centered

about the historic town sites of Barker and Hughesville. Other ancillary mine sites are located in the McKay Gulch Creek, Otter Creek, and Spruce Creek drainages.

An estimated 200,000 cubic yards (yd^3) of mining-related waste material remain un-reclaimed within the Barker-Hughesville Mining District. This amount does not include a substantial but unknown volume of streamside tailings located along Galena Creek and Lower Dry Fork Belt Creek. The total volume of streamside tailings at the site will be quantified prior to the issuance of a Record of Decision (ROD).

Multiple mine adits also discharge water during all or portions of the year. Except for the adits at the Carter and NESES7 mine sites, the water quality of the mine discharge is poor. The fish community in Galena Creek is significantly impaired; impacts from mining are also evident in Dry Fork Belt Creek downstream of its confluence with Galena Creek.

1.2 Objective

Two sampling events were conducted in 2013 in order to determine spatial and temporal variation in contamination and to determine if actions taken at the Block P Mine Waste dumps have led to improvement in surface water and sediment quality. The following data was collected during the events:

- Real-time field water quality parameters – pH, conductivity, dissolved oxygen, temperature and stream discharge measurements
- Surface water – dissolved metals and total recoverable metals
- Groundwater sampling (September) – total recoverable and dissolved metals samples split with Doe Run Resources
- Sediment (September) – total recoverable metals and mercury
- Photo documentation
- Global Positioning Systems (GPS) coordinates at new or opportunistic sample locations

2.0 SAMPLING ACTIVITIES AND PROCEDURES

Field activities at the Barker-Hughesville Mining District took place on June 17-20 and September 9-11, 2013. Specific activities included the following:

June 17-20:

- Real time field water quality parameters
- Stream discharge data
- Photo documentation
- Surface water sampling
- GPS data collection

September 9-11:

- Real time field water quality parameters
- Stream discharge data

- Surface water sampling
- Sediment sampling
- Groundwater sampling
- 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(s) (SOP) #FLD-01.00 *Surface Water Sampling* (ESAT, 2011), SOP #FLD-06.00 *Sediment Sampling* (ESAT, 2011), SOP #FLD-03.00 *Sample Preservation* (ESAT, 2011), and as outlined in the final *Sampling and Analysis Plan/Quality Assurance Project Plan for the Barker Hughesville Mining District* (ESAT, 2013). 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, 2011).

Surface water samples were identified by the stream name followed by the station number. For example, locations in Galena Creek were identified as GC-XX, with the station number corresponding to its location along the stream. Likewise, locations along Dry Fork Belt Creek were identified as DFBC-XX. Additionally, locations within the Block P repository were identified as Mill-Seep-XXX. Opportunistic samples collected were given a prefix based on the location (for example DFBC if located on Dry Fork Belt Creek or Mill-Flow if located in the Block P repository) and a number based on their location in proximity to other locations. For example, a sample collected between sites DFBC-30 and DFBC-40 were identified as DFBC-36 or DFBC-37. Duplicate samples were identified by the letters "dup" immediately following the sampling location identification number. Sampling locations are shown in Figure 2.1-1.

2.2 Surface Water Sampling

Surface water samples were collected in accordance with SOP #FLD-01.00 *Surface Water Sampling* (ESAT, 2011) during the June and September events at locations along Galena Creek, Dry Fork Belt Creek, Silver Creek, Belt Creek, Upper Galena Creek, Gold Run Creek, Green Creek, and at the Block P repository and Mill seeps. EPA collected split samples with Doe Run's Contractor at the Block P repository during the June event. Discrete surface water samples were collected in 250 milliliter (mL) polyethylene bottles (total recoverable metals) and 250 mL Nalgene® filter bottles (dissolved metals). Dissolved metals samples were collected in a 250 mL bottle after a triple rinse then transferred into the Nalgene® bottle for filtration. Real-time water quality data (pH, temperature, dissolved oxygen, and specific conductance) were also collected at each sampling location using an In-Situ® or YSI multi-parameter meter. Results were recorded in a project-dedicated field notebook and scanned images of the field notebook are included in Attachment A.

After collection, surface water samples were filtered (dissolved metals), preserved with nitric acid (total and dissolved metals), and entered into a chain of custody (COC). The

date, time and samplers initials were written on the COC and a pre-printed label was affixed to the sample container and taped to prevent the label from coming off. After preservation, all samples were placed in a cooler with ice during transport and then were stored in the 4ºC laboratory walk in cooler until analysis. Samples were analyzed for total and dissolved metals (EPA method 200.7 and 200.8), and hardness (EPA method 2340B calculated from calcium and magnesium results). Analytical results for the June event are included in Tables 2.2-1 and 2.2-2. Analytical results for the September event are included in Tables 2.2-3 and 2.2-4.

2.3 Sediment Sampling

Sediment samples were collected at the same sampling locations where surface water samples were collected during the September event with the exception of the Mill Seep locations. Collection of sediment followed protocols outlined in ESAT SOP #FLD-06.00 *Shallow Stream Sediment Sampling* (ESAT, 2011), and as described in the final *Sampling and Analysis Plan/Quality Assurance Project Plan for the Barker Hughesville Mining District* (ESAT, 2013). Samples were collected using a dedicated Teflon™ scoop and placed in a 125 milliliter glass jar for total metals and mercury analysis. Sediment samples were placed on ice and transported to the Region 8 EPA Laboratory for total recoverable metals and mercury analysis using EPA methods 200.7/200.8 and EPA method 7473, respectively. Analytical results are included in Table 2.3-1.

2.4 Stream Discharge

Stream discharge was measured using Flow Tracker® flow meters or cutthroat flumes during the June and September sampling events. Locations where stream discharge was not measured are listed in Section 4.0. Stream discharge measurements at stations with visibly low flow were measured using a cutthroat flume. Stream discharge measurements collected with Flow Tracker® were done so in accordance with SOP# FLD-08.00 *Flow Tracker Operation* (ESAT, 2011). Discharge measurements are included in Attachment A (flumes) and Attachment B (Flow Tracker®).

2.5 Sample Documentation

At the time of sampling, the dedicated field logbook was filled out with information such as sampling date, time, location, weather conditions, personnel, sampling plan deviations, field water quality measurements (pH, dissolved oxygen, specific conductivity, and temperature), and/or other pertinent observations. Photo documentation was also collected at this time. Surface water samples submitted for laboratory analysis were entered into an electronic COC using Scribe. Field water quality measurements and all analytical results are published to this location's site specific project in Scribe.

3.0 SAMPLE QUALITY CONTROL

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

3.1 Decontamination Methods

All sample containers and sediment scoops were station dedicated or disposable, therefore decontamination of sampling equipment was not necessary.

3.2 Field Instrument Calibration

Field instrumentation requiring calibration or routine function checks included the water quality meters and the Flow Tracker® flow meter. In accordance with field sampling protocols and SOP #FLD-09.00 *Water Quality Measurements with the In-Situ® Multi-Parameter Meter* (ESAT, 2011), the water quality meter was calibrated daily for pH, conductivity, and dissolved oxygen. Conductivity and pH were calibrated with established pH buffers and conductivity standards per the manufacturers' specifications. Dissolved oxygen was calibrated using the saturated water approach on a daily basis. The water quality meter thermometer and barometer are calibrated on an annual basis in accordance with the manufacturer's recommendations. All calibration procedures were recorded in the instruments calibration notebook. Calibration records are included in Attachment D. The Flow Tracker® flow meters have internal routine function checks that are conducted prior to data collection. Flow meter function check information is included in Attachment B.

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. According to the EPA *Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (EPA, 2010), a control limit for water of 20% and 35% for sediment for the Relative Percent Difference (RPD) shall be used for original and duplicate sample values ≥ 5 times the Contract Required Quantitation Limit. These are laboratory guidelines and may not apply to all field situations. RPD was evaluated for total and dissolved metals [Contaminants of potential concern (COPC's)], for surface water samples for which duplicates were collected. RPD values were also calculated for total recoverable metals (COPC's) 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, while Table 2.3-1 shows RPD results for sediment samples collected in September.

3.4 Blanks

In order to evaluate the potential of sample contamination during collection and/or transport to the laboratory, as well as contaminants introduced at the laboratory, field blanks were processed using E-pure de-ionized water. Field blanks were collected daily

and were treated the same as a sample 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 for each analyte indicating no substantial contamination issue associated with the collection and/or laboratory analysis process.

4.0 FIELD CHANGES AND/OR CORRECTIVE ACTIONS

June 17-19, 2013

- During the June sampling event, stream discharge measurements were not taken at stations BC-0, and BC-1 due to high water and unsafe conditions. Flow measurements were also not taken at BC-0B because the USGS has a gauging station at this location.
- At sample location DFBC-1 no stream discharge measurements were collected due to campers at the station.
- No stream discharge measurements were collected at the Block P Repository and Block P Mill areas due to low flow
- The following stations were collected as opportunity samples for total recoverable and dissolved metals during this event: GC-32, GC-33, GC-34, GC-34A, DFBC-36, DFBC-37, Mill-Pond1, Mill-Flow1
- The following stations were dry therefore no samples were collected: MCC-0, Mill-Seep-002, Mill-Seep-003, Mill-Seep-004, and Mill-Seep-005.
- Samples were split with RMC Consultants, Inc. (Doe Run's contractor) at the following locations: GC-0, DFBC-36, RCP-0, DFBC-37, Mill-Pond1, Mill-O2, Mill-Seep-008, Mill-Seep-007, and Mill-Seep-006.
- The dissolved oxygen probe being used during the morning of June 18, 2013 was not functioning properly. Dissolved oxygen readings at the following stations may not be accurate: DFBC-1, DFBC-10, DFBC-15, DFBC-20, DFBC-22, DFBC-25, DFBC-30, and DFBC-35.

September 9-11, 2013

- Samples were not collected at sites RCP-0, Mill-Seep-001, Mill-Seep-002, Mill-Seep-003, and Mill-Seep-007 due to dry conditions.
- Flow measurements were not taken at BC-0B because the USGS has a gauging station at this location.
- Samples were not collected at stations Mill-Seep-004 and Mill-Seep-005 due to the large amount of suspended solids and algae in the water.
- Samples were not collected atDFBC-1 due to no flow.
- No samples were taken at DFBC-35 due to minimal flow from McKay Creek.
- During the September event, groundwater samples were split with the contractor who was collecting samples on behalf of Doe Run Resources. Sample locations were MW-20, TW-02, and WP232A.

5.0 REFERENCES

Documents:

Environmental Services Assistance Team (2013). *Final Sampling Analysis Plan/Quality Assurance Project Plan – 2013 Sampling Event. Barker Hughesville Mining District Superfund site, Cascade and Judith Counties, Montana*.

United States Environmental Protection Agency (2010). USEPA Contract Laboratory Program *National Functional Guidelines for Inorganic Superfund Data Review* OSWER 9240.1-51 EPA 540-R-10-011.

Standard Operating Procedures:

Environmental Services Assistance Team (2011). *Surface Water Sampling*. SOP# FLD-01.00

Environmental Services Assistance Team (2011). *Sediment Sampling.* SOP# FLD-06.00

Environmental Services Assistance Team (2011). *Sample Preservation*. SOP# FLD-03.00

Environmental Services Assistance Team (2011). *Flow Tracker Operation*. SOP# FLD-08.00

Environmental Services Assistance Team (2011). *Water Quality Measurements with the In-Situ® Multi-Parameter Meter.* SOP# FLD-09.00

Environmental Services Assistance Team (2011). *Sample Custody and Labeling*. SOP# FLD-11.00

Tables

Table 2.2-1 Barker-Hughesville June 2013 Surface Water Dissolved Metals Analytical Results

STATION_ID	ANALYSIS	UNITS	MATRIX	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
BC-0	Dissolved Metals	ug/L	Water	176	<0.500U	0.541J	58.7	<2.00U	0.420	15800	<1.00U	<0.100U	3.68	58	132J	0.624	4480	41.9	0.595J	<0.500U	10000	<0.500U	96.5	<0.500U	<2.00U	89.3
BC-0 Dup	Dissolved Metals	ug/L	Water	73.9	<0.500U	0.584J	55.8	<2.00U	0.444	16000	<1.00U	<0.100U	3.49	59	<100U	0.610	4550	41.1	0.512J	<0.500U	9520	<0.500U	96.4	<0.500U	<2.00U	88.4
BC-0B	Dissolved Metals	ug/L	Water	52.4	<0.500U	0.526J	60.0	<2.00U	0.236	23600	<1.00U	<0.100U	4.34	85	<100U	0.382	6370	12.5	0.626J	<0.500U	9210	<0.500U	112	<0.500U	<2.00U	46.3
BC-1	Dissolved Metals	ug/L	Water	162	<0.500U	<0.500U	62.0	<2.00U	0.481	13500	<1.00U	<0.100U	4.34	51	<100U	0.730	4110	26.9	0.677J	<0.500U	9690	<0.500U	87.8	<0.500U	<2.00U	94.3
DFBC-1	Dissolved Metals	ug/L	Water	<20.0U	<0.500U	0.841J	44.7	<2.00U	0.455	25400	<1.00U	<0.100U	1.10	88	<100U	0.423	5940	123	<0.500U	<0.500U	9890	<0.500U	124	<0.500U	<2.00U	97.7
DFBC-10	Dissolved Metals	ug/L	Water	<20.0U	<0.500U	0.808J	43.8	<2.00U	0.467	25100	<1.00U	<0.100U	0.779J	87	<100U	0.370	5960	128	<0.500U	<0.500U	9900	<0.500U	123	<0.500U	<2.00U	98.5
DFBC-10 Dup	Dissolved Metals	ug/L	Water	29.2J	0.792J	0.833J	42.6	<2.00U	0.444	25800	<1.00U	<0.100U	1.09	89	<100U	0.360	6050	127	<0.500U	<0.500U	9820	<0.500U	124	<0.500U	<2.00U	96.6
DFBC-15	Dissolved Metals	ug/L	Water	<20.0U	<0.500U	0.829J	45.2	<2.00U	0.448	25500	<1.00U	<0.100U	0.804J	88	<100U	0.321	5960	130	<0.500U	<0.500U	9810	<0.500U	123	<0.500U	<2.00U	96.2
DFBC-20	Dissolved Metals	ug/L	Water	25.4J	<0.500U	0.770J	44.7	<2.00U	0.467	24000	<1.00U	<0.100U	4.11	83	<100U	0.380	5670	153	<0.500U	<0.500U	10000	<0.500U	124	<0.500U	<2.00U	105
DFBC-22	Dissolved Metals	ug/L	Water	<20.0U	<0.500U	0.566J	44.8	<2.00U	0.547	22700	<1.00U	<0.100U	0.794J	79	<100U	0.291	5450	218	<0.500U	<0.500U	10100	<0.500U	120	<0.500U	<2.00U	122
DFBC-25	Dissolved Metals	ug/L	Water	<20.0U	<0.500U	<0.500U	44.5	<2.00U	0.655	21700	<1.00U	<0.100U	2.40	76	<100U	0.319	5250	300	<0.500U	<0.500U	10100	<0.500U	124	<0.500U	<2.00U	151
DFBC-30	Dissolved Metals	ug/L	Water	<20.0U	<0.500U	<0.500U	44.8	<2.00U	0.668	19600	<1.00U	<0.100U	0.595J	69	<100U	0.132J	4990	362	<0.500U	<0.500U	10000	<0.500U	129	<0.500U	<2.00U	173
DFBC-30A	Dissolved Metals	ug/L	Water	<20.0U	<0.500U	<0.500U	43.4	<2.00U	0.647	19200	<1.00U	<0.100U	0.625J	69	<100U	0.137J	5000	357	<0.500U	<0.500U	10000	<0.500U	128	<0.500U	<2.00U	168
DFBC-36	Dissolved Metals	ug/L	Water	<20.0U	<0.500U	<0.500U	44.8	<2.00U	<0.100U	17700	<1.00U	<0.100U	1.91	64	<100U	0.115J	4810	121	<0.500U	<0.500U	8980	<0.500U	130	<0.500U	<2.00U	27.5
DFBC-37	Dissolved Metals	ug/L	Water	<20.0U	<0.500U	<0.500U	46.5	<2.00U	<0.100U	17600	<1.00U	<0.100U	<0.500U	64	<100U	0.105J	4830	<2.00U	<0.500U	<0.500U	8720	<0.500U	134	<0.500U	<2.00U	<10.0U
DFBC-40	Dissolved Metals	ug/L	Water	<20.0U	<0.500U	<0.500U	45.9	<2.00U	<0.100U	17500	<1.00U	<0.100U	1.80	63	<100U	0.126J	4680	<2.00U	<0.500U	<0.500U	8740	<0.500U	134	<0.500U	<2.00U	<10.0U
GC-0	Dissolved Metals	ug/L	Water	33.6J	<0.500U	<0.500U	46.1	<2.00U	3.14	26900	<1.00U	0.633	1.52	92	<100U	0.237	6040	1420	1.16	<0.500U	15700	<0.500U	130	<0.500U	<2.00U	775
GC-10	Dissolved Metals	ug/L	Water	24.4J	<0.500U	<0.500U	26.0	<2.00U	5.71	27700	<1.00U	1.40	1.37	95	<100U	0.166J	6250	2620	1.94	<0.500U	18100	<0.500U	112	0.530J	<2.00U	1500
GC-15	Dissolved Metals	ug/L	Water	<20.0U	<0.500U	<0.500U	22.5	<2.00U	7.62	24800	<1.00U	1.78	2.31	86	900	0.114J	5780	3280	2.37	<0.500U	19500	<0.500U	114	0.599J	<2.00U	2150
GC-20	Dissolved Metals	ug/L	Water	<20.0U	<0.500U	0.584J	21.9	<2.00U	9.71	28300	<1.00U	2.37	3.28	98	2190	0.103J	6630	4070	3.01	<0.500U	19900	<0.500U	130	0.740J	<2.00U	2610
GC-25	Dissolved Metals	ug/L	Water	36.0J	<0.500U	0.818J	22.1	<2.00U	9.51	29000	<1.00U	2.07	6.63	98	3070	0.331	6320	3830	2.85	<0.500U	19800	<0.500U	125	0.747J	<2.00U	2480
GC-30	Dissolved Metals	ug/L	Water	21.8J	<0.500U	0.902J	22.9	<2.00U	8.16	28600	<1.00U	2.18	8.55	102	5080	0.129J	7410	3900	3.12	<0.500U	20700	<0.500U	135	0.908J	<2.00U	2450
GC-35	Dissolved Metals	ug/L	Water	40.7J	<0.500U	<0.500U	22.9	<2.00U	0.825	19500	<1.00U	<0.100U	5.57	74	<100U	1.47	6210	203	0.751J	<0.500U	19100	<0.500U	71.0	<0.500U	<2.00U	256
GC-40	Dissolved Metals	ug/L	Water	32.7J	<0.500U	<0.500U	25.0	<2.00U	1.27	19700	<1.00U	<0.100U	6.50	73	<100U	1.28	5850	313	1.24	<0.500U	17500	<0.500U	85.5	<0.500U	<2.00U	400
GC-5	Dissolved Metals	ug/L	Water	23.6J	<0.500U	<0.500U	46.5	<2.00U	3.17	26200	<1.00U	0.646	2.22	90	<100U	0.235	5900	1470	1.07	<0.500U	15600	<0.500U	128	<0.500U	<2.00U	785
GRC-0	Dissolved Metals	ug/L	Water	29.0J	<0.500U	<0.500U	75.9	<2.00U	<0.100U	22600	<1.00U	<0.100U	<0.500U	78	<100U	<0.100U	5150	<2.00U	<0.500U	<0.500U	12300	<0.500U	153	<0.500U	<2.00U	<10.0U
GRC-0 Dup	Dissolved Metals	ug/L	Water	31.9J	<0.500U	0.522J	80.1	<2.00U	<0.100U	22600	<1.00U	<0.100U	<0.500U	78	<100U	<0.100U	5250	<2.00U	<0.500U	<0.500U	12500	<0.500U	156	<0.500U	<2.00U	<10.0U
GRNC-0	Dissolved Metals	ug/L	Water	47.8J	0.759J	1.07J	19.5	<2.00U	0.114J	21000	<1.00U	<0.100U	3.71	84	<100U	0.244	7720	66.8	0.947J	<0.500U	20300	<0.500U	48.1	0.970J	<2.00U	62.7
Mill-Flow1	Dissolved Metals	ug/L	Water	<20.0U	<0.500U	8.69	11.9	<2.00U	<0.100U	75800	<1.00U	<0.100U	<0.500U	244	<100U	<0.100U	13200	136	1.38	<0.500U	9610	<0.500U	143	<0.500U	<2.00U	46.8
Mill-Pond1	Dissolved Metals	ug/L	Water	39.0J	<5.00U	<5.00U	<50.0U	<2.00U	<1.00U	135000	<10.0U	<1.00U	<5.00U	418	<100U	<1.00U	19700	89.7	<5.00U	<5.00U	10400	<5.00U	225	<5.00U	<20.0U	39.0
MILL-SEEP-001	Dissolved Metals	ug/L	Water	11700D	<5.00U	<5.00U	<50.0U	<20.0U	26.0D	322000D	<10.0U	68.4D	157D	1040D	<1000U	<1.00U	56300D	121000D	142D	<5.00U	37700D	<5.00U	363D	<5.00U	<20.0U	25600D
MILL-SEEP-006	Dissolved Metals	ug/L	Water	27100D	<5.00U	<5.00U	<50.0U	<20.0U	43.1D	381000D	<10.0U	106D	301D	1250D	15600D	2.10D	73500D	289000D	124D	7.27JD	65200D	<5.00U	544D	<5.00U	<20.0U	44500D
MILL-SEEP-007	Dissolved Metals	ug/L	Water	48900D	<5.00U	63.7D	<50.0U	31.1JD	138D	346000D	<10.0U	101D	1820D	1070D	36100D	<1.00U	49100D	161000D	218D	<5.00U	81100D	<5.00U	227D	<5.00U	<20.0U	30400D
MILL-SEEP-008	Dissolved Metals	ug/L	Water	2200	<5.00U	<5.00U	<50.0U	3.59J	78.7D	475000	<10.0U	46.3D	338D	1380	2180	3.05D	48100	33100	138D	<5.00U	35900	<5.00U	361	<5.00U	<20.0U	13900
RCP-01	Dissolved Metals	ug/L	Water	360JD	<5.00U	<5.00U	<50.0U	<20.0U	42.8D	277000D	<10.0U	23.7D	90.7D	852D	5440D	<1.00U	38900D	85600D	50.5D	<5.00U	32400D	<5.00U	394D	<5.00U	<20.0U	16300D
SLVC-0	Dissolved Metals	ug/L	Water	158	<0.500U	3.89	19.9	<2.00U	1.80	27700	<1.00U	<0.100U	4.14	77	112J	13.6	1860	265	<0.500U	<0.500U	14200	<0.500U	51.1	<0.500U	<2.00U	370
FB-01	Dissolved Metals	ug/L	Water	<20.0U	<0.500U	<0.500U	<5.00U	<2.00U	<0.100U	59.5J	<1.00U	<0.100U	2.78	<2U	<100U	4.36	<100U	2.47J	<0.500U	<0.500U	<250U	<0.500U	<2.00U	<0.500U	<2.00U	<10.0U
FB-02	Dissolved Metals	ug/L	Water	<20.0U	<0.500U	<0.500U	<5.00U	<2.00U	<0.100U	179	<1.00U	<0.100U	<0.500U	<2U	<100U	0.207	<100U	<2.00U	<0.500U	<0.500U	<250U	<0.500U	<2.00U	<0.500U	<2.00U	<10.0U

STATION_ID	ANALYSIS	UNITS	MATRIX	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
BC-0	Dissolved Metals	ug/L	Water	176	<0.500U	0.541J	58.7	<2.00U	0.420	15800	<1.00U	<0.100U	3.68	58	132J	0.624	4480	41.9	0.595	<0.500U	10000	<0.500U	96.5	<0.500U	<2.00U	89.3
BC-0 Dup	Dissolved Metals	ug/L	Water	73.9	<0.500U	0.584J	55.8	<2.00U	0.444	16000	<1.00U	<0.100U	3.49	59	<100U	0.610	4550	41.1	0.512	<0.500U	9520	<0.500U	96.4	<0.500U	<2.00U	88.4
	RPD	%		**81.71%**	N/A	N/A	N/A	N/A	**5.56%**	**1.26%**	N/A	N/A	**5.30%**	N/A	N/A	**2.27%**	**1.55%**	N/A	**15.00%**	N/A	N/A	N/A	N/A	N/A	N/A	**1.01%**

Note: Removed flags from nickel values for RPD calculation

STATION_ID	ANALYSIS	UNITS	MATRIX	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
DFBC-10	Dissolved Metals	ug/L	Water	<20.0U	<0.500U	0.808J	43.8	<2.00U	0.467	25100	<1.00U	<0.100U	0.779	87	<100U	0.370	5960	128	<0.500U	<0.500U	9900	<0.500U	123	<0.500U	<2.00U	98.5
DFBC-10 Dup	Dissolved Metals	ug/L	Water	29.2J	0.792J	0.833J	42.6	<2.00U	0.444	25800	<1.00U	<0.100U	1.09	89	<100U	0.360	6050	127	<0.500U	<0.500U	9820	<0.500U	124	<0.500U	<2.00U	96.6
	RPD	%		N/A	N/A	N/A	N/A	N/A	**5.05%**	**2.75%**	N/A	N/A	**33.28%**	N/A	N/A	**2.74%**	**1.50%**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**1.95%**

Note: Removed flags from copper values for RPD calculation

STATION_ID	ANALYSIS	UNITS	MATRIX	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
GRC-0	Dissolved Metals	ug/L	Water	29	<0.500U	<0.500U	75.9	<2.00U	<0.100U	22600	<1.00U	<0.100U	<0.500U	78	<100U	<0.100U	5150	<2.00U	<0.500U	<0.500U	12300	<0.500U	153	<0.500U	<2.00U	<10.0U
GRC-0 Dup	Dissolved Metals	ug/L	Water	31.9	<0.500U	0.522J	80.1	<2.00U	<0.100U	22600	<1.00U	<0.100U	<0.500U	78	<100U	<0.100U	5250	<2.00U	<0.500U	<0.500U	12500	<0.500U	156	<0.500U	<2.00U	<10.0U
	RPD	%		**9.52%**	N/A	N/A	N/A	N/A	N/A	**0.00%**	N/A	N/A	N/A	N/A	N/A	N/A	**1.92%**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Removed flags from aluminum 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.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise

Table 2.2-2 Barker-Hughesville June 2013 Surface Water Total Recoverable Metals Analytical Results

STATION_ID	ANALYSIS	UNITS	MATRIX	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
BC-0	Total Metals	ug/L	Water	366	<2.50U	<2.50U	57.3D	<2.00U	0.560JD	16200	<5.00U	<0.500U	4.74JD	335	3.75D	4570	54.4	<2.50U	<2.50U	10700	<2.50U	98.4	<2.50U	<10.0U	114
BC-0 Dup	Total Metals	ug/L	Water	361	<2.50U	<2.50U	57.7D	<2.00U	<0.500U	16200	<5.00U	<0.500U	4.87JD	327	3.60D	4580	51.7	<2.50U	<2.50U	10700	<2.50U	98.8	<2.50U	<10.0U	103
BC-0B	Total Metals	ug/L	Water	288	<2.50U	<2.50U	59.3D	<2.00U	<0.500U	24200	<5.00U	<0.500U	2.92JD	291	3.63D	6530	28.7	<2.50U	<2.50U	10300	<2.50U	118	2.56JD	<10.0U	67.5
BC-1	Total Metals	ug/L	Water	414	<2.50U	<2.50U	63.3D	<2.00U	0.615JD	13200	<5.00U	<0.500U	5.89D	341	3.94D	4080	37.3	<2.50U	<2.50U	10900	<2.50U	91.5	<2.50U	<10.0U	112
DFBC-1	Total Metals	ug/L	Water	91.0	<2.50U	<2.50U	43.0JD	<2.00U	0.585JD	25500	<5.00U	<0.500U	<2.50U	233J	3.35D	6010	132	<2.50U	<2.50U	10100	<2.50U	127	<2.50U	<10.0U	118
DFBC-10	Total Metals	ug/L	Water	102	<2.50U	<2.50U	42.8JD	<2.00U	0.724JD	26100	<5.00U	<0.500U	<2.50U	229J	4.52D	6050	142	<2.50U	<2.50U	10400	<2.50U	130	<2.50U	<10.0U	124
DFBC-10 Dup	Total Metals	ug/L	Water	103	<2.50U	<2.50U	44.0JD	<2.00U	<0.500U	25500	<5.00U	<0.500U	<2.50U	217J	4.33D	5920	137	<2.50U	<2.50U	10200	<2.50U	127	2.50JD	<10.0U	116
DFBC-15	Total Metals	ug/L	Water	94.0	<2.50U	<2.50U	42.3JD	<2.00U	0.625JD	25700	<5.00U	<0.500U	<2.50U	200J	6.48D	6060	143	<2.50U	<2.50U	10300	<2.50U	129	<2.50U	<10.0U	121
DFBC-20	Total Metals	ug/L	Water	94.4	<2.50U	<2.50U	43.5JD	<2.00U	0.681JD	24800	<5.00U	<0.500U	<2.50U	213J	3.04D	5780	164	<2.50U	<2.50U	10400	<2.50U	129	<2.50U	<10.0U	122
DFBC-22	Total Metals	ug/L	Water	116	<2.50U	<2.50U	42.7JD	<2.00U	0.693JD	23000	<5.00U	<0.500U	<2.50U	282	4.11D	5530	235	<2.50U	<2.50U	10600	<2.50U	126	<2.50U	<10.0U	147
DFBC-25	Total Metals	ug/L	Water	122	<2.50U	<2.50U	43.8JD	<2.00U	0.903JD	22000	<5.00U	<0.500U	<2.50U	354	4.09D	5310	319	<2.50U	<2.50U	10800	<2.50U	131	<2.50U	<10.0U	203
DFBC-30	Total Metals	ug/L	Water	136	<2.50U	<2.50U	43.7JD	<2.00U	0.942JD	19500	<5.00U	<0.500U	3.18JD	424	4.93D	5000	386	<2.50U	<2.50U	10700	<2.50U	136	<2.50U	<10.0U	221
DFBC-30A	Total Metals	ug/L	Water	170	<2.50U	2.53JD	44.2JD	<2.00U	0.875JD	19900	<5.00U	<0.500U	3.50JD	525	6.87D	5020	371	<2.50U	<2.50U	10500	<2.50U	133	<2.50U	<10.0U	213
DFBC-36	Total Metals	ug/L	Water	104	<2.50U	<2.50U	44.3JD	<2.00U	<0.500U	18000	<5.00U	<0.500U	<2.50U	128J	<0.500U	4770	135	<2.50U	<2.50U	9480	<2.50U	136	<2.50U	<10.0U	33.7
DFBC-37	Total Metals	ug/L	Water	76.5	<2.50U	<2.50U	43.6JD	<2.00U	<0.500U	17400	<5.00U	<0.500U	<2.50U	<100U	<0.500U	4760	<2.00U	<2.50U	<2.50U	9210	<2.50U	139	<2.50U	<10.0U	10.1J
DFBC-40	Total Metals	ug/L	Water	75.9	<2.50U	<2.50U	43.8JD	<2.00U	<0.500U	17100	<5.00U	<0.500U	<2.50U	<100U	<0.500U	4740	2.28J	<2.50U	<2.50U	9130	<2.50U	140	<2.50U	<10.0U	13.8J
GC-0	Total Metals	ug/L	Water	471	<2.50U	4.67JD	49.6JD	<2.00U	3.93D	27100	<5.00U	0.899JD	22.1D	2100	28.6D	6040	1490	<2.50U	<2.50U	16900	<2.50U	133	<2.50U	<10.0U	1000
GC-10	Total Metals	ug/L	Water	788	<2.50U	9.40JD	29.4JD	<2.00U	6.93D	27900	<5.00U	1.70D	35.7D	3870	50.0D	6090	2680	2.69JD	<2.50U	20200	<2.50U	112	<2.50U	<10.0U	1850
GC-15	Total Metals	ug/L	Water	868	<2.50U	7.10JD	26.3JD	<2.00U	8.37D	24600	<5.00U	2.20D	42.2D	4570	47.7D	5660	3320	3.43JD	<2.50U	21100	<2.50U	114	<2.50U	<10.0U	2260
GC-20	Total Metals	ug/L	Water	1020	<2.50U	10.4D	<25.0U	<2.00U	10.0D	28700	<5.00U	2.76D	50.3D	6020	56.3D	6490	4210	3.84JD	<2.50U	22200	<2.50U	133	<2.50U	<10.0U	2780
GC-25	Total Metals	ug/L	Water	989	<2.50U	11.3D	<25.0U	<2.00U	9.46D	29000	<5.00U	2.79D	51.3D	6010	47.5D	6260	3950	3.87JD	<2.50U	21500	<2.50U	127	<2.50U	<10.0U	2570
GC-30	Total Metals	ug/L	Water	906	<2.50U	10.5D	<25.0U	<2.00U	8.25D	28700	<5.00U	2.54D	46.8D	7590	44.5D	7170	4060	3.89JD	<2.50U	22700	<2.50U	139	<2.50U	<10.0U	2550
GC32	Total Metals	ug/L	Water	8400D	<2.50U	58.5D	<25.0U	<10.0U	108D	117000D	<5.00U	29.9D	706D	105000D	196D	19700D	51500D	34.3D	<2.50U	48100D	<2.50U	726D	12.1D	<10.0U	29900D
GC33	Total Metals	ug/L	Water	29000D	<2.50U	6.05JD	31.8JD	16.7JD	287D	167000D	<5.00U	64.4D	1600D	8540D	24.1D	28700D	58700D	55.3D	3.85JD	62200D	<2.50U	561D	7.81D	<10.0U	54400D
GC34	Total Metals	ug/L	Water	66700D	<2.50U	36.9D	<25.0U	37.4D	403D	257000D	15.3D	96.3D	1060D	96800D	108D	54600D	77900D	72.2D	9.57JD	77600D	<2.50U	322D	3.95JD	<10.0U	108000D
GC34A	Total Metals	ug/L	Water	211	<2.50U	9.61JD	51.5D	<2.00U	0.875JD	14000	<5.00U	<0.500U	8.72D	339	12.4D	2650	817	<2.50U	<2.50U	20400	<2.50U	101	<2.50U	<10.0U	244
GC-35	Total Metals	ug/L	Water	172	<2.50U	<2.50U	<25.0U	<2.00U	0.786JD	19500	<5.00U	<0.500U	21.1D	562	26.9D	6070	211	<2.50U	<2.50U	19000	<2.50U	70.3	2.79JD	<10.0U	270
GC-40	Total Metals	ug/L	Water	169	<2.50U	<2.50U	26.7JD	<2.00U	1.19D	19500	<5.00U	<0.500U	38.5D	752	57.2D	5730	366	<2.50U	<2.50U	17600	<2.50U	85.9	<2.50U	<10.0U	436
GC-5	Total Metals	ug/L	Water	546	<2.50U	5.11JD	50.1D	<2.00U	3.92D	25700	<5.00U	0.834JD	20.4D	2310	31.7D	5760	1530	<2.50U	<2.50U	17000	<2.50U	130	<2.50U	<10.0U	1030
GRC-0	Total Metals	ug/L	Water	178	<2.50U	<2.50U	81.0D	<2.00U	<0.500U	22300	<5.00U	<0.500U	<2.50U	214J	2.08D	5050	15.7	<2.50U	<2.50U	13000	<2.50U	155	<2.50U	<10.0U	<10.0U
GRC-0 Dup	Total Metals	ug/L	Water	249	<2.50U	<2.50U	84.9D	<2.00U	<0.500U	22800	<5.00U	<0.500U	<2.50U	265	2.91D	5250	20.6	<2.50U	<2.50U	13400	<2.50U	160	<2.50U	<10.0U	14.5J
GRNC-0	Total Metals	ug/L	Water	228	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	20600	<5.00U	<0.500U	8.87D	439	1.98D	7540	79.6	<2.50U	<2.50U	21100	<2.50U	48.5	<2.50U	<10.0U	72.3
Mill-Flow1	Total Metals	ug/L	Water	<20.0U	<2.50U	12.2D	<25.0U	<2.00U	<0.500U	73500	<5.00U	<0.500U	<2.50U	<100U	<0.500U	12700	260	<2.50U	<2.50U	9620	<2.50U	144	<2.50U	<10.0U	56.0
Mill-Pond1	Total Metals	ug/L	Water	47.7J	<5.00U	<5.00U	<50.0U	<2.00U	<1.00U	136000	<10.0U	<1.00U	<5.00U	<100U	<1.00U	19200	116	<5.00U	<5.00U	10800	<5.00U	228	<5.00U	<20.0U	44.2
MILL-SEEP-001	Total Metals	ug/L	Water	12100D	<5.00U	<5.00U	<50.0U	<20.0U	26.3D	332000D	<10.0U	65.3D	155D	<1000U	<1.00U	59000D	127000D	138D	<5.00U	39700D	<5.00U	379D	<5.00U	<20.0U	26700D
MILL-SEEP-006	Total Metals	ug/L	Water	27300D	<5.00U	<5.00U	<50.0U	<20.0U	41.7D	386000D	<10.0U	101D	307D	15700D	1.61JD	73600D	293000D	131D	7.21JD	65300D	<5.00U	548D	<5.00U	<20.0U	44300D
MILL-SEEP-007	Total Metals	ug/L	Water	49200D	<5.00U	66.7D	<50.0U	31.3JD	138D	354000D	<10.0U	94.3D	1860D	37600D	1.87JD	49500D	166000D	223D	5.61JD	82300D	<5.00U	231D	<5.00U	<20.0U	30700D
MILL-SEEP-008	Total Metals	ug/L	Water	8760	<5.00U	<5.00U	<50.0U	6.83	81.2D	472000	<10.0U	46.3D	416D	1890	4.27D	47300	33100	150D	<5.00U	37300	<5.00U	369	<5.00U	<20.0U	13400
RCP-01	Total Metals	ug/L	Water	2090D	<5.00U	<5.00U	<50.0U	<20.0U	41.6D	275000D	<10.0U	22.1D	121D	6660D	<1.00U	38500D	87000D	52.2D	<5.00U	33500D	<5.00U	399D	<5.00U	<20.0U	16300D
SLVC-0	Total Metals	ug/L	Water	338	<2.50U	18.8D	30.1JD	<2.00U	1.80D	27300	<5.00U	<0.500U	6.73D	762	93.6D	1840	288	<2.50U	<2.50U	14900	<2.50U	53.6	<2.50U	<10.0U	422
FB-01	Total Metals	ug/L	Water	<20.0U	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	<50.0U	<5.00U	<0.500U	<2.50U	<100U	<0.500U	<100U	<2.00U	<2.50U	<2.50U	<250U	<2.50U	<2.00U	<2.50U	<10.0U	<10.0U
FB-02	Total Metals	ug/L	Water	<20.0U	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	<50.0U	<5.00U	<0.500U	<2.50U	<100U	1.43D	<100U	<2.00U	<2.50U	<2.50U	<250U	<2.50U	<2.00U	<2.50U	<10.0U	<10.0U

STATION_ID	ANALYSIS	UNITS	MATRIX	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
BC-0	Total Metals	ug/L	Water	366	<2.50U	<2.50U	57.3D	<2.00U	0.560JD	16200	<5.00U	<0.500U	4.74	335	3.75	4570	54.4	<2.50U	<2.50U	10700	<2.50U	98.4	<2.50U	<10.0U	114
BC-0 Dup	Total Metals	ug/L	Water	361	<2.50U	<2.50U	57.7D	<2.00U	<0.500U	16200	<5.00U	<0.500U	4.87	327	3.6	4580	51.7	<2.50U	<2.50U	10700	<2.50U	98.8	<2.50U	<10.0U	103
	RPD	%		**1.38%**	N/A	N/A	N/A	N/A	N/A	**0.00%**	N/A	N/A	**2.71%**	N/A	**4.08%**	**0.22%**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**10.14%**

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

STATION_ID	ANALYSIS	UNITS	MATRIX	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
DFBC-10	Total Metals	ug/L	Water	102	<2.50U	<2.50U	42.8JD	<2.00U	0.724JD	26100	<5.00U	<0.500U	<2.50U	229J	4.52	6050	142	<2.50U	<2.50U	10400	<2.50U	130	<2.50U	<10.0U	124
DFBC-10 Dup	Total Metals	ug/L	Water	103	<2.50U	<2.50U	44.0JD	<2.00U	<0.500U	25500	<5.00U	<0.500U	<2.50U	217J	4.33	5920	137	<2.50U	<2.50U	10200	<2.50U	127	2.50JD	<10.0U	116
	RPD	%		**0.98%**	N/A	N/A	N/A	N/A	N/A	**2.33%**	N/A	N/A	N/A	N/A	**4.29%**	**2.17%**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**6.67%**

Note: Removed flags from lead values for RPD calculation

STATION_ID	ANALYSIS	UNITS	MATRIX	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Selenium	Silica (SiO2)	Silver	Strontium	Thallium	Vanadium	Zinc
GRC-0	Total Metals	ug/L	Water	178	<2.50U	<2.50U	81.0D	<2.00U	<0.500U	22300	<5.00U	<0.500U	<2.50U	214J	2.08	5050	15.7	<2.50U	<2.50U	13000	<2.50U	155	<2.50U	<10.0U	<10.0U
GRC-0 Dup	Total Metals	ug/L	Water	249	<2.50U	<2.50U	84.9D	<2.00U	<0.500U	22800	<5.00U	<0.500U	<2.50U	265	2.91	5250	20.6	<2.50U	<2.50U	13400	<2.50U	160	<2.50U	<10.0U	14.5J
	RPD	%		**33.26%**	N/A	N/A	N/A	N/A	N/A	**2.22%**	N/A	N/A	N/A	N/A	**33.27%**	**3.88%**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Removed flags from lead 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.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise

Table 2.2-3 Barker-Hughesville September 2013 Surface Water Dissolved Metals Analytical Results

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
BC-0	Dissolved Metals	ug/L	<20.0U	<0.500U	0.687J	101	<2.00U	0.357	23700	1.77J	<0.100U	5.36	91	<100U	1.02	7690	3.51J	<0.500U	0.747J	9530	<0.500U	172	<0.500U	<2.00U	53.1
BC-0B	Dissolved Metals	ug/L	<20.0U	<0.500U	0.731J	85.0	<2.00U	<0.100U	37300	2.89	<0.100U	2.29	136	<100U	0.379	10500	<2.00U	<0.500U	0.514J	8490	<0.500U	190	<0.500U	<2.00U	13.5J
BC-1	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	100	<2.00U	0.306	23700	1.89J	<0.100U	5.26	91	<100U	0.964	7660	3.80J	<0.500U	<0.500U	9440	<0.500U	172	<0.500U	<2.00U	45.3
BC-1 Dup	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	99.9	<2.00U	0.345	23700	1.72J	<0.100U	5.64	91	<100U	0.928	7650	3.81J	<0.500U	<0.500U	9470	<0.500U	172	<0.500U	<2.00U	47.3
DFBC-10	Dissolved Metals	ug/L	<20.0U	<0.500U	1.74J	61.0	<2.00U	0.183J	42600	1.70J	<0.100U	0.718J	147	<100U	<0.100U	9810	<2.00U	<0.500U	<0.500U	9990	<0.500U	193	<0.500U	<2.00U	47.8
DFBC-15	Dissolved Metals	ug/L	<20.0U	<0.500U	1.89J	62.3	<2.00U	0.211	43300	2.58	<0.100U	0.810J	148	<100U	<0.100U	9800	<2.00U	<0.500U	0.753J	10000	<0.500U	192	<0.500U	<2.00U	56.9
DFBC-15 Dup	Dissolved Metals	ug/L	<20.0U	<0.500U	1.78J	62.9	<2.00U	0.225	43100	3.02	<0.100U	0.730J	148	<100U	<0.100U	9850	<2.00U	<0.500U	<0.500U	10200	<0.500U	194	<0.500U	<2.00U	56.9
DFBC-20	Dissolved Metals	ug/L	<20.0U	<0.500U	1.80J	66.3	<2.00U	0.250	41000	2.92	<0.100U	0.741J	141	<100U	<0.100U	9410	2.33J	<0.500U	<0.500U	10700	<0.500U	203	<0.500U	<2.00U	102
DFBC-22	Dissolved Metals	ug/L	<20.0U	<0.500U	0.819J	67.6	<2.00U	0.341	39500	3.10	<0.100U	0.753J	136	<100U	<0.100U	9090	23.7	<0.500U	0.640J	10800	<0.500U	194	<0.500U	<2.00U	96.1
DFBC-25	Dissolved Metals	ug/L	<20.0U	<0.500U	0.638J	66.3	<2.00U	0.419	38200	2.42	0.166J	0.808J	133	<100U	0.115J	9220	168	<0.500U	<0.500U	10600	<0.500U	213	<0.500U	<2.00U	132
DFBC-30	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	73.2	<2.00U	0.647	35500	2.28	0.324	0.865J	124	<100U	0.123J	8440	377	<0.500U	0.607J	11100	<0.500U	232	<0.500U	<2.00U	170
DFBC-40	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	78.2	<2.00U	<0.100U	31100	2.58	<0.100U	0.789J	109	<100U	<0.100U	7640	<2.00U	<0.500U	<0.500U	10100	<0.500U	254	<0.500U	<2.00U	<10.0U
GC-0	Dissolved Metals	ug/L	23.2J	<0.500U	0.965J	59.3	<2.00U	2.78	42900	<1.00U	1.03	2.00	152	<100U	0.362	10900	1740	<0.500U	0.539J	17300	<0.500U	218	<0.500U	<2.00U	748
GC-5	Dissolved Metals	ug/L	25.3J	<0.500U	0.507J	64.7	<2.00U	3.42	41700	<1.00U	1.38	2.18	149	<100U	0.607	10900	2080	0.954J	<0.500U	17900	<0.500U	219	<0.500U	<2.00U	993
GC-5 Dup	Dissolved Metals	ug/L	25.7J	<0.500U	0.773J	63.0	<2.00U	3.35	42300	1.11J	1.38	1.96	150	<100U	0.492	10900	2120	0.695J	0.712J	17900	<0.500U	221	<0.500U	<2.00U	997
GC-10	Dissolved Metals	ug/L	24.4J	<0.500U	0.738J	70.7	<2.00U	2.87	40700	<1.00U	1.17	1.71	145	<100U	0.458	10600	1860	0.527J	<0.500U	17300	<0.500U	217	<0.500U	<2.00U	761
GC-15	Dissolved Metals	ug/L	32.8J	<0.500U	<0.500U	26.5	<2.00U	7.17	43200	<1.00U	3.34	2.28	155	<100U	0.319	11400	4990	3.10	<0.500U	23000	<0.500U	228	1.03	<2.00U	1830
GC-20	Dissolved Metals	ug/L	49.6J	<0.500U	<0.500U	24.9	<2.00U	8.71	45500	<1.00U	4.05	2.87	163	<100U	0.244	12100	6140	3.82	<0.500U	23800	<0.500U	251	1.32	<2.00U	2250
GC-25	Dissolved Metals	ug/L	51.0	<0.500U	<0.500U	24.7	<2.00U	10.6	47700	<1.00U	4.57	4.49	171	<100U	0.323	12600	6700	4.17	<0.500U	24200	<0.500U	256	1.41	<2.00U	2780
GC-30	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	27.2	<2.00U	5.91	46200	<1.00U	3.83	2.47	168	1770	<0.100U	12700	4970	3.38	<0.500U	24300	<0.500U	230	1.42	<2.00U	1980
GC-35	Dissolved Metals	ug/L	<20.0U	<0.500U	1.06J	30.1	<2.00U	0.308	33700	<1.00U	0.197J	2.50	132	<100U	0.241	11500	80.4	<0.500U	<0.500U	23900	<0.500U	106	0.651J	<2.00U	167
GC-40	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	35.4	<2.00U	0.561	33700	3.29	<0.100U	2.58	125	<100U	0.150J	9880	14.0	<0.500U	0.622J	21700	<0.500U	143	<0.500U	<2.00U	296
GRC-0	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	116	<2.00U	<0.100U	34700	<1.00U	<0.100U	0.873J	124	<100U	<0.100U	9090	<2.00U	<0.500U	<0.500U	13000	<0.500U	224	<0.500U	<2.00U	16.8J
GRNC-0	Dissolved Metals	ug/L	<20.0U	<0.500U	1.99J	26.3	<2.00U	<0.100U	35500	<1.00U	0.258	1.48	148	<100U	<0.100U	14500	77.0	<0.500U	<0.500U	24200	<0.500U	79.3	1.39	<2.00U	58.6
MILL-SEEP-006	Dissolved Metals	ug/L	6410D	<5.00U	<5.00U	<50.0U	<20.0U	8.51D	176000D	<10.0U	75.6D	80.8D	597D	93900D	<1.00U	38300D	207000D	87.1D	5.95JD	49200D	<5.00U	402D	<5.00U	<20.0U	33100D
MILL-SEEP-008	Dissolved Metals	ug/L	222JD	<5.00U	<5.00U	<50.0U	<20.0U	59.4D	451000D	<10.0U	315D	23.0D	1570D	102000D	<1.00U	109000D	179000D	401D	<5.00U	17800D	<5.00U	1020D	<5.00U	<20.0U	28600D
SLVC-0	Dissolved Metals	ug/L	59.7	0.656J	1.22J	31.2	<2.00U	7.55	30600	<1.00U	1.46	11.9	91	<100U	452	3670	1290	1.47	<0.500U	26400	<0.500U	93.9	<0.500U	<2.00U	1760
MW-20	Dissolved Metals	ug/L	<20.0U	<0.500U	58.6	12.7	<2.00U	0.592	54400	<1.00U	4.12	0.683J	192	4310	5.26	13600	2710	2.58	<0.500U	30900	<0.500U	310	<0.500U	<2.00U	938
TW-02	Dissolved Metals	ug/L	50.8	<0.500U	0.920J	112	<2.00U	<0.100U	5050	<1.00U	<0.100U	0.502J	19	<100U	0.204	1460	34.7	<0.500U	<0.500U	26600	<0.500U	60.3	<0.500U	<2.00U	67.4
WP232A	Dissolved Metals	ug/L	<20.0U	<5.00U	1240D	<50.0U	<2.00U	1.16JD	221000	<10.0U	11.1D	<5.00U	656	24900	<1.00U	25100	8000	11.3D	<5.00U	46900	<5.00U	403	<5.00U	<20.0U	1560
FB-01	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	<5.00U	<2.00U	<0.100U	91.2J	<1.00U	<0.100U	<0.500U	<2U	<100U	<0.100U	<100U	<2.00U	<0.500U	<0.500U	<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	79.8J	<1.00U	<0.100U	<0.500U	<2U	<100U	<0.100U	<100U	<2.00U	<0.500U	<0.500U	<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
BC-1	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	100	<2.00U	0.306	23700	1.89J	<0.100U	5.26	91	<100U	0.964	7660	3.80J	<0.500U	<0.500U	9440	<0.500U	172	<0.500U	<2.00U	45.3
BC-1 Dup	Dissolved Metals	ug/L	<20.0U	<0.500U	<0.500U	99.9	<2.00U	0.345	23700	1.72J	<0.100U	5.64	91	<100U	0.928	7650	3.81J	<0.500U	<0.500U	9470	<0.500U	172	<0.500U	<2.00U	47.3
	RPD	%	N/A	N/A	N/A	N/A	N/A	**11.98%**	**0.00%**	N/A	N/A	**6.97%**	N/A	N/A	**3.81%**	**0.13%**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**4.32%**

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
DFBC-15	Dissolved Metals	ug/L	<20.0U	<0.500U	1.89J	62.3	<2.00U	0.211	43300	2.58	<0.100U	0.81	148	<100U	<0.100U	9800	<2.00U	<0.500U	0.753J	10000	<0.500U	192	<0.500U	<2.00U	56.9
DFBC-15 Dup	Dissolved Metals	ug/L	<20.0U	<0.500U	1.78J	62.9	<2.00U	0.225	43100	3.02	<0.100U	0.73	148	<100U	<0.100U	9850	<2.00U	<0.500U	<0.500U	10200	<0.500U	194	<0.500U	<2.00U	56.9
	RPD	%	N/A	N/A	N/A	N/A	N/A	**6.42%**	**0.46%**	N/A	N/A	**10.39%**	N/A	N/A	N/A	**0.51%**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**0.00%**

Note: Flags removed from copper 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
GC-5	Dissolved Metals	ug/L	25.3	<0.500U	0.507J	64.7	<2.00U	3.42	41700	<1.00U	1.38	2.18	149	<100U	0.607	10900	2080	0.954	<0.500U	17900	<0.500U	219	<0.500U	<2.00U	993
GC-5 Dup	Dissolved Metals	ug/L	25.7	<0.500U	0.773J	63.0	<2.00U	3.35	42300	1.11J	1.38	1.96	150	<100U	0.492	10900	2120	0.695	0.712J	17900	<0.500U	221	<0.500U	<2.00U	997
	RPD	%	**1.57%**	N/A	N/A	N/A	N/A	**2.07%**	**1.43%**	N/A	N/A	**10.63%**	N/A	N/A	**20.93%**	**0.00%**	N/A	**31.41%**	N/A	N/A	N/A	N/A	N/A	N/A	**0.40%**

Note: Flags removed from aluminum 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.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise
<	Less than

Table 2.2-4 Barker-Hughesville September 2013 Surface Water Total Recoverable Metals Analytical Results

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
BC-0	Total Metals	ug/L	76.6	<2.50U	<2.50U	103D	<2.00U	<0.500U	23600	<5.00U	<0.500U	11.6D	<100U	12.8D	7640	12.6	<2.50U	<2.50U	9640	<2.50U	173	<2.50U	<10.0U	60.1
BC-0B	Total Metals	ug/L	62.6	<2.50U	<2.50U	82.2D	<2.00U	<0.500U	36300	<5.00U	<0.500U	6.14D	<100U	7.06D	10500	6.04	<2.50U	<2.50U	8280	<2.50U	184	5.77D	<10.0U	30.2
BC-1	Total Metals	ug/L	78.3	<2.50U	<2.50U	101D	<2.00U	<0.500U	23100	<5.00U	<0.500U	11.6D	109J	12.7D	7550	12.1	<2.50U	<2.50U	9520	<2.50U	171	8.28D	<10.0U	60.0
BC-1 Dup	Total Metals	ug/L	72.1	<2.50U	<2.50U	103D	<2.00U	<0.500U	23500	<5.00U	<0.500U	10.8D	<100U	11.9D	7690	12.2	<2.50U	<2.50U	9640	<2.50U	173	<2.50U	<10.0U	58.1
DFBC-10	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	62.3D	<2.00U	<0.500U	42100	<5.00U	<0.500U	<2.50U	<100U	<0.500U	9630	<2.00U	<2.50U	<2.50U	9730	<2.50U	190	<2.50U	<10.0U	48.1
DFBC-15	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	61.9D	<2.00U	<0.500U	42100	<5.00U	<0.500U	<2.50U	<100U	<0.500U	9800	<2.00U	<2.50U	<2.50U	10100	<2.50U	194	<2.50U	<10.0U	53.4
DFBC-15 Dup	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	61.5D	<2.00U	<0.500U	42200	<5.00U	<0.500U	<2.50U	<100U	<0.500U	9820	<2.00U	<2.50U	<2.50U	10100	<2.50U	194	<2.50U	<10.0U	54.9
DFBC-20	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	65.3D	<2.00U	<0.500U	40000	<5.00U	<0.500U	<2.50U	<100U	<0.500U	9260	4.18J	<2.50U	<2.50U	10600	<2.50U	202	<2.50U	<10.0U	70.7
DFBC-22	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	67.6D	<2.00U	<0.500U	37600	<5.00U	<0.500U	<2.50U	<100U	0.505JD	8830	27.7	<2.50U	<2.50U	10600	<2.50U	193	<2.50U	<10.0U	91.7
DFBC-25	Total Metals	ug/L	25.9J	<2.50U	<2.50U	67.1D	<2.00U	<0.500U	37500	<5.00U	<0.500U	<2.50U	<100U	1.03D	9060	170	<2.50U	<2.50U	10500	<2.50U	212	<2.50U	<10.0U	129
DFBC-30	Total Metals	ug/L	42.9J	<2.50U	<2.50U	72.7D	<2.00U	0.719JD	34700	<5.00U	<0.500U	<2.50U	170J	2.50D	8370	421	<2.50U	<2.50U	11200	<2.50U	231	<2.50U	<10.0U	195
DFBC-40	Total Metals	ug/L	22.8J	<2.50U	<2.50U	78.0D	<2.00U	<0.500U	30200	<5.00U	<0.500U	<2.50U	<100U	<0.500U	7500	<2.00U	<2.50U	<2.50U	9760	<2.50U	244	<2.50U	<10.0U	<10.0U
GC-0	Total Metals	ug/L	125	<2.50U	<2.50U	59.2D	<2.00U	2.99D	42000	<5.00U	1.01D	6.11D	705	8.95D	10800	1750	<2.50U	<2.50U	17800	<2.50U	221	<2.50U	<10.0U	859
GC-5	Total Metals	ug/L	176	<2.50U	<2.50U	65.9D	<2.00U	3.97D	41400	<5.00U	1.29D	7.85D	1060	13.0D	10800	2090	<2.50U	<2.50U	18100	<2.50U	220	<2.50U	<10.0U	1120
GC-5 Dup	Total Metals	ug/L	178	<2.50U	<2.50U	64.0D	<2.00U	3.94D	41200	<5.00U	1.37D	8.42D	1040	13.6D	10700	2100	<2.50U	<2.50U	18100	<2.50U	221	<2.50U	<10.0U	1120
GC-10	Total Metals	ug/L	150	<2.50U	<2.50U	70.5D	<2.00U	3.24D	39700	<5.00U	1.21D	6.89D	825	10.4D	10400	1840	<2.50U	<2.50U	17100	<2.50U	218	<2.50U	<10.0U	855
GC-15	Total Metals	ug/L	467	<2.50U	<2.50U	27.0JD	<2.00U	8.62D	41200	<5.00U	3.18D	20.9D	2800	34.2D	10900	5000	3.21JD	<2.50U	24000	<2.50U	227	6.19D	<10.0U	2250
GC-20	Total Metals	ug/L	907	<2.50U	4.15JD	25.4JD	<2.00U	11.8D	45200	<5.00U	4.09D	38.4D	5830	63.1D	11800	6200	3.67JD	<2.50U	26300	<2.50U	254	7.08D	<10.0U	3030
GC-25	Total Metals	ug/L	1060	<2.50U	5.22JD	<25.0U	<2.00U	12.7D	45700	<5.00U	4.42D	43.3D	7200	48.9D	12000	6700	3.80JD	<2.50U	26700	<2.50U	256	<2.50U	<10.0U	3350
GC-30	Total Metals	ug/L	595	<2.50U	5.84JD	28.1JD	<2.00U	7.69D	44800	<5.00U	3.88D	22.1D	8010	15.0D	12400	5050	3.42JD	<2.50U	26400	<2.50U	233	<2.50U	<10.0U	2470
GC-35	Total Metals	ug/L	28.5J	<2.50U	<2.50U	29.1JD	<2.00U	<0.500U	33700	<5.00U	<0.500U	3.51JD	103J	1.01D	11500	83.2	<2.50U	<2.50U	23700	<2.50U	106	<2.50U	<10.0U	161
GC-40	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	34.8JD	<2.00U	<0.500U	33200	<5.00U	<0.500U	4.78JD	<100U	2.20D	9840	14.7	<2.50U	<2.50U	21000	<2.50U	141	<2.50U	<10.0U	229
GRC-0	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	115D	<2.00U	<0.500U	34500	<5.00U	<0.500U	<2.50U	<100U	<0.500U	8990	2.18J	<2.50U	<2.50U	12900	<2.50U	227	<2.50U	<10.0U	24.1
GRNC-0	Total Metals	ug/L	230	<2.50U	<2.50U	31.8JD	<2.00U	<0.500U	36200	<5.00U	0.612JD	7.92D	751	4.35D	14600	151	<2.50U	<2.50U	24700	<2.50U	80.1	<2.50U	<10.0U	93.6
MILL-SEEP-006	Total Metals	ug/L	6560D	<5.00U	6.04JD	<50.0U	<20.0U	9.01D	177000D	<10.0U	75.4D	74.7D	176000D	2.09D	39100D	209000D	86.0D	<5.00U	50300D	<5.00U	397D	<5.00U	<20.0U	33600D
MILL-SEEP-008	Total Metals	ug/L	1500D	<5.00U	<5.00U	<50.0U	<20.0U	62.5D	451000D	<10.0U	298D	53.7D	116000D	<1.00U	106000D	176000D	418D	6.80JD	19400D	<5.00U	999D	<5.00U	<20.0U	28500D
SLVC-0	Total Metals	ug/L	355	<2.50U	9.00JD	33.5JD	<2.00U	7.23D	30400	<5.00U	1.55D	11.5D	434	604D	3640	1300	<2.50U	<2.50U	26300	<2.50U	93.5	<2.50U	<10.0U	1690
MW-20	Total Metals	ug/L	<20.0U	<2.50U	57.8D	<25.0U	<2.00U	<0.500U	54800	<5.00U	3.99D	<2.50U	4290	7.26D	13500	2700	2.66JD	<2.50U	30500	<2.50U	310	<2.50U	<10.0U	886
TW-02	Total Metals	ug/L	4770	<2.50U	31.1D	235D	<2.00U	<0.500U	5720	<5.00U	3.98D	10.1D	8450	80.6D	2170	1230	<2.50U	2.88JD	42700	<2.50U	77.8	<2.50U	<10.0U	143
WP232A	Total Metals	ug/L	<20.0U	<5.00U	1270D	<50.0U	<2.00U	1.97JD	220000	<10.0U	11.3D	<5.00U	24700	<1.00U	25100	8050	11.5D	<5.00U	47600	<5.00U	413	<5.00U	<20.0U	1510
FB-01	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	<25.0U	<2.00U	<0.500U	<50.0U	<5.00U	<0.500U	<2.50U	<100U	<0.500U	<100U	<2.00U	7.32D	<2.50U	<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	227	<5.00U	<0.500U	<2.50U	<100U	<0.500U	<100U	<2.00U	<2.50U	<2.50U	<250U	<2.50U	<2.00U	<2.50U	<10.0U	10.7J
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
BC-1	Total Metals	ug/L	78.3	<2.50U	<2.50U	101D	<2.00U	<0.500U	23100	<5.00U	<0.500U	11.6	109J	12.7	7550	12.1	<2.50U	<2.50U	9520	<2.50U	171	8.28D	<10.0U	60.0
BC-1 Dup	Total Metals	ug/L	72.1	<2.50U	<2.50U	103D	<2.00U	<0.500U	23500	<5.00U	<0.500U	10.8	<100U	11.9	7690	12.2	<2.50U	<2.50U	9640	<2.50U	173	<2.50U	<10.0U	58.1
	RPD	%	**8.24%**	N/A	N/A	N/A	N/A	N/A	**1.72%**	N/A	N/A	**7.14%**	N/A	**6.50%**	**1.84%**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**3.22%**

Note: Removed flags from copper and lead results 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
DFBC-15	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	61.9D	<2.00U	<0.500U	42100	<5.00U	<0.500U	<2.50U	<100U	<0.500U	9800	<2.00U	<2.50U	<2.50U	10100	<2.50U	194	<2.50U	<10.0U	53.4
DFBC-15 Dup	Total Metals	ug/L	<20.0U	<2.50U	<2.50U	61.5D	<2.00U	<0.500U	42200	<5.00U	<0.500U	<2.50U	<100U	<0.500U	9820	<2.00U	<2.50U	<2.50U	10100	<2.50U	194	<2.50U	<10.0U	54.9
	RPD	%	N/A	N/A	N/A	N/A	N/A	N/A	**0.24%**	N/A	N/A	N/A	N/A	N/A	**0.20%**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**2.77%**

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
GC-5	Total Metals	ug/L	176	<2.50U	<2.50U	65.9D	<2.00U	3.97	41400	<5.00U	1.29D	7.85	1060	13	10800	2090	<2.50U	<2.50U	18100	<2.50U	220	<2.50U	<10.0U	1120
GC-5 Dup	Total Metals	ug/L	178	<2.50U	<2.50U	64.0D	<2.00U	3.94	41200	<5.00U	1.37D	8.42	1040	13.6	10700	2100	<2.50U	<2.50U	18100	<2.50U	221	<2.50U	<10.0U	1120
	RPD	%	**1.13%**	N/A	N/A	N/A	N/A	**0.76%**	**0.48%**	N/A	N/A	**7.01%**	N/A	**4.51%**	**0.93%**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**0.00%**

Note: Removed flags from cadmium, copper, and lead results 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.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise
<	Less than

Table 2.3-1 Barker-Hughesville September 2013 Sediment Total Recoverable Metals Analytical Results

Station_ID	ANALYSIS	UNITS	MATRIX	Antimony	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Selenium	Silver	Thallium	Vanadium
BC-0	Total Metals	ug/kg dry wt	Sediment	<504U	35200JD	177000D	7300D	9980D	6350D	113000D	450000D	13300D	<504U	3600D	<504U	13800D
BC-0B	Total Metals	ug/kg dry wt	Sediment	<496U	6810D	150000D	1400D	9010D	4290D	28800D	120000D	8880D	<496U	737JD	1200D	10900D
BC-1	Total Metals	ug/kg dry wt	Sediment	<505U	14300D	385000D	5300D	18900D	7600D	316000D	1080000D	17100D	<505U	7580D	1510D	19800D
BC-1 Dup	Total Metals	ug/kg dry wt	Sediment	<493U	14200D	369000D	6140D	17500D	7630D	339000D	1170000D	17200D	<493U	8020D	<493U	19200D
DFBC-10	Total Metals	ug/kg dry wt	Sediment	1270D	101000D	247000D	20600D	9660D	10900D	163000D	736000D	18400D	820JD	5190D	1240D	9920D
DFBC-15	Total Metals	ug/kg dry wt	Sediment	<491U	47000D	129000D	5540D	9290D	5660D	34100D	194000D	10500D	<491U	1600D	845JD	10300D
DFBC-15 Dup	Total Metals	ug/kg dry wt	Sediment	<508U	52600D	139000D	6510D	8840D	6500D	43100D	312000D	11100D	<508U	2790D	708JD	9780D
DFBC-20	Total Metals	ug/kg dry wt	Sediment	1160D	90800D	141000D	6360D	10000D	6650D	44200D	311000D	10900D	<496U	3190D	826JD	18200D
DFBC-22	Total Metals	ug/kg dry wt	Sediment	826JD	106000D	197000D	12100D	10000D	9990D	82500D	504000D	13800D	<498U	5410D	1620D	13300D
DFBC-25	Total Metals	ug/kg dry wt	Sediment	1080D	164000D	197000D	11800D	9040D	8940D	77200D	597000D	14300D	<497U	11500D	2120D	11000D
DFBC-30	Total Metals	ug/kg dry wt	Sediment	754JD	135000D	148000D	5970D	8520D	8350D	65700D	901000D	11100D	<504U	5190D	1200D	10600D
DFBC-40	Total Metals	ug/kg dry wt	Sediment	<497U	3790D	136000D	202D	18100D	8090D	10200D	21100D	18400D	<497U	<497U	<497U	13900D
GC-0	Total Metals	ug/kg dry wt	Sediment	1120D	229000D	218000D	25700D	3570D	10200D	198000D	1570000D	9750D	679JD	8860D	2690D	8650D
GC-10	Total Metals	ug/kg dry wt	Sediment	1020D	221000D	226000D	10900D	4010D	6740D	121000D	1160000D	7140D	<504U	9720D	3520D	11200D
GC-15	Total Metals	ug/kg dry wt	Sediment	1400D	252000D	156000D	14500D	3110D	4930D	223000D	1700000D	4550D	520JD	10900D	3820D	11600D
GC-20	Total Metals	ug/kg dry wt	Sediment	1860D	229000D	240000D	73500D	5020D	8580D	665000D	2490000D	9710D	1900JD	16900D	5890D	13100D
GC-25	Total Metals	ug/kg dry wt	Sediment	1260D	311000D	297000D	24000D	6750D	13500D	280000D	1840000D	10200D	840JD	13400D	6060D	22000D
GC-30	Total Metals	ug/kg dry wt	Sediment	764JD	255000D	294000D	14300D	5800D	10900D	133000D	790000D	8830D	<497U	5430D	4690D	24000D
GC-35	Total Metals	ug/kg dry wt	Sediment	<497U	44700D	244000D	5660D	4190D	9890D	278000D	906000D	13900D	566JD	3230D	9800D	13000D
GC-40	Total Metals	ug/kg dry wt	Sediment	843JD	42000D	195000D	9050D	5280D	8130D	647000D	2990000D	15100D	1240JD	10300D	1100D	6210D
GC-5	Total Metals	ug/kg dry wt	Sediment	1700D	197000D	148000D	11900D	2500D	6800D	122000D	1530000D	5480D	<493U	11100D	2220D	7580D
GC-5 Dup	Total Metals	ug/kg dry wt	Sediment	1470D	203000D	140000D	7300D	1800JD	5030D	87300D	1140000D	3730D	<495U	6150D	1970D	7430D
GRC-0	Total Metals	ug/kg dry wt	Sediment	<493U	16200D	102000D	850D	2660D	3310D	9690D	136000D	4100D	<493U	636JD	712JD	5580D
GRNC-0	Total Metals	ug/kg dry wt	Sediment	<498U	39100D	153000D	2040D	3170D	9790D	139000D	179000D	13900D	<498U	732JD	15200D	8220D
SLVC-0	Total Metals	ug/kg dry wt	Sediment	1440D	370000D	148000D	4060D	2440D	5610D	89200D	3140000D	2420D	<505U	11200D	2970D	11200D
Station_ID	**ANALYSIS**	**UNITS**	**MATRIX**	**Antimony**	**Arsenic**	**Barium**	**Cadmium**	**Chromium**	**Cobalt**	**Copper**	**Lead**	**Nickel**	**Selenium**	**Silver**	**Thallium**	**Vanadium**
BC-1	Total Metals	ug/kg dry wt	Sediment	<505U	14300D	385000D	5300	18900D	7600D	316000	1080000	17100	<505U	7580	1510D	19800D
BC-1 Dup	Total Metals	ug/kg dry wt	Sediment	<493U	14200D	369000D	6140	17500D	7630D	339000	1170000	17200	<493U	8020	<493U	19200D
	RPD	%	Sediment	N/A	N/A	N/A	**14.69%**	N/A	N/A	**7.02%**	**8.00%**	**0.58%**	N/A	**5.64%**	N/A	N/A

Note: Flags removed from all values for RPD calculation.

