

| | | | | | | | |
|---|-------------------|--|--------------------|-----------------------------------|--|-------------------------------|--|
| 9-275-I | 10/24/08 | U.S. DEPARTMENT OF THE INTERIOR | | | | Meas. No. | |
| Station Number | | U.S. Geological Survey | | | | Processed by | |
| | | ADCP Discharge Measurement Notes | | | | Checked by | |
| Station Name | | inflow/outflow | | | | | |
| Date | 06-03 | , 20 | 11 | Party | BR/2M | | |
| Width | Area / Rated Area | Velocity | Index Vel. | Gage Height | Discharge | | |
| 456 | 15,232 | 0.845 | — | — | 12,876 | | |
| Gage Height Change | | Meas. plots | From rating | Shift | ADCP Sync'd to WT | | |
| in hrs. | | % diff | No.: | | Y at _____ or N | | |
| ADCP Mfr / Model / Frequency | | | Serial No. | Firmware | Software | | |
| R5 M9 | | | 2010 | 1.50 | 2.50 | | |
| Boat/Motors Used | | | GPS Used | ADCP Depth | Diag. Test / Errors? | | |
| | | | no | 0.3 | <input checked="" type="checkbox"/> Y or <input checked="" type="checkbox"/> N | | |
| Compass Calib. & Total Error | | Mag. Var | MagVar Method | | Moving Bed? | | |
| (Y or N) | | M209 | -1.4 | | On-site Model Previous | | Y or <input checked="" type="checkbox"/> N |
| Meas. Water Temp | | ADCP Water Temp | Weather / Air Temp | | Wind Speed / Dir. | | |
| 78 °F / C at | | 77 °F / C at | | | °F / C | | |
| Gage Readings | | | | Site Conditions | | | |
| Time | | | | Inside | Outside | Max Water Depth | |
| | | | | | | Max Water Speed | |
| 1158 | | | | | | Max Boat Speed | |
| | | | | | | Water Mode | |
| | | | | | | Bottom Mode | |
| 1207 | | | | | | Streambed material | |
| | | | | | | Salinity | |
| | | | | | | ppt at | |
| Weighted MGH | | | | | | Checkbar found | |
| GH corrections | | | | | | Checkbar changed to: | |
| Correct MGH | | | | | | at | |
| Wading, cable, ice, boat, upstr., downstr., side bridge | | | | ft., mi. upstr., downstr. of gage | | | |
| Measurement rated: | | excellent (2%), good (5%), fair (8%), poor (>8%) | | | | based on following conditions | |
| Flow | | | | | | | |
| Cross section: | | | | | | | |
| Control: | | | | | | | |
| Gage operating: | Y or N | Record removed: | Y or N | Filename: | | | |
| Battery voltage | V | Intakes/Orifice cleaned/purged: | | | | | |
| Bubble-gage psi: | Tank | | Line | | Bubble rate | / min | |
| Extreme-GH indicators: | | Max | | Min | | CSG Checked | Y or N |
| HWM on stick | | | Ref.elev. | | HWM elevation | | |
| GH of zero flow = GH | | | - depth at control | | = | ft. | Rated= |
| | | | | Sheet No. | | of | sheets |

Discharge Measurement Summary

Date Measured: Friday, June 03, 2011

| Site Information | | Measurement Information | |
|------------------|------------------|-------------------------|---------|
| Site Name | inflow/outflow 1 | Party | bcr/zwm |
| Station Number | | Boat/Motor | |
| Location | | Meas. Number | |

| System Information | | System Setup | | Units | |
|--------------------|-------|----------------------------|------|-------------|------|
| System Type | RS-M9 | Transducer Depth (ft) | 0.30 | Distance | ft |
| Serial Number | 2010 | Salinity (ppt) | 0.0 | Velocity | ft/s |
| Firmware Version | 1.50 | Magnetic Declination (deg) | -1.4 | Area | ft2 |
| Software Version | 2.50 | | | Discharge | cfs |
| | | | | Temperature | degF |

| Discharge Calculation Settings | | | | Discharge Results | |
|--------------------------------|---------------|-----------------|-------------|-------------------|------------|
| Track Reference | Bottom-Track | Left Method | Sloped Bank | Width (ft) | 456.28 |
| Depth Reference | Vertical Beam | Right Method | Sloped Bank | Area (ft2) | 15,231.7 |
| Coordinate System | ENU | Top Fit Type | Power Fit | Mean Speed (ft/s) | 0.845 |
| | | Bottom Fit Type | Power Fit | Total Q (cfs) | 12,875.762 |

