

Site Visit Date: 2011-04-28

U.S. DEPARTMENT OF THE INTERIOR
U.S. Geological Survey
WATER RESOURCES DIVISION
DISCHARGE MEASUREMENT AND
GAGE INSPECTION NOTES

Meas #: ^{4 2920} ~~AUTSEQ~~

SWAMI ver. 4.10.0R5

Processed by HOE

Stylesheet ver. 4.10.0R4

Checked by _____

Site Visit Summary

Site Number: 07022000 Site Name: Mississippi River at Thebes, IL
 Start Time: 15:34:00 End Time: 18:00:08
 Party: HOE Battery: _____
 Weather: partly cloudy, cool, no precip, moderate wind
 Comment: id @ screw flagged orange = 3.02 +/- .20 in poplar w/ staff @ 16:09
 Other Actions:

Discharge Measurement

Meas #: AUTSEQ Meas Flow: 777000 cfs
 Meas Start Time: 16:55:17 Meas End Time: 17:40:11
 Stage: 44.33 ft. use Stage Change: ft.
 Change Duration: hrs. 44 to 50 ft Qm Rated: Fair (8%)
 Base Flow: Unknown
 Comment: _____
 Meas. plots: 3.20 % Diff. from rating no. 17.0 Indicated shift: _____ Bw adjusted

Channel 1 Summary

Meas Flow: 777000 cfs (-) Qm Type: Manned moving boat Qm Method: ADCP
 Vel Method: ADCP Horiz Flow: Uneven Vel Desc: Steady
 Vert Vel Desc: Unknown Ch Evenness: Uneven Ch Stability: Firm
 Ch Material: Sand Sect Loc.: Upstream - 2600 ft. to gage

ADCP Discharge Measurement

Mtr S/N: generic - 600 kHz ADCP Frequency: 600 kHz Water Mode: 1
 Bottom Mode: BT5 Total Area: 121000 Total Width: 3400
 Mean Vel: 6.40 Max Depth: 63.652 Max Vel: 13.996

Gage Readings

| TIME | Non-Subm Pres Tran (07022000) |
|----------|----------------------------------|
| 17:00:00 | 44.07 |
| 18:00:00 | 43.81 |

Key: Primary Reference; Primary Recorder

Sensor Inspections**Non-Subm Pres Tran (07022000)**

Gas Type: Nitrogen Orif Serviced: Not serviced Service Time: _____
 Tank Chngd: false Tank PSI: (Before) (Alter)
 Line PSI: (Before) (After) Bub Rt: (Before) (Alter)
 Comment: _____

Streamflow Control Inspection

| Type | Dist to Gage (ft) | Cleaned? | Time Cleaned | Condition |
|---------|-------------------|-----------|--------------|--------------|
| Channel | <u>.00</u> | <u>NO</u> | | <u>Clear</u> |

Comment: some floating debris**Environmental Measurements**

| Time | Parameter | Method | Measure |
|----------|--------------------------|-------------------|-----------|
| 17:10:00 | <u>Water Temperature</u> | <u>Thermister</u> | <u>13</u> |

| | | |
|----------------------------|----------------------|--------------------------|
| Party: HOE/MJK | Width: 3,400 ft | Processed by: HOE |
| Boat/Motor: Workskiff/60's | Area: 121,000 ft² | Mean Velocity: 6.40 ft/s |
| Gage Height: 44.33 ft | G.H.Change: 0.000 ft | Discharge: 777,000 ft³/s |

| | | | |
|------------------------------|----------------------------|-------------------------|------------------|
| Area Method: Avg. Course | ADCP Depth: 1.350 ft | Index Vel.: 0.00 ft/s | Rating No.: 17.0 |
| Nav. Method: DGPS | Shore Ens.:10 | Adj.Mean Vel: 0.00 ft/s | Qm Rating: F |
| MagVar Method: Model (-1.4°) | Bottom Est: Power (0.1667) | Rated Area: 0.000 ft² | Diff.: -13.5% |
| Depth Sounder: Not Used | Top Est: Constant | Control1: 4-Clear | |
| | | Control2: Unspecified | |
| | | Control3: Unspecified | |

| | | | |
|------------------------------|----------------------|----------------------------------|-----------------|
| Screening Thresholds: | | ADCP: | |
| BT 3-Beam Solution: YES | Max. Vel.: 14.0 ft/s | Type/Freq.: Rio Grande / 600 kHz | |
| WT 3-Beam Solution: NO | Max. Depth: 63.7 ft | Serial #: 551 | Firmware: 10.16 |
| BT Error Vel.: 0.33 ft/s | Mean Depth: 35.7 ft | Bin Size: 50 cm | Blank: 25 cm |
| WT Error Vel.: 3.50 ft/s | % Meas.: 82.28 | BT Mode: 5 | BT Pings: 2 |
| BT Up Vel.: 1.00 ft/s | Water Temp.: 12.8 °C | WT Mode: 1 | WT Pings: 1 |
| WT Up Vel.: 12.00 ft/s | ADCP Temp.: 14.3 °C | WV : 272 | |
| Use Weighted Mean Depth: YES | | | |

Performed Diag. Test: YES
 Performed Moving Bed Test: YES
 Performed Compass Test: YES
 Meas. Location: 1/4-1/2 mi upstr

Project Name: theb04282011.mmt
 Software: 2.08

| Tr.# | | Edge Distance | | #Ens. | Discharge | | | | | | Width | Area | Time | | Mean Vel. | | % Bad | |
|-------------|---|---------------|------|-------|-----------|--------|--------|------|-------|--------|-------|--------|--------------|-------|-----------|-------|-------|------|
| | | L | R | | Top | Middle | Bottom | Left | Right | Total | | | Start | End | Boat | Water | Ens. | Bins |
| 001 | L | 510 | 360 | 907 | 56068 | 649003 | 84013 | 1728 | 545 | 791357 | 3448 | 128163 | 16:55 | 17:05 | 4.50 | 6.17 | 2 | 0 |
| 002 | R | 393 | 321 | 1044 | 55895 | 614138 | 75058 | 317 | 507 | 745914 | 3357 | 116151 | 17:15 | 17:27 | 4.16 | 6.42 | 2 | 0 |
| 003 | L | 375 | 390 | 1048 | 56056 | 657279 | 79585 | -273 | 69.7 | 792717 | 3403 | 124256 | 17:28 | 17:39 | 4.36 | 6.38 | 0 | 0 |
| 004 | R | 390 | 390 | 1064 | 57614 | 637212 | 83301 | -345 | 746 | 778528 | 3399 | 117308 | 17:40 | 17:52 | 4.44 | 6.64 | 0 | 0 |
| Mean | | 417 | 365 | 1015 | 56408 | 639408 | 80489 | 357 | 467 | 777129 | 3402 | 121470 | Total | 00:56 | 4.36 | 6.40 | 1 | 0 |
| SDev | | 62 | 33 | 73 | 808 | 18751 | 4108 | 961 | 285 | 21769 | 37.3 | 5720.3 | | | 0.15 | 0.19 | | |
| SD/M | | 0.15 | 0.09 | 0.07 | 0.01 | 0.03 | 0.05 | 2.69 | 0.61 | 0.03 | 0.01 | 0.05 | | | 0.03 | 0.03 | | |

Remarks: Flood/Backwater meas