Station_ID	ANALYSIS	UNITS	MATRIX	Antimony	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Selenium	Silver	Thallium	Vanadium
DFBC-15	Total Metals	ug/kg dry wt	Sediment	<491U	47000D	129000D	5540	9290D	5660D	34100	194000	10500	<491U	1600	845JD	10300D
DFBC-15 Dup	Total Metals	ug/kg dry wt	Sediment	<508U	52600D	139000D	6510	8840D	6500D	43100	312000	11100	<508U	2790	708JD	9780D
	RPD	%	Sediment	N/A	N/A	N/A	**16.10%**	N/A	N/A	**23.32%**	**46.64%**	**5.56%**	N/A	**54.21%**	N/A	N/A

Note: Flags removed from all values for RPD calculation.

Station_ID	ANALYSIS	UNITS	MATRIX	Antimony	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Selenium	Silver	Thallium	Vanadium
GC-5	Total Metals	ug/kg dry wt	Sediment	1700	197000D	148000D	11900	2500D	6800D	122000	1530000	5480	<493U	11100	2220D	7580D
GC-5 Dup	Total Metals	ug/kg dry wt	Sediment	1470	203000D	140000D	7300	1800JD	5030D	87300	1140000	3730	<495U	6150	1970D	7430D
	RPD	%	Sediment	N/A	N/A	N/A	**47.92%**	N/A	N/A	**33.16%**	**29.21%**	**38.00%**	N/A	**57.39%**	N/A	N/A

Note: Flags removed from all values for RPD calculation.

STATION_ID	ANALYSIS	UNITS	MATRIX	Aluminum	Beryllium	Calcium	Iron	Magnesium	Manganese	Silica (SiO2)	Strontium	Zinc	Mercury
BC-0	Total Metals	mg/kg dry wt	Sediment	4330D	<2.01U	17200D	17700D	7620D	2670D	4010D	23.7D	1760D	0.018JD
BC-0B	Total Metals	mg/kg dry wt	Sediment	3750D	<1.98U	48700D	10200D	10700D	856D	3830D	48.8D	383D	<0.010U
BC-1	Total Metals	mg/kg dry wt	Sediment	7050D	<2.02U	7030D	19800D	5810D	1630D	5650D	28.4D	1840D	0.037D
BC-1 Dup	Total Metals	mg/kg dry wt	Sediment	6340D	<1.97U	9000D	19300D	6600D	2080D	5660D	29.9D	1890D	0.039D
DFBC-10	Total Metals	mg/kg dry wt	Sediment	5130D	<2.01U	18300D	16300D	7630D	9490D	4960D	29.6D	5660D	0.092D
DFBC-15	Total Metals	mg/kg dry wt	Sediment	3830D	<1.96U	14200D	12500D	4440D	2030D	3490D	24.2D	1280D	0.010JD
DFBC-15 Dup	Total Metals	mg/kg dry wt	Sediment	3870D	<2.03U	14300D	12900D	4840D	2420D	3460D	24.4D	1480D	<0.010U
DFBC-20	Total Metals	mg/kg dry wt	Sediment	3500D	<1.98U	3650D	16700D	2780D	2340D	2990D	16.0D	1520D	<0.009U
DFBC-22	Total Metals	mg/kg dry wt	Sediment	4190D	<1.99U	4210D	19800D	3330D	4500D	3790D	20.3D	2830D	0.054D
DFBC-25	Total Metals	mg/kg dry wt	Sediment	4090D	<1.99U	12900D	28700D	7240D	4610D	5460D	29.8D	2900D	0.037D
DFBC-30	Total Metals	mg/kg dry wt	Sediment	3920D	<2.02U	5250D	22700D	2750D	2610D	3950D	23.1D	1390D	0.032D
DFBC-40	Total Metals	mg/kg dry wt	Sediment	6780D	<1.99U	5340D	16600D	5370D	487D	4090D	27.4D	57.8D	<0.010U
GC-0	Total Metals	mg/kg dry wt	Sediment	5210D	<2.02U	4810D	35600D	1500D	8210D	7740D	33.6D	7130D	0.075D
GC-10	Total Metals	mg/kg dry wt	Sediment	4130D	<2.02U	5200D	28300D	1970D	2830D	5060D	32.7D	2580D	0.133D
GC-15	Total Metals	mg/kg dry wt	Sediment	6350D	<2.01U	1980D	46700D	1230D	1420D	9500D	28.2D	3630D	0.094D
GC-20	Total Metals	mg/kg dry wt	Sediment	22600D	9.90D	5590D	151000D	2120D	3370D	59400D	66.6D	19700D	0.198D
GC-25	Total Metals	mg/kg dry wt	Sediment	10400D	<2.02U	3910D	70300D	3510D	8840D	11600D	55.6D	5030D	0.194D
GC-30	Total Metals	mg/kg dry wt	Sediment	7190D	<1.99U	4890D	61800D	4110D	6030D	8150D	59.5D	3410D	0.085D
GC-35	Total Metals	mg/kg dry wt	Sediment	5350D	<1.99U	9000D	29900D	5760D	3910D	5500D	32.8D	1310D	0.052D
GC-40	Total Metals	mg/kg dry wt	Sediment	4010D	<2.01U	2860D	48000D	1880D	6780D	5470D	18.5D	2740D	0.110D
GC-5	Total Metals	mg/kg dry wt	Sediment	2700D	<1.97U	2950D	29100D	1050D	5470D	4600D	21.3D	3010D	0.035D
GC-5 Dup	Total Metals	mg/kg dry wt	Sediment	1980D	<1.98U	2440D	25400D	842D	5370D	3840D	21.6D	1830D	0.059D
GRC-0	Total Metals	mg/kg dry wt	Sediment	1630D	<1.97U	3440D	9930D	1100D	804D	2760D	19.0D	200D	0.025D
GRNC-0	Total Metals	mg/kg dry wt	Sediment	3980D	<1.99U	8540D	25600D	5140D	2100D	5230D	26.3D	703D	0.013JD
SLVC-0	Total Metals	mg/kg dry wt	Sediment	3200D	<2.02U	1910D	23000D	875D	1520D	3140D	19.2D	782D	0.088D
STATION_ID	**ANALYSIS**	**UNITS**	**MATRIX**	**Aluminum**	**Beryllium**	**Calcium**	**Iron**	**Magnesium**	**Manganese**	**Silica (SiO2)**	**Strontium**	**Zinc**	**Mercury**
BC-1	Total Metals	mg/kg dry wt	Sediment	7050	<2.02U	7030	19800D	5810	1630D	5650D	28.4D	1840	0.037
BC-1 Dup	Total Metals	mg/kg dry wt	Sediment	6340	<1.97U	9000	19300D	6600	2080D	5660D	29.9D	1890	0.039
	RPD	%	Sediment	**10.60%**	N/A	**24.58%**	N/A	**12.73%**	N/A	N/A	N/A	**2.68%**	**5.26%**

Note: Flags removed from all values for RPD calculation.

STATION_ID	ANALYSIS	UNITS	MATRIX	Aluminum	Beryllium	Calcium	Iron	Magnesium	Manganese	Silica (SiO2)	Strontium	Zinc	Mercury
DFBC-15	Total Metals	mg/kg dry wt	Sediment	3830	<1.96U	14200	12500D	4440	2030D	3490D	24.2D	1280	0.010JD
DFBC-15 Dup	Total Metals	mg/kg dry wt	Sediment	3870	<2.03U	14300	12900D	4840	2420D	3460D	24.4D	1480	<0.010U
	RPD	%	Sediment	**1.04%**	N/A	**0.70%**	N/A	**8.62%**	N/A	N/A	N/A	**14.49%**	N/A

Note: Flags removed from all values for RPD calculation.

STATION_ID	ANALYSIS	UNITS	MATRIX	Aluminum	Beryllium	Calcium	Iron	Magnesium	Manganese	Silica (SiO2)	Strontium	Zinc	Mercury
GC-5	Total Metals	mg/kg dry wt	Sediment	2700	<1.97U	2950	29100D	1050	5470D	4600D	21.3D	3010	0.035
GC-5 Dup	Total Metals	mg/kg dry wt	Sediment	1980	<1.98U	2440	25400D	842	5370D	3840D	21.6D	1830	0.059
	RPD	%	Sediment	**30.77%**	N/A	**18.92%**	N/A	**21.99%**	N/A	N/A	N/A	**48.76%**	**51.06%**

Note: Flags removed from all 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.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise
<	Less than

Figures

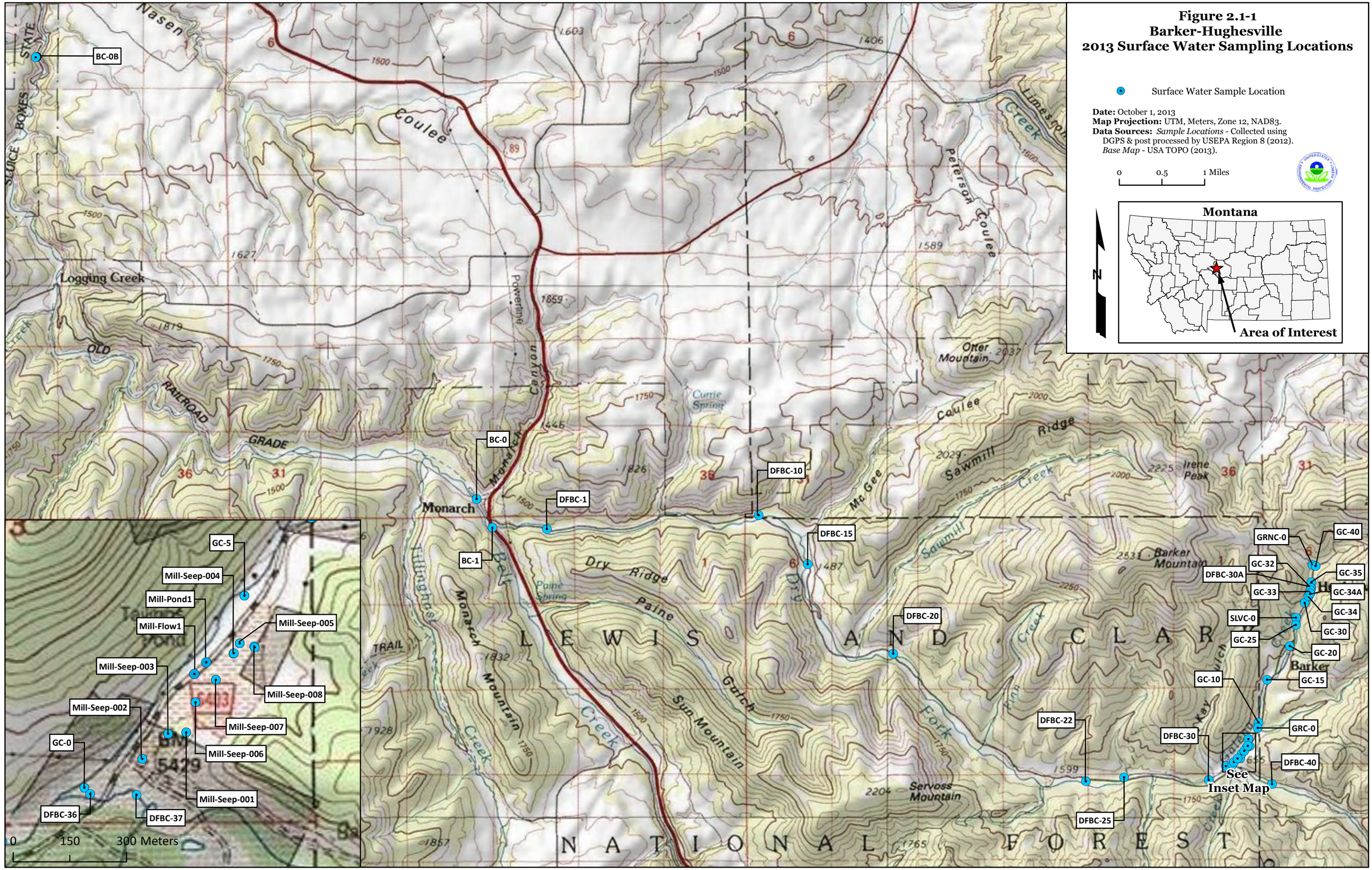


Figure 2.1-1
Barker-Hughesville
2013 Surface Water Sampling Locations
Surface Water Sample Location
Date: October 1, 2013
Map Projection: UTM, Meters, Zone 12, NAD83.
Data Sources: Sample Locations - Collected using DGPS & post processed by USEPA Region 8 (2012).
Base Map - USA TOPO (2013).
0 0.5 1 Miles
Montana
Area of Interest
N
BC-0B
BC-0
BC-1
DFBC-1
DFBC-10
DFBC-15
DFBC-20
DFBC-22
DFBC-25
DFBC-30
DFBC-30A
DFBC-36
DFBC-37
DFBC-40
GC-0
GC-5
GC-10
GC-15
GC-20
GC-25
GC-30
GC-32
GC-33
GC-34
GC-34A
GC-35
GC-40
GRNC-0
GRC-0
SLVC-0
Mill-Seep-001
Mill-Seep-002
Mill-Seep-003
Mill-Seep-004
Mill-Seep-005
Mill-Seep-006
Mill-Seep-007
Mill-Seep-008
Mill-Pond1
Mill-Flow1
See Inset Map
0 150 300 Meters
Monarch
Barker
Logging Creek
Nasen Coulee
Powerline Canyon
Monarch Mountain
Belt Creek
Dry Ridge
Paine Coulee
Sun Mountain
Sawmill Ridge
Mt. Gee
Petersen Coulee
Otter Mountain
Irene Peak
Barker Mountain
Servoss Mountain
Currie Spring
Paine Spring
Tillinghast
Pine Creek
Sawmill Creek
Limestone Creek
OLD RAILROAD GRADE
SLUICE BOXES STATE
LEWIS AND CLARK NATIONAL FOREST

Attachments

Attachment A
Scanned Field Notebook Pages

Location: Reference Wetland 01 Date: 9/27/12

Project / Client:

07:30 Sample Ref-1
Temp 6.40°C
pH = 7.11 s.u.
Cond = 193.0 µS/cm
RDO = 5.14 mg/l
Baro = 24.25 "Hg

Pore Water probe inserted 17cm below sediments

Samples collected:
Dissolved metals
Recoverable metals
Pore Water - Dissolved metals

Point saved in Trimble unit #1
(REF 01)
N 46.907751 71
W 110.67560152

Location: Butte Hughesville Date: 6/17/13

Project / Client:

BC-OB

Time: 13:15
pH 8.10 S.U.
Cond 163 µs/cm
DO 9.18 mg/L
Temp 10.28°C

Collected samples for TR and DM

Collected photo's using Steve Aust I-phone

Collected GPS Coordinates using GPS unit #2

Barker Hughesville 6/17/13

BC-0 Sampler Steve Auer

Time 14:01
Temp 11.30 °C
pH 8.05 s.u.
D.O. 8.37 mg/L
Cond 119 µs/cm

Collected samples for total recoverable and dissolved metals

Collected duplicate sample Labeled Dup-01

Collected field blank labeled FB-01

Weather was sunny and warm temps near 80°F, Thunderstorm in area

Belt Creek flowing too swift for flow measurement

Barker Hughesville 6/17/13

BC-1 Sampler Steve Auer

Time 14:35
Temp 10.84 °C
pH 7.95 s.u.
D.O. 8.63 mg/L
Cond 103 µs/cm

Collected samples for total and dissolved metals

No flow taken due to rapidly flowing water

2 photos taken - 1 upstream 1 downstream

Weather was sunny warm with temps near 80°F

Access site at stop sign at south end of Monarch next to fan maintenance building

Carpenter Creek 6/12/15

Alpha six
Time 14:55
Temp 10.89 °C
pH 7.89 SU
D.O. 8.91 mg/L
Cond 97 µS/cm

Collected samples for total and dissolved metals

Weather was sunny warm temps near 80°F. Cumulus clouds to the south and a thunder storm to the west

Water running very swift and clear

Collected samples upstream river left

Access station off of Alpha six road across bridge on west side

Barker Hughesville

DFBC-1 8:55 6/12/13

Sunny low 60s. Rainfall around 11:00pm last night but do not notice influence of rain on flow. No flow measurements taken here because someone was camping at this location and we did not want to impose. Sample and photo taken by Roger

temp 7.93°C cond 176 us/cm
pH 8.05 D.O. 10.92 mg/L

DFBC-10 9:20 6/12/13

Dave Rouse USFWS took flow measurements. Roger took sample and photo. DUP-002 taken here.

temp 7.59°C cond 175 us/cm
pH 8.12 D.O. 10.62 mg/L

Barker Hughesville 6/18/13

DFBC-15 9:45 6/18/13

Sunny, windy mid-60s. Flows are high from last night's rain. Steve Auer taking the flow. Roger took sample and photo. 1st photo is where sample taken above where flow measurements taken, 2nd photo of bridge as reference.

temp 7.83 °C Cond 177 us/cm
pH 8.11 D.O. 11.43 mg/L

DFBC-20 10:10 6/18/3

Sunny, mid-60s. Dave Rouse taking flow measurement. Roger H. took sample and photo of Dave taking flow measurements. Multiple vehicles going up road possibly to Block P Mine. Will check it out in the afternoon

temp 8.15 °C Cond 170 us/cm
pH 8.08 D.O. 13.25 mg/L

DFBC-22 10:40 6/18/13

Sunny, mid 60s, Steve Auer taking flow measurements Roger took sample and photo.

temp 8.74 °C Cond 162 us/cm
pH 8.02 D.O. 11.09 mg/L

Chain of custody completed on all previous samples taken today. Field Blank (FB-002) taken at 11:00 am.

DFBC-25 11:30 6/18/13

Sunny high 60s Dave Rouse taking flow measurement. Roger took sample and photo.

temp 8.43 °C Cond 152 us/cm
pH 7.92 D.O. 12.47 mg/L

Barker Hughesville 6/18/13

DFBC-30 11:40 6/18/13

Sunny low 70s. Steve Auer took samples and Roger took photo. Due to uncertainty about access and OSFS/private property boundary no flow measurements were taken.

temp 8.58°C cond 145 us/cm
pH 7.82 D.O. 10.61 mg/L

DFBC-35 11:45 6/18/13

See previous comment. Sample taken by Steve. Photo taken by Roger

temp 8.61°C Cond 145 us/cm
pH 7.66 D.O. 4.10 mg/L

calibration issue and this reading should not be used

DFBC-40 12:40 6/18/13

Sunny mid 70s. Dave Rouse took the flow and Roger took the sample and photo. During lunch Steve could not calibrate the DO on the previous field probe. A different probe has been calibrated and is now being used

temp 9.08°C cond 106 us/cm
pH 7.94 D.O. 9.49 mg/L

GC-0 1:10 6/18/13

Sunny almost 80. Steve taking flow measurement and Roger took sample and photo. Met up w/ Jim Fricke, RMC & Doe Run's contractor, and this will be the first station where splits will be taken. Fairly neutral pH @ this location

temp 11.97°C Cond 198 us/cm
pH 7.56 D.O. 8.70 mg/L

Barker Hughesville 6/18/13

DFBC-36 13:30 6/18/13

A representative composite sample was taken along the width of the DFBC after it flows through the culvert but before Galena Creek enters DFBC. This is an opportunistic sample taken to determine if alluvial groundwater is daylighting here. No field measurements were taken. Steve Auer took the sample and Roger H. took the photo.

RCP-0 13:45 6/18/13

Sample taken below culvert of water flowing from Block P Mill repository. Steve Auer took the sample and Roger took the sample. A split sample was taken and provided to BMC

temp 23.74°C cond 1606 us/cm
pH 5.94 D.O 5.69 mg/L

Barker Hughesville

DFBC-37 14:00 6/18/13

A representative composite sample was taken along width of DFBC above what is thought to be alluvial influence from Galena. This is an opportunistic sample taken to determine if alluvial groundwater is daylighting. No field measurements were taken. Steve Auer took the sample and Roger H. took the photo. Cloudy - possible rain.

Mill-Opp1 14:20 6/18/13
Mill-Pond 1 JC 8/23/13

When Doe Run took the limestone that used to form a parking lot, the resultant low area now has water pooling ~~more~~ late Spring. An opportunistic sample was taken by Steve Auer and split with BMC. Photo taken by Roger

temp 23.2°C cond 738 us/cm
pH 7.35 DO 12.13 mg/L

Barker Hughesville

Mill-Opp 2 14:55 6/18/13
Mill-Flow 1 LC 8/23/13
Opportunistic Sample taken of a good flow going through middle of flat area at toe of Block P Mill Repository. Sample taken by Steve Auer using a syringe. Splits provided to Jim Fricke, RMC.

temp. 20.73°C cond 460 us/cm
pH 7.42 D.O. 5.59 mg/L

Mill-Seep-008 15:10 6/18/13

sample taken where 008A + 008B form into one flow at Toe of Mill Repository. Sample taken by Steve A. using a syringe. Photo taken by Roger. Splits provided to RMC. Partly cloudy, slight wind. Flies are unbearable.
temp 4.97°C Cond. 2290 us/cm
pH 5.64 D.O. 4.49 mg/L

Barker Hughesville

Mill-Seep-007 15:25 6/18/13

Mill Seep 007 is a low flow seep emanating about 18 feet above toe of Mill repository. Sample taken by Steve Auer using a syringe. Splits provided by Steve to RMC. Photos taken by Roger H. Partly cloudy, windy mid 70s.

temp 9.31°C cond 2933 us/cm
pH 2.70 D.O. 9.91 mg/L

Mill Seep 006 15:40 6/18/13

Sample taken where Mill Seep 006A + 006B pool just before it becomes part of the flow at the toe.

temp 19.71°C Cond 2968 us/cm
pH 3.1 D.O. 5.04 mg/L

Sample taken by Steve with a syringe. Photos taken Roger H. Partly cloudy, windy mid-70s.

Location _____ Date _____

Project / Client _____

Mill Seep 001 15:50 6/18/13

Last Seep where sample taken. Sample taken by Steve Osing @ syringe. Ran out of bottles so no splits taken for RMC. Photos taken by Roger.

temp 12.07°C Cond. 1967 µS/cm
pH 4.61 D.O. 8.60 mg/L

Not as much iron staining in this seep as previous samples

Location _____ Date _____

Project / Client _____

GC-05 06/18/13

SS - Sherry Skipper
LC - Leslie Chesterson
DR - David Porse
RB - Ryan Bahnfleth

1535 SS, MW
Samples taken by MW - DM, TR

Temp 11.96 °C
pH 7.54 pH units
Cond 191.9 µS/cm
DO 8.08 mg/L

Site accessed off main road on Galena Creek directly across from old mill site (just beyond USFS repository)

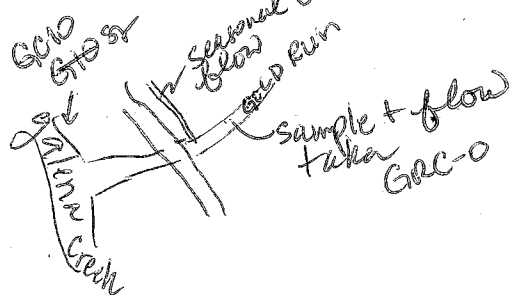
flows - DR
mostly cloudy, no wind ~78°C
Water is clear, ~~a little~~ some turbidity SS

photos by SS upstream ~~0548~~ 0546 SS
downstream 0547

SS

GRC-0 06/18/13
Barker - Hughesville

~~SS 15:40~~ 16:30 SS - SS, LC, DR
~~Ass~~ Accessed from main road on side of road away from Galena.



flows done by DR
mostly cloudy, no wind, ~78°C.
Thunderstorms in forecast.
Water in Creek is clear
Temp 9.68 °C
pH 7.66 pH units
Cond 148.9 µS/cm
DO 9.11 mg/L

Photos taken by SS upstream 0548
downstream 0549

SS

GC-10 06/18/13
Baker-Hughesville

1615 - SS, LC, RB
5.164 cfs - flow in Galena Creek by RB
See diagram on previous page for sample location.
Sampled close to FWP solar panel - pit tag station
Temp 12.87°C
pH 7.24 pH-units
Cond 220 uS/cm
DO 8.43 mg/L
Water is moderately turbid, running fast. Rocks stained milky red-brown

Overcast; no wind, ~75°F

photos - taken by LC upstream 0550
downstream 0551

SJ

GC-15 06/19/13
Baker-Hughesville
mike wofford = MW

GC-15 0845 SS, MW, RB
Accessed from road. Sampled upstream of culvert (goes under road)

Overcast - 56°F slight wind
water turbid, rocks stained milky red dish-brown
Temp 7.23 °C
pH 6.61 pH-units
Cond 220.3 uS/cm
DO 9.75 mg/L

- Samples - TR, DM by MW
- flow - RB
- photos - SS upstream 0552
downstream 0553

SJ

Barker Hughesville 06/19/13

GC-20 0900 DR, SS, MW
Accessed from lower split road into Barker, just beyond house and shed.

Partly cloudy, 60°F, no wind
Water is turbid, rocks stain milky reddish-brown
Evidence that water in creek was higher - banks are wet - soils saturated

Temp 6.9°C
pH 6.67 pH-units
Cond 254.1 uS/cm
DO 9.84 mg/L

Samples - TR, DM, taken by MW
flow (meter) - DR
photos - SS upstream 0554
downstream 0555

Barker Hughesville 06/19/13

GC-25 0935 SS, MW, RB
~~Ass~~ Accessed from dilapidated shed along road. Silver Creek cuts down hill. Sampling site downstream of Silver Creek mouth in Galena Creek

Partly Cloudy, 60°F, no wind

Water in creek is turbid, rocks stained reddish-brown. Evidence that creek was much higher recently ~~re~~ Wet rocks + soil along banks

Temp 7.37°C
pH 6.61 pH units
Cond 258.3 uS/cm
DO 9.56 mg/L

Sample collected by MW
Flow (meter) by RB
photos - SS upstream 0556
downstream 0557

Barker Hughesville 06/19/13

– 1000
GC-30 – Galena Creek below Block P mine
SS, MW, ~~DR~~ SJ
RB

Temp 7.38°C
pH 6.55 pH-units
Cond 266.4 uS/cm
DO 9.57 9.59

Ran into Doe Run crew – had feet in water at this site @ 9.15. All samples taken upstream of their entry

- Water is slightly turbid; evidence it was higher – wet rocks + soil on sides
- Partly cloudy – wind picking up, 60°F

photos – SS – upstream 0558
downstream 0559

Collection on Block P side of road, above culvert + above Doe Run activities

samples taken by MW – TR, DM

flow – RB

Barker Hughesville 06/19/13

SLVC-0 10:17 SS, MW DR
Accessed from main road, upstream of culvert

Samples taken by MW – TR – DM
photos SS upstream 0560
downstream 0561

flow (meter) – DR

Partly cloudy, light wind, ~62°F

Water is clear, evidence that is was recently higher – wet rocks + soil

Temp 8.61°C
pH 7.46 pH units
Cond 161.2 uS/cm
DO 9.42 mg/L

SJ

Barker - Hughesville 06/19/13

GC-35 10:30 SS, MW
Accessed from main road.
Site is upstream of Doe Run maintenance building and culvert

Partly cloudy; light breeze, ~62°F

Water is clear; evidence of recent higher creek levels - wet sand/sediment on sides. No staining evident however, some staining on rocks around culvert + tailings in creek bank.

Samples collected by MW
Photos - SS upstream 0562
downstream 0563

flows (meter) -

Temp	6.65	°C
pH	7.29	pH-units
Cond	170.6	µS/cm
DO	9.81	mg/L

Barker - Hughesville 06/19/13

GC-40 11:10
Daisy Creek. Accessed from pull-off at Green Creek. Walked down hill following ~~site~~ Green Creek and veered left until we found an opening to get to the creek.
Water is clear, reddish rocks - not sure if staining

Sky is clear, little wind, ~65°F

Sample - MW - TR DM
photos - SS - upstream - 0563
downstream - 0564
0565

Temp	6.18	
~~DO~~ pH	7.08	
Cond	171.8	→ jumping 172-173 around - settled @ 172
DO	9.93	

Barker Hughesville 06/19/13

GRNC-0 11:35 DR, SS MW
Accessed from pull-off at shed. Upstream of culvert on Green Creek

Water is clear - looks like level recently dropped

Partly cloudy, ~ 62°F, light wind

Samples - MW
photos - SS upstream 0572
downstream 0573

Temp 8.0°C
pH 7.54 pH-units
Cond 172.8 mS/cm
DO 9.57 mg/L

SY

GC-40 9/26/12

TIME 10:30
TEMP 6.54 °C
pH 6.98 S.U.
COND 304 us/cm
D.O. 9.85 mg/l

Samples were collected for

Dissolved Metals
Total Recoverable
Sediment

Dip 02 collected

4" Flume $H_a = 0.22$ $H_b = 0.08$

GC 32 14:00 6/19/13

Opportunistic sample of seep coming from below Block P Mine Adit. Weir has been constructed by Doe Run but no monitoring equipment seen. Sample taken below weir by Roger and photo also taken. GPS taken by Steve using Trimble #2.

temp 8.36°C cond 1395 us/cm
pH 3.06 D.O. 3.86 mg/L

GC-33 14:15 6/19/13

Opportunistic sample of seep coming a bit down from previous location. Sample taken w/ syringe by Steve and photo taken by Roger. GPS location taken by Steve using Trimble #2

temp 26.14°C cond 1417 us/cm
pH 3.33 D.O. 5.44 mg/L

GC-34 14:30 6/19/13

Another opportunistic sample taken at Toe of Block F Mine just before it enters Galena Creek. Sunny mid 70's windy conditions. Water is clear but very fine silty iron hydroxides at bottom. Water also appears to be stagnant. Sample taken by Steve using a syringe. Photo taken by Roger. GPS taken by Steve.

Temp 25.29°C cond 2388 us/cm
pH 3.12 D.O. 3.20 mg/L

GC-34A
Date 6/19/13
Time 14:45
Temp 24.33 °C
pH 5.62 s.u.
Cond 158 µs/cm
* D.O. 7.27 mg/L Took measurement in cup

Samplers Roger Hoogerheide
Joy Jenkins
Steve Auer

Opportunistic sample collected for total recoverable metals from consolidated portion of large seep area to the South of Galena Creek (River left) GPS collected using ESAT unit #2. Water is clear no staining on rocks and seep area is approx. 40 meters wide. Photo collected using Steve's I-phone by Steve A.

Parker Hughesville 9/9/13

BC-0B 13:15

Sluice Box State Park. Windy, Cloudy mid-60s. Water samples taken by Roger H. and sediment sample taken by Leslie C. No flow measurement taken because USGS gauging station nearby.

Temp 12.65 °C cond. 276 µs/cm
pH 8.32 D.O. 9.69 mg/L

Dog came while we were sampling and wanted to play fetch with a stick. Leslie + I took turns throwing. Photo taken by Roger.

Parker Hughesville 9/9/13

BC-0 13:50

Town of Monarch below Dry Fork Belt Creek confluence. Windy, cloudy mid-60s. Water and sediment samples taken by Roger H. Flow measurements taken by Leslie C. Majority of sediment taken on ~~left~~ east bank because too much rock on westside of creek.

Temp 14.51 °C cond. 192.1 µs/cm
pH 8.25 D.O. 8.88 mg/L

BC-1 14:35

Town of Monarch above confluence of DFBC. Access via Cascade County property. Windy, cloudy, mid-60s. Water + sediment samples taken by Roger H. Dup-02 taken at this location. Photo taken by Roger H.

Porter Hughesville 9/10/13

DFBC-10 8:20

5 bridge going up along Dry Fork Bell Creek. Sunny, high 60s. Roger took water and sediment samples, Dave took water and sediment samples, Dave of USFWS took flow measurement. Field parameters taken using YSI multiparameter - Unit 1.

pH ~~9.24~~ 8.05 cond 283 uS/cm
temp 9.29°C D.O. 9.56 mg/L

DFBC-15 9:00

6th bridge going up. Sunny, low 50s. Roger H. took water and sediment samples. Dup-01 was collected at this location. Dave W. took flow measurements + photo taken from Roger's camera.

pH 8.25 cond 283 uS/cm
temp 9.66°C DO 11.82 mg/L

Porter Hughesville 9/10/13

DFBC-20 10:10

Sunny, low 50s. Roger H. took water and sediment samples as well as a photo. Dave B. took flow measurements.

temp 10.53°C cond 274 uS/cm
pH 8.19 D.O. 11.43 mg/L

Field parameters taken in a deep pool near the bridge which may be a reason why there is an increase in temperature. Samples taken upstream of Dave flow measurements taken. Water samples collected in another deep pool.

DFBC-22 10:45

Sunny, low 60s. Roger took water sediment samples and a photo. Dave W. took flow measurements.

DFBC-25 11:00

RH Sampler. See photo looking downstream

T°C = 9.78
pH = 8.18
CondD ~ 251 µs/cm2
DO = ~~24.12~~ mg/L DW to Seems high?

Downstream of Smokehouse Creek

Will check. See Calibration log.
DO recalibrated
DO ~ 9.57 mg/L

DFBC-30 11:50

RH sampled. See photo looking downstream of where Dan is reading flow measurements downstream of Mckay Creek. Processing on running line between DFBC-7 private. Sunny, high CGS

pH 8.06 Cond 247 µs/cm2
Temp 10.0°C DO 9.59 mg/L

Field probe was recalibrated by Don Cobb.

DFBC-40 12:20

RH sampled. See photo looking downstream of where Dave R took flow measurements. Sunny, high [illegible]

Temp [illegible] [illegible] µs/cm2
pH [illegible] DO [illegible] mg/L

Barter Hughesville 9/10/13

RCP-C 13:15

Culvert was dry. No sample collected. Photo taken looking at the culvert with Roger's camera.

Mill Seep 001 13:30

Sample point was moist but no water available to take a sample. Photo taken using Roger's camera.

Mill Seep 003 13:32

Sample point was moist but no water available to take a sample. Photo taken using Roger's camera

Barter Hughesville 9/10/13

Mill Seep 006 13:35

Sample taken using a syringe. Steve Way and Roger A. took the sample & Roger took the photo. Water was very rust color and stagnant.

pH 2.46 condo 2215 uglcm²
temp 22.69°C D.O. 7.87 mg/L

Mill Seep 007 13:45

Sample Point was dry. Photo taken w/ Roger's camera

Mill Seep 008 13:55

Sample taken by Steve Way using a syringe. Roger took the photo. Water was rust color and stagnant

Filter test for so sample could not be filtered in the field.

temp 18.31 °C cond. 3940 µs/cm
pH 5.4 D.O. 0.5 mg/L
RH

1 seeps 004 + 005

Samples not taken due to amount of suspended solids and algae
RH
in the water. Seep 005 had a rust color but seep 004 looked clear.

GC-0 14:25

Confluence of Galena Creek & Dry Fork Belt Creek. Water sample collected by Steve Lo by and Sediment sample collected by Roger H. Photo taken by Roger

temp 14.99 °C Cond 319 µs/cm
pH 7.87 D.O. 4.34 mg/L

Flow collected by Dave W

GRC-0 14:50

Gold Run Creek. Water sample collected by Steve Way and Sediment collected by Roger. Photo taken by Roger.
Sunny, slight wind, low 70s

temp 12.48 °C Cond 244 µs/cm
pH 8.03 D.O. 5.29 mg/L

Flow collected by Dave R.

Barker Hughesville 9/10/13

GC-10 15:00

Galena Creek just below confluence w/ Gold Run Creek. Sunny, low TOS. Water sample collected by Steve Way, Sediment sample collected by Roger. Photo collected by Roger. Flow measurement collected by Dave R.

Temp 14.18°C Cond 312 us/cm²
pH 7.85 D.O. 4.82 mg/L

GC-15 15:30

At Culvert just below forks in road. Sunny, windy, low TOS. Don Wall took flow measurements and water samples. Roger H. took sediment samples. Water is slightly cloudy possibly

Barker Hughesville 9/10/13

due to injection of green dye by RMC near the Block P Mine.

temp 17.1°C Cond. 358 us/cm²
pH 7.24 D.O. 3.49 mg/L

GC-20 9/10/13 15:55
Temp = 16.18 °C Cond = 384 uS/cm²
pH = 7.31 D.O. = 4.26 mg/L

GC-25 9/10/13 16:30
Sample collected by Don W
Photo taken upstream

Temp = 15.50 °C
pH = 6.96
Cond = 383 uS/cm²
DO = 4.43 mg/L

9/10/13

Baker

9/10/13
GC-30 DO Sampler

Pic taken downstream
David R taking flows

T = 14.68°C pH = 7.02
Cond = 377 µS/cm² DO = 4.92 mg/L

9-11-13

SLUC-0 Sampler SG

TIME 0900
Temp 9.17°C
pH 6.38
Cond 232 µ/cm²
DO 9.11 mg/L

Sunny 40°S
Flume set up for flow
readings below where
samples collected
David R taking flows

[illegible]
[illegible] Flume
[illegible]
[illegible]

9-11-13

GC 35 Sample 56

Time 0930
pH 7.01
Temp 7.27°C
Cond 276 µ/cm²
DO 9.68 mg/L

Flows & samples collected
upstream culvert &
green building

Sunny & mid 40's F

9-11-13

SRNCO Sample 56

Time 1000
Temp 7.49°C
pH 7.89
Cond 240 µ/cm²
DO 9.87 mg/L

Flows taken by Pond R
Flows & samples taken
upstream off culvert

Sunny & 50's F

7-11-13

GC-40 Kruger

Time 10:30 am
Temp 8.30 °C
pH 7.56
Cond 976 µS/cm
DO 9.57 mg/L

Sunny, clear 50°s

7-11-13

GC-5 and Pump 3

Time 2:15
pH 7.71
Temp 11.4 °C
Cond 315 µS/cm
DO 7.04 mg/L

sunny, clear 70°
pump 2 taking flows
location next to pond and
GC monitoring well

Attachment B
Stream Discharge Summary Sheets

Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information

File Name	DFBC10.WAD
Start Date and Time	2013/06/18 08:28:01

Site Details

Site Name	DFBC10
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	0.1%	0.8%
Velocity	0.8%	1.8%
Width	0.1%	0.1%
Method	1.7%	-
# Stations	2.0%	-
Overall	**2.9%**	**2.2%**

Summary

Averaging Int.	40	# Stations	25
Start Edge	REW	Total Width	24.200
Mean SNR	36.5 dB	Total Area	33.340
Mean Temp	45.43 °F	Mean Depth	1.378
Disch. Equation	Mid-Section	Mean Velocity	2.6104
		Total Discharge	**87.0294**

Measurement Results

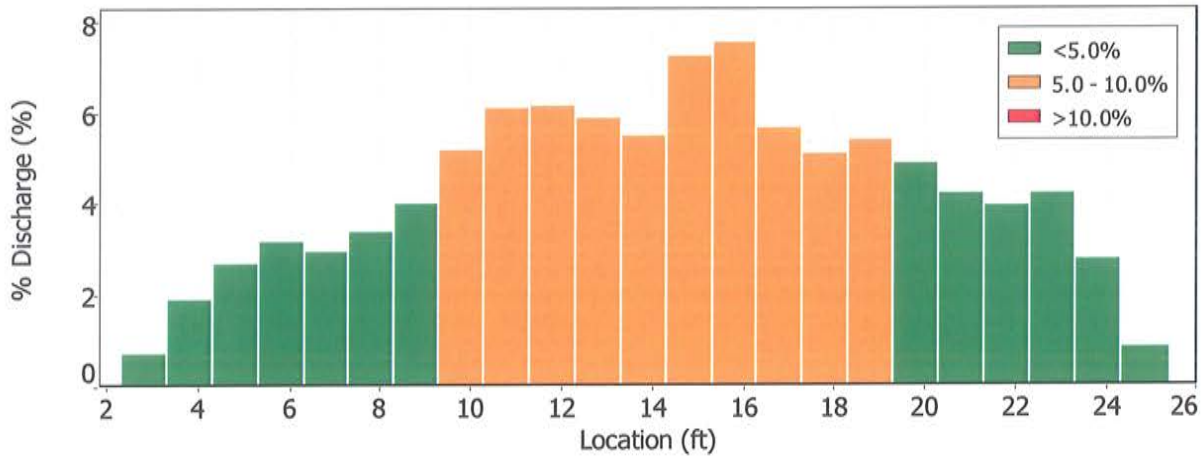
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	08:28	1.80	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	08:28	2.80	0.6	0.400	0.6	0.160	1.5620	1.00	1.5620	0.400	0.6247	0.7
2	08:29	3.80	0.6	1.000	0.6	0.400	1.6801	1.00	1.6801	1.000	1.6801	1.9
3	08:31	4.80	0.6	1.300	0.6	0.520	1.8127	1.00	1.8127	1.300	2.3562	2.7
4	08:32	5.80	0.6	1.250	0.6	0.500	2.2195	1.00	2.2195	1.250	2.7744	3.2
5	08:33	6.80	0.6	1.300	0.6	0.520	1.9843	1.00	1.9843	1.300	2.5793	3.0
6	08:34	7.80	0.6	1.400	0.6	0.560	2.1220	1.00	2.1220	1.400	2.9707	3.4
7	08:36	8.80	0.6	1.450	0.6	0.580	2.4242	1.00	2.4242	1.450	3.5154	4.0
8	08:38	9.80	0.6	1.600	0.6	0.640	2.8435	1.00	2.8435	1.600	4.5498	5.2
9	08:39	10.80	0.6	1.700	0.6	0.680	3.1322	1.00	3.1322	1.700	5.3252	6.1
10	08:40	11.80	0.6	1.750	0.6	0.700	3.0620	1.00	3.0620	1.750	5.3585	6.2
11	08:41	12.80	0.6	1.750	0.6	0.700	2.9488	1.00	2.9488	1.750	5.1604	5.9
12	08:42	13.80	0.6	1.700	0.6	0.680	2.8173	1.00	2.8173	1.700	4.7897	5.5
13	08:43	14.80	0.6	1.800	0.6	0.720	3.5135	1.00	3.5135	1.800	6.3238	7.3
14	08:45	15.80	0.6	1.700	0.6	0.680	3.8855	1.00	3.8855	1.700	6.6059	7.6
15	08:46	16.80	0.6	1.650	0.6	0.660	2.9925	1.00	2.9925	1.650	4.9374	5.7
16	08:47	17.80	0.6	1.650	0.6	0.660	2.7060	1.00	2.7060	1.650	4.4648	5.1
17	08:48	18.80	0.6	1.650	0.6	0.660	2.8543	1.00	2.8543	1.650	4.7095	5.4
18	08:49	19.80	0.6	1.700	0.6	0.680	2.5092	1.00	2.5092	1.700	4.2659	4.9
19	08:51	20.80	0.6	1.600	0.6	0.640	2.3002	1.00	2.3002	1.600	3.6805	4.2
20	08:52	21.80	0.6	1.500	0.6	0.600	2.3156	1.00	2.3156	1.500	3.4734	4.0
21	08:54	22.80	0.6	1.300	0.6	0.520	2.8412	1.00	2.8412	1.300	3.6932	4.2
22	08:55	23.80	0.6	1.200	0.6	0.480	2.0394	1.00	2.0394	1.200	2.4475	2.8
23	08:56	24.80	0.6	0.900	0.6	0.360	0.7507	1.00	0.7507	0.990	0.7431	0.9
24	08:56	26.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

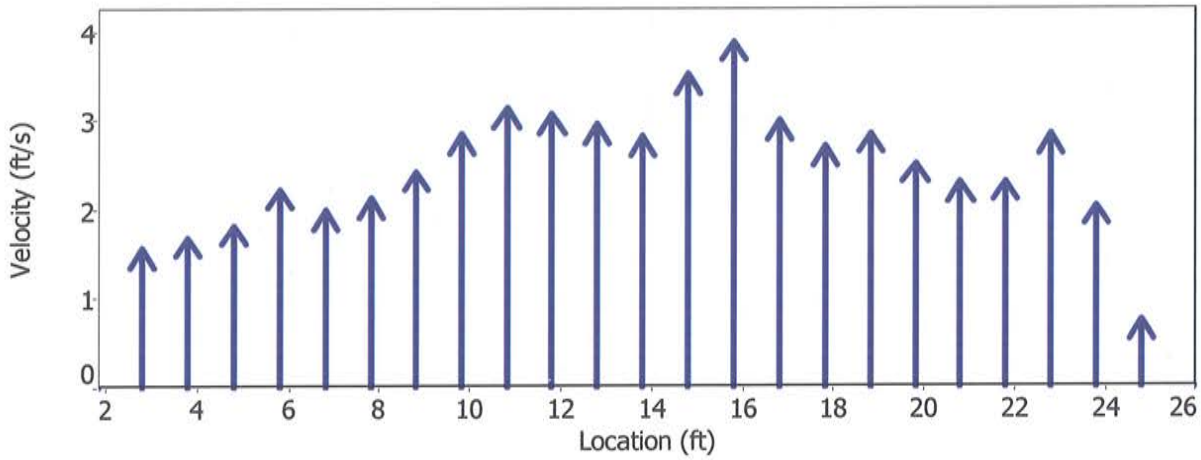
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

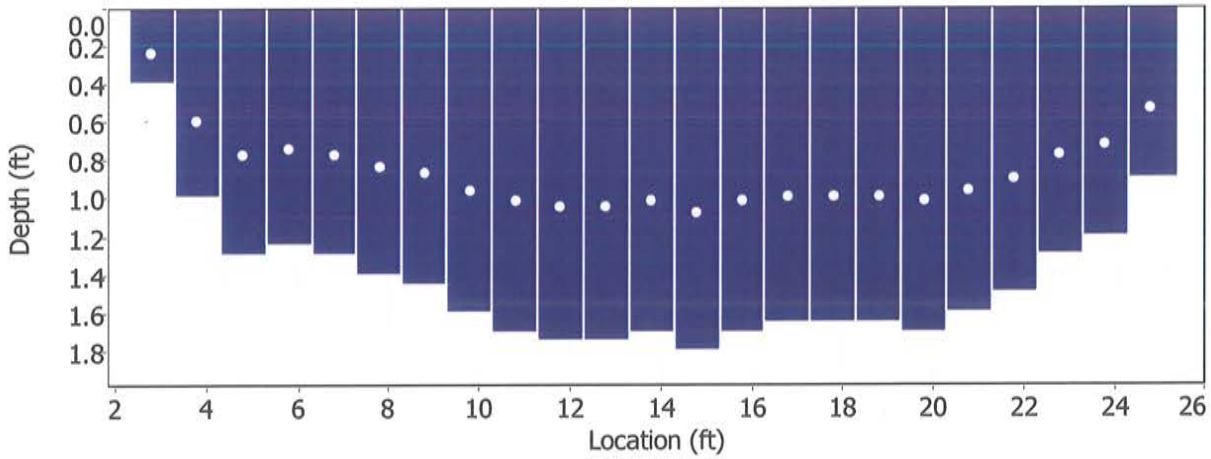
Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	DFBC10.WAD	Site Name	DFBC10
Start Date and Time	2013/06/18 08:28:01	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	DFBC10.WAD	Site Name	DFBC10
Start Date and Time	2013/06/18 08:28:01	Operator(s)	DR

Quality Control

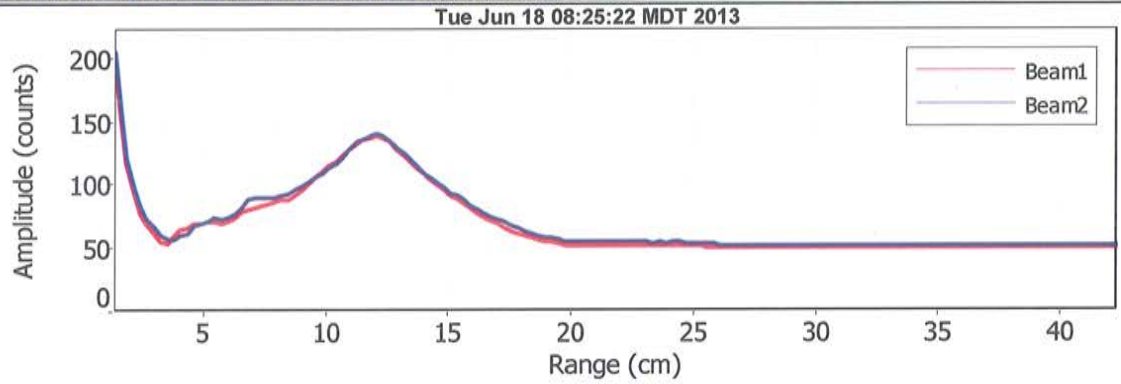
No Quality Control warnings

Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	DFBC10.WAD	Site Name	DFBC10
Start Date and Time	2013/06/18 08:28:01	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: Tue Dec 10 2013

File Information

File Name	DFBC20.WAD
Start Date and Time	2013/06/18 09:22:50

Site Details

Site Name	DFBC20
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	0.1%	2.2%
Velocity	0.8%	6.1%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.3%	-
Overall	**3.2%**	**6.6%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	REW	Total Width	30.200
Mean SNR	38.5 dB	Total Area	32.173
Mean Temp	47.04 °F	Mean Depth	1.065
Disch. Equation	Mid-Section	Mean Velocity	3.2915
		Total Discharge	**105.8958**

Measurement Results

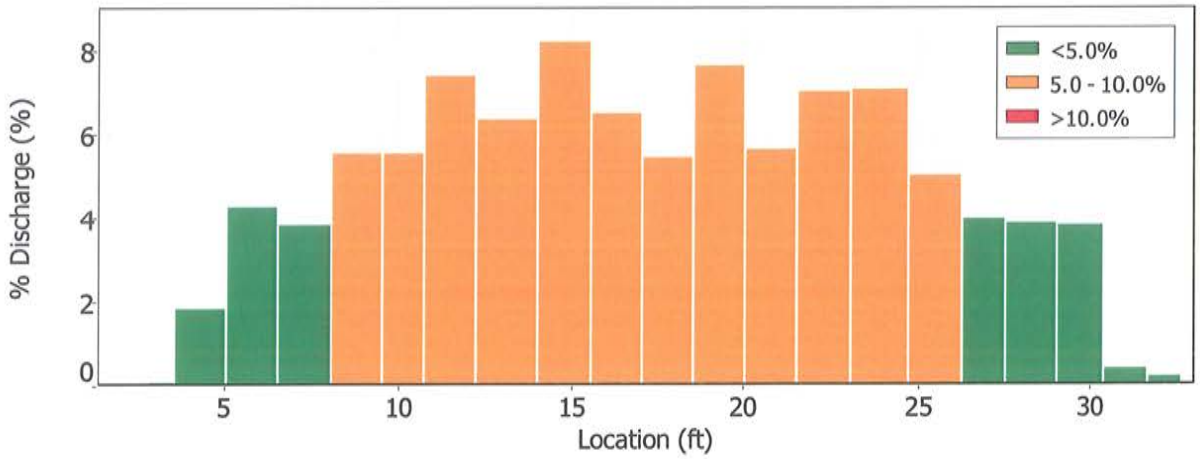
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	09:22	2.80	None	0.050	0.0	0.0	0.0000	1.00	1.8606	0.037	0.0696	0.1
1	09:22	4.30	0.6	0.700	0.6	0.280	1.8606	1.00	1.8606	1.050	1.9540	1.8
2	09:24	5.80	0.6	1.200	0.6	0.480	2.5217	1.00	2.5217	1.800	4.5395	4.3
3	09:34	7.30	0.6	1.300	0.6	0.520	2.0810	1.00	2.0810	1.950	4.0576	3.8
4	09:35	8.80	0.6	1.300	0.6	0.520	3.0217	1.00	3.0217	1.950	5.8916	5.6
5	09:36	10.30	0.6	1.300	0.6	0.520	3.7753	1.00	3.7753	1.560	5.8895	5.6
6	09:40	11.20	0.6	1.150	0.6	0.460	4.5600	1.00	4.5600	1.725	7.8656	7.4
7	09:43	13.30	0.6	1.200	0.6	0.480	3.1243	1.00	3.1243	2.160	6.7488	6.4
8	09:44	14.80	0.6	1.100	0.6	0.440	5.2848	1.00	5.2848	1.650	8.7204	8.2
9	09:46	16.30	0.6	1.300	0.6	0.520	3.5459	1.00	3.5459	1.950	6.9139	6.5
10	09:49	17.80	0.6	1.200	0.6	0.480	3.2126	1.00	3.2126	1.800	5.7833	5.5
11	09:49	19.30	0.6	1.200	0.6	0.480	4.5020	1.00	4.5020	1.800	8.1044	7.7
12	09:52	20.80	0.6	1.250	0.6	0.500	3.1831	1.00	3.1831	1.875	5.9683	5.6
13	09:53	22.30	0.6	1.200	0.6	0.480	4.1467	1.00	4.1467	1.800	7.4648	7.0
14	09:54	23.80	0.6	1.050	0.6	0.420	4.2083	1.00	4.2083	1.785	7.5115	7.1
15	09:56	25.70	0.6	1.000	0.6	0.400	3.5636	1.00	3.5636	1.500	5.3455	5.0
16	09:58	26.80	0.6	0.850	0.6	0.340	3.8261	1.00	3.8261	1.105	4.2278	4.0
17	09:59	28.30	0.6	1.200	0.6	0.480	2.2966	1.00	2.2966	1.800	4.1343	3.9
18	10:00	29.80	0.6	1.000	0.6	0.400	2.9951	1.00	2.9951	1.350	4.0436	3.8
19	10:01	31.00	0.6	0.900	0.6	0.360	0.3878	1.00	0.3878	1.125	0.4362	0.4
20	10:03	32.30	0.6	0.400	0.6	0.160	0.5643	1.00	0.5643	0.400	0.2257	0.2
21	10:03	33.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

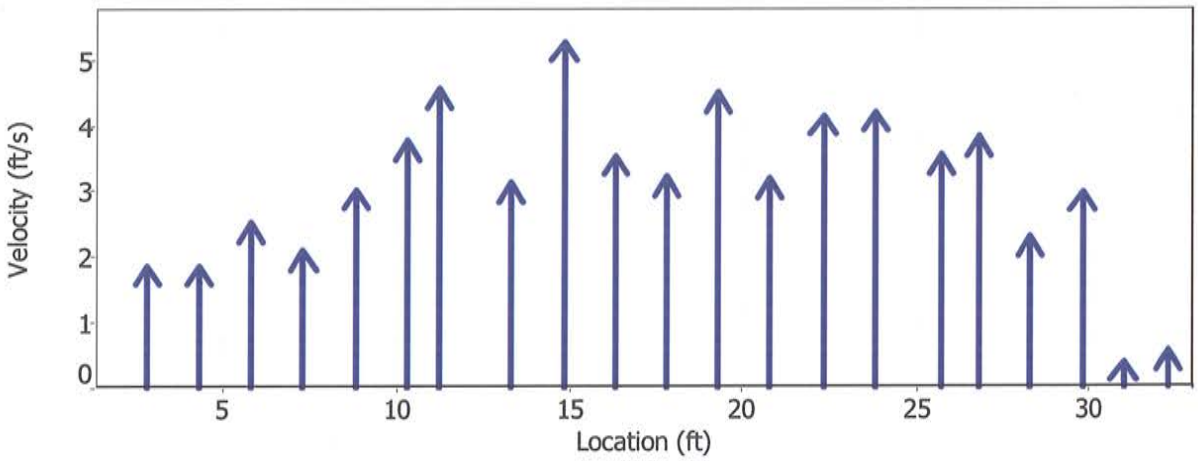
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

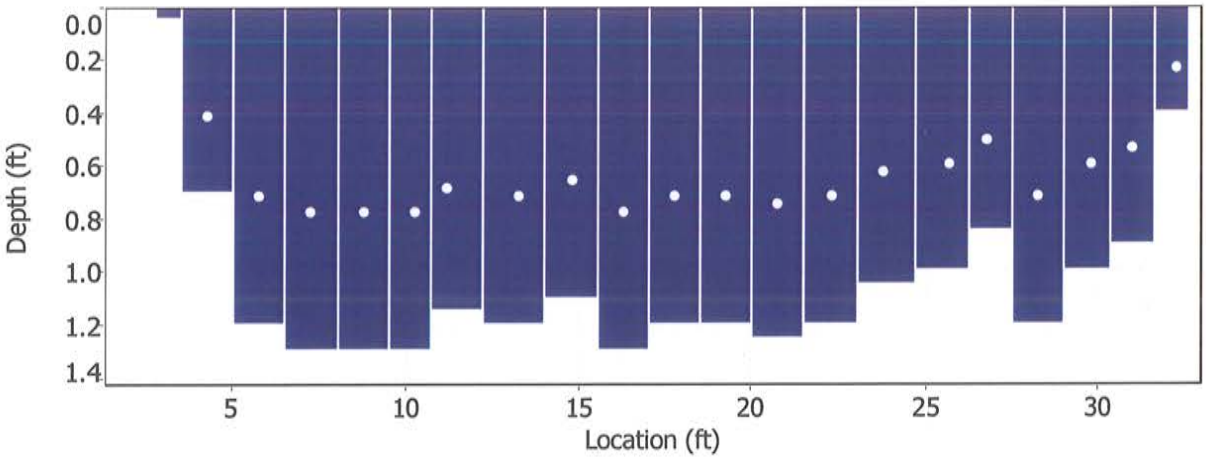
Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	DFBC20.WAD	Site Name	DFBC20
Start Date and Time	2013/06/18 09:22:50	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	DFBC20.WAD	Site Name	DFBC20
Start Date and Time	2013/06/18 09:22:50	Operator(s)	DR

Quality Control

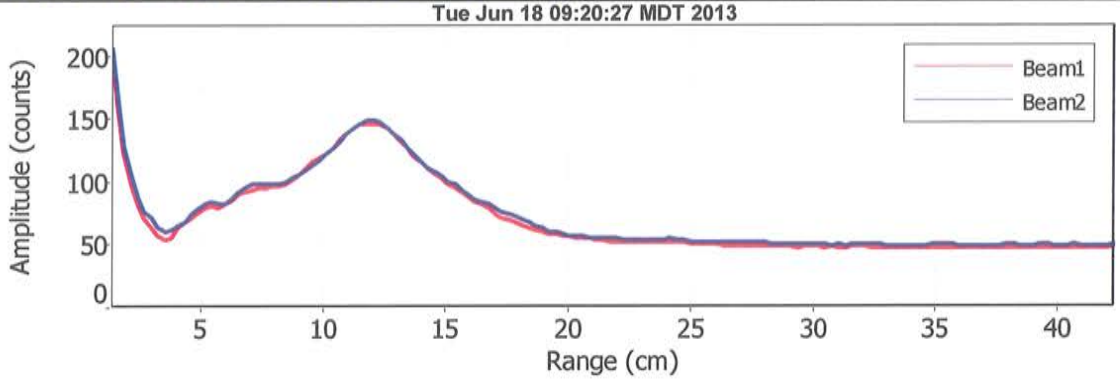
No Quality Control warnings

Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	DFBC20.WAD	Site Name	DFBC20
Start Date and Time	2013/06/18 09:22:50	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 10 2013

File Information

File Name	DFBC25.WAD
Start Date and Time	2013/06/18 10:30:46

Site Details

Site Name	DFBC25
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	0.1%	3.6%
Velocity	1.0%	3.8%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.3%	-
Overall	**3.3%**	**5.3%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	LEW	Total Width	20.300
Mean SNR	39.3 dB	Total Area	27.500
Mean Temp	46.90 °F	Mean Depth	1.355
Disch. Equation	Mid-Section	Mean Velocity	2.8716
		Total Discharge	**78.9685**

Measurement Results

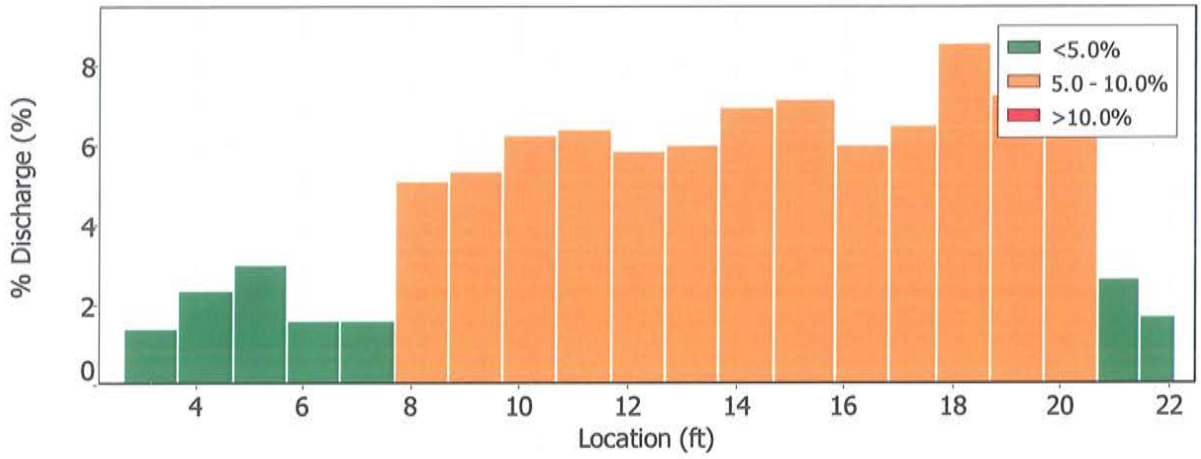
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	10:30	2.20	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	10:33	3.20	0.6	0.900	0.6	0.360	1.2156	1.00	1.2156	0.900	1.0939	1.4
2	10:34	4.20	0.6	0.900	0.6	0.360	2.0279	1.00	2.0279	0.900	1.8250	2.3
3	10:37	5.20	0.6	1.000	0.6	0.400	2.3704	1.00	2.3704	1.000	2.3704	3.0
4	10:39	6.20	0.6	1.250	0.6	0.500	0.9941	1.00	0.9941	1.250	1.2426	1.6
5	10:40	7.20	0.6	1.300	0.6	0.520	0.9718	1.00	0.9718	1.300	1.2632	1.6
6	10:41	8.20	0.6	1.350	0.6	0.540	2.9790	1.00	2.9790	1.350	4.0218	5.1
7	10:42	9.20	0.6	1.350	0.6	0.540	3.1276	1.00	3.1276	1.350	4.2225	5.3
8	10:44	10.20	0.6	1.350	0.6	0.540	3.6335	1.00	3.6335	1.350	4.9055	6.2
9	10:45	11.20	0.6	1.350	0.6	0.540	3.7316	1.00	3.7316	1.350	5.0379	6.4
10	10:46	12.20	0.6	1.450	0.6	0.580	3.1795	1.00	3.1795	1.450	4.6106	5.8
11	10:47	13.20	0.6	1.350	0.6	0.540	3.4984	1.00	3.4984	1.350	4.7230	6.0
12	10:48	14.20	0.6	1.300	0.6	0.520	4.1991	1.00	4.1991	1.300	5.4583	6.9
13	10:50	15.20	0.6	1.200	0.6	0.480	4.0883	1.00	4.0883	1.380	5.6421	7.1
14	10:55	16.50	0.6	1.900	0.6	0.760	2.4934	1.00	2.4934	1.900	4.7374	6.0
15	10:56	17.20	0.6	1.900	0.6	0.760	3.1749	1.00	3.1749	1.615	5.1276	6.5
16	10:59	18.20	0.6	2.300	0.6	0.920	2.9285	1.00	2.9285	2.300	6.7351	8.5
17	11:00	19.20	0.6	2.100	0.6	0.840	2.7254	1.00	2.7254	2.100	5.7235	7.2
18	11:02	20.20	0.6	2.300	0.6	0.920	2.9682	1.00	2.9682	2.300	6.8264	8.6
19	11:03	21.20	0.6	0.800	0.6	0.320	3.4715	1.00	3.4715	0.600	2.0825	2.6
20	11:09	21.70	0.6	0.700	0.6	0.280	2.8986	1.00	2.8986	0.455	1.3190	1.7
21	11:09	22.50	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

