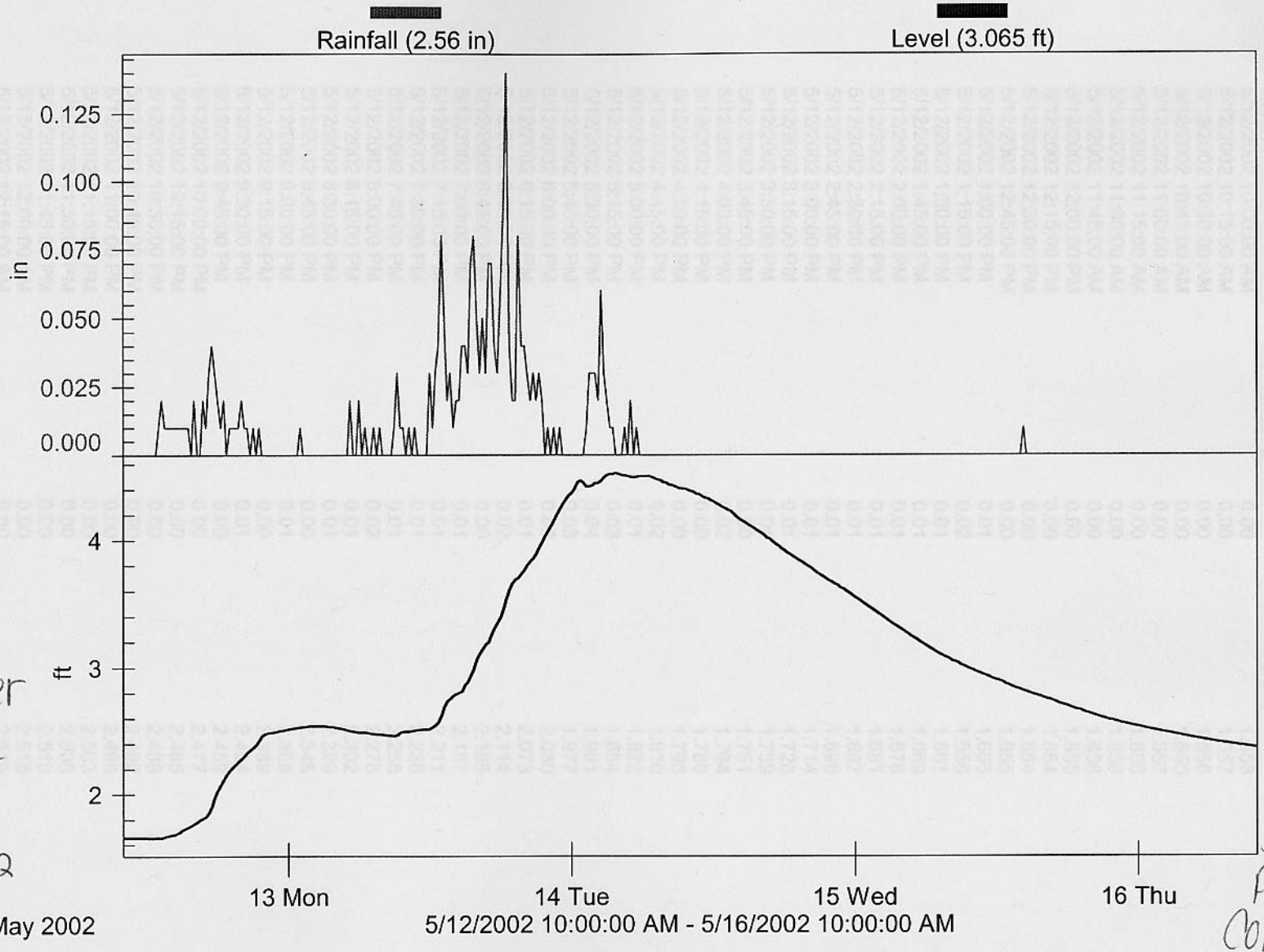
Sample Program: 200ml Sample every 80,000cf

IP-STAT-06

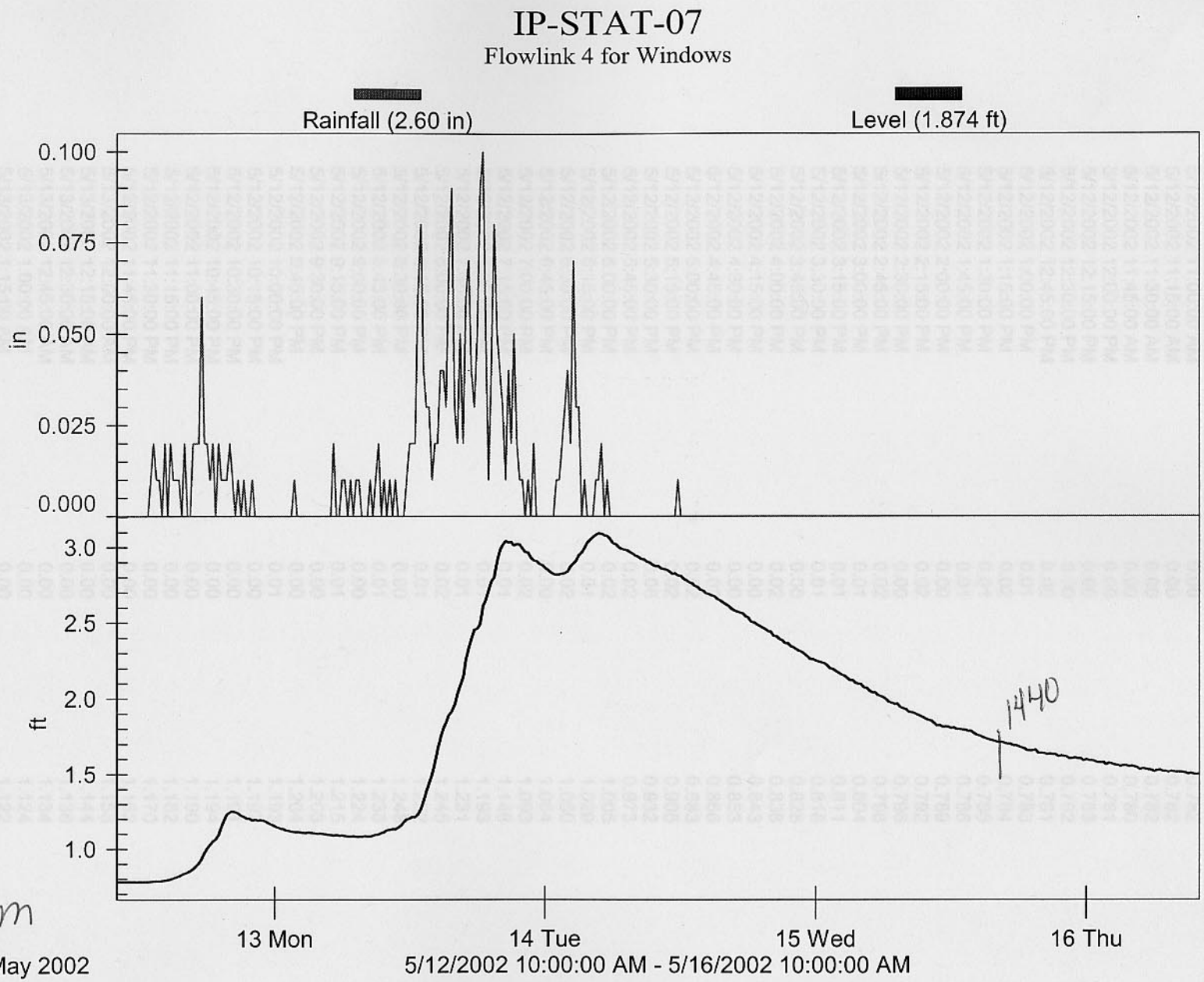
Flowlink 4 for Windows



Auto Sampler Initiated at ~3:00pm on 5/13/02

5/15/02 Arrive at Station 6 at 1616 Sample Program Complete.

Sample Hogram: 200ml Sample every 1.46 mgal.



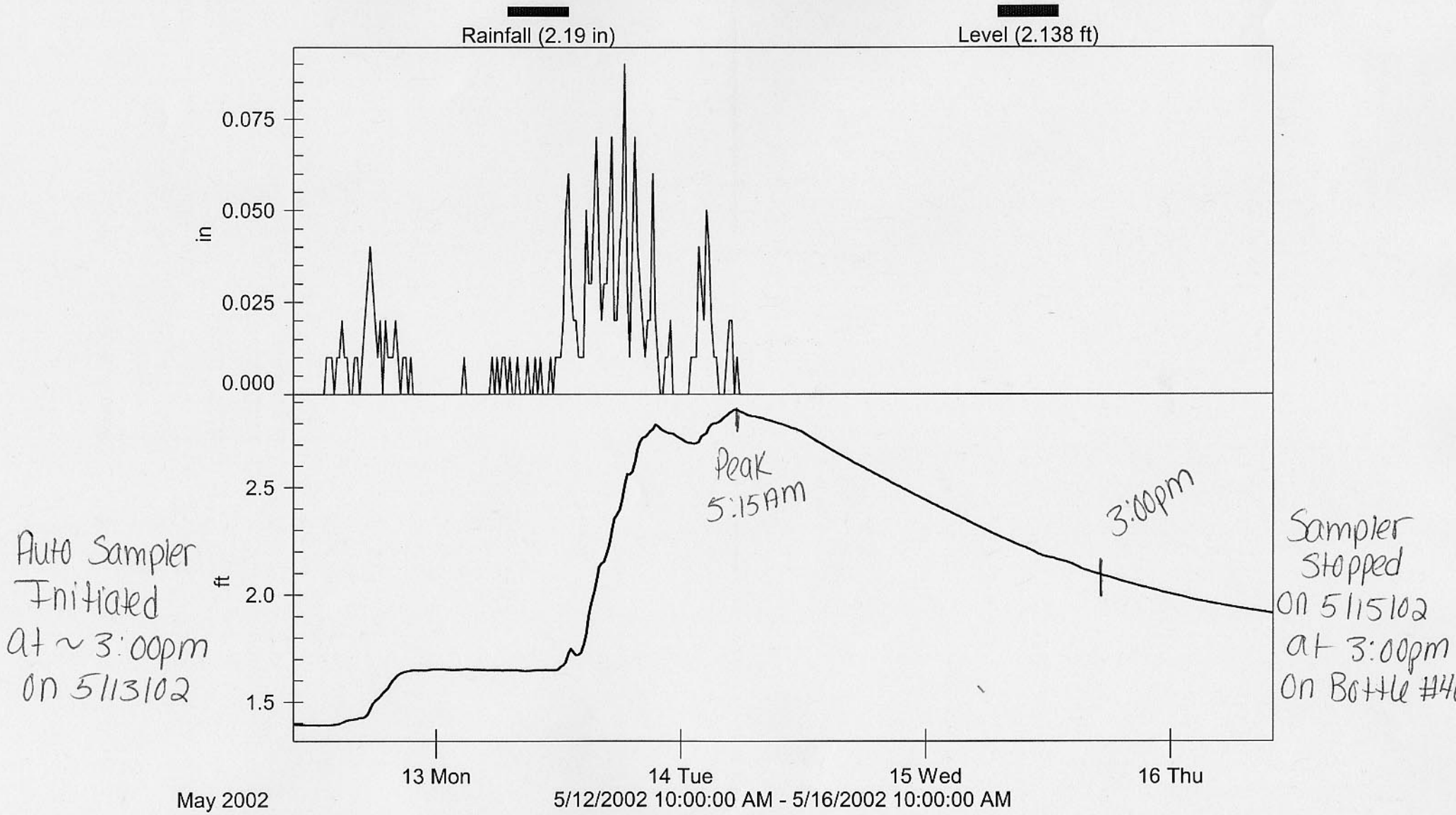
Auto Sampler Initiated at ~3:00pm on 5/13/02

5/15/02 Sampler Stopped at 1440 - on bottle #1

Sample Program: 800ml Sample every hour - beginning at Sample Trigger = Phonecall

IP-STAT-08

Flowlink 4 for Windows

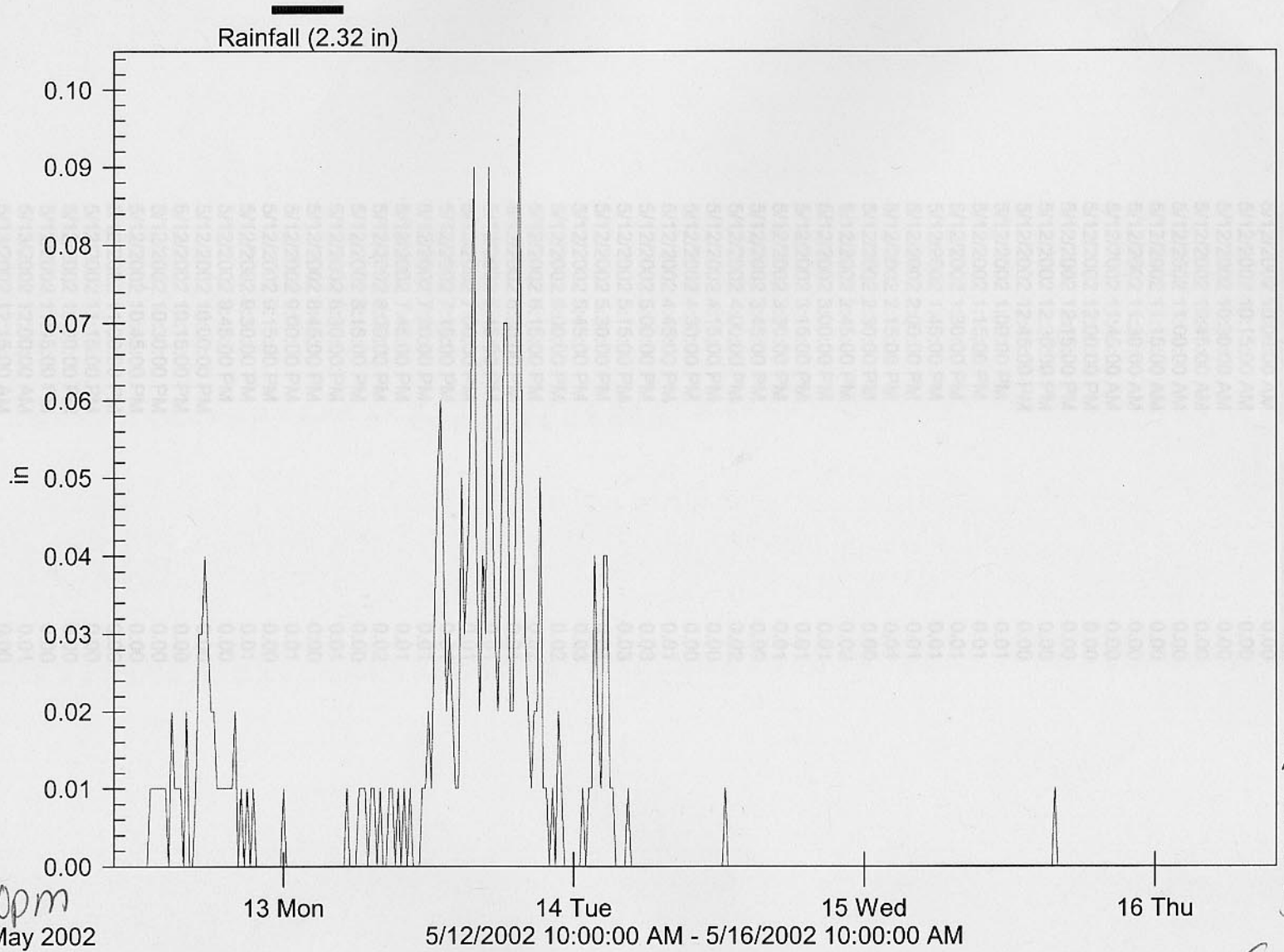


Sample Program: 200 ml Sample every hour.

