

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

9-275-I  
REV (10-01)

Geological Survey  
Water Resources Division

Processed by BB

## Acoustic Profiler Discharge Measurement Notes

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

Sta. Name OHIO RIVER BELOW CAIRO

Date 5/17 20 11 Party BB, CR

Width 4670 Area 193,000 Vel. 4.18 G.H. — Disch. 807,000

Profiler Water Temp. 18.9 °C at 1545 Rated area: \_\_\_\_\_ Index Velocity \_\_\_\_\_

Profiler S/N: 551 Mfr: RDI Freq: 600 Firmware: 10.16 Software Ver: 2.07

Depth Cell Size	18	Other commands:	Profiler Depth 2.20
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No. of Cells	Config. file
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Blanking Distance	25	Deployment	MANLY 10A
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Water Mode	12	Moving Bed	000
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Ambiguity Vel. 170 Moving Bed Present: Y

Water pings	1	Diag. Test	YES
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Bottom pings	/
Diag Test Errors:	Y N

Boat/Motor Used WOLDRIDGE 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 PARTLY CLOUDY

Wind Spd. 10-20 Dir. VAR

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 SWIRLS & SURGES

Cross section: \_\_\_\_\_

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: INCLUDED BOTTOM TRACK REFERENCE + MB CORRECTION - NO  
CORRECTION RECOMMENDED

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

Station Number:

Meas. No:

Station Name: Ohio River below Cairo

Date: 05/17/2011

Party: BB,CR

Width: 4,670 ft

Processed by: BB

Boat/Motor: wooldridge

Area: 193,000 ft²

Mean Velocity: 4.18 ft/s

Gage Height: 0.00 ft

G.H.Change: 0.000 ft

Discharge: 807,000 ft³/s

Area Method: Avg. Course

ADCP Depth: 2.200 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°)

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

Max. Vel.: 13.7 ft/s

ADCP:

WT 3-Beam Solution: NO

Max. Depth: 90.3 ft

Type/Freq.: Rio Grande/600 kHz

BT Error Vel.: 0.33 ft/s

Mean Depth: 41.4 ft

Serial #:

Firmware: 10.16

WT Error Vel.: 32.81 ft/s

% Meas.: 83.99

Bin Size: 18 cm

Blank: 25 cm

BT Up Vel.: 32.81 ft/s

Water Temp.: None

BT Mode: 5

BT Pings: 1

WT Up Vel.: 32.81 ft/s

ADCP Temp.: 18.9 °C

WT Mode: 12

WT Pings: 1

Use Weighted Mean Depth: NO

WV : 170

WO : 1, 4

Performed Diag. Test: NO

Project Name: ohioabovecairo400011-0

Performed Moving Bed Test: NO

Software: 2.07

Performed Compass Test: NO

Meas. Location: below Cairo

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	269	547	325	54704	661836	58330	-837	20813	794846	4696	194515	15:44	15:52	8.19	4.09	0	2	
002	R	224	547	343	56528	693035	60009	-186	8938	818324	4635	191467	15:52	16:00	7.78	4.27	0	1	
Mean		246	547	334	55616	677435	59169	-511	14875	806585	4665	192991	Total	00:16	7.98	4.18	0	2	
SDev		32	0	13	1290	22061	1187	460	8397	16602	43.4	2154.9				0.29	0.13		
SD/M		0.13	0.00	0.04	0.02	0.03	0.02	0.90	0.56	0.02	0.01	0.01				0.04	0.03		

Remarks:

Party: BB,CR	Width: 4,640 ft	Processed by: BB
Boat/Motor: wooldridge	Area: 191,000 ft²	Mean Velocity: 4.18 ft/s
Gage Height: 0.00 ft	G.H.Change: 0.000 ft	Discharge: 800,000 ft³/s

Area Method: Avg. Course	ADCP Depth: 2.200 ft	Index Vel.: 0.00 ft/s	Rating No.: 1
Nav. Method: Bottom Track	Shore Ens.:10	Adj.Mean Vel: 0.00 ft/s	Qm Rating: F
MagVar Method: None (-1.6°)	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:	ADCP:
BT 3-Beam Solution: YES	Type/Freq.: Rio Grande/600 kHz
WT 3-Beam Solution: NO	Serial #:                      Firmware: 10.16
BT Error Vel.: 0.33 ft/s	Bin Size: 18 cm              Blank: 25 cm
WT Error Vel.: 32.81 ft/s	BT Mode: 5                  BT Pings: 1
BT Up Vel.: 32.81 ft/s	WT Mode: 12                WT Pings: 1
WT Up Vel.: 32.81 ft/s	WV : 170                    WO : 1, 4
Use Weighted Mean Depth: NO	

Performed Diag. Test: NO  
Performed Moving Bed Test: NO  
Performed Compass Test: NO  
Meas. Location: below Cairo

Project Name: ohioabovecairo400011-01  
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
001	L	269	547	325	54423	668586	58758	-727	22838	803878	4689	193901	15:44	15:52	8.17	4.15	2	2
002	R	224	547	343	54542	673207	58476	-47.4	9678	795855	4589	189082	15:52	16:00	7.75	4.21	1	1
Mean		246	547	334	54483	670896	58617	-387	16258	799866	4639	191492	Total	00:16	7.96	4.18	2	2
SDev		32	0	13	84.0	3268	200	481	9306	5673	71.3	3408.0			0.30	0.04		
SD/M		0.13	0.00	0.04	0.00	0.00	0.00	1.24	0.57	0.01	0.02	0.02			0.04	0.01		

Remarks:

LC Version 3.20, July 8, 2010

Processed on: 17-May-2011

Loop File: ohioabovcairo400011-05-17\_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)
88.93	995.23	0.09	256.21	129.87	2.62

Percent Bad Bottom Track: 1.8

Difference in flow direction between out and back sections: 1.2 deg

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Loop Closure Error not in Upstream Direction -- No Correction Recommended

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