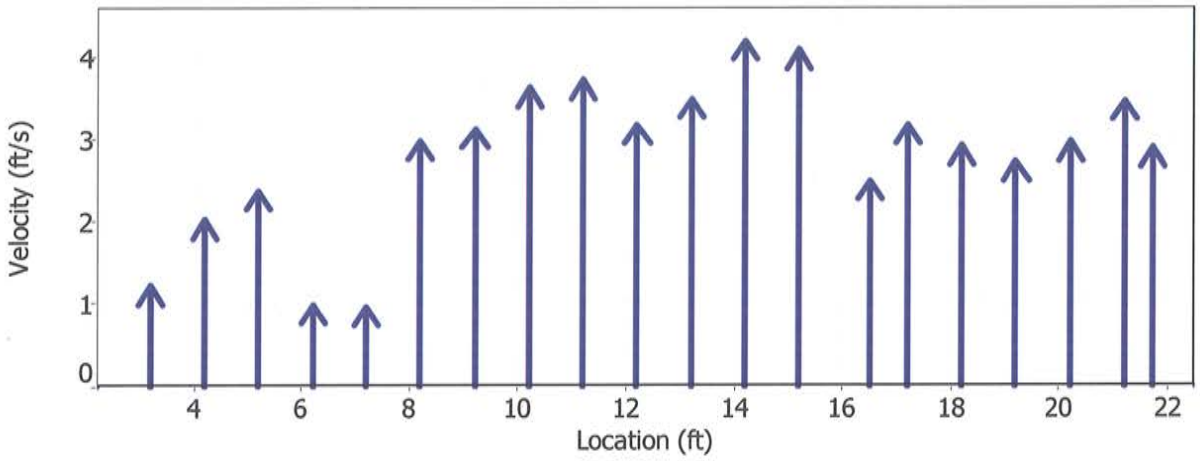
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

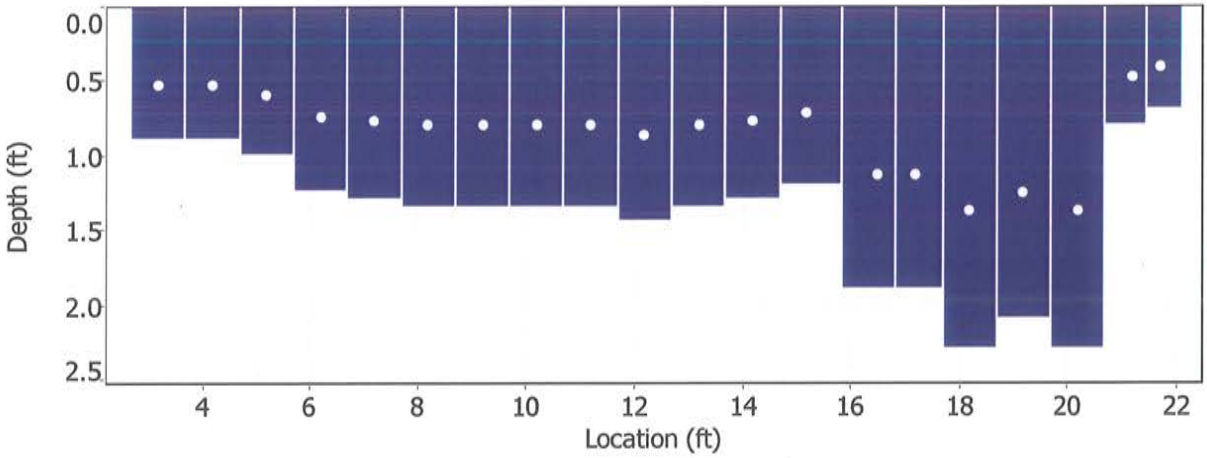
Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	DFBC25.WAD	Site Name	DFBC25
Start Date and Time	2013/06/18 10:30:46	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	DFBC25.WAD	Site Name	DFBC25
Start Date and Time	2013/06/18 10:30:46	Operator(s)	DR

Quality Control

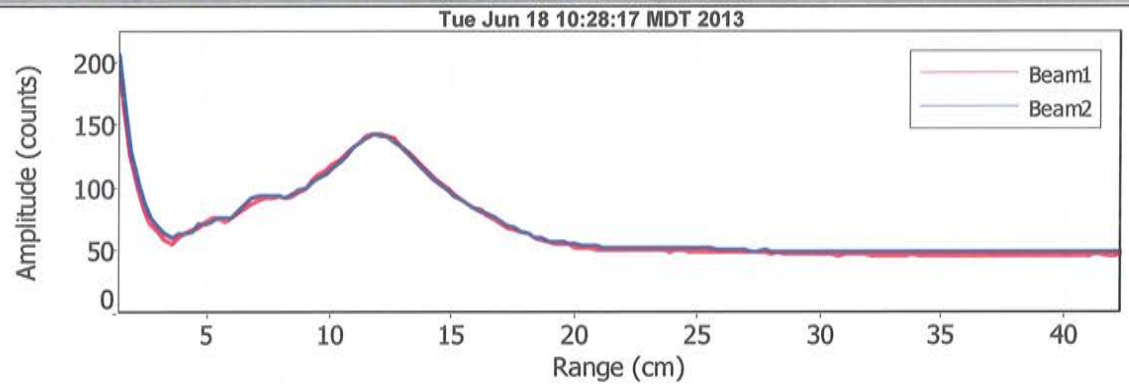
No Quality Control warnings

Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	DFBC25.WAD	Site Name	DFBC25
Start Date and Time	2013/06/18 10:30:46	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 10 2013

File Information

File Name	DFBC40.H13.WAD
Start Date and Time	2013/06/18 11:52:51

Site Details

Site Name	DFBC40
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%	1.7%
Velocity	1.0%	3.2%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.2%	-
Overall	**3.2%**	**3.8%**

Summary

Averaging Int.	40	# Stations	23
Start Edge	REW	Total Width	27.401
Mean SNR	35.9 dB	Total Area	24.105
Mean Temp	48.35 °F	Mean Depth	0.880
Disch. Equation	Mid-Section	Mean Velocity	2.0040
		Total Discharge	**48.3069**

Measurement Results

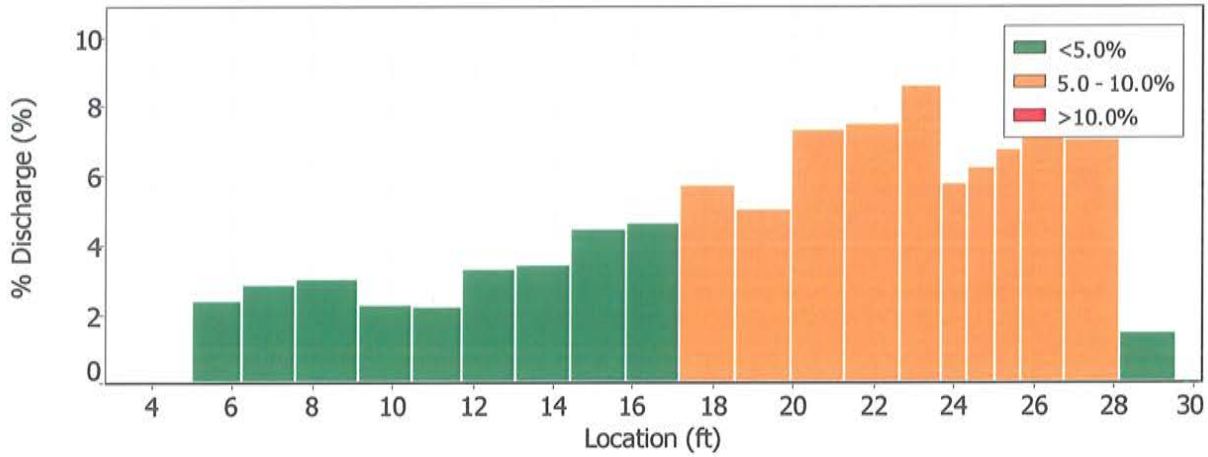
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	11:52	2.80	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	11:55	4.50	0.6	0.300	0.6	0.120	-0.0082	1.00	-0.0082	0.411	-0.0034	0.0
2	11:57	5.54	0.6	0.500	0.6	0.200	1.8983	1.00	1.8983	0.603	1.1438	2.4
3	11:59	6.91	0.6	0.500	0.6	0.200	2.0154	1.00	2.0154	0.685	1.3806	2.9
4	12:02	8.28	0.6	0.500	0.6	0.200	1.8976	1.00	1.8976	0.772	1.4659	3.0
5	12:06	10.00	0.6	0.500	0.6	0.200	1.5837	1.00	1.5837	0.685	1.0847	2.2
6	12:08	11.02	0.6	0.500	0.6	0.200	1.7730	1.00	1.7730	0.598	1.0594	2.2
7	12:10	12.39	0.6	0.600	0.6	0.240	1.9364	1.00	1.9364	0.822	1.5919	3.3
8	12:11	13.76	0.6	0.550	0.6	0.220	2.2047	1.00	2.2047	0.753	1.6610	3.4
9	12:13	15.13	0.6	0.650	0.6	0.260	2.4088	1.00	2.4088	0.890	2.1449	4.4
10	12:16	16.50	0.6	0.800	0.6	0.320	2.0292	1.00	2.0292	1.096	2.2238	4.6
11	12:17	17.87	0.6	0.900	0.6	0.360	2.2431	1.00	2.2431	1.233	2.7657	5.7
12	12:20	19.24	0.6	0.900	0.6	0.360	1.9806	1.00	1.9806	1.233	2.4421	5.1
13	12:21	20.61	0.6	1.000	0.6	0.400	2.5784	1.00	2.5784	1.370	3.5326	7.3
14	12:23	21.98	0.6	1.200	0.6	0.480	2.2123	1.00	2.2123	1.644	3.6376	7.5
15	12:24	23.35	0.6	1.550	0.6	0.620	2.6572	1.00	2.6572	1.565	4.1581	8.6
16	12:32	24.00	0.6	1.600	0.6	0.640	2.5558	1.00	2.5558	1.096	2.8014	5.8
17	12:25	24.72	0.6	1.700	0.6	0.680	2.7379	1.00	2.7379	1.105	3.0253	6.3
18	12:33	25.30	0.6	1.900	0.6	0.760	2.5036	1.00	2.5036	1.302	3.2585	6.7
19	12:27	26.09	0.6	2.100	0.6	0.840	2.1165	1.00	2.1165	2.269	4.8027	9.9
20	12:28	27.46	0.6	1.800	0.6	0.720	1.3845	1.00	1.3845	2.466	3.4142	7.1
21	12:29	28.83	0.6	1.100	0.6	0.440	0.4751	1.00	0.4751	1.507	0.7160	1.5
22	12:29	30.20	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

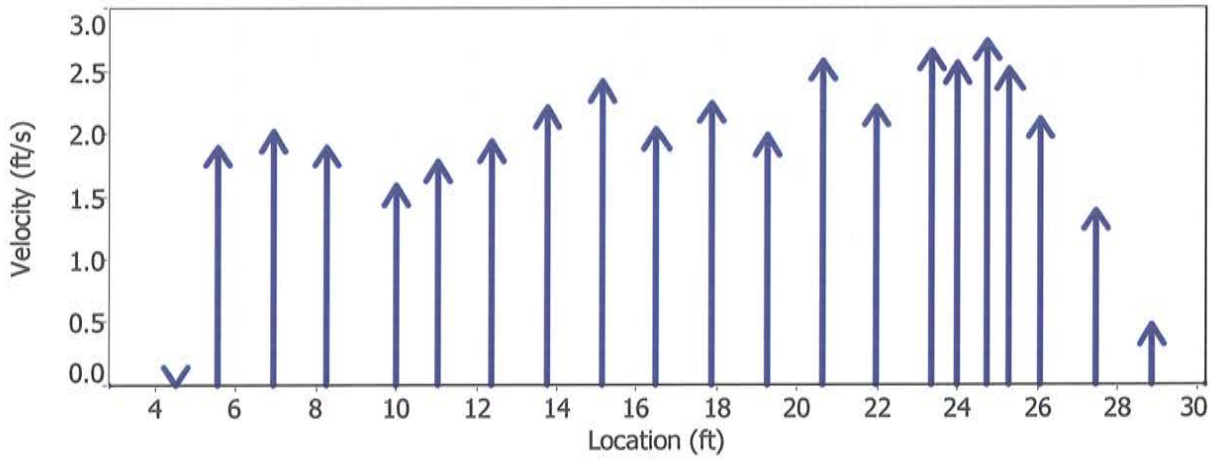
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

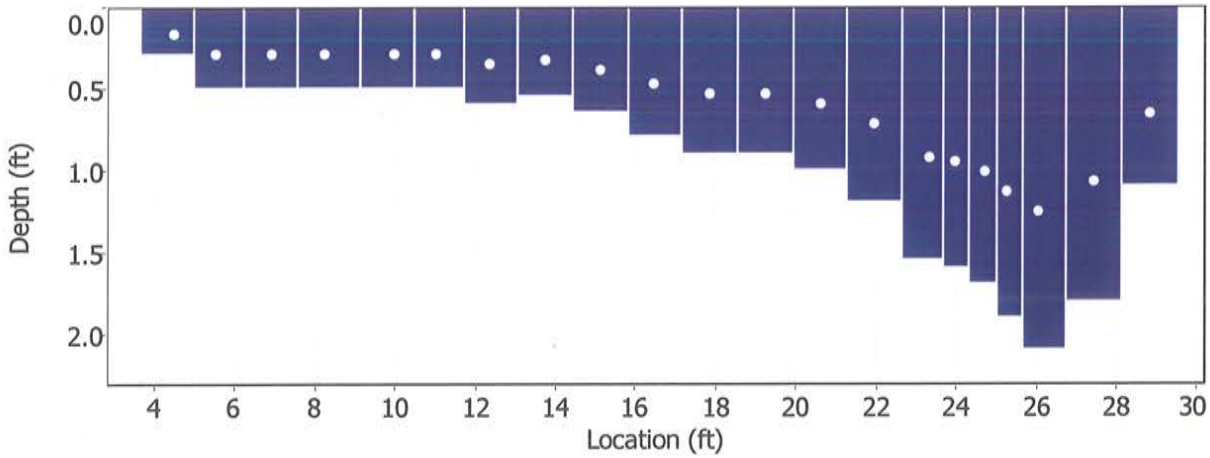
Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	DFBC40.H13.WAD	Site Name	DFBC40
Start Date and Time	2013/06/18 11:52:51	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	DFBC40.H13.WAD	Site Name	DFBC40
Start Date and Time	2013/06/18 11:52:51	Operator(s)	DR

Quality Control

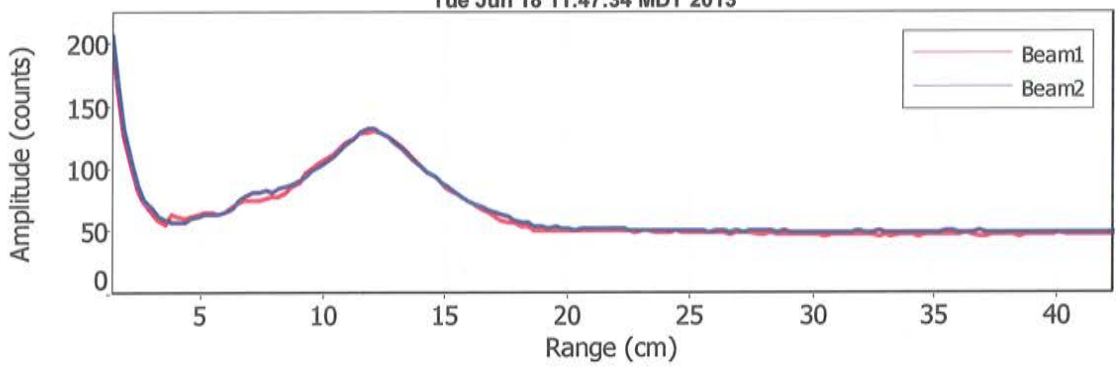
No Quality Control warnings

Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	DFBC40.H13.WAD	Site Name	DFBC40
Start Date and Time	2013/06/18 11:52:51	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 10 2013

File Information	
File Name	GC5.WAD
Start Date and Time	2013/06/18 12:57:52

Site Details	
Site Name	GC5
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%	0.9%
Velocity	1.1%	4.5%
Width	0.1%	0.1%
Method	1.5%	-
# Stations	1.7%	-
Overall	**2.7%**	**4.7%**

Summary

Averaging Int.	40	# Stations	30
Start Edge	REW	Total Width	11.000
Mean SNR	43.6 dB	Total Area	8.000
Mean Temp	53.33 °F	Mean Depth	0.727
Disch. Equation	Mid-Section	Mean Velocity	1.3078
		Total Discharge	**10.4621**

Measurement Results

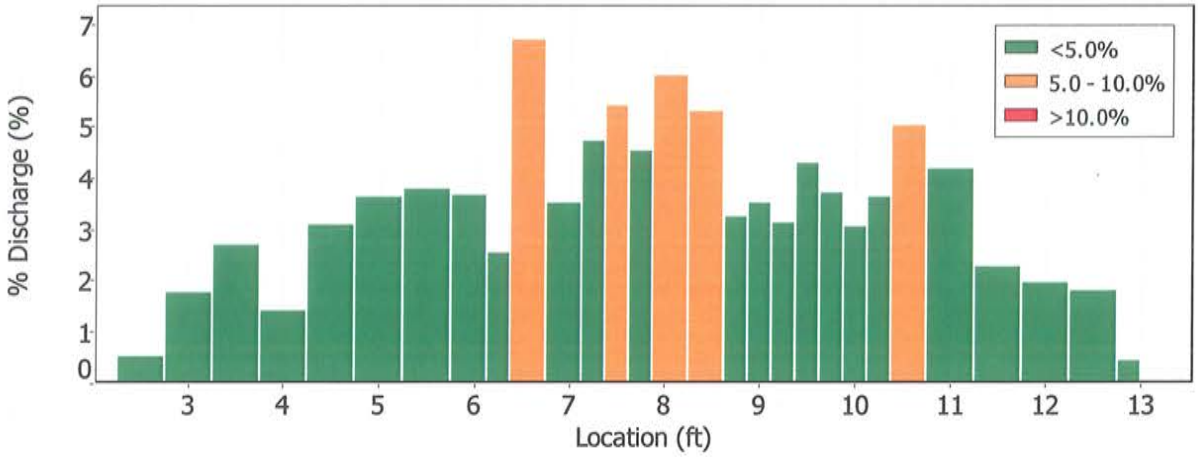
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	12:57	2.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	13:04	2.50	0.6	0.250	0.6	0.100	0.4534	1.00	0.4534	0.125	0.0567	0.5
2	13:06	3.00	0.6	0.400	0.6	0.160	0.9262	1.00	0.9262	0.200	0.1852	1.8
3	13:10	3.50	0.6	0.450	0.6	0.180	1.2618	1.00	1.2618	0.225	0.2840	2.7
4	13:11	4.00	0.6	0.500	0.6	0.200	0.5938	1.00	0.5938	0.250	0.1485	1.4
5	13:12	4.50	0.6	0.600	0.6	0.240	1.0830	1.00	1.0830	0.300	0.3249	3.1
6	13:13	5.00	0.6	0.600	0.6	0.240	1.2677	1.00	1.2677	0.300	0.3804	3.6
7	13:14	5.50	0.6	0.650	0.6	0.260	1.2244	1.00	1.2244	0.325	0.3979	3.8
8	13:18	6.00	0.6	0.800	0.6	0.320	1.2805	1.00	1.2805	0.300	0.3841	3.7
9	13:23	6.25	0.6	0.900	0.6	0.360	1.1916	1.00	1.1916	0.225	0.2681	2.6
10	13:37	6.50	0.6	1.000	0.6	0.400	1.8812	1.00	1.8812	0.375	0.7055	6.7
11	13:38	7.00	0.6	1.000	0.6	0.400	0.9839	1.00	0.9839	0.375	0.3690	3.5
12	14:26	7.25	0.6	0.900	0.6	0.360	2.2047	1.00	2.2047	0.225	0.4960	4.7
13	13:48	7.50	0.6	1.000	0.6	0.400	2.2726	1.00	2.2726	0.250	0.5682	5.4
14	*14:25*	*7.75*	*0.6*	*1.000*	*0.6*	*0.400*	*1.8996*	*1.00*	*1.8996*	*0.250*	*0.4749*	*4.5*
15	13:49	8.00	0.6	1.000	0.6	0.400	1.6798	1.00	1.6798	0.375	0.6299	6.0
16	*14:04*	*8.50*	*0.6*	*0.900*	*0.6*	*0.360*	*1.6568*	*1.00*	*1.6568*	*0.337*	*0.5591*	*5.3*
17	*14:05*	*8.75*	*0.6*	*0.800*	*0.6*	*0.320*	*1.7064*	*1.00*	*1.7064*	*0.200*	*0.3412*	*3.3*
18	*14:06*	*9.00*	*0.6*	*0.850*	*0.6*	*0.340*	*1.7474*	*1.00*	*1.7474*	*0.213*	*0.3713*	*3.5*
19	*14:07*	*9.25*	*0.6*	*0.850*	*0.6*	*0.340*	*1.5440*	*1.00*	*1.5440*	*0.213*	*0.3281*	*3.1*
20	*14:08*	*9.50*	*0.6*	*0.850*	*0.6*	*0.340*	*2.1148*	*1.00*	*2.1148*	*0.213*	*0.4494*	*4.3*
21	*14:09*	*9.75*	*0.6*	*0.850*	*0.6*	*0.340*	*1.8268*	*1.00*	*1.8268*	*0.213*	*0.3882*	*3.7*
22	*14:10*	*10.00*	*0.6*	*0.900*	*0.6*	*0.360*	*1.4190*	*1.00*	*1.4190*	*0.225*	*0.3192*	*3.1*
23	*14:11*	*10.25*	*0.6*	*0.900*	*0.6*	*0.360*	*1.6883*	*1.00*	*1.6883*	*0.225*	*0.3798*	*3.6*
24	14:13	10.50	0.6	0.900	0.6	0.360	1.5682	1.00	1.5682	0.337	0.5292	5.1
25	14:14	11.00	0.6	1.000	0.6	0.400	0.8786	1.00	0.8786	0.500	0.4393	4.2
26	14:15	11.50	0.6	0.900	0.6	0.360	0.5295	1.00	0.5295	0.450	0.2383	2.3
27	14:16	12.00	0.6	0.800	0.6	0.320	0.5203	1.00	0.5203	0.400	0.2081	2.0
28	14:17	12.50	0.6	0.600	0.6	0.240	0.6332	1.00	0.6332	0.300	0.1900	1.8
29	14:17	13.00	None	0.300	0.0	0.0	0.0000	1.00	0.6332	0.075	0.0475	0.5

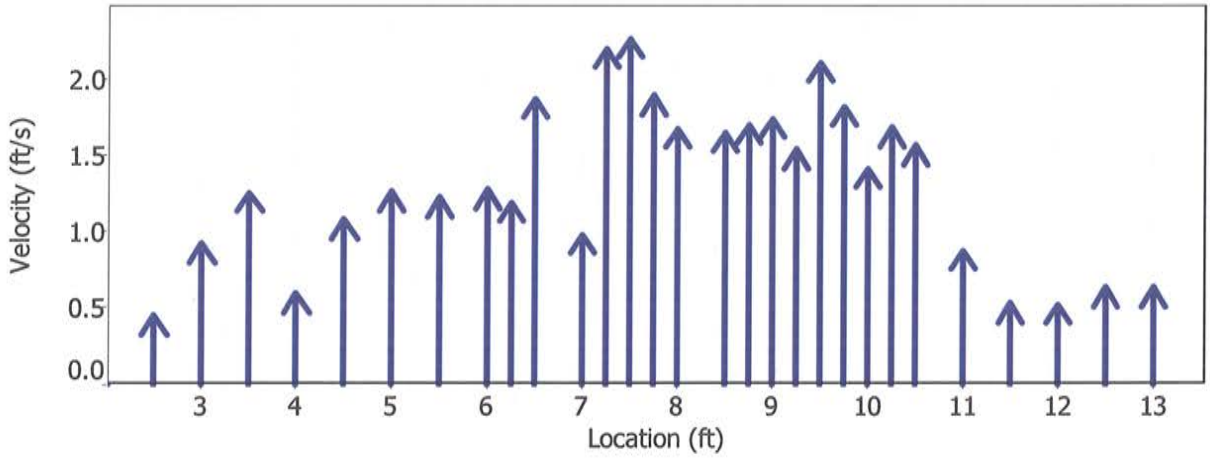
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

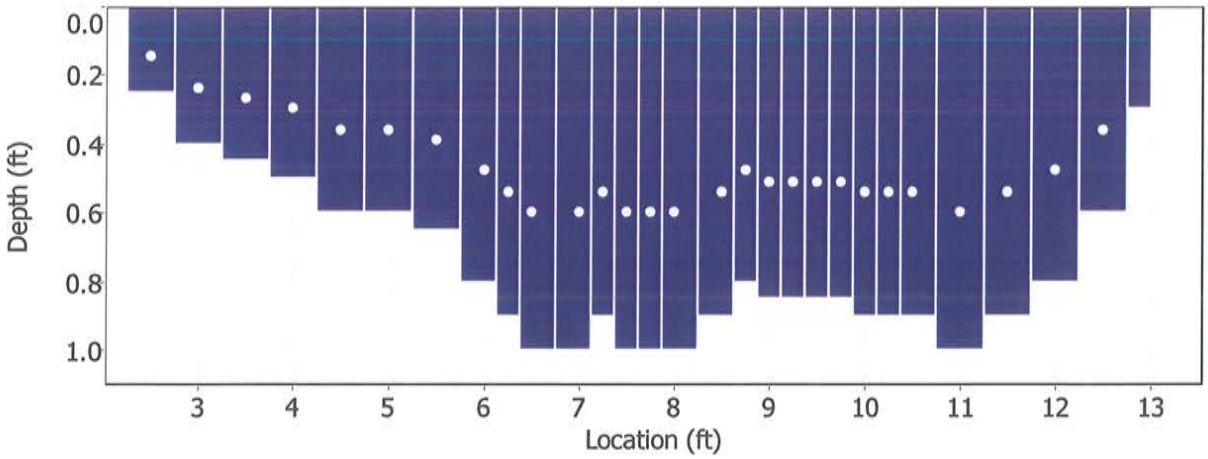
Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	GC5.WAD	Site Name	GC5
Start Date and Time	2013/06/18 12:57:52	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	GC5.WAD	Site Name	GC5
Start Date and Time	2013/06/18 12:57:52	Operator(s)	DR

Quality Control

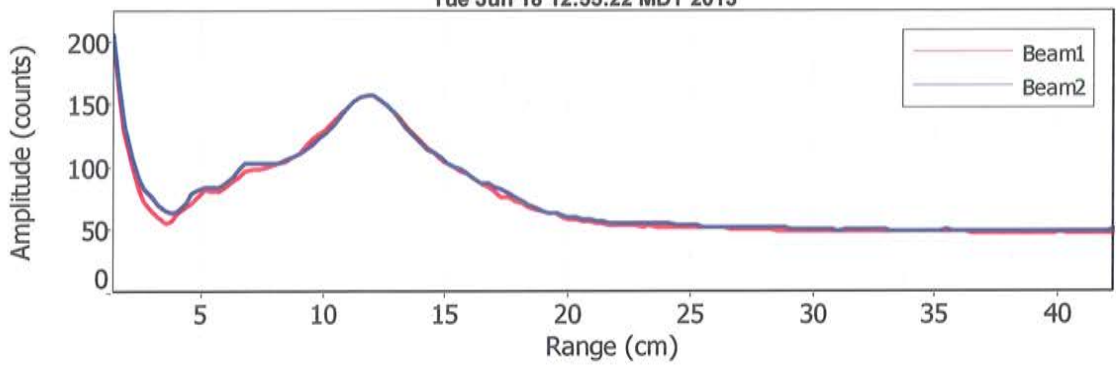
St	Loc	%Dep	Message
14	7.75	0.6	High standard error: 0.129
16	8.50	0.6	High standard error: 0.114
17	8.75	0.6	High standard error: 0.123
18	9.00	0.6	High standard error: 0.120
19	9.25	0.6	High standard error: 0.108
20	9.50	0.6	High standard error: 0.136
21	9.75	0.6	High standard error: 0.119
22	10.00	0.6	High standard error: 0.141
23	10.25	0.6	High standard error: 0.126

Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	GC5.WAD	Site Name	GC5
Start Date and Time	2013/06/18 12:57:52	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 10 2013

File Information

File Name	GC20.WAD
Start Date and Time	2013/06/19 08:17:10

Site Details

Site Name	GC20
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%	1.8%
Velocity	1.0%	3.3%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.1%	-
Overall	**3.2%**	**3.9%**

Summary

Averaging Int.	40	# Stations	24
Start Edge	REW	Total Width	8.300
Mean SNR	45.8 dB	Total Area	3.671
Mean Temp	45.07 °F	Mean Depth	0.442
Disch. Equation	Mid-Section	Mean Velocity	1.1202
		Total Discharge	**4.1127**

Measurement Results

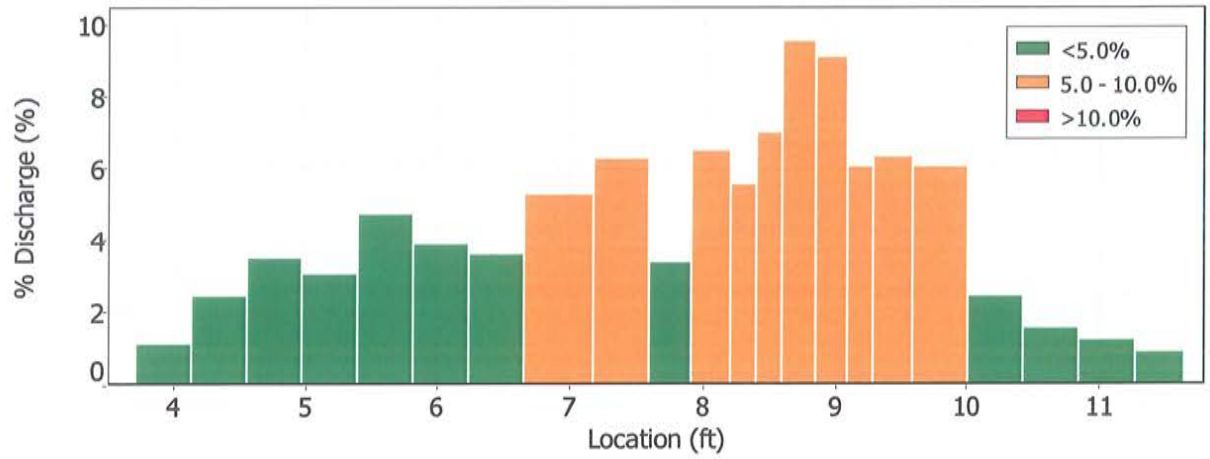
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	08:17	3.50	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	08:18	3.92	0.6	0.300	0.6	0.120	0.3625	1.00	0.3625	0.126	0.0457	1.1
2	08:19	4.34	0.6	0.200	0.6	0.080	1.2182	1.00	1.2182	0.084	0.1024	2.5
3	08:20	4.76	0.6	0.250	0.6	0.100	1.3740	1.00	1.3740	0.105	0.1443	3.5
4	08:22	5.18	0.6	0.250	0.6	0.100	1.2031	1.00	1.2031	0.105	0.1263	3.1
5	08:23	5.60	0.6	0.400	0.6	0.160	1.1565	1.00	1.1565	0.168	0.1942	4.7
6	08:24	6.02	0.6	0.350	0.6	0.140	1.0997	1.00	1.0997	0.147	0.1617	3.9
7	08:25	6.44	0.6	0.400	0.6	0.160	0.8871	1.00	0.8871	0.168	0.1490	3.6
8	08:28	6.86	0.6	0.400	0.6	0.160	1.0266	1.00	1.0266	0.212	0.2177	5.3
9	08:36	7.50	0.6	0.450	0.6	0.180	1.3704	1.00	1.3704	0.189	0.2593	6.3
10	08:39	7.70	0.6	0.500	0.6	0.200	0.9012	1.00	0.9012	0.155	0.1397	3.4
11	08:42	8.12	0.6	0.600	0.6	0.240	1.4879	1.00	1.4879	0.180	0.2677	6.5
12	09:09	8.30	0.6	0.700	0.6	0.280	1.7297	1.00	1.7297	0.133	0.2300	5.6
13	09:04	8.50	0.6	0.700	0.6	0.280	2.0538	1.00	2.0538	0.140	0.2878	7.0
14	08:48	8.70	0.6	0.700	0.6	0.280	2.2513	1.00	2.2513	0.175	0.3941	9.6
15	09:03	9.00	0.6	0.750	0.6	0.300	1.9990	1.00	1.9990	0.188	0.3748	9.1
16	08:53	9.20	0.6	0.800	0.6	0.320	1.6516	1.00	1.6516	0.152	0.2509	6.1
17	08:55	9.38	0.6	0.700	0.6	0.280	1.2493	1.00	1.2493	0.210	0.2623	6.4
18	08:57	9.80	0.6	0.650	0.6	0.260	0.9144	1.00	0.9144	0.273	0.2496	6.1
19	08:58	10.22	0.6	0.650	0.6	0.260	0.3734	1.00	0.3734	0.273	0.1019	2.5
20	08:59	10.64	0.6	0.500	0.6	0.200	0.3107	1.00	0.3107	0.210	0.0652	1.6
21	09:00	11.06	0.6	0.400	0.6	0.160	0.3005	1.00	0.3005	0.168	0.0505	1.2
22	09:01	11.48	0.6	0.300	0.6	0.120	0.3402	1.00	0.3402	0.111	0.0378	0.9
23	09:01	11.80	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

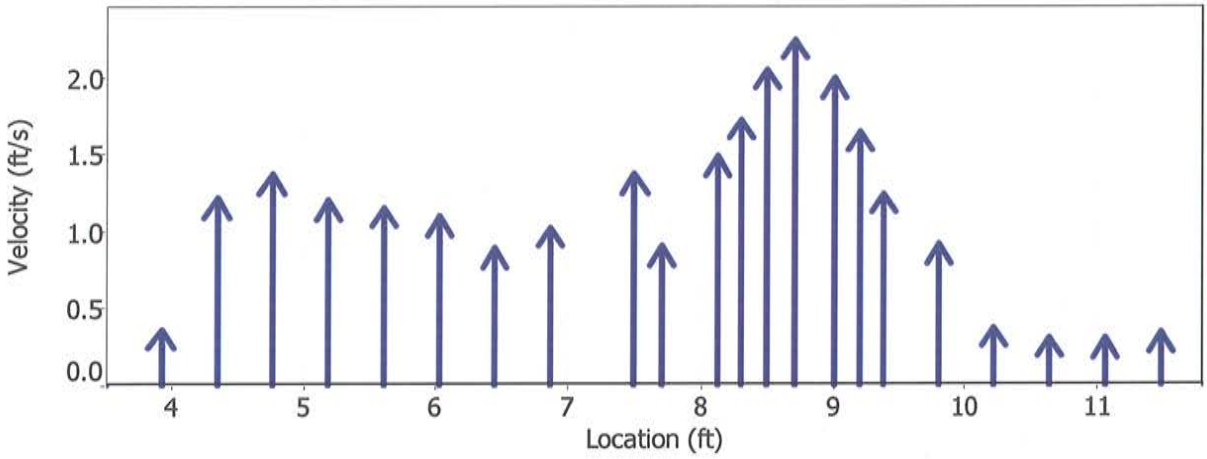
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

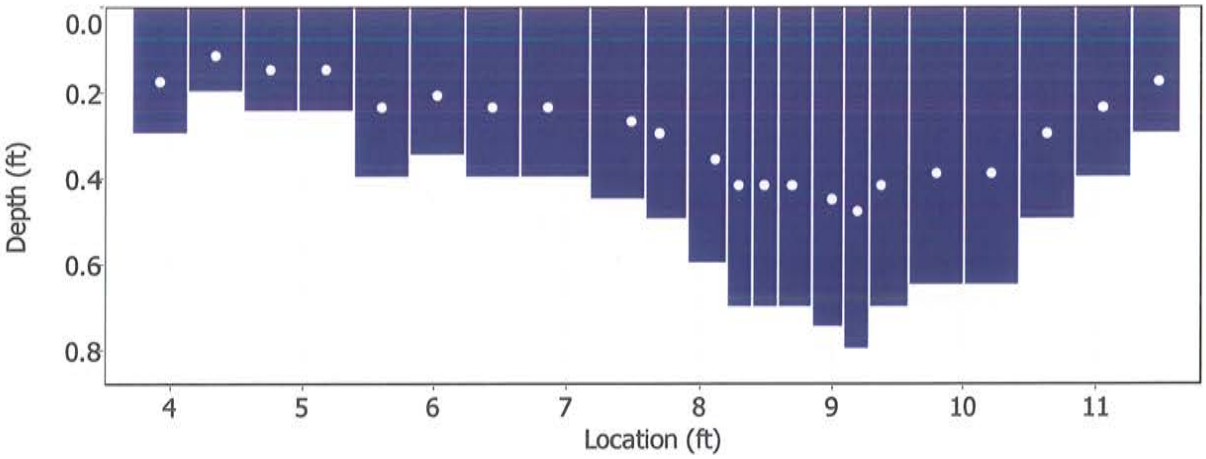
Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	GC20.WAD	Site Name	GC20
Start Date and Time	2013/06/19 08:17:10	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	GC20.WAD	Site Name	GC20
Start Date and Time	2013/06/19 08:17:10	Operator(s)	DR

Quality Control

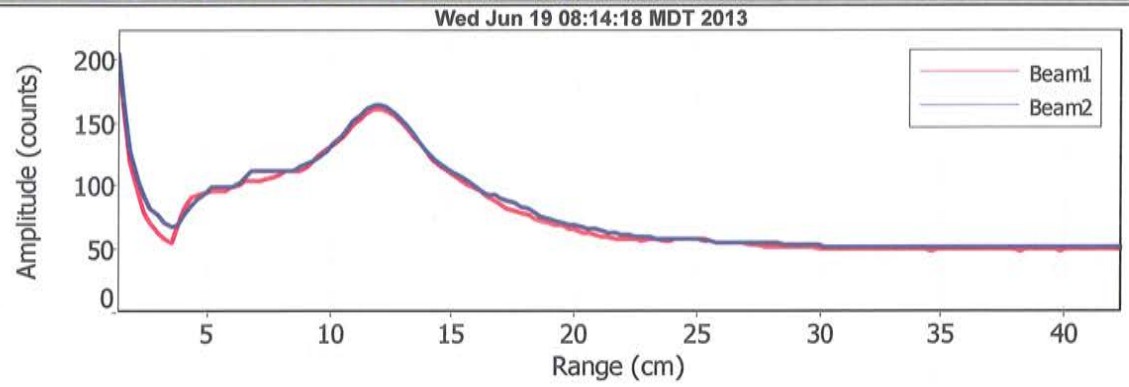
No Quality Control warnings

Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	GC20.WAD	Site Name	GC20
Start Date and Time	2013/06/19 08:17:10	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 10 2013

File Information	
File Name	GRC0.WAD
Start Date and Time	2013/06/18 15:09:14

Site Details	
Site Name	GRC0
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%	2.1%
Velocity	1.1%	3.9%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.0%	-
Overall	**3.1%**	**4.5%**

Summary

Averaging Int.	40	# Stations	25
Start Edge	REW	Total Width	7.800
Mean SNR	41.6 dB	Total Area	3.983
Mean Temp	48.69 °F	Mean Depth	0.511
Disch. Equation	Mid-Section	Mean Velocity	0.9896
		Total Discharge	**3.9415**

Measurement Results

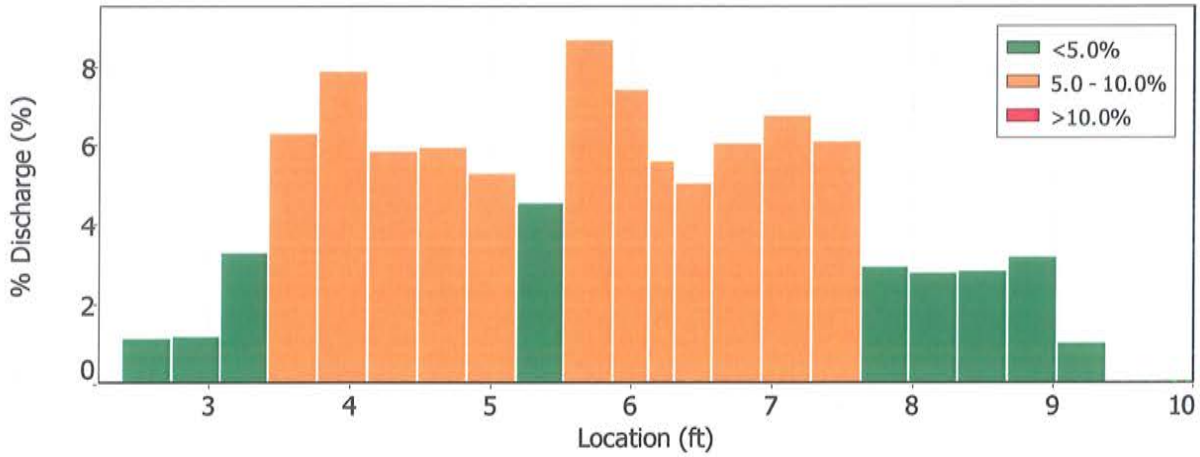
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	15:09	2.20	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	15:09	2.55	0.6	0.250	0.6	0.100	0.5003	1.00	0.5003	0.087	0.0437	1.1
2	15:12	2.90	0.6	0.250	0.6	0.100	0.5292	1.00	0.5292	0.087	0.0463	1.2
3	15:13	3.25	0.6	0.400	0.6	0.160	0.9318	1.00	0.9318	0.140	0.1303	3.3
4	15:17	3.60	0.6	0.500	0.6	0.200	1.4196	1.00	1.4196	0.175	0.2482	6.3
5	15:20	3.95	0.6	0.550	0.6	0.220	1.6178	1.00	1.6178	0.192	0.3111	7.9
6	15:21	4.30	0.6	0.500	0.6	0.200	1.3261	1.00	1.3261	0.175	0.2319	5.9
7	15:23	4.65	0.6	0.700	0.6	0.280	0.9623	1.00	0.9623	0.245	0.2356	6.0
8	15:24	5.00	0.6	0.700	0.6	0.280	0.8514	1.00	0.8514	0.245	0.2085	5.3
9	15:25	5.35	0.6	0.600	0.6	0.240	0.8553	1.00	0.8553	0.210	0.1795	4.6
10	*15:26*	*5.70*	*0.6*	*0.700*	*0.6*	*0.280*	*1.3990*	*1.00*	*1.3990*	*0.245*	*0.3426*	*8.7*
11	15:29	6.05	0.6	0.650	0.6	0.260	1.7920	1.00	1.7920	0.163	0.2927	7.4
12	15:49	6.20	0.6	0.700	0.6	0.280	1.8038	1.00	1.8038	0.122	0.2208	5.6
13	15:30	6.40	0.6	0.650	0.6	0.260	1.1112	1.00	1.1112	0.179	0.1986	5.0
14	15:53	6.75	0.6	0.600	0.6	0.240	1.1385	1.00	1.1385	0.210	0.2389	6.1
15	15:32	7.10	0.6	0.600	0.6	0.240	1.2776	1.00	1.2776	0.209	0.2669	6.8
16	15:33	7.45	0.6	0.600	0.6	0.240	1.1480	1.00	1.1480	0.210	0.2409	6.1
17	15:34	7.80	0.6	0.600	0.6	0.240	0.5568	1.00	0.5568	0.210	0.1168	3.0
18	*15:35*	*8.15*	*0.6*	*0.550*	*0.6*	*0.220*	*0.5728*	*1.00*	*0.5728*	*0.192*	*0.1102*	*2.8*
19	15:36	8.50	0.6	0.500	0.6	0.200	0.6352	1.00	0.6352	0.175	0.1111	2.8
20	15:37	8.85	0.6	0.400	0.6	0.160	0.9058	1.00	0.9058	0.140	0.1267	3.2
21	15:39	9.19	0.6	0.500	0.6	0.200	0.2277	1.00	0.2277	0.175	0.0398	1.0
22	*15:42*	*9.54*	*0.6*	*0.400*	*0.6*	*0.160*	*0.0023*	*1.00*	*0.0023*	*0.140*	*0.0003*	*0.0*
23	*15:46*	*9.89*	*0.6*	*0.250*	*0.6*	*0.100*	*0.0003*	*1.00*	*0.0003*	*0.057*	*0.0000*	*0.0*
24	15:46	10.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

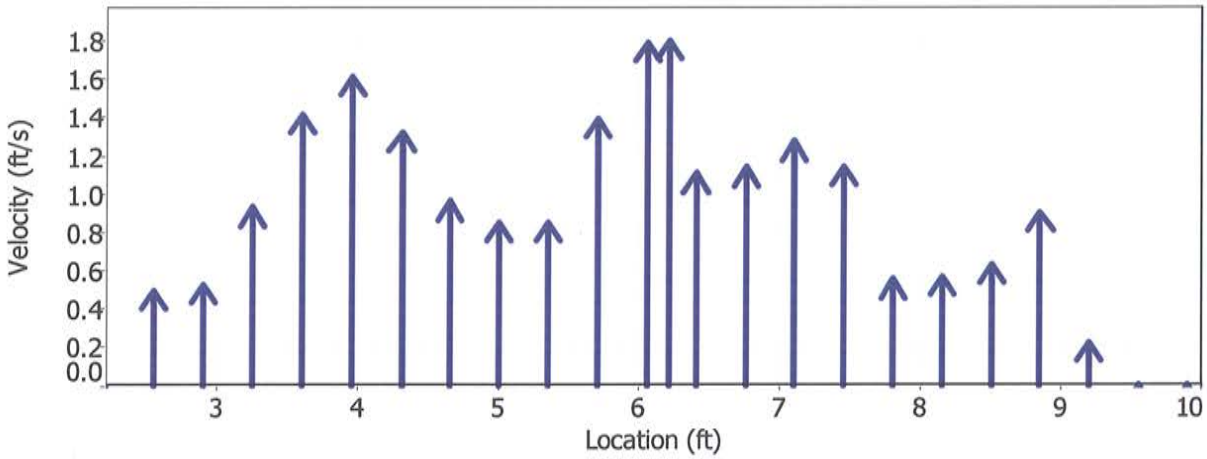
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

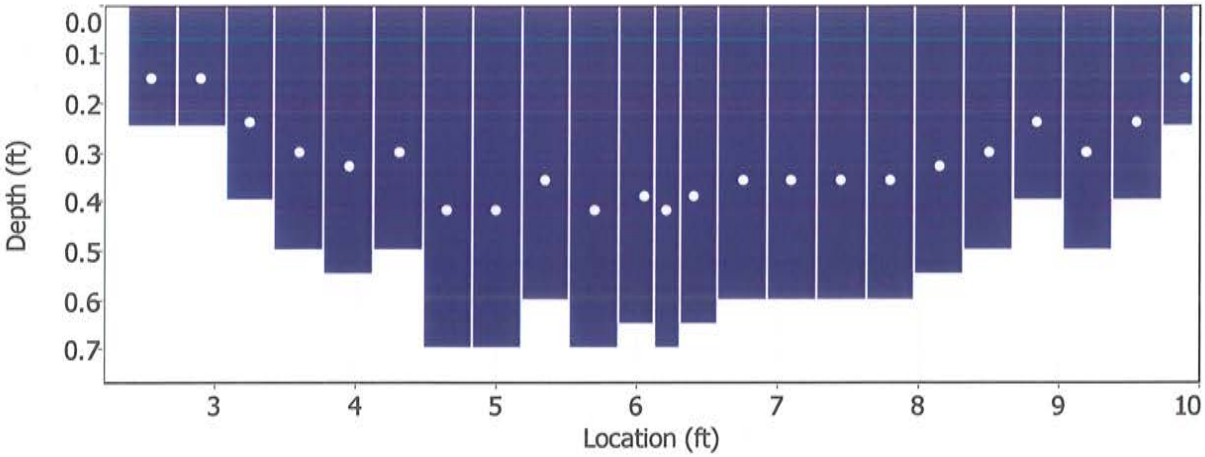
Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	GRC0.WAD	Site Name	GRC0
Start Date and Time	2013/06/18 15:09:14	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	GRC0.WAD	Site Name	GRC0
Start Date and Time	2013/06/18 15:09:14	Operator(s)	DR

Quality Control

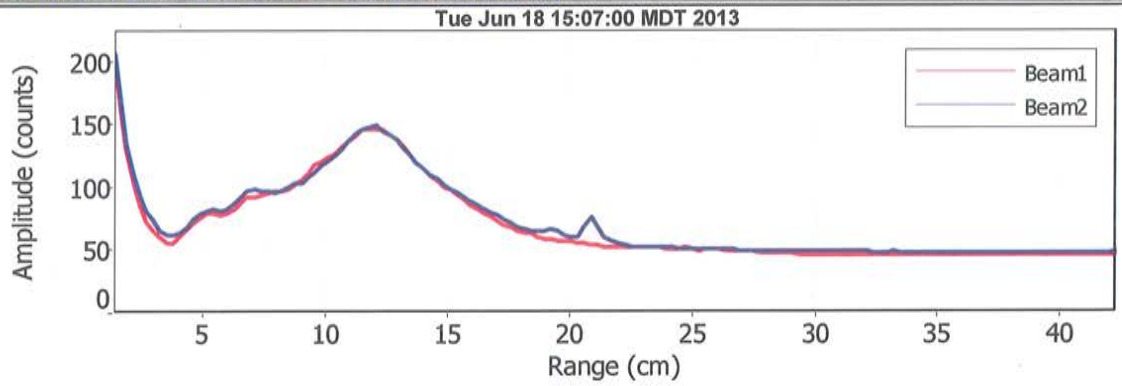
St	Loc	%Dep	Message
10	5.70	0.6	High standard error: 0.075
18	8.15	0.6	High angle: -20
22	9.54	0.6	High SNR variation during measurement: 4.7,5.2
		0.6	Boundary QC is Good; possible boundary interference
23	9.89	0.6	SNR (65.1) is different from typical SNR (41.6)

Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	GRC0.WAD	Site Name	GRC0
Start Date and Time	2013/06/18 15:09:14	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 10 2013

File Information	
File Name	GRNC0.WAD
Start Date and Time	2013/06/19 10:20:38

Site Details	
Site Name	GRNC0
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%	1.6%
Velocity	1.3%	1.5%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.3%	-
Overall	**3.4%**	**2.4%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	LEW	Total Width	3.100
Mean SNR	44.5 dB	Total Area	0.889
Mean Temp	46.17 °F	Mean Depth	0.287
Disch. Equation	Mid-Section	Mean Velocity	0.9527
		Total Discharge	**0.8465**

Measurement Results

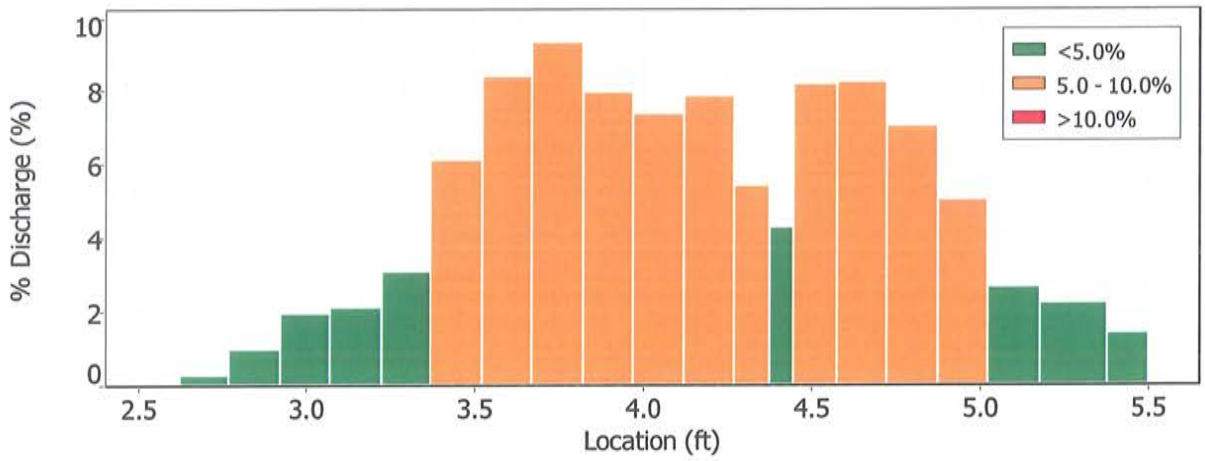
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	10:20	2.40	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	*10:23*	*2.55*	*0.6*	*0.200*	*0.6*	*0.080*	*-0.0049*	*1.00*	*-0.0049*	*0.030*	*-0.0001*	*0.0*
2	10:24	2.70	0.6	0.200	0.6	0.080	0.0837	1.00	0.0837	0.030	0.0025	0.3
3	10:26	2.85	0.6	0.200	0.6	0.080	0.2726	1.00	0.2726	0.030	0.0082	1.0
4	10:29	3.00	0.6	0.250	0.6	0.100	0.4432	1.00	0.4432	0.037	0.0166	2.0
5	10:32	3.15	0.6	0.250	0.6	0.100	0.4836	1.00	0.4836	0.037	0.0181	2.1
6	10:33	3.30	0.6	0.250	0.6	0.100	0.6991	1.00	0.6991	0.037	0.0262	3.1
7	10:34	3.45	0.6	0.350	0.6	0.140	0.9846	1.00	0.9846	0.052	0.0517	6.1
8	*10:40*	*3.60*	*0.6*	*0.400*	*0.6*	*0.160*	*1.1896*	*1.00*	*1.1896*	*0.060*	*0.0713*	*8.4*
9	*10:44*	*3.75*	*0.6*	*0.400*	*0.6*	*0.160*	*1.3182*	*1.00*	*1.3182*	*0.060*	*0.0790*	*9.3*
10	10:45	3.90	0.6	0.400	0.6	0.160	1.1273	1.00	1.1273	0.060	0.0676	8.0
11	10:46	4.05	0.6	0.400	0.6	0.160	1.0377	1.00	1.0377	0.060	0.0622	7.4
12	10:47	4.20	0.6	0.400	0.6	0.160	1.1079	1.00	1.1079	0.060	0.0664	7.8
13	10:48	4.35	0.6	0.300	0.6	0.120	1.5200	1.00	1.5200	0.030	0.0458	5.4
14	10:56	4.40	0.6	0.300	0.6	0.120	1.6093	1.00	1.6093	0.022	0.0362	4.3
15	10:49	4.50	0.6	0.350	0.6	0.140	1.5925	1.00	1.5925	0.044	0.0694	8.2
16	10:50	4.65	0.6	0.300	0.6	0.120	1.5522	1.00	1.5522	0.045	0.0698	8.2
17	10:51	4.80	0.6	0.300	0.6	0.120	1.3268	1.00	1.3268	0.045	0.0597	7.0
18	10:52	4.95	0.6	0.300	0.6	0.120	0.9495	1.00	0.9495	0.045	0.0427	5.0
19	10:53	5.10	0.6	0.250	0.6	0.100	0.6030	1.00	0.6030	0.037	0.0226	2.7
20	10:54	5.25	0.6	0.200	0.6	0.080	0.4695	1.00	0.4695	0.040	0.0189	2.2
21	10:54	5.50	None	0.200	0.0	0.0	0.0000	1.00	0.4695	0.025	0.0118	1.4

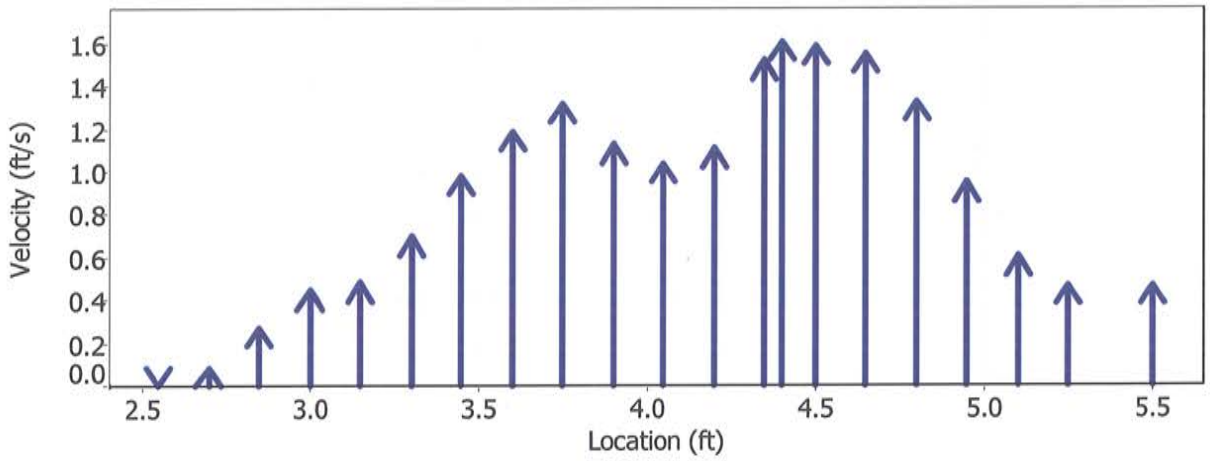
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

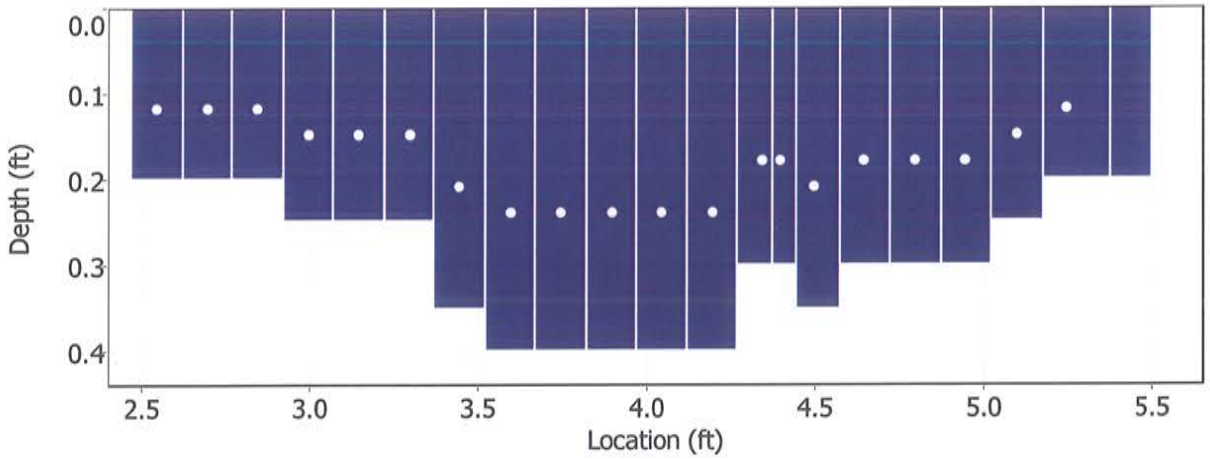
Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	GRNC0.WAD	Site Name	GRNC0
Start Date and Time	2013/06/19 10:20:38	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	GRNC0.WAD	Site Name	GRNC0
Start Date and Time	2013/06/19 10:20:38	Operator(s)	DR

Quality Control

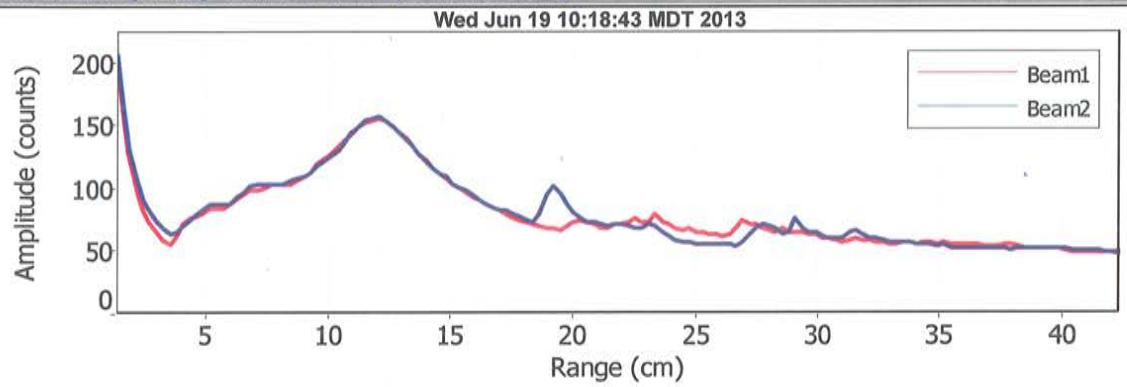
St	Loc	%Dep	Message
1	2.55	0.6	SNR (61.0) is different from typical SNR (44.5)
8	3.60	0.6	High standard error: 0.080
9	3.75	0.6	High standard error: 0.105

Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	GRNC0.WAD	Site Name	GRNC0
Start Date and Time	2013/06/19 10:20:38	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 10 2013

File Information

File Name	SLVC0.WAD
Start Date and Time	2013/06/19 09:33:16

Site Details

Site Name	SLVC0
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%	0.8%
Velocity	1.0%	2.7%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.3%	-
Overall	**3.3%**	**3.0%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	REW	Total Width	2.999
Mean SNR	48.9 dB	Total Area	0.615
Mean Temp	48.08 °F	Mean Depth	0.205
Disch. Equation	Mid-Section	Mean Velocity	0.9090
		Total Discharge	**0.5591**

Measurement Results

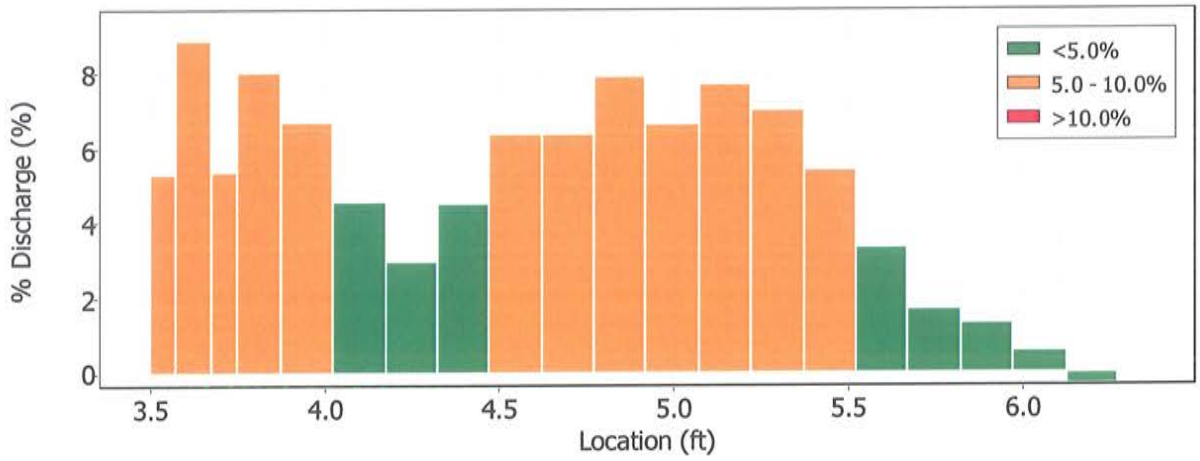
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	09:33	3.50	None	0.200	0.0	0.0	0.0000	1.00	1.9787	0.015	0.0297	5.3
1	09:38	3.65	0.6	0.250	0.6	0.100	1.9787	1.00	1.9787	0.025	0.0495	8.9
2	10:00	3.70	0.6	0.250	0.6	0.100	1.5968	1.00	1.5968	0.019	0.0299	5.4
3	09:39	3.80	0.6	0.250	0.6	0.100	1.4354	1.00	1.4354	0.031	0.0448	8.0
4	09:40	3.95	0.6	0.250	0.6	0.100	0.9944	1.00	0.9944	0.037	0.0373	6.7
5	09:41	4.10	0.6	0.250	0.6	0.100	0.6755	1.00	0.6755	0.037	0.0253	4.5
6	09:42	4.25	0.6	0.200	0.6	0.080	0.5512	1.00	0.5512	0.030	0.0165	3.0
7	09:43	4.40	0.6	0.200	0.6	0.080	0.8402	1.00	0.8402	0.030	0.0252	4.5
8	09:44	4.55	0.6	0.200	0.6	0.080	1.1847	1.00	1.1847	0.030	0.0355	6.4
9	09:46	4.70	0.6	0.200	0.6	0.080	1.1804	1.00	1.1804	0.030	0.0354	6.3
10	09:47	4.85	0.6	0.200	0.6	0.080	1.4721	1.00	1.4721	0.030	0.0442	7.9
11	09:48	5.00	0.6	0.200	0.6	0.080	1.2346	1.00	1.2346	0.030	0.0370	6.6
12	09:49	5.15	0.6	0.200	0.6	0.080	1.4285	1.00	1.4285	0.030	0.0429	7.7
13	09:50	5.30	0.6	0.200	0.6	0.080	1.3022	1.00	1.3022	0.030	0.0391	7.0
14	09:51	5.45	0.6	0.200	0.6	0.080	1.0112	1.00	1.0112	0.030	0.0303	5.4
15	09:52	5.60	0.6	0.200	0.6	0.080	0.6211	1.00	0.6211	0.030	0.0186	3.3
16	09:53	5.75	0.6	0.200	0.6	0.080	0.3159	1.00	0.3159	0.030	0.0095	1.7
17	09:55	5.90	0.6	0.200	0.6	0.080	0.2388	1.00	0.2388	0.030	0.0072	1.3
18	09:56	6.05	0.6	0.200	0.6	0.080	0.1053	1.00	0.1053	0.030	0.0032	0.6
19	*09:57*	*6.20*	*0.6*	*0.200*	*0.6*	*0.080*	*-0.0630*	*1.00*	*-0.0630*	*0.030*	*-0.0019*	*-0.3*
20	09:58	6.35	0.6	0.200	0.6	0.080	-0.0062	1.00	-0.0062	0.030	-0.0002	0.0
21	09:58	6.50	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

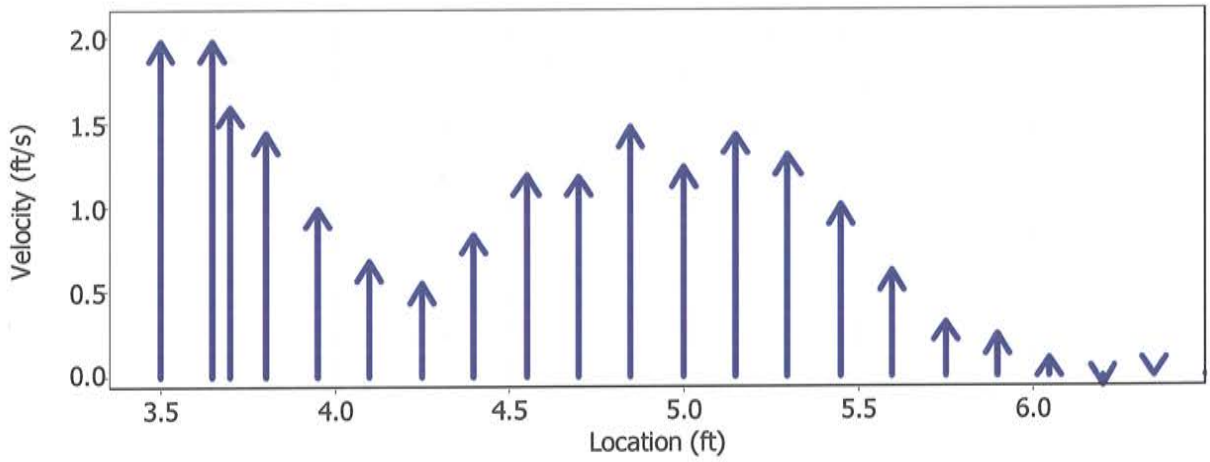
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