1

IP-STAT-09

Flowlink 4 for Windows

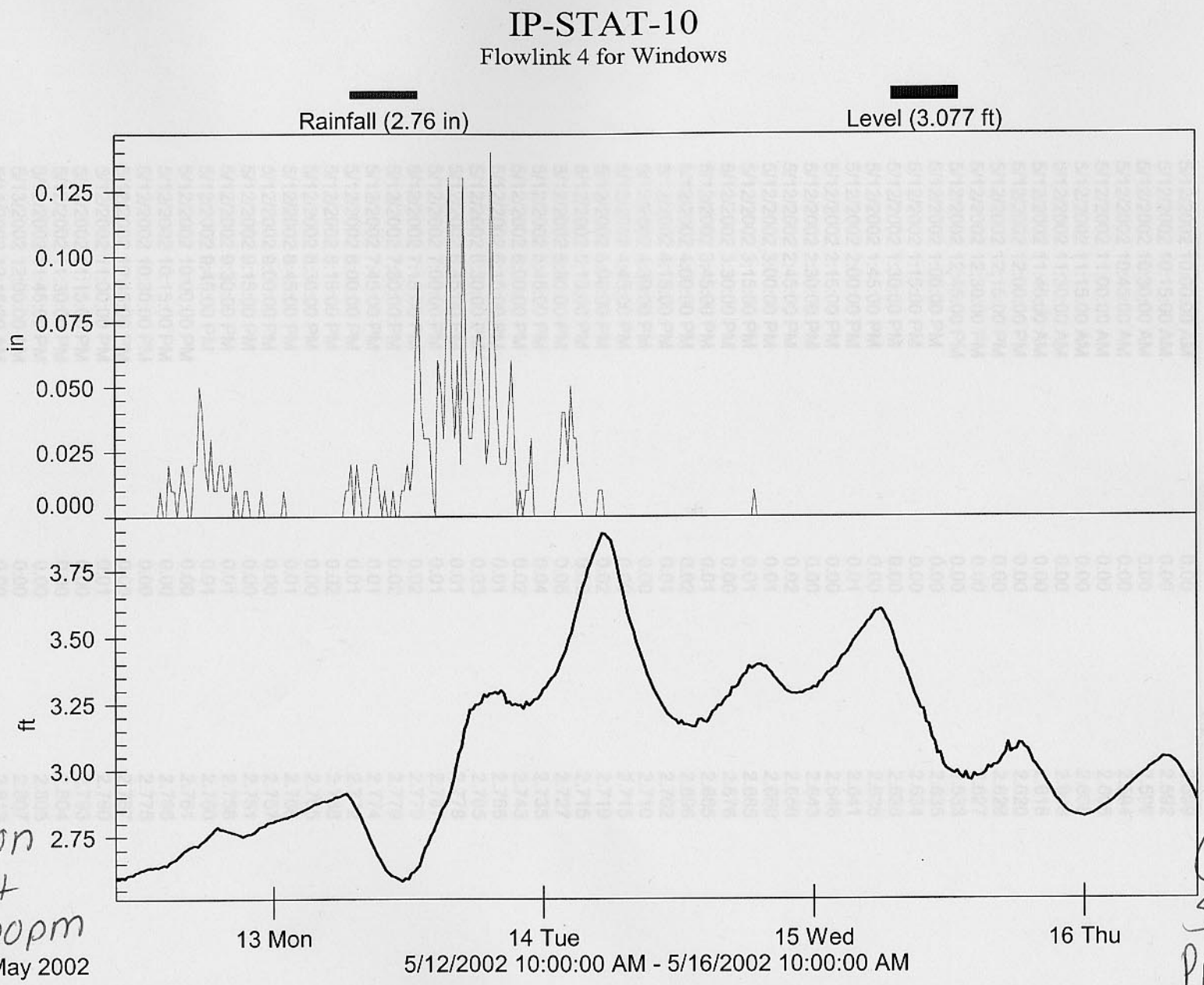


Auto Sampler initiated at ~3:00pm on 5/13/02

Note: no level readings - Level not monitored at this Station

Sampler Stopped on 5/15/02 at 1517

Sample Program: 200ml Sample every 1.46 mgal.



Auto Sampler Initiated on 5/13/02 at ~3:00pm

5/15/02 Arrive at Station 10 @ 1528 Sample Program Complete.

Rating Curve Evaluation

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance from Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
8/24/2001	1300	0.698	0.12	0	0.75	0.09	0.0675	0.75	0.0675
8/24/2001	1305	0.699	0.2	2	0.9	0.12	0.216	1.80	0.216
8/24/2001	1310	0.7	0.2	4	1.1	0.14	0.308	2.20	0.308
8/24/2001	1315	0.701	0.2	6	0.9	0.13	0.1521	1.17	0.1521
8/24/2001	1320	0.703	0.22	6.6	0.72	0.07	0.01512	0.216	0.01512
8/24/2001	1325	0.704	0.2						
8/24/2001	1330	0.705	0.2					6.14	0.75872
Average		0.701	0.19						
Total							0.75872		

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1300 through 1330. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.696ft and velocity = -0.15fps, the exact time of these readings were not recorded.**

2. The five minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every five minutes. Manual measurements began at 1300 and were completed at approximately 1330 each manual reading was not recorded at an exact five minute interval. Please note, that data storage for the ISCO should be every fifteen minutes. There was a mistake in the programming for Station 1 at this time.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance from Initial Point (ft)	Manual Depth(ft)	Manual Velocity (fps)	Manual Flow Calculated	increment area	vel*area
9/19/2001	1415	0.587	NR	0	0.63	0.13	0.0819	0.63	0.0819
9/19/2001	1430	0.592	0.17	2	0.66	0.16	0.2112	1.32	0.2112
9/19/2001	1445	0.594	0.17	4	0.88	0.13	0.2288	1.76	0.2288
				6	0.68	0.8	0.7072	0.88	0.7072
				6.6	0.20	0	0	0.06	0
Average		0.591	0.17						
Total							1.2291	4.65	1.2291

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1415 through 1445. The velocity measurement that was recorded in the field from the Isco display was **velocity = 0.57 fps; the exact time of these readings were not recorded. The depth was not recorded.**

2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1428 and were completed at approximately 1430, each reading. was not recorded at exact fifteen minute intervals.

3. NR = Not Recorded by ISCO

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance from Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
9/27/2001	1645-1650	NR	NR	0	0.56	0.08	0.0448	0.56	0.0448
				2	0.93	0.18	0.3348	1.86	0.3348
				4	0.86	0.16	0.2752	1.72	0.2752
				6	0.82	0.09	0.09594	1.07	0.09594
				6.6	0.56	0.06	0.01008	0.168	0.01008
Average		NR	NR						
Total							0.76082	5.37	0.76082

Note: 1. ISCO velocity and depth was not recorded at this time. The depth and velocity measurements
that were recorded in the field from the Isco display were **depth = 0.644ft and velocity = 0.11fps which were recorded at 1637.**
2. Manual measurements began at 1645 and were completed at approximately 1650; each reading.
was not recorded at exact fifteen minute intervals.
3. NR = Not Recorded by ISCO

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance from Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
10/15/2001	1500	0.669	0.11	0	0.80	0.13	0.104	0.80	0.104
10/15/2001	1515	0.670	0.11	2	1.03	0.18	0.3708	2.06	0.3708
10/15/2001	1530	0.672	0.11	4	0.94	0.10	0.188	1.88	0.188
				6	0.82	0.05	0.0533	1.07	0.0533
				6.6	0.55	0.05	0.00825	0.165	0.00825
Average		0.670	0.11						
Total							0.72435	5.97	0.72435

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1500 to 1530. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.669 ft and velocity = 0.11 fps which were recorded at 1457.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1512 and were completed at approximately 1517; each reading was not recorded at exact fifteen minute intervals.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance from Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
10/16/2001	1045	1.150	0.81	0	1.40	0.53	0.742	1.40	0.742
10/16/2001	1100	1.139	0.86	2	1.35	0.87	2.349	2.70	2.349
10/16/2001	1115	1.121	0.86	4	1.36	0.78	2.1216	2.72	2.1216
				6	1.24	0.38	0.61256	1.61	0.61256
				6.6	1.13	0.58	0.19662	0.339	0.19662
Average		1.137	0.84						
Total							6.02178	8.77	6.02178

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1045 to 1115. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.141 ft and velocity = 0.91 fps, which were recorded at 1053.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1059 and were completed at approximately 1103; each reading was not recorded at exact fifteen minute intervals.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance from Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
11/29/2001	1500	0.708	0.13	0.00	0.55	-0.03	-0.0165	0.55	-0.0165
11/29/2001	1515	0.708	0.13	2.00	0.99	0.11	0.2178	1.98	0.2178
				4.00	1.00	0.15	0.345	2.30	0.345
				6.60	0.73	0.01	0.00949	0.949	0.00949
Average		0.708	0.13						
Total							0.55579	5.78	0.55579

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1500 to 1515. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.70 ft and velocity = 0.13* fps, which were recorded at 1500.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1503 and were completed at approximately 1508; each reading was not recorded at exact fifteen minute intervals.
NR = not recorded

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance from Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
12/14/2001	1400	0.824	0.26	0.00	0.80	-0.01	-0.008	0.80	-0.008
12/14/2001	1415	0.824	0.26	2.00	1.15	0.20	0.46	2.30	0.46
				4.00	1.08	0.16	0.3456	2.16	0.3456
				6.00	0.58	0.02	0.01508	0.75	0.01508
				6.6	0.98	0.05	0.0147	0.294	0.0147
Average		0.824	0.26						
Total							0.82738	6.31	0.82738

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1400 to 1415 daylight savings time.
The raw data spreadsheets correspond to Standard time so data collected during 1500 and 1515 Standard time. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.824 ft and velocity = 0.26 fps, which were recorded at 1350**.
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1400 and were completed at approximately 1403; each reading was not recorded at exact fifteen minute intervals.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance from Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
12/18/2001	1130	1.352	1.13	0.00	1.15	0.73	0.8395	1.15	0.8395
12/18/2001	1145	1.357	1.26	2.00	1.55	0.94	2.914	3.10	2.914
				4.00	1.58	1.19	3.7604	3.16	3.7604
				6.00	1.35	0.74	1.2987	1.76	1.2987
				6.6	1.38	0.68	0.28152	0.414	0.28152
Average		1.3545	1.195						
Total							9.09412	9.58	9.09412

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1130 to 1145 daylight savings time
(note raw data spreadsheets are in Standard Time therefore times correspond to 1230 and 1245 Standard Time.)
that were recorded in the field from the Isco display were **depth = 1.357 ft and velocity = 0.12 fps, which were recorded at 1125.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1135 and were completed at approximately 1137; each reading was not recorded at exact fifteen minute intervals.

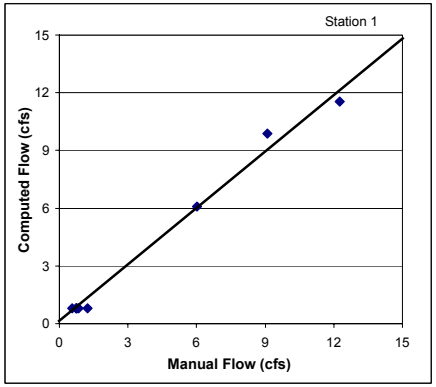
Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance from Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
3/21/2002	1530	1.449	1.34	0.00	1.53	0.62	0.9486	1.53	0.9486
3/21/2002	1545	1.449	1.37	2.00	1.81	1.22	4.4164	3.62	4.4164
				4.00	1.53	1.40	4.284	3.06	4.284
				6.00	1.49	1.22	2.36314	1.94	2.36314
				6.6	0.9	0.86	0.2322	0.27	0.2322
Average		1.449	1.355						
Total							12.24434	10.42	12.24434

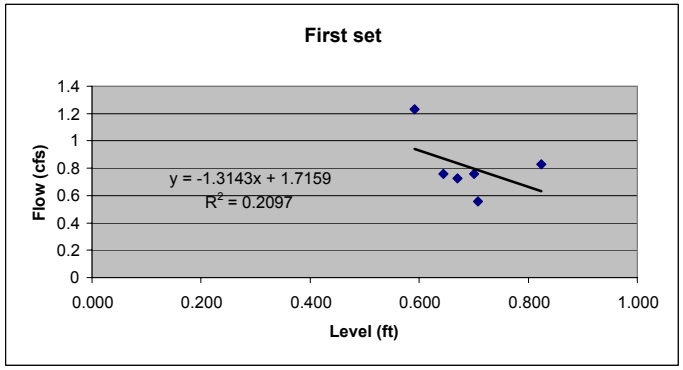
Note: 1. ISCO velocity and depth is taken for the downloaded data for 1530 to 1545. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.443 ft and velocity = 1.33 fps, which were recorded at 1527.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1533 and were completed at approximately 1539; each reading was not recorded at exact fifteen minute intervals.

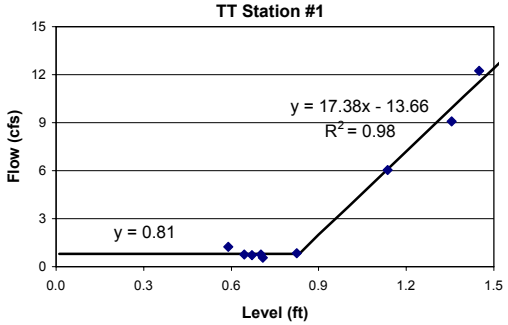
Raw Data	Date	Level (ft)	Manual Flow (cfs)	Computed Flow (cfs)
Level (ft)	8/24/2001	0.701	0.75872	0.8094
0.701	9/19/2001	0.591	1.2291	0.8094
0.591	9/27/2001	0.644	0.76082	0.8094
0.644	10/15/2001	0.670	0.72435	0.8094
0.670	10/17/2001	1.137	6.0218	6.101403
1.137	11/29/2001	0.708	0.55579	0.8094
0.708	12/14/2001	0.824	0.82738	0.8094
0.824	12/18/2001	1.3545	9.09412	9.887565
1.3545	3/21/2002	1.449	12.24434	11.53007
1.449				

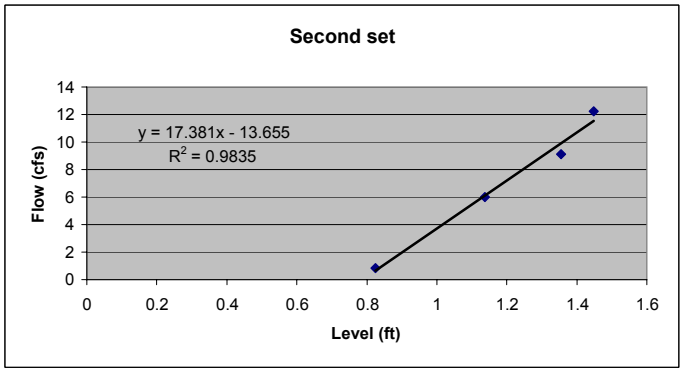
In order by manual flow

	Date	Level (ft)	Manual Flow (cfs)		
	9/19/2001	0.591	1.2291	first set	
Level (ft)	9/27/2001	0.644	0.76082	first set	
0.170	10/15/2001	0.670	0.72435	first set	0.80936
0.595	8/24/2001	0.701	0.75872	first set	
0.644	11/29/2001	0.708	0.55579	first set	
0.670	12/14/2001	0.824	0.82738	first and second set	
1.137	10/17/2001	1.137	6.0218	second set	
0.708	12/18/2001	1.3545	9.09412	second set	
0.824	3/21/2002	1.449	12.24434	second set	
1.3545					
1.449					









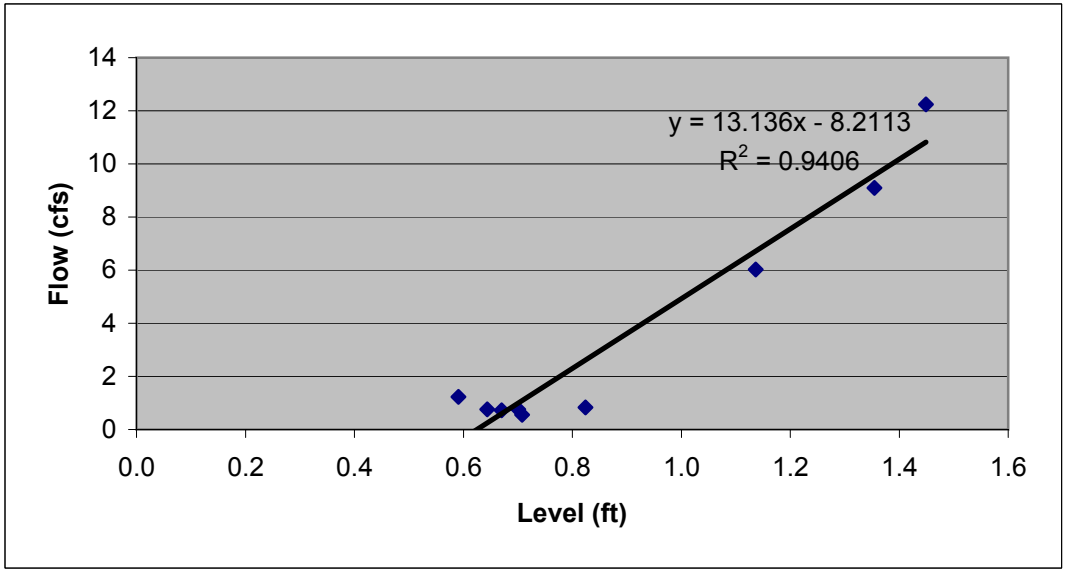
level (ft)	
0.01	0.8094
0.02	0.8094
0.03	0.8094
0.04	0.8094
0.05	0.8094
0.06	0.8094
0.07	0.8094
0.08	0.8094
0.09	0.8094
0.1	0.8094
0.2	0.8094
0.3	0.8094
0.4	0.8094
0.5	0.8094
0.6	0.8094
0.7	0.8094
0.8	0.8094
0.8322	0.8094
0.8323	0.8112063
0.9	1.9879
1	3.726
1.1	5.4641
1.2	7.2022
1.3	8.9403
1.4	10.6784
1.5	12.4165
1.6	14.1546
1.7	15.8927
1.8	17.6308
1.9	19.3689

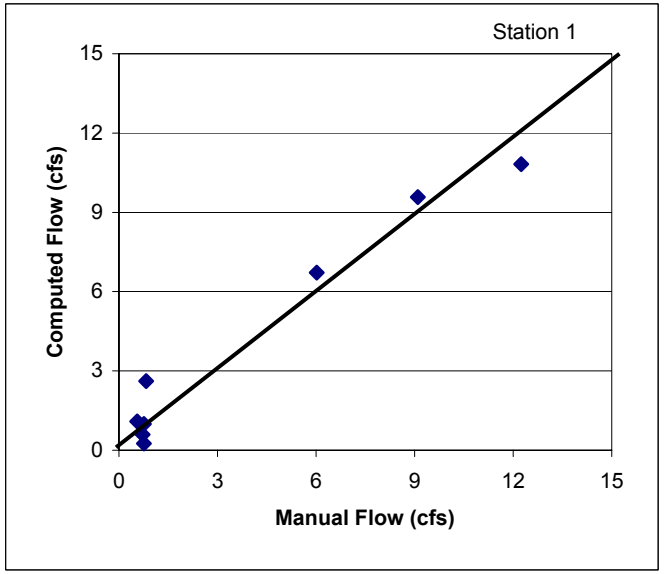
level (ft)	
2.1	22.8451
2.2	24.5832
2.3	26.3213
2.4	28.0594
2.5	29.7975
2.6	31.5356
2.7	33.2737
2.8	35.0118
2.9	36.7499
3	38.488
3.1	40.2261
3.2	41.9642

