9-275-I	10/24/08	U.S. DEPARTMENT OF THE INTERIOR	Meas. No.	23
Station Number		*U.S. Geological Survey*	Processed by	SS
375908907310		**ADCP Discharge Measurement Notes**	Checked by	

Station Name	BIRDS POINT INFLOW NR CAIRO		
Date	5-24 , 20 11	Party	ESS / TL

Width	Area / Rated Area	Velocity	Index Vel.	Gage Height	Discharge
3340	13400	.26	—	—	3550

Gage Height Change	Meas. plots	From rating	Shift	ADCP Sync'd to WT
in hrs.	% diff	No.: —	—	Y at or N

ADCP Mfr / Model / Frequency	Serial No.	Firmware	Software
SONTEK / M9 / 3MH, / MH	1155	1.50	2.50

Boat/Motors Used	GPS Used	ADCP Depth	Diag. Test / Errors?
MO WSC BLAZER SONTEK M9		.25	Y or N

Compass Calib. & Total Error	Mag. Var	MagVar Method	Moving Bed?
Y or N MSQ9	-1.6	On-site Model Previous	Y or N

Meas. Water Temp	ADCP Water Temp	Weather / Air Temp	Wind Speed / Dir.
20.9 °F/C at	21.1 °F/C at	CLR WARM °F/C	0-5 SE

Gage Readings							Site Conditions	
Time					Inside	Outside	Max Water Depth	
							Max Water Speed	
1009	S						Max Boat Speed	
							Water Mode	
1041	F						Bottom Mode	
							Streambed material	
							Salinity	
							ppt at	
Weighted MGH							Checkbar found	
GH corrections							Checkbar changed to:	
Correct MGH							at	

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 - SLOW
Cross section:	UNEVEN
Control:	

Gage operating:	Y or N	Record removed:	Y or N	Filename:	
Battery voltage	V	Intakes/Orifice cleaned/purged:			
Bubble-gage psi:	Tank	Line	Bubble rate	/ min	
Extreme-GH indicators:	Max	Min	CSG Checked	Y or N	
HWM on stick	Ref elev.	HWM elevation			
GH of zero flow = GH	- depth at control	=	ft,	Rated=	

Sheet No.	of	sheets

Discharge Measurement Summary

Date Measured: Tuesday, May 24, 2011

Site Information		Measurement Information	
Site Name	Birds Point Inflow	Party	ESS/TL
Station Number		Boat/Motor	MO WSC Blazer
Location	Nr Cairo	Meas. Number	

System Information		System Setup		Units	
System Type	RS-M9	Transducer Depth (ft)	0.25	Distance	ft
Serial Number	1155	Salinity (ppt)	0.0	Velocity	ft/s
Firmware Version	1.50	Magnetic Declination (deg)	-1.6	Area	ft2
Software Version	2.50			Discharge	cfs
				Temperature	degF

Discharge Calculation Settings				Discharge Results	
Track Reference	Bottom-Track	Left Method	Sloped Bank	Width (ft)	3,257.65
Depth Reference	Vertical Beam	Right Method	Sloped Bank	Area (ft2)	13,267.6
Coordinate System	ENU	Top Fit Type	Power Fit	Mean Speed (ft/s)	0.258
		Bottom Fit Type	Power Fit	Total Q (cfs)	3,407.970

Measurement Results

Tr		Time			Distance				Mean Vel		Discharge							%
#		Time	Duration	Temp.	Track	DMG	Width	Area	Boat	Water	Left	Right	Top	Middle	Bottom	Total	L Total	Measured
1	L	10:09:53 AM	0:15:16	70.3	3,289.20	3,249.29	3,269.29	12,557.0	3.591	0.278	-0.48	0.54	461.74	2,145.95	877.27	3,485.010	--	61.6
2	R	10:27:24 AM	0:13:58	69.2	3,258.37	3,226.00	3,246.00	13,978.3	3.888	0.238	4.00	0.03	359.71	2,166.99	800.21	3,330.930	--	65.1
			Mean	69.8	3,273.79	3,237.65	3,257.65	13,267.6	3.740	0.258	1.76	0.28	410.72	2,156.47	838.74	3,407.970	0.000	63.3
			Std Dev	0.6	15.41	11.64	11.64	710.7	0.149	0.020	2.24	0.26	51.01	10.52	38.53	77.040	0.000	1.7
			COV	0.0	0.005	0.004	0.004	0.054	0.040	0.076	1.273	0.907	0.124	0.005	0.046	0.023	0.000	0.027

Exposure Time: 0:29:14

Tr1=20110524100953r.rivr; Tr2=20110524102723r.rivr;

Comments

Tr1=20110524100953r.rivr - ; Tr2=20110524102723r.rivr - ;

Loop Method

DMG	Loop Time	Moving Bed Velocity	Moving Bed Direction	Flow Direction	Estimated Percent Correction
121.30	227	0.53	269.17	291.52	120.45

File Name: Loop_20110524104354r.rivr

Percent Bad Bottom Track: 0.0.

Difference in flow direction between out and back sections: 37.9 deg.

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

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

Compass Calibration

File Name: CompassCal20110524091509.txt

Results: PASS
Score is excellent.
Magnetic interference is very low.

Calibration score: M5.00Q9

System Test

File Name: SystemTest20110524092046.txt

System Test: PASS

Parameters and settings marked with a * are not constant for all files.

Report generated using SonTek RiverSurveyor Live v2.50

UPPER BREACH ESTIMATED

D = 1.6 = 140 cfs

W = 86

V = 1.0