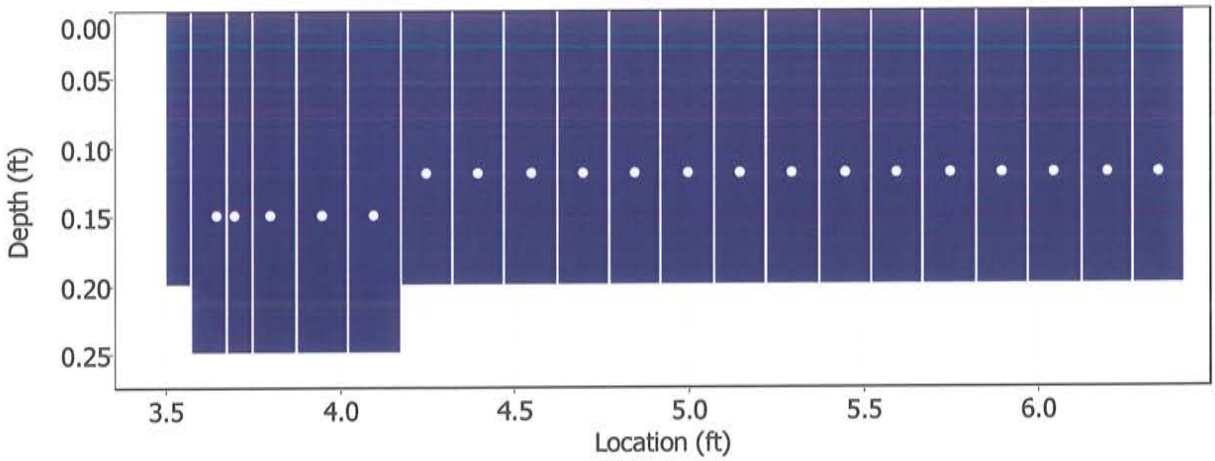
Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	SLVC0.WAD	Site Name	SLVC0
Start Date and Time	2013/06/19 09:33:16	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information	
File Name	SLVC0.WAD
Start Date and Time	2013/06/19 09:33:16

Site Details	
Site Name	SLVC0
Operator(s)	DR

Quality Control

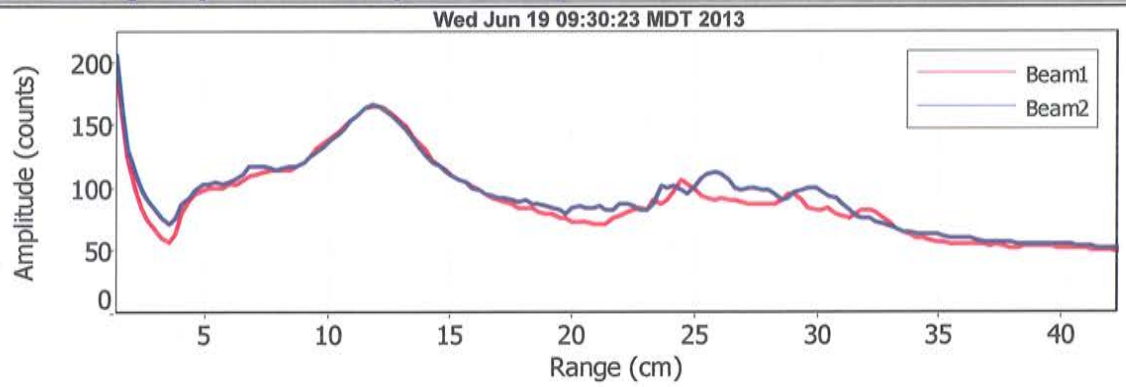
St	Loc	%Dep	Message
19	6.20	0.6	High angle: -179

Discharge Measurement Summary

Date Generated: Tue Dec 10 2013

File Information		Site Details	
File Name	SLVC0.WAD	Site Name	SLVC0
Start Date and Time	2013/06/19 09:33:16	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 Jul 24 2013

File Information	
File Name	DFBC15.WAD
Start Date and Time	2013/06/18 08:53:06

Site Details	
Site Name	DFBC15
Operator(s)	SA

System Information	
Sensor Type	FlowTracker
Serial #	P3514
CPU Firmware Version	3.7
Software Ver	2.20

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%	1.1%
Velocity	0.9%	2.6%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.2%	-
Overall	**3.2%**	**3.0%**

Summary			
Averaging Int.	40	# Stations	23
Start Edge	REW	Total Width	22.147
Mean SNR	30.6 dB	Total Area	35.201
Mean Temp	45.28 °F	Mean Depth	1.589
Disch. Equation	Mid-Section	Mean Velocity	2.7743
		Total Discharge	**97.6568**

Measurement Results

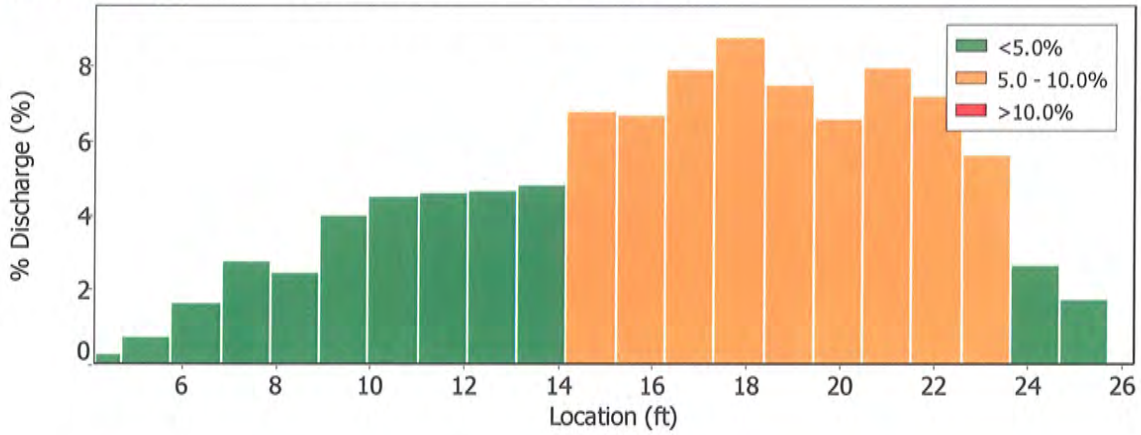
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	08:53	4.10	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	08:53	4.20	0.6	0.600	0.6	0.240	0.7283	1.00	0.7283	0.345	0.2513	0.3
2	08:55	5.25	0.6	1.000	0.6	0.400	0.7041	1.00	0.7041	1.050	0.7392	0.8
3	08:56	6.30	0.6	1.000	0.6	0.400	1.5240	1.00	1.5240	1.050	1.5999	1.6
4	08:57	7.35	0.6	1.100	0.6	0.440	2.3635	1.00	2.3635	1.155	2.7297	2.8
5	08:58	8.40	0.6	1.200	0.6	0.480	1.9035	1.00	1.9035	1.260	2.3984	2.5
6	08:59	9.45	0.6	1.500	0.6	0.600	2.4734	1.00	2.4734	1.575	3.8952	4.0
7	09:00	10.50	0.6	1.500	0.6	0.600	2.8025	1.00	2.8025	1.575	4.4134	4.5
8	09:02	11.55	0.6	1.600	0.6	0.640	2.6650	1.00	2.6650	1.680	4.4769	4.6
9	09:03	12.60	0.6	1.600	0.6	0.640	2.7018	1.00	2.7018	1.680	4.5386	4.6
10	*09:04*	*13.65*	*0.6*	*1.400*	*0.6*	*0.560*	*3.1982*	*1.00*	*3.1982*	*1.470*	*4.7005*	*4.8*
11	09:06	14.70	0.6	1.600	0.6	0.640	3.9554	1.00	3.9554	1.680	6.6445	6.8
12	09:07	15.75	0.6	1.900	0.6	0.760	3.2874	1.00	3.2874	1.995	6.5573	6.7
13	09:08	16.80	0.6	1.900	0.6	0.760	3.8802	1.00	3.8802	1.995	7.7399	7.9
14	09:10	17.85	0.6	2.100	0.6	0.840	3.8967	1.00	3.8967	2.205	8.5913	8.8
15	09:11	18.90	0.6	2.100	0.6	0.840	3.3258	1.00	3.3258	2.205	7.3327	7.5
16	09:12	19.95	0.6	2.100	0.6	0.840	2.9222	1.00	2.9222	2.205	6.4429	6.6
17	09:17	21.00	0.6	2.100	0.6	0.840	3.5230	1.00	3.5230	2.205	7.7674	8.0
18	09:18	22.05	0.6	2.000	0.6	0.800	3.3412	1.00	3.3412	2.100	7.0157	7.2
19	09:19	23.10	0.6	1.900	0.6	0.760	2.7516	1.00	2.7516	1.995	5.4886	5.6
20	*09:20*	*24.15*	*0.6*	*1.800*	*0.6*	*0.720*	*1.3825*	*1.00*	*1.3825*	*1.890*	*2.6125*	*2.7*
21	09:24	25.20	0.6	1.800	0.6	0.720	0.9108	1.00	0.9108	1.890	1.7210	1.8
22	09:24	26.25	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

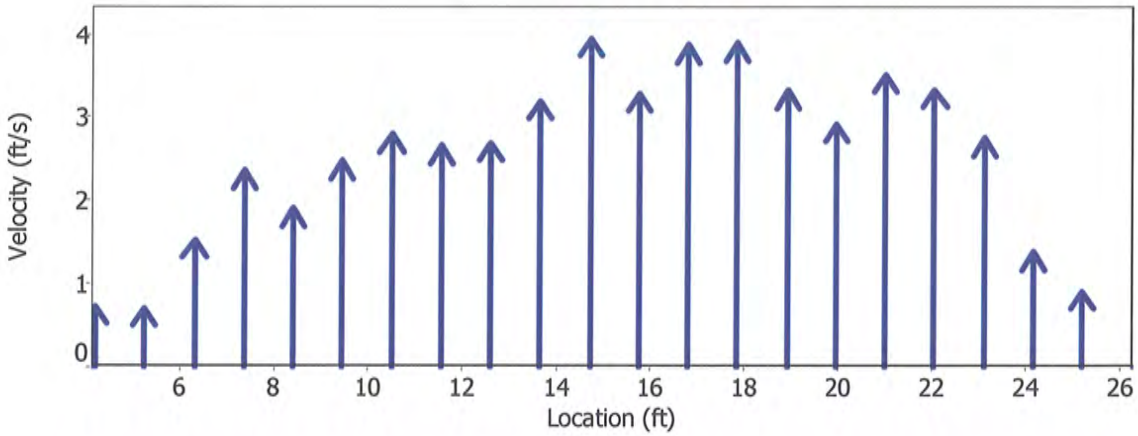
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

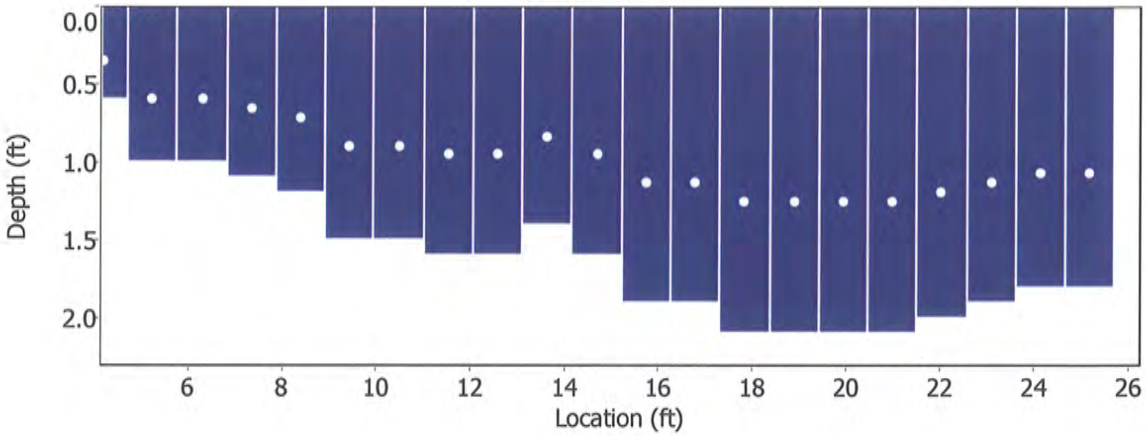
Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	DFBC15.WAD	Site Name	DFBC15
Start Date and Time	2013/06/18 08:53:06	Operator(s)	SA







Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	DFBC15.WAD	Site Name	DFBC15
Start Date and Time	2013/06/18 08:53:06	Operator(s)	SA

Quality Control

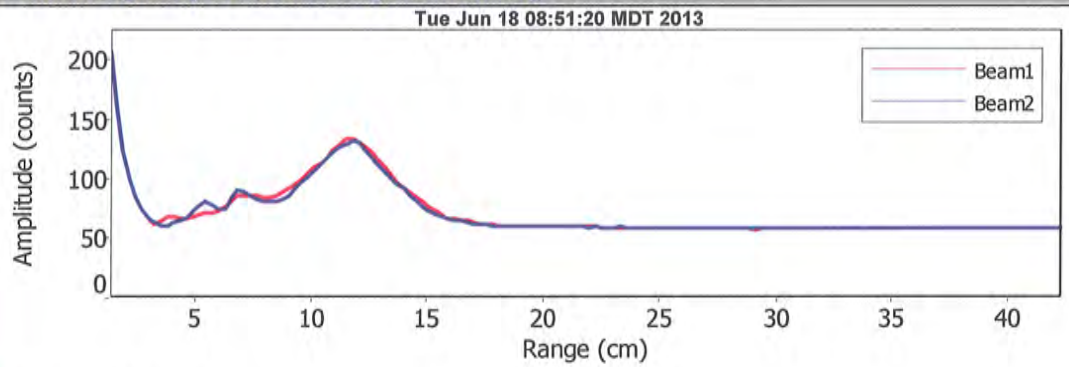
St	Loc	%Dep	Message
10	13.65	0.6	High angle: 21
20	24.15	0.6	High angle: 32

Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	DFBC15.WAD	Site Name	DFBC15
Start Date and Time	2013/06/18 08:53:06	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: Wed Jul 24 2013

File Information	
File Name	DFBC22.WAD
Start Date and Time	2013/06/18 10:14:23

Site Details	
Site Name	
Operator(s)	SRA

System Information	
Sensor Type	FlowTracker
Serial #	P3512
CPU Firmware Version	3.7
Software Ver	2.20

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%	1.9%
Velocity	0.7%	3.2%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.0%	-
Overall	**3.0%**	**3.9%**

Summary			
Averaging Int.	40	# Stations	25
Start Edge	REW	Total Width	22.898
Mean SNR	32.4 dB	Total Area	23.785
Mean Temp	46.61 °F	Mean Depth	1.039
Disch. Equation	Mid-Section	Mean Velocity	3.9483
		Total Discharge	**93.9114**

Measurement Results

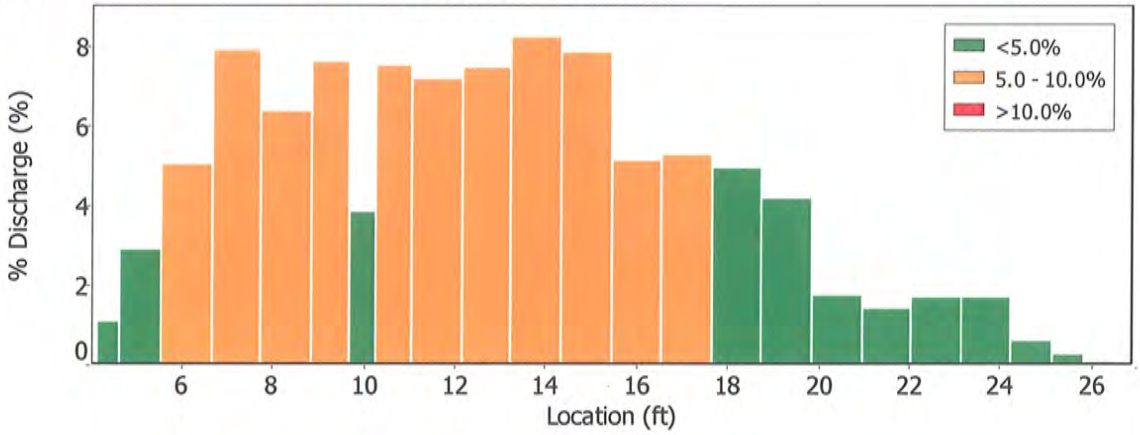
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	10:14	4.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	10:14	4.30	0.6	0.900	0.6	0.360	2.2159	1.00	2.2159	0.450	0.9971	1.1
2	10:15	5.00	0.6	1.000	0.6	0.400	3.0387	1.00	3.0387	0.900	2.7351	2.9
3	10:16	6.10	0.6	1.000	0.6	0.400	4.2861	1.00	4.2861	1.100	4.7150	5.0
4	10:18	7.20	0.6	1.300	0.6	0.520	5.1952	1.00	5.1952	1.430	7.4288	7.9
5	*10:19*	*8.30*	*0.6*	*1.400*	*0.6*	*0.560*	*3.8855*	*1.00*	*3.8855*	*1.540*	*5.9837*	*6.4*
6	*10:21*	*9.40*	*0.6*	*1.300*	*0.6*	*0.520*	*6.4744*	*1.00*	*6.4744*	*1.105*	*7.1527*	*7.6*
7	10:51	10.00	0.6	1.000	0.6	0.400	6.5925	1.00	6.5925	0.550	3.6261	3.9
8	10:26	10.50	0.6	1.400	0.6	0.560	6.3051	1.00	6.3051	1.120	7.0631	7.5
9	10:27	11.60	0.6	1.400	0.6	0.560	4.4003	1.00	4.4003	1.540	6.7765	7.2
10	*10:31*	*12.70*	*0.6*	*1.400*	*0.6*	*0.560*	*4.5577*	*1.00*	*4.5577*	*1.540*	*7.0190*	*7.5*
11	10:33	13.80	0.6	1.500	0.6	0.600	4.6978	1.00	4.6978	1.650	7.7519	8.3
12	*10:35*	*14.90*	*0.6*	*1.500*	*0.6*	*0.600*	*4.4724*	*1.00*	*4.4724*	*1.650*	*7.3800*	*7.9*
13	*10:36*	*16.00*	*0.6*	*1.500*	*0.6*	*0.600*	*2.9131*	*1.00*	*2.9131*	*1.650*	*4.8068*	*5.1*
14	*10:37*	*17.10*	*0.6*	*1.400*	*0.6*	*0.560*	*3.2116*	*1.00*	*3.2116*	*1.540*	*4.9459*	*5.3*
15	*10:38*	*18.20*	*0.6*	*1.200*	*0.6*	*0.480*	*3.5230*	*1.00*	*3.5230*	*1.320*	*4.6511*	*5.0*
16	*10:40*	*19.30*	*0.6*	*1.000*	*0.6*	*0.400*	*3.5610*	*1.00*	*3.5610*	*1.100*	*3.9174*	*4.2*
17	*10:41*	*20.40*	*0.6*	*0.700*	*0.6*	*0.280*	*2.1417*	*1.00*	*2.1417*	*0.770*	*1.6495*	*1.8*
18	10:42	21.50	0.6	0.600	0.6	0.240	1.9902	1.00	1.9902	0.660	1.3137	1.4
19	10:43	22.60	0.6	0.600	0.6	0.240	2.4065	1.00	2.4065	0.660	1.5886	1.7
20	10:44	23.70	0.6	0.600	0.6	0.240	2.4019	1.00	2.4019	0.660	1.5855	1.7
21	10:46	24.80	0.6	0.400	0.6	0.160	1.5026	1.00	1.5026	0.360	0.5405	0.6
22	10:47	25.50	0.6	0.400	0.6	0.160	0.8520	1.00	0.8520	0.279	0.2381	0.3
23	10:48	26.20	0.6	0.300	0.6	0.120	0.2152	1.00	0.2152	0.210	0.0451	0.0
24	10:48	26.90	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

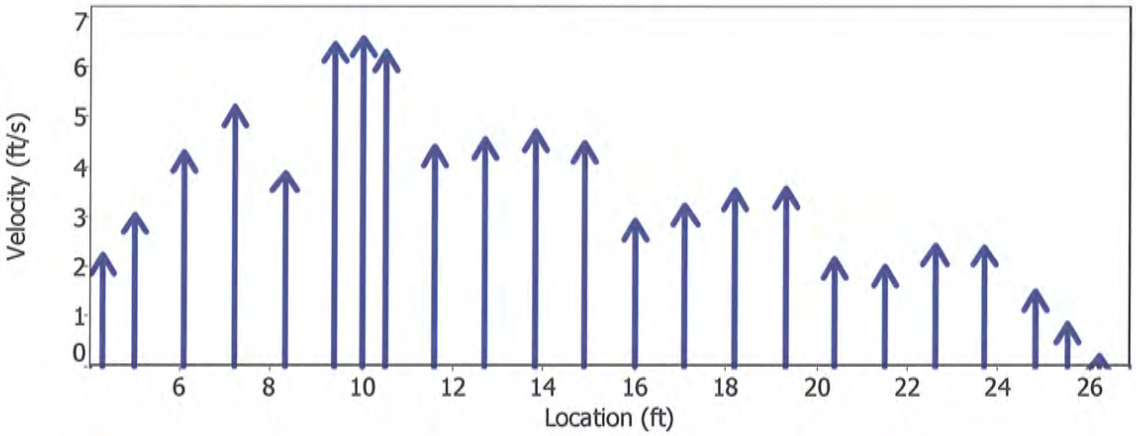
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

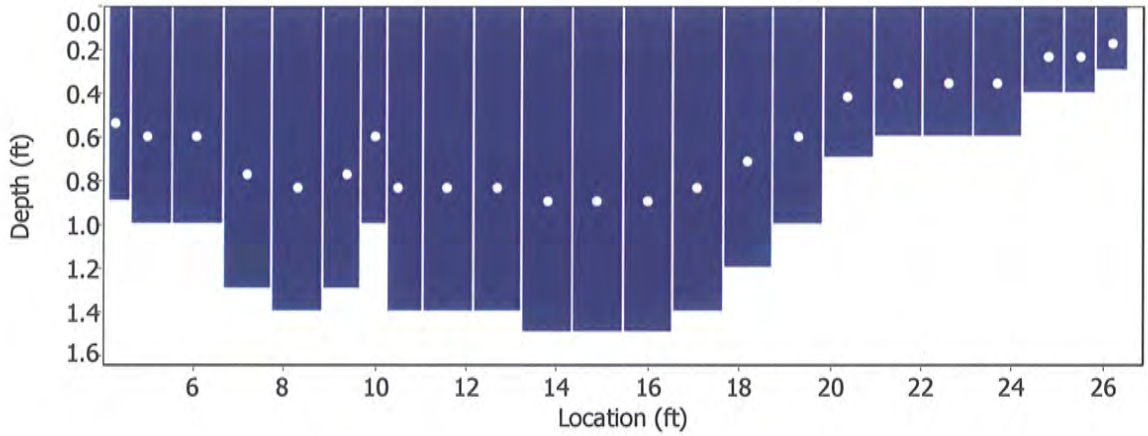
Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	DFBC22.WAD	Site Name	
Start Date and Time	2013/06/18 10:14:23	Operator(s)	SRA







Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	DFBC22.WAD	Site Name	
Start Date and Time	2013/06/18 10:14:23	Operator(s)	SRA

Quality Control

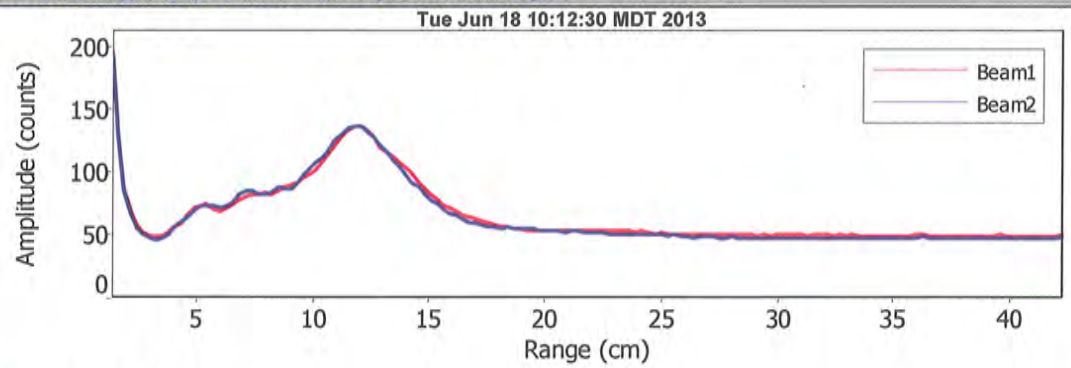
St	Loc	%Dep	Message
5	8.30	0.6	High standard error: 0.205
6	9.40	0.6	High number of spikes: 6
10	12.70	0.6	High angle: 20
12	14.90	0.6	High angle: 22
13	16.00	0.6	High angle: 25
14	17.10	0.6	High angle: 20
15	18.20	0.6	High angle: 21
16	19.30	0.6	High angle: 28
17	20.40	0.6	High angle: 28

Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	DFBC22.WAD	Site Name	
Start Date and Time	2013/06/18 10:14:23	Operator(s)	SRA

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 Jul 24 2013

File Information	
File Name	GC0.WAD
Start Date and Time	2013/06/18 12:50:20

Site Details	
Site Name	GC0
Operator(s)	SRA

System Information	
Sensor Type	FlowTracker
Serial #	P3512
CPU Firmware Version	3.7
Software Ver	2.20

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%	1.6%
Velocity	1.1%	1.6%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.2%	-
Overall	**3.2%**	**2.5%**

Summary			
Averaging Int.	40	# Stations	23
Start Edge	REW	Total Width	8.402
Mean SNR	38.8 dB	Total Area	7.050
Mean Temp	53.36 °F	Mean Depth	0.839
Disch. Equation	Mid-Section	Mean Velocity	1.6344
		Total Discharge	**11.5228**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	12:50	7.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	12:50	7.40	0.6	0.600	0.6	0.240	1.0049	1.00	1.0049	0.240	0.2412	2.1
2	12:51	7.80	0.6	0.700	0.6	0.280	1.0814	1.00	1.0814	0.280	0.3028	2.6
3	12:52	8.20	0.6	0.600	0.6	0.240	1.1483	1.00	1.1483	0.240	0.2756	2.4
4	12:53	8.60	0.6	0.750	0.6	0.300	1.3169	1.00	1.3169	0.300	0.3950	3.4
5	12:54	9.00	0.6	0.750	0.6	0.300	1.2795	1.00	1.2795	0.300	0.3838	3.3
6	12:56	9.40	0.6	0.700	0.6	0.280	1.4465	1.00	1.4465	0.280	0.4050	3.5
7	12:57	9.80	0.6	0.800	0.6	0.320	1.6585	1.00	1.6585	0.320	0.5305	4.6
8	12:58	10.20	0.6	0.900	0.6	0.360	1.5194	1.00	1.5194	0.360	0.5468	4.7
9	12:59	10.60	0.6	0.800	0.6	0.320	1.7149	1.00	1.7149	0.320	0.5486	4.8
10	13:00	11.00	0.6	0.900	0.6	0.360	1.9354	1.00	1.9354	0.360	0.6966	6.0
11	13:02	11.40	0.6	0.900	0.6	0.360	2.3510	1.00	2.3510	0.360	0.8462	7.3
12	13:03	11.80	0.6	1.100	0.6	0.440	2.3809	1.00	2.3809	0.440	1.0475	9.1
13	13:05	12.20	0.6	1.000	0.6	0.400	2.4295	1.00	2.4295	0.400	0.9716	8.4
14	13:06	12.60	0.6	1.000	0.6	0.400	2.3773	1.00	2.3773	0.400	0.9508	8.3
15	*13:08*	*13.00*	*0.6*	*1.000*	*0.6*	*0.400*	*2.2717*	*1.00*	*2.2717*	*0.400*	*0.9085*	*7.9*
16	*13:10*	*13.40*	*0.6*	*1.100*	*0.6*	*0.440*	*1.6243*	*1.00*	*1.6243*	*0.440*	*0.7146*	*6.2*
17	*13:11*	*13.80*	*0.6*	*1.100*	*0.6*	*0.440*	*1.3225*	*1.00*	*1.3225*	*0.440*	*0.5818*	*5.0*
18	13:12	14.20	0.6	1.100	0.6	0.440	1.0453	1.00	1.0453	0.440	0.4599	4.0
19	13:13	14.60	0.6	1.000	0.6	0.400	1.1706	1.00	1.1706	0.400	0.4682	4.1
20	13:15	15.00	0.6	0.700	0.6	0.280	0.9327	1.00	0.9327	0.211	0.1964	1.7
21	*13:16*	*15.20*	*0.6*	*0.600*	*0.6*	*0.240*	*0.4259*	*1.00*	*0.4259*	*0.121*	*0.0515*	*0.4*
22	13:16	15.40	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

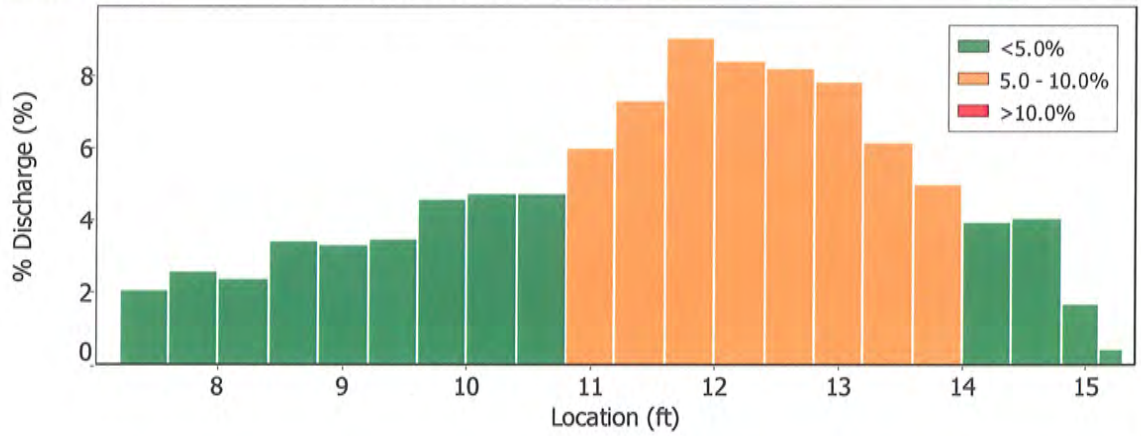
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

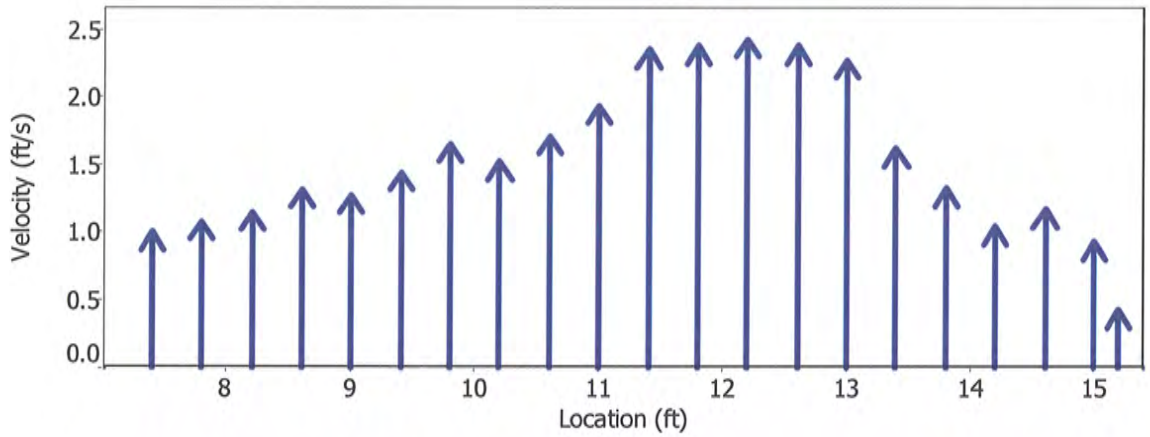
Discharge Measurement Summary

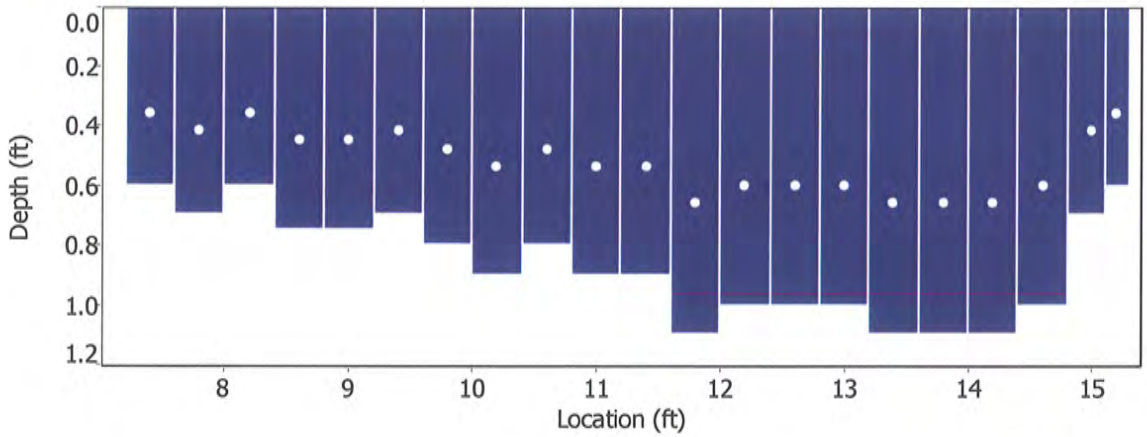
Date Generated: Wed Jul 24 2013

File Information	
File Name	GC0.WAD
Start Date and Time	2013/06/18 12:50:20

Site Details	
Site Name	GC0
Operator(s)	SRA







Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	GC0.WAD	Site Name	GC0
Start Date and Time	2013/06/18 12:50:20	Operator(s)	SRA

Quality Control

St	Loc	%Dep	Message
15	13.00	0.6	High standard error: 0.118
16	13.40	0.6	High standard error: 0.140
17	13.80	0.6	High standard error: 0.097
21	15.20	0.6	High angle: -36

Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information	
File Name	GC10.WAD
Start Date and Time	2013/06/18 15:45:44

Site Details	
Site Name	GC10
Operator(s)	RB

System Information	
Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.20

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	1.4%	2.8%
Width	0.1%	0.1%
Method	2.0%	-
# Stations	2.4%	-
Overall	**3.6%**	**6.1%**

Summary			
Averaging Int.	40	# Stations	21
Start Edge	REW	Total Width	7.199
Mean SNR	46.5 dB	Total Area	4.264
Mean Temp	55.41 °F	Mean Depth	0.592
Disch. Equation	Mid-Section	Mean Velocity	1.2114
		Total Discharge	**5.1656**

Measurement Results

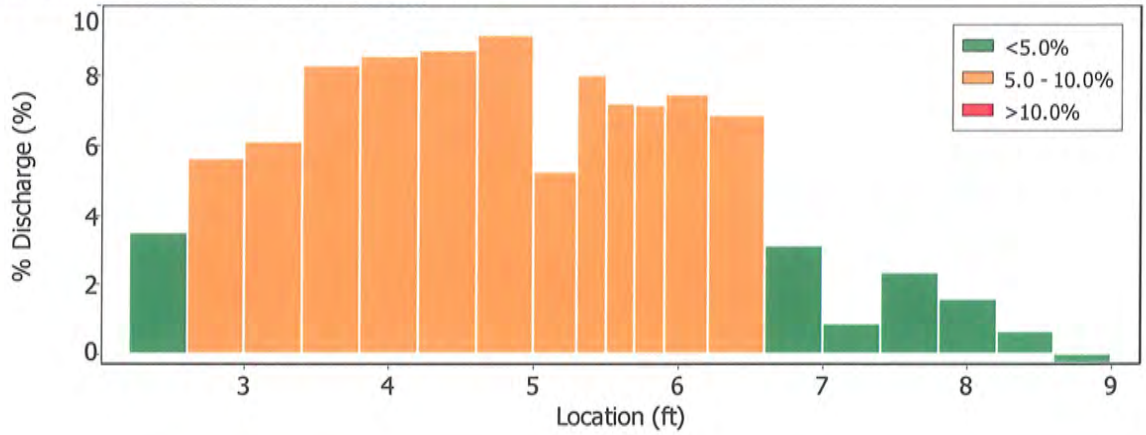
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	15:45	2.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	15:45	2.40	0.6	0.200	0.6	0.080	2.2510	1.00	2.2510	0.080	0.1802	3.5
2	15:46	2.80	0.6	0.300	0.6	0.120	2.4101	1.00	2.4101	0.120	0.2890	5.6
3	15:47	3.20	0.6	0.300	0.6	0.120	2.6358	1.00	2.6358	0.120	0.3161	6.1
4	15:48	3.60	0.6	0.450	0.6	0.180	2.3737	1.00	2.3737	0.180	0.4273	8.3
5	15:50	4.00	0.6	0.500	0.6	0.200	2.2060	1.00	2.2060	0.200	0.4411	8.5
6	*15:51*	*4.40*	*0.6*	*0.650*	*0.6*	*0.260*	*1.7339*	*1.00*	*1.7339*	*0.260*	*0.4507*	*8.7*
7	*15:52*	*4.80*	*0.6*	*0.650*	*0.6*	*0.260*	*1.8120*	*1.00*	*1.8120*	*0.260*	*0.4710*	*9.1*
8	*15:53*	*5.20*	*0.6*	*0.500*	*0.6*	*0.200*	*1.8025*	*1.00*	*1.8025*	*0.150*	*0.2706*	*5.2*
9	16:06	5.40	0.6	0.950	0.6	0.380	2.1778	1.00	2.1778	0.190	0.4138	8.0
10	15:54	5.60	0.6	0.800	0.6	0.320	2.3107	1.00	2.3107	0.160	0.3696	7.2
11	16:05	5.80	0.6	0.800	0.6	0.320	2.2943	1.00	2.2943	0.160	0.3670	7.1
12	15:56	6.00	0.6	0.750	0.6	0.300	1.7080	1.00	1.7080	0.225	0.3839	7.4
13	15:56	6.40	0.6	0.750	0.6	0.300	1.1765	1.00	1.1765	0.300	0.3529	6.8
14	*15:58*	*6.80*	*0.6*	*0.700*	*0.6*	*0.280*	*0.5735*	*1.00*	*0.5735*	*0.280*	*0.1606*	*3.1*
15	*15:59*	*7.20*	*0.6*	*0.800*	*0.6*	*0.320*	*0.1460*	*1.00*	*0.1460*	*0.320*	*0.0467*	*0.9*
16	16:00	7.60	0.6	0.900	0.6	0.360	0.3406	1.00	0.3406	0.360	0.1226	2.4
17	*16:01*	*8.00*	*0.6*	*0.800*	*0.6*	*0.320*	*0.2539*	*1.00*	*0.2539*	*0.320*	*0.0812*	*1.6*
18	*16:02*	*8.40*	*0.6*	*0.800*	*0.6*	*0.320*	*0.1079*	*1.00*	*0.1079*	*0.320*	*0.0345*	*0.7*
19	*16:03*	*8.80*	*0.6*	*0.650*	*0.6*	*0.260*	*-0.0509*	*1.00*	*-0.0509*	*0.260*	*-0.0132*	*-0.3*
20	16:03	9.20	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

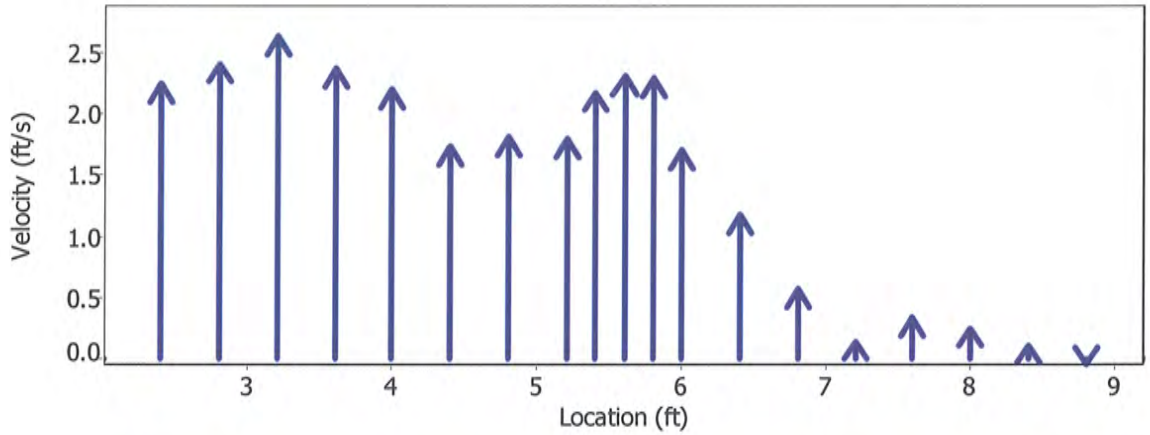
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

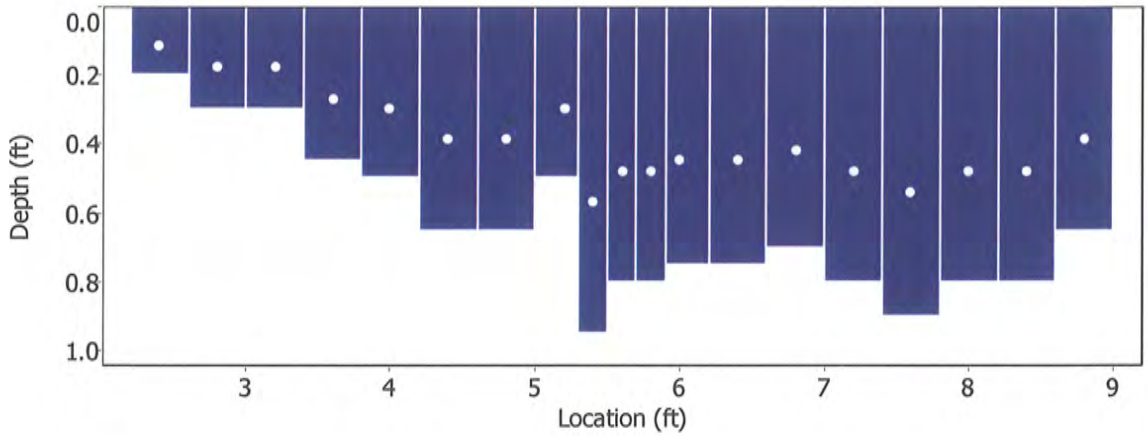
Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	GC10.WAD	Site Name	GC10
Start Date and Time	2013/06/18 15:45:44	Operator(s)	RB







Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	GC10.WAD	Site Name	GC10
Start Date and Time	2013/06/18 15:45:44	Operator(s)	RB

Quality Control

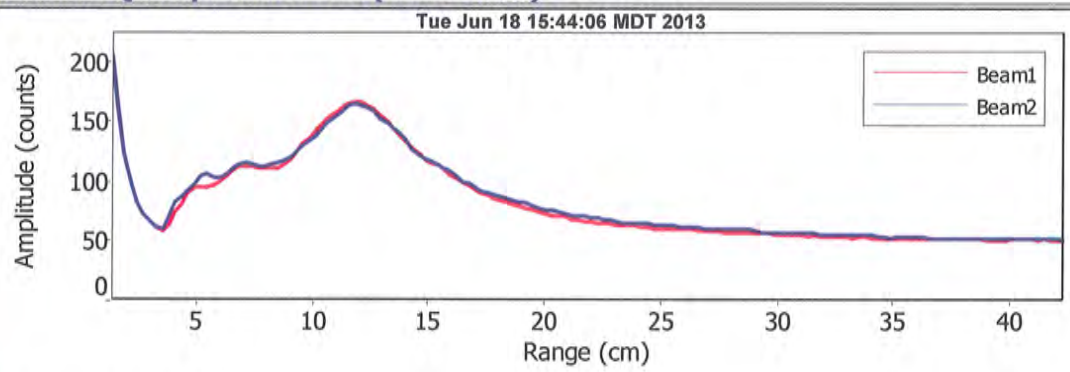
St	Loc	%Dep	Message
6	4.40	0.6	High standard error: 0.109
7	4.80	0.6	High standard error: 0.102
8	5.20	0.6	High number of spikes: 6
14	6.80	0.6	High angle: 22
15	7.20	0.6	High angle: -29
17	8.00	0.6	High angle: 22
18	8.40	0.6	High angle: 40
19	8.80	0.6	High angle: 110

Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	GC10.WAD	Site Name	GC10
Start Date and Time	2013/06/18 15:45:44	Operator(s)	RB

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 Jul 24 2013

File Information	
File Name	GC15.WAD
Start Date and Time	2013/06/19 08:39:59

Site Details	
Site Name	GC15
Operator(s)	RB

System Information	
Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.20

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%	2.6%
Velocity	1.3%	3.6%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.4%	-
Overall	**3.5%**	**4.6%**

Summary			
Averaging Int.	40	# Stations	21
Start Edge	REW	Total Width	6.399
Mean SNR	43.1 dB	Total Area	4.499
Mean Temp	45.19 °F	Mean Depth	0.703
Disch. Equation	Mid-Section	Mean Velocity	0.9009
		Total Discharge	**4.0529**

Measurement Results

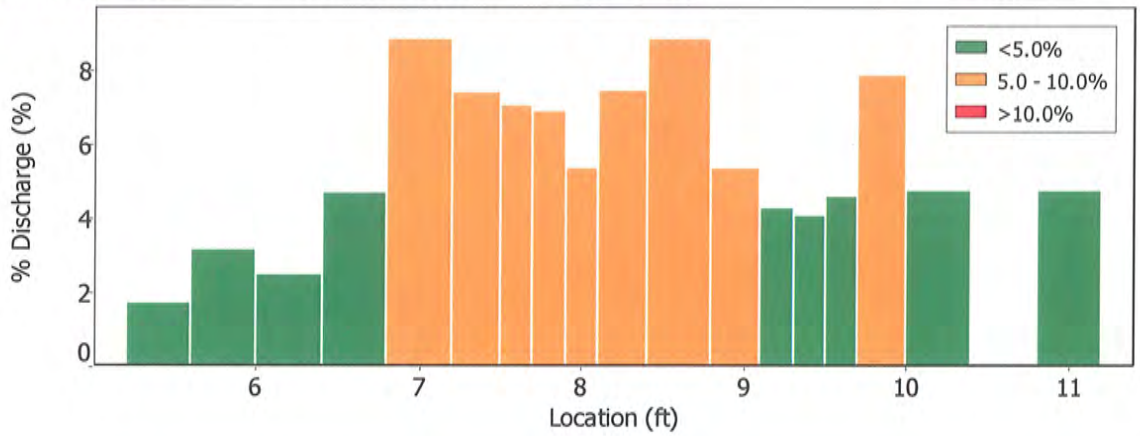
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	08:39	5.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	08:39	5.40	0.6	0.300	0.6	0.120	0.5784	1.00	0.5784	0.120	0.0694	1.7
2	*08:41*	*5.80*	*0.6*	*0.400*	*0.6*	*0.160*	*0.8002*	*1.00*	*0.8002*	*0.160*	*0.1280*	*3.2*
3	08:42	6.20	0.6	0.300	0.6	0.120	0.8491	1.00	0.8491	0.120	0.1018	2.5
4	*08:43*	*6.60*	*0.6*	*0.500*	*0.6*	*0.200*	*0.9498*	*1.00*	*0.9498*	*0.200*	*0.1899*	*4.7*
5	*08:44*	*7.00*	*0.6*	*0.600*	*0.6*	*0.240*	*1.5016*	*1.00*	*1.5016*	*0.240*	*0.3604*	*8.9*
6	08:45	7.40	0.6	0.500	0.6	0.200	2.0039	1.00	2.0039	0.150	0.3008	7.4
7	08:57	7.60	0.6	0.700	0.6	0.280	2.0505	1.00	2.0505	0.140	0.2871	7.1
8	08:46	7.80	0.6	0.850	0.6	0.340	1.6496	1.00	1.6496	0.170	0.2804	6.9
9	08:59	8.00	0.6	0.800	0.6	0.320	1.3570	1.00	1.3570	0.160	0.2170	5.4
10	08:47	8.20	0.6	0.850	0.6	0.340	1.1942	1.00	1.1942	0.255	0.3043	7.5
11	08:48	8.60	0.6	0.900	0.6	0.360	0.9977	1.00	0.9977	0.360	0.3591	8.9
12	08:50	9.00	0.6	0.800	0.6	0.320	0.9108	1.00	0.9108	0.240	0.2188	5.4
13	09:02	9.20	0.6	1.000	0.6	0.400	0.8750	1.00	0.8750	0.200	0.1750	4.3
14	08:51	9.40	0.6	1.050	0.6	0.420	0.7887	1.00	0.7887	0.210	0.1656	4.1
15	09:01	9.60	0.6	1.000	0.6	0.400	0.9304	1.00	0.9304	0.200	0.1861	4.6
16	08:52	9.80	0.6	1.050	0.6	0.420	1.0203	1.00	1.0203	0.314	0.3209	7.9
17	08:53	10.20	0.6	1.050	0.6	0.420	0.4590	1.00	0.4590	0.420	0.1927	4.8
18	08:54	10.60	0.6	1.100	0.6	0.440	0.0052	1.00	0.0052	0.440	0.0023	0.1
19	*08:55*	*11.00*	*0.6*	*1.000*	*0.6*	*0.400*	*0.4836*	*1.00*	*0.4836*	*0.400*	*0.1934*	*4.8*
20	08:55	11.40	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

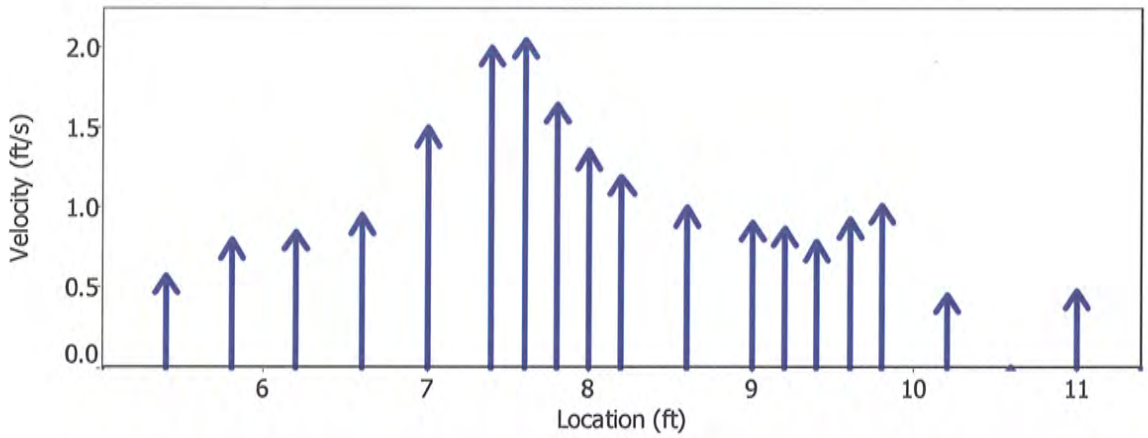
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

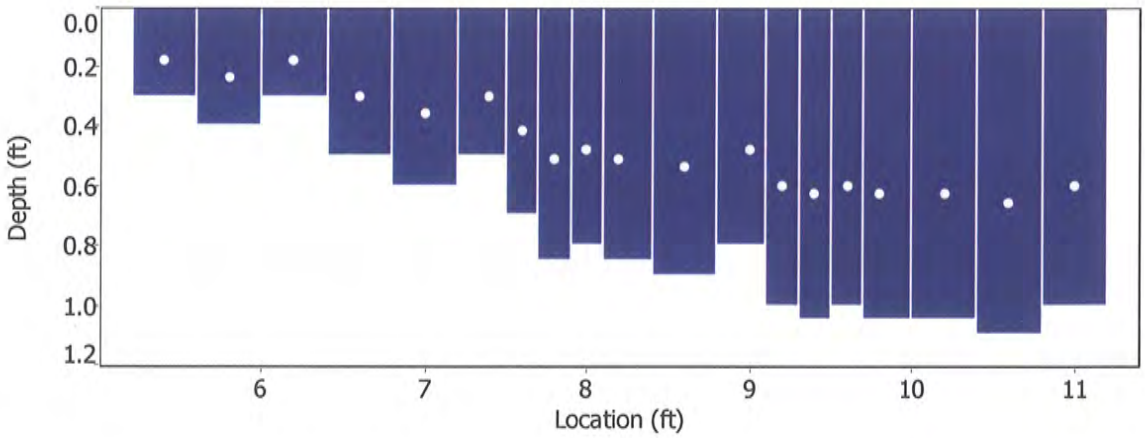
Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	GC15.WAD	Site Name	GC15
Start Date and Time	2013/06/19 08:39:59	Operator(s)	RB







Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	GC15.WAD	Site Name	GC15
Start Date and Time	2013/06/19 08:39:59	Operator(s)	RB

Quality Control

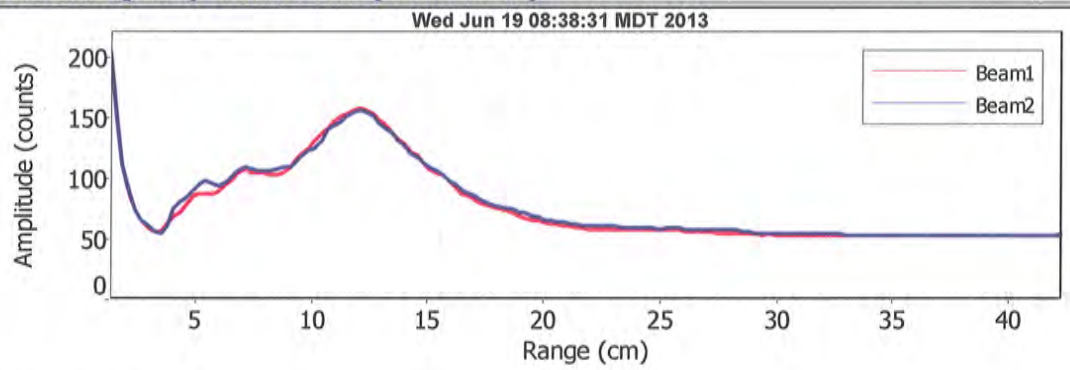
St	Loc	%Dep	Message
2	5.80	0.6	High angle: -24
4	6.60	0.6	High angle: -29
5	7.00	0.6	High standard error: 0.085
19	11.00	0.6	High angle: -29

Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	GC15.WAD	Site Name	GC15
Start Date and Time	2013/06/19 08:39:59	Operator(s)	RB

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 Jul 24 2013

File Information	
File Name	GC25.WAD
Start Date and Time	2013/06/19 09:29:54

Site Details	
Site Name	GC25
Operator(s)	RB

System Information	
Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.20

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%	4.3%
Velocity	2.2%	11.6%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.1%	-
Overall	**3.8%**	**12.5%**

Summary			
Averaging Int.	40	# Stations	24
Start Edge	REW	Total Width	7.199
Mean SNR	44.5 dB	Total Area	4.149
Mean Temp	45.34 °F	Mean Depth	0.576
Disch. Equation	Mid-Section	Mean Velocity	0.7222
		Total Discharge	**2.9967**

Measurement Results

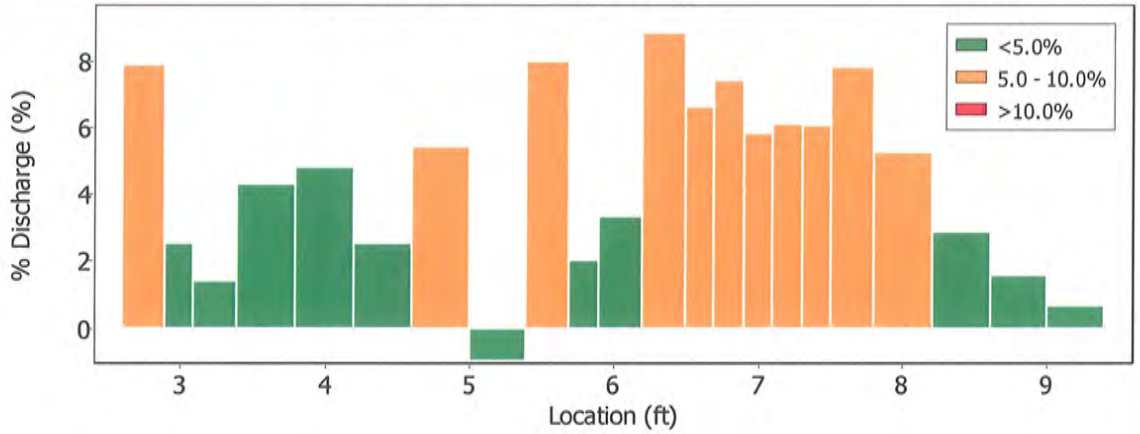
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	09:29	2.40	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	09:29	2.80	0.6	0.600	0.6	0.240	1.3041	1.00	1.3041	0.180	0.2348	7.8
2	*09:56*	*3.00*	*0.6*	*0.500*	*0.6*	*0.200*	*0.7575*	*1.00*	*0.7575*	*0.100*	*0.0757*	*2.5*
3	*09:31*	*3.20*	*0.6*	*0.600*	*0.6*	*0.240*	*0.2303*	*1.00*	*0.2303*	*0.180*	*0.0414*	*1.4*
4	*09:32*	*3.60*	*0.6*	*0.650*	*0.6*	*0.260*	*0.4921*	*1.00*	*0.4921*	*0.260*	*0.1279*	*4.3*
5	*09:33*	*4.00*	*0.6*	*0.650*	*0.6*	*0.260*	*0.5545*	*1.00*	*0.5545*	*0.260*	*0.1441*	*4.8*
6	*09:34*	*4.40*	*0.6*	*0.650*	*0.6*	*0.260*	*0.2920*	*1.00*	*0.2920*	*0.260*	*0.0759*	*2.5*
7	*09:35*	*4.80*	*0.6*	*0.800*	*0.6*	*0.320*	*0.5095*	*1.00*	*0.5095*	*0.320*	*0.1630*	*5.4*
8	*09:37*	*5.20*	*0.6*	*1.100*	*0.6*	*0.440*	*-0.0663*	*1.00*	*-0.0663*	*0.440*	*-0.0292*	*-1.0*
9	*09:39*	*5.60*	*0.6*	*0.500*	*0.6*	*0.200*	*1.5879*	*1.00*	*1.5879*	*0.150*	*0.2383*	*8.0*
10	*09:51*	*5.80*	*0.6*	*0.500*	*0.6*	*0.200*	*0.6014*	*1.00*	*0.6014*	*0.100*	*0.0601*	*2.0*
11	*09:40*	*6.00*	*0.6*	*0.600*	*0.6*	*0.240*	*0.5531*	*1.00*	*0.5531*	*0.180*	*0.0995*	*3.3*
12	*09:41*	*6.40*	*0.6*	*0.450*	*0.6*	*0.180*	*1.9557*	*1.00*	*1.9557*	*0.135*	*0.2644*	*8.8*
13	09:54	6.60	0.6	0.500	0.6	0.200	1.9757	1.00	1.9757	0.100	0.1975	6.6
14	09:42	6.80	0.6	0.700	0.6	0.280	1.5843	1.00	1.5843	0.140	0.2218	7.4
15	09:52	7.00	0.6	0.700	0.6	0.280	1.2438	1.00	1.2438	0.140	0.1741	5.8
16	09:43	7.20	0.6	0.700	0.6	0.280	1.3077	1.00	1.3077	0.140	0.1831	6.1
17	09:55	7.40	0.6	0.700	0.6	0.280	1.2897	1.00	1.2897	0.140	0.1806	6.0
18	09:44	7.60	0.6	0.750	0.6	0.300	1.0394	1.00	1.0394	0.225	0.2335	7.8
19	09:45	8.00	0.6	0.600	0.6	0.240	0.6532	1.00	0.6532	0.240	0.1568	5.2
20	*09:46*	*8.40*	*0.6*	*0.500*	*0.6*	*0.200*	*0.4341*	*1.00*	*0.4341*	*0.200*	*0.0868*	*2.9*
21	*09:48*	*8.80*	*0.6*	*0.400*	*0.6*	*0.160*	*0.2904*	*1.00*	*0.2904*	*0.160*	*0.0464*	*1.5*
22	*09:49*	*9.20*	*0.6*	*0.250*	*0.6*	*0.100*	*0.1995*	*1.00*	*0.1995*	*0.100*	*0.0199*	*0.7*
23	09:49	9.60	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

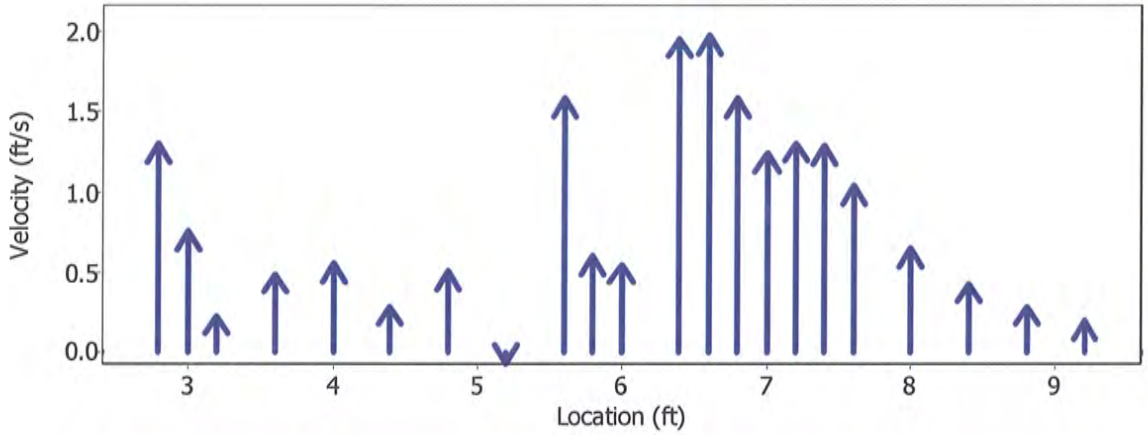
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

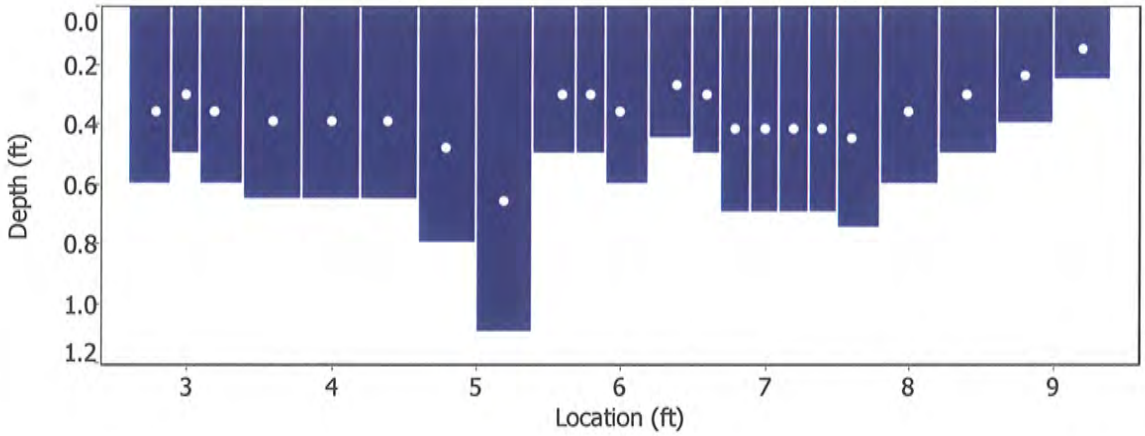
Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	GC25.WAD	Site Name	GC25
Start Date and Time	2013/06/19 09:29:54	Operator(s)	RB







Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	GC25.WAD	Site Name	GC25
Start Date and Time	2013/06/19 09:29:54	Operator(s)	RB

Quality Control

St	Loc	%Dep	Message
2	3.00	0.6	High standard error: 0.107
3	3.20	0.6	High angle: -31
4	3.60	0.6	High standard error: 0.116
5	4.00	0.6	High standard error: 0.099
6	4.40	0.6	High angle: -28
7	4.80	0.6	High angle: -38
8	5.20	0.6	High angle: 104
9	5.60	0.6	High standard error: 0.126
10	5.80	0.6	High angle: -28
		0.6	High standard error: 0.098
11	6.00	0.6	High angle: -34
12	6.40	0.6	High number of spikes: 7
20	8.40	0.6	High angle: 24
21	8.80	0.6	High angle: 20
22	9.20	0.6	High angle: 34

Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information	
File Name	GC30.WAD
Start Date and Time	2013/06/19 10:15:33

Site Details	
Site Name	GC30
Operator(s)	RB

System Information	
Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.20

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	1.1%	2.5%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.4%	-
Overall	**3.4%**	**3.5%**

Summary			
Averaging Int.	40	# Stations	21
Start Edge	REW	Total Width	5.098
Mean SNR	45.5 dB	Total Area	2.174
Mean Temp	45.82 °F	Mean Depth	0.427
Disch. Equation	Mid-Section	Mean Velocity	1.2845
		Total Discharge	**2.7928**

Measurement Results

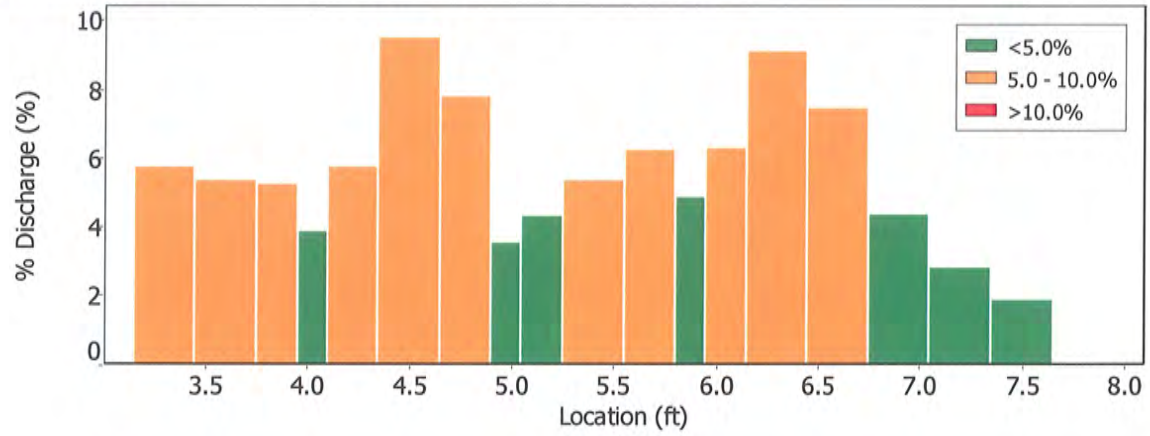
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	10:15	3.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	10:16	3.30	0.6	0.450	0.6	0.180	1.1975	1.00	1.1975	0.135	0.1616	5.8
2	*10:17*	*3.60*	*0.6*	*0.350*	*0.6*	*0.140*	*1.4383*	*1.00*	*1.4383*	*0.105*	*0.1510*	*5.4*
3	10:18	3.90	0.6	0.450	0.6	0.180	1.6404	1.00	1.6404	0.090	0.1478	5.3
4	10:33	4.00	0.6	0.450	0.6	0.180	1.6217	1.00	1.6217	0.067	0.1095	3.9
5	10:19	4.20	0.6	0.450	0.6	0.180	1.4334	1.00	1.4334	0.112	0.1611	5.8
6	10:20	4.50	0.6	0.450	0.6	0.180	1.9744	1.00	1.9744	0.135	0.2665	9.5
7	10:21	4.80	0.6	0.450	0.6	0.180	1.9383	1.00	1.9383	0.113	0.2184	7.8
8	10:34	5.00	0.6	0.450	0.6	0.180	1.4639	1.00	1.4639	0.067	0.0988	3.5
9	10:22	5.10	0.6	0.450	0.6	0.180	1.3556	1.00	1.3556	0.090	0.1217	4.4
10	*10:23*	*5.40*	*0.6*	*0.450*	*0.6*	*0.180*	*1.1142*	*1.00*	*1.1142*	*0.135*	*0.1504*	*5.4*
11	10:24	5.70	0.6	0.500	0.6	0.200	1.3934	1.00	1.3934	0.125	0.1745	6.2
12	10:35	5.90	0.6	0.500	0.6	0.200	1.8182	1.00	1.8182	0.075	0.1363	4.9
13	10:25	6.00	0.6	0.500	0.6	0.200	1.7674	1.00	1.7674	0.100	0.1761	6.3
14	10:26	6.30	0.6	0.500	0.6	0.200	1.7037	1.00	1.7037	0.150	0.2554	9.1
15	10:27	6.60	0.6	0.500	0.6	0.200	1.3927	1.00	1.3927	0.150	0.2088	7.5
16	10:28	6.90	0.6	0.500	0.6	0.200	0.8130	1.00	0.8130	0.150	0.1219	4.4
17	10:29	7.20	0.6	0.400	0.6	0.160	0.6640	1.00	0.6640	0.120	0.0796	2.9
18	10:30	7.50	0.6	0.500	0.6	0.200	0.3553	1.00	0.3553	0.150	0.0533	1.9
19	10:31	7.80	0.6	0.350	0.6	0.140	0.0003	1.00	0.0003	0.105	0.0000	0.0
20	10:31	8.10	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