Relationships Used: 2 Linear Fits

For Level <= 0.8322
Flow = 0.8094

For Level > 0.8322
Flow = 17.381 (Level) - 13.655





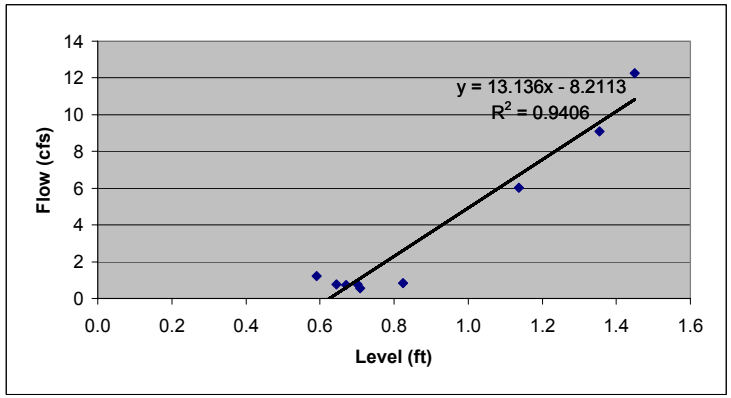
Graph 1

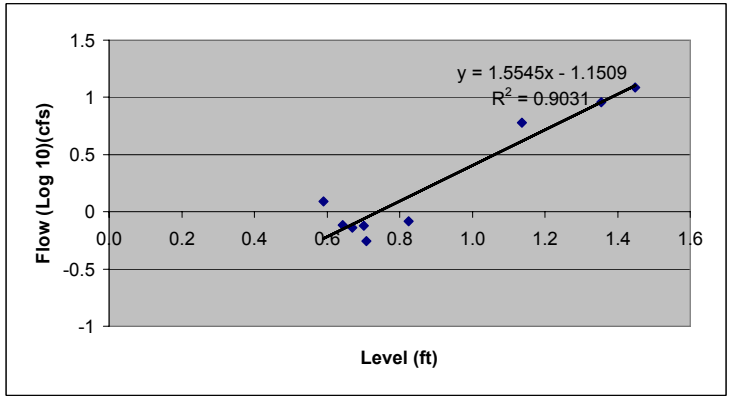
Date	Level (ft)	Manual Flow (cfs)	Computed Flow (cfs)
8/24/2001	0.701	0.75872	0.997036
9/19/2001	0.591	1.2291	-0.447924
9/27/2001	0.644	0.76082	0.248284
10/15/2001	0.670	0.72435	0.594199
10/17/2001	1.137	6.0218	6.719953
11/29/2001	0.708	0.55579	1.088988
12/14/2001	0.824	0.82738	2.612764
12/18/2001	1.3545	9.09412	9.581412
3/21/2002	1.449	12.24434	10.82276

Date	Time of Calibration	ISCO Download Level (ft)	ISCO Download Velocity (fps)	ISCO Display Level (ft)	ISCO Display Velocity (fps)	Manual Flow (cfs)
8/24/2001	1300-1330	0.170	0.70	0.696	-0.15	0.75872
9/19/2001	1428-1430	0.595	0.17	NR	0.57	1.2291
9/27/2001	1645-1650	NR	NR	0.644	0.11	0.76082
10/15/2001	1512-1517	0.670	0.11	0.669	0.11	0.72435
10/17/2001	1059-1103	1.137	0.84	1.141	0.91	4.1039
11/29/2001	1503-1508	0.708	NR	0.7	0.13*	0.55579
12/14/2001	1400-1403	0.824	0.26	0.824	0.26	0.82738
12/18/2001	1130-1145	1.365	1.275	1.357	0.12	9.09412
3/21/2002	1533-1539	1.3545	1.195	1.443	1.33	12.24434

Note: * = Invalid reading fromISCO

Date	Values Used For Time of Calibration	Graph 1 Level (ft)		ISCO Display Velocity (f	Level*vel	Manual Flow (cfs)
8/24/2001	1300-1330	0.701	ISCO Download Level	0.19	0.13319	0.75872
9/19/2001	1428-1430	0.591	ISCO Download Level	0.17	0.10047	1.2291
9/27/2001	1645-1650	0.644	ISCO Display Level	0.11	0.07084	0.76082
10/15/2001	1512-1517	0.670	ISCO Download Level	0.11	0.073736667	0.72435
10/17/2001	1059-1103	1.137	ISCO Download Level	0.84	0.9548	6.0218
11/29/2001	1503-1508	0.708	ISCO Download Level	0.13	0.09204	0.55579
12/14/2001	1400-1403	0.824	ISCO Download Level	0.26	0.21424	0.82738
12/18/2001	1130-1145	1.3545	ISCO Download Level	1.195	1.6186275	9.09412
3/21/2002	1533-1539	1.449	ISCO Download Level	1.355	1.963395	12.24434



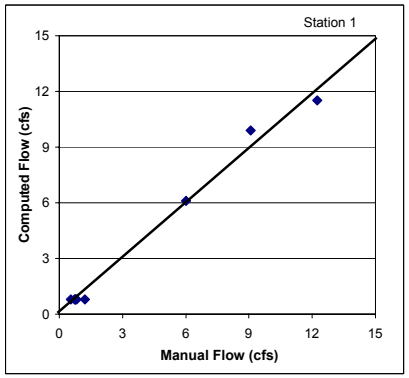


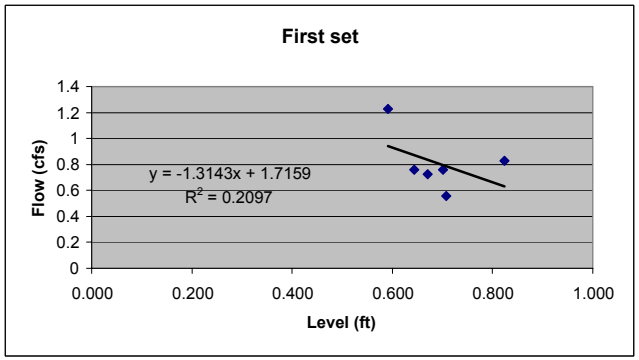
Date	Values Used For Time of Calibration	Graph 2 Level (ft)		Manual Flow (cfs)	Log10 (cfs)
8/24/2001	1300-1330	0.701	ISCO Download Level	0.75872	-0.119918
9/19/2001	1428-1430	0.591	ISCO Download Level	1.2291	0.0895872
9/27/2001	1645-1650	0.644	ISCO Display Level	0.76082	-0.118718
10/15/2001	1512-1517	0.670	ISCO Download Level	0.72435	-0.140052
10/17/2001	1059-1103	1.137	ISCO Download Level	6.0218	0.7797263
11/29/2001	1503-1508	0.708	ISCO Download Level	0.55579	-0.255089
12/14/2001	1400-1403	0.824	ISCO Download Level	0.82738	-0.082295
12/18/2001	1130-1145	1.3545	ISCO Download Level	9.09412	0.9587607
3/21/2002	1533-1539	1.449	ISCO Download Level	12.24434	1.0879354

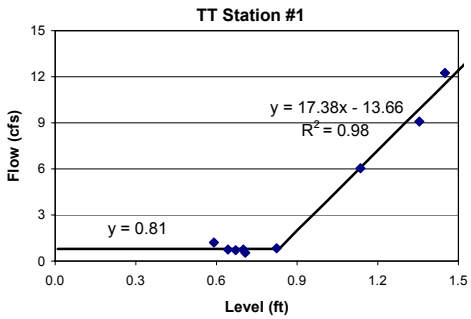
Raw Data	Date	Level (ft)	Manual Flow (cfs)	Computed Flow (cfs)
Level (ft)	8/24/2001	0.701	0.75872	0.8094
0.701	9/19/2001	0.591	1.2291	0.8094
0.591	9/27/2001	0.644	0.76082	0.8094
0.644	10/15/2001	0.670	0.72435	0.8094
0.670	10/17/2001	1.137	6.0218	6.101403
1.137	11/29/2001	0.708	0.55579	0.8094
0.708	12/14/2001	0.824	0.82738	0.8094
0.824	12/18/2001	1.3545	9.09412	9.887565
1.3545	3/21/2002	1.449	12.24434	11.53007
1.449				

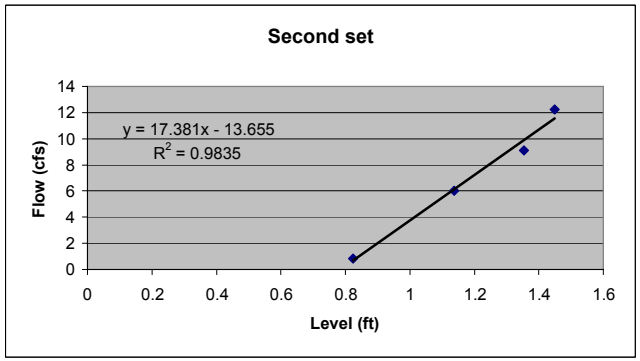
In order by manual flow

	Date	Level (ft)	Manual Flow (cfs)		
	9/19/2001	0.591	1.2291	first set	
Level (ft)	9/27/2001	0.644	0.76082	first set	
0.170	10/15/2001	0.670	0.72435	first set	0.80936
0.595	8/24/2001	0.701	0.75872	first set	
0.644	11/29/2001	0.708	0.55579	first set	
0.670	12/14/2001	0.824	0.82738	first and second set	
1.137	10/17/2001	1.137	6.0218	second set	
0.708	12/18/2001	1.3545	9.09412	second set	
0.824	3/21/2002	1.449	12.24434	second set	
1.3545					
1.449					







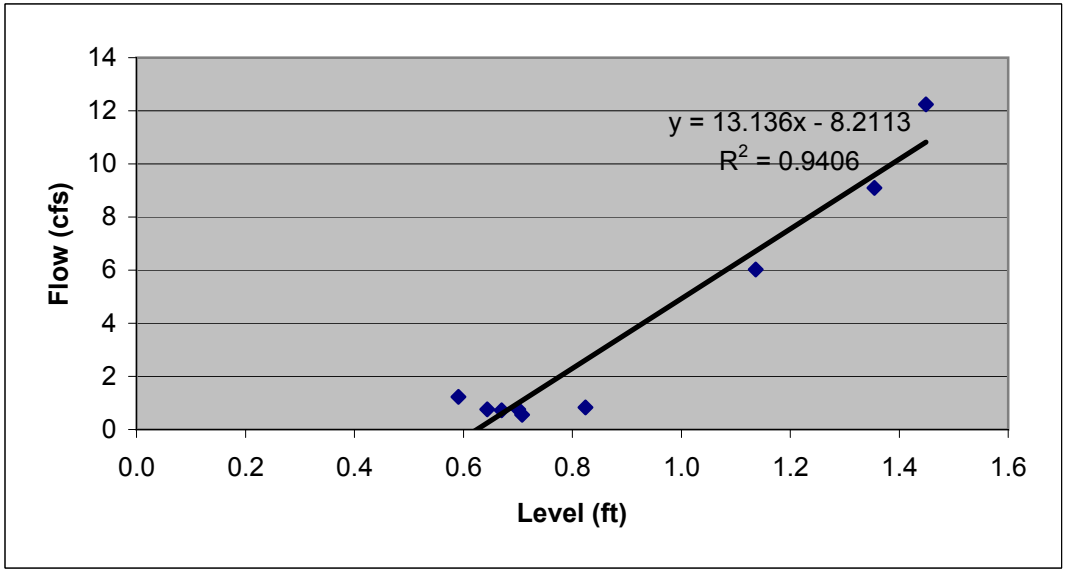


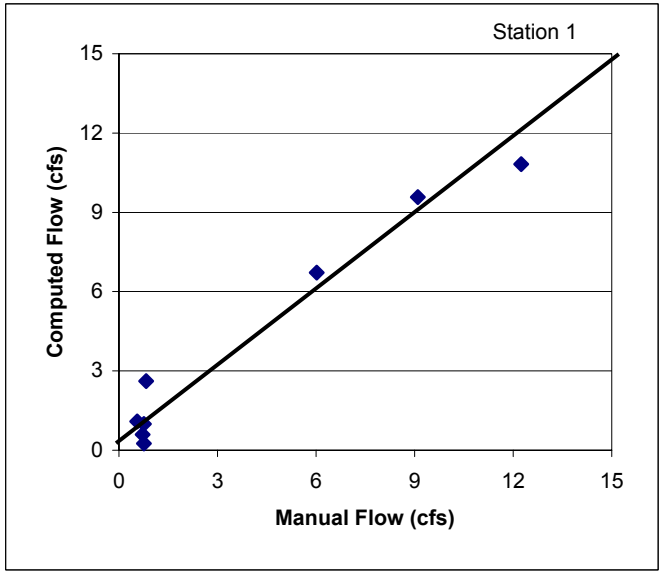
level (ft)		level (ft)	
0.01	0.8094	2.1	22.8451
0.02	0.8094	2.2	24.5832
0.03	0.8094	2.3	26.3213
0.04	0.8094	2.4	28.0594
0.05	0.8094	2.5	29.7975
0.06	0.8094	2.6	31.5356
0.07	0.8094	2.7	33.2737
0.08	0.8094	2.8	35.0118
0.09	0.8094	2.9	36.7499
0.1	0.8094	3	38.488
0.2	0.8094	3.1	40.2261
0.3	0.8094	3.2	41.9642
0.4	0.8094		
0.5	0.8094		
0.6	0.8094		
0.7	0.8094		
0.8	0.8094		
0.8322	0.8094		
0.8323	0.8112063		
0.9	1.9879		
1	3.726		
1.1	5.4641		
1.2	7.2022		
1.3	8.9403		
1.4	10.6784		
1.5	12.4165		
1.6	14.1546		
1.7	15.8927		
1.8	17.6308		
1.9	19.3689		
2	21.107		

Relationships Used: 2 Linear Fits

For Level <= 0.8322
Flow = 0.8094

For Level > 0.8322
Flow = 17.381 (Level) - 13.655





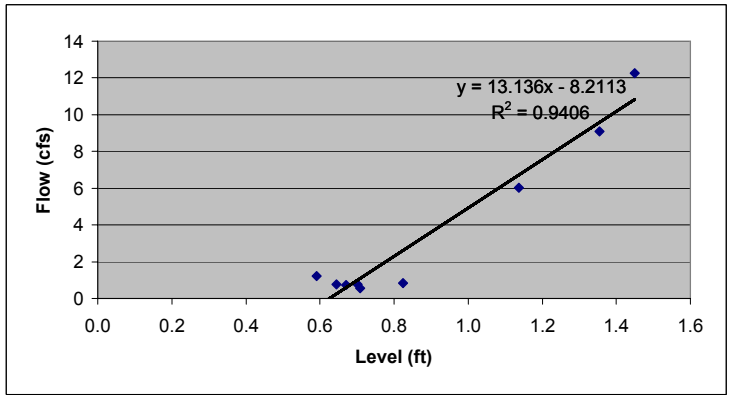
Graph 1

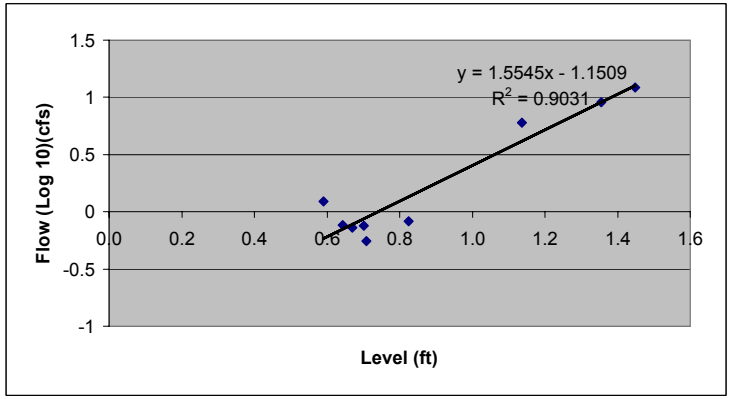
Date	Level (ft)	Manual Flow (cfs)	Computed Flow (cfs)
8/24/2001	0.701	0.75872	0.997036
9/19/2001	0.591	1.2291	-0.447924
9/27/2001	0.644	0.76082	0.248284
10/15/2001	0.670	0.72435	0.594199
10/17/2001	1.137	6.0218	6.719953
11/29/2001	0.708	0.55579	1.088988
12/14/2001	0.824	0.82738	2.612764
12/18/2001	1.3545	9.09412	9.581412
3/21/2002	1.449	12.24434	10.82276

