

9-275-I
REV (10-01)

Geological Survey
Water Resources Division
Acoustic Profiler Discharge Measurement Notes

Processed by BB

Sta. No. _____ Acoustic Profiler Discharge Measurement Notes Ck'd by _____

Sta. Name OHIO RIVER BELOW CAIRO

Date 5/14, 20 11 Party BB, CR

Width 4880 Area 206,000 Vel. 4.69 G.H. — Disch. 964,000

Profiler Water Temp. 19.5 °C at 1650 Rated area: _____ Index Velocity _____

Profiler S/N: 551 Mfg: RD1 Freq: 600 Firmware: 10.16 Software Ver: 2.07

Depth Cell Size	50	Other commands:	Profiler Depth 2.40
No. of Cells			Config. file
Blanking Distance	25		Deployment <i>MANHATTAN BOAT</i>
Water Mode	12		Moving Bed <i>NO TEST</i>
Ambiguity Vel.	254		Moving Bed Present: Y N
Water pings	1		Diag. Test <i>YES</i>
Bottom pings	1		Diag. Test Errors: Y N

Boat/Motor Used WOODRIDGE ADCP Time to WT ☐ @ _____ GPS: ☒

Mag. Var. 1) MODEL 2) _____ 3) _____ 4) _____ Avg: -1.6 Comp. Cal.: ✓

GAGE READINGS					
Time					Inside Outside
Weighed 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. _____ °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: MOSTLY EVEN SOME SWINGS, SURGES

Cross section: GRAVEL, MUD

Control: _____

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 _____ Ref elev _____ HWM elev _____

Remarks: _____

GH of zero flow = GH _____ - depth at control _____ = _____ ft. rated _____

Station Number:

Meas. No:

Station Name: Ohio River below Cairo

Date: 05/14/2011

Party: BB,CR

Width: 4,880 ft

Processed by: BB

Boat/Motor: wooldridge/honda 130

Area: 206,000 ft²

Mean Velocity: 4.69 ft/s

Gage Height: 0.00 ft

G.H.Change: 0.000 ft

Discharge: 964,000 ft³/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: F

MagVar Method: ~~None~~ (-1.6°) *MODEL*

Bottom Est: Power (0.1667)

Rated Area: 0.000 ft²

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.: 10.00 ft/s

Use Weighted Mean Depth: YES

Max. Vel.: 11.7 ft/s

Max. Depth: 92.8 ft

Mean Depth: 42.1 ft

% Meas.: 79.61

Water Temp.: None

ADCP Temp.: 19.5 °C

ADCP:

Type/Freq.: Rio Grande/600 kHz

Serial #: 551

Firmware: 10.16

Bin Size: 50 cm

Blank: 25 cm

BT Mode: 5

BT Pings: 1

WT Mode: 12

WT Pings: 1

WV : 254

WO : 1, 14

Performed Diag. Test: YES

Performed Moving Bed Test: NO

Performed Compass Test: YES

Meas. Location: below Cairo

Project Name: ohiomainabovecairo1.mr

Software: 2.07

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	L	284	778	882	74381	753311	78365	3271	18422	927749	4888	207524	16:49	16:58	7.71	4.47	0	1	
001	R	311	779	850	94982	781744	97252	2693	23841	1000512	4879	204085	16:58	17:06	8.06	4.90	2	6	
Mean		298	778	866	84681	767527	87808	2982	21132	964131	4883	205805	Total	00:16	7.89	4.69	1	3	
SDev		19	1	23	14567	20105	13355	409	3832	51451	6.0	2431.8				0.25	0.30		
SD/M		0.06	0.00	0.03	0.17	0.03	0.15	0.14	0.18	0.05	0.00	0.01				0.03	0.06		

Remarks:

* - value not consistent for all transects