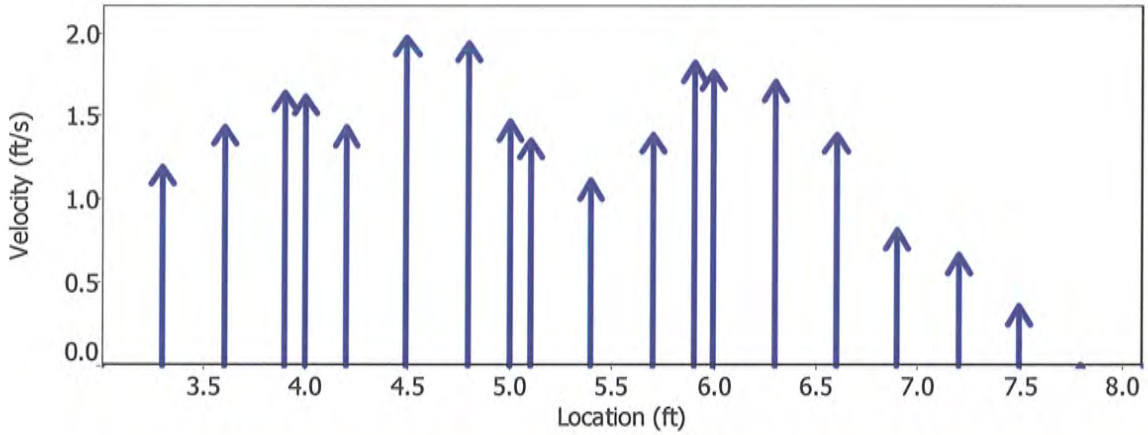
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

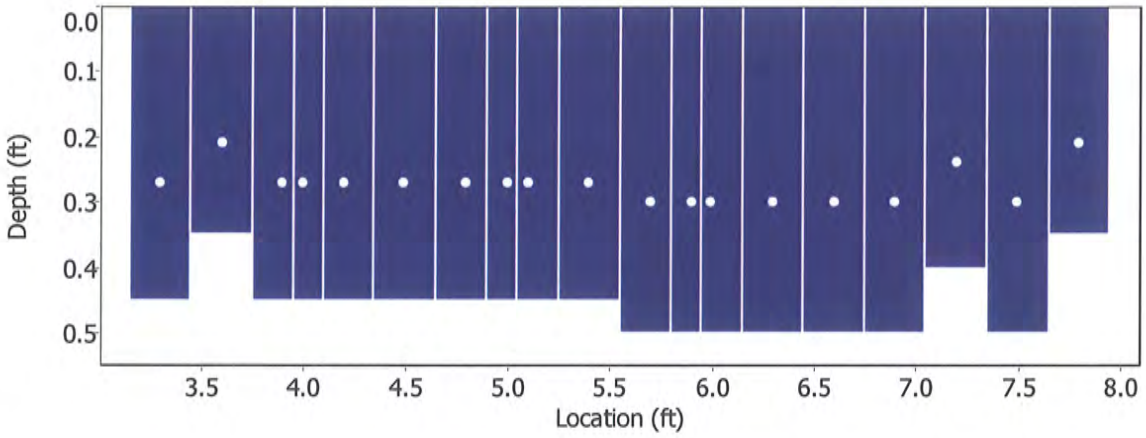
Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	GC30.WAD	Site Name	GC30
Start Date and Time	2013/06/19 10:15:33	Operator(s)	RB







Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	GC30.WAD	Site Name	GC30
Start Date and Time	2013/06/19 10:15:33	Operator(s)	RB

Quality Control

St	Loc	%Dep	Message
2	3.60	0.6	High standard error: 0.107
10	5.40	0.6	High standard error: 0.098

Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information	
File Name	GC35.WAD
Start Date and Time	2013/06/19 10:51:22

Site Details	
Site Name	GC35
Operator(s)	RB

System Information	
Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.20

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%	1.6%
Velocity	1.3%	9.2%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.4%	-
Overall	**3.5%**	**9.4%**

Summary			
Averaging Int.	40	# Stations	21
Start Edge	REW	Total Width	5.098
Mean SNR	35.4 dB	Total Area	2.881
Mean Temp	44.37 °F	Mean Depth	0.565
Disch. Equation	Mid-Section	Mean Velocity	0.8529
		Total Discharge	**2.4575**

Measurement Results

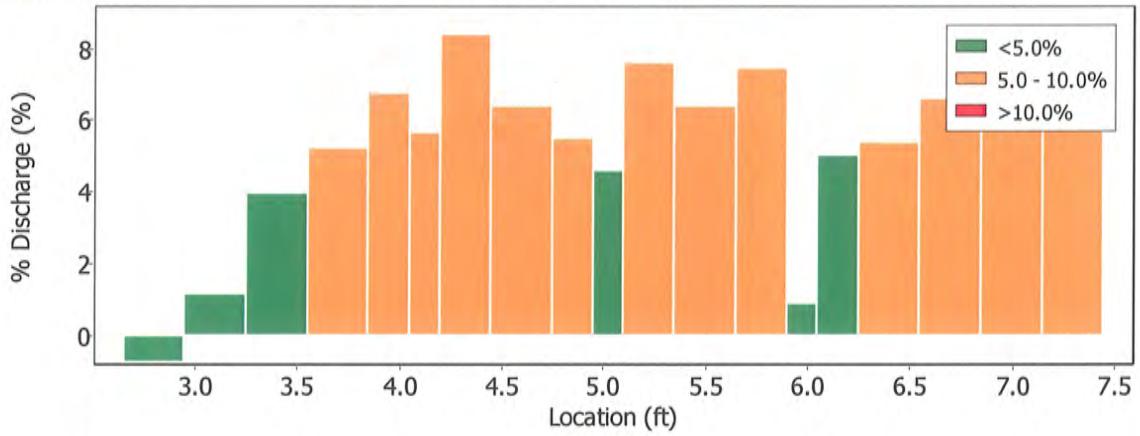
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	10:51	2.50	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	*10:51*	*2.80*	*0.6*	*0.500*	*0.6*	*0.200*	*-0.1234*	*1.00*	*-0.1234*	*0.150*	*-0.0185*	*-0.8*
2	10:52	3.10	0.6	0.600	0.6	0.240	0.1575	1.00	0.1575	0.180	0.0283	1.2
3	10:53	3.40	0.6	0.600	0.6	0.240	0.5390	1.00	0.5390	0.180	0.0970	3.9
4	10:54	3.70	0.6	0.700	0.6	0.280	0.6129	1.00	0.6129	0.210	0.1287	5.2
5	10:56	4.00	0.6	0.700	0.6	0.280	1.1886	1.00	1.1886	0.140	0.1667	6.8
6	11:09	4.10	0.6	0.700	0.6	0.280	1.3241	1.00	1.3241	0.105	0.1390	5.7
7	10:57	4.30	0.6	0.650	0.6	0.260	1.2703	1.00	1.2703	0.162	0.2060	8.4
8	10:58	4.60	0.6	0.550	0.6	0.220	0.9557	1.00	0.9557	0.165	0.1576	6.4
9	*10:59*	*4.90*	*0.6*	*0.550*	*0.6*	*0.220*	*1.2280*	*1.00*	*1.2280*	*0.110*	*0.1354*	*5.5*
10	11:11	5.00	0.6	0.600	0.6	0.240	1.2487	1.00	1.2487	0.090	0.1123	4.6
11	11:00	5.20	0.6	0.600	0.6	0.240	1.2490	1.00	1.2490	0.150	0.1869	7.6
12	11:01	5.50	0.6	0.650	0.6	0.260	0.8061	1.00	0.8061	0.195	0.1571	6.4
13	11:02	5.80	0.6	0.600	0.6	0.240	1.2139	1.00	1.2139	0.150	0.1826	7.4
14	*11:12*	*6.00*	*0.6*	*0.600*	*0.6*	*0.240*	*0.2467*	*1.00*	*0.2467*	*0.090*	*0.0222*	*0.9*
15	11:03	6.10	0.6	0.500	0.6	0.200	1.2323	1.00	1.2323	0.100	0.1227	5.0
16	11:04	6.40	0.6	0.600	0.6	0.240	0.7323	1.00	0.7323	0.180	0.1318	5.4
17	11:05	6.70	0.6	0.550	0.6	0.220	0.9843	1.00	0.9843	0.165	0.1623	6.6
18	11:06	7.00	0.6	0.600	0.6	0.240	0.9718	1.00	0.9718	0.180	0.1749	7.1
19	11:07	7.30	0.6	0.600	0.6	0.240	0.9147	1.00	0.9147	0.180	0.1646	6.7
20	11:07	7.60	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

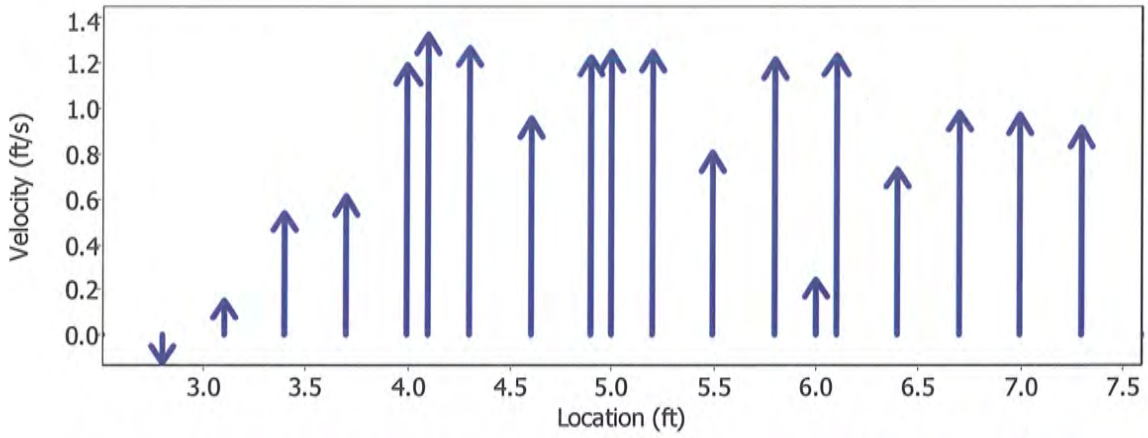
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

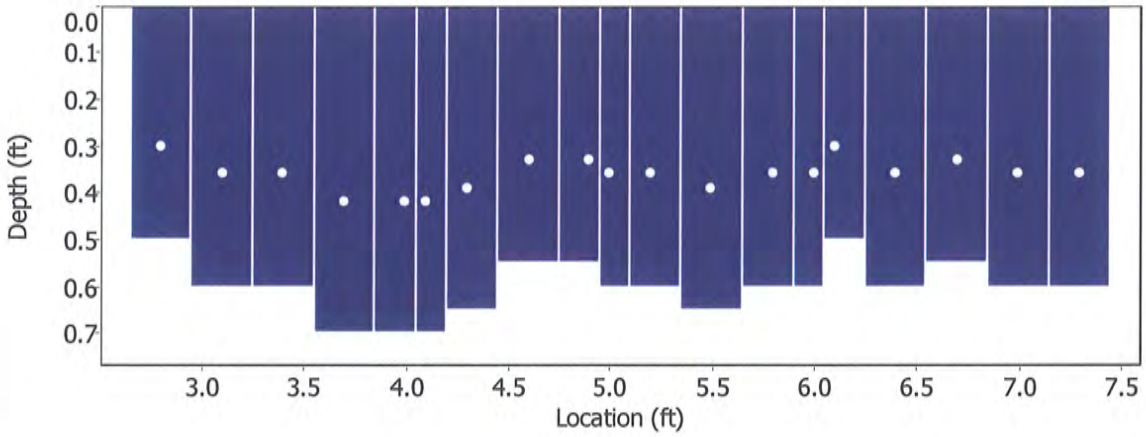
Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	GC35.WAD	Site Name	GC35
Start Date and Time	2013/06/19 10:51:22	Operator(s)	RB







Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	GC35.WAD	Site Name	GC35
Start Date and Time	2013/06/19 10:51:22	Operator(s)	RB

Quality Control

St	Loc	%Dep	Message
1	2.80	0.6	High angle: 146
9	4.90	0.6	High standard error: 0.079
14	6.00	0.6	High angle: -31

Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information	
File Name	GC40.WAD
Start Date and Time	2013/06/19 11:25:05

Site Details	
Site Name	GC40
Operator(s)	RB

System Information	
Sensor Type	FlowTracker
Serial #	P3513
CPU Firmware Version	3.7
Software Ver	2.20

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%	1.7%
Velocity	2.1%	4.2%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.3%	-
Overall	**3.7%**	**4.6%**

Summary			
Averaging Int.	40	# Stations	22
Start Edge	REW	Total Width	3.397
Mean SNR	41.8 dB	Total Area	1.446
Mean Temp	43.57 °F	Mean Depth	0.426
Disch. Equation	Mid-Section	Mean Velocity	0.9769
		Total Discharge	**1.4126**

Measurement Results

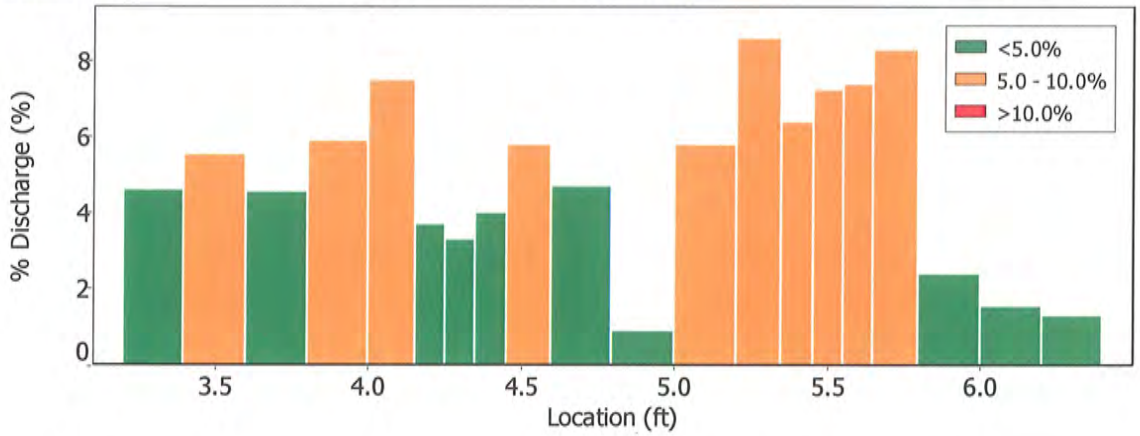
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	11:25	3.10	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	11:25	3.30	0.6	0.200	0.6	0.080	1.6342	1.00	1.6342	0.040	0.0653	4.6
2	11:26	3.50	0.6	0.250	0.6	0.100	1.5814	1.00	1.5814	0.050	0.0790	5.6
3	11:27	3.70	0.6	0.250	0.6	0.100	1.2917	1.00	1.2917	0.050	0.0645	4.6
4	11:28	3.90	0.6	0.300	0.6	0.120	1.3901	1.00	1.3901	0.060	0.0833	5.9
5	11:29	4.10	0.6	0.500	0.6	0.200	1.4154	1.00	1.4154	0.075	0.1065	7.5
6	11:44	4.20	0.6	0.500	0.6	0.200	1.0525	1.00	1.0525	0.050	0.0526	3.7
7	11:30	4.30	0.6	0.500	0.6	0.200	0.9442	1.00	0.9442	0.050	0.0472	3.3
8	11:45	4.40	0.6	0.500	0.6	0.200	1.1345	1.00	1.1345	0.050	0.0567	4.0
9	*11:31*	*4.50*	*0.6*	*0.500*	*0.6*	*0.200*	*1.1040*	*1.00*	*1.1040*	*0.075*	*0.0824*	*5.8*
10	*11:32*	*4.70*	*0.6*	*0.500*	*0.6*	*0.200*	*0.6660*	*1.00*	*0.6660*	*0.100*	*0.0665*	*4.7*
11	*11:33*	*4.90*	*0.6*	*0.500*	*0.6*	*0.200*	*0.1322*	*1.00*	*0.1322*	*0.100*	*0.0132*	*0.9*
12	*11:34*	*5.10*	*0.6*	*0.500*	*0.6*	*0.200*	*0.8225*	*1.00*	*0.8225*	*0.100*	*0.0822*	*5.8*
13	11:35	5.30	0.6	0.550	0.6	0.220	1.4685	1.00	1.4685	0.083	0.1219	8.6
14	11:41	5.40	0.6	0.550	0.6	0.220	1.6486	1.00	1.6486	0.055	0.0906	6.4
15	11:36	5.50	0.6	0.550	0.6	0.220	1.8720	1.00	1.8720	0.055	0.1030	7.3
16	11:43	5.60	0.6	0.650	0.6	0.260	1.6175	1.00	1.6175	0.065	0.1050	7.4
17	11:37	5.70	0.6	0.600	0.6	0.240	1.3202	1.00	1.3202	0.089	0.1177	8.3
18	11:38	5.90	0.6	0.500	0.6	0.200	0.3402	1.00	0.3402	0.100	0.0340	2.4
19	*11:39*	*6.10*	*0.6*	*0.500*	*0.6*	*0.200*	*0.2238*	*1.00*	*0.2238*	*0.100*	*0.0224*	*1.6*
20	11:40	6.30	0.6	0.500	0.6	0.200	0.1877	1.00	0.1877	0.100	0.0187	1.3
21	11:40	6.50	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

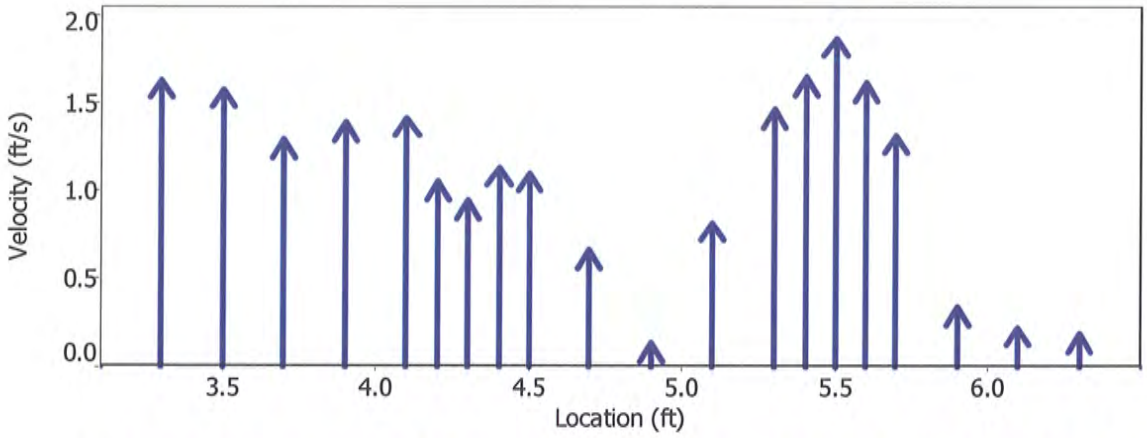
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

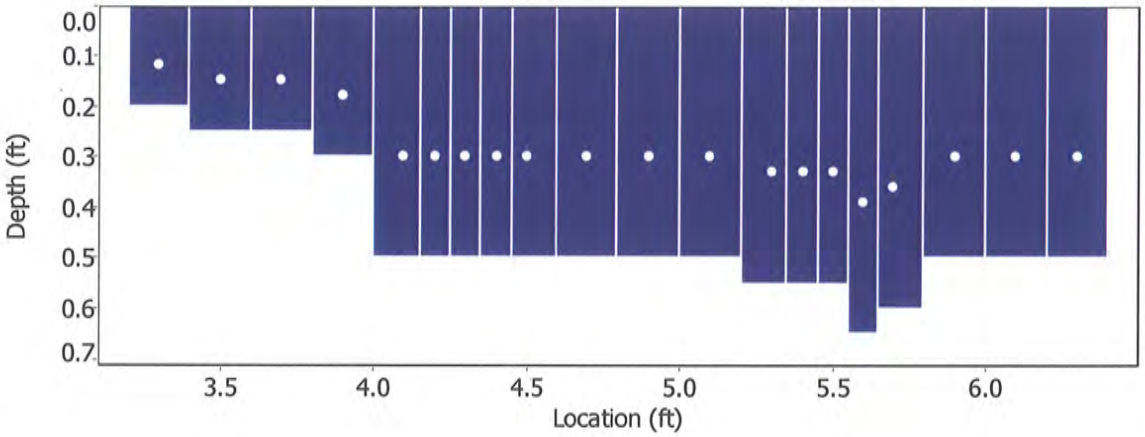
Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information		Site Details	
File Name	GC40.WAD	Site Name	GC40
Start Date and Time	2013/06/19 11:25:05	Operator(s)	RB







Discharge Measurement Summary

Date Generated: Wed Jul 24 2013

File Information	
File Name	GC40.WAD
Start Date and Time	2013/06/19 11:25:05

Site Details	
Site Name	GC40
Operator(s)	RB

Quality Control

St	Loc	%Dep	Message
9	4.50	0.6	High angle: 37
10	4.70	0.6	High angle: 58
11	4.90	0.6	High angle: 80
12	5.10	0.6	High standard error: 0.142
19	6.10	0.6	High angle: 41

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information

File Name	BC0.WAD
Start Date and Time	2013/09/09 13:45:56

Site Details

Site Name	BC0
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%	2.6%
Velocity	1.7%	11.9%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.0%	-
Overall	**3.4%**	**12.2%**

Summary

Averaging Int.	40	# Stations	25
Start Edge	REW	Total Width	41.000
Mean SNR	30.6 dB	Total Area	24.350
Mean Temp	58.04 °F	Mean Depth	0.594
Disch. Equation	Mid-Section	Mean Velocity	1.1155
		Total Discharge	**27.1631**

Measurement Results

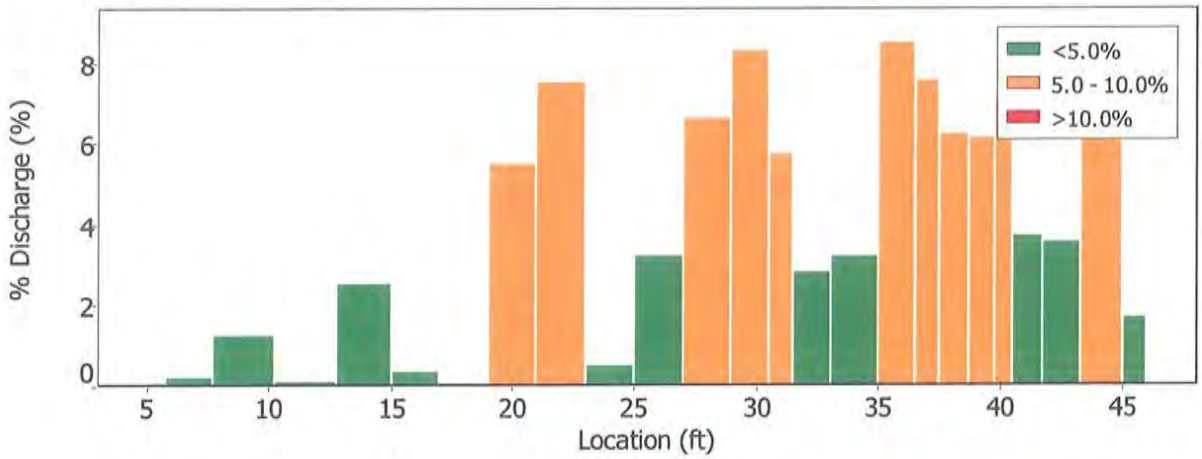
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	13:45	46.00	None	0.300	0.0	0.0	0.0000	1.00	1.5427	0.300	0.4626	1.7
1	*13:45*	*44.00*	*0.6*	*0.700*	*0.6*	*0.280*	*1.5427*	*1.00*	*1.5427*	*1.225*	*1.8901*	*7.0*
2	*13:47*	*42.50*	*0.6*	*1.000*	*0.6*	*0.400*	*0.6503*	*1.00*	*0.6503*	*1.500*	*0.9754*	*3.6*
3	*13:48*	*41.00*	*0.6*	*0.900*	*0.6*	*0.360*	*0.9052*	*1.00*	*0.9052*	*1.125*	*1.0183*	*3.7*
4	14:14	40.00	0.6	0.900	0.6	0.360	2.8786	1.00	2.8786	0.675	1.9429	7.2
5	13:49	39.50	0.6	1.000	0.6	0.400	1.6768	1.00	1.6768	1.000	1.6768	6.2
6	13:50	38.00	0.6	1.000	0.6	0.400	1.3645	1.00	1.3645	1.250	1.7056	6.3
7	*14:12*	*37.00*	*0.6*	*0.800*	*0.6*	*0.320*	*2.5886*	*1.00*	*2.5886*	*0.800*	*2.0705*	*7.6*
8	*13:51*	*36.00*	*0.6*	*0.800*	*0.6*	*0.320*	*1.9357*	*1.00*	*1.9357*	*1.200*	*2.3225*	*8.6*
9	*13:52*	*34.00*	*0.6*	*0.750*	*0.6*	*0.300*	*0.5886*	*1.00*	*0.5886*	*1.500*	*0.8829*	*3.3*
10	13:53	32.00	0.6	0.800	0.6	0.320	0.6453	1.00	0.6453	1.200	0.7743	2.9
11	*14:11*	*31.00*	*0.6*	*0.900*	*0.6*	*0.360*	*1.7372*	*1.00*	*1.7372*	*0.900*	*1.5634*	*5.8*
12	13:54	30.00	0.6	0.900	0.6	0.360	1.6778	1.00	1.6778	1.350	2.2649	8.3
13	13:55	28.00	0.6	0.800	0.6	0.320	1.1302	1.00	1.1302	1.600	1.8081	6.7
14	*13:56*	*26.00*	*0.6*	*0.600*	*0.6*	*0.240*	*0.7356*	*1.00*	*0.7356*	*1.200*	*0.8828*	*3.2*
15	*13:58*	*24.00*	*0.6*	*0.400*	*0.6*	*0.160*	*0.1804*	*1.00*	*0.1804*	*0.800*	*0.1443*	*0.5*
16	13:59	22.00	0.6	0.600	0.6	0.240	1.7060	1.00	1.7060	1.200	2.0475	7.5
17	14:00	20.00	0.6	0.500	0.6	0.200	1.4934	1.00	1.4934	1.000	1.4934	5.5
18	14:01	18.00	0.6	0.600	0.6	0.240	0.0115	1.00	0.0115	1.200	0.0138	0.1
19	*14:02*	*16.00*	*0.6*	*0.450*	*0.6*	*0.180*	*0.1066*	*1.00*	*0.1066*	*0.900*	*0.0960*	*0.4*
20	*14:04*	*14.00*	*0.6*	*0.300*	*0.6*	*0.120*	*1.0256*	*1.00*	*1.0256*	*0.675*	*0.6920*	*2.5*
21	*14:06*	*11.50*	*0.6*	*0.200*	*0.6*	*0.080*	*0.0551*	*1.00*	*0.0551*	*0.500*	*0.0276*	*0.1*
22	*14:07*	*9.00*	*0.6*	*0.200*	*0.6*	*0.080*	*0.6768*	*1.00*	*0.6768*	*0.500*	*0.3386*	*1.2*
23	*14:08*	*6.50*	*0.6*	*0.300*	*0.6*	*0.120*	*0.0919*	*1.00*	*0.0919*	*0.600*	*0.0551*	*0.2*
24	14:08	5.00	None	0.200	0.0	0.0	0.0000	1.00	0.0919	0.150	0.0138	0.1

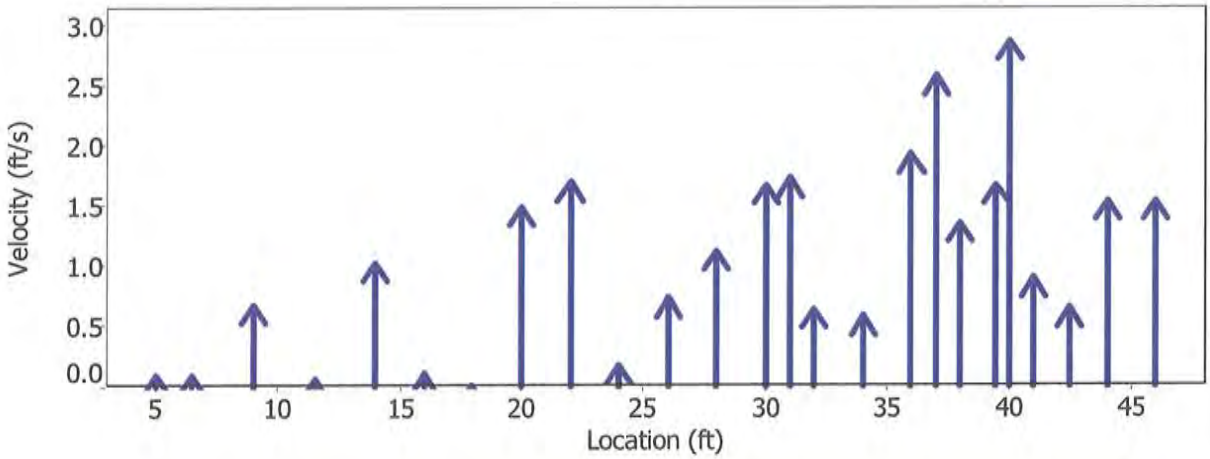
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

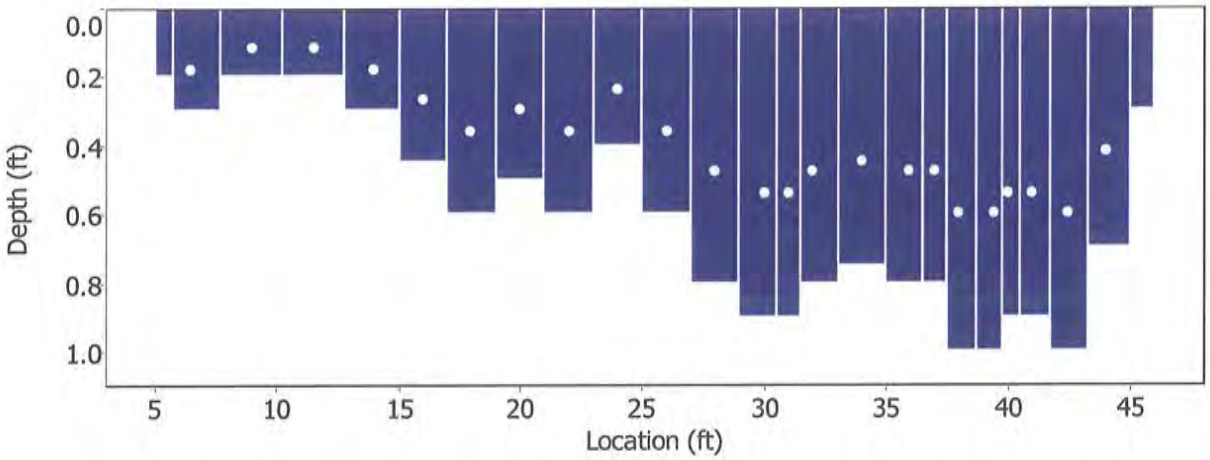
Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	BC0.WAD	Site Name	BC0
Start Date and Time	2013/09/09 13:45:56	Operator(s)	LC







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	BC0.WAD	Site Name	BC0
Start Date and Time	2013/09/09 13:45:56	Operator(s)	LC

Quality Control

St	Loc	%Dep	Message
1	44.00	0.6	High angle: 27
2	42.50	0.6	High angle: 25
3	41.00	0.6	High standard error: 0.105
7	37.00	0.6	High angle: 21
8	36.00	0.6	High angle: 22
9	34.00	0.6	High angle: 26
		0.6	High standard error: 0.115
11	31.00	0.6	High standard error: 0.112
14	26.00	0.6	High angle: 37
		0.6	High standard error: 0.110
15	24.00	0.6	High angle: 27
19	16.00	0.6	High angle: -44
20	14.00	0.6	High angle: -34
21	11.50	0.6	High angle: -70
22	9.00	0.6	High angle: -28
23	6.50	0.6	High angle: -41

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information

File Name	BC1.WAD
Start Date and Time	2013/09/09 14:30:33

Site Details

Site Name	BC1
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%	3.7%
Velocity	1.4%	11.2%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.1%	-
Overall	**3.3%**	**11.8%**

Summary

Averaging Int.	40	# Stations	24
Start Edge	LEW	Total Width	32.000
Mean SNR	31.9 dB	Total Area	24.666
Mean Temp	58.39 °F	Mean Depth	0.771
Disch. Equation	Mid-Section	Mean Velocity	1.3125
		Total Discharge	**32.3750**

Measurement Results

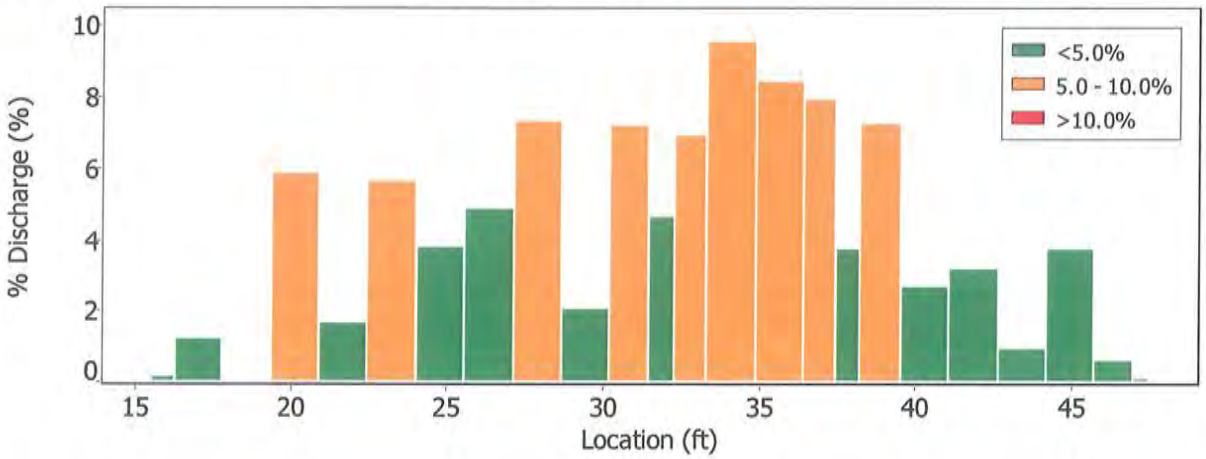
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	14:30	15.50	None	0.300	0.0	0.0	0.0000	1.00	0.2897	0.232	0.0673	0.2
1	14:30	17.05	0.6	0.900	0.6	0.360	0.2897	1.00	0.2897	1.395	0.4041	1.2
2	14:31	18.60	0.6	0.700	0.6	0.280	-0.0194	1.00	-0.0194	1.085	-0.0210	-0.1
3	*14:32*	*20.15*	*0.6*	*0.850*	*0.6*	*0.340*	*1.4423*	*1.00*	*1.4423*	*1.317*	*1.9002*	*5.9*
4	*14:33*	*21.70*	*0.6*	*0.550*	*0.6*	*0.220*	*0.6437*	*1.00*	*0.6437*	*0.852*	*0.5486*	*1.7*
5	14:35	23.25	0.6	0.800	0.6	0.320	1.4833	1.00	1.4833	1.240	1.8388	5.7
6	14:36	24.80	0.6	0.600	0.6	0.240	1.3245	1.00	1.3245	0.930	1.2318	3.8
7	14:37	26.35	0.6	1.000	0.6	0.400	1.0226	1.00	1.0226	1.550	1.5850	4.9
8	14:38	27.90	0.6	0.950	0.6	0.380	1.6112	1.00	1.6112	1.473	2.3726	7.3
9	14:39	29.45	0.6	0.900	0.6	0.360	0.4849	1.00	0.4849	1.395	0.6763	2.1
10	14:40	31.00	0.6	1.100	0.6	0.440	1.6657	1.00	1.6657	1.403	2.3373	7.2
11	14:54	32.00	0.6	0.900	0.6	0.360	2.1568	1.00	2.1568	0.697	1.5041	4.6
12	*14:41*	*32.55*	*0.6*	*0.900*	*0.6*	*0.360*	*2.3898*	*1.00*	*2.3898*	*0.944*	*2.2565*	*7.0*
13	14:42	34.10	0.6	0.900	0.6	0.360	2.2264	1.00	2.2264	1.395	3.1053	9.6
14	*14:43*	*35.65*	*0.6*	*1.000*	*0.6*	*0.400*	*1.7638*	*1.00*	*1.7638*	*1.550*	*2.7336*	*8.4*
15	14:45	37.20	0.6	1.100	0.6	0.440	2.2858	1.00	2.2858	1.129	2.5797	8.0
16	*14:55*	*37.70*	*0.6*	*1.000*	*0.6*	*0.400*	*1.5735*	*1.00*	*1.5735*	*0.775*	*1.2194*	*3.8*
17	14:46	38.75	0.6	0.700	0.6	0.280	2.5991	1.00	2.5991	0.909	2.3636	7.3
18	14:47	40.30	0.6	0.800	0.6	0.320	0.6972	1.00	0.6972	1.240	0.8643	2.7
19	*14:48*	*41.85*	*0.6*	*0.700*	*0.6*	*0.280*	*0.9626*	*1.00*	*0.9626*	*1.085*	*1.0445*	*3.2*
20	14:49	43.40	0.6	0.500	0.6	0.200	0.3907	1.00	0.3907	0.775	0.3028	0.9
21	14:50	44.95	0.6	0.400	0.6	0.160	1.9636	1.00	1.9636	0.620	1.2171	3.8
22	*14:51*	*46.50*	*0.6*	*0.450*	*0.6*	*0.180*	*0.3602*	*1.00*	*0.3602*	*0.574*	*0.2069*	*0.6*
23	14:51	47.50	None	0.200	0.0	0.0	0.0000	1.00	0.3602	0.100	0.0361	0.1

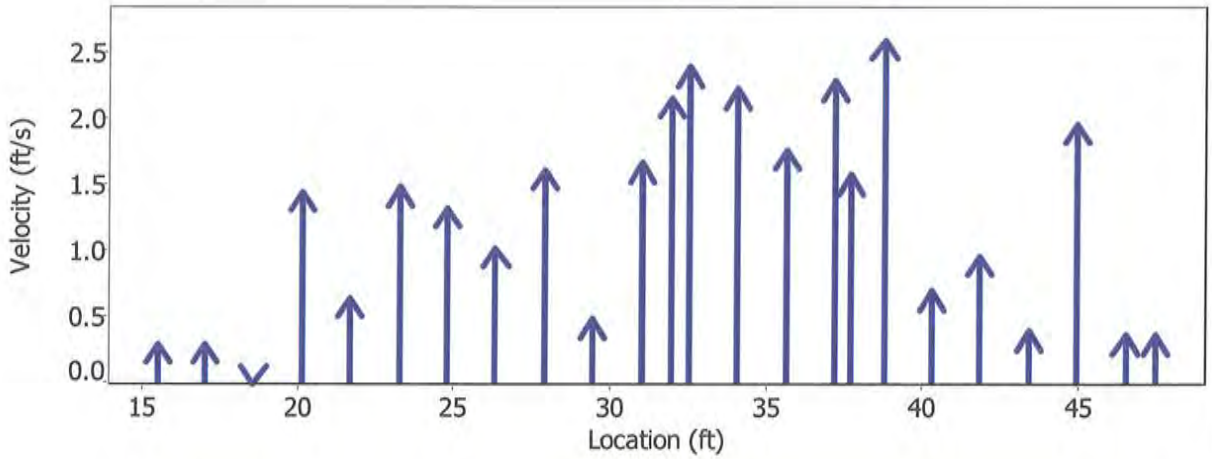
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

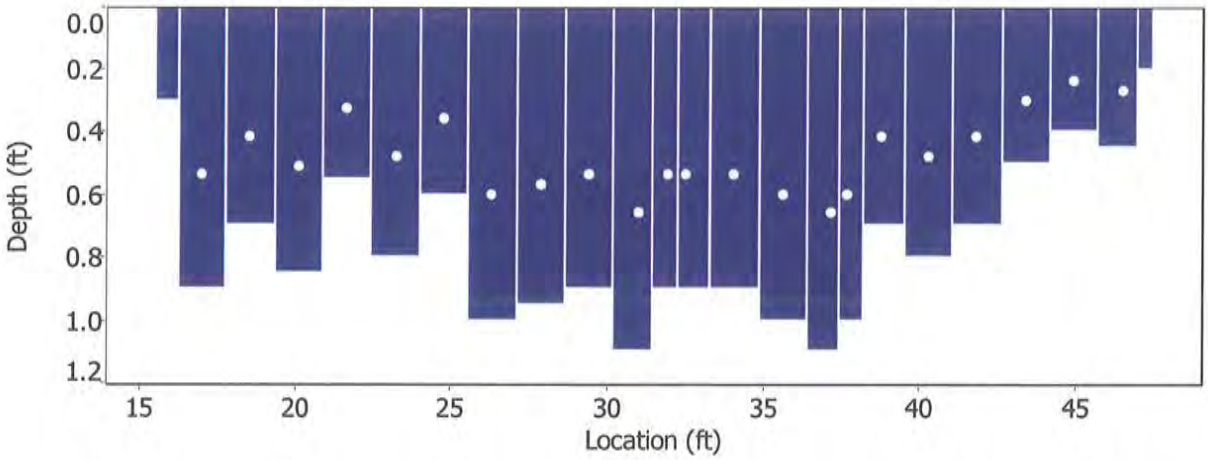
Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	BC1.WAD	Site Name	BC1
Start Date and Time	2013/09/09 14:30:33	Operator(s)	LC







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	BC1.WAD	Site Name	BC1
Start Date and Time	2013/09/09 14:30:33	Operator(s)	LC

Quality Control

St	Loc	%Dep	Message
3	20.15	0.6	High standard error: 0.127
4	21.70	0.6	High standard error: 0.110
12	32.55	0.6	High standard error: 0.123
14	35.65	0.6	High standard error: 0.136
16	37.70	0.6	High angle: -21
19	41.85	0.6	High angle: -24
22	46.50	0.6	High angle: -41

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information

File Name	DFBC15.WAD
Start Date and Time	2013/09/10 08:58:35

Site Details

Site Name	DFBC15
Operator(s)	DW

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	0.1%	1.0%
Velocity	1.2%	4.2%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.0%	-
Overall	**3.2%**	**4.4%**

Summary

Averaging Int.	40	# Stations	25
Start Edge	LEW	Total Width	22.001
Mean SNR	19.9 dB	Total Area	21.218
Mean Temp	49.04 °F	Mean Depth	0.964
Disch. Equation	Mid-Section	Mean Velocity	0.3153
		Total Discharge	**6.6906**

Measurement Results

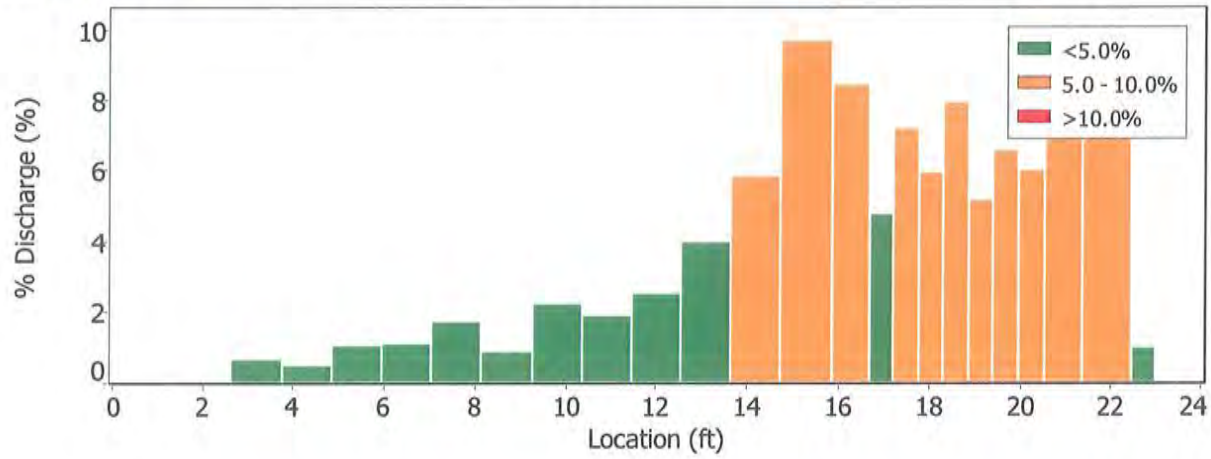
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	08:58	1.00	None	0.200	0.0	0.0	0.0000	1.00	-0.0105	0.110	-0.0012	0.0
1	*09:00*	*2.10*	*0.6*	*0.250*	*0.6*	*0.100*	*-0.0105*	*1.00*	*-0.0105*	*0.275*	*-0.0029*	*0.0*
2	*09:02*	*3.20*	*0.6*	*0.290*	*0.6*	*0.116*	*0.1388*	*1.00*	*0.1388*	*0.319*	*0.0443*	*0.7*
3	*09:04*	*4.30*	*0.6*	*0.390*	*0.6*	*0.156*	*0.0758*	*1.00*	*0.0758*	*0.429*	*0.0325*	*0.5*
4	*09:06*	*5.40*	*0.6*	*0.650*	*0.6*	*0.260*	*0.0988*	*1.00*	*0.0988*	*0.715*	*0.0706*	*1.1*
5	*09:08*	*6.50*	*0.6*	*0.680*	*0.6*	*0.272*	*0.0984*	*1.00*	*0.0984*	*0.748*	*0.0736*	*1.1*
6	*09:09*	*7.60*	*0.6*	*0.800*	*0.6*	*0.320*	*0.1312*	*1.00*	*0.1312*	*0.880*	*0.1155*	*1.7*
7	*09:10*	*8.70*	*0.6*	*0.750*	*0.6*	*0.300*	*0.0709*	*1.00*	*0.0709*	*0.825*	*0.0585*	*0.9*
8	*09:12*	*9.80*	*0.6*	*0.850*	*0.6*	*0.340*	*0.1598*	*1.00*	*0.1598*	*0.935*	*0.1494*	*2.2*
9	*09:13*	*10.90*	*0.6*	*0.850*	*0.6*	*0.340*	*0.1375*	*1.00*	*0.1375*	*0.935*	*0.1285*	*1.9*
10	*09:14*	*12.00*	*0.6*	*0.850*	*0.6*	*0.340*	*0.1814*	*1.00*	*0.1814*	*0.935*	*0.1697*	*2.5*
11	*09:15*	*13.10*	*0.6*	*1.000*	*0.6*	*0.400*	*0.2434*	*1.00*	*0.2434*	*1.100*	*0.2678*	*4.0*
12	*09:17*	*14.20*	*0.6*	*1.150*	*0.6*	*0.460*	*0.3107*	*1.00*	*0.3107*	*1.265*	*0.3930*	*5.9*
13	*09:18*	*15.30*	*0.6*	*1.300*	*0.6*	*0.520*	*0.4544*	*1.00*	*0.4544*	*1.430*	*0.6498*	*9.7*
14	*09:19*	*16.40*	*0.6*	*1.520*	*0.6*	*0.608*	*0.4505*	*1.00*	*0.4505*	*1.253*	*0.5646*	*8.4*
15	*09:30*	*16.95*	*0.6*	*1.550*	*0.6*	*0.620*	*0.3730*	*1.00*	*0.3730*	*0.852*	*0.3180*	*4.8*
16	*09:21*	*17.50*	*0.6*	*1.650*	*0.6*	*0.660*	*0.5305*	*1.00*	*0.5305*	*0.907*	*0.4813*	*7.2*
17	09:32	18.05	0.6	1.680	0.6	0.672	0.4301	1.00	0.4301	0.924	0.3975	5.9
18	09:22	18.60	0.6	1.750	0.6	0.700	0.5515	1.00	0.5515	0.963	0.5309	7.9
19	*09:33*	*19.15*	*0.6*	*1.550*	*0.6*	*0.620*	*0.4055*	*1.00*	*0.4055*	*0.852*	*0.3457*	*5.2*
20	09:23	19.70	0.6	1.550	0.6	0.620	0.5151	1.00	0.5151	0.852	0.4391	6.6
21	09:37	20.25	0.6	1.410	0.6	0.564	0.5217	1.00	0.5217	0.776	0.4046	6.0
22	09:25	20.80	0.6	1.410	0.6	0.564	0.4386	1.00	0.4386	1.164	0.5107	7.6
23	09:26	21.90	0.6	1.410	0.6	0.564	0.3100	1.00	0.3100	1.551	0.4809	7.2
24	09:26	23.00	None	0.400	0.0	0.0	0.0000	1.00	0.3100	0.220	0.0682	1.0

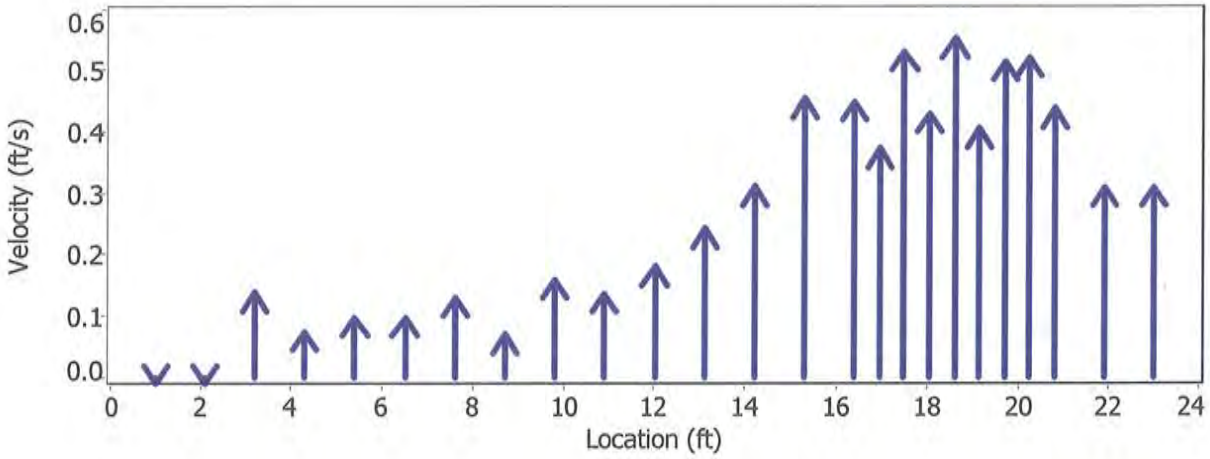
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

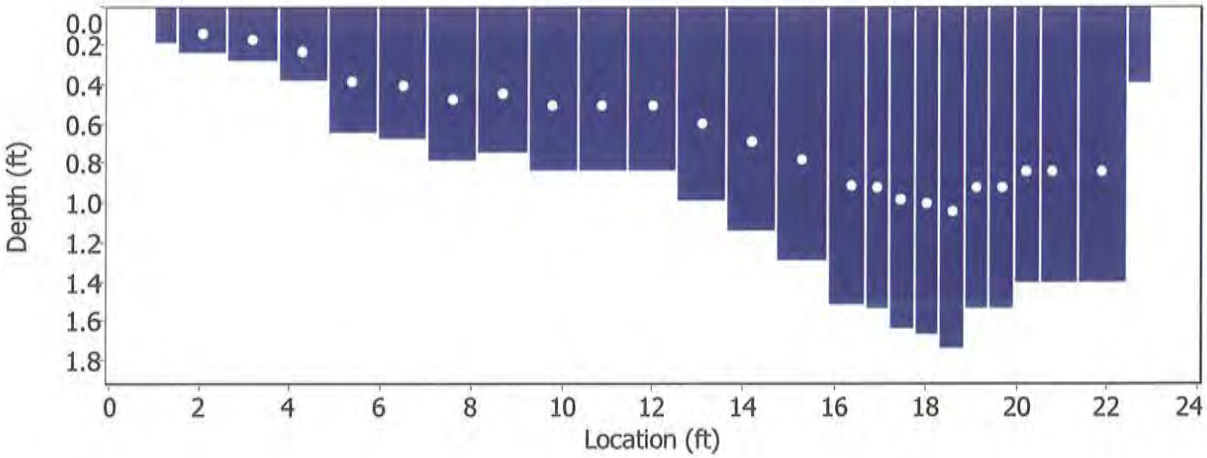
Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	DFBC15.WAD	Site Name	DFBC15
Start Date and Time	2013/09/10 08:58:35	Operator(s)	DW







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	DFBC15.WAD	Site Name	DFBC15
Start Date and Time	2013/09/10 08:58:35	Operator(s)	DW

Quality Control

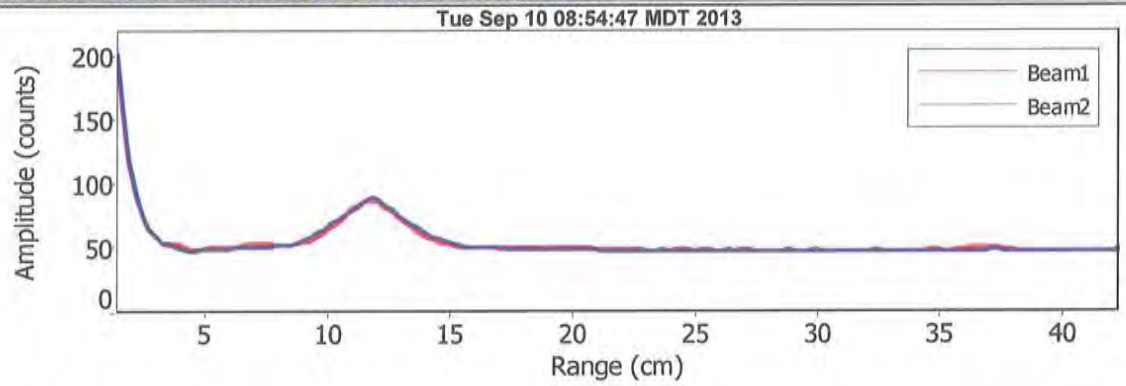
St	Loc	%Dep	Message
1	2.10	0.6	SNR (40.6) is different from typical SNR (19.9)
		0.6	High SNR variation during measurement: 5.2,3.9
2	3.20	0.6	High angle: 33
		0.6	Boundary QC is Good; possible boundary interference
3	4.30	0.6	High angle: 51
4	5.40	0.6	High angle: 37
5	6.50	0.6	High angle: 54
6	7.60	0.6	High angle: 59
7	8.70	0.6	High angle: 73
8	9.80	0.6	High angle: 65
9	10.90	0.6	High angle: 67
10	12.00	0.6	High angle: 61
11	13.10	0.6	High angle: 56
12	14.20	0.6	High angle: 51
13	15.30	0.6	High angle: 36
14	16.40	0.6	High angle: 35
15	16.95	0.6	High angle: 27
16	17.50	0.6	High angle: 26
19	19.15	0.6	High angle: 22

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	DFBC15.WAD	Site Name	DFBC15
Start Date and Time	2013/09/10 08:58:35	Operator(s)	DW

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: Thu Oct 24 2013

File Information

File Name	DFBC20.WAD
Start Date and Time	2013/09/10 08:46:07

Site Details

Site Name	DFBC20
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%	3.9%
Velocity	0.6%	2.1%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.1%	-
Overall	**3.1%**	**4.5%**

Summary

Averaging Int.	40	# Stations	24
Start Edge	LEW	Total Width	22.602
Mean SNR	26.4 dB	Total Area	13.723
Mean Temp	50.51 °F	Mean Depth	0.607
Disch. Equation	Mid-Section	Mean Velocity	0.7083
		Total Discharge	**9.7195**

Measurement Results

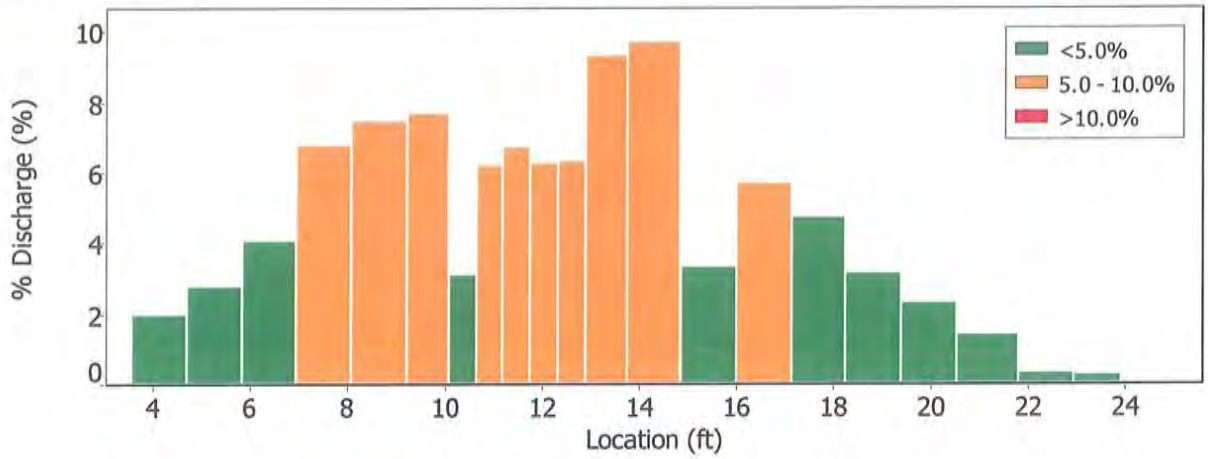
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	08:46	3.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	09:09	4.13	0.6	0.400	0.6	0.160	0.4278	1.00	0.4278	0.452	0.1933	2.0
2	*09:10*	*5.26*	*0.6*	*0.550*	*0.6*	*0.220*	*0.4383*	*1.00*	*0.4383*	*0.621*	*0.2723*	*2.8*
3	09:11	6.39	0.6	0.600	0.6	0.240	0.5850	1.00	0.5850	0.678	0.3966	4.1
4	09:12	7.52	0.6	0.900	0.6	0.360	0.6486	1.00	0.6486	1.017	0.6596	6.8
5	09:13	8.65	0.6	1.000	0.6	0.400	0.6424	1.00	0.6424	1.130	0.7258	7.5
6	09:14	9.78	0.6	1.000	0.6	0.400	0.8809	1.00	0.8809	0.850	0.7490	7.7
7	*09:37*	*10.35*	*0.6*	*0.600*	*0.6*	*0.240*	*0.8953*	*1.00*	*0.8953*	*0.339*	*0.3035*	*3.1*
8	09:15	10.91	0.6	1.100	0.6	0.440	0.9701	1.00	0.9701	0.621	0.6029	6.2
9	09:38	11.48	0.6	1.100	0.6	0.440	1.0554	1.00	1.0554	0.621	0.6560	6.7
10	09:16	12.04	0.6	1.050	0.6	0.420	1.0397	1.00	1.0397	0.588	0.6113	6.3
11	09:40	12.60	0.6	1.000	0.6	0.400	1.0896	1.00	1.0896	0.565	0.6156	6.3
12	09:18	13.17	0.6	1.000	0.6	0.400	1.0699	1.00	1.0699	0.850	0.9089	9.4
13	09:19	14.30	0.6	0.900	0.6	0.360	0.9318	1.00	0.9318	1.017	0.9475	9.7
14	*09:20*	*15.43*	*0.6*	*0.500*	*0.6*	*0.200*	*0.5751*	*1.00*	*0.5751*	*0.565*	*0.3249*	*3.3*
15	*09:21*	*16.56*	*0.6*	*0.700*	*0.6*	*0.280*	*0.7005*	*1.00*	*0.7005*	*0.791*	*0.5541*	*5.7*
16	09:23	17.69	0.6	0.600	0.6	0.240	0.6850	1.00	0.6850	0.678	0.4645	4.8
17	09:24	18.82	0.6	0.500	0.6	0.200	0.5482	1.00	0.5482	0.565	0.3097	3.2
18	09:25	19.95	0.6	0.450	0.6	0.180	0.4472	1.00	0.4472	0.509	0.2274	2.3
19	09:26	21.08	0.6	0.400	0.6	0.160	0.2677	1.00	0.2677	0.510	0.1366	1.4
20	*09:29*	*22.50*	*0.6*	*0.250*	*0.6*	*0.100*	*0.1178*	*1.00*	*0.1178*	*0.282*	*0.0333*	*0.3*
21	09:30	23.34	0.6	0.250	0.6	0.100	0.1161	1.00	0.1161	0.246	0.0286	0.3
22	*09:33*	*24.47*	*0.6*	*0.200*	*0.6*	*0.080*	*-0.0089*	*1.00*	*-0.0089*	*0.226*	*-0.0020*	*0.0*
23	09:33	25.60	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

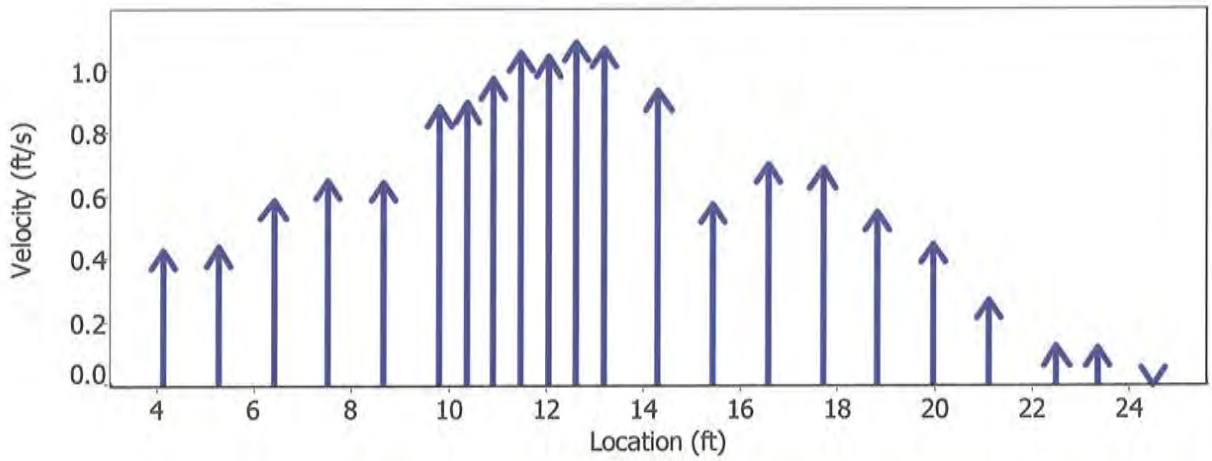
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

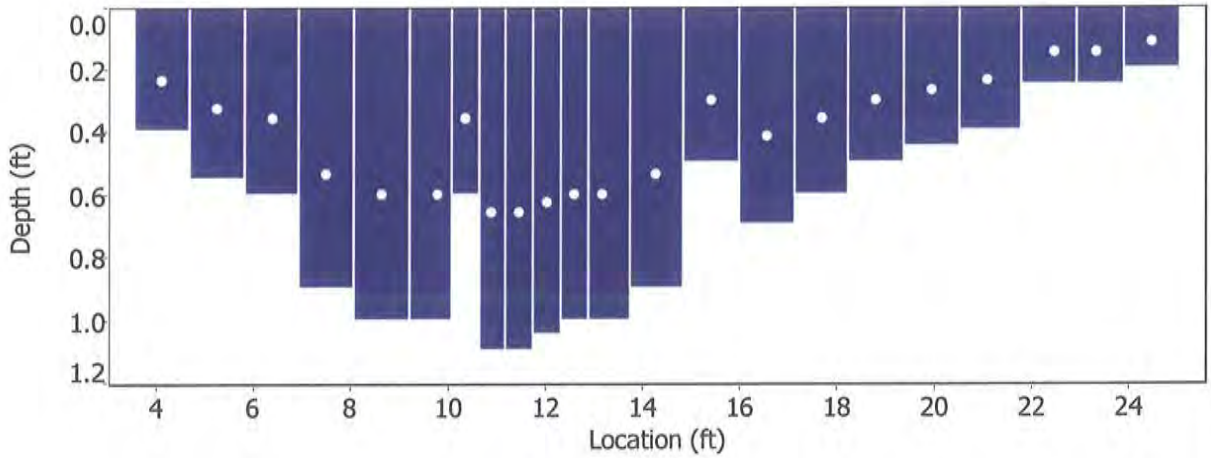
Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	DFBC20.WAD	Site Name	DFBC20
Start Date and Time	2013/09/10 08:46:07	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	DFBC20.WAD	Site Name	DFBC20
Start Date and Time	2013/09/10 08:46:07	Operator(s)	DR

Quality Control

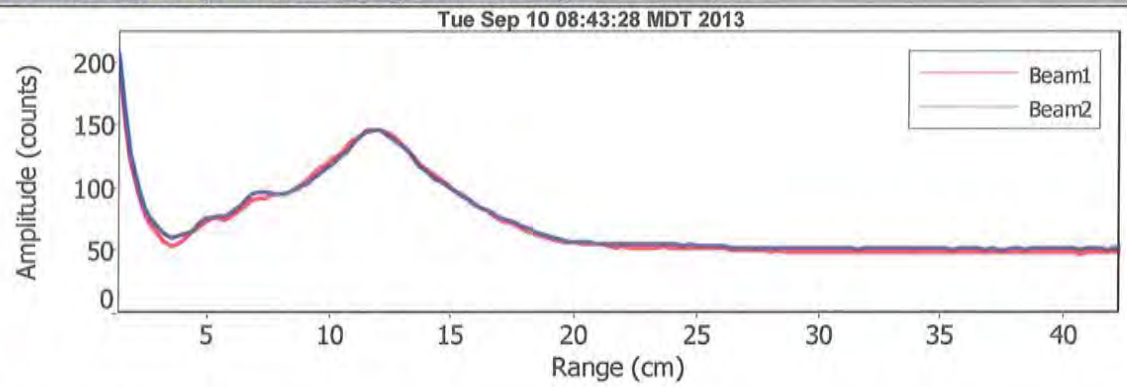
St	Loc	%Dep	Message
2	5.26	0.6	High SNR variation during measurement: 5.2,4.7
7	10.35	0.6	High angle: 21
14	15.43	0.6	High standard error: 0.031
15	16.56	0.6	High SNR variation during measurement: 6.5,6.0
20	22.50	0.6	Boundary QC is Fair; possible boundary interference
22	24.47	0.6	SNR (61.2) is different from typical SNR (26.4)
		0.6	High SNR variation during measurement: 9.9,10.3

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	DFBC20.WAD	Site Name	DFBC20
Start Date and Time	2013/09/10 08:46:07	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: Thu Oct 24 2013