Date	Time of Calibration	ISCO Download Level (ft)	ISCO Download Velocity (fps)	ISCO Display Level (ft)	ISCO Display Velocity (fps)	Manual Flow (cfs)
8/24/2001	1300-1330	0.170	0.70	0.696	-0.15	0.75872
9/19/2001	1428-1430	0.595	0.17	NR	0.57	1.2291
9/27/2001	1645-1650	NR	NR	0.644	0.11	0.76082
10/15/2001	1512-1517	0.670	0.11	0.669	0.11	0.72435
10/17/2001	1059-1103	1.137	0.84	1.141	0.91	4.1039
11/29/2001	1503-1508	0.708	NR	0.7	0.13*	0.55579
12/14/2001	1400-1403	0.824	0.26	0.824	0.26	0.82738
12/18/2001	1130-1145	1.365	1.275	1.357	0.12	9.09412
3/21/2002	1533-1539	1.3545	1.195	1.443	1.33	12.24434

Note: * = Invalid reading fromISCO

Date	Values Used For Time of Calibration	Graph 1 Level (ft)		ISCO Display Velocity (f	Level*vel	Manual Flow (cfs)
8/24/2001	1300-1330	0.701	ISCO Download Level	0.19	0.13319	0.75872
9/19/2001	1428-1430	0.591	ISCO Download Level	0.17	0.10047	1.2291
9/27/2001	1645-1650	0.644	ISCO Display Level	0.11	0.07084	0.76082
10/15/2001	1512-1517	0.670	ISCO Download Level	0.11	0.073736667	0.72435
10/17/2001	1059-1103	1.137	ISCO Download Level	0.84	0.9548	6.0218
11/29/2001	1503-1508	0.708	ISCO Download Level	0.13	0.09204	0.55579
12/14/2001	1400-1403	0.824	ISCO Download Level	0.26	0.21424	0.82738
12/18/2001	1130-1145	1.3545	ISCO Download Level	1.195	1.6186275	9.09412
3/21/2002	1533-1539	1.449	ISCO Download Level	1.355	1.963395	12.24434





Date	Values Used For Time of Calibration	Graph 2 Level (ft)		Manual Flow (cfs)	Log10 (cfs)
8/24/2001	1300-1330	0.701	ISCO Download Level	0.75872	-0.119918
9/19/2001	1428-1430	0.591	ISCO Download Level	1.2291	0.0895872
9/27/2001	1645-1650	0.644	ISCO Display Level	0.76082	-0.118718
10/15/2001	1512-1517	0.670	ISCO Download Level	0.72435	-0.140052
10/17/2001	1059-1103	1.137	ISCO Download Level	6.0218	0.7797263
11/29/2001	1503-1508	0.708	ISCO Download Level	0.55579	-0.255089
12/14/2001	1400-1403	0.824	ISCO Download Level	0.82738	-0.082295
12/18/2001	1130-1145	1.3545	ISCO Download Level	9.09412	0.9587607
3/21/2002	1533-1539	1.449	ISCO Download Level	12.24434	1.0879354

Date	Time (2)	ISCO Depth (ft) (1)	ISCO Velocity (fps) (1)	Distance from Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment a	area*vel
8/24/2001	1500	1.128	0.21	0	0.00	0	0	0	0
8/24/2001	1515	0.775	-0.04	2	0.50	0.01	0.01	1	0.01
8/24/2001	1530	0.7	0.08	4	0.55	0.06	0.066	1.1	0.066
8/24/2001	1545	0.7	-0.12	6	0.60	0.16	0.192	1.2	0.192
				8	0.78	0.18	0.2808	1.56	0.2808
				10	0.85	0.18	0.306	1.7	0.306
				12	0.83	0.16	0.2656	1.66	0.2656
				14	0.70	0.23	0.322	1.4	0.322
				16	0.80	0.2	0.32	1.6	0.32
				18	0.70	0.1	0.14	1.4	0.14
				20	0.60	0.01	0.012	1.2	0.012
				22	0.40	0.01	0.008	0.8	0.008
				24	0.15	NR	NR	0.3	#VALUE!
				26	0.20	NR	NR	0.4	#VALUE!
				28	0.15	NR	NR	0.195	#VALUE!
				28.6	0.00	0	0	0	0
Average		0.826	0.03						
Total							1.9224		
								15.515	1.9224

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1500 through 1545. The depth and velocity measurements that were recorded in the field from the ISCO display were **depth = 0.70ft and velocity = 0.20fps**. **The exact time of these readings was not recorded.**

2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1500 and were completed at approximately 1545 each manual reading was not recorded at an exact fifteen minute interval.

3. NR = not reading. Water level was too shallow for measurement.

Date	Time (2)	ISCO Depth (ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth(ft)	Manual Velocity(fps)	Manual Flow Calculated	increment a	area*vel
9/19/2001	1345	0.542	0.19	0	0.3	NR	NR	0.3	#VALUE!
9/19/2001	1400	0.541	0.13	2	0.3	NR	NR	0.6	#VALUE!
9/19/2001	1415	0.541	0.18	4	0.4	-0.12	-0.096	0.8	-0.096
				6	0.48	0.01	0.0096	0.96	0.0096
				8	0.6	0.03	0.036	1.2	0.036
				10	0.64	0.11	0.1408	1.28	0.1408
				12	0.65	0.05	0.065	1.3	0.065
				14	0.6	0.01	0.012	1.2	0.012
				16	0.7	0	0	1.4	0
				18	0.65	0.02	0.026	1.3	0.026
				20	0.45	-0.08	-0.072	0.9	-0.072
				22	0.33	-0.13	-0.0858	0.66	-0.0858
				24	0.1	NR	NR	0.125	#VALUE!
				24.5	0.05	NR	NR	0	0
Average		0.541	0.17						
Total							0.0356		
								12.025	0.0356

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1350 through 1405. The velocity measurement that was recorded in the field from the Isco display was **velocity = 0.10fps**, the exact time of these readings were not recorded. **The depth was not recorded.**

2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1350 and were completed at approximately 1405, each reading was not recorded at exact fifteen minute intervals.

3. NR = no reading. Water level was too shallow for measurement.

Date	Time (2)	ISCO Depth (ft) (1)	ISCO Velocity (fps)(1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity (fps)	Manual Flow Calculated	increment a	area*vel
9/27/2001	1622-1630	NR	NR	0	0.14	NR	NR	0.14	#VALUE!
				2	0.38	0	0	0.76	0
				4	0.4	0.09	0.072	0.8	0.072
				6	0.55	0.13	0.143	1.1	0.143
				8	0.62	0.12	0.1488	1.24	0.1488
				10	0.66	0.21	0.2772	1.32	0.2772
				12	0.67	0.22	0.2948	1.34	0.2948
				14	0.71	0.2	0.284	1.42	0.284
				16	0.66	0.13	0.1716	1.32	0.1716
				18	0.53	0.11	0.1166	1.06	0.1166
				20	0.37	0.03	0.0222	0.74	0.0222
				22	0.21	0	0	0.399	0
				23.8	0	0	0	0	0
Average		NR	NR						
Total							1.5302		
								11.639	1.5302

Note: 1. ISCO velocity and depth was not recorded at this time. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.572ft and velocity = 0.08fps which were recorded at 1613**.

2. Manual measurements began at 1622 and were completed at approximately 1630; each reading was not recorded at exact fifteen minute intervals.

3. NR = Not Recorded by ISCO

Date	Time (2)	ISCO Depth (ft) (1)	ISCO Velocity (fps)(1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity (fps)	Manual Flow Calculated	increment a	area*vel
10/15/2001	1430	0.589	0.44	0	0.00	0.00	0	0	0
10/15/2001	1445	0.584	0.44	2	0.34	-0.02	-0.0136	0.68	-0.0136
10/15/2001	1500	0.593	0.51	4	0.44	0.04	0.0352	0.88	0.0352
				6	0.58	0.09	0.1044	1.16	0.1044
				8	0.70	0.10	0.14	1.4	0.14
				10	0.74	0.05	0.074	1.48	0.074
				12	0.76	0.15	0.228	1.52	0.228
				14	0.69	0.15	0.207	1.38	0.207
				16	0.69	0.17	0.2346	1.38	0.2346
				18	0.61	0.02	0.0244	1.22	0.0244
				20	0.39	0.01	0.0078	0.78	0.0078
				22	0.21	NR	NR	0.42	#VALUE!
				24	0.01	NR	NR	0.0125	#VALUE!
				24.5	0.00	0.00	0	0	0
Average		0.589	0.46						
Total							1.0418		
								12.3125	1.0418

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1430 to 1500. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.585 ft and velocity = 0.46 fps which were recorded at 1417.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1440 and were completed at approximately 1451; each reading was not recorded at exact fifteen minute intervals.
3. NR = no reading. Water level was too shallow for measurement.

Date	Time (2)	ISCO Depth (ft	ISCO Velocity (fps)(1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity (fps)	Manual Flow Calculated	increment a	area*vel
10/17/2001	1030	1.305	NR[1]	0	1.04	0.06	0.0624	1.04	0.0624
10/17/2001	1045	1.298	NR[1]	2	1.12	0.29	0.6496	2.24	0.6496
10/17/2001	1100	1.290	NR[1]	4	1.24	0.38	0.9424	2.48	0.9424
				6	1.36	0.36	0.9792	2.72	0.9792
				8	1.38	0.35	0.966	2.76	0.966
				10	1.43	0.31	0.8866	2.86	0.8866
				12	1.46	0.34	0.9928	2.92	0.9928
				14	1.40	0.33	0.924	2.8	0.924
				16	1.39	0.27	0.7506	2.78	0.7506
				18	1.15	0.17	0.391	2.3	0.391
				20	1.11	0.07	0.1554	2.22	0.1554
				22	0.86	0.00	0	1.72	0
				24	0.81	0.01	0.0162	1.62	0.0162
				26	0.80	0.00	0	1.6	0
				28	0.56	0.01	0.0112	1.12	0.0112
				30	0.11	NR	NR[2]	0.22	#VALUE!
				32	0.01	NR	NR[2]	0.0125	#VALUE!
				32.5	0.00	0.00	0	0	0
Average		1.298	NR[1]						
Total							7.7274	33.4125	7.7274

Note: 1. ISCO velocity and depth is taken from the downlaoded data for 1030 to 1100. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.32 ft and velocity = 0.26 fps which were recorded at 1026.**

2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1036 and were completed at approximately 1049; each reading was not recorded at exact fifteen minute intervals.

3. NR[1] = Not Recorded by ISCO

4. NR[2] = no reading. Water level was too shallow for measurement.

Date	Time (2)	ISCO Depth (ft) (1)	ISCO Velocity (fps)(1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity (fps)	Manual Flow Calculated	increment a	area*vel
11/29/2001	1430	0.657	NR	0.00	0.00	0.00	0	0	0
11/29/2001	1445	0.657	NR	2.00	0.45	-0.02	-0.018	0.9	-0.018
11/29/2001	1500	0.658	NR	4.00	0.55	0.03	0.033	1.1	0.033
				6.00	0.54	0.01	0.0108	1.08	0.0108
				8.00	0.74	0.10	0.148	1.48	0.148
				10.00	0.82	0.03	0.0492	1.64	0.0492
				12.00	0.80	0.05	0.08	1.6	0.08
				14.00	0.89	0.03	0.0534	1.78	0.0534
				16.00	0.83	0.01	0.0166	1.66	0.0166
				18.00	0.72	0.01	0.0144	1.44	0.0144
				20.00	0.56	0.02	0.0224	1.12	0.0224
				22.00	0.45	0.02	0.018	0.9	0.018
				24.00	0.28	NR[2]	NR[2]	0.56	#VALUE!
				26.00	0.13	NR[2]	NR[2]	0.2275	#VALUE!
				27.50	0.00	0.00	0	0	0
Average		0.657	NR						
Total							0.4278	15.4875	0.4278

Note: 1. ISCO velocity and depth is taken from the downlaoded data for 1430 to 1500. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.56 ft and velocity = 0.11* fps which were recorded at 1439.**

2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1445 and were completed at approximately 1452; each reading was not recorded at exact fifteen minute intervals.

3. NR[1] = Not Recorded by ISCO

4. NR[2] = no reading. Water level was too shallow for measurement.

Date	Time (2)	ISCO De	ISCO Velocity (fps)(	Distance From Initial Point (ft)	Manual D	Manual Velocity (f	Manual Flow Calculate	increment area	area*vel
12/14/2001	1330	0.863	NR	0.00	0.00	0.00	0	0	0
12/14/2001	1345	0.862	0.25	2.00	0.39	-0.07	-0.0546	0.78	-0.0546
12/14/2001	1400	0.861	0.25	4.00	0.42	-0.07	-0.0588	0.84	-0.0588
				6.00	0.55	-0.12	-0.132	1.1	-0.132
				8.00	0.76	0.03	0.0456	1.52	0.0456
				10.00	0.84	0.05	0.084	1.68	0.084
				12.00	0.95	0.06	0.114	1.9	0.114
				14.00	1.03	0.03	0.0618	2.06	0.0618
				16.00	1.01	0.07	0.1414	2.02	0.1414
				18.00	0.99	-0.05	-0.099	1.98	-0.099
				20.00	0.94	0.02	0.0376	1.88	0.0376
				22.00	0.87	0.06	0.1044	1.74	0.1044
				24.00	0.73	0.05	0.073	1.46	0.073
				26.00	0.69	-0.10	-0.138	1.38	-0.138
				28.00	0.61	-0.08	-0.0732	0.915	-0.0732
				29.00	0.00	0.00	0	0	0
Average		0.862	0.250						
Total							0.1062	21.255	0.1062

Note: 1. ISCO velocity and depth is taken from the downlaoded data for 1330 to 1400. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.80 ft and velocity = 0.07* fps which were recorded at 1332**.
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1338 and were completed at approximately 1348; each reading was not recorded at exact fifteen minute intervals.
3. NR[1] = Not Recorded by ISCO

Date	Time (2)	ISCO Depth (ft) (1)	ISCO Velocity (fps)(1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity (fps)	Manual Flow Calculated	increment a	area*vel
12/18/2001	1145	1.591	0.39	0.00	0.35	0.08	0.028	0.35	0.028
12/18/2001	1200	1.591	0.52	2.00	0.61	0.13	0.1586	1.22	0.1586
12/18/2001	1215	1.59	0.48	4.00	0.98	-0.09	-0.1764	1.96	-0.1764
				6.00	1.05	0.09	0.189	2.1	0.189
				8.00	1.15	0.05	0.115	2.3	0.115
				10.00	1.35	0.27	0.729	2.7	0.729
				12.00	1.50	0.38	1.14	3	1.14
				14.00	1.62	0.42	1.3608	3.24	1.3608
				16.00	1.80	0.48	1.728	3.6	1.728
				18.00	1.80	0.41	1.476	3.6	1.476
				20.00	1.75	0.60	2.1	3.5	2.1
				22.00	1.72	0.44	1.5136	3.44	1.5136
				24.00	1.68	0.47	1.5792	3.36	1.5792
				26.00	1.59	0.45	1.431	3.18	1.431
				28.00	1.50	0.46	1.38	3	1.38
				30.00	1.54	0.13	0.4004	3.08	0.4004
				32.00	1.30	0.05	0.065	1.3	0.065
Average		1.591	0.463333333						
Total							15.2172	44.93	15.2172

Note: 1. ISCO velocity and depth is taken from the downlaoded data for 1145 to 1215. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.591 ft and velocity = 0.36* fps which were recorded at 1439.**

2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1155 and were completed at approximately 1206; each reading was not recorded at exact fifteen minute intervals.

3. NR[1] = Not Recorded by ISCO

Date	Time (2)	ISCO Depth (ft) (1)	ISCO Velocity (fps)(1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity (fps)	Manual Flow Calculated	increment a	area*vel
3/22/2002	1000	1.461	0.52	0.00	0.00	NR	NR	0	#VALUE!
3/23/2002	1015	1.465	0.31	2.00	0.25	NR	NR	0.5	#VALUE!
3/24/2002	1030	1.453	0.49	4.00	0.25	NR	NR	0.5	#VALUE!
3/25/2002	1045	1.459	0.49	6.00	0.53	0.06	0.0636	1.06	0.0636
				8.00	0.68	0.04	0.0544	1.36	0.0544
				10.00	1.00	0.05	0.1	2	0.1
				12.00	0.96	0.12	0.2304	1.92	0.2304
				14.00	1.19	0.15	0.357	2.38	0.357
				16.00	1.34	0.32	0.8576	2.68	0.8576
				18.00	1.42	0.27	0.7668	2.84	0.7668
				20.00	1.53	0.21	0.6426	3.06	0.6426
				22.00	1.56	0.24	0.7488	3.12	0.7488
				24.00	1.71	0.40	1.368	3.42	1.368
				26.00	1.63	0.37	1.2062	3.26	1.2062
				28.00	1.65	0.20	0.66	3.3	0.66
				30.00	1.48	0.23	0.6808	2.96	0.6808
				32.00	1.34	0.27	0.7236	2.68	0.7236
				34.00	1.35	0.17	0.34425	2.025	0.34425
				35.00	1.00	0.13	0.065	0.5	0.065
Average									
Total		1.4595	0.4525				8.86905		8.86905

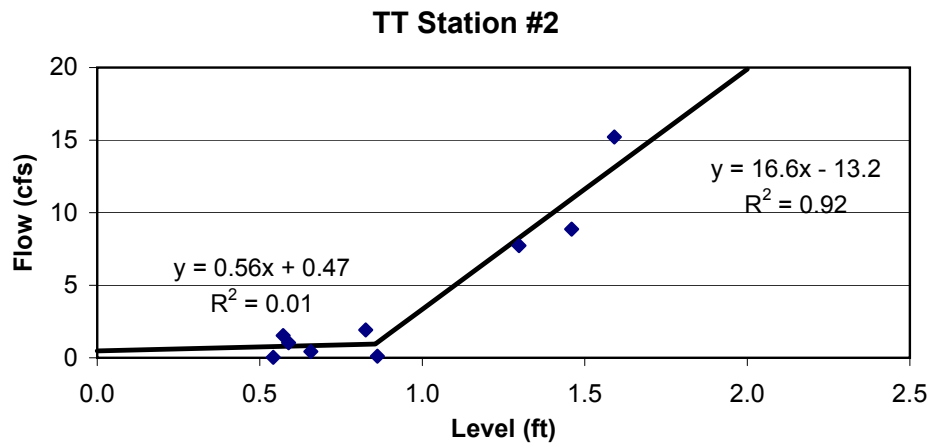
Note: 1. ISCO velocity and depth is taken from the downloaded data for 1000 to 1045. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.46 ft and velocity = 0.49 fps which were recorded at 1051.**

2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1012 and were completed at approximately 1033; each reading was not recorded at exact fifteen minute intervals.

