

LAT 36-56-59
Lon 89-07-31
Flowway
Qm's

| | | | | | |
|---|-----------------------------------|---|---------------------------------|------------------------|-------------------------|
| 9-275-1 | 10/24/08 | U.S. DEPARTMENT OF THE INTERIOR U.S. Geological Survey | | Meas. No. 24 | |
| Station Number | | ADCP Discharge Measurement Notes | | Processed by SC | |
| 3659089073101 | | | | Checked by SC | |
| Station Name BIRDS POINT INFLOW | | | | | |
| Date | 5-25-2011 | Party | ESS/JL | Gage Height | Discharge |
| Width | 11700 | Area / Rated Area | .10 | Index Vel. | 1110 |
| Gage Height Change | | Meas. plots | | Shift | |
| in | hrs. | % diff | No. | | ADCP Sync'd to WT |
| | | | | | at 0 or N |
| ADCP Mfr / Model / Frequency | Serial No. | Firmware | Software | | |
| SONTEK / M9 / 3MHz | 1155 | 1.50 | 2.50 | | |
| Boat/Motors Used | GPS Used | ADCP Depth | Diag. Test / Errors? | | |
| MO WSC BLAZER | SONTEK M9 | .25 | Y or N | | |
| Compass Calib. & Total Error | Mag. Var | MagVar Method | Moving Bed? | | |
| 0 or N | M269 | -1.6 | Y or N | | |
| Meas. Water Temp | ADCP Water Temp | Weather / Air Temp | Wind Speed / Dir. | | |
| 22.6 °F / 0 at | 22.1 °F / 0 at | QVC HOT | 15-30 S | | |
| Gage Readings | | | | | |
| Time | Inside | Outside | Max Water Depth | | |
| 0955 (S) | | | Max Water Speed | | |
| 1011 (F) | | | Max Boat Speed | | |
| | | | Water Mode | | |
| | | | Bottom Mode | | |
| | | | 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 | STRONG WINDS BLOWING WATER | | | | |
| Cross section: | UPSTREAM | | | | |
| 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: Wednesday, May 25, 2011

| Site Information | | Measurement Information | |
|------------------|--------------------|-------------------------|---------------|
| Site Name | Birds Point Inflow | Party | ESS/TL |
| Station Number | | Boat/Motor | MO WSC Blazer |
| Location | Nr Cairo | Meas. Number | |

| System Information | | System Setup | | Units | |
|--------------------|-------|----------------------------|------|-------------|------|
| System Type | RS-M9 | Transducer Depth (ft) | 0.25 | Distance | ft |
| Serial Number | 1155 | Salinity (ppt) | 0.0 | Velocity | ft/s |
| Firmware Version | 1.50 | Magnetic Declination (deg) | -1.6 | 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) | 3,267.99 |
| Depth Reference | Vertical Beam | Right Method | Sloped Bank | Area (ft2) | 11,742.3 |
| Coordinate System | ENU | Top Fit Type | Power Fit | Mean Speed (ft/s) | 0.096 |
| | | Bottom Fit Type | Power Fit | Total Q (cfs) | 1,107.447 |

| 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 | |
| 1 | L | 9:55:21 AM | 0:16:24 | 73.3 | 3,279.03 | 3,243.24 | 3,270.24 | 10,371.8 | 3.332 | 0.107 | 2.72 | 0.34 | 192.83 | 655.69 | 256.05 | 1,107.633 | -- | 59.2 |
| 2 | R | 10:13:06 AM | 0:17:32 | 70.3 | 3,281.82 | 3,238.74 | 3,265.74 | 13,112.8 | 3.120 | 0.084 | -3.88 | 0.27 | 144.72 | 742.98 | 223.17 | 1,107.261 | -- | 67.1 |
| | | | Mean | 71.8 | 3,280.42 | 3,240.99 | 3,267.99 | 11,742.3 | 3.226 | 0.096 | -0.58 | 0.31 | 168.78 | 699.33 | 239.61 | 1,107.447 | 0.000 | 63.1 |
| | | | Std Dev | 1.5 | 1.40 | 2.25 | 2.25 | 1,370.5 | 0.106 | 0.011 | 3.30 | 0.04 | 24.06 | 43.65 | 16.44 | 0.186 | 0.000 | 4.0 |
| | | | COV | 0.0 | 0.000 | 0.001 | 0.001 | 0.117 | 0.033 | 0.117 | 5.674 | 0.122 | 0.143 | 0.062 | 0.069 | 0.000 | 0.000 | 0.063 |

Exposure Time: 0:33:56

Tr1=20110525095521r.rivr; Tr2=20110525101306r.rivr;

Comments

Tr1=20110525095521r.rivr - ; Tr2=20110525101306r.rivr - ;

Loop Method

| DMG | Loop Time | Moving Bed Velocity | Moving Bed Direction | Flow Direction | Estimated Percent Correction |
|-------|-----------|---------------------|----------------------|----------------|------------------------------|
| 34.14 | 207 | 0.16 | 285.92 | 257.13 | 104.36 |

File Name: Loop_20110525103303r.rivr

Percent Bad Bottom Track: 0.0.

Difference in flow direction between out and back sections: 7.7 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: CompassCal20110525095005.txt

Results: PASS

Score is excellent.

Magnetic interference is very low.

Calibration score: M2.00Q9

System Test

File Name: SystemTest20110525095305.txt

System Test: PASS

Parameters and settings marked with a * are not constant for all files.

Report generated using SonTek RiverSurveyor Live v2.50

2 users per safety