File Information

File Name	DFBC22.WAD
Start Date and Time	2013/09/10 10:06:11

Site Details

Site Name	DFBC22
Operator(s)	DW

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%	1.6%
Velocity	1.5%	8.3%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.3%	-
Overall	**3.5%**	**8.6%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	LEW	Total Width	19.000
Mean SNR	17.8 dB	Total Area	16.640
Mean Temp	49.84 °F	Mean Depth	0.876
Disch. Equation	Mid-Section	Mean Velocity	0.4711
		Total Discharge	**7.8383**

Measurement Results

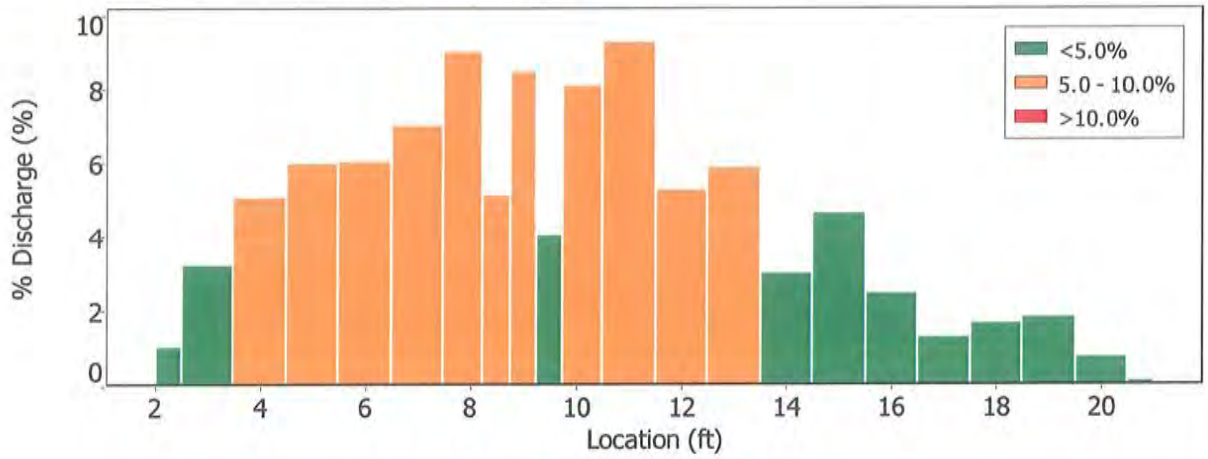
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	10:06	2.00	None	0.550	0.0	0.0	0.0000	1.00	0.3002	0.275	0.0825	1.1
1	*10:08*	*3.00*	*0.6*	*0.850*	*0.6*	*0.340*	*0.3002*	*1.00*	*0.3002*	*0.850*	*0.2552*	*3.3*
2	10:09	4.00	0.6	0.920	0.6	0.368	0.4327	1.00	0.4327	0.920	0.3981	5.1
3	*10:10*	*5.00*	*0.6*	*1.270*	*0.6*	*0.508*	*0.3727*	*1.00*	*0.3727*	*1.270*	*0.4733*	*6.0*
4	10:12	6.00	0.6	1.270	0.6	0.508	0.3730	1.00	0.3730	1.270	0.4738	6.0
5	*10:13*	*7.00*	*0.6*	*1.130*	*0.6*	*0.452*	*0.4882*	*1.00*	*0.4882*	*1.130*	*0.5516*	*7.0*
6	10:15	8.00	0.6	1.150	0.6	0.460	0.8222	1.00	0.8222	0.862	0.7091	9.0
7	*10:35*	*8.50*	*0.6*	*1.100*	*0.6*	*0.440*	*0.7365*	*1.00*	*0.7365*	*0.550*	*0.4051*	*5.2*
8	10:16	9.00	0.6	1.150	0.6	0.460	1.1621	1.00	1.1621	0.575	0.6682	8.5
9	*10:36*	*9.50*	*0.6*	*1.050*	*0.6*	*0.420*	*0.6053*	*1.00*	*0.6053*	*0.525*	*0.3178*	*4.1*
10	*10:17*	*10.00*	*0.6*	*0.950*	*0.6*	*0.380*	*0.8911*	*1.00*	*0.8911*	*0.713*	*0.6350*	*8.1*
11	*10:18*	*11.00*	*0.6*	*0.900*	*0.6*	*0.360*	*0.8117*	*1.00*	*0.8117*	*0.900*	*0.7305*	*9.3*
12	*10:19*	*12.00*	*0.6*	*0.900*	*0.6*	*0.360*	*0.4626*	*1.00*	*0.4626*	*0.900*	*0.4163*	*5.3*
13	*10:20*	*13.00*	*0.6*	*0.850*	*0.6*	*0.340*	*0.5459*	*1.00*	*0.5459*	*0.850*	*0.4641*	*5.9*
14	*10:22*	*14.00*	*0.6*	*1.050*	*0.6*	*0.420*	*0.2270*	*1.00*	*0.2270*	*1.050*	*0.2384*	*3.0*
15	*10:25*	*15.00*	*0.6*	*0.950*	*0.6*	*0.380*	*0.3835*	*1.00*	*0.3835*	*0.950*	*0.3644*	*4.6*
16	10:27	16.00	0.6	0.850	0.6	0.340	0.2333	1.00	0.2333	0.850	0.1983	2.5
17	*10:28*	*17.00*	*0.6*	*0.800*	*0.6*	*0.320*	*0.1302*	*1.00*	*0.1302*	*0.800*	*0.1042*	*1.3*
18	10:29	18.00	0.6	0.650	0.6	0.260	0.2064	1.00	0.2064	0.650	0.1341	1.7
19	*10:30*	*19.00*	*0.6*	*0.450*	*0.6*	*0.180*	*0.3238*	*1.00*	*0.3238*	*0.450*	*0.1458*	*1.9*
20	*10:32*	*20.00*	*0.6*	*0.250*	*0.6*	*0.100*	*0.2425*	*1.00*	*0.2425*	*0.250*	*0.0606*	*0.8*
21	10:32	21.00	None	0.100	0.0	0.0	0.0000	1.00	0.2425	0.050	0.0121	0.2

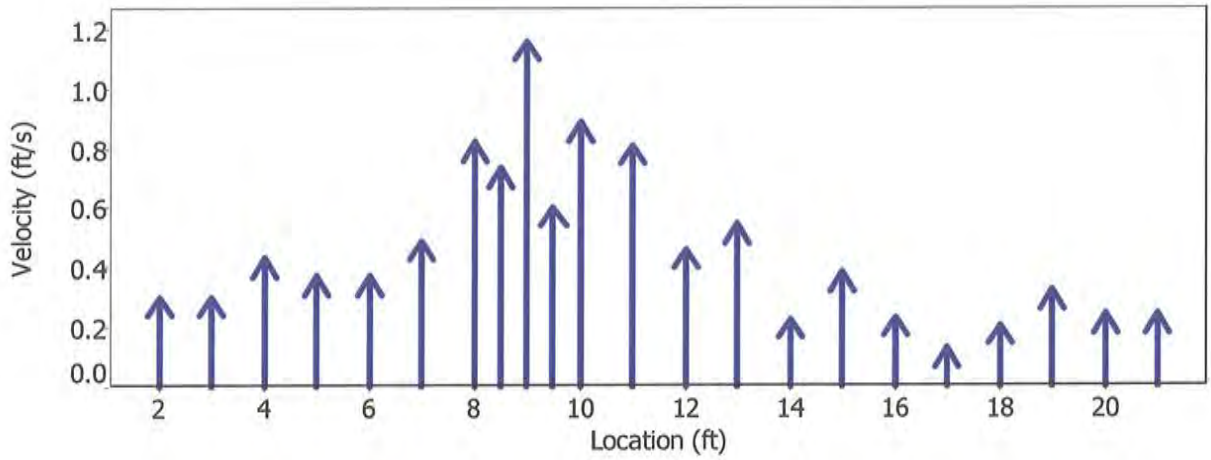
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

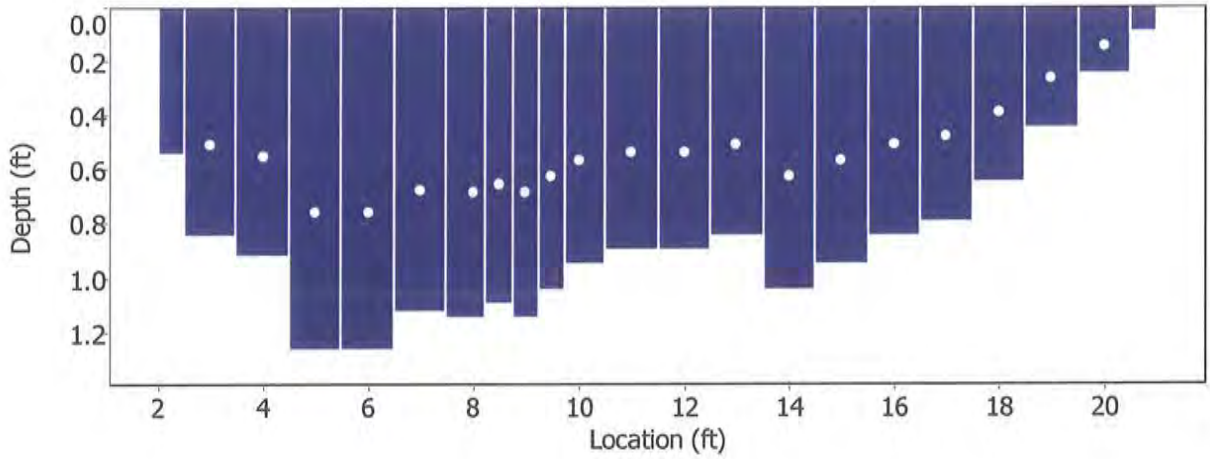
Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	DFBC22.WAD	Site Name	DFBC22
Start Date and Time	2013/09/10 10:06:11	Operator(s)	DW







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	DFBC22.WAD	Site Name	DFBC22
Start Date and Time	2013/09/10 10:06:11	Operator(s)	DW

Quality Control

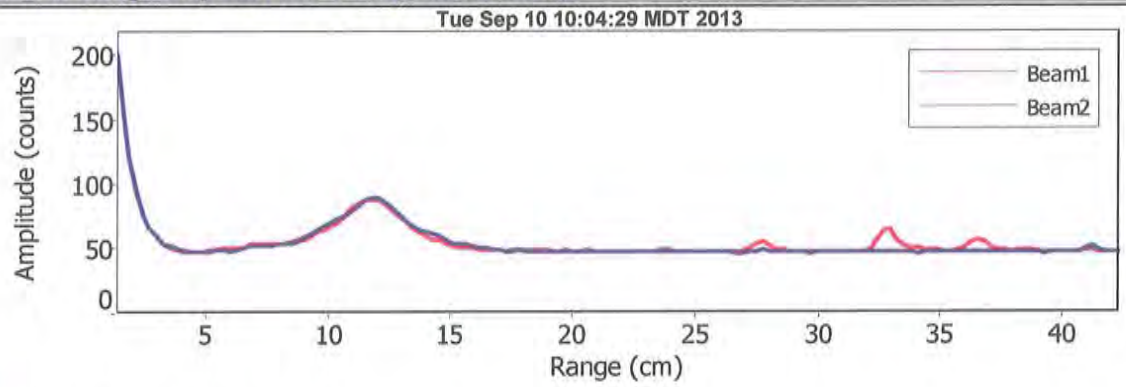
St	Loc	%Dep	Message
1	3.00	0.6	High SNR variation during measurement: 5.2,5.6
3	5.00	0.6	High SNR variation during measurement: 4.7,5.2
5	7.00	0.6	High standard error: 0.031
7	8.50	0.6	High standard error: 0.039
9	9.50	0.6	High standard error: 0.035
10	10.00	0.6	High standard error: 0.046
11	11.00	0.6	High standard error: 0.048
12	12.00	0.6	High standard error: 0.031
13	13.00	0.6	High standard error: 0.047
14	14.00	0.6	High angle: 29
		0.6	High standard error: 0.033
15	15.00	0.6	High standard error: 0.032
17	17.00	0.6	High SNR variation during measurement: 5.2,5.2
19	19.00	0.6	High SNR variation during measurement: 9.9,10.8
20	20.00	0.6	SNR (29.2) is different from typical SNR (17.8)

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	DFBC22.WAD	Site Name	DFBC22
Start Date and Time	2013/09/10 10:06:11	Operator(s)	DW

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: Thu Oct 24 2013

File Information

File Name	DFBC25.WAD
Start Date and Time	2013/09/10 10:02:39

Site Details

Site Name	DFBC25
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	0.1%	2.8%
Velocity	0.9%	2.7%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	1.7%	-
Overall	**2.9%**	**4.0%**

Summary

Averaging Int.	40	# Stations	30
Start Edge	LEW	Total Width	12.000
Mean SNR	28.3 dB	Total Area	11.626
Mean Temp	49.23 °F	Mean Depth	0.969
Disch. Equation	Mid-Section	Mean Velocity	0.5808
		Total Discharge	**6.7522**

Measurement Results

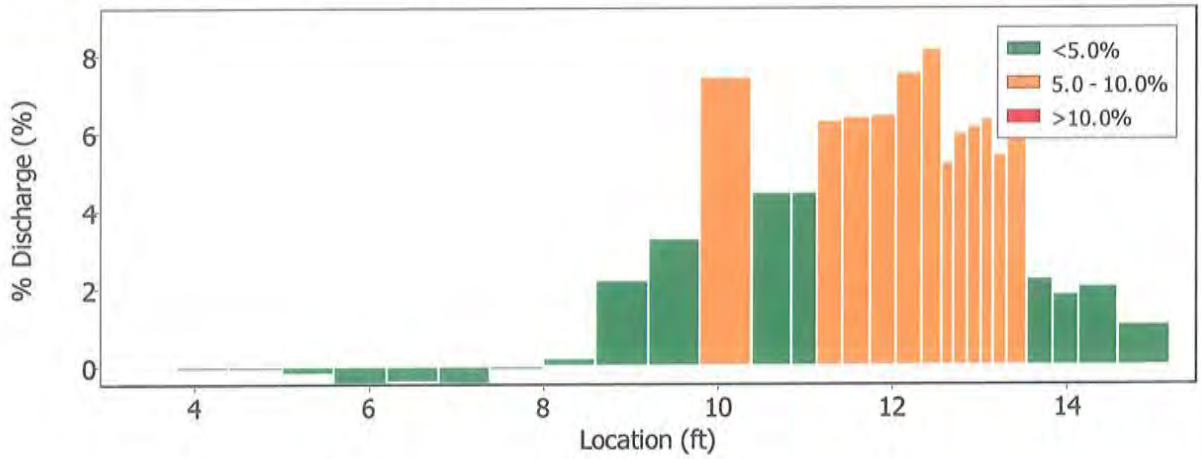
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	10:02	3.50	None	0.100	0.0	0.0	0.0000	1.00	-0.0295	0.030	-0.0009	0.0
1	*10:02*	*4.10*	*0.6*	*0.250*	*0.6*	*0.100*	*-0.0295*	*1.00*	*-0.0295*	*0.150*	*-0.0044*	*-0.1*
2	*10:03*	*4.70*	*0.6*	*0.250*	*0.6*	*0.100*	*-0.0299*	*1.00*	*-0.0299*	*0.150*	*-0.0045*	*-0.1*
3	*10:04*	*5.30*	*0.6*	*0.300*	*0.6*	*0.120*	*-0.0617*	*1.00*	*-0.0617*	*0.180*	*-0.0111*	*-0.2*
4	*10:05*	*5.90*	*0.6*	*0.500*	*0.6*	*0.200*	*-0.0958*	*1.00*	*-0.0958*	*0.300*	*-0.0287*	*-0.4*
5	*10:06*	*6.50*	*0.6*	*0.650*	*0.6*	*0.260*	*-0.0705*	*1.00*	*-0.0705*	*0.390*	*-0.0275*	*-0.4*
6	*10:07*	*7.10*	*0.6*	*0.700*	*0.6*	*0.280*	*-0.0673*	*1.00*	*-0.0673*	*0.420*	*-0.0283*	*-0.4*
7	*10:08*	*7.70*	*0.6*	*0.800*	*0.6*	*0.320*	*-0.0138*	*1.00*	*-0.0138*	*0.480*	*-0.0066*	*-0.1*
8	10:09	8.30	0.6	1.000	0.6	0.400	0.0272	1.00	0.0272	0.600	0.0163	0.2
9	10:10	8.90	0.6	1.200	0.6	0.480	0.2093	1.00	0.2093	0.720	0.1507	2.2
10	10:12	9.50	0.6	1.200	0.6	0.480	0.3091	1.00	0.3091	0.720	0.2226	3.3
11	10:13	10.10	0.6	1.600	0.6	0.640	0.5217	1.00	0.5217	0.960	0.5009	7.4
12	10:14	10.70	0.6	1.700	0.6	0.680	0.3924	1.00	0.3924	0.764	0.3000	4.4
13	*10:36*	*11.00*	*0.6*	*1.700*	*0.6*	*0.680*	*0.5915*	*1.00*	*0.5915*	*0.510*	*0.3017*	*4.5*
14	10:15	11.30	0.6	1.850	0.6	0.740	0.7644	1.00	0.7644	0.555	0.4243	6.3
15	10:38	11.60	0.6	1.750	0.6	0.700	0.8222	1.00	0.8222	0.525	0.4317	6.4
16	*10:17*	*11.90*	*0.6*	*2.000*	*0.6*	*0.800*	*0.7234*	*1.00*	*0.7234*	*0.600*	*0.4341*	*6.4*
17	10:18	12.20	0.6	2.050	0.6	0.820	0.8304	1.00	0.8304	0.613	0.5093	7.5
18	10:19	12.50	0.6	1.900	0.6	0.760	1.2871	1.00	1.2871	0.427	0.5500	8.1
19	10:39	12.65	0.6	1.750	0.6	0.700	1.3461	1.00	1.3461	0.262	0.3524	5.2
20	10:20	12.80	0.6	1.750	0.6	0.700	1.5377	1.00	1.5377	0.263	0.4039	6.0
21	10:40	12.95	0.6	2.000	0.6	0.800	1.3852	1.00	1.3852	0.299	0.4145	6.1
22	10:21	13.10	0.6	2.000	0.6	0.800	1.4255	1.00	1.4255	0.300	0.4275	6.3
23	10:42	13.25	0.6	2.000	0.6	0.800	1.2313	1.00	1.2313	0.299	0.3684	5.5
24	10:22	13.40	0.6	2.000	0.6	0.800	1.2707	1.00	1.2707	0.446	0.5670	8.4
25	10:25	13.70	0.6	0.400	0.6	0.160	1.2654	1.00	1.2654	0.120	0.1514	2.2
26	10:26	14.00	0.6	0.400	0.6	0.160	1.0512	1.00	1.0512	0.120	0.1258	1.9
27	*10:28*	*14.29*	*0.6*	*0.400*	*0.6*	*0.160*	*0.7697*	*1.00*	*0.7697*	*0.181*	*0.1392*	*2.1*
28	*10:29*	*14.90*	*0.6*	*0.400*	*0.6*	*0.160*	*0.3009*	*1.00*	*0.3009*	*0.241*	*0.0725*	*1.1*
29	10:29	15.50	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

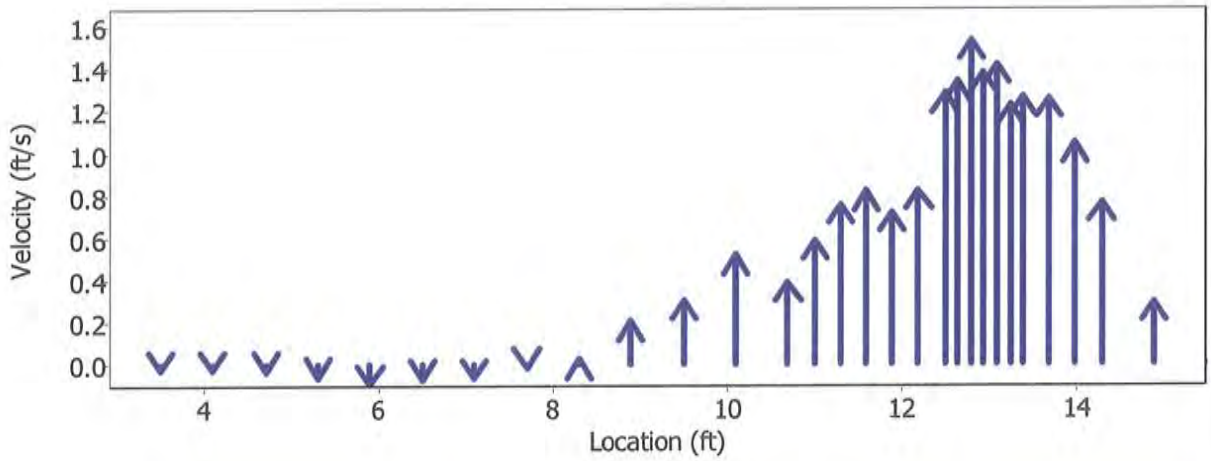
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

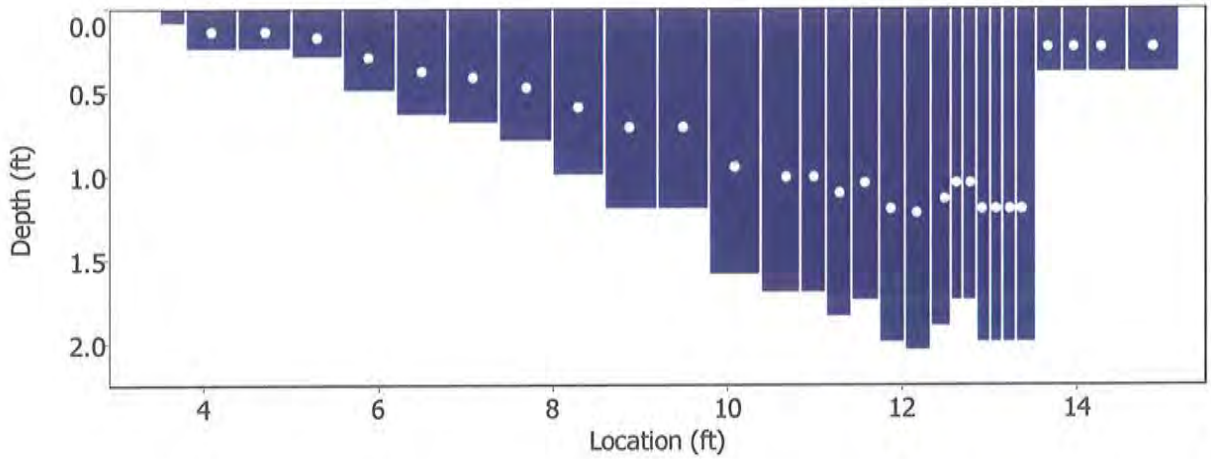
Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	DFBC25.WAD	Site Name	DFBC25
Start Date and Time	2013/09/10 10:02:39	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	DFBC25.WAD	Site Name	DFBC25
Start Date and Time	2013/09/10 10:02:39	Operator(s)	DR

Quality Control

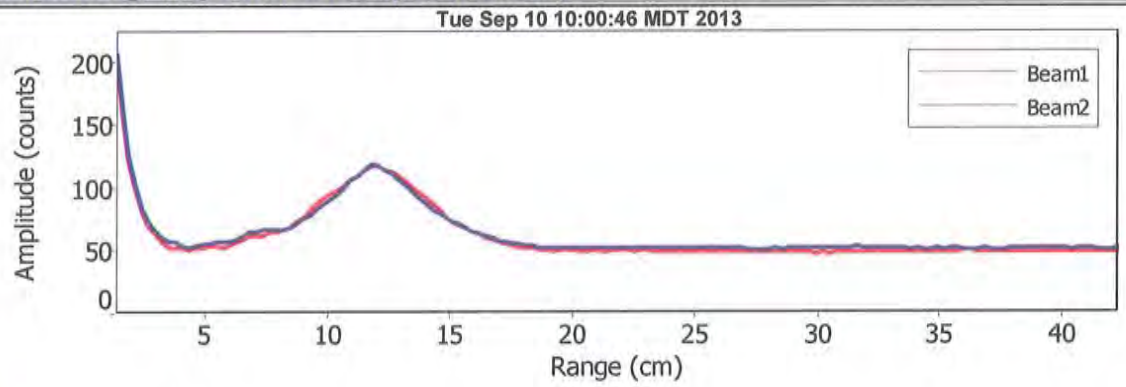
St	Loc	%Dep	Message
1	4.10	0.6	High angle: -169
		0.6	SNR (41.7) is different from typical SNR (28.3)
2	4.70	0.6	High angle: -174
		0.6	SNR (39.7) is different from typical SNR (28.3)
3	5.30	0.6	High angle: -176
4	5.90	0.6	High angle: -178
		0.6	High SNR variation during measurement: 5.2,4.7
5	6.50	0.6	High angle: 175
		0.6	High SNR variation during measurement: 6.0,6.0
6	7.10	0.6	High angle: 165
7	7.70	0.6	High SNR variation during measurement: 5.2,5.2
13	11.00	0.6	High SNR variation during measurement: 5.2,5.2
16	11.90	0.6	High standard error: 0.037
27	14.29	0.6	High standard error: 0.043
28	14.90	0.6	High standard error: 0.036

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	DFBC25.WAD	Site Name	DFBC25
Start Date and Time	2013/09/10 10:02:39	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: Thu Oct 24 2013

File Information

File Name	DFBC30.WAD
Start Date and Time	2013/09/10 11:57:14

Site Details

Site Name	DFBC30
Operator(s)	DW

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%	2.8%
Velocity	1.3%	5.0%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.3%	-
Overall	**3.4%**	**5.9%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	REW	Total Width	13.302
Mean SNR	31.0 dB	Total Area	8.733
Mean Temp	53.04 °F	Mean Depth	0.657
Disch. Equation	Mid-Section	Mean Velocity	0.7455
		Total Discharge	**6.5107**

Measurement Results

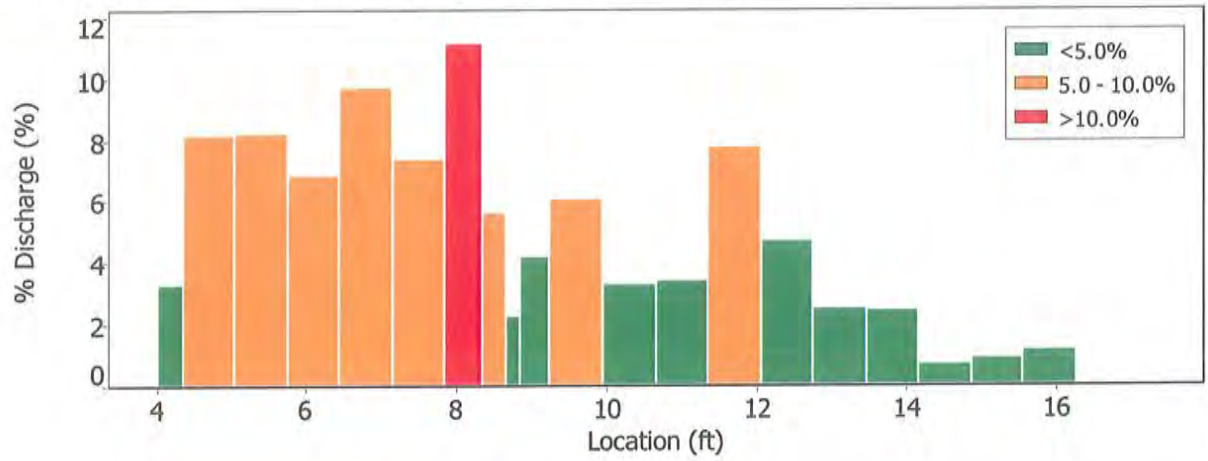
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	11:57	4.00	None	0.550	0.0	0.0	0.0000	1.00	1.1191	0.192	0.2154	3.3
1	11:57	4.70	0.6	0.680	0.6	0.272	1.1191	1.00	1.1191	0.476	0.5329	8.2
2	11:58	5.40	0.6	0.680	0.6	0.272	1.1289	1.00	1.1289	0.476	0.5376	8.3
3	11:59	6.10	0.6	0.880	0.6	0.352	0.7290	1.00	0.7290	0.616	0.4491	6.9
4	12:00	6.80	0.6	0.900	0.6	0.360	1.0020	1.00	1.0020	0.630	0.6313	9.7
5	12:01	7.50	0.6	0.850	0.6	0.340	0.8071	1.00	0.8071	0.595	0.4803	7.4
6	12:03	8.20	0.6	1.100	0.6	0.440	1.3241	1.00	1.3241	0.550	0.7278	11.2
7	12:23	8.50	0.6	0.900	0.6	0.360	1.3661	1.00	1.3661	0.270	0.3683	5.7
8	12:21	8.80	0.6	0.850	0.6	0.340	0.8589	1.00	0.8589	0.170	0.1464	2.2
9	12:04	8.90	0.6	0.900	0.6	0.360	0.7602	1.00	0.7602	0.361	0.2740	4.2
10	12:05	9.60	0.6	0.700	0.6	0.280	0.8048	1.00	0.8048	0.490	0.3945	6.1
11	*12:06*	*10.30*	*0.6*	*0.600*	*0.6*	*0.240*	*0.5115*	*1.00*	*0.5115*	*0.420*	*0.2149*	*3.3*
12	12:07	11.00	0.6	0.800	0.6	0.320	0.3999	1.00	0.3999	0.560	0.2240	3.4
13	12:08	11.70	0.6	1.000	0.6	0.400	0.7260	1.00	0.7260	0.700	0.5083	7.8
14	12:10	12.40	0.6	0.700	0.6	0.280	0.6273	1.00	0.6273	0.490	0.3075	4.7
15	12:11	13.10	0.6	0.600	0.6	0.240	0.3934	1.00	0.3934	0.420	0.1653	2.5
16	12:12	13.80	0.6	0.550	0.6	0.220	0.4144	1.00	0.4144	0.385	0.1595	2.5
17	12:14	14.50	0.6	0.400	0.6	0.160	0.1601	1.00	0.1601	0.280	0.0448	0.7
18	12:15	15.20	0.6	0.400	0.6	0.160	0.2070	1.00	0.2070	0.280	0.0580	0.9
19	12:16	15.90	0.6	0.300	0.6	0.120	0.3579	1.00	0.3579	0.210	0.0751	1.2
20	*12:18*	*16.60*	*0.6*	*0.180*	*0.6*	*0.072*	*-0.0272*	*1.00*	*-0.0272*	*0.126*	*-0.0034*	*-0.1*
21	12:18	17.30	None	0.100	0.0	0.0	0.0000	1.00	-0.0272	0.035	-0.0010	0.0

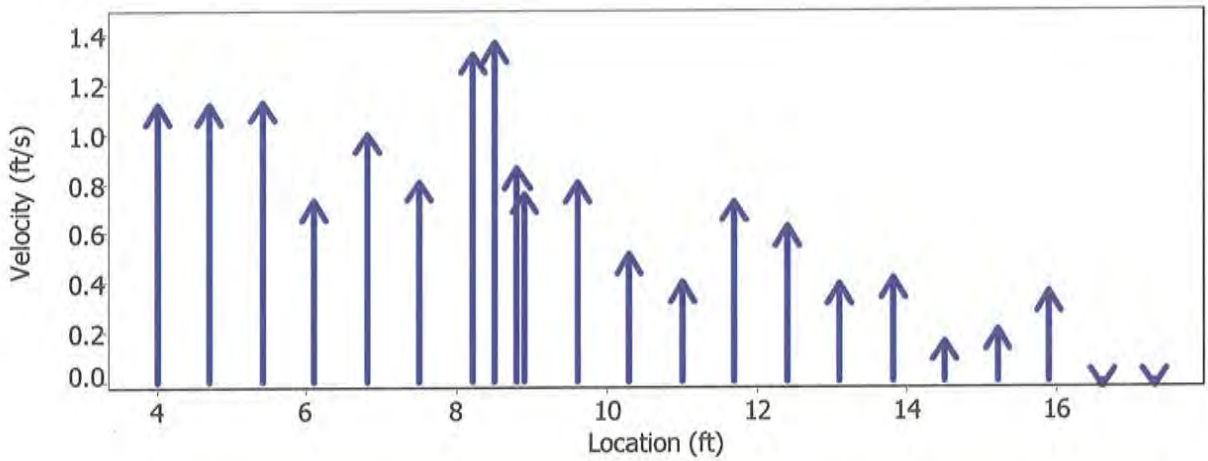
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

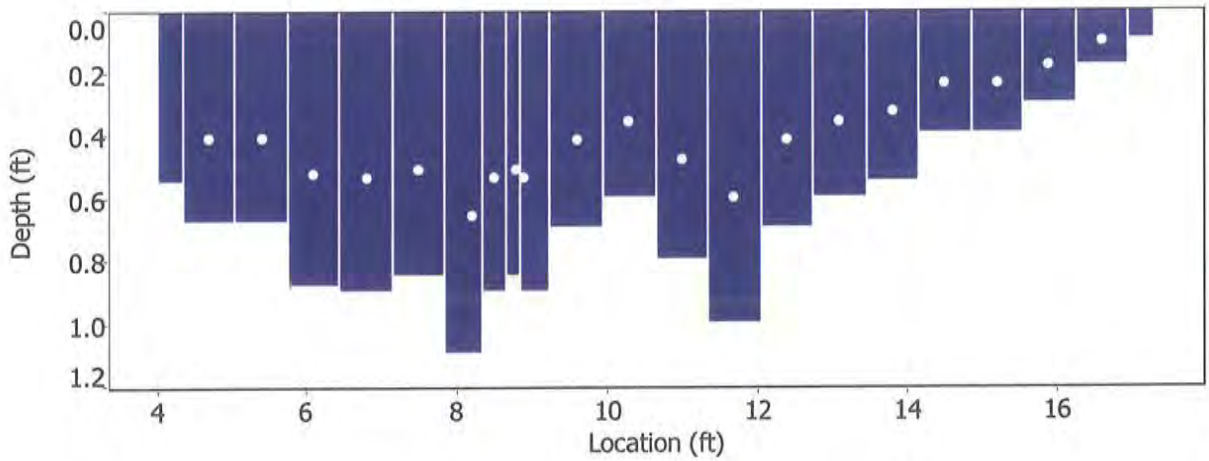
Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	DFBC30.WAD	Site Name	DFBC30
Start Date and Time	2013/09/10 11:57:14	Operator(s)	DW







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information

File Name	DFBC30.WAD
Start Date and Time	2013/09/10 11:57:14

Site Details

Site Name	DFBC30
Operator(s)	DW

Quality Control

St	Loc	%Dep	Message
11	10.30	0.6	High number of spikes: 5
20	16.60	0.6	High angle: -136

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

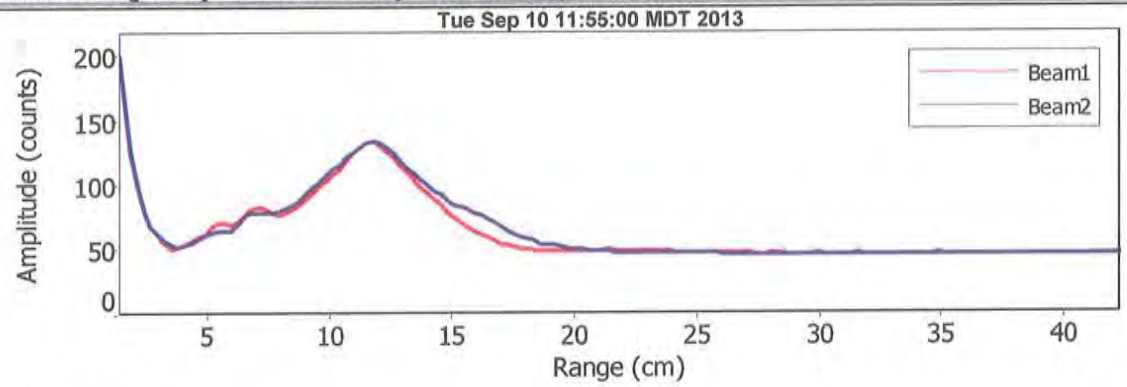
File Information

File Name	DFBC30.WAD
Start Date and Time	2013/09/10 11:57:14

Site Details

Site Name	DFBC30
Operator(s)	DW

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: Thu Oct 24 2013

File Information

File Name	DFBC40.WAD
Start Date and Time	2013/09/10 11:10:46

Site Details

Site Name	DFBC40
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%	2.1%
Velocity	1.1%	3.0%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.0%	-
Overall	**3.1%**	**3.8%**

Summary

Averaging Int.	40	# Stations	26
Start Edge	REW	Total Width	11.601
Mean SNR	23.9 dB	Total Area	5.707
Mean Temp	50.94 °F	Mean Depth	0.492
Disch. Equation	Mid-Section	Mean Velocity	0.6794
		Total Discharge	**3.8774**

Measurement Results

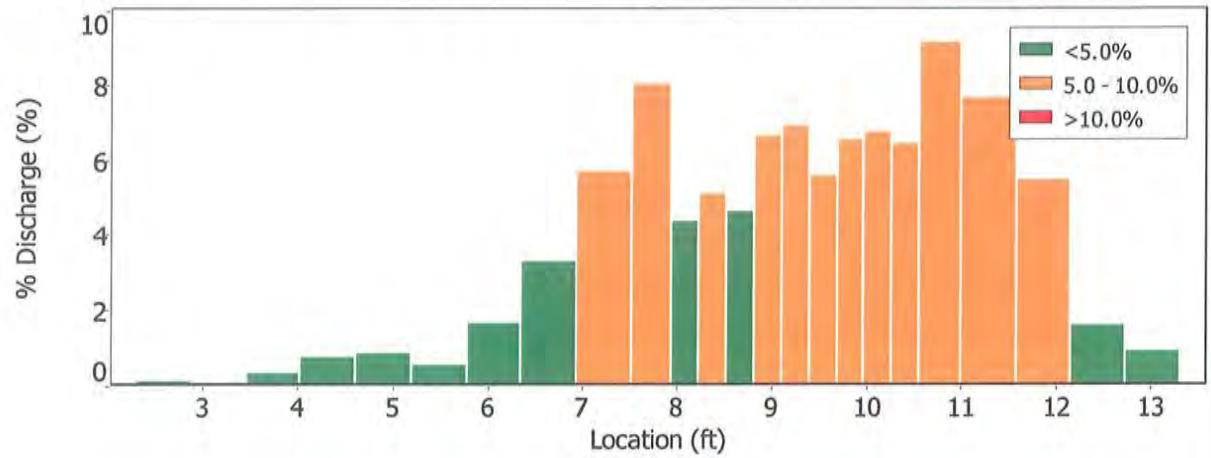
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	11:10	2.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	*11:10*	*2.58*	*0.6*	*0.150*	*0.6*	*0.060*	*0.0699*	*1.00*	*0.0699*	*0.087*	*0.0061*	*0.2*
2	11:13	3.16	0.6	0.200	0.6	0.080	0.0354	1.00	0.0354	0.116	0.0041	0.1
3	*11:14*	*3.74*	*0.6*	*0.200*	*0.6*	*0.080*	*0.1234*	*1.00*	*0.1234*	*0.116*	*0.0143*	*0.4*
4	*11:15*	*4.32*	*0.6*	*0.200*	*0.6*	*0.080*	*0.2513*	*1.00*	*0.2513*	*0.116*	*0.0292*	*0.8*
5	*11:16*	*4.90*	*0.6*	*0.200*	*0.6*	*0.080*	*0.2881*	*1.00*	*0.2881*	*0.116*	*0.0334*	*0.9*
6	*11:17*	*5.48*	*0.6*	*0.250*	*0.6*	*0.100*	*0.1496*	*1.00*	*0.1496*	*0.145*	*0.0217*	*0.6*
7	11:19	6.06	0.6	0.250	0.6	0.100	0.4534	1.00	0.4534	0.145	0.0658	1.7
8	11:20	6.64	0.6	0.350	0.6	0.140	0.6394	1.00	0.6394	0.203	0.1298	3.3
9	11:21	7.22	0.6	0.500	0.6	0.200	0.7661	1.00	0.7661	0.290	0.2222	5.7
10	11:22	7.80	0.6	0.700	0.6	0.280	1.0292	1.00	1.0292	0.304	0.3132	8.1
11	*11:35*	*8.09*	*0.6*	*0.700*	*0.6*	*0.280*	*0.8383*	*1.00*	*0.8383*	*0.203*	*0.1702*	*4.4*
12	11:23	8.38	0.6	0.700	0.6	0.280	0.9865	1.00	0.9865	0.203	0.2003	5.2
13	11:36	8.67	0.6	0.700	0.6	0.280	0.8917	1.00	0.8917	0.203	0.1811	4.7
14	11:24	8.96	0.6	0.800	0.6	0.320	1.1152	1.00	1.1152	0.232	0.2587	6.7
15	11:37	9.25	0.6	0.900	0.6	0.360	1.0331	1.00	1.0331	0.261	0.2697	7.0
16	*11:25*	*9.54*	*0.6*	*0.900*	*0.6*	*0.360*	*0.8346*	*1.00*	*0.8346*	*0.261*	*0.2178*	*5.6*
17	11:41	9.83	0.6	1.100	0.6	0.440	0.8015	1.00	0.8015	0.319	0.2557	6.6
18	11:27	10.12	0.6	1.000	0.6	0.400	0.9081	1.00	0.9081	0.290	0.2634	6.8
19	*11:39*	*10.41*	*0.6*	*1.200*	*0.6*	*0.480*	*0.7224*	*1.00*	*0.7224*	*0.348*	*0.2515*	*6.5*
20	*11:28*	*10.70*	*0.6*	*1.150*	*0.6*	*0.460*	*0.7126*	*1.00*	*0.7126*	*0.501*	*0.3568*	*9.2*
21	*11:29*	*11.28*	*0.6*	*0.900*	*0.6*	*0.360*	*0.5722*	*1.00*	*0.5722*	*0.522*	*0.2987*	*7.7*
22	*11:30*	*11.86*	*0.6*	*0.700*	*0.6*	*0.280*	*0.5282*	*1.00*	*0.5282*	*0.406*	*0.2145*	*5.5*
23	11:31	12.44	0.6	0.300	0.6	0.120	0.3645	1.00	0.3645	0.174	0.0634	1.6
24	*11:32*	*13.02*	*0.6*	*0.250*	*0.6*	*0.100*	*0.2470*	*1.00*	*0.2470*	*0.145*	*0.0358*	*0.9*
25	11:32	13.60	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

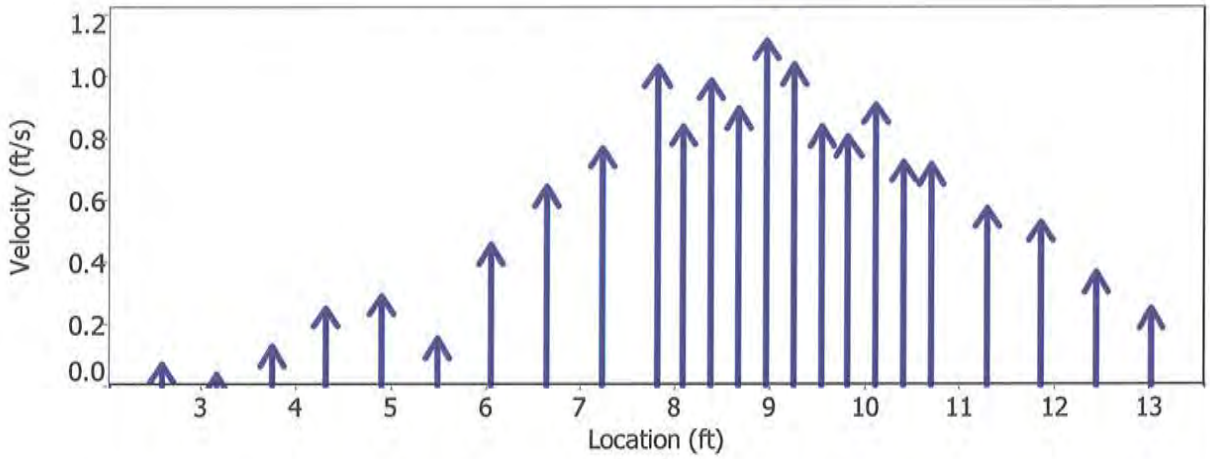
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

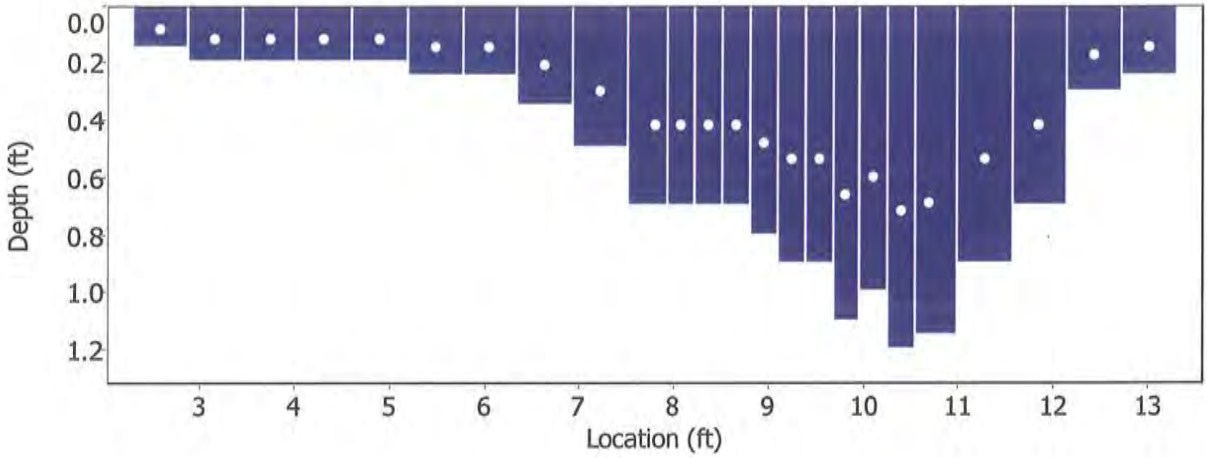
Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	DFBC40.WAD	Site Name	DFBC40
Start Date and Time	2013/09/10 11:10:46	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	DFBC40.WAD	Site Name	DFBC40
Start Date and Time	2013/09/10 11:10:46	Operator(s)	DR

Quality Control

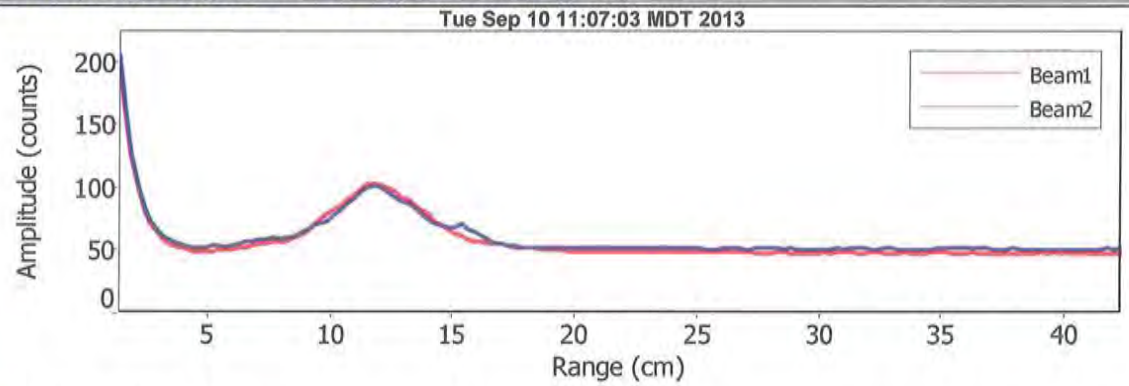
St	Loc	%Dep	Message
1	2.58	0.6	High SNR variation during measurement: 6.0,6.5
3	3.74	0.6	SNR (13.3) is different from typical SNR (23.9)
4	4.32	0.6	High angle: -20
5	4.90	0.6	High angle: -26
6	5.48	0.6	High angle: -49
11	8.09	0.6	High standard error: 0.047
16	9.54	0.6	High standard error: 0.044
19	10.41	0.6	High standard error: 0.049
20	10.70	0.6	High standard error: 0.042
21	11.28	0.6	High standard error: 0.031
22	11.86	0.6	SNR (37.2) is different from typical SNR (23.9)
24	13.02	0.6	High angle: -20

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	DFBC40.WAD	Site Name	DFBC40
Start Date and Time	2013/09/10 11:10:46	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: Thu Oct 24 2013

File Information

File Name	GC0.WAD
Start Date and Time	2013/09/10 13:19:55

Site Details

Site Name	GC0
Operator(s)	DW

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%	2.0%
Velocity	1.6%	2.8%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.4%	-
Overall	**3.5%**	**3.6%**

Summary

Averaging Int.	40	# Stations	21
Start Edge	REW	Total Width	5.000
Mean SNR	33.3 dB	Total Area	3.837
Mean Temp	56.33 °F	Mean Depth	0.767
Disch. Equation	Mid-Section	Mean Velocity	0.3006
		Total Discharge	**1.1533**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	13:19	5.00	None	0.800	0.0	0.0	0.0000	1.00	0.0705	0.100	0.0071	0.6
1	*13:19*	*5.25*	*0.6*	*0.800*	*0.6*	*0.320*	*0.0705*	*1.00*	*0.0705*	*0.200*	*0.0141*	*1.2*
2	13:21	5.50	0.6	0.800	0.6	0.320	0.0958	1.00	0.0958	0.200	0.0192	1.7
3	13:22	5.75	0.6	0.900	0.6	0.360	0.0768	1.00	0.0768	0.225	0.0173	1.5
4	13:23	6.00	0.6	0.950	0.6	0.380	0.1345	1.00	0.1345	0.238	0.0320	2.8
5	13:24	6.25	0.6	0.900	0.6	0.360	0.2178	1.00	0.2178	0.225	0.0490	4.2
6	13:25	6.50	0.6	0.950	0.6	0.380	0.1985	1.00	0.1985	0.238	0.0471	4.1
7	13:26	6.75	0.6	0.950	0.6	0.380	0.3182	1.00	0.3182	0.238	0.0756	6.6
8	13:27	7.00	0.6	1.000	0.6	0.400	0.3327	1.00	0.3327	0.250	0.0832	7.2
9	13:29	7.25	0.6	1.050	0.6	0.420	0.2802	1.00	0.2802	0.262	0.0735	6.4
10	13:30	7.50	0.6	1.050	0.6	0.420	0.1962	1.00	0.1962	0.262	0.0515	4.5
11	13:31	7.75	0.6	0.700	0.6	0.280	0.3455	1.00	0.3455	0.175	0.0605	5.2
12	*13:32*	*8.00*	*0.6*	*0.700*	*0.6*	*0.280*	*0.5167*	*1.00*	*0.5167*	*0.175*	*0.0904*	*7.8*
13	13:33	8.25	0.6	0.650	0.6	0.260	0.5407	1.00	0.5407	0.162	0.0879	7.6
14	13:35	8.50	0.6	0.550	0.6	0.220	0.6063	1.00	0.6063	0.137	0.0833	7.2
15	13:36	8.75	0.6	0.550	0.6	0.220	0.5955	1.00	0.5955	0.137	0.0819	7.1
16	13:37	9.00	0.6	0.550	0.6	0.220	0.5784	1.00	0.5784	0.137	0.0795	6.9
17	13:38	9.25	0.6	0.550	0.6	0.220	0.5072	1.00	0.5072	0.137	0.0697	6.0
18	13:39	9.50	0.6	0.550	0.6	0.220	0.4219	1.00	0.4219	0.137	0.0580	5.0
19	*13:39*	*9.75*	*0.6*	*0.550*	*0.6*	*0.220*	*0.3632*	*1.00*	*0.3632*	*0.137*	*0.0499*	*4.3*
20	13:39	10.00	None	0.500	0.0	0.0	0.0000	1.00	0.3632	0.063	0.0227	2.0

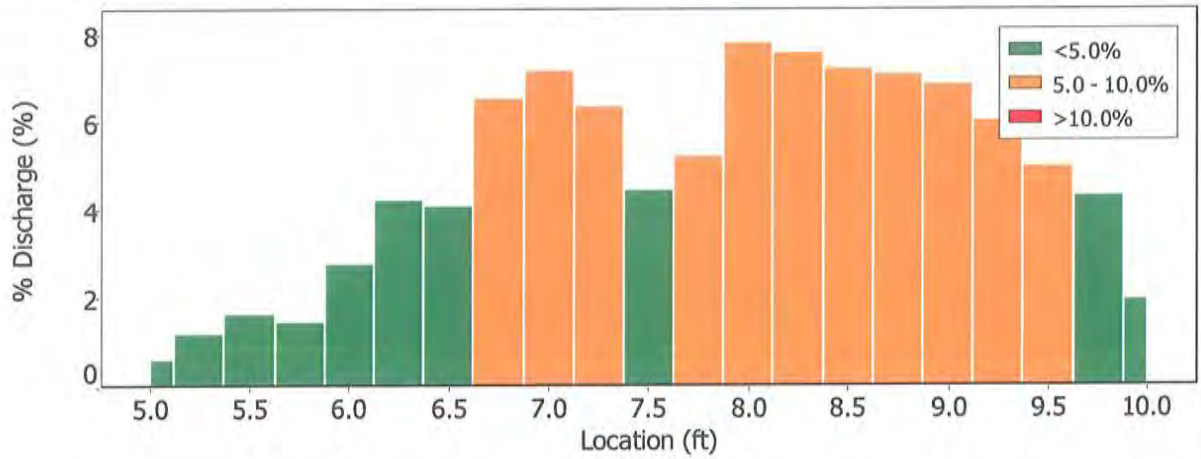
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

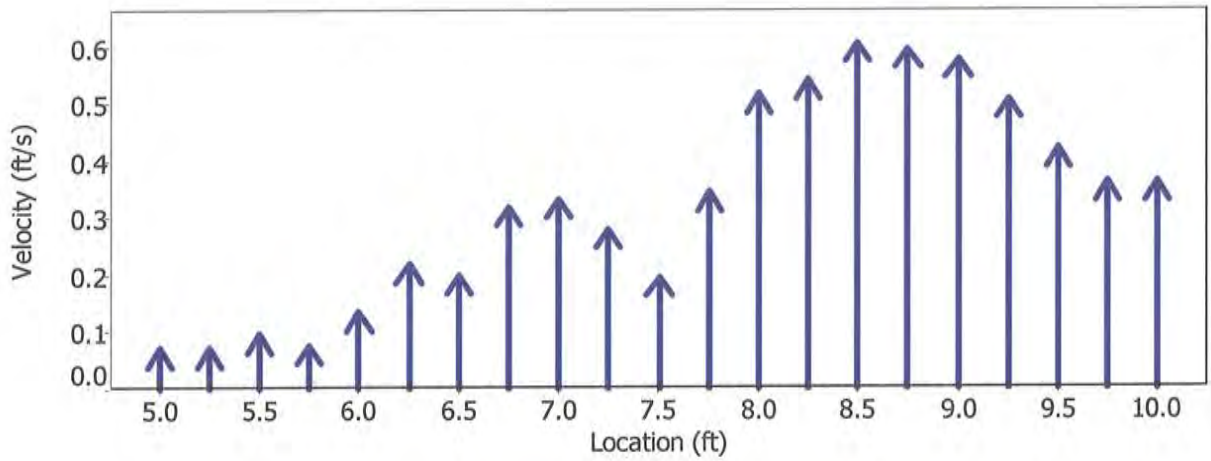
Discharge Measurement Summary

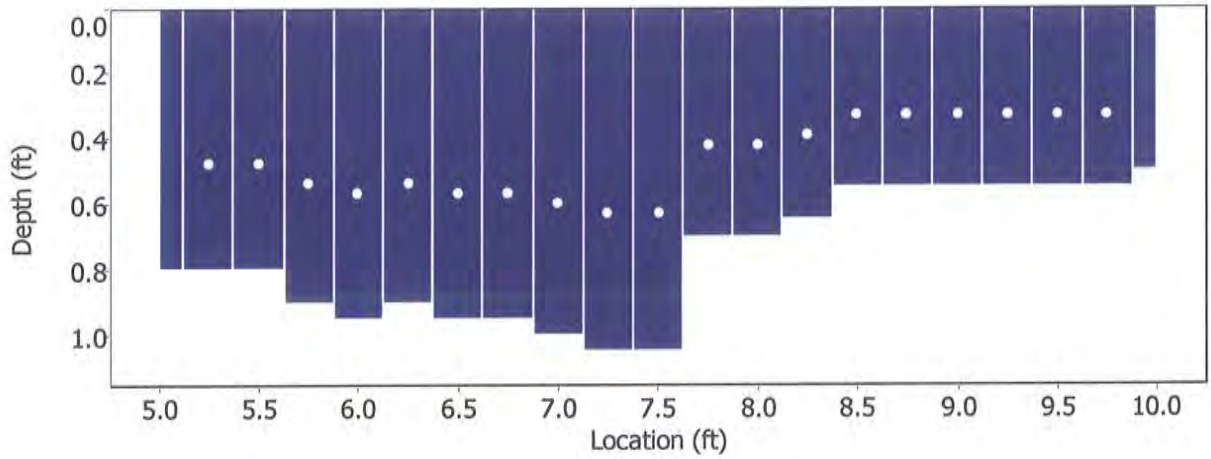
Date Generated: Thu Oct 24 2013

File Information	
File Name	GC0.WAD
Start Date and Time	2013/09/10 13:19:55

Site Details	
Site Name	GC0
Operator(s)	DW







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC0.WAD	Site Name	GC0
Start Date and Time	2013/09/10 13:19:55	Operator(s)	DW

Quality Control

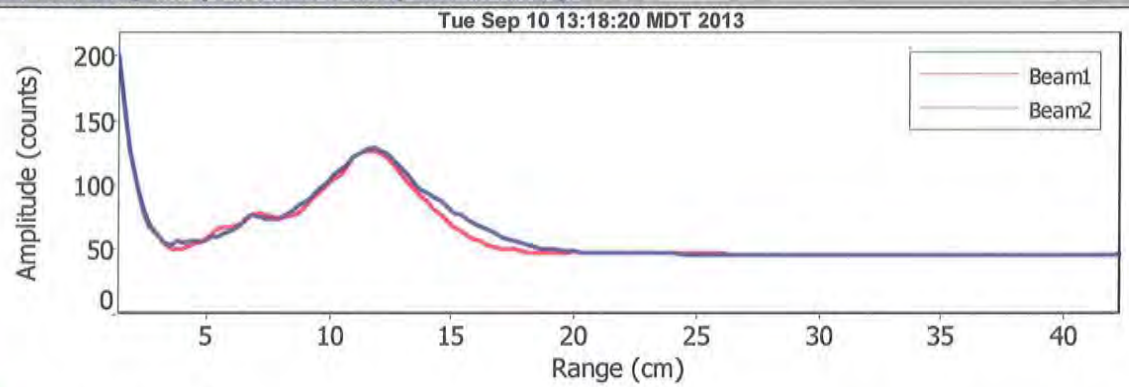
St	Loc	%Dep	Message
1	5.25	0.6	High angle: 43
12	8.00	0.6	High standard error: 0.031
19	9.75	0.6	Boundary QC is Fair; possible boundary interference

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC0.WAD	Site Name	GC0
Start Date and Time	2013/09/10 13:19:55	Operator(s)	DW

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: Thu Oct 24 2013

File Information

File Name	GC5.WAD
Start Date and Time	2013/09/10 14:05:29

Site Details

Site Name	GC5
Operator(s)	DW

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	0.4%	1.1%
Velocity	1.2%	6.4%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.3%	-
Overall	**3.3%**	**6.6%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	LEW	Total Width	7.999
Mean SNR	29.3 dB	Total Area	3.563
Mean Temp	56.84 °F	Mean Depth	0.445
Disch. Equation	Mid-Section	Mean Velocity	0.3786
		Total Discharge	**1.3492**

Measurement Results

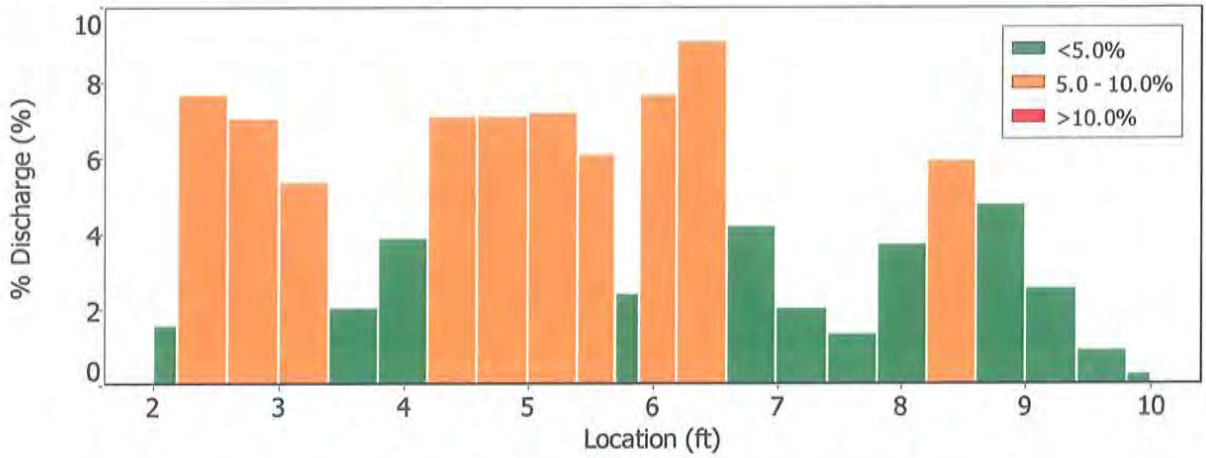
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	14:05	2.00	None	0.200	0.0	0.0	0.0000	1.00	0.5187	0.040	0.0208	1.5
1	14:05	2.40	0.6	0.500	0.6	0.200	0.5187	1.00	0.5187	0.200	0.1037	7.7
2	14:06	2.80	0.6	0.500	0.6	0.200	0.4760	1.00	0.4760	0.200	0.0952	7.1
3	14:07	3.20	0.6	0.550	0.6	0.220	0.3278	1.00	0.3278	0.220	0.0721	5.3
4	*14:08*	*3.60*	*0.6*	*0.550*	*0.6*	*0.220*	*0.1234*	*1.00*	*0.1234*	*0.220*	*0.0271*	*2.0*
5	14:09	4.00	0.6	0.550	0.6	0.220	0.2369	1.00	0.2369	0.220	0.0521	3.9
6	14:10	4.40	0.6	0.450	0.6	0.180	0.5302	1.00	0.5302	0.180	0.0954	7.1
7	14:12	4.80	0.6	0.410	0.6	0.164	0.5830	1.00	0.5830	0.164	0.0956	7.1
8	14:13	5.20	0.6	0.400	0.6	0.160	0.6093	1.00	0.6093	0.160	0.0974	7.2
9	*14:14*	*5.60*	*0.6*	*0.400*	*0.6*	*0.160*	*0.6857*	*1.00*	*0.6857*	*0.120*	*0.0823*	*6.1*
10	*14:27*	*5.80*	*0.6*	*0.450*	*0.6*	*0.180*	*0.3622*	*1.00*	*0.3622*	*0.090*	*0.0326*	*2.4*
11	*14:15*	*6.00*	*0.6*	*0.500*	*0.6*	*0.200*	*0.6903*	*1.00*	*0.6903*	*0.150*	*0.1034*	*7.7*
12	14:16	6.40	0.6	0.500	0.6	0.200	0.6152	1.00	0.6152	0.200	0.1230	9.1
13	*14:17*	*6.80*	*0.6*	*0.450*	*0.6*	*0.180*	*0.3150*	*1.00*	*0.3150*	*0.180*	*0.0567*	*4.2*
14	*14:19*	*7.20*	*0.6*	*0.400*	*0.6*	*0.160*	*0.1703*	*1.00*	*0.1703*	*0.160*	*0.0272*	*2.0*
15	*14:20*	*7.60*	*0.6*	*0.400*	*0.6*	*0.160*	*0.1115*	*1.00*	*0.1115*	*0.160*	*0.0178*	*1.3*
16	*14:21*	*8.00*	*0.6*	*0.450*	*0.6*	*0.180*	*0.2795*	*1.00*	*0.2795*	*0.180*	*0.0503*	*3.7*
17	14:22	8.40	0.6	0.500	0.6	0.200	0.4022	1.00	0.4022	0.200	0.0804	6.0
18	14:23	8.80	0.6	0.500	0.6	0.200	0.3205	1.00	0.3205	0.200	0.0641	4.8
19	14:24	9.20	0.6	0.400	0.6	0.160	0.2178	1.00	0.2178	0.160	0.0348	2.6
20	14:25	9.60	0.6	0.300	0.6	0.120	0.1056	1.00	0.1056	0.120	0.0127	0.9
21	14:25	10.00	None	0.200	0.0	0.0	0.0000	1.00	0.1056	0.040	0.0042	0.3

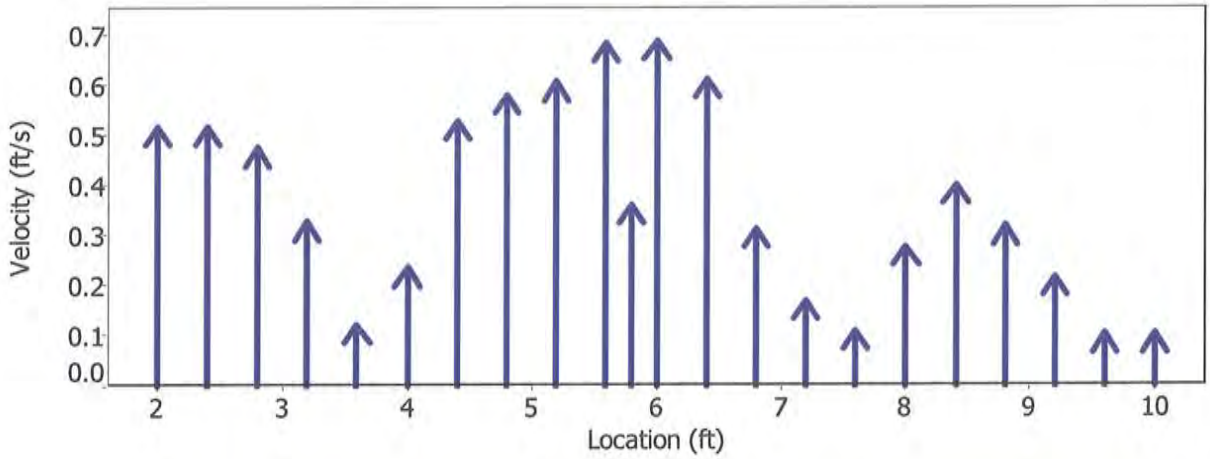
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