3. NR[1] = Not Recorded by ISCO

Level (ft)	Manual Flo	Computed Flow (cfs)
0.541	0.0356	0.770
0.572	1.5302	0.787
0.589	1.0418	0.796
0.657	0.4278	0.834
0.826	1.9224	0.928
0.862	0.1062	1.055
1.298	7.7274	8.267
1.4595	8.86905	10.946
1.591	15.2172	13.117

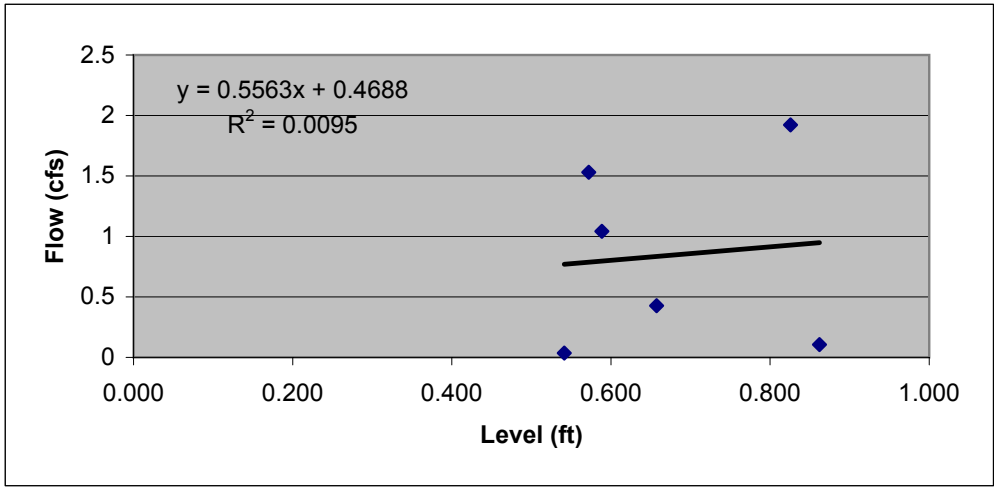
Level	Flow (computed from rating)
0	0.4688
0.1	0.52443
0.2	0.58006
0.3	0.63569
0.4	0.69132
0.5	0.74695
0.6	0.80258
0.7	0.85821
0.8	0.91384
0.85536	0.944637
0.85537	0.944795
0.9	1.6836
1	3.339
1.1	4.9944
1.2	6.6498
1.3	8.3052
1.4	9.9606
1.5	11.616
1.6	13.2714
1.7	14.9268
1.8	16.5822
1.9	18.2376
2	19.893

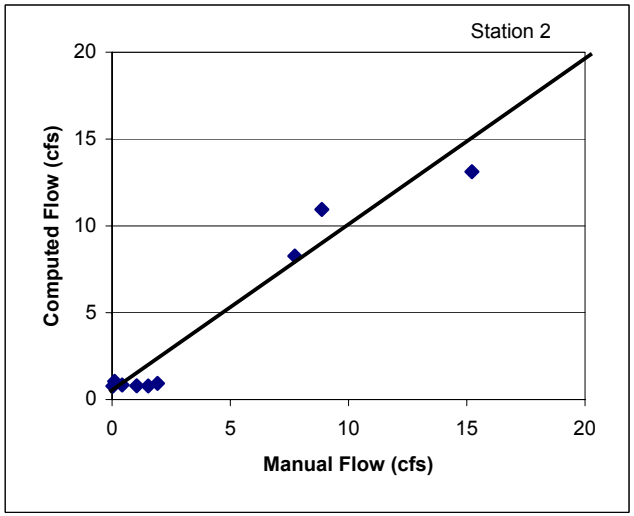


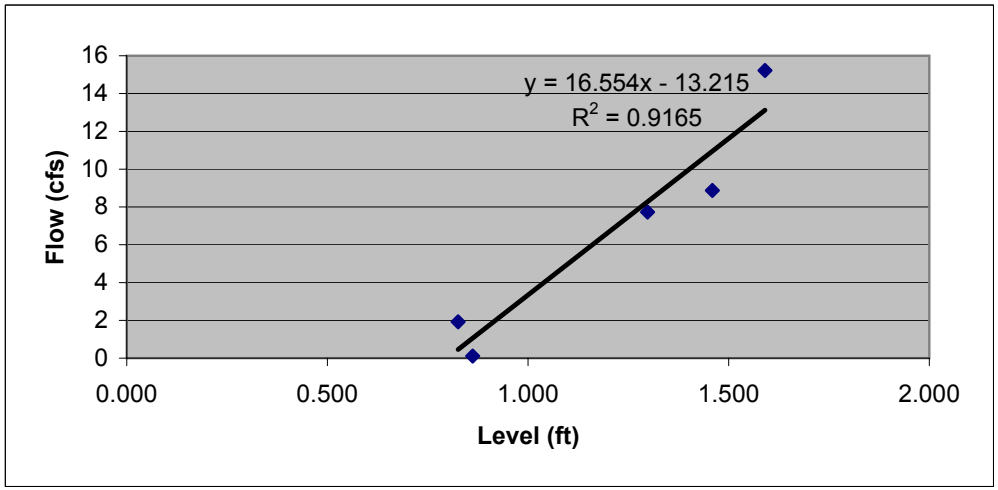
Relationships Used: 2 Linear Fits

For Level <= 0.85536
Flow = 0.5563 (Level) + 0.4688

For Level > 0.85536
Flow = 16.554 (Level) - 13.215


y = 0.5563x + 0.4688
R2 = 0.0095
Flow (cfs)
Level (ft)
2.5
2
1.5
1
0.5
0
0.000
0.200
0.400
0.600
0.800
1.000

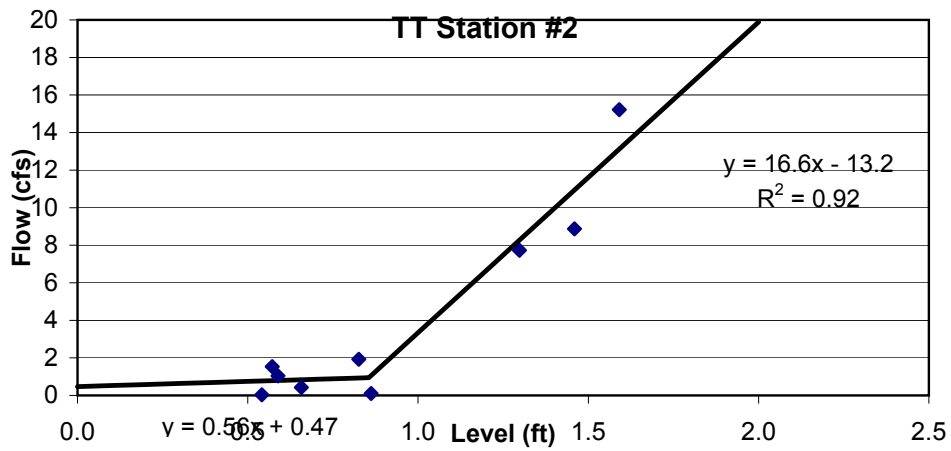

Station 2
Computed Flow (cfs)
Manual Flow (cfs)
20
15
10
5
0
0
5
10
15
20


y = 16.554x - 13.215
R2 = 0.9165
Flow (cfs)
Level (ft)
16
14
12
10
8
6
4
2
0
0.000
0.500
1.000
1.500
2.000

0.85536

Level (ft)	Manual Flo	Computed Flow (cfs)
0.541	0.0356	0.770
0.572	1.5302	0.787
0.589	1.0418	0.796
0.657	0.4278	0.834
0.826	1.9224	0.928
0.862	0.1062	1.055
1.298	7.7274	8.267
1.4595	8.86905	10.946
1.591	15.2172	13.117

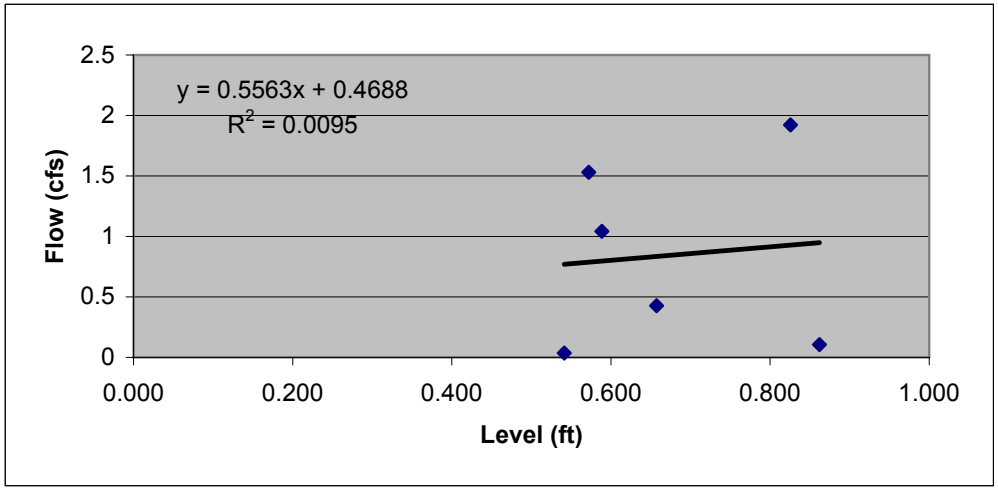
Level	Flow (computed from rating)
0	0.4688
0.1	0.52443
0.2	0.58006
0.3	0.63569
0.4	0.69132
0.5	0.74695
0.6	0.80258
0.7	0.85821
0.8	0.91384
0.85536	0.944637
0.85537	0.944795
0.9	1.6836
1	3.339
1.1	4.9944
1.2	6.6498
1.3	8.3052
1.4	9.9606
1.5	11.616
1.6	13.2714
1.7	14.9268
1.8	16.5822
1.9	18.2376
2	19.893

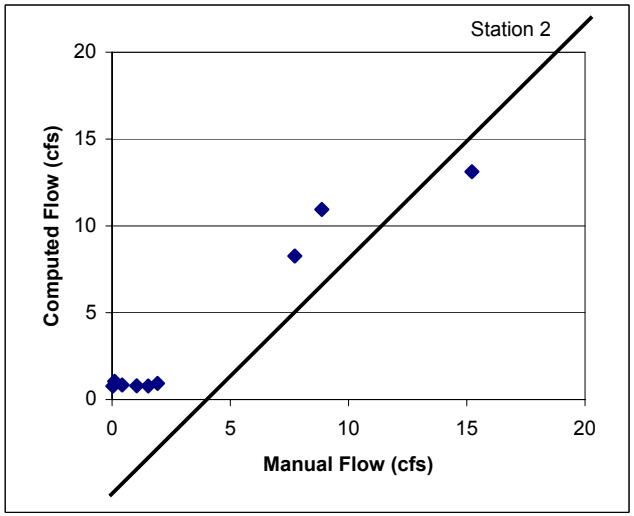


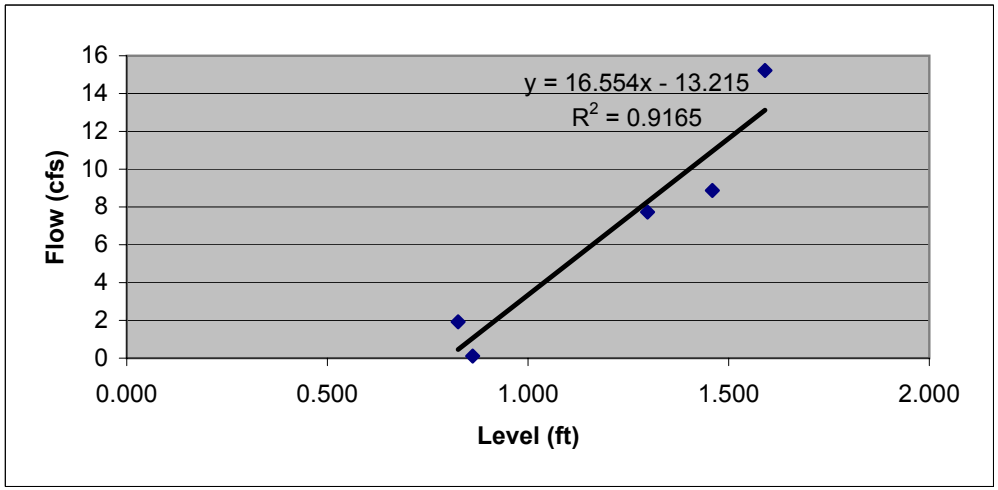
Relationships Used: 2 Linear Fits

For Level <= 0.85536
Flow = 0.5563 (Level) + 0.4688

For Level > 0.85536
Flow = 16.554 (Level) - 13.215


y = 0.5563x + 0.4688
R2 = 0.0095
Flow (cfs)
Level (ft)
2.5
2
1.5
1
0.5
0
0.000
0.200
0.400
0.600
0.800
1.000


Station 2
Computed Flow (cfs)
Manual Flow (cfs)
20
15
10
5
0
0
5
10
15
20

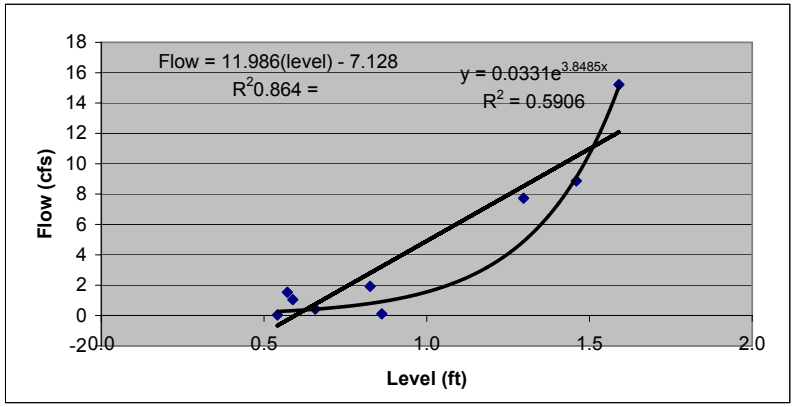

y = 16.554x - 13.215
R2 = 0.9165
Flow (cfs)
Level (ft)
16
14
12
10
8
6
4
2
0
0.000
0.500
1.000
1.500
2.000

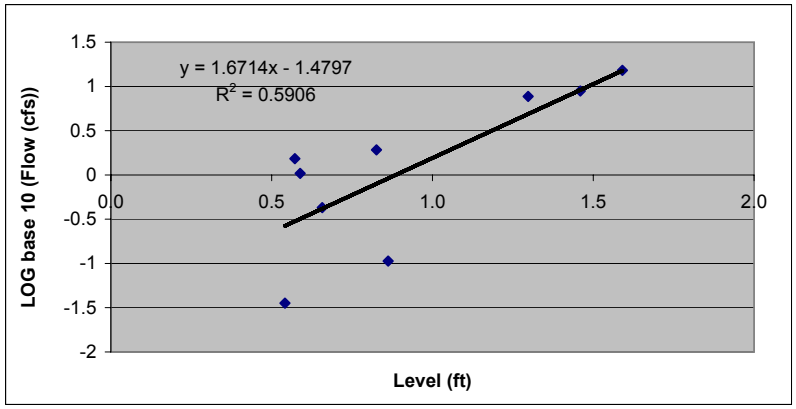
0.85536

Date	Time of Calibration	ISCO Download Level (ft)	ISCO Download Velocity (fps)	ISCO Display Level (ft)	ISCO Display Velocity (fps)	Manual Flow (cfs)
8/24/2001	1500-1545	0.826	0.03	0.7	0.2	1.9224
9/17/2001	1350-1405	0.541	0.17	NR	0.1	0.0356
9/27/2001	1622-1630	NR	NR	0.572	0.08	1.5302
10/15/2001	1440-1451	0.589	0.46	0.585	0.46	1.0418
10/17/2001	1036-1049	1.298	NR	1.32	0.26	7.7274
11/29/2001	1445-1452	0.657	NR	0.56	0.11*	0.4278
12/14/2001	1338-1348	0.862	0.25	0.8	0.07*	0.1062
12/18/2001	1155-1206	1.591	0.46	1.591	0.36*	15.2172
3/22/2002	1012-1033	1.4595	0.4525	1.46	0.49	8.86905

Note: * = Invalid reading from ISCO.