| Measurement Results | | | | | | | | | | | | | | | | | | |
|---------------------|---|-------------|----------|-------|----------|--------|--------|----------|----------|-------|-----------|-------|--------|----------|----------|------------|---------|----------|
| Tr | | Time | | | Distance | | | | Mean Vel | | Discharge | | | | | | | % |
| # | | Time | Duration | Temp. | Track | DMG | Width | Area | Boat | Water | Left | Right | Top | Middle | Bottom | Total | LCTotal | Measured |
| 2 | L | 11:58:06 AM | 0:02:11 | 77.9 | 458.51 | 442.28 | 455.40 | 14,927.8 | 3.500 | 0.861 | -2.71 | 1.53 | 744.56 | 9,734.35 | 2,377.84 | 12,855.567 | -- | 75.7 |
| 3 | R | 12:00:35 PM | 0:02:08 | 76.9 | 455.78 | 445.43 | 458.55 | 15,361.6 | 3.561 | 0.851 | -1.29 | 1.40 | 792.80 | 9,979.20 | 2,296.75 | 13,068.854 | -- | 76.4 |
| 4 | L | 12:02:59 PM | 0:02:28 | 77.0 | 456.59 | 443.72 | 456.84 | 15,381.8 | 3.085 | 0.807 | 1.65 | 2.00 | 728.91 | 9,445.92 | 2,229.69 | 12,408.171 | -- | 76.1 |
| 5 | R | 12:05:44 PM | 0:02:04 | 76.2 | 452.42 | 441.23 | 454.35 | 15,255.5 | 3.649 | 0.863 | -5.52 | 1.25 | 822.52 | 9,966.75 | 2,385.46 | 13,170.456 | -- | 75.7 |
| | | | Mean | 77.0 | 455.82 | 443.16 | 456.28 | 15,231.7 | 3.449 | 0.845 | -1.97 | 1.54 | 772.20 | 9,781.56 | 2,322.43 | 12,875.762 | 0.000 | 76.0 |
| | | | Std Dev | 0.6 | 2.20 | 1.58 | 1.58 | 181.9 | 0.216 | 0.023 | 2.58 | 0.28 | 37.40 | 216.93 | 63.84 | 292.907 | 0.000 | 0.3 |
| | | | COV | 0.0 | 0.005 | 0.004 | 0.003 | 0.012 | 0.063 | 0.027 | 1.312 | 0.180 | 0.048 | 0.022 | 0.027 | 0.023 | 0.000 | 0.004 |

Exposure Time: 0:08:51

Tr2=20110603115805.riv; Tr3=20110603120034.riv; Tr4=20110603120258.riv; Tr5=20110603120544.riv;

| Comments | | | | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Tr2=20110603115805.riv - ; Tr3=20110603120034.riv - ; Tr4=20110603120258.riv - ; Tr5=20110603120544.riv - ; | | | | | | | | | | | | | | | | |

| Loop Method | | | | | |
|--|-----------|---------------------|----------------------|----------------|------------------------------|
| DMG | Loop Time | Moving Bed Velocity | Moving Bed Direction | Flow Direction | Estimated Percent Correction |
| 46.81 | 202 | 0.23 | 64.16 | 86.40 | 25.84 |
| File Name: Loop_20110603115430.riv | | | | | |
| Percent Bad Bottom Track: 3.0. | | | | | |
| Difference in flow direction between out and back sections: 11.1 deg. | | | | | |
| WARNING: Difference in flow direction between out and back sections of loop exceeds 5 degrees. This may indicate an inaccurate compass and the loop may not be accurate. Please review data. | | | | | |
| Loop Closure Error not in Upstream Direction -- No Correction Recommended. | | | | | |

| Compass Calibration | | | | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| File Name: CompassCal20110603115235.txt | | | | | | | | | | | | | | | | |
| Results: PASS | | | | | | | | | | | | | | | | |
| Score is excellent. | | | | | | | | | | | | | | | | |
| Magnetic interference is very low. | | | | | | | | | | | | | | | | |
| Calibration score: M2.00Q9 | | | | | | | | | | | | | | | | |

| System Test | | | | | | | | | | | | | | | | |
|-------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Not Loaded | | | | | | | | | | | | | | | | |