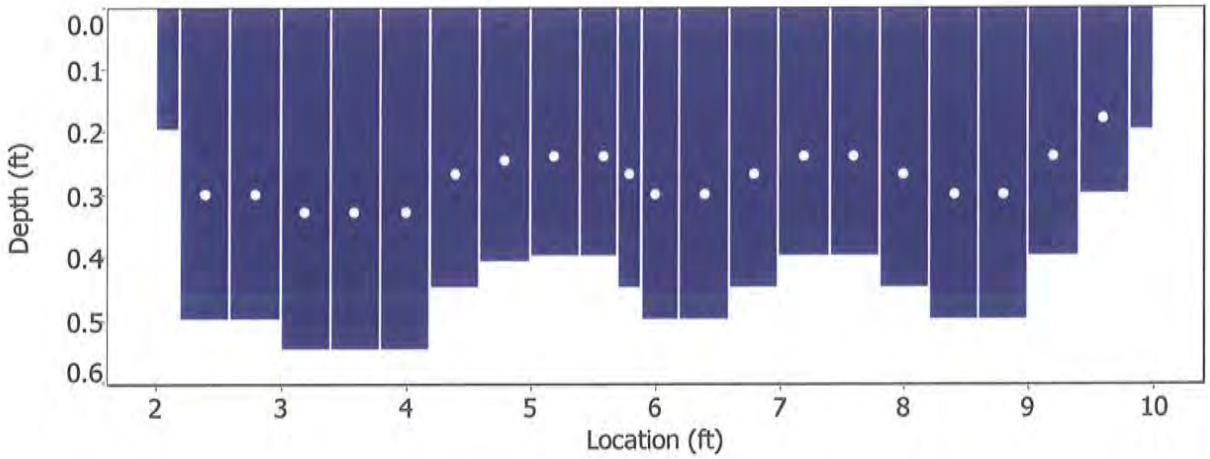
Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC5.WAD	Site Name	GC5
Start Date and Time	2013/09/10 14:05:29	Operator(s)	DW







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC5.WAD	Site Name	GC5
Start Date and Time	2013/09/10 14:05:29	Operator(s)	DW

Quality Control

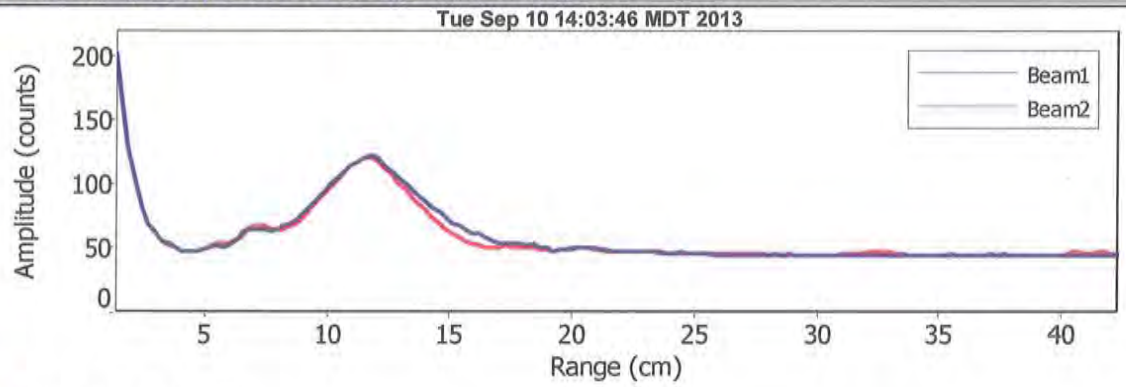
St	Loc	%Dep	Message
4	3.60	0.6	High angle: -21
9	5.60	0.6	High angle: -20
10	5.80	0.6	High angle: -33
11	6.00	0.6	High angle: -24
13	6.80	0.6	High angle: -41
14	7.20	0.6	High angle: -42
15	7.60	0.6	High angle: -55
16	8.00	0.6	High angle: -22

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC5.WAD	Site Name	GC5
Start Date and Time	2013/09/10 14:05:29	Operator(s)	DW

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: Thu Oct 24 2013

File Information

File Name	GC5DR.WAD
Start Date and Time	2013/09/11 11:25:55

Site Details

Site Name	GC5
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%	3.7%
Velocity	1.5%	7.2%
Width	0.1%	0.1%
Method	2.0%	-
# Stations	2.3%	-
Overall	**3.6%**	**8.2%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	REW	Total Width	9.500
Mean SNR	31.3 dB	Total Area	3.400
Mean Temp	52.60 °F	Mean Depth	0.358
Disch. Equation	Mid-Section	Mean Velocity	0.3111
		Total Discharge	**1.0577**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	11:25	1.50	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	11:25	2.00	0.6	0.150	0.6	0.060	0.0098	1.00	0.0098	0.075	0.0007	0.1
2	11:26	2.50	0.6	0.150	0.6	0.060	0.1437	1.00	0.1437	0.075	0.0108	1.0
3	11:28	3.00	0.6	0.150	0.6	0.060	0.4121	1.00	0.4121	0.075	0.0309	2.9
4	11:29	3.50	0.6	0.300	0.6	0.120	0.2211	1.00	0.2211	0.150	0.0332	3.1
5	11:30	4.00	0.6	0.400	0.6	0.160	0.0161	1.00	0.0161	0.200	0.0032	0.3
6	11:31	4.50	0.6	0.500	0.6	0.200	0.0558	1.00	0.0558	0.250	0.0139	1.3
7	11:31	5.00	0.6	0.500	0.6	0.200	0.1913	1.00	0.1913	0.250	0.0478	4.5
8	*11:33*	*5.50*	*0.6*	*0.400*	*0.6*	*0.160*	*-0.0230*	*1.00*	*-0.0230*	*0.200*	*-0.0046*	*-0.4*
9	11:33	6.00	0.6	0.400	0.6	0.160	0.3419	1.00	0.3419	0.150	0.0513	4.8
10	*11:37*	*6.25*	*0.6*	*0.450*	*0.6*	*0.180*	*0.4895*	*1.00*	*0.4895*	*0.113*	*0.0551*	*5.2*
11	*11:35*	*6.50*	*0.6*	*0.500*	*0.6*	*0.200*	*0.6552*	*1.00*	*0.6552*	*0.125*	*0.0819*	*7.7*
12	*11:47*	*6.75*	*0.6*	*0.350*	*0.6*	*0.140*	*0.7221*	*1.00*	*0.7221*	*0.088*	*0.0632*	*6.0*
13	11:39	7.00	0.6	0.400	0.6	0.160	0.6932	1.00	0.6932	0.150	0.1040	9.8
14	11:40	7.50	0.6	0.350	0.6	0.140	0.5745	1.00	0.5745	0.175	0.1006	9.5
15	11:41	8.00	0.6	0.400	0.6	0.160	0.4915	1.00	0.4915	0.200	0.0983	9.3
16	11:42	8.50	0.6	0.600	0.6	0.240	0.3232	1.00	0.3232	0.300	0.0970	9.2
17	11:43	9.00	0.6	0.600	0.6	0.240	0.2169	1.00	0.2169	0.300	0.0651	6.2
18	11:44	9.50	0.6	0.400	0.6	0.160	0.4173	1.00	0.4173	0.200	0.0835	7.9
19	11:45	10.00	0.6	0.400	0.6	0.160	0.3930	1.00	0.3930	0.200	0.0786	7.4
20	11:46	10.50	0.6	0.250	0.6	0.100	0.3478	1.00	0.3478	0.125	0.0435	4.1
21	11:46	11.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

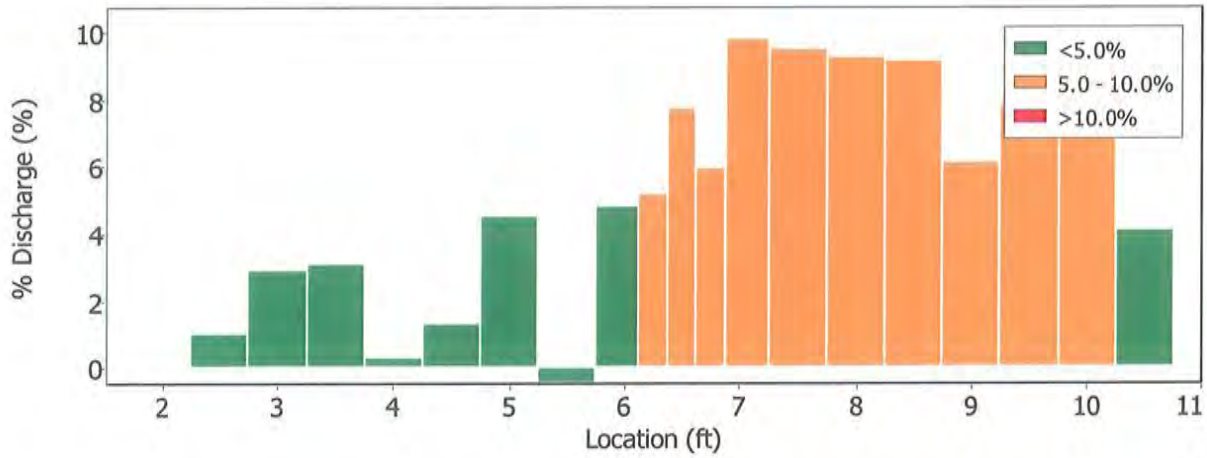
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

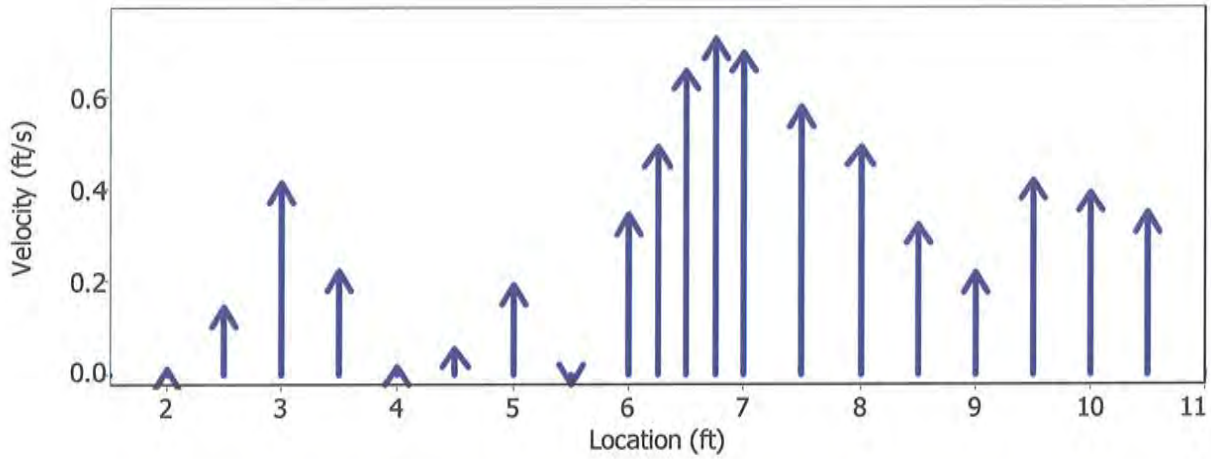
Discharge Measurement Summary

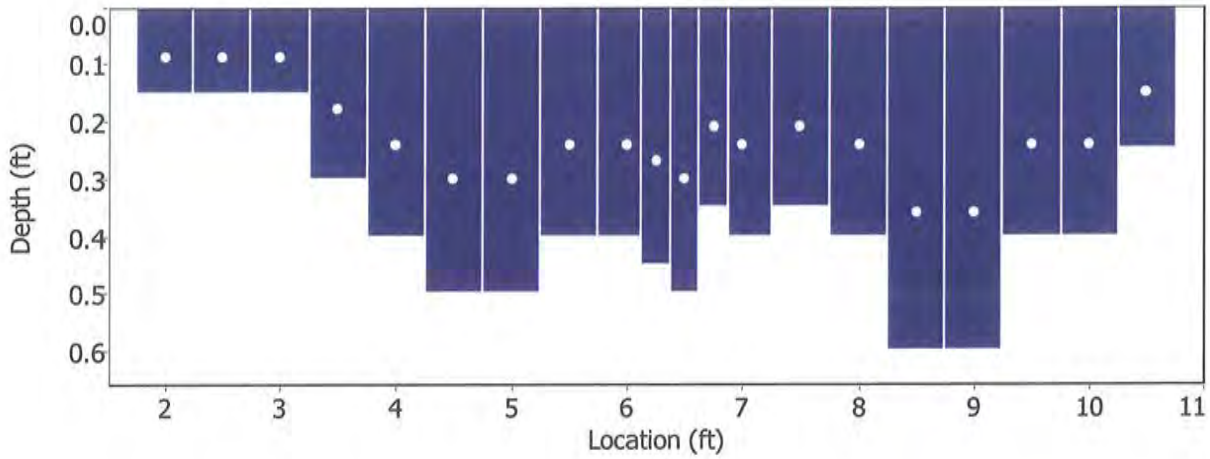
Date Generated: Thu Oct 24 2013

File Information	
File Name	GC5DR.WAD
Start Date and Time	2013/09/11 11:25:55

Site Details	
Site Name	GC5
Operator(s)	DR







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information	
File Name	GC5DR.WAD
Start Date and Time	2013/09/11 11:25:55

Site Details	
Site Name	GC5
Operator(s)	DR

Quality Control

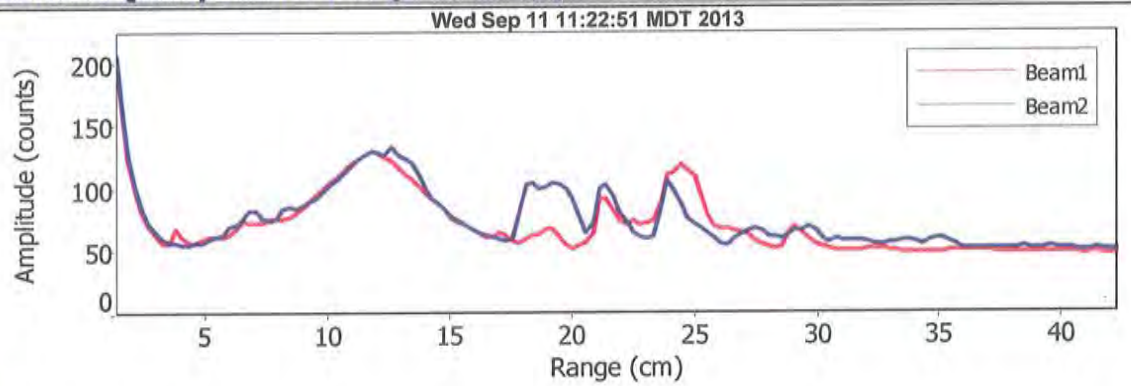
St	Loc	%Dep	Message
8	5.50	0.6	High angle: 120
10	6.25	0.6	High angle: -20
11	6.50	0.6	High angle: -22
12	6.75	0.6	High angle: -20

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC5DR.WAD	Site Name	GC5
Start Date and Time	2013/09/11 11:25:55	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: Thu Oct 24 2013

File Information

File Name	GC10.WAD
Start Date and Time	2013/09/10 13:20:22

Site Details

Site Name	GC10
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%	2.4%
Velocity	0.7%	7.7%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.2%	-
Overall	**3.2%**	**8.1%**

Summary

Averaging Int.	40	# Stations	23
Start Edge	REW	Total Width	6.597
Mean SNR	35.6 dB	Total Area	2.504
Mean Temp	58.71 °F	Mean Depth	0.380
Disch. Equation	Mid-Section	Mean Velocity	0.2560
		Total Discharge	**0.6409**

Measurement Results

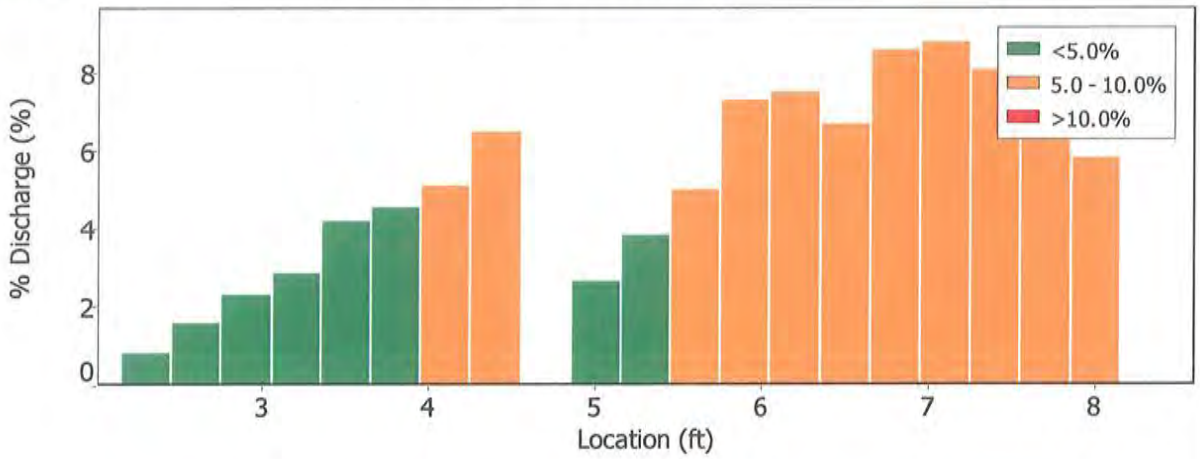
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	13:20	2.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	13:20	2.30	0.6	0.200	0.6	0.080	0.0909	1.00	0.0909	0.060	0.0055	0.9
2	13:21	2.60	0.6	0.300	0.6	0.120	0.1145	1.00	0.1145	0.090	0.0103	1.6
3	13:22	2.90	0.6	0.300	0.6	0.120	0.1640	1.00	0.1640	0.090	0.0148	2.3
4	13:23	3.20	0.6	0.350	0.6	0.140	0.1768	1.00	0.1768	0.105	0.0186	2.9
5	13:24	3.50	0.6	0.500	0.6	0.200	0.1811	1.00	0.1811	0.150	0.0272	4.2
6	13:25	3.80	0.6	0.500	0.6	0.200	0.1959	1.00	0.1959	0.150	0.0294	4.6
7	13:26	4.10	0.6	0.500	0.6	0.200	0.2198	1.00	0.2198	0.150	0.0330	5.1
8	13:27	4.40	0.6	0.500	0.6	0.200	0.2772	1.00	0.2772	0.150	0.0416	6.5
9	*13:29*	*4.70*	*0.6*	*0.300*	*0.6*	*0.120*	*0.0003*	*1.00*	*0.0003*	*0.090*	*0.0000*	*0.0*
10	13:30	5.00	0.6	0.150	0.6	0.060	0.3802	1.00	0.3802	0.045	0.0171	2.7
11	*13:31*	*5.30*	*0.6*	*0.250*	*0.6*	*0.100*	*0.3284*	*1.00*	*0.3284*	*0.075*	*0.0246*	*3.8*
12	13:33	5.60	0.6	0.300	0.6	0.120	0.3589	1.00	0.3589	0.090	0.0323	5.0
13	13:34	5.90	0.6	0.400	0.6	0.160	0.3914	1.00	0.3914	0.120	0.0469	7.3
14	13:35	6.20	0.6	0.400	0.6	0.160	0.4035	1.00	0.4035	0.120	0.0484	7.6
15	13:37	6.50	0.6	0.500	0.6	0.200	0.2861	1.00	0.2861	0.150	0.0429	6.7
16	13:38	6.80	0.6	0.500	0.6	0.200	0.3684	1.00	0.3684	0.150	0.0552	8.6
17	13:39	7.10	0.6	0.500	0.6	0.200	0.3770	1.00	0.3770	0.150	0.0565	8.8
18	13:40	7.40	0.6	0.500	0.6	0.200	0.3455	1.00	0.3455	0.150	0.0518	8.1
19	13:40	7.70	0.6	0.500	0.6	0.200	0.3166	1.00	0.3166	0.150	0.0475	7.4
20	13:41	8.00	0.6	0.450	0.6	0.180	0.2776	1.00	0.2776	0.135	0.0375	5.8
21	*13:42*	*8.30*	*0.6*	*0.450*	*0.6*	*0.180*	*0.0007*	*1.00*	*0.0007*	*0.135*	*0.0001*	*0.0*
22	13:42	8.60	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

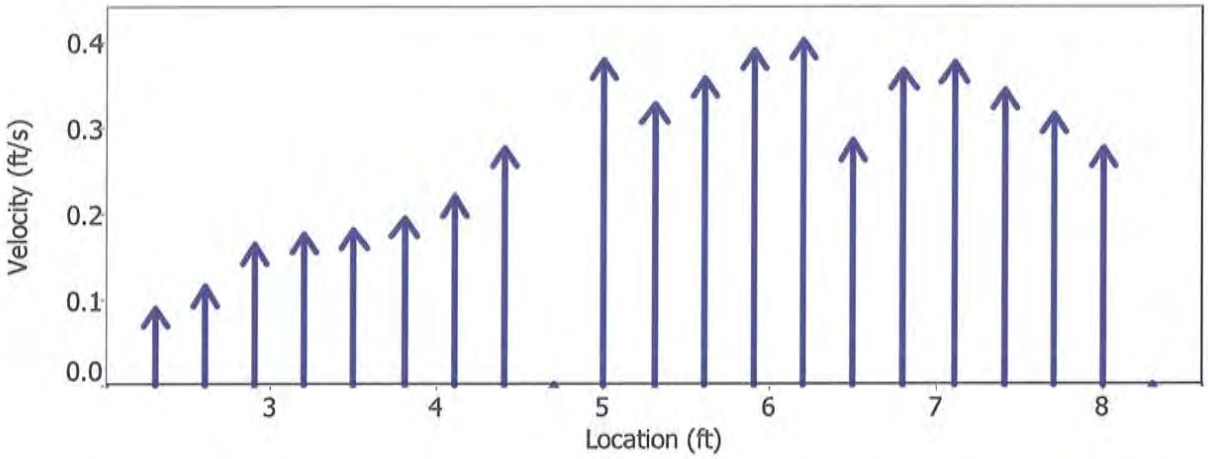
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

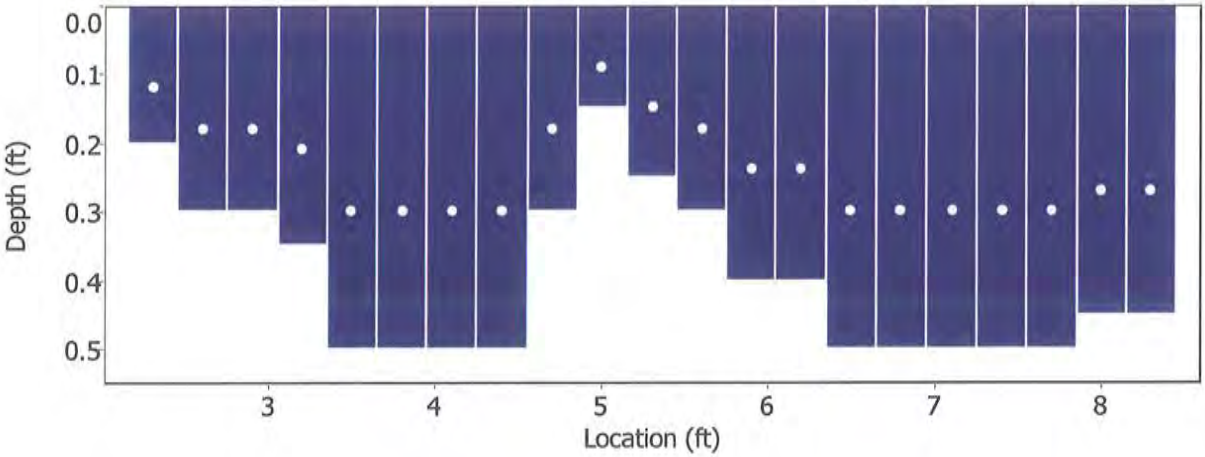
Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC10.WAD	Site Name	GC10
Start Date and Time	2013/09/10 13:20:22	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC10.WAD	Site Name	GC10
Start Date and Time	2013/09/10 13:20:22	Operator(s)	DR

Quality Control

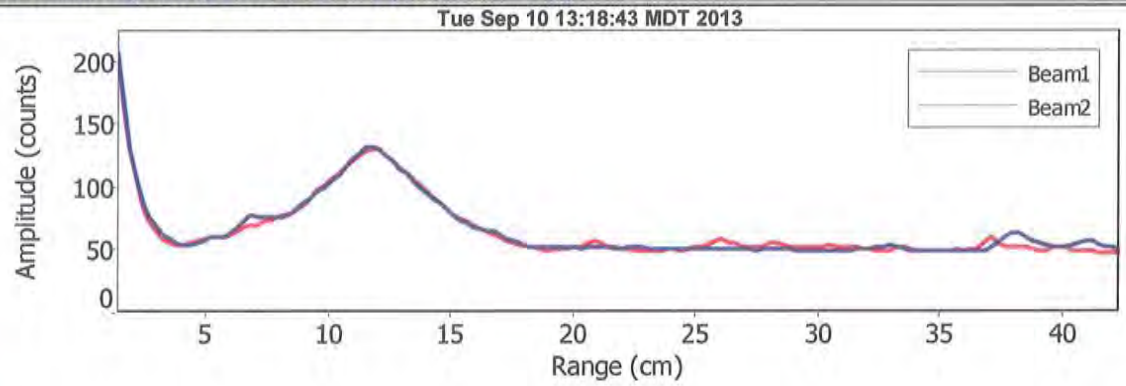
St	Loc	%Dep	Message
9	4.70	0.6	SNR (62.3) is different from typical SNR (35.6)
11	5.30	0.6	High SNR variation during measurement: 1.7,5.2
21	8.30	0.6	SNR (67.9) is different from typical SNR (35.6)
		0.6	High SNR variation during measurement: 3.0,6.5

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC10.WAD	Site Name	GC10
Start Date and Time	2013/09/10 13:20:22	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: Thu Oct 24 2013

File Information	
File Name	GC15.WAD
Start Date and Time	2013/09/10 14:50:49

Site Details	
Site Name	GC15
Operator(s)	DW

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	0.4%	2.5%
Velocity	1.4%	4.5%
Width	0.1%	0.1%
Method	2.0%	-
# Stations	2.3%	-
Overall	**3.5%**	**5.2%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	LEW	Total Width	5.698
Mean SNR	37.8 dB	Total Area	2.620
Mean Temp	61.38 °F	Mean Depth	0.460
Disch. Equation	Mid-Section	Mean Velocity	0.1866
		Total Discharge	**0.4889**

Measurement Results

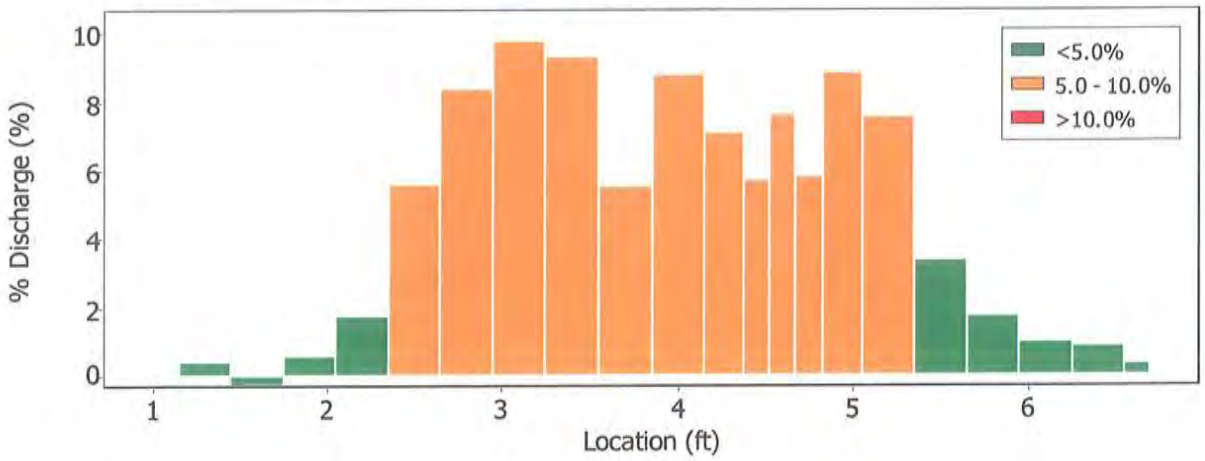
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	14:50	1.00	None	0.100	0.0	0.0	0.0000	1.00	0.0269	0.015	0.0004	0.1
1	*14:50*	*1.30*	*0.6*	*0.250*	*0.6*	*0.100*	*0.0269*	*1.00*	*0.0269*	*0.075*	*0.0020*	*0.4*
2	14:52	1.60	0.6	0.450	0.6	0.180	-0.0102	1.00	-0.0102	0.135	-0.0014	-0.3
3	14:54	1.90	0.6	0.350	0.6	0.140	0.0289	1.00	0.0289	0.105	0.0030	0.6
4	14:55	2.20	0.6	0.400	0.6	0.160	0.0709	1.00	0.0709	0.120	0.0085	1.7
5	14:56	2.50	0.6	0.600	0.6	0.240	0.1522	1.00	0.1522	0.180	0.0274	5.6
6	14:57	2.80	0.6	0.600	0.6	0.240	0.2270	1.00	0.2270	0.180	0.0409	8.4
7	14:58	3.10	0.6	0.600	0.6	0.240	0.2651	1.00	0.2651	0.180	0.0477	9.8
8	14:59	3.40	0.6	0.700	0.6	0.280	0.2169	1.00	0.2169	0.210	0.0455	9.3
9	15:00	3.70	0.6	0.650	0.6	0.260	0.1388	1.00	0.1388	0.195	0.0270	5.5
10	15:01	4.00	0.6	0.650	0.6	0.260	0.2208	1.00	0.2208	0.195	0.0430	8.8
11	15:02	4.30	0.6	0.600	0.6	0.240	0.2562	1.00	0.2562	0.135	0.0347	7.1
12	15:14	4.45	0.6	0.700	0.6	0.280	0.2671	1.00	0.2671	0.105	0.0280	5.7
13	15:04	4.60	0.6	0.600	0.6	0.240	0.4140	1.00	0.4140	0.090	0.0373	7.6
14	15:12	4.75	0.6	0.550	0.6	0.220	0.3442	1.00	0.3442	0.082	0.0284	5.8
15	15:05	4.90	0.6	0.550	0.6	0.220	0.3517	1.00	0.3517	0.123	0.0433	8.9
16	15:06	5.20	0.6	0.400	0.6	0.160	0.3087	1.00	0.3087	0.120	0.0370	7.6
17	15:07	5.50	0.6	0.350	0.6	0.140	0.1575	1.00	0.1575	0.105	0.0165	3.4
18	15:08	5.80	0.6	0.300	0.6	0.120	0.0955	1.00	0.0955	0.090	0.0086	1.8
19	15:09	6.10	0.6	0.250	0.6	0.100	0.0636	1.00	0.0636	0.075	0.0048	1.0
20	*15:11*	*6.40*	*0.6*	*0.250*	*0.6*	*0.100*	*0.0587*	*1.00*	*0.0587*	*0.075*	*0.0044*	*0.9*
21	15:11	6.70	None	0.200	0.0	0.0	0.0000	1.00	0.0587	0.030	0.0018	0.4

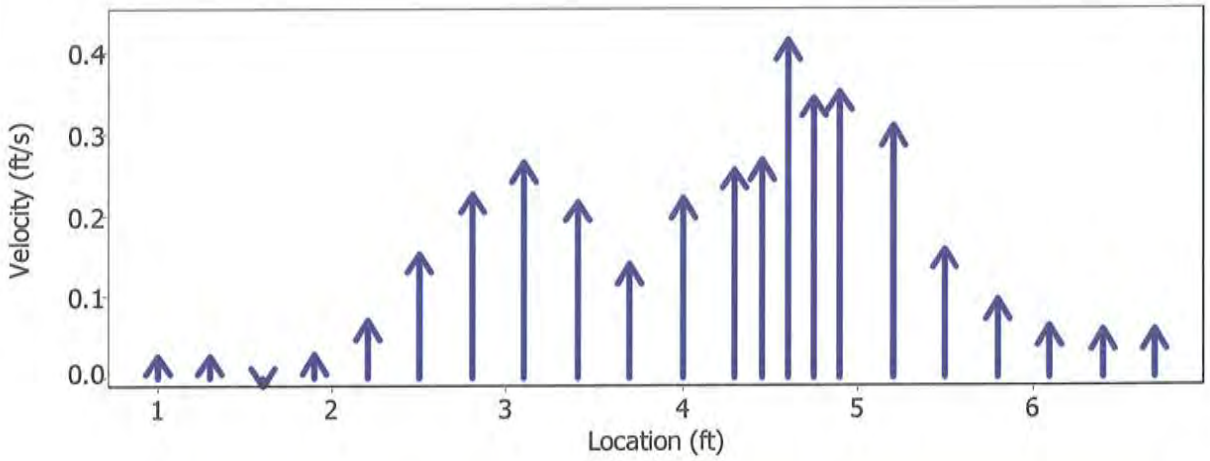
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

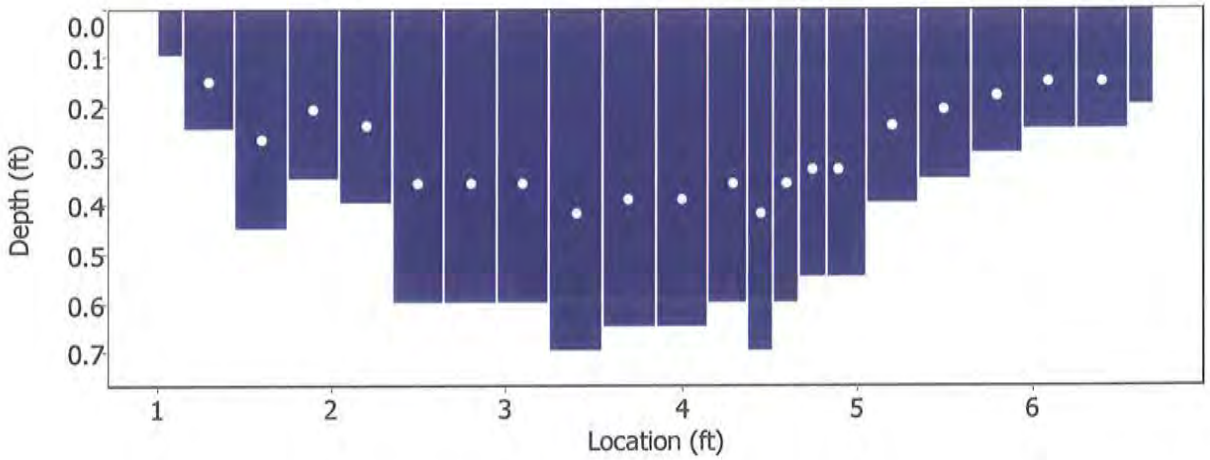
Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC15.WAD	Site Name	GC15
Start Date and Time	2013/09/10 14:50:49	Operator(s)	DW







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC15.WAD	Site Name	GC15
Start Date and Time	2013/09/10 14:50:49	Operator(s)	DW

Quality Control

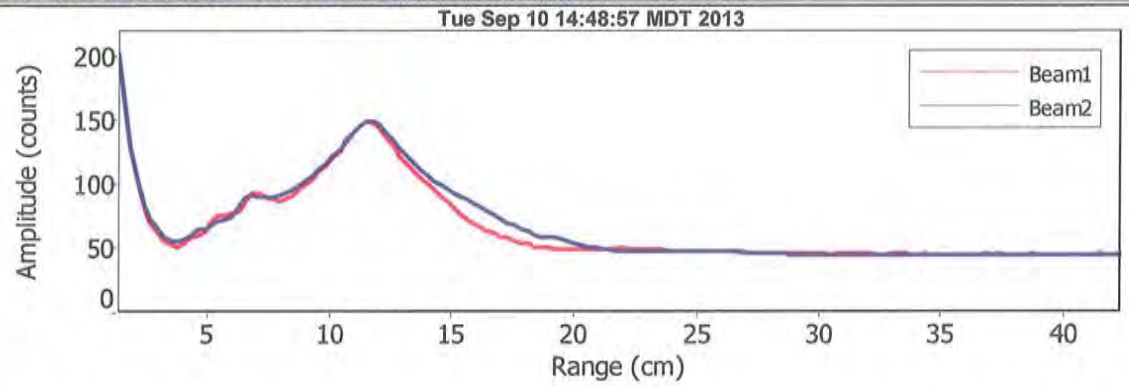
St	Loc	%Dep	Message
1	1.30	0.6	High angle: 23
20	6.40	0.6	SNR (14.8) is different from typical SNR (37.8)

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC15.WAD	Site Name	GC15
Start Date and Time	2013/09/10 14:50:49	Operator(s)	DW

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: Thu Oct 24 2013

File Information

File Name	GC20.WAD
Start Date and Time	2013/09/10 14:08:26

Site Details

Site Name	GC20
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%	3.5%
Velocity	1.4%	6.5%
Width	0.1%	0.1%
Method	2.0%	-
# Stations	2.4%	-
Overall	**3.6%**	**7.4%**

Summary

Averaging Int.	40	# Stations	21
Start Edge	REW	Total Width	5.000
Mean SNR	43.6 dB	Total Area	2.360
Mean Temp	60.30 °F	Mean Depth	0.472
Disch. Equation	Mid-Section	Mean Velocity	0.1987
		Total Discharge	**0.4689**

Measurement Results

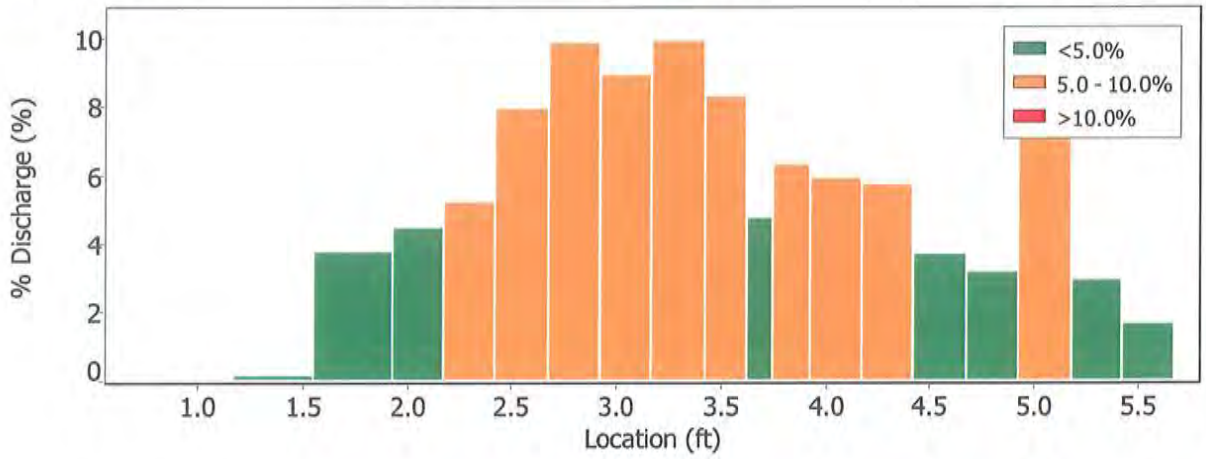
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	14:08	0.80	None	0.350	0.0	0.0	0.0000	1.00	-0.0056	0.044	-0.0002	-0.1
1	14:08	1.05	0.6	0.350	0.6	0.140	-0.0056	1.00	-0.0056	0.088	-0.0005	-0.1
2	*14:10*	*1.30*	*0.6*	*0.400*	*0.6*	*0.160*	*0.0049*	*1.00*	*0.0049*	*0.150*	*0.0007*	*0.2*
3	14:12	1.80	0.6	0.550	0.6	0.220	0.0853	1.00	0.0853	0.206	0.0176	3.8
4	14:14	2.05	0.6	0.550	0.6	0.220	0.1522	1.00	0.1522	0.137	0.0209	4.5
5	14:15	2.30	0.6	0.350	0.6	0.140	0.2812	1.00	0.2812	0.088	0.0246	5.2
6	14:16	2.55	0.6	0.350	0.6	0.140	0.4281	1.00	0.4281	0.088	0.0375	8.0
7	14:17	2.80	0.6	0.700	0.6	0.280	0.2654	1.00	0.2654	0.175	0.0465	9.9
8	14:18	3.05	0.6	0.650	0.6	0.260	0.2585	1.00	0.2585	0.162	0.0420	9.0
9	14:19	3.30	0.6	0.650	0.6	0.260	0.2877	1.00	0.2877	0.162	0.0468	10.0
10	*14:20*	*3.55*	*0.6*	*0.650*	*0.6*	*0.260*	*0.3002*	*1.00*	*0.3002*	*0.130*	*0.0390*	*8.3*
11	*14:22*	*3.70*	*0.6*	*0.600*	*0.6*	*0.240*	*0.2969*	*1.00*	*0.2969*	*0.075*	*0.0223*	*4.7*
12	*14:23*	*3.80*	*0.6*	*0.600*	*0.6*	*0.240*	*0.2828*	*1.00*	*0.2828*	*0.105*	*0.0297*	*6.3*
13	14:24	4.05	0.6	0.550	0.6	0.220	0.2024	1.00	0.2024	0.137	0.0278	5.9
14	14:25	4.30	0.6	0.400	0.6	0.160	0.2687	1.00	0.2687	0.100	0.0269	5.7
15	14:26	4.55	0.6	0.350	0.6	0.140	0.1975	1.00	0.1975	0.088	0.0173	3.7
16	14:27	4.80	0.6	0.500	0.6	0.200	0.1188	1.00	0.1188	0.125	0.0148	3.2
17	14:28	5.05	0.6	0.500	0.6	0.200	0.2677	1.00	0.2677	0.125	0.0335	7.1
18	*14:29*	*5.30*	*0.6*	*0.400*	*0.6*	*0.160*	*0.1388*	*1.00*	*0.1388*	*0.100*	*0.0139*	*3.0*
19	*14:30*	*5.55*	*0.6*	*0.300*	*0.6*	*0.120*	*0.1053*	*1.00*	*0.1053*	*0.075*	*0.0079*	*1.7*
20	14:30	5.80	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

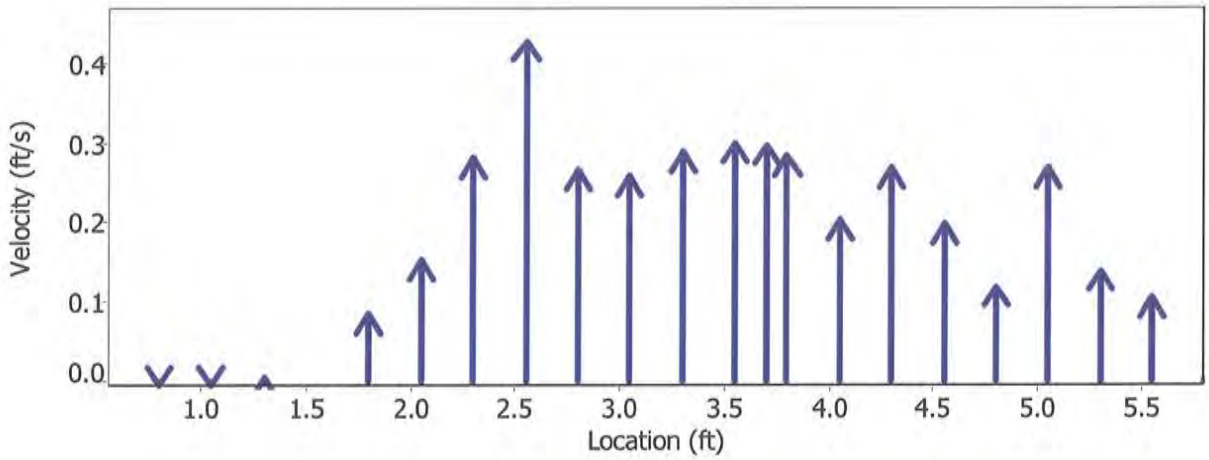
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

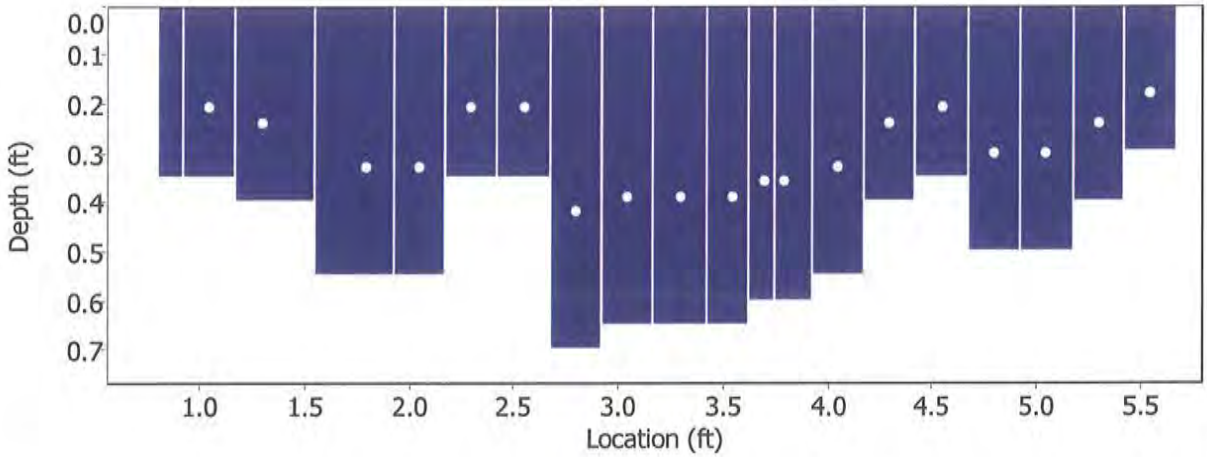
Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC20.WAD	Site Name	GC20
Start Date and Time	2013/09/10 14:08:26	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC20.WAD	Site Name	GC20
Start Date and Time	2013/09/10 14:08:26	Operator(s)	DR

Quality Control

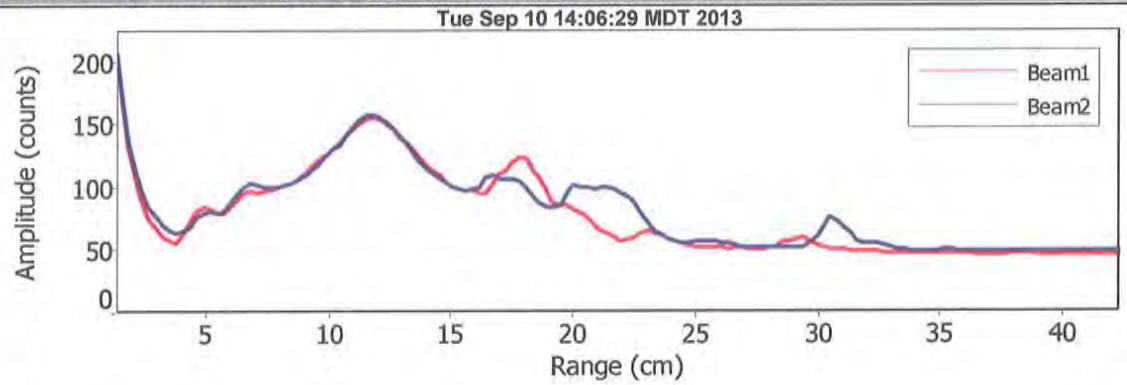
St	Loc	%Dep	Message
2	1.30	0.6	SNR (19.7) is different from typical SNR (43.6)
		0.6	Boundary QC is Poor; possible boundary interference
10	3.55	0.6	High angle: -22
11	3.70	0.6	High angle: -20
12	3.80	0.6	High angle: -22
18	5.30	0.6	High angle: -32
19	5.55	0.6	Boundary QC is Fair; possible boundary interference

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC20.WAD	Site Name	GC20
Start Date and Time	2013/09/10 14:08:26	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: Thu Oct 24 2013

File Information

File Name	GC25.WAD
Start Date and Time	2013/09/10 14:52:07

Site Details

Site Name	GC25
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%	2.6%
Velocity	1.7%	8.7%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	1.8%	-
Overall	**3.3%**	**9.2%**

Summary

Averaging Int.	40	# Stations	28
Start Edge	REW	Total Width	6.400
Mean SNR	45.4 dB	Total Area	1.983
Mean Temp	60.50 °F	Mean Depth	0.310
Disch. Equation	Mid-Section	Mean Velocity	0.2110
		Total Discharge	**0.4184**

Measurement Results

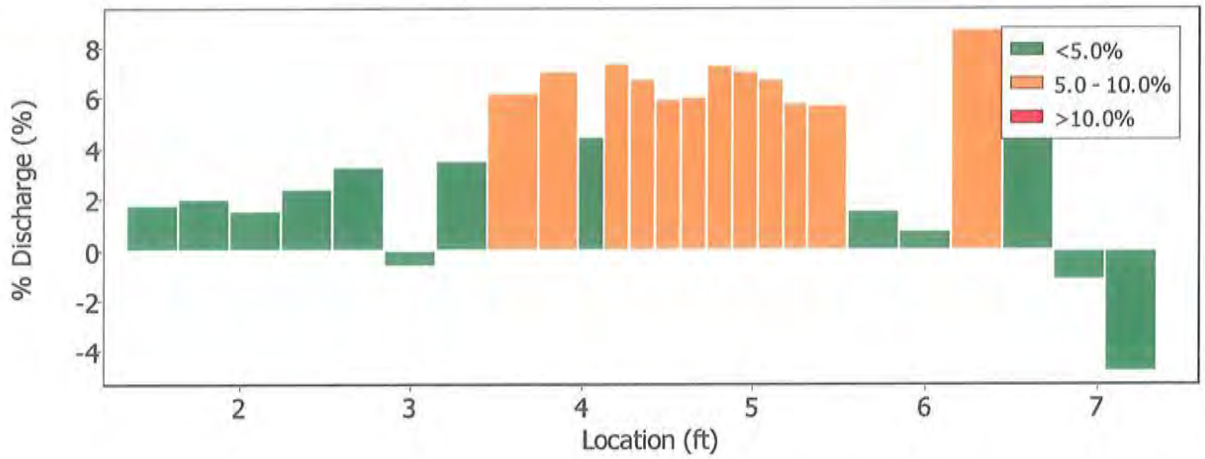
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	14:52	1.20	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	14:52	1.50	0.6	0.250	0.6	0.100	0.1007	1.00	0.1007	0.075	0.0076	1.8
2	14:53	1.80	0.6	0.250	0.6	0.100	0.1106	1.00	0.1106	0.075	0.0083	2.0
3	*14:54*	*2.10*	*0.6*	*0.250*	*0.6*	*0.100*	*0.0840*	*1.00*	*0.0840*	*0.075*	*0.0063*	*1.5*
4	14:55	2.40	0.6	0.300	0.6	0.120	0.1102	1.00	0.1102	0.090	0.0099	2.4
5	*14:56*	*2.70*	*0.6*	*0.300*	*0.6*	*0.120*	*0.1532*	*1.00*	*0.1532*	*0.090*	*0.0138*	*3.3*
6	*14:57*	*3.00*	*0.6*	*0.400*	*0.6*	*0.160*	*-0.0226*	*1.00*	*-0.0226*	*0.120*	*-0.0027*	*-0.6*
7	*14:58*	*3.30*	*0.6*	*0.300*	*0.6*	*0.120*	*0.1617*	*1.00*	*0.1617*	*0.090*	*0.0145*	*3.5*
8	*14:59*	*3.60*	*0.6*	*0.350*	*0.6*	*0.140*	*0.2451*	*1.00*	*0.2451*	*0.105*	*0.0257*	*6.1*
9	*15:00*	*3.90*	*0.6*	*0.450*	*0.6*	*0.180*	*0.2897*	*1.00*	*0.2897*	*0.101*	*0.0294*	*7.0*
10	*15:19*	*4.05*	*0.6*	*0.450*	*0.6*	*0.180*	*0.2779*	*1.00*	*0.2779*	*0.067*	*0.0188*	*4.5*
11	*15:01*	*4.20*	*0.6*	*0.450*	*0.6*	*0.180*	*0.4583*	*1.00*	*0.4583*	*0.068*	*0.0310*	*7.4*
12	*15:14*	*4.35*	*0.6*	*0.400*	*0.6*	*0.160*	*0.4724*	*1.00*	*0.4724*	*0.060*	*0.0283*	*6.8*
13	*15:02*	*4.50*	*0.6*	*0.300*	*0.6*	*0.120*	*0.5564*	*1.00*	*0.5564*	*0.045*	*0.0250*	*6.0*
14	*15:15*	*4.65*	*0.6*	*0.300*	*0.6*	*0.120*	*0.5633*	*1.00*	*0.5633*	*0.045*	*0.0253*	*6.1*
15	15:03	4.80	0.6	0.300	0.6	0.120	0.6745	1.00	0.6745	0.045	0.0304	7.3
16	*15:17*	*4.95*	*0.6*	*0.300*	*0.6*	*0.120*	*0.6558*	*1.00*	*0.6558*	*0.045*	*0.0295*	*7.0*
17	*15:04*	*5.10*	*0.6*	*0.300*	*0.6*	*0.120*	*0.6240*	*1.00*	*0.6240*	*0.045*	*0.0281*	*6.7*
18	*15:20*	*5.25*	*0.6*	*0.300*	*0.6*	*0.120*	*0.5367*	*1.00*	*0.5367*	*0.045*	*0.0241*	*5.8*
19	15:05	5.40	0.6	0.300	0.6	0.120	0.3537	1.00	0.3537	0.067	0.0238	5.7
20	15:06	5.70	0.6	0.400	0.6	0.160	0.0531	1.00	0.0531	0.120	0.0064	1.5
21	*15:07*	*6.00*	*0.6*	*0.400*	*0.6*	*0.160*	*0.0272*	*1.00*	*0.0272*	*0.120*	*0.0033*	*0.8*
22	*15:08*	*6.30*	*0.6*	*0.300*	*0.6*	*0.120*	*0.4065*	*1.00*	*0.4065*	*0.090*	*0.0366*	*8.7*
23	*15:09*	*6.60*	*0.6*	*0.350*	*0.6*	*0.140*	*0.1975*	*1.00*	*0.1975*	*0.105*	*0.0207*	*5.0*
24	*15:10*	*6.90*	*0.6*	*0.300*	*0.6*	*0.120*	*-0.0558*	*1.00*	*-0.0558*	*0.090*	*-0.0050*	*-1.2*
25	*15:11*	*7.20*	*0.6*	*0.250*	*0.6*	*0.100*	*-0.2717*	*1.00*	*-0.2717*	*0.075*	*-0.0204*	*-4.9*
26	*15:12*	*7.50*	*0.6*	*0.150*	*0.6*	*0.060*	*-0.0033*	*1.00*	*-0.0033*	*0.030*	*-0.0001*	*0.0*
27	15:12	7.60	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

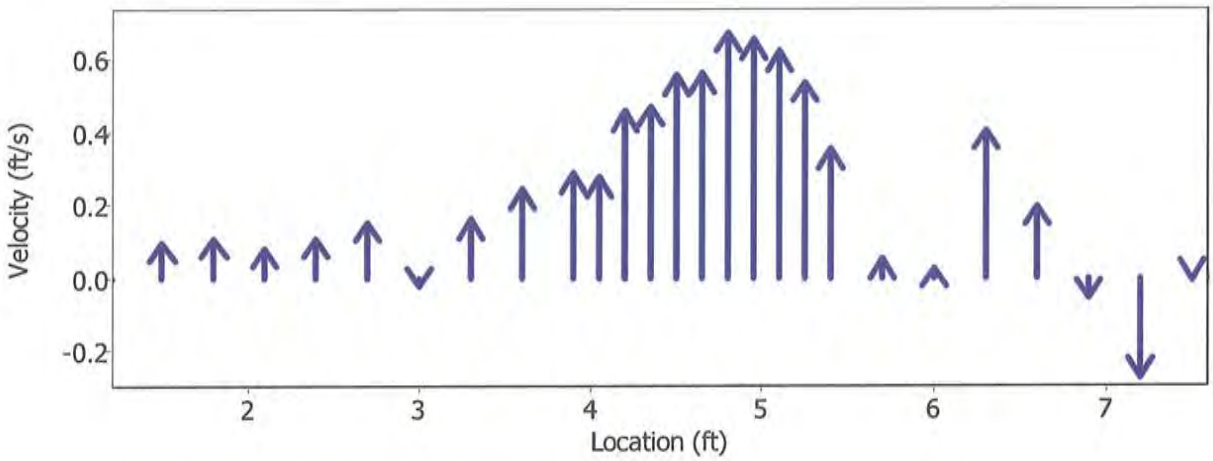
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

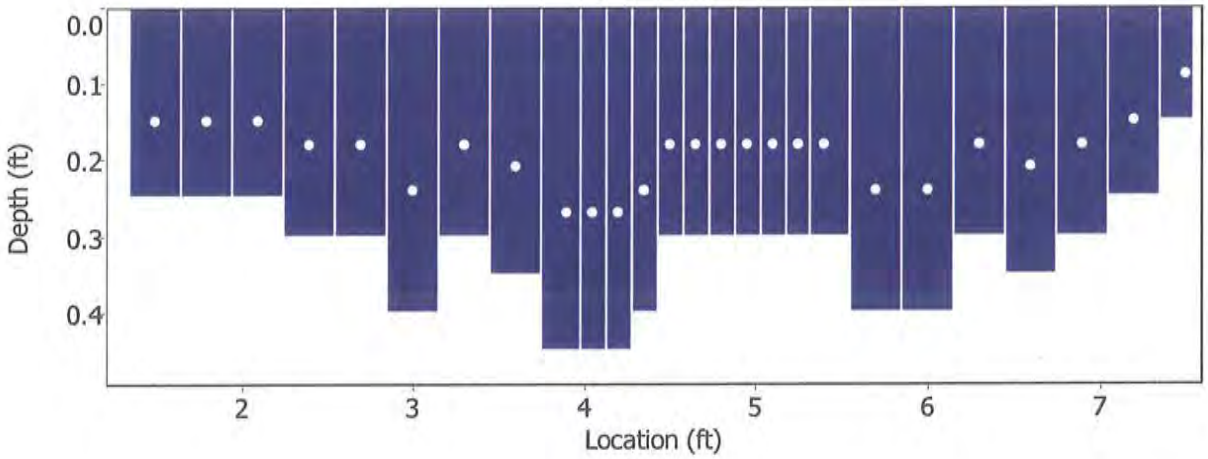
Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC25.WAD	Site Name	GC25
Start Date and Time	2013/09/10 14:52:07	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC25.WAD	Site Name	GC25
Start Date and Time	2013/09/10 14:52:07	Operator(s)	DR

Quality Control

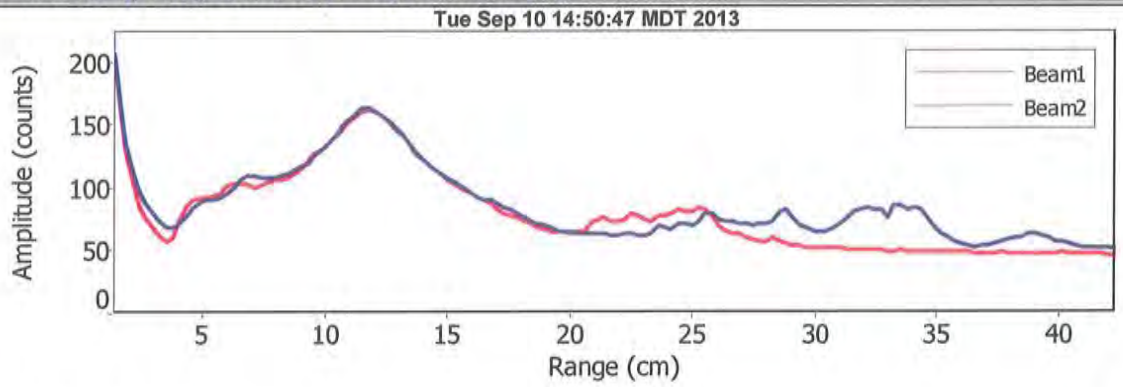
St	Loc	%Dep	Message
3	2.10	0.6	High angle: -23
5	2.70	0.6	High angle: -24
		0.6	Boundary QC is Fair; possible boundary interference
6	3.00	0.6	High angle: -154
		0.6	SNR (13.3) is different from typical SNR (45.4)
		0.6	Boundary QC is Fair; possible boundary interference
7	3.30	0.6	High angle: -36
8	3.60	0.6	High angle: -37
9	3.90	0.6	High angle: -27
10	4.05	0.6	High angle: -25
11	4.20	0.6	High angle: -29
12	4.35	0.6	High angle: -21
13	4.50	0.6	High angle: -23
14	4.65	0.6	High angle: -24
16	4.95	0.6	High angle: -22
17	5.10	0.6	High standard error: 0.033
18	5.25	0.6	High standard error: 0.032
21	6.00	0.6	High angle: 46
22	6.30	0.6	High standard error: 0.031
23	6.60	0.6	High angle: 34
24	6.90	0.6	High angle: 121
		0.6	Boundary QC is Good; possible boundary interference
25	7.20	0.6	High angle: 177
26	7.50	0.6	Boundary QC is Good; possible boundary interference

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC25.WAD	Site Name	GC25
Start Date and Time	2013/09/10 14:52:07	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: Thu Oct 24 2013

File Information

File Name	GC30.WAD
Start Date and Time	2013/09/10 15:42:39

Site Details

Site Name	GC30
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%	6.4%
Velocity	1.3%	6.6%
Width	0.1%	0.1%
Method	2.1%	-
# Stations	2.0%	-
Overall	**3.4%**	**9.3%**

Summary

Averaging Int.	40	# Stations	25
Start Edge	LEW	Total Width	4.600
Mean SNR	45.9 dB	Total Area	1.881
Mean Temp	58.41 °F	Mean Depth	0.409
Disch. Equation	Mid-Section	Mean Velocity	0.1941
		Total Discharge	**0.3651**

Measurement Results

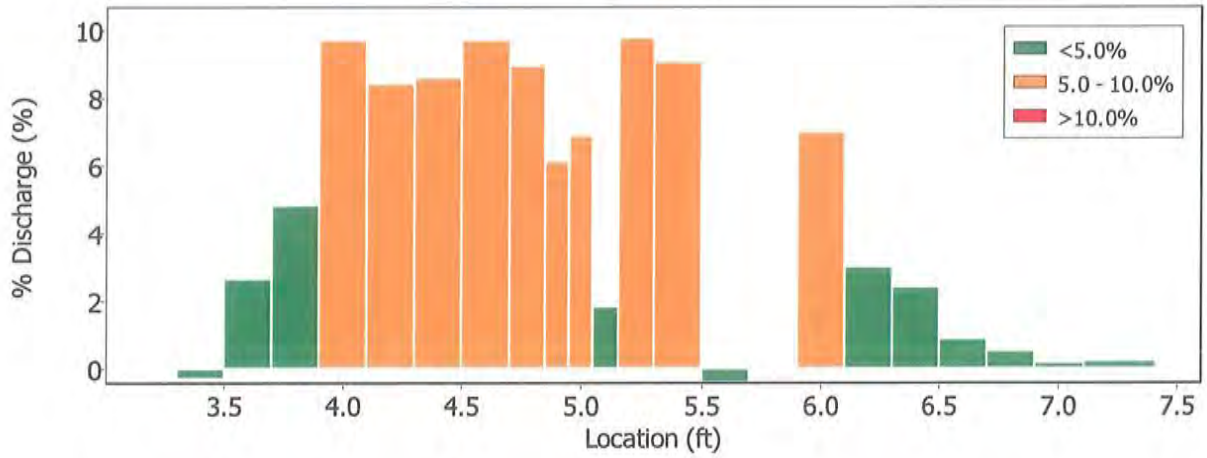
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	15:42	3.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	*15:43*	*3.20*	*0.6*	*0.200*	*0.6*	*0.080*	*-0.0026*	*1.00*	*-0.0026*	*0.040*	*-0.0001*	*0.0*
2	*15:45*	*3.40*	*0.6*	*0.300*	*0.6*	*0.120*	*-0.0164*	*1.00*	*-0.0164*	*0.060*	*-0.0010*	*-0.3*
3	*15:46*	*3.60*	*0.6*	*0.300*	*0.6*	*0.120*	*0.1608*	*1.00*	*0.1608*	*0.060*	*0.0096*	*2.6*
4	15:47	3.80	0.6	0.400	0.6	0.160	0.2188	1.00	0.2188	0.080	0.0175	4.8
5	15:48	4.00	0.6	0.500	0.6	0.200	0.3543	1.00	0.3543	0.100	0.0355	9.7
6	15:49	4.20	0.6	0.500	0.6	0.200	0.3074	1.00	0.3074	0.100	0.0308	8.4
7	15:50	4.40	0.6	0.600	0.6	0.240	0.2605	1.00	0.2605	0.120	0.0313	8.6
8	15:51	4.60	0.6	0.700	0.6	0.280	0.2526	1.00	0.2526	0.140	0.0354	9.7
9	15:52	4.80	0.6	0.700	0.6	0.280	0.3123	1.00	0.3123	0.105	0.0327	9.0
10	16:07	4.90	0.6	0.700	0.6	0.280	0.3196	1.00	0.3196	0.070	0.0224	6.1
11	15:53	5.00	0.6	0.700	0.6	0.280	0.3589	1.00	0.3589	0.070	0.0251	6.9
12	16:08	5.10	0.6	0.200	0.6	0.080	0.3343	1.00	0.3343	0.020	0.0067	1.8
13	15:54	5.20	0.6	0.700	0.6	0.280	0.3379	1.00	0.3379	0.106	0.0357	9.8
14	15:56	5.40	0.6	0.650	0.6	0.260	0.2546	1.00	0.2546	0.130	0.0331	9.1
15	15:57	5.60	0.6	0.750	0.6	0.300	-0.0098	1.00	-0.0098	0.150	-0.0015	-0.4
16	*15:58*	*5.80*	*0.6*	*0.800*	*0.6*	*0.320*	*0.0000*	*1.00*	*0.0000*	*0.160*	*0.0000*	*0.0*
17	15:59	6.00	0.6	0.450	0.6	0.180	0.2844	1.00	0.2844	0.090	0.0256	7.0
18	16:00	6.20	0.6	0.300	0.6	0.120	0.1824	1.00	0.1824	0.060	0.0109	3.0
19	16:01	6.40	0.6	0.300	0.6	0.120	0.1467	1.00	0.1467	0.060	0.0088	2.4
20	16:02	6.60	0.6	0.200	0.6	0.080	0.0791	1.00	0.0791	0.040	0.0032	0.9
21	16:03	6.80	0.6	0.150	0.6	0.060	0.0643	1.00	0.0643	0.030	0.0019	0.5
22	*16:04*	*7.00*	*0.6*	*0.150*	*0.6*	*0.060*	*0.0223*	*1.00*	*0.0223*	*0.030*	*0.0007*	*0.2*
23	*16:06*	*7.20*	*0.6*	*0.200*	*0.6*	*0.080*	*0.0131*	*1.00*	*0.0131*	*0.060*	*0.0008*	*0.2*
24	16:06	7.60	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

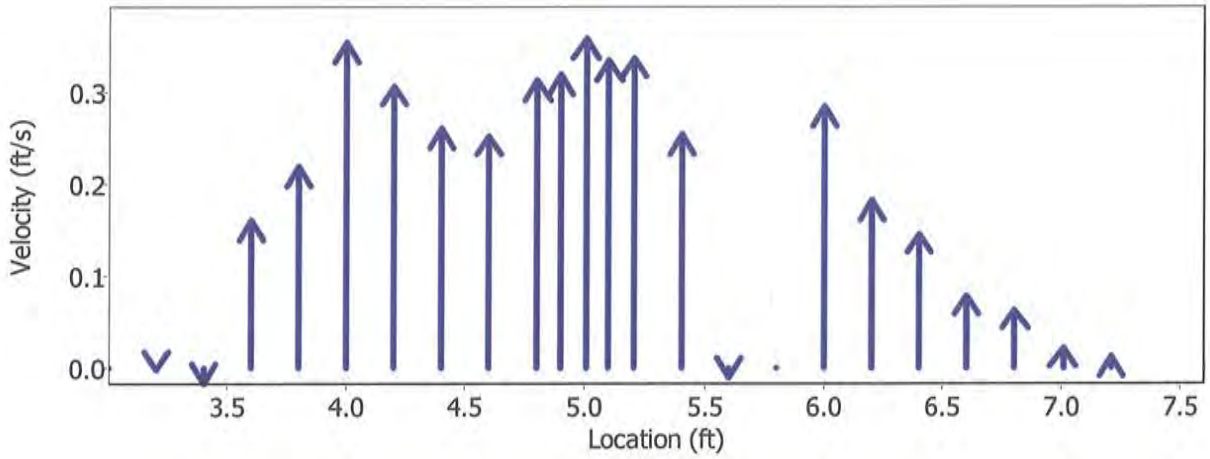
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