Date	Time of Calibration	Values Used Level (ft)		Manual Flow (cfs)	log10flow
8/24/2001	1500-1545	0.826	ISCO Download Level	1.9224	0.283844
9/17/2001	1350-1405	0.541	ISCO Download Level	0.0356	-1.44855
9/27/2001	1622-1630	0.572	ISCO Download Level	1.5302	0.184748
10/15/2001	1440-1451	0.589	ISCO Download Level	1.0418	0.017784
10/17/2001	1036-1049	1.298	ISCO Download Level	7.7274	0.888033
11/29/2001	1445-1452	0.657	ISCO Download Level	0.4278	-0.368759
12/14/2001	1338-1348	0.862	ISCO Download Level	0.1062	-0.973875
12/18/2001	1155-1206	1.591	ISCO Download Level	15.2172	1.182335
3/22/2002	1012-1033	1.4595	ISCO Download Level	8.86905	0.947877





Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
8/24/2001	1400	0.599	0.27	0.00	0	0	0	0.00	0
8/24/2001	1415	0.698	0.28	1.20	0.6	0.07	0.0672	0.96	0.0672
8/24/2001	1430	0.697	0.28	3.20	1.15	0.31	0.713	2.30	0.713
				5.20	1.1	0.23	0.506	2.20	0.506
				7.20	0.68	0.01	0.01156	1.16	0.01156
				8.60	0	0	0	0	0
Average		0.665	0.28						
Total							1.29776		1.29776

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1400 through 1430. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.45ft and velocity = -0.09fps, the exact time of these readings were not recorded.**

2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1400 and were completed at approximately 1430 each manual reading. was not recorded at an exact fifteen minute interval.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
9/17/2001	1445	0.6	0.2	0.00	0.35	-0.06	-0.021	0.35	-0.021
9/17/2001	1500	0.6	0.2	2.00	1.00	-0.06	-0.12	2.00	-0.120
				4.00	0.60	0.02	0.024	1.20	0.024
				6.00	0.55	-0.01	-0.011	1.10	-0.011
				8.00	0.18	0.01	0.0018	0.18	0.002
Average		0.6	0.2						
Total							-0.1262		
									-0.126

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1450 through 1500. The velocity measurement that was recorded in the field from the Isco display was **velocity = 0.19fps, the exact time of these readings were not recorded. The depth was not recorded.**

2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1450 and were completed at approximately 1500 each manual . reading was not recorded at an exact fifteen minute interval.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
9/27/2001	1400-1401	NR[1]	NR[1]	0.00	0.00	0.00	0	0.00	0
				2.00	0.97	0.09	0.1746	1.94	0.1746
				4.00	0.61	0.10	0.122	1.22	0.122
				6.00	0.80	0.26	0.416	1.60	0.416
				8.00	0.25	NR[2]	NR[2]	0.33	#VALUE!
				8.60	0.00	0.00	0	0	0.000
Average		NR[1]	NR[1]						
Total							0.7126		
									0.7126

Note: 1. ISCO velocity and depth is not recorded for this time. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.597 ft and velocity = 0.22 fps, which were recorded at 1552**.

2. Manual measurements began at 1400 and were completed at approximately 1401; each reading was not recorded at fifteen minute intervals.

3. NR[1] = Not Recorded by ISCO

4. NR[2] = no reading. Water level too shallow for measurement

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
10/15/2001	1345	0.804	0.42	0.00	0.00	0.00	0.196	0.00	0
10/15/2001	1400	0.817	0.42	2.00	0.98	0.10	0.9922	1.96	0.196
				4.00	1.21	0.41	0.9374	2.42	0.9922
				6.00	1.09	0.43	0.08424	2.18	0.9374
				8.00	0.78	0.09	0	0.94	0.08424
				8.40	0.00	0.00	0	0	0
Average		0.811	0.42						
Total							2.20984		2.20984

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1345 to 1400. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.809 ft and velocity = 0.45 fps, which were recorded at 1331**.
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1345 and were completed at approximately 1348; each reading was not recorded at fifteen minute intervals.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft_	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
10/17/2001	0945	1.004	0.81	0.00	0.00	0.00	0	0.00	0
10/17/2001	1000	1.028	0.75	2.00	1.29	0.35	0.903	2.58	0.903
10/17/2001	1015	1.036	0.90	4.00	1.48	0.76	2.2496	2.96	2.2496
				6.00	1.27	0.69	1.7526	2.54	1.7526
				8.00	1.01	0.25	0.32825	1.31	0.32825
				8.60	0.00	0.00	0	0	0
Average		1.023	0.82						
Total							5.23345		5.23345

Note: 1. ISCO velocity and depth is taken from the downloaded data for 0945 to 1015. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.021 ft and velocity = 0.64 fps, which were recorded at 0945**.
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1003 and were completed at approximately 1007; each reading was not recorded at fifteen minute intervals.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft_	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
11/29/2001	1415	0.781	NR	0.00	0.00	0.00	0	0.00	0
11/29/2001	1430	0.782	0.3	2.00	0.95	-0.08	-0.152	1.90	-0.152
				4.00	0.75	0.12	0.18	1.50	0.18
				6.00	0.88	0.14	0.2464	1.76	0.2464
				8.00	0.59	-0.03	-0.025665	0.86	-0.02567
				8.90	0.00	0.00	0	0	0
Average		0.7815	0.30						
Total							0.248735		0.248735

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1415 to 1430. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.75 ft and velocity = 0.22* fps, which were recorded at 1421.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1422 and were completed at approximately 1425; each reading was not recorded at fifteen minute intervals.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft_	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
12/14/2001	1415	0.797	NR	0.00	0.00	0.00	0	0.00	0
12/14/2001	1430	0.794	NR	2.00	0.95	0.07	0.133	1.90	0.133
12/14/2001	1445	0.795	NR	4.00	0.78	0.20	0.312	1.56	0.312
				6.00	1.09	0.12	0.2616	2.18	0.2616
				8.00	0.65	-0.01	-0.0078	0.78	-0.0078
				8.40	0.00	0.00	0	0	0
Average		0.795	NR						
Total							0.6988		0.6988

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1415 to 1445. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.795 ft and velocity = 0.51* fps, which were recorded at 1425**.
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1429 and were completed at approximately 1432; each reading was not recorded at fifteen minute intervals.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft_	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
12/18/2001	1230	1.374	1.44	0.00	1.35	1.45	1.9575	1.35	1.9575
12/18/2001	1245	1.39	1.4	2.00	1.71	1.35	4.617	3.42	4.617
				4.00	1.75	0.90	3.15	3.50	3.15
				6.00	1.23	0.24	0.5904	2.46	0.5904
				8.00	0.55	0.21	0.144375	0.69	0.144375
				8.50	0.00	0.00	0	0	0
Average		1.382	1.42						
Total							10.459275		10.45928

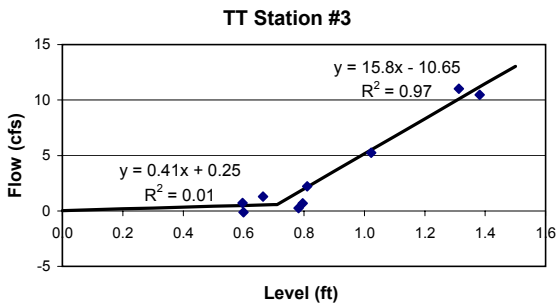
Note: 1. ISCO velocity and depth is taken from the downloaded data for 1230 to 1245. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.374 ft and velocity = 1.60 fps, which were recorded at 1226.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1230 and were completed at approximately 1235; each reading was not recorded at fifteen minute intervals.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
3/21/2002	0915	1.306	1.4	0.00	0.00	0.00		0.00	0
3/21/2002	0930	1.32	1.19	2.00	1.13	0.51		2.26	1.1526
				4.00	1.58	1.25		3.16	3.95
				6.00	1.76	1.22		3.52	4.2944
				8.00	1.55	0.66		2.33	1.5345
				9.00	0.54	0.36		0.27	0.0972
Average		1.313	1.30						
Total									11.0287

Note: 1. ISCO velocity and depth is taken from the downloaded data for 0915 to 0930. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.305 ft and velocity = 1.26 fps, which were recorded at 0913.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 0926 and were completed at approximately 0931; each reading was not recorded at fifteen minute intervals.

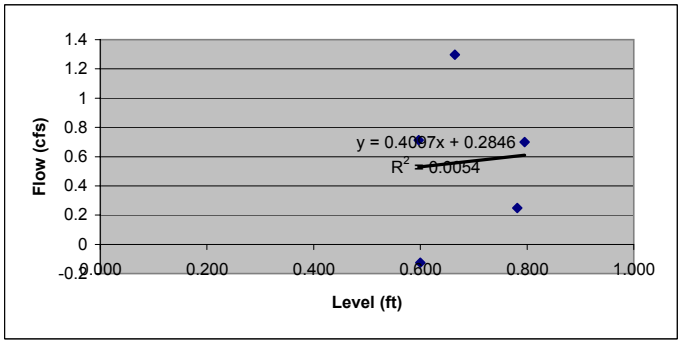
Level, ft	Manual Flo	Computed Flow, cfs
0.597	0.7126	0.492
0.600	-0.1262	0.494
0.665	1.29776	0.545
0.782	0.248735	0.637
0.795	0.6988	1.912
0.811	2.20984	2.152
1.023	5.23345	5.504
1.313	11.0287	10.091
1.382	10.45928	11.182

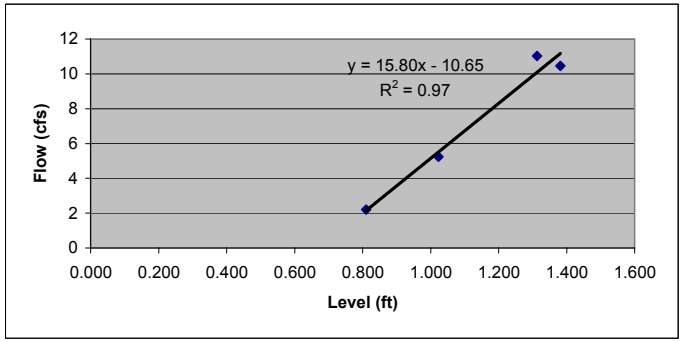
Level (ft)	Flow from Rating (cfs)
0	0.0239
0.1	0.10231
0.2	0.18072
0.3	0.25913
0.4	0.33754
0.5	0.41595
0.6	0.49436
0.7	0.57277
0.7111	0.581474
0.7112	0.58296
0.8	1.986
0.9	3.566
1	5.146
1.1	6.726
1.2	8.306
1.3	9.886
1.4	11.466
1.5	13.046

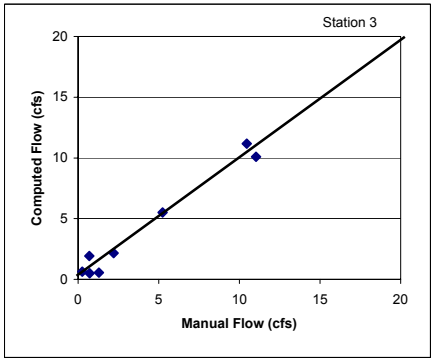


Relationship Used for Model
For Level <= 0.7105 ft
Flow = (0.4097*Level)+0.2846

For Level > 0.7105 ft
Flow = (15.8*Level)-10.654





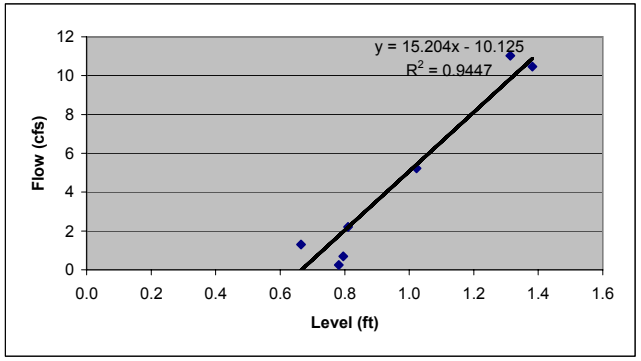


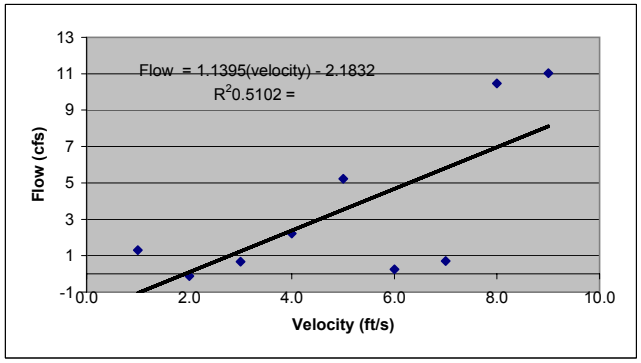
Date	Time of Calibration	ISCO Download Level (ft)	ISCO Download Velocity (fps)	ISCO Display Level (ft)	ISCO Display Velocity (fps)	Manual Flow (cfs)
8/24/2001	1400-1430	0.665	0.28	0.45	-0.09	1.29776
9/17/2001	1450-1500	0.600	0.20	NR	0.19	-0.1262
9/27/2001	1400-1401	NR	NR	0.597	0.22	0.7126
10/15/2001	1345-1348	0.811	0.42	0.809	0.45	2.20984
10/17/2001	1003-1007	1.023	0.82	1.021	0.64	5.23345
11/29/2001	1422-1425	0.782	0.30	0.75	0.22*	0.248735
12/14/2001	1429-1432	0.795	NR	0.795	0.51*	0.6988
12/18/2001	1230-1235	1.382	1.42	1.374	1.6	10.459275
3/21/2002	0926-0931	1.313	1.295	1.305	1.26	11.0287

Note * = Invalid reading from ISCO

Values Used for Graph 1

Date	Time of Calibration	Level (ft)		Manual Flow (cfs)
8/24/2001	1400-1430	0.665	ISCO Download Level	1.29776
9/17/2001	1450-1500	0.600	ISCO Download Level	-0.1262
9/27/2001	1400-1401		ISCO Download Level	0.7126
10/15/2001	1345-1348	0.811	ISCO Download Level	2.20984
10/17/2001	1003-1007	1.023	ISCO Download Level	5.23345
11/29/2001	1422-1425	0.782	ISCO Download Level	0.248735
12/14/2001	1429-1432	0.795	ISCO Download Level	0.6988
12/18/2001	1230-1235	1.382	ISCO Download Level	10.459275
3/21/2002	0926-0931	1.313	ISCO Download Level	11.0287





Values Used for Graph 2

Date	Time of Calibration	Velocity (ft/s)		Manual Flow (cfs)
8/24/2001	1400-1430	0.28	ISCO Download Velocity	1.29776
9/17/2001	1450-1500	0.20	ISCO Download Velocity	-0.1262
9/27/2001	1400-1401		ISCO Download Velocity	0.67768
10/15/2001	1345-1348	0.42	ISCO Download Velocity	2.20984
10/17/2001	1003-1007	0.82	ISCO Download Velocity	5.23345
11/29/2001	1422-1425	0.30	ISCO Download Velocity	0.248735
12/14/2001	1429-1432	NR	ISCO Download Velocity	0.6988
12/18/2001	1230-1235	1.42	ISCO Download Velocity	10.459275
3/21/2002	0926-0931	1.295	ISCO Download Velocity	11.0287

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
8/30/2001	1400-1415	NR	NR	0.00	0.00	0.00	0.121875	0.00	0
				0.50	0.65	0.25	0.4004	0.49	0.121875
				1.50	0.52	0.77	0.18354	0.52	0.4004
				2.50	0.23	1.40	0	0.16	0.2254
				2.90	0.00	0.00		0	0
								1.17	0.747675
Average		NR	NR						
Total							0.705815		

Note: 1. ISCO velocity and depth were not downloaded. This ISCO was not running at this time. Depth and velocity measurements were not recorded in the field from the ISCO display.

2. Manual measurements began at 1400 and were completed at approximately 1415 each manual reading

3. NR = not recorded. Data lost from ISCO due to equipment problems.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth(ft)	Manual Velocity (fps)	Manual Flow Calculated	increment area	vel*area
9/17/2001	1425-1435	NR[1]	NR[1]	0.00	0.01	NR[2]	NR[2]	0.01	0
				1.00	0.45	1.14	0.513	0.45	0.513
				2.00	0.40	1.30	0.364	0.28	0.364
				2.40	0.05	NR	NR[2]	0	0
Average		NR[1]	NR[1]						
Total							0.877	0.74	0.877

Note: 1. ISCO velocity and depth were not downloaded and depth and velocity measurements were not recorded in the field from the ISCO display due to equipment problems. The ISCO was not running.

2. Manual measurements began at 1425 and were completed at approximately 1435.

3. NR[1] = not recorded. Data from the ISCO was not recorded due to equipment problems.

4. NR[2] = no reading. Water level too shallow for measurement.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
9/27/2001	1522-1524	NR	NR	0.00	0.00	0.00	0	0.00	0
				1.00	0.35	1.37	0.4795	0.35	0.4795
				2.00	0.46	1.41	0.6486	0.46	0.6486
				3.00	0.00	0.00	0	0.00	0
								0	0
Average		NR	NR						
Total							1.1281	0.81	1.1281

Note: 1. ISCO velocity and depth were not downloaded due to problems with the ISCO . The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.511ft and velocity = 2.03fps which were recorded at 1503**.

