

9-275-I  
REV (10-01)

U.S. DEPARTMENT OF THE INTERIOR

Geological Survey

Water Resources Division

Acoustic Profiler Discharge Measurement Notes

Meas. No. 3

Processed by PA

Ck'd by TR

Sta. No. 36563908906600  
Sta. Name MISSISSIPPI RV BELOW BREACH

Date 5/5 20 11 Party RA/CR

Width 72.70 Area 309,000 Vel. 5.40 G.H. \_\_\_\_\_ Disch. 1,700,000

Profiler Water Temp. 15.3 °C at \_\_\_\_\_ Rated area: \_\_\_\_\_ Index Velocity \_\_\_\_\_

Profiler S/N: 1127 Mfr: RO1 Freq. 600 Firmware: 10.10 Software Ver. 2.04

Depth Cell Size	<u>50 cm</u>	Other commands	Profiler Depth <u>2.40</u>
No. of Cells	<u>94</u>		Config. file _____
Blanking Distance	<u>25 m</u>		Deployment <u>MANU</u>
Water Mode	<u>1</u>		Moving Bed <u>002</u>
Ambiguity Vel.	<u>335</u>		Moving Bed Present: <u>(Y) N</u>
Water pings	<u>1</u>		Diag. Test _____
Bottom pings	<u>1</u>		Diag. Test Errors: <u>(Y) N</u>

Boat/Motor Used QUADRAKAT ADCP Time to WT 1 @ \_\_\_\_\_ GPS: \_\_\_\_\_

Mag. Var. 1) \_\_\_\_\_ 2) \_\_\_\_\_ 3) \_\_\_\_\_ 4) MODEL Avg. -1.9 Comp. Cal.: \_\_\_\_\_

GAGE READINGS					
Time				Inside	Outside
(S) 9:54					
(P) 10:23					
Weighted MGH					
GH correction					
Correct MGH					

Samples collected: water quality, sediment, biological, other: \_\_\_\_\_

Measurements documented on other sheets: water quality, aux/base gage, other: \_\_\_\_\_

Rain gage serviced/calibrated \_\_\_\_\_

Weather \_\_\_\_\_

Wind Spd \_\_\_\_\_ Dir. \_\_\_\_\_

Air Temp. \_\_\_\_\_ °C at \_\_\_\_\_

Water Temp. 15.3 °C at \_\_\_\_\_

Specific Cond. \_\_\_\_\_

Checkbar/chain found \_\_\_\_\_

Changed to \_\_\_\_\_ at \_\_\_\_\_

Correct \_\_\_\_\_

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: UNEVEN TURBULENT

Cross section: EVEN SAND CHANNEL BRUSH TREES OVER BANK

Control: CHANNEL

Gage operating: \_\_\_\_\_ Record removed: Y or N Filename: \_\_\_\_\_

Battery voltage: \_\_\_\_\_ Intakes/Orifice cleaned/purged: \_\_\_\_\_

Bubble-gage psi: Tank \_\_\_\_\_, Line \_\_\_\_\_; Bubble rate \_\_\_\_\_ /min.

Extreme-GH indicators: max \_\_\_\_\_, min \_\_\_\_\_

CSG checked: \_\_\_\_\_ HWM height on stick \_\_\_\_\_ Refe lev \_\_\_\_\_ HWM elev \_\_\_\_\_

Remarks: TWO TRAJECTS FOR TIME PURP.

GH of zero flow = GH \_\_\_\_\_ - depth at control \_\_\_\_\_ = \_\_\_\_\_ ft., rated \_\_\_\_\_

Sheet No. \_\_\_\_\_ of \_\_\_\_\_ sheets

Meas. No. \_\_\_\_\_

sch thur

Number:

Meas. No:

Name: Mississippi Rv below breach

Date: 05/05/2011

Type: RA/CR

Width: 7,270 ft

Processed by: RA

Boat/Motor: QWboat

Area: 303,000 ft<sup>2</sup>

Mean Velocity: 5.60 ft/s

Stage Height: 0.00 ft

G.H.Change: 0.000 ft

Discharge: 1,700,000 ft<sup>3</sup>/s

Area Method: Avg. Course

ADCP Depth: 2.400 ft

Index Vel.: 0.00 ft/s

Rating No.: 1

Nav. Method: DGPS

Shore Ens.: 10

Adj. Mean Vel: 0.00 ft/s

Qm Rating: U

MagVar Method: Model (-1.9°)

Bottom Est: Power (0.1667)

Rated Area: 0.000 ft<sup>2</sup>

Diff.: 0.000%

Depth Sounder: Not Used

Top Est: Power (0.1667)

Control1: Unspecified

Control2: Unspecified

Control3: Unspecified

## Screening Thresholds:

BT 3-Beam Solution: YES

WT 3-Beam Solution: NO

BT Error Vel.: 0.33 ft/s\*

WT Error Vel.: 3.50 ft/s

BT Up Vel.: 1.00 ft/s

WT Up Vel.: 13.00 ft/s

Use Weighted Mean Depth: YES

Max. Vel.: 23.0 ft/s

Max. Depth: 89.3 ft

Mean Depth: 41.7 ft

% Meas.: 83.71

Water Temp.: None ?

ADCP Temp.: 15.3 °C

## ADCP:

Type/Freq.: Rio Grande/600 kHz

Serial #: 1127

Firmware: 10.16

Bin Size: 50 cm

Blank: 25 cm

BT Mode: 5

BT Pings: 1

WT Mode: 1

WT Pings: 1

WV : 335

Performed Diag. Test: YES

Performed Moving Bed Test: NO

Performed Compass Test: YES

Meas. Location: directly below upper breach

Project Name: Mississippi below breach, thur

Software: 2.04

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
000 R	720	99	1567	114025	1432118	150762	18934	-1511	1714329	7283	302582	09:54	10:10	7.03	5.67	0	1
001 L	720	120	1215	105950	1410677	144623	23252	-2809	1681694	7251	303620	10:10	10:23	9.04	5.54	1	2
Mean	720	109	1391	109988	1421398	147693	21093	-2160	1698011	7267	303101	Total	00:28	8.03	5.60	1	1
SDev	0	15	249	5710	15161	4341	3054	918	23077	22.7	734.2			1.42	0.09		
SD/M	0.00	0.14	0.18	0.05	0.01	0.03	0.14	0.43	0.01	0.00	0.00			0.18	0.02		

## Remarks:

2+ sets -  
Large

\* - value not consistent for all transects

LC Version 3.20, July 8, 2010

Processed on: 23-Jun-2011

Loop File: Mississippi below breech thur\_\_002\_11-05-05\_ASC.TXT

Distance Made Good (ft)	Loop Time (sec)	Moving Bed Velocity (ft/s)	Moving Bed Direction (degrees)	Flow Direction (degrees)	Estimated Percent Correction (percent)
1006.02	1806.55	0.56	3.81	227.46	30.75

Percent Bad Bottom Track: 30.9

WARNING: Percentage of bad bottom track values exceeds 5.  
Loop may not be accurate. Please review data.

Difference in flow direction between out and back sections: 8.1 deg

WARNING: Difference in flow direction between out and back sections of  
loop exceeds 5 degrees. This may indicated an inaccurate compass  
and the loop may not be accurate. Please review data.

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Loop Indicates a Moving Bed -- Select transects to be corrected

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