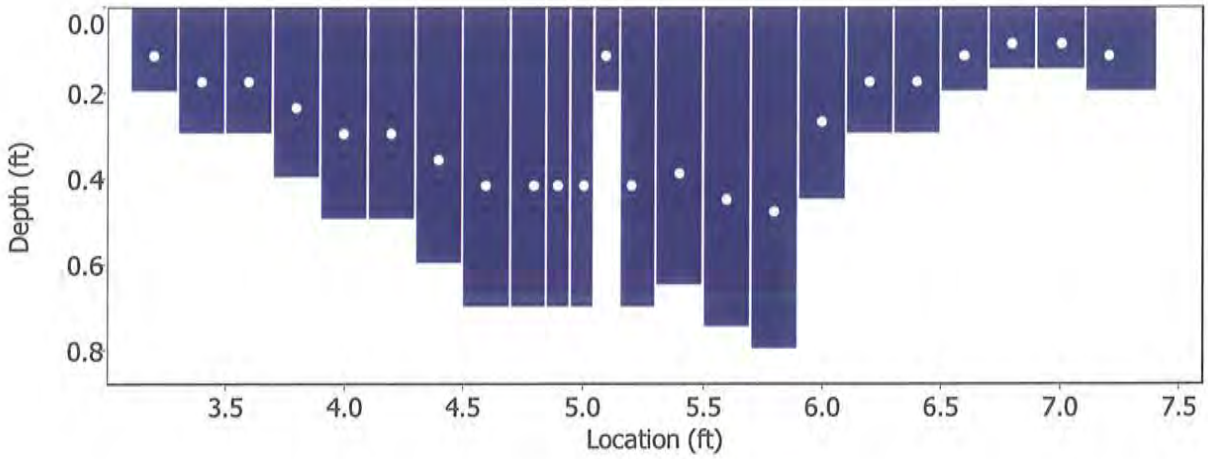
Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC30.WAD	Site Name	GC30
Start Date and Time	2013/09/10 15:42:39	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC30.WAD	Site Name	GC30
Start Date and Time	2013/09/10 15:42:39	Operator(s)	DR

Quality Control

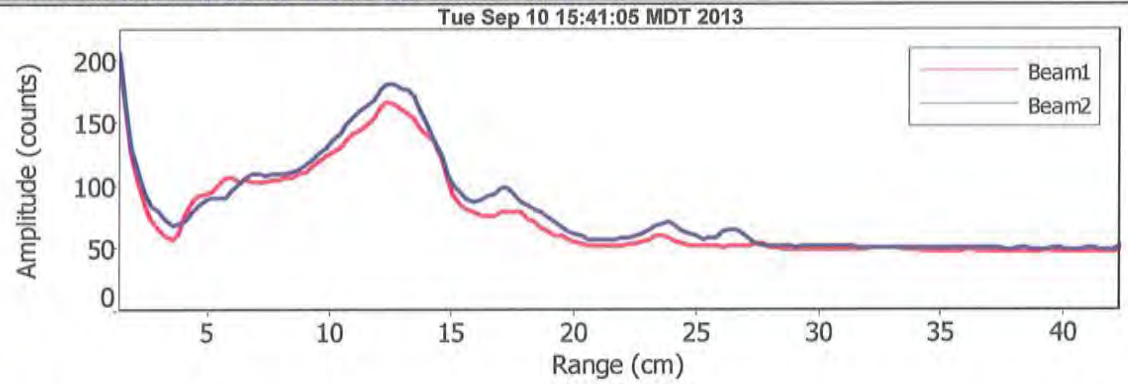
St	Loc	%Dep	Message
1	3.20	0.6	SNR (22.6) is different from typical SNR (45.9)
		0.6	Boundary QC is Good; possible boundary interference
2	3.40	0.6	High differences in beam SNR: 74.8,45.5
		0.6	SNR (60.2) is different from typical SNR (45.9)
3	3.60	0.6	Boundary QC is Good; possible boundary interference
16	5.80	0.6	SNR (59.7) is different from typical SNR (45.9)
22	7.00	0.6	High angle: -38
23	7.20	0.6	SNR (18.2) is different from typical SNR (45.9)
		0.6	High SNR variation during measurement: 4.3,5.2

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC30.WAD	Site Name	GC30
Start Date and Time	2013/09/10 15:42:39	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: Thu Oct 24 2013

File Information	
File Name	GC35.WAD
Start Date and Time	2013/09/11 08:39:36

Site Details	
Site Name	GC35
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%	2.4%
Velocity	1.1%	3.8%
Width	0.1%	0.1%
Method	2.0%	-
# Stations	2.1%	-
Overall	**3.3%**	**4.6%**

Summary

Averaging Int.	40	# Stations	24
Start Edge	LEW	Total Width	7.300
Mean SNR	28.2 dB	Total Area	1.943
Mean Temp	45.06 °F	Mean Depth	0.266
Disch. Equation	Mid-Section	Mean Velocity	0.1783
		Total Discharge	**0.3466**

Measurement Results

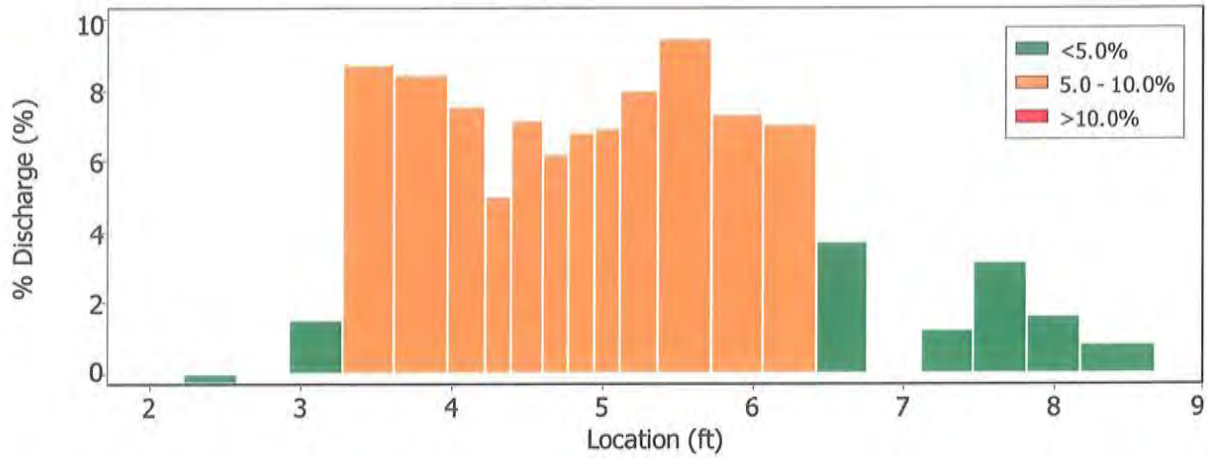
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	08:39	1.70	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	*08:40*	*2.05*	*0.6*	*0.250*	*0.6*	*0.100*	*-0.0033*	*1.00*	*-0.0033*	*0.087*	*-0.0003*	*-0.1*
2	*08:41*	*2.40*	*0.6*	*0.250*	*0.6*	*0.100*	*-0.0121*	*1.00*	*-0.0121*	*0.087*	*-0.0011*	*-0.3*
3	*08:42*	*2.75*	*0.6*	*0.350*	*0.6*	*0.140*	*-0.0023*	*1.00*	*-0.0023*	*0.122*	*-0.0003*	*-0.1*
4	*08:44*	*3.10*	*0.6*	*0.400*	*0.6*	*0.160*	*0.0371*	*1.00*	*0.0371*	*0.140*	*0.0052*	*1.5*
5	08:45	3.45	0.6	0.400	0.6	0.160	0.2156	1.00	0.2156	0.140	0.0301	8.7
6	08:46	3.80	0.6	0.300	0.6	0.120	0.2789	1.00	0.2789	0.105	0.0292	8.4
7	08:47	4.15	0.6	0.250	0.6	0.100	0.4163	1.00	0.4163	0.063	0.0261	7.5
8	*09:06*	*4.30*	*0.6*	*0.250*	*0.6*	*0.100*	*0.3976*	*1.00*	*0.3976*	*0.044*	*0.0174*	*5.0*
9	08:48	4.50	0.6	0.300	0.6	0.120	0.4127	1.00	0.4127	0.060	0.0248	7.1
10	09:03	4.70	0.6	0.300	0.6	0.120	0.4091	1.00	0.4091	0.052	0.0215	6.2
11	08:49	4.85	0.6	0.300	0.6	0.120	0.4505	1.00	0.4505	0.052	0.0236	6.8
12	09:04	5.05	0.6	0.350	0.6	0.140	0.3907	1.00	0.3907	0.061	0.0239	6.9
13	08:50	5.20	0.6	0.300	0.6	0.120	0.3714	1.00	0.3714	0.075	0.0277	8.0
14	08:50	5.55	0.6	0.300	0.6	0.120	0.3117	1.00	0.3117	0.105	0.0327	9.4
15	*08:51*	*5.90*	*0.6*	*0.300*	*0.6*	*0.120*	*0.2421*	*1.00*	*0.2421*	*0.105*	*0.0254*	*7.3*
16	*08:52*	*6.25*	*0.6*	*0.350*	*0.6*	*0.140*	*0.1988*	*1.00*	*0.1988*	*0.122*	*0.0243*	*7.0*
17	*08:53*	*6.60*	*0.6*	*0.300*	*0.6*	*0.120*	*0.1227*	*1.00*	*0.1227*	*0.105*	*0.0129*	*3.7*
18	*08:55*	*6.95*	*0.6*	*0.350*	*0.6*	*0.140*	*-0.0003*	*1.00*	*-0.0003*	*0.122*	*0.0000*	*0.0*
19	*08:57*	*7.30*	*0.6*	*0.300*	*0.6*	*0.120*	*0.0394*	*1.00*	*0.0394*	*0.105*	*0.0041*	*1.2*
20	08:58	7.65	0.6	0.250	0.6	0.100	0.1247	1.00	0.1247	0.087	0.0109	3.1
21	*08:59*	*8.00*	*0.6*	*0.150*	*0.6*	*0.060*	*0.1073*	*1.00*	*0.1073*	*0.052*	*0.0056*	*1.6*
22	*09:01*	*8.35*	*0.6*	*0.100*	*0.6*	*0.040*	*0.0551*	*1.00*	*0.0551*	*0.050*	*0.0028*	*0.8*
23	09:01	9.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

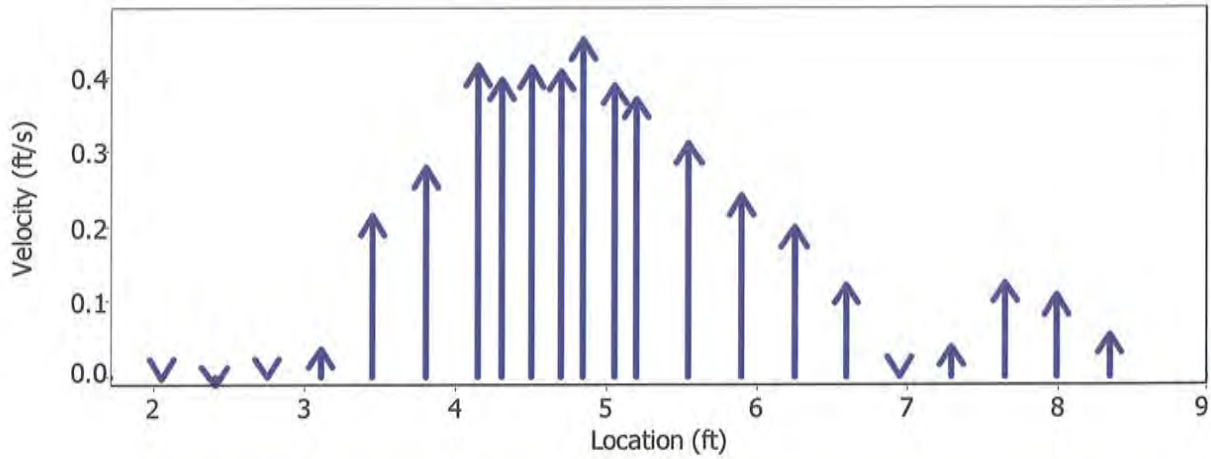
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

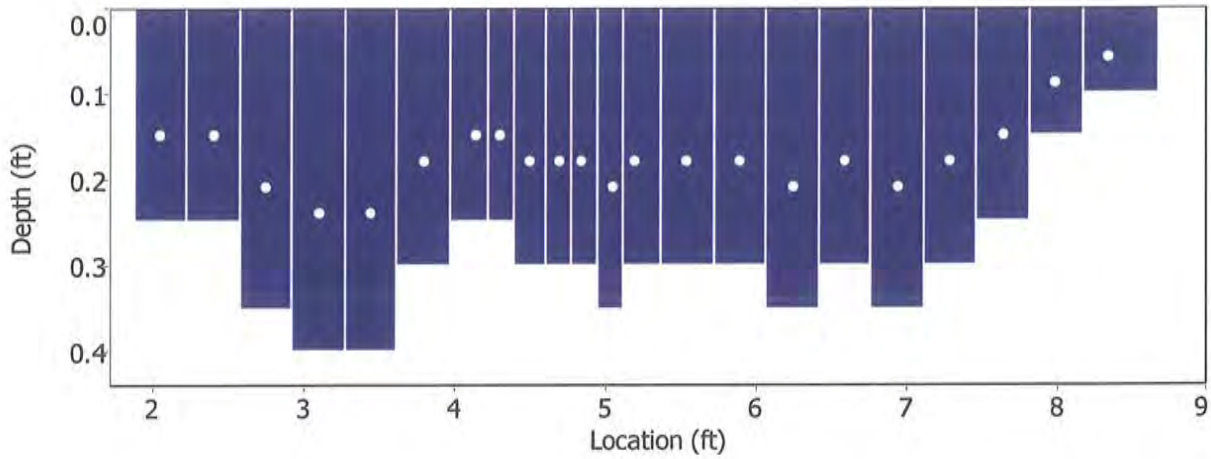
Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC35.WAD	Site Name	GC35
Start Date and Time	2013/09/11 08:39:36	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC35.WAD	Site Name	GC35
Start Date and Time	2013/09/11 08:39:36	Operator(s)	DR

Quality Control

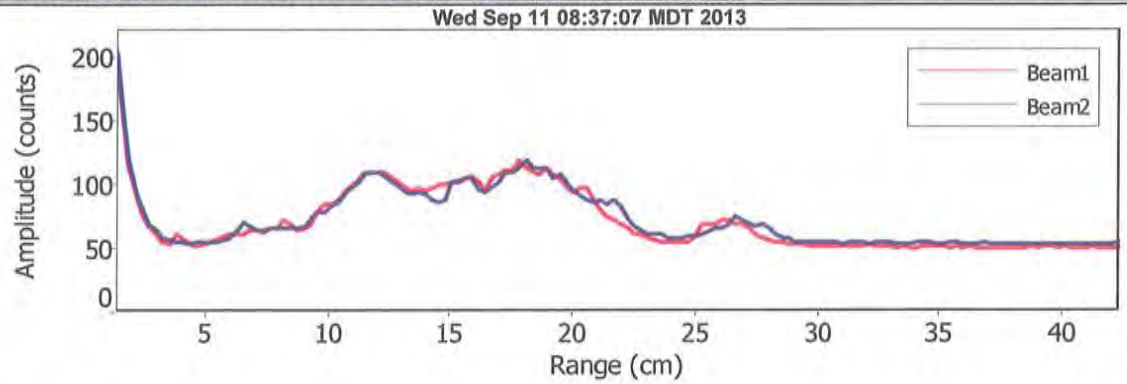
St	Loc	%Dep	Message
1	2.05	0.6	SNR (56.7) is different from typical SNR (28.2)
		0.6	High SNR variation during measurement: 6.9,5.2
		0.6	Boundary QC is Good; possible boundary interference
2	2.40	0.6	SNR (47.3) is different from typical SNR (28.2)
		0.6	Boundary QC is Good; possible boundary interference
3	2.75	0.6	SNR (38.5) is different from typical SNR (28.2)
		0.6	Boundary QC is Good; possible boundary interference
4	3.10	0.6	High SNR variation during measurement: 4.7,5.2
8	4.30	0.6	Boundary QC is Good; possible boundary interference
15	5.90	0.6	High angle: -37
16	6.25	0.6	High angle: -31
17	6.60	0.6	High angle: -35
18	6.95	0.6	SNR (55.0) is different from typical SNR (28.2)
		0.6	High SNR variation during measurement: 6.5,3.4
19	7.30	0.6	High SNR variation during measurement: 10.3,8.2
21	8.00	0.6	Boundary QC is Good; possible boundary interference
22	8.35	0.6	High angle: -30

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC35.WAD	Site Name	GC35
Start Date and Time	2013/09/11 08:39:36	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: Thu Oct 24 2013

File Information	
File Name	GC40.WAD
Start Date and Time	2013/09/11 10:05:22

Site Details	
Site Name	GC40
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	0.5%	8.7%
Velocity	3.8%	25.0%
Width	0.2%	0.2%
Method	2.6%	-
# Stations	1.1%	-
Overall	**4.9%**	**26.5%**

Summary

Averaging Int.	40	# Stations	46
Start Edge	REW	Total Width	4.396
Mean SNR	33.4 dB	Total Area	0.953
Mean Temp	47.14 °F	Mean Depth	0.217
Disch. Equation	Mid-Section	Mean Velocity	0.0786
		Total Discharge	**0.0749**

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information	
File Name	GC40.WAD
Start Date and Time	2013/09/11 10:05:22

Site Details	
Site Name	GC40
Operator(s)	DR

Measurement Results

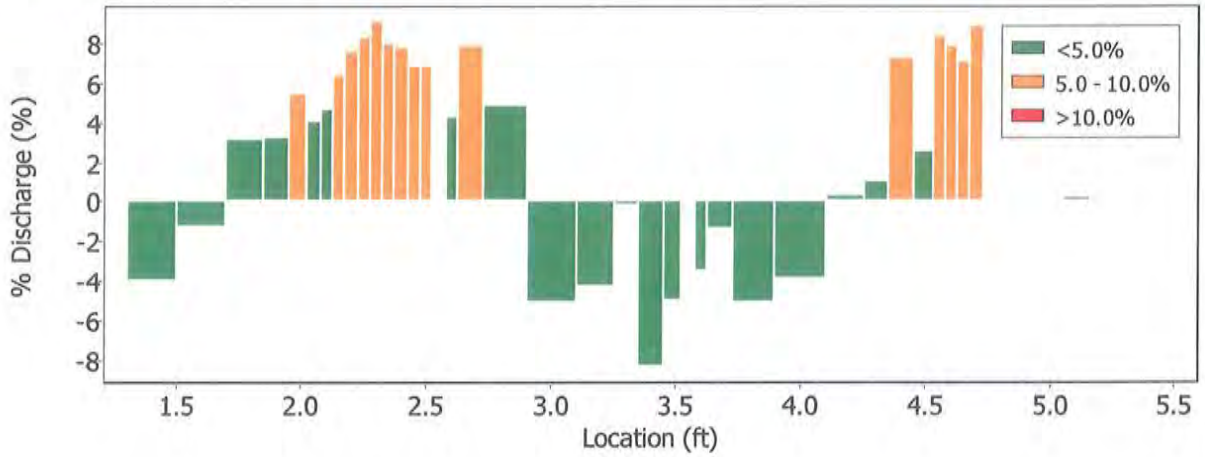
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	10:05	1.20	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	*10:05*	*1.40*	*0.6*	*0.100*	*0.6*	*0.040*	*-0.1503*	*1.00*	*-0.1503*	*0.020*	*-0.0030*	*-4.0*
2	*10:06*	*1.60*	*0.6*	*0.100*	*0.6*	*0.040*	*-0.0482*	*1.00*	*-0.0482*	*0.020*	*-0.0010*	*-1.3*
3	*10:07*	*1.80*	*0.6*	*0.150*	*0.6*	*0.060*	*0.1033*	*1.00*	*0.1033*	*0.023*	*0.0023*	*3.1*
4	*10:34*	*1.90*	*0.6*	*0.150*	*0.6*	*0.060*	*0.1621*	*1.00*	*0.1621*	*0.015*	*0.0024*	*3.2*
5	10:08	2.00	0.6	0.150	0.6	0.060	0.3645	1.00	0.3645	0.011	0.0041	5.5
6	*10:39*	*2.05*	*0.6*	*0.150*	*0.6*	*0.060*	*0.4006*	*1.00*	*0.4006*	*0.008*	*0.0030*	*4.0*
7	*10:35*	*2.10*	*0.6*	*0.150*	*0.6*	*0.060*	*0.4695*	*1.00*	*0.4695*	*0.008*	*0.0035*	*4.7*
8	*10:40*	*2.15*	*0.6*	*0.150*	*0.6*	*0.060*	*0.6404*	*1.00*	*0.6404*	*0.007*	*0.0048*	*6.4*
9	10:09	2.20	0.6	0.150	0.6	0.060	0.7592	1.00	0.7592	0.008	0.0057	7.6
10	*10:41*	*2.25*	*0.6*	*0.200*	*0.6*	*0.080*	*0.6158*	*1.00*	*0.6158*	*0.010*	*0.0062*	*8.3*
11	*10:36*	*2.30*	*0.6*	*0.200*	*0.6*	*0.080*	*0.6749*	*1.00*	*0.6749*	*0.010*	*0.0068*	*9.0*
12	*10:43*	*2.35*	*0.6*	*0.200*	*0.6*	*0.080*	*0.6024*	*1.00*	*0.6024*	*0.010*	*0.0060*	*8.0*
13	*10:10*	*2.40*	*0.6*	*0.200*	*0.6*	*0.080*	*0.5810*	*1.00*	*0.5810*	*0.010*	*0.0058*	*7.8*
14	10:44	2.45	0.6	0.250	0.6	0.100	0.4085	1.00	0.4085	0.013	0.0052	6.9
15	*10:38*	*2.50*	*0.6*	*0.300*	*0.6*	*0.120*	*0.3448*	*1.00*	*0.3448*	*0.015*	*0.0052*	*6.9*
16	10:57	2.55	0.6	0.000	0.6	0.080	0.2543	1.00	0.0000	0.000	0.0000	0.0
17	10:11	2.60	0.6	0.300	0.6	0.120	0.2106	1.00	0.2106	0.015	0.0032	4.2
18	10:58	2.65	0.6	0.300	0.6	0.120	0.1969	1.00	0.1969	0.030	0.0059	7.9
19	*10:13*	*2.80*	*0.6*	*0.400*	*0.6*	*0.160*	*0.0518*	*1.00*	*0.0518*	*0.070*	*0.0036*	*4.8*
20	*10:14*	*3.00*	*0.6*	*0.350*	*0.6*	*0.140*	*-0.0545*	*1.00*	*-0.0545*	*0.070*	*-0.0038*	*-5.1*
21	*10:15*	*3.20*	*0.6*	*0.400*	*0.6*	*0.160*	*-0.0525*	*1.00*	*-0.0525*	*0.060*	*-0.0032*	*-4.2*
22	*10:45*	*3.30*	*0.6*	*0.350*	*0.6*	*0.140*	*-0.0039*	*1.00*	*-0.0039*	*0.035*	*-0.0001*	*-0.2*
23	*10:16*	*3.40*	*0.6*	*0.350*	*0.6*	*0.140*	*-0.1775*	*1.00*	*-0.1775*	*0.035*	*-0.0062*	*-8.3*
24	*10:47*	*3.50*	*0.6*	*0.350*	*0.6*	*0.140*	*-0.1411*	*1.00*	*-0.1411*	*0.027*	*-0.0038*	*-5.0*
25	*11:02*	*3.55*	*0.6*	*0.300*	*0.6*	*0.120*	*-0.0013*	*1.00*	*-0.0013*	*0.015*	*0.0000*	*0.0*
26	*10:17*	*3.60*	*0.6*	*0.250*	*0.6*	*0.100*	*-0.2051*	*1.00*	*-0.2051*	*0.013*	*-0.0026*	*-3.4*
27	*11:03*	*3.65*	*0.6*	*0.250*	*0.6*	*0.100*	*-0.0410*	*1.00*	*-0.0410*	*0.025*	*-0.0010*	*-1.4*
28	*10:19*	*3.80*	*0.6*	*0.200*	*0.6*	*0.080*	*-0.1102*	*1.00*	*-0.1102*	*0.035*	*-0.0038*	*-5.1*
29	*10:20*	*4.00*	*0.6*	*0.200*	*0.6*	*0.080*	*-0.0715*	*1.00*	*-0.0715*	*0.040*	*-0.0029*	*-3.8*
30	*10:21*	*4.20*	*0.6*	*0.250*	*0.6*	*0.100*	*0.0069*	*1.00*	*0.0069*	*0.038*	*0.0003*	*0.3*
31	*10:55*	*4.30*	*0.6*	*0.250*	*0.6*	*0.100*	*0.0328*	*1.00*	*0.0328*	*0.025*	*0.0008*	*1.1*
32	*10:22*	*4.40*	*0.6*	*0.250*	*0.6*	*0.100*	*0.2185*	*1.00*	*0.2185*	*0.025*	*0.0055*	*7.3*
33	*10:48*	*4.50*	*0.6*	*0.200*	*0.6*	*0.080*	*0.1257*	*1.00*	*0.1257*	*0.015*	*0.0019*	*2.6*
34	*10:51*	*4.55*	*0.6*	*0.200*	*0.6*	*0.080*	*0.6280*	*1.00*	*0.6280*	*0.010*	*0.0063*	*8.4*
35	*10:59*	*4.60*	*0.6*	*0.200*	*0.6*	*0.080*	*0.5873*	*1.00*	*0.5873*	*0.010*	*0.0059*	*7.9*
36	*10:50*	*4.65*	*0.6*	*0.200*	*0.6*	*0.080*	*0.5266*	*1.00*	*0.5266*	*0.010*	*0.0053*	*7.0*
37	*10:24*	*4.70*	*0.6*	*0.200*	*0.6*	*0.080*	*0.6640*	*1.00*	*0.6640*	*0.010*	*0.0066*	*8.9*
38	*10:53*	*4.75*	*0.6*	*0.200*	*0.6*	*0.080*	*-0.0023*	*1.00*	*-0.0023*	*0.010*	*0.0000*	*0.0*
39	*10:26*	*4.80*	*0.6*	*0.200*	*0.6*	*0.080*	*-0.0010*	*1.00*	*-0.0010*	*0.015*	*0.0000*	*0.0*
40	*10:27*	*4.90*	*0.6*	*0.200*	*0.6*	*0.080*	*0.0007*	*1.00*	*0.0007*	*0.019*	*0.0000*	*0.0*
41	*10:28*	*5.00*	*0.6*	*0.200*	*0.6*	*0.080*	*-0.0013*	*1.00*	*-0.0013*	*0.020*	*0.0000*	*0.0*
42	10:29	5.10	0.6	0.200	0.6	0.080	0.0092	1.00	0.0092	0.021	0.0002	0.3
43	10:30	5.20	0.6	0.200	0.6	0.080	0.0010	1.00	0.0010	0.030	0.0000	0.0
44	*10:32*	*5.40*	*0.6*	*0.200*	*0.6*	*0.080*	*-0.0016*	*1.00*	*-0.0016*	*0.039*	*-0.0001*	*-0.1*
45	10:32	5.60	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

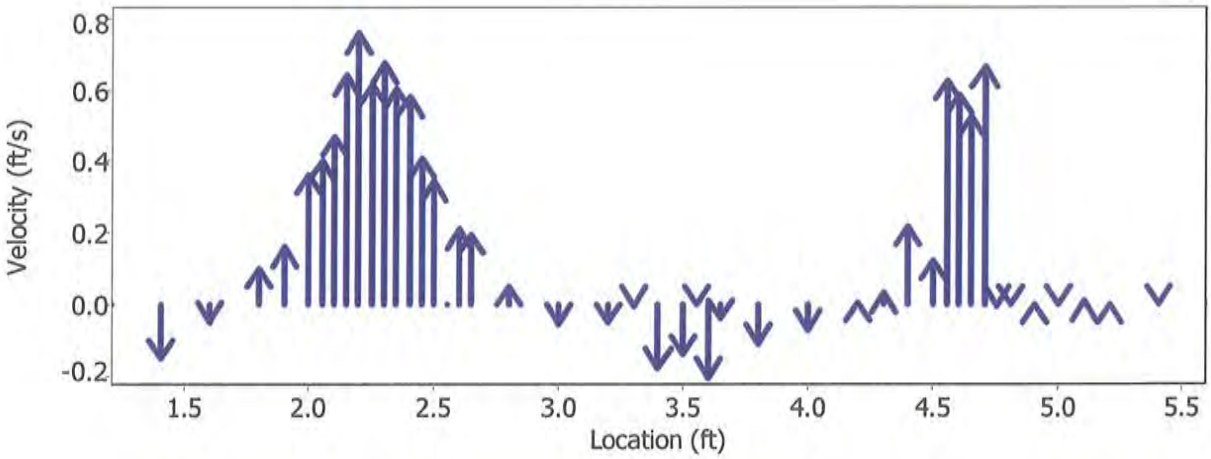
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

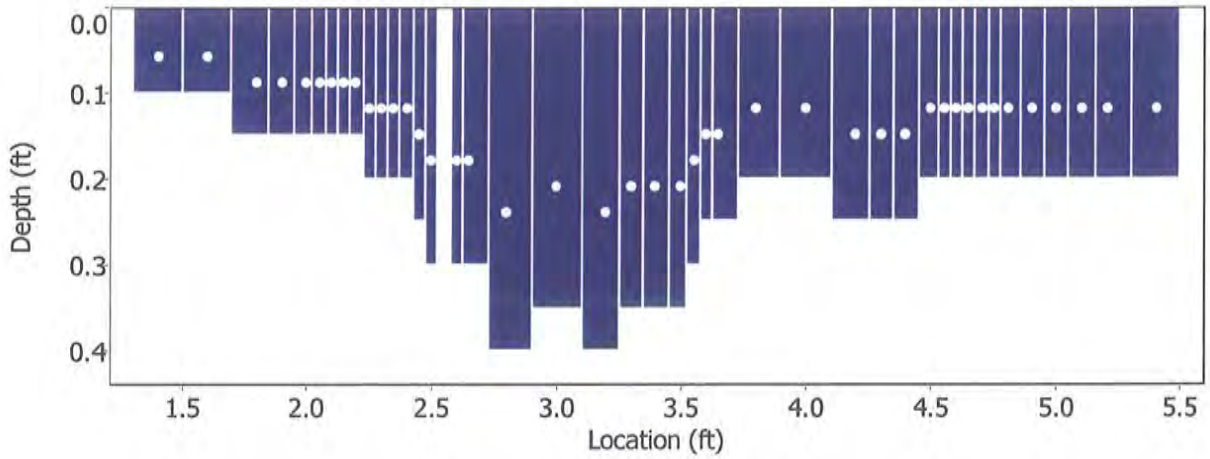
Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC40.WAD	Site Name	GC40
Start Date and Time	2013/09/11 10:05:22	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC40.WAD	Site Name	GC40
Start Date and Time	2013/09/11 10:05:22	Operator(s)	DR

Quality Control

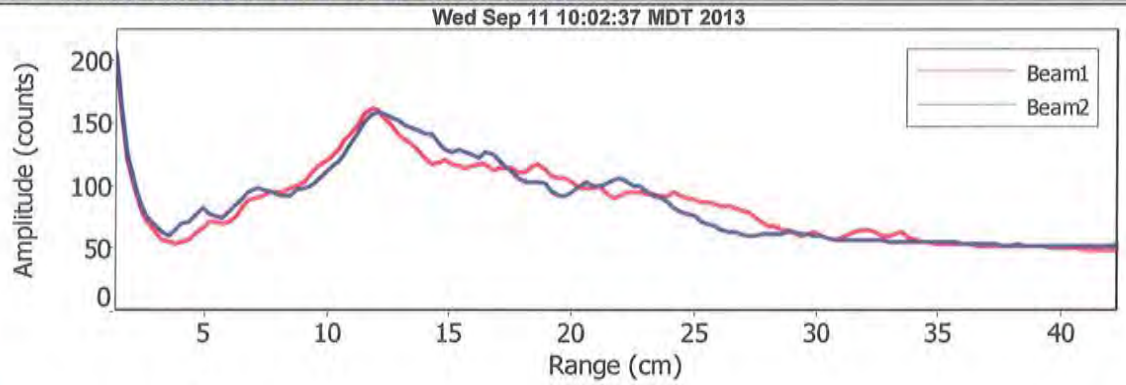
St	Loc	%Dep	Message
1	1.40	0.6	High angle: 151
2	1.60	0.6	High angle: 124
3	1.80	0.6	High angle: 35
4	1.90	0.6	High angle: 36
		0.6	SNR (22.6) is different from typical SNR (33.4)
6	2.05	0.6	High standard error: 0.041
7	2.10	0.6	High standard error: 0.043
8	2.15	0.6	High standard error: 0.052
10	2.25	0.6	High standard error: 0.039
11	2.30	0.6	High standard error: 0.037
12	2.35	0.6	High standard error: 0.031
13	2.40	0.6	High standard error: 0.031
15	2.50	0.6	High standard error: 0.033
19	2.80	0.6	High angle: 51
20	3.00	0.6	High angle: -169
21	3.20	0.6	High angle: 164
		0.6	High SNR variation during measurement: 5.2,4.7
22	3.30	0.6	SNR (59.1) is different from typical SNR (33.4)
		0.6	High SNR variation during measurement: 8.2,8.6
23	3.40	0.6	High angle: 164
24	3.50	0.6	High angle: 168
		0.6	Boundary QC is Fair; possible boundary interference
25	3.55	0.6	SNR (62.5) is different from typical SNR (33.4)
26	3.60	0.6	High angle: 162
27	3.65	0.6	High angle: 129
		0.6	Boundary QC is Fair; possible boundary interference
28	3.80	0.6	High angle: 132
29	4.00	0.6	High angle: 119
30	4.20	0.6	High SNR variation during measurement: 5.2,5.2
31	4.30	0.6	High angle: 35
		0.6	High SNR variation during measurement: 6.0,4.3
		0.6	Boundary QC is Fair; possible boundary interference
32	4.40	0.6	High standard error: 0.041
33	4.50	0.6	High standard error: 0.047
		0.6	Boundary QC is Fair; possible boundary interference
34	4.55	0.6	High standard error: 0.088
		0.6	Boundary QC is Fair; possible boundary interference
35	4.60	0.6	High standard error: 0.084
		0.6	Boundary QC is Fair; possible boundary interference
36	4.65	0.6	High standard error: 0.083
		0.6	Boundary QC is Fair; possible boundary interference
37	4.70	0.6	High standard error: 0.087
38	4.75	0.6	High number of spikes: 6
		0.6	SNR (59.1) is different from typical SNR (33.4)
		0.6	High SNR variation during measurement: 12.5,12.9
39	4.80	0.6	SNR (55.9) is different from typical SNR (33.4)
		0.6	High SNR variation during measurement: 12.9,7.7
		0.6	Boundary QC is Good; possible boundary interference
40	4.90	0.6	SNR (62.5) is different from typical SNR (33.4)
		0.6	High SNR variation during measurement: 6.5,6.0
41	5.00	0.6	SNR (55.7) is different from typical SNR (33.4)
		0.6	High SNR variation during measurement: 8.6,8.2
44	5.40	0.6	Boundary QC is Good; possible boundary interference

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GC40.WAD	Site Name	GC40
Start Date and Time	2013/09/11 10:05:22	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: Thu Oct 24 2013

File Information

File Name	GRC0.WAD
Start Date and Time	2013/09/10 12:44:35

Site Details

Site Name	GRC0
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%	2.8%
Velocity	1.4%	6.9%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.3%	-
Overall	**3.5%**	**7.5%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	REW	Total Width	6.600
Mean SNR	25.9 dB	Total Area	1.625
Mean Temp	53.68 °F	Mean Depth	0.246
Disch. Equation	Mid-Section	Mean Velocity	0.2471
		Total Discharge	**0.4015**

Measurement Results

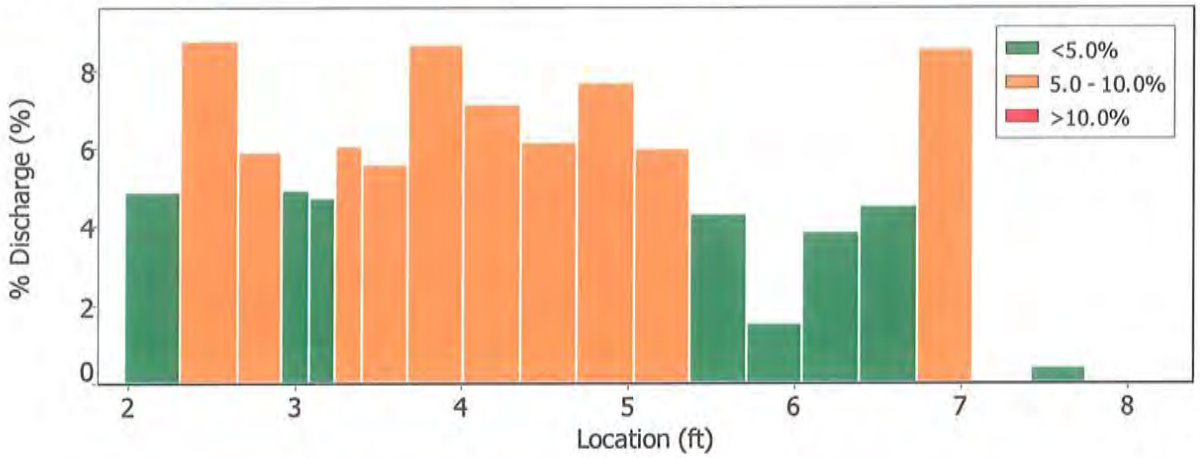
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	12:44	1.80	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	12:44	2.14	0.6	0.150	0.6	0.060	0.3845	1.00	0.3845	0.051	0.0196	4.9
2	*12:45*	*2.48*	*0.6*	*0.250*	*0.6*	*0.100*	*0.4150*	*1.00*	*0.4150*	*0.085*	*0.0353*	*8.8*
3	12:46	2.82	0.6	0.250	0.6	0.100	0.3668	1.00	0.3668	0.065	0.0238	5.9
4	*13:06*	*3.00*	*0.6*	*0.300*	*0.6*	*0.120*	*0.3901*	*1.00*	*0.3901*	*0.051*	*0.0199*	*5.0*
5	*12:47*	*3.16*	*0.6*	*0.300*	*0.6*	*0.120*	*0.4232*	*1.00*	*0.4232*	*0.045*	*0.0190*	*4.7*
6	*13:07*	*3.30*	*0.6*	*0.350*	*0.6*	*0.140*	*0.4081*	*1.00*	*0.4081*	*0.060*	*0.0243*	*6.1*
7	*12:48*	*3.50*	*0.6*	*0.300*	*0.6*	*0.120*	*0.2776*	*1.00*	*0.2776*	*0.081*	*0.0225*	*5.6*
8	*12:49*	*3.84*	*0.6*	*0.300*	*0.6*	*0.120*	*0.3406*	*1.00*	*0.3406*	*0.102*	*0.0347*	*8.7*
9	*12:50*	*4.18*	*0.6*	*0.250*	*0.6*	*0.100*	*0.3379*	*1.00*	*0.3379*	*0.085*	*0.0287*	*7.2*
10	*12:51*	*4.52*	*0.6*	*0.300*	*0.6*	*0.120*	*0.2434*	*1.00*	*0.2434*	*0.102*	*0.0248*	*6.2*
11	*12:52*	*4.86*	*0.6*	*0.300*	*0.6*	*0.120*	*0.3041*	*1.00*	*0.3041*	*0.102*	*0.0310*	*7.7*
12	*12:53*	*5.20*	*0.6*	*0.300*	*0.6*	*0.120*	*0.2372*	*1.00*	*0.2372*	*0.102*	*0.0242*	*6.0*
13	*12:54*	*5.54*	*0.6*	*0.300*	*0.6*	*0.120*	*0.1706*	*1.00*	*0.1706*	*0.102*	*0.0174*	*4.3*
14	*12:55*	*5.88*	*0.6*	*0.300*	*0.6*	*0.120*	*0.0604*	*1.00*	*0.0604*	*0.102*	*0.0062*	*1.5*
15	*12:56*	*6.22*	*0.6*	*0.200*	*0.6*	*0.080*	*0.2293*	*1.00*	*0.2293*	*0.068*	*0.0156*	*3.9*
16	12:58	6.56	0.6	0.250	0.6	0.100	0.2149	1.00	0.2149	0.085	0.0183	4.6
17	12:59	6.90	0.6	0.300	0.6	0.120	0.3373	1.00	0.3373	0.102	0.0344	8.6
18	*13:00*	*7.24*	*0.6*	*0.250*	*0.6*	*0.100*	*0.0007*	*1.00*	*0.0007*	*0.085*	*0.0001*	*0.0*
19	13:02	7.58	0.6	0.200	0.6	0.080	0.0243	1.00	0.0243	0.068	0.0017	0.4
20	*13:03*	*7.92*	*0.6*	*0.200*	*0.6*	*0.080*	*-0.0016*	*1.00*	*-0.0016*	*0.082*	*-0.0001*	*0.0*
21	13:03	8.40	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

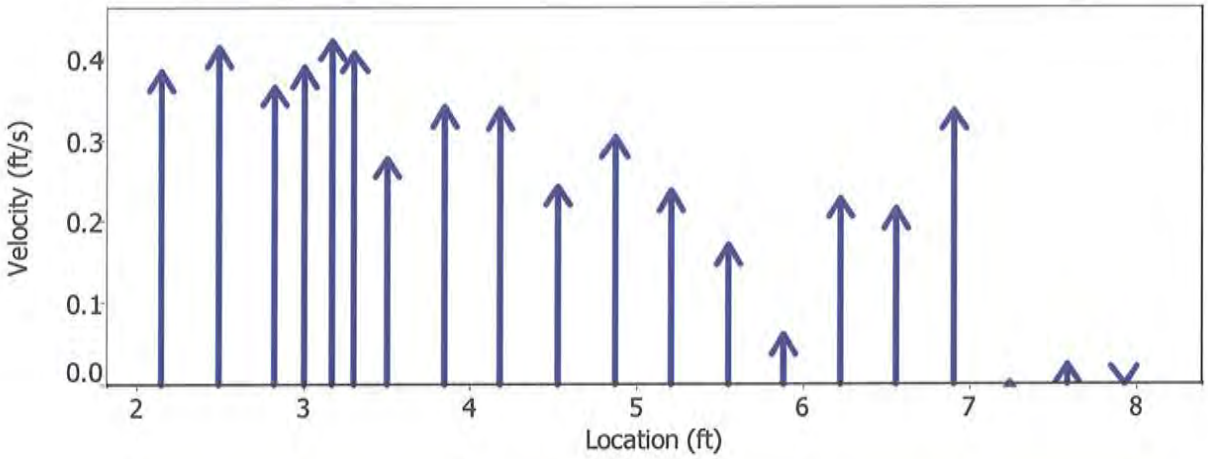
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

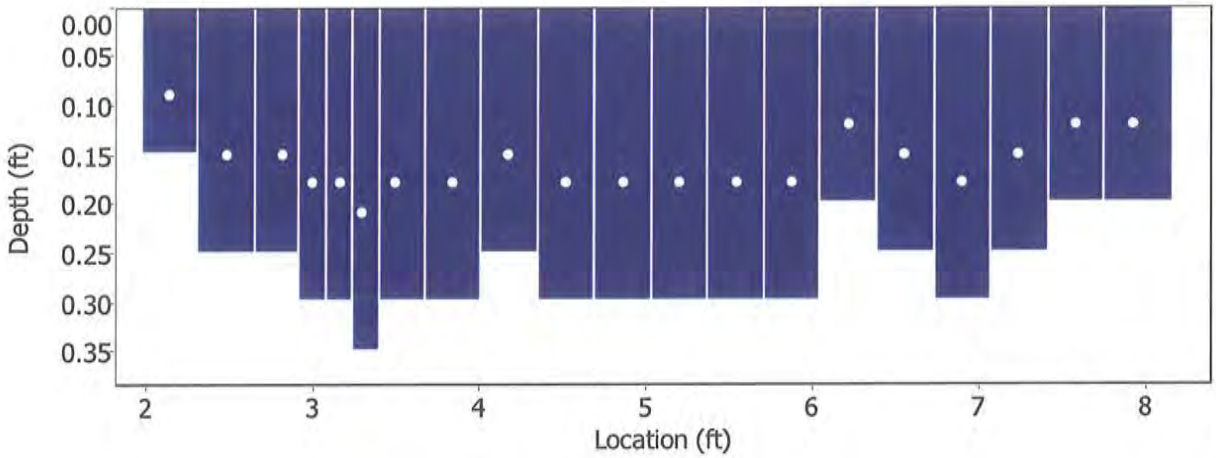
Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GRC0.WAD	Site Name	GRC0
Start Date and Time	2013/09/10 12:44:35	Operator(s)	DR







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GRC0.WAD	Site Name	GRC0
Start Date and Time	2013/09/10 12:44:35	Operator(s)	DR

Quality Control

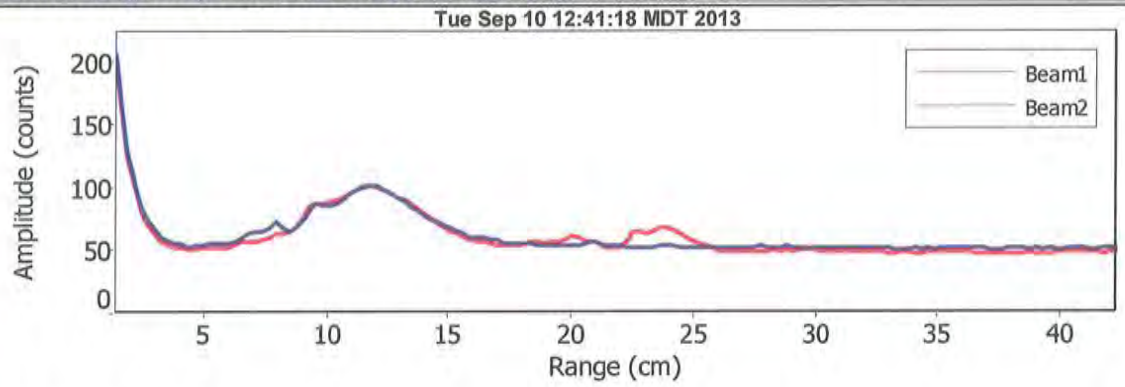
St	Loc	%Dep	Message
2	2.48	0.6	High angle: 20
4	3.00	0.6	High angle: 24
5	3.16	0.6	High angle: 22
6	3.30	0.6	High angle: 23
7	3.50	0.6	High angle: 38
		0.6	High SNR variation during measurement: 5.2,5.2
8	3.84	0.6	High angle: 31
		0.6	High SNR variation during measurement: 5.2,4.7
9	4.18	0.6	High angle: 29
		0.6	High SNR variation during measurement: 5.2,5.2
10	4.52	0.6	High angle: 42
11	4.86	0.6	High angle: 39
12	5.20	0.6	High angle: 46
		0.6	High SNR variation during measurement: 5.6,5.2
13	5.54	0.6	High angle: 48
		0.6	High SNR variation during measurement: 4.7,6.0
14	5.88	0.6	High angle: 50
		0.6	High SNR variation during measurement: 5.6,5.2
15	6.22	0.6	High SNR variation during measurement: 5.2,5.6
18	7.24	0.6	SNR (57.8) is different from typical SNR (25.9)
		0.6	High SNR variation during measurement: 5.6,6.9
20	7.92	0.6	SNR (57.8) is different from typical SNR (25.9)

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GRC0.WAD	Site Name	GRC0
Start Date and Time	2013/09/10 12:44:35	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: Thu Oct 24 2013

File Information

File Name	GRNC0.WAD
Start Date and Time	2013/09/11 09:22:20

Site Details

Site Name	GRNC0
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%	6.3%
Velocity	0.9%	3.7%
Width	0.1%	0.1%
Method	2.0%	-
# Stations	2.1%	-
Overall	**3.2%**	**7.4%**

Summary

Averaging Int.	40	# Stations	24
Start Edge	REW	Total Width	3.100
Mean SNR	36.6 dB	Total Area	0.535
Mean Temp	45.68 °F	Mean Depth	0.173
Disch. Equation	Mid-Section	Mean Velocity	0.3084
		Total Discharge	**0.1650**

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	09:22	0.90	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	09:22	1.05	0.6	0.150	0.6	0.060	0.3770	1.00	0.3770	0.022	0.0085	5.1
2	09:23	1.20	0.6	0.150	0.6	0.060	0.3576	1.00	0.3576	0.022	0.0080	4.9
3	09:24	1.35	0.6	0.150	0.6	0.060	0.3566	1.00	0.3566	0.022	0.0080	4.9
4	09:25	1.50	0.6	0.150	0.6	0.060	0.3314	1.00	0.3314	0.022	0.0074	4.5
5	09:26	1.65	0.6	0.200	0.6	0.080	0.2438	1.00	0.2438	0.030	0.0073	4.4
6	09:27	1.80	0.6	0.200	0.6	0.080	0.2815	1.00	0.2815	0.030	0.0084	5.1
7	09:27	1.95	0.6	0.200	0.6	0.080	0.4856	1.00	0.4856	0.030	0.0146	8.8
8	09:28	2.10	0.6	0.200	0.6	0.080	0.7182	1.00	0.7182	0.020	0.0144	8.7
9	09:45	2.15	0.6	0.000	0.6	0.080	0.6893	1.00	0.0000	0.000	0.0000	0.0
10	09:41	2.20	0.6	0.000	0.6	0.080	0.6837	1.00	0.0000	0.000	0.0000	0.0
11	09:29	2.25	0.6	0.200	0.6	0.080	0.6237	1.00	0.6237	0.015	0.0094	5.7
12	09:43	2.35	0.6	0.200	0.6	0.080	0.5604	1.00	0.5604	0.015	0.0084	5.1
13	09:30	2.40	0.6	0.250	0.6	0.100	0.5079	1.00	0.5079	0.025	0.0126	7.7
14	09:31	2.55	0.6	0.200	0.6	0.080	0.4308	1.00	0.4308	0.030	0.0129	7.8
15	09:32	2.70	0.6	0.200	0.6	0.080	0.4157	1.00	0.4157	0.030	0.0125	7.6
16	09:33	2.85	0.6	0.200	0.6	0.080	0.5410	1.00	0.5410	0.030	0.0162	9.8
17	09:34	3.00	0.6	0.200	0.6	0.080	0.3169	1.00	0.3169	0.030	0.0095	5.8
18	09:35	3.15	0.6	0.200	0.6	0.080	0.2438	1.00	0.2438	0.030	0.0073	4.4
19	*09:36*	*3.30*	*0.6*	*0.200*	*0.6*	*0.080*	*0.0344*	*1.00*	*0.0344*	*0.030*	*0.0010*	*0.6*
20	*09:37*	*3.45*	*0.6*	*0.200*	*0.6*	*0.080*	*-0.0230*	*1.00*	*-0.0230*	*0.030*	*-0.0007*	*-0.4*
21	*09:38*	*3.60*	*0.6*	*0.200*	*0.6*	*0.080*	*-0.0272*	*1.00*	*-0.0272*	*0.030*	*-0.0008*	*-0.5*
22	*09:40*	*3.75*	*0.6*	*0.200*	*0.6*	*0.080*	*-0.0020*	*1.00*	*-0.0020*	*0.040*	*-0.0001*	*0.0*
23	09:40	4.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

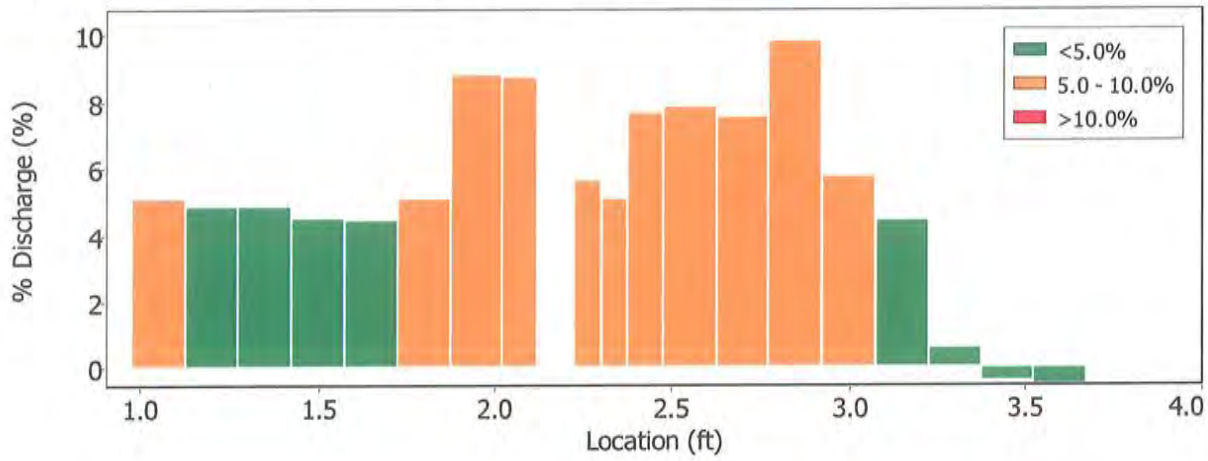
Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

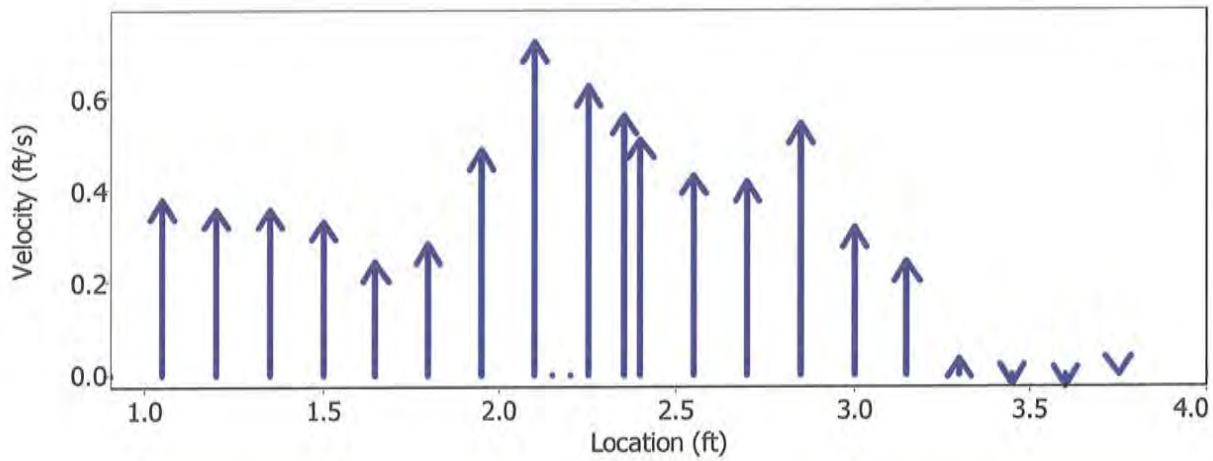
Discharge Measurement Summary

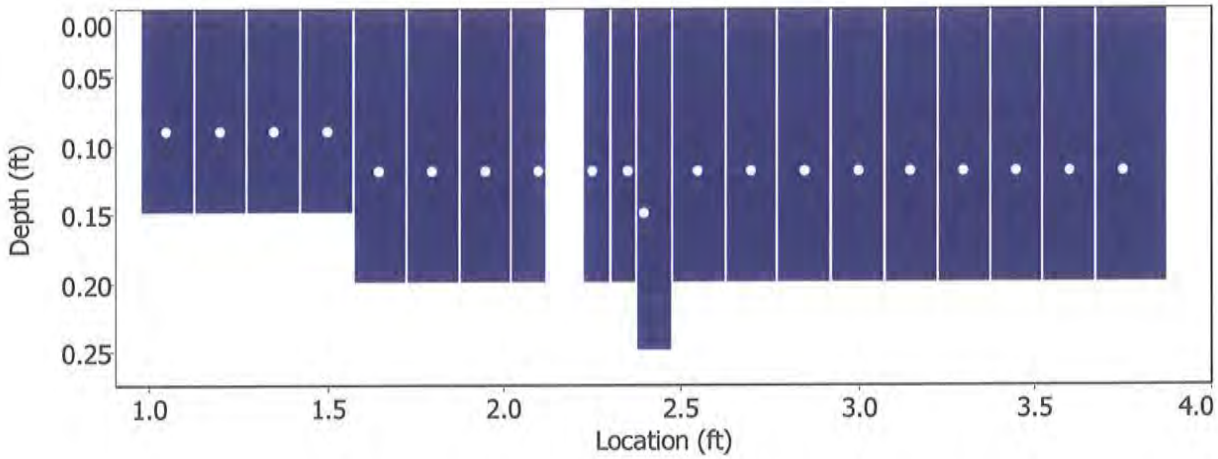
Date Generated: Thu Oct 24 2013

File Information	
File Name	GRNC0.WAD
Start Date and Time	2013/09/11 09:22:20

Site Details	
Site Name	GRNC0
Operator(s)	DR







Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GRNC0.WAD	Site Name	GRNC0
Start Date and Time	2013/09/11 09:22:20	Operator(s)	DR

Quality Control

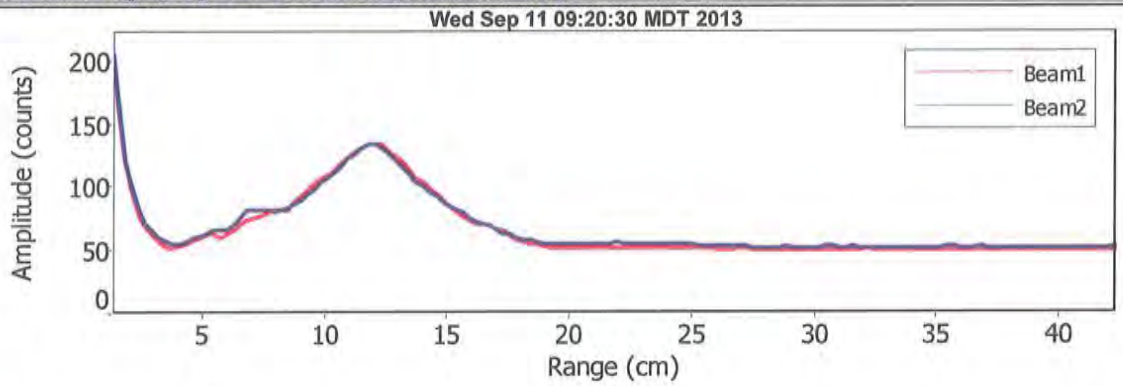
St	Loc	%Dep	Message
19	3.30	0.6	High angle: -37
20	3.45	0.6	High angle: -125
21	3.60	0.6	High angle: -150
		0.6	SNR (57.2) is different from typical SNR (36.6)
		0.6	High SNR variation during measurement: 12.0,11.2
22	3.75	0.6	SNR (67.3) is different from typical SNR (36.6)

Discharge Measurement Summary

Date Generated: Thu Oct 24 2013

File Information		Site Details	
File Name	GRNC0.WAD	Site Name	GRNC0
Start Date and Time	2013/09/11 09:22:20	Operator(s)	DR

Automatic Quality Control Test (BeamCheck)



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

Attachment C
Photo Log

Attachment C
Barker-Hughesville Photo Log
June 2013

GC-05 (upstream)

GC-05 (downstream)

GRC-0 (upstream)

GRC-0 (downstream)

GC-10 (upstream)

GC-10 (downstream)

GC-15 (upstream)

GC-15 (downstream)

GC-20 (upstream)

GC-20 (downstream)

GC-25 (upstream)

GC-25 (downstream)

GC-30 (upstream)

GC-30 (downstream)

SLVC-0 (upstream)

SLVC-0 (downstream)

GC-35 (upstream)

GC-35 (downstream)

GC-40 (upstream)

GC-40 (downstream)

GRNC-0 (upstream)

GRNC-0 (downstream)

DFBC-1

DFBC - 5

DFBC-15

DFBC-20

DFBC -35

DFBC -30

DFBC-40

GC-0

DFBC-36

RCP-01

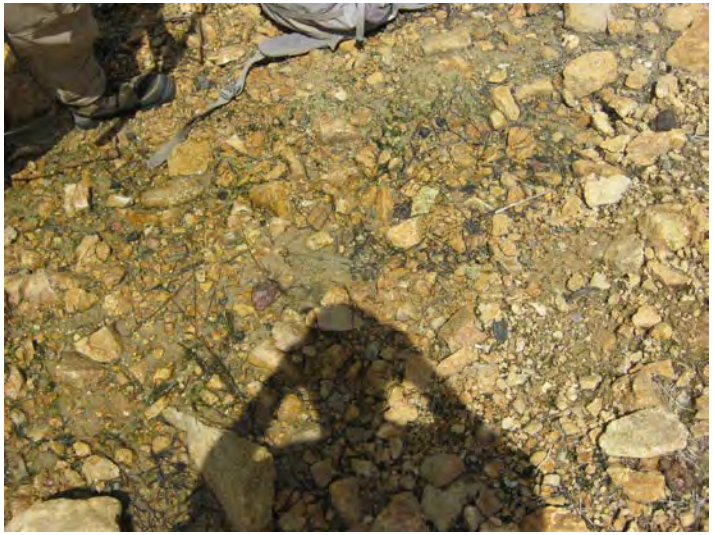
DFBC-37

Mill-Pond 1

Mill-Flow 2

Mill-Seep 008

Mill-Seep 008



Mill-Seep 007

Mill-Seep 007

Mill-Seep 006

Mill-Seep 006

Mill-Seep 001

Flow from Block P Mine designated GC-31

GC-31

GC-32

GC-33

GC-34

GC-40

Biochemical Reactor Pilot Test at the Danny T Adit

Biochemical Reactor

Biochemical Reactor

Photo of culver cutting into road below the Doctor Kallator on the road going up to the Phoenix Claim.

Liberty Mine from above the Block P Mine

Flow coming off of toe of Moulton Mine

Looking at Pioneer Mine from above

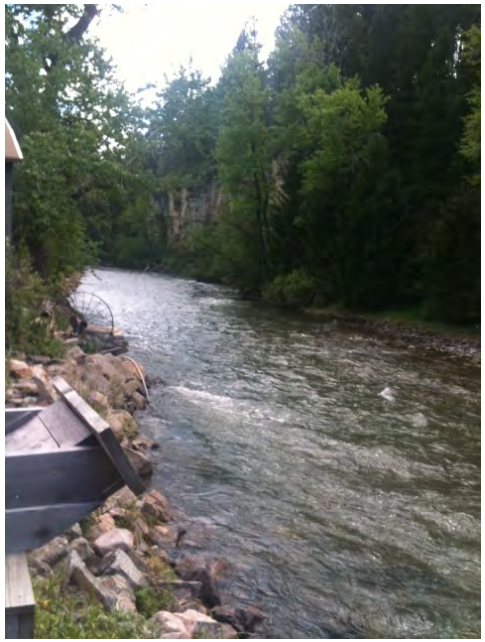
Lower adit where tracer dye has been detected

Looking up at Pioneer

BC-0B downstream

BC-0B upstream

BC-0 downstream



BC-0 upstream

GC-34A

GC-34A

GC-34A

GC-34A

Attachment C
Barker-Hughesville Photo Log
Sept 2013

BC-0B

BC-0

BC-1

DFBC-10

DFBC-15

DFBC-20

DFBC-22

DFBC-25

DFBC-30A

DFBC-40

RCP-0

Mill-Seep-001

Mill-Seep-003

Mill-Seep-006

Mill-Seep-007

Mill-Seep-008

Mill-Seep-004

Mill-Seep-005

GC-0

GRC-0

GC-10

GC-15

GC-20

Attachment D
Scanned Field Instrument Calibration Logbook Pages

6/18/13

Calibrated unit prior to final day of sampling for the Becker Hughesville June 2013 sampling event

	Initial	Final
DO	81.3	78.3

Baro pressure 612.9 mmHg

Cond calibrated to 999 µs/cm

Initial 991 µs/cm Final 999 µs/cm

pH 4.0 Initial 4.03
Final

pH 7.0 Initial 7.01
Final 7.02

Cal Constants

Cond: 4.92766
DO Gain: 0.92928
pressure offset -12.276

pH offset -81.718
gain -4.9564

Nahart, MT 6/17/13
Carpenter/Barker

Parameter	Stimulus	response
pH 4.0	4.0	4.0
	response: 145.131mV	
pH 7.0	7.0	7.0
	response: -30.2386mV	
	slope: -58.9564mV/pH	
	offset: 378.956mV	
condO	999uS/cm	999uS/cm
	response: 329.213 ohms	
	temp: 21.6577°C	
	K-cell: 0.308	
DO	satpoint: 7.22 mg/L	
	21.65°C	
	837.65 mbar	
	slope: 1.00(mg/L)/(mg/L)	
	offset: 0.00 mg/L	

Post check

pH 4.0	reading: 4.02
pH 7.0	reading: 7.07
Condo 998uS	reading: 1003uS/cm

3/13

Nahor's, NT 9/4/13

Carpenter / Barker

Parameter	Standard	Response
pH 4.0	4.0	4.0
	response: 1307.7mV	
pH 7.0	7.0	7.0
	response: -45.898mV	
	Slope: -58.89mV/pH	
	offset: 366.324mV	
condo	999uS/cm	999uS/cm
	response: 350.182ohm	
	temp: 18.7564°C	
	K-cell: 0.304	
DO	Sat point: 7.62mg/L	
	19.19°C	
	935.47 mbar	
	Slope: 0.99(mg/L)/(mg/L)	
	offset: 0.00mg/L	

post cal	readings
pH 7.0	7.13
pH 4.0	4.12
condo	1010 uS/cm

sponse
4.0
7.0
mV
pH
999.uS/cm
lohms
L
mbar
)/(mg/L)

1/4/13 YSI unit #2

	Initial	Final	
pH 1	~~7.0~~ 7.04	7.00	-5.013 mV
pH 2	3.99	4.00	154.2 mV
Condo	1012 uS/cm	995 uS/cm	

Cell constant: 4.95727

- Clean anodes replaced membrane and solution

DO calibrated at 83.4% gain: 0.97733

9/11/13

Neihart, MT	initial	Final
pH - 7.0	7.02	7.0
pH offset: -115.93 mV		
gain: -5.08		
pH - 4.0	4.04	4.0
Conductivity	1050	999
constant: 4.807		
D.O. (saturated air)	83.6%	82.3%
D.O. gain: 0.962		

Post cal: pH 7.0 - 7.09
pH 4.0 - 4.06
conductivity - 1013

9/10/13 Vachart, MT

pH calibration -

		initial	Final
pH	7.0	7.17	7.0
gain - -5.63	offset - -142.11		
pH	4.0	4.26	4.0
Conductivity	996 us/cm	1002	995
constant - 4.88			
D.O.		76.5% sat	81.8%

D.O. gain - 1.21

9/10/13 - 11:15

See log book

Barker 11:00 am DFBC-25

DO readings seem high - recalibrate

	I	F
DO.	82.6%	83.4

DO gain = 1.16

Barometric Pressure 629.5 mm Hg

post event calibration:

pH 7.0 - 6.98 su

pH 4.0 - 3.96 su

conductivity - 1004 us/cm