2. Manual measurements began at 1522 and were completed at approximately 1524.

3. NR = Not Recorded by ISCO

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
10/15/2001	1400	0.382	1.46	0.00	0.00	0.00	0	0.00	0
10/15/2001	1415	0.384	1.60	1.00	0.40	1.38	0.552	0.40	0.552
				2.00	0.38	1.51	0.5738	0.38	0.5738
				3.00	0.00	0.00	0	0.00	0
								0	0
Average		0.383	1.53						
Total							1.1258	0.78	1.1258

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1400 to 1415. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.585 ft and velocity = 0.46 fps, which were recorded at 1417**.
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1003 and were completed at approximately 1007; each reading was not recorded at fifteen minute intervals.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
10/17/2001	1000	0.885	2.38	0.00	0.00	0.00	0	0.00	0
10/17/2001	1015	0.884	2.45	1.00	0.78	2.13	1.6614	0.78	1.6614
10/17/2001	1030	0.895	2.27	2.00	1.05	2.93	3.0765	1.05	3.0765
				3.00	0.76	2.48	1.8848	0.76	1.8848
				4.00	0.00	0.00	0	0	0
Average		0.888	2.37					2.59	6.6227
Total							6.6227		

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1000 to 1030. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.884 ft and velocity = 2.28 fps, which were recorded at 1019**.
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1015 and were completed at approximately 1018; each reading was not recorded at fifteen minute intervals.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
11/29/2001	1400	0.382	NR	0.00	0.00	0.00	0	0.00	0
11/29/2001	1415	0.38	0.91	1.00	0.49	0.69	0.3381	0.49	0.3381
				2.00	0.35	1.41	0.64155	0.46	0.64155
				3.60	0.00	0.00	0	0	0
Average		0.381	0.91					0.95	0.97965
Total							0.97965		

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1400 to 1415. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.377 ft and velocity = 0.91 fps, which were recorded at 1408.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1414 and were completed at approximately 1415; each reading was not recorded at fifteen minute intervals.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
12/14/2001	1400	0.527	1.78	0.00	0.00	0.00	0	0.00	0
12/14/2001	1415	0.526	1.76	1.00	0.65	1.61	1.0465	0.65	1.0465
				2.00	0.55	1.77	0.827475	0.47	0.827475
				2.70	0.00	0.00	0	0	0
Average		0.5265	1.77					1.12	1.873975
Total							1.873975		

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1400 to 1415. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.526 ft and velocity = 1.94 fps, which were recorded at 1418.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1419 and were completed at approximately 1420; each reading was not recorded at fifteen minute intervals.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
12/18/2001	1200	1.069	2.99	0.00	0.00	0.00	0	0.00	0
12/18/2001	1215	1.074	3.07	1.00	1.10	2.70	2.97	1.10	2.97
				2.00	1.05	3.26	3.423	1.05	3.423
				3.00	0.00	0.00	0	0	0
Average		1.0715	3.03					2.15	6.393
Total							6.393		

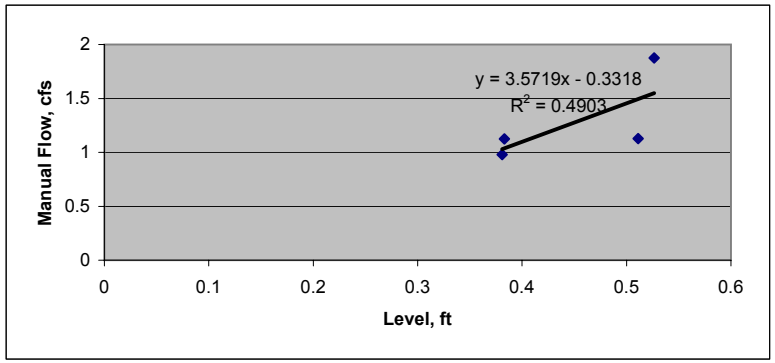
Note: 1. ISCO velocity and depth is taken from the downloaded data for 1200 to 1215. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.07 ft and velocity = 2.75 fps, which were recorded at 1208.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1210 and were completed at approximately 1212; each reading was not recorded at fifteen minute intervals.

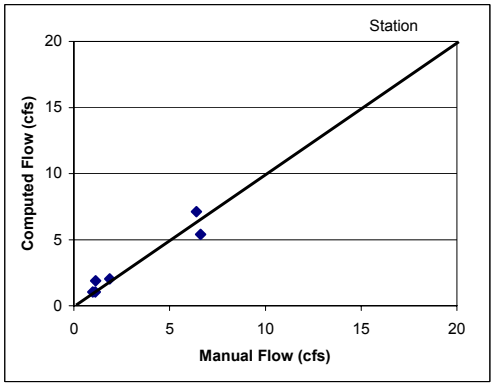
Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated	increment area	vel*area
3/21/2002	0930	0.948	2.5	0.00	0.00	0.00	0	0.00	0
3/21/2002	0945	0.981	2.47	1.00	0.78	4.75	3.705	0.78	3.705
				2.00	0.95	5.51	5.2345	0.95	5.2345
				3.00	0.77	5.14	3.9578	0.77	3.9578
				4.00	0.00	0.00	0	0	0
Average		0.9645	2.49					2.50	12.8973
Total							12.8973		

Note: 1. ISCO velocity and depth is taken from the downloaded data for 0930 to 0945. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.001 ft and velocity = 2.48 fps, which were recorded at 0945.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 0939 and were completed at approximately 0944; each reading was not recorded at fifteen minute intervals.

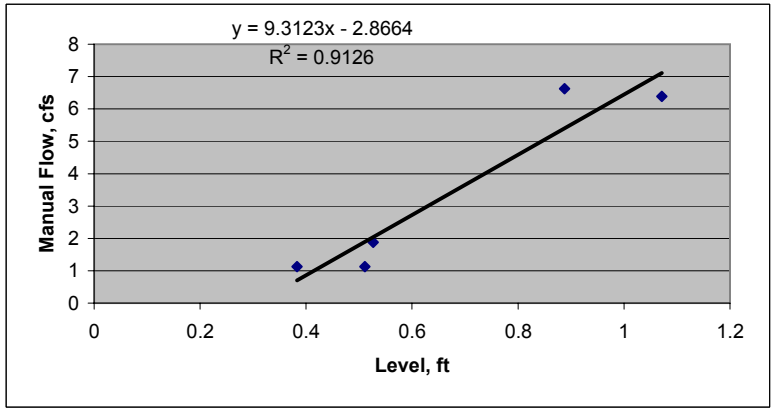
ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
0.948	2.5	0.00	0.00	0.00	0
0.981	2.47	1.00	0.78	2.75	3.705
		2.00	0.95	3.51	5.2345
		3.00	0.77	3.14	3.9578
		4.00	0.00	0.00	0
0.9645	2.49				
					12.8973

Level, ft	Manual Flc	Computed Flow, cfs
0.381	0.97965	1.029094
0.383	1.1258	1.036238
0.511	1.1281	1.892185
0.5265	1.873975	2.036526
0.888	6.6227	5.402922
1.0715	6.393	7.111729





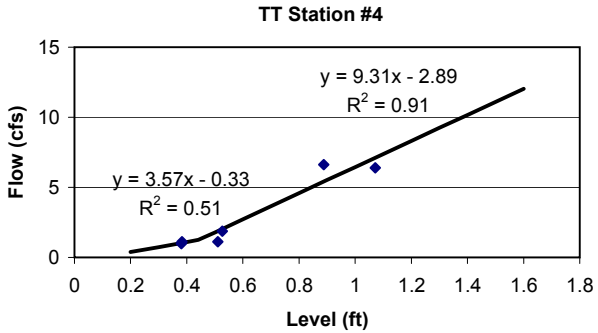
Level	Flow, computed, cfs
0.1	0.02539
0.2	0.38258
0.3	0.73977
0.4	1.09696
0.4415	1.245194
0.4416	1.245912
0.5	1.78975
0.6	2.72098
0.7	3.65221
0.8	4.58344
0.9	5.51467
1	6.4459
1.1	7.37713
1.2	8.30836
1.3	9.23959
1.4	10.17082
1.5	11.10205
1.6	12.03328



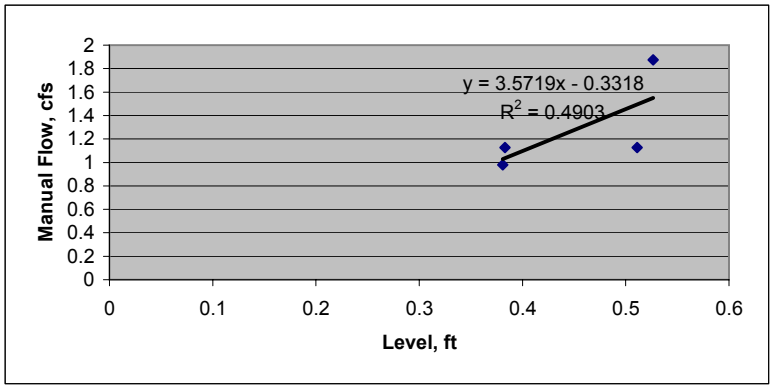
For Depth > 0.4415
Flow = 9.3123*Depth - 2.8664

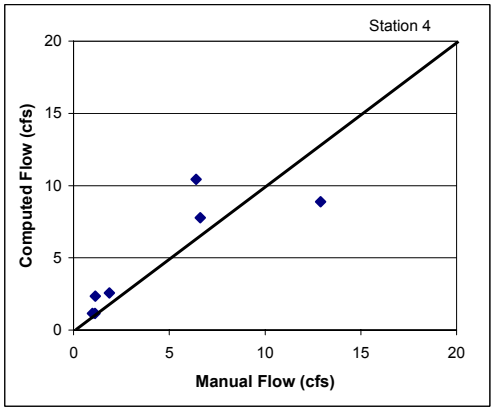
For Depth <= 0.4415
Flow=3.5719*Depth-0.3318

For Depth <= 0.0929
Flow = 0

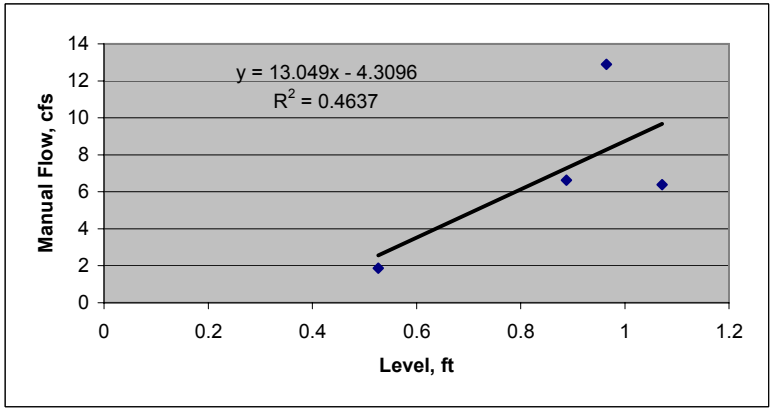


Level, ft	Manual Flc	Computed Flow, cfs
0.381	0.97965	1.151346
0.383	1.1258	1.159482
0.511	1.1281	2.347655
0.5265	1.873975	2.570933
0.888	6.6227	7.77834
0.9645	12.8973	8.880323
1.0715	6.393	10.42166





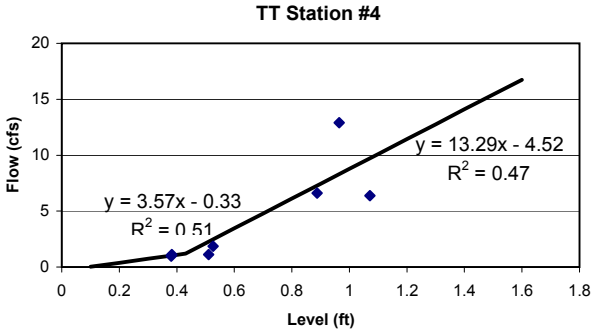
Level	Flow, computed, cfs
0.1	0.02412
0.2	0.38104
0.3	0.73796
0.4	1.09488
0.4302	1.20267
0.4303	1.204117
0.5	2.1305
0.6	3.4596
0.7	4.7887
0.8	6.1178
0.9	7.4469
1	8.776
1.1	10.1051
1.2	11.4342
1.3	12.7633
1.4	14.0924
1.5	15.4215
1.6	16.7506



For Depth > 0.4302
Flow = 13.291*Depth - 4.515

For Depth <= 0.4302
Flow=3.5692*Depth-0.3328

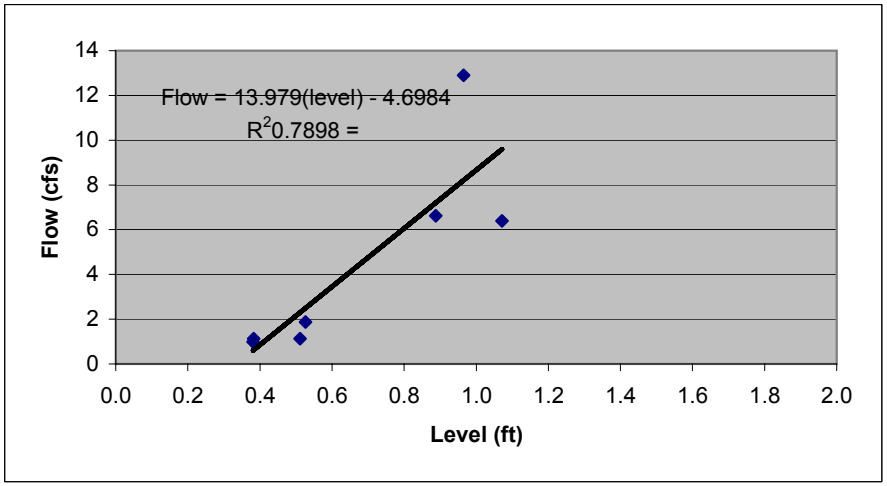
For Depth <= 0.9324
Flow = 0



Date	Time of Calibration	ISCO Download Level (ft)	ISCO Download Velocity (fps)	ISCO Display Level (ft)	ISCO Display Velocity (fps)	Manual Flow (cfs)
8/30/2001	1400-1415	NR	NR	NR	NR	0.747675
9/17/2001	1425-1435	NR	NR	NR	NR	0.877
9/27/2001	1522-1524	NR	NR	0.511	2.03	1.1281
10/15/2001	1003-1007	0.383	1.53	0.585	0.46	1.1258
10/17/2001	1015-1018	0.888	2.37	0.884	2.28	6.6227
11/29/2001	1414-1415	0.381	0.91	0.377	0.91	1.25013
12/14/2001	1419-1420	0.5265	1.77	0.526	1.94	2.24025
12/18/2001	1210-1212	1.0715	3.03	1.07	2.75	7.878
3/21/2002	0939-0944	0.9645	2.485	1.001	2.48	12.8973

Values Used

Date	Level (ft)		Vel (ft/s)	Manual Flow (cfs)
8/30/2001		ISCO Download Level		0.747675
9/17/2001		ISCO Download Level		0.877
9/27/2001	0.511	ISCO Download Level	2.03	1.1281
10/15/2001	0.383	ISCO Download Level	1.53	1.1258
10/17/2001	0.888	ISCO Download Level	2.37	6.6227
11/29/2001	0.381	ISCO Download Level	0.91	0.97965
12/14/2001	0.5265	ISCO Download Level	1.77	1.873975
12/18/2001	1.0715	ISCO Download Level	3.03	6.393
3/21/2002	0.9645	ISCO Download Level	2.49	12.8973



The relationship to the right was used for the model
A provision was included to set flows to zero when
the rating curve relationship provided a negative value
this occurred when the water level dropped below 0.3??

