Performed Moving Bed Test: NO
Performed Compass Test: YES
Software: 2.04

9-275-I
REV (10-01)

U.S. DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division
Acoustic Profiler Discharge Measurement Notes

Meas. No. 6
Processed by RA
Ck'd by JZ

Sta. No 370000089 122601
Sta. Name MISSISSIPPI RV ABOVE CAIRO
Date 5/4, 20 11 Party RA / CR
Width 9,400 Area 256,000 Vel. 3.26 G.H. _____ Disch. 833,000
Profiler Water Temp. 13.9 °C at _____ Rated area: _____ Index Velocity _____
Profiler S/N 1127 Mfgr: RDI Freq. 600 Firmware: 10.14 Software Ver. 2.04

Depth Cell Size	50 cm	Other commands:	
No. of Cells	72		
Blanking Distance	25 cm		
Water Mode	1		
Ambiguity Vel.	254		
Water pings	1		
Bottom pings	1		

Profiler Depth 2.40
Config. file _____
Deployment MANNED
Moving Bed _____
Moving Bed Present: Y N
Diag. Test _____
Diag. Test Errors: Y (N)

Boat/Motor Used QW WORKSKIFF ADCP Time to WT ☐ @ _____ GPS: ✓
Mag. Var. 1) _____ 2) _____ 3) _____ 4) MODEL Avg: -1.2 Comp. Cal.: _____

GAGE READINGS

Time					Inside	Outside
(S) 8:54						
(F) 10:12						
Weighed MGH						
GH correction						
Correct MGH						

Samples collected: water quality, sediment, biological, other: _____
Measurements documented on other sheets: water quality, air/base gage, other: _____
Rain gage serviced/calibrated _____
Weather _____
Wind Spd. _____ Dir. _____
Air Temp. _____ °C at _____
Water Temp. 13.9 °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: UNEVEN, SAND CHANNEL, TREES, BUSH LEW
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 _____ Ref elev _____ HWM elev _____
Remarks: NO M.B. TEST DUE TO TIME CONSTRAINTS

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

Sheet No. _____ of _____ sheets

.mmt

Station Number: Meas. No:

Station Name: Mississippi above Cairo Date: 05/04/2011

Party: RA/CR	Width: 9,400 ft	Processed by:
Boat/Motor: QW boat	Area: 256,000 ft²	Mean Velocity: 3.26 ft/s
Gage Height: 0.00 ft	G.H.Change: 0.000 ft	Discharge: 833,000 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: U
MagVar Method: Model (-1.2°)	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.: 14.8 ft/s	ADCP:
WT 3-Beam Solution: NO	Max. Depth: 70.3 ft	Type/Freq.: Rio Grande / 600 kHz
BT Error Vel.: 0.33 ft/s*	Mean Depth: 27.2 ft	Serial #: 1127 Firmware: 10.16
WT Error Vel.: 3.50 ft/s	% Meas.: 76.78	Bin Size: 50 cm Blank: 25 cm
BT Up Vel.: 1.00 ft/s	Water Temp.: None	BT Mode: 5 BT Pings: 1
WT Up Vel.: 10.00 ft/s	ADCP Temp.: 13.9 °C	WT Mode: 1 WT Pings: 1
Use Weighted Mean Depth: YES		WV : 254

Performed Diag. Test: YES

Performed Moving Bed Test: NO

Performed Compass Test: YES

Meas. Location:

Project Name: Mississipi above Cairo_.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
000	L	157	540	2235	98547	625209	78308	6098	-717	807444	9395	256114	08:54	09:13	7.43	3.15	0	0
001	R	160	548	2181	107170	643799	88994	6662	-1021	845604	9405	254657	09:14	09:33	7.60	3.32	0	1
002	L	160	570	2287	94958	637441	80520	4930	-882	816966	9396	258098	09:33	09:54	7.20	3.17	0	0
004	R	135	585	2055	115143	652622	90800	5303	-925	862943	9405	254462	09:54	10:12	8.06	3.39	0	1
Mean		153	561	2189	103954	639768	84655	5748	-886	833239	9400	255833	**Total**	01:18	7.57	3.26	0	1
SDev		12	21	100	9050	11531	6164	780	127	25595	5.3	1680.5			0.36	0.12		
SD/M		0.08	0.04	0.05	0.09	0.02	0.07	0.14	0.14	0.03	0.00	0.01			0.05	0.04		

Remarks:

* - value not consistent for all transects

Station Number: Meas. No:

Station Name: Mississippi above Cairo MAIN CHANNEL Date: 05/04/2011

Party: RA/CR	Width: 2,070 ft	Processed by:
Boat/Motor: QW boat	Area: 126,000 ft²	Mean Velocity: 5.13 ft/s
Gage Height: 0.00 ft	G.H.Change: 0.000 ft	Discharge: 645,000 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: U
MagVar Method: Model (-1.2°)	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.: 14.8 ft/s	ADCP:
WT 3-Beam Solution: NO	Max. Depth: 70.3 ft	Type/Freq.: Rio Grande / 600 kHz
BT Error Vel.: 0.33 ft/s	Mean Depth: 60.7 ft	Serial #: 1127 Firmware: 10.16
WT Error Vel.: 3.50 ft/s	% Meas.: 82.55	Bin Size: 50 cm Blank: 25 cm
BT Up Vel.: 1.00 ft/s	Water Temp.: None	BT Mode: 5 BT Pings: 1
WT Up Vel.: 10.00 ft/s	ADCP Temp.: 14.0 °C	WT Mode: 1 WT Pings: 1
Use Weighted Mean Depth: YES		WV : 254

Performed Diag. Test: YES

Performed Moving Bed Test: NO

Performed Compass Test: YES

Meas. Location:

Project Name: Mississipi above Cairo_.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	
000	L	157	0	666	49976	524580	52695	6098	0.000	633349	2078	125935	08:54	09:00	5.49	5.03	0	0	#
001	R	160	0	471	51277	531217	58021	6662	0.000	647178	2070	125496	09:29	09:33	7.69	5.16	0	0	#
002	L	160	0	687	52722	548735	56751	4930	0.000	663138	2085	125826	09:33	09:39	5.30	5.27	0	0	#
004	R	135	0	450	50610	523907	54870	5303	0.000	634690	2043	125004	10:08	10:12	8.07	5.08	0	0	#
Mean		153	0	568	51146	532110	55584	5748	0.000	644589	2069	125565	**Total**	01:18	6.64	5.13	0	0	
SDev		12	0	125	1178	11564	2320	780	0.000	13846	18.5	418.2			1.44	0.10			
SD/M		0.08	0.00	0.22	0.02	0.02	0.04	0.14	0.00	0.02	0.01	0.00			0.22	0.02			

Remarks: This mmt subsectioned by TAK on 2/14/12 to determine main channel vs overflow for the purpose of estimating overflow on other dates.

- transect has been subsectioned

Station Number: Meas. No:

Station Name: Mississippi above Cairo OVERFLOW Date: 05/04/2011

Party: RA/CR	Width: 7,330 ft	Processed by:
Boat/Motor: QW boat	Area: 130,000 ft²	Mean Velocity: 1.45 ft/s
Gage Height: 0.00 ft	G.H.Change: 0.000 ft	Discharge: 189,000 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: U
MagVar Method: Model (-1.2°)	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.: 12.5 ft/s	ADCP:
WT 3-Beam Solution: NO	Max. Depth: 46.2 ft	Type/Freq.: Rio Grande / 600 kHz
BT Error Vel.: 0.33 ft/s	Mean Depth: 17.8 ft	Serial #: 1127 Firmware: 10.16
WT Error Vel.: 3.50 ft/s	% Meas.: 57.07	Bin Size: 50 cm Blank: 25 cm
BT Up Vel.: 1.00 ft/s	Water Temp.: None	BT Mode: 5 BT Pings: 1
WT Up Vel.: 10.00 ft/s	ADCP Temp.: 13.9 °C	WT Mode: 1 WT Pings: 1
Use Weighted Mean Depth: YES		WV : 254

Performed Diag. Test: YES
Performed Moving Bed Test: NO
Performed Compass Test: YES
Meas. Location:

Project Name: Mississipi above Cairo_.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	
000	*L*	***0***	***540***	***1570***	***48571***	***100629***	***25613***	***0.000***	***-717***	***174096***	***7319***	***130290***	***09:00***	***09:13***	***8.26***	***1.34***	***0***	***1***	#
001	*R*	***0***	***548***	***1711***	***55893***	***112582***	***30973***	***0.000***	***-1021***	***198427***	***7338***	***129397***	***09:14***	***09:29***	***7.58***	***1.53***	***0***	***2***	#
002	*L*	***0***	***570***	***1601***	***42236***	***88705***	***23769***	***0.000***	***-882***	***153828***	***7313***	***132345***	***09:39***	***09:54***	***8.02***	***1.16***	***0***	***1***	#
004	*R*	***0***	***585***	***1606***	***64533***	***128715***	***35930***	***0.000***	***-925***	***228253***	***7364***	***129596***	***09:54***	***10:08***	***8.05***	***1.76***	***0***	***1***	#
Mean		0	561	1622	52808	107658	29071	0.000	-886	188651	7333	130407	**Total**	01:08	7.98	1.45	0	1	
SDev		0	21	61	9604	17091	5500	0.000	127	32085	22.9	1347.7			0.29	0.26			
SD/M		0.00	0.04	0.04	0.18	0.16	0.19	0.00	0.14	0.17	0.00	0.01			0.04	0.18			

Remarks: This mmt subsectioned by TAK on 2/14/12 to determine main channel vs overflow for the purpose of estimating overflow on other dates.

- transect has been subsectioned

Discharge for transects in *italics* have a total Q more than 5% from the mean