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
8/27/2001	1500	0.7	0.28	0.00	0.40	0.01	0.004
8/27/2001	1515	0.699	0.29	2.00	0.70	0.12	0.168
8/27/2001	1530	0.698	0.25	4.00	0.80	0.12	0.192
8/27/2001	1545	0.697	0.28	6.00	1.00	0.10	0.2
8/27/2001	1600	0.696	0.28	8.00	1.10	0.29	0.638
				10.00	1.00	0.20	0.4
				12.00	0.90	0.26	0.468
				14.00	0.90	0.14	0.252
				16.00	1.00	0.25	0.5
				18.00	0.80	0.01	0.008
Average		0.698	0.28				
Total							2.83

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1500 through 1600. The depth and velocity measurements that were not recorded in the field from the Isco display.
2. The five minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1520 and were completed at approximately 1550 each manual reading was not recorded at an exact fifteen minute interval.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth(ft)	Manual Velocity (fps)	Manual Flow Calculated
9/17/2001	1230-1245	NR	NR	0.00	0.49	-0.08	-0.0392
				2.00	0.62	-0.05	-0.062
				4.00	0.81	0.01	0.0162
				6.00	0.98	0.05	0.098
				8.00	0.90	0.05	0.09
				10.00	0.98	0.07	0.1372
				12.00	0.88	0.10	0.176
				14.00	0.95	-0.02	-0.038
				16.00	0.98	0.01	0.0196
				18.00	0.70	-0.04	-0.028
Average		NR	NR				
Total							0.3698

Note: 1. ISCO velocity and depth were not downloaded. Due to problems with the ISCO data was lost. The velocity measurement that was recorded in the field from the Isco display was **velocity = 0.31fps, the exact time of these readings were not recorded. The depth was not recorded.**

2. Manual measurements began at 1230 and were completed at approximately 1245.

3. NR = Not Recorded

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
9/27/2001	1445 - 1455	NR	NR	0.00	0.50	0.08	0.04
				2.00	0.79	0.14	0.2212
				4.00	0.91	0.20	0.364
				6.00	0.98	0.26	0.5096
				8.00	1.04	0.21	0.4368
				10.00	0.97	0.24	0.4656
				12.00	0.96	0.30	0.576
				14.00	1.13	0.15	0.339
				16.00	1.01	0.22	0.4444
				18.00	0.14	0.08	0.0112
Average		NR	NR				
Total							3.4078

Note: 1. ISCO velocity and depth was not recorded due to problems with the instrument data was not stored. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.643ft and velocity = 0.25fps which were recorded at 1428.**
2. Manual measurements began at 1445 and were completed at approximately 1455.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
10/15/2001	1300	0.844	0.29	0.00	1.02	0.07	0.0714
10/15/2001	1315	0.849	0.29	2.00	1.24	0.07	0.1736
10/15/2001	1330	0.854	0.41	4.00	1.16	0.12	0.2784
				6.00	1.15	0.19	0.437
				8.00	1.21	0.21	0.5082
				10.00	1.17	0.14	0.3276
				12.00	1.16	0.11	0.2552
				14.00	1.02	0.14	0.2856
				16.00	0.84	0.11	0.1848
				18.00	0.77	0.04	0.0308
Average		0.849	0.33				
Total							2.5526

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1300 through 1330. The depth and velocity measurements that were recorded in the field from the Isco display; **depth =0.824 ft and velocity = 0.26fps at 1248**.
2. The five minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1310 and were completed at approximately 1318 each manual reading was not recorded at an exact fifteen minute interval.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
10/17/2001	1115	1.401	NR	0.00	0.43	1.63	0.7009
10/17/2001	1130	1.390	NR	2.00	0.59	3.82	2.2538
10/17/2001	1145	1.385	NR	4.00	0.85	3.38	2.873
				6.00	0.77	3.36	2.5872
				8.00	0.66	3.42	2.2572
				10.00	0.50	3.22	1.61
				12.00	0.55	3.52	1.936
				14.00	0.47	3.06	1.4382
				16.00	0.43	2.96	1.2728
				18.00	0.44	1.3	0.572
Average		1.392	NR				
Total							17.5011

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1115 through 1145. The depth and velocity measurements that were recorded in the field from the Isco display; **depth = 1.41ft and velocity = 0.62fps at 1120**.
2. The five minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1126 and were completed at approximately 1135 each manual reading was not recorded at an exact fifteen minute interval.
3. NR = not recorded by the ISCO

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
11/29/2001	1345	1.028	NR	0.00	1.30	-0.06	-0.078
11/29/2001	1400	1.03	NR	2.00	1.54	0.05	0.154
				4.00	1.35	0.06	0.162
				6.00	1.37	0.09	0.2466
				8.00	1.41	0.07	0.1974
				10.00	1.34	0.06	0.1608
				12.00	1.26	0.05	0.126
				14.00	1.28	0.04	0.1024
				16.00	1.08	0.02	0.0432
				18.00	0.87	-0.02	-0.0174
Average		1.029	NR				
Total							1.097

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1345 through 1400. The depth and velocity measurements that were recorded in the field from the Isco display; **depth = 1.027ft and velocity = 0.21*fps at 1120** .

2. The five minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1351 and were completed at approximately 1358 each manual reading was not recorded at an exact fifteen minute interval.

3. NR = not recorded by the ISCO

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
12/14/2001	1300	1.075	NR	0.00	1.00	0.07	0.07
12/14/2001	1315	1.072	NR	2.00	1.15	0.05	0.115
12/14/2001	1330	1.072	NR	4.00	1.30	0.09	0.234
				6.00	1.36	0.09	0.2448
				8.00	1.42	0.11	0.3124
				10.00	1.43	0.15	0.429
				12.00	1.34	0.21	0.5628
				14.00	1.32	0.2	0.528
				16.00	1.45	0.07	0.203
				18.00	1.18	0.03	0.0354
Average		1.073	NR				
Total							2.7344

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1300 through 1330. The depth and velocity measurements that were recorded in the field from the Isco display; **depth = 1.075 ft and velocity = 0.29* fps at 1305**.

2. The five minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1310 and were completed at approximately 1318 each manual reading was not recorded at an exact fifteen minute interval.

3. NR = not recorded by the ISCO

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
12/18/2001	1315	1.648	1.09	0.00	1.85	0.92	1.702
12/18/2001	1330	1.651	0.1	2.00	2.10	1.1	4.62
				4.00	1.91	1.12	4.2784
				6.00	1.90	1.23	4.674
				8.00	2.00	1.26	5.04
				10.00	1.73	0.91	3.1486
				12.00	1.95	0.92	3.588
				14.00	1.89	0.68	2.5704
				16.00	1.69	0.73	2.4674
				18.00	1.48	0.58	0.8584
Average		1.6495	0.595				
Total							32.9472

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1315 through 1330. The depth and velocity measurements that were recorded in the field from the Isco display; **depth = 1.647ft and velocity = 1.11*fps at 1307**.

2. The five minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1319 and were completed at approximately 1323 each manual reading was not recorded at an exact fifteen minute interval.

3. NR = not recorded by the ISCO

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance from initial Point (ft)	Depth (ft) d	Mean Velocity (fps) v	Flow (cfs) vXdXw
3/21/2002	1000	1.465	NR	0.00	1.24	0.46	0.5704
3/21/2002	1015	1.471	NR	2.00	1.29	0.6	1.548
3/21/2002	1030	1.473	NR	4.00	1.67	0.62	2.0708
				6.00	1.77	0.74	2.6196
				8.00	1.91	0.8	3.056
				10.00	1.77	0.95	3.363
				12.00	1.75	0.95	3.325
				14.00	1.70	0.91	3.094
				16.00	1.91	0.65	2.483
				18.00	1.07	0.72	0.7704
Average		1.468	NR				
Total							22.9002

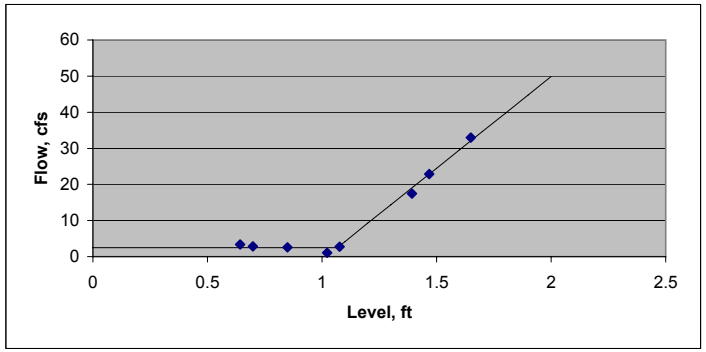
Note: 1. ISCO velocity and depth is taken from the downloaded data for 1000 through 1030. The depth and velocity measurements that were recorded in the field from the Isco display; **depth = 1.465ft and velocity = 0.12*fps at 1010**.

2. The five minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1012 and were completed at approximately 1020 each manual reading was not recorded at an exact fifteen minute interval.

3. NR = not recorded by the ISCO

Level, ft	Manual Flo	Computed Flow, cfs
0.643	3.4078	2.524
0.698	2.83	2.524
0.849	2.5526	2.524
1.022	1.097	2.524
1.077	2.7344	2.524
1.392	17.5011	19.00931
1.468	22.9002	22.86715
1.649	32.9472	32.05489

Level, ft	Flow, cfs, from rating curve
0	2.524
0.1	2.524
0.2	2.524
0.3	2.524
0.4	2.524
0.5	2.524
0.6	2.524
0.7	2.524
0.8	2.524
0.9	2.524
1	2.524
1.067	2.524
1.068	2.562748
1.1	4.1871
1.2	9.2632
1.3	14.3393
1.4	19.4154
1.5	24.4915
1.6	29.5676
1.7	34.6437
1.8	39.7198
1.9	44.7959
2	49.872

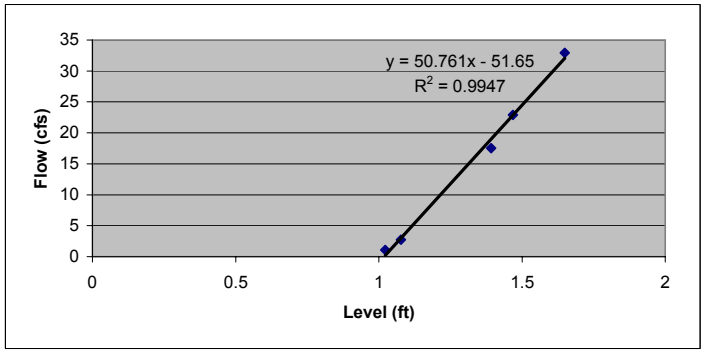


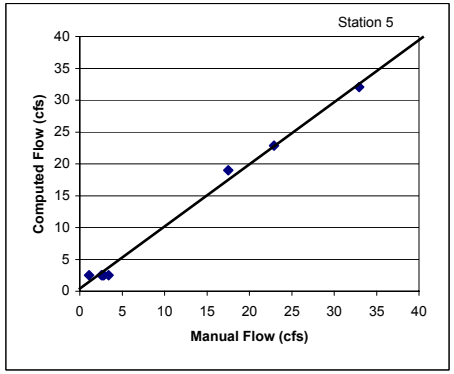
Average of first 5 points
2.52436

For Level <= 1.067 ft
Flow is a constant at 2.524 cfs

For Level > 1.067 ft
Flow = 50.761 (Level) - 51.65

Level	Flow	Velocity
0.698	2.83	
	0.3698	0.31
0.643	3.4078	0.25
0.849	2.5526	0.26
1.392	17.5011	0.62
1.022	1.097	0.21*
1.077	2.7344	0.29*
1.649	32.9472	1.11*
1.468	22.9002	0.12*

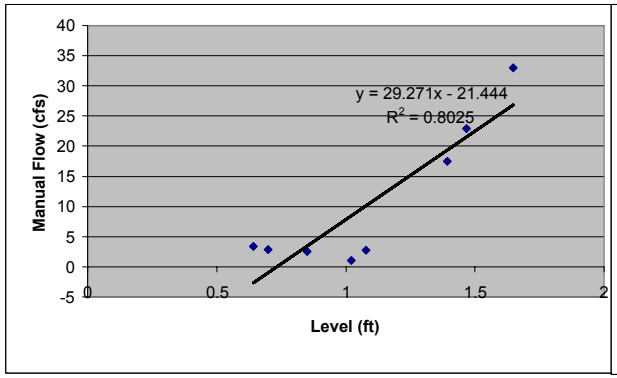


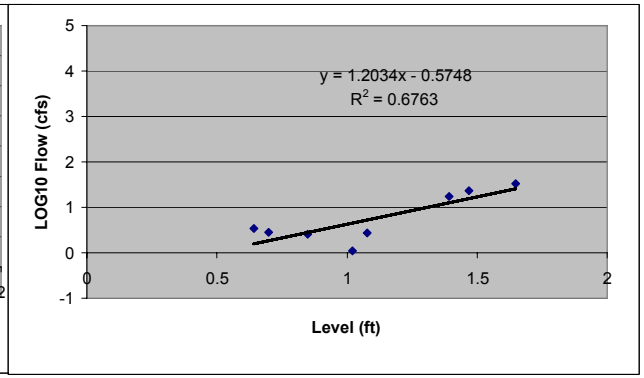


Date	Time of Calibration	ISCO Download Level (ft)	ISCO Download Velocity (fps)	ISCO Diplay Level (ft)	ISCO Display Velocity (fps)	Manual Flow (cfs)
8/27/2001	1520-1550	0.698	0.276	NR	NR	2.83
9/17/2001	1230-1245	NR	NR	NR	0.31	0.3698
9/27/2001	1445-1455	NR	NR	0.643	0.25	3.4078
10/15/2001	1310-1318	0.849	0.33	0.824	0.26	2.5526
10/17/2001	1126-1135	1.029	NR	1.41	0.62	17.5011
11/29/2001	1351-1358	1.022	0.21	1.027	0.21*	1.097
12/14/2001	1310-1318	1.073	NR	1.075	0.29*	2.7344
12/18/2001	1319-1323	1.6495	0.595	1.647	1.11*	32.9472
3/21/2002	1012-1020	1.468	NR	1.465	0.12*	22.9002

Note: * = Invalid reading from ISCO

Date	Time of Calibration	Level (ft)		Manual Flow (cfs)	log10flow
8/27/2001	1520-1550	0.698	ISCO Download level	2.83	0.451786
9/17/2001	1230-1245			0.3698	-0.43203
9/27/2001	1445-1455	0.643	ISCO Display Level	3.4078	0.532474
10/15/2001	1310-1318	0.849	ISCO Download level	2.5526	0.406983
10/17/2001	1126-1135	1.392	ISCO Download level	17.5011	1.243065
11/29/2001	1351-1358	1.022	ISCO Download level	1.097	0.040207
12/14/2001	1310-1318	1.077	ISCO Download level	2.7344	0.436862
12/18/2001	1319-1323	1.649	ISCO Download level	32.9472	1.517819
3/21/2002	1012-1020	1.468	ISCO Download level	22.9002	1.359839





Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
8/27/2001	1415	0.939	0.45	0.00	0.70	0.03	0.021
8/27/2001	1430	0.928	0.44	2.00	1.00	0.18	0.36
8/27/2001	1445	0.959	0.44	4.00	1.30	0.25	0.65
				6.00	1.50	0.22	0.66
				8.00	1.50	0.40	1.2
				10.00	1.50	0.28	0.84
				12.00	1.20	0.15	0.36
				14.00	1.00	0.24	0.42
				15.50	0.80	0.11	0.066
Average		0.942	0.44				
Total							4.577

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1415 through 1445. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.966ft and velocity = 0.43fps**, the exact time of these readings were not recorded.

2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1415 and were completed at approximately 1445 each manual reading. was not recorded at an exact fifteen minute interval.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
9/17/2001	1100	0.885	0.33	0.00	0.58	-0.01	-0.0058
9/17/2001	1115	0.885	0.33	2.00	0.78	0.01	0.0156
9/17/2001	1130	0.883	0.34	4.00	1.01	0.14	0.2828
				6.00	1.24	0.24	0.5952
				8.00	0.80	0.21	0.336
				10.00	1.08	0.17	0.3672
				12.00	0.98	0.10	0.196
				14.00	0.79	0.05	0.069125
				15.50	0.63	-0.01	-0.004725
Average		0.884	0.33				
Total							1.8514

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1100 through 1130. The velocity measurement that was recorded in the field from the Isco display was **velocity = 0.32fps,** the exact time of these readings were not recorded. **The depth was not recorded.**

2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1110 and were completed at approximately 1130 each manual . reading was not recorded at an exact fifteen minute interval.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Intial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
9/27/2001	1335 - 1350	NR	NR	0.00	0.22	NR	0.0726
				2.00	0.33	0.11	0.555
				4.00	0.75	0.37	1.2296
				6.00	1.06	0.58	0.7176
				8.00	0.52	0.69	0.428
				10.00	1.07	0.20	0.8372
				12.00	0.91	0.46	0.214375
				14.00	0.49	0.25	0.0486
				15.50	0.36	0.18	
Average		NR	NR				
Total							4.102975

Note: 1. ISCO velocity and depth was not recorded due to problems with the instrument data was not stored. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.539ft and velocity = 0.64fps which were recorded at 1327**.
2. Manual measurements began at 1335 and were completed at approximately 1350.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
10/15/2001	1215	0.966	0.50	0.00	0.62	0.15	0.093
10/15/2001	1230	0.980	0.50	2.00	0.78	0.25	0.39
10/15/2001	1245	0.985	0.56	4.00	1.20	0.30	0.72
				6.00	1.50	0.37	1.11
				8.00	1.55	0.44	1.364
				10.00	1.51	0.34	1.0268
				12.00	1.29	0.33	0.8514
				14.00	0.98	0.27	0.46305
				15.50	0.83	0.16	0.0996
Average		0.977	0.52				
Total							6.11785

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1215 to 1245. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.966ft and velocity = 0.44fps which were recorded at 1201**.
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1221 and were completed at approximately 1252.
Manual measurements were not taken at an exact fifteen minute intervals.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
10/17/2001	1445	1.351	1.19	0.00	1.02	0.49	0.4998
10/17/2001	1500	1.346	1.19	2.00	1.12	0.58	1.2992
10/17/2001	1515	1.337	1.2	4.00	1.56	0.90	2.808
				6.00	1.78	1.07	3.8092
				8.00	2.02	1.41	5.6964
				10.00	1.79	1.48	5.2984
				12.00	1.70	1.24	4.216
				14.00	1.36	0.97	2.3086
				15.50	1.14	0.74	0.6327
Average		1.345	1.19				
Total							26.5683

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1445 to 1515. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.346ft and velocity = 0.94fps which were recorded at 1450**.
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1458 and were completed at approximately 1507.
Manual measurements were not taken at an exact fifteen minute intervals.

Note: Velocities measured at 1458 and completed by approximately 1507.
Isco readings: time = 1450
depth = 1.346 ft
velocity = .94 fps

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
11/29/2001	1315	1.009	NR	0.00	0.75	0.03	0.0225
11/29/2001	1330	1.006	NR	2.00	0.81	0.03	0.0486
				4.00	1.23	0.13	0.3198
				6.00	1.39	0.19	0.5282
				8.00	1.60	0.12	0.384
				10.00	1.50	0.19	0.57
				12.00	1.39	0.08	0.2224
				14.00	1.07	0.06	0.11235
				15.50	0.83	0.06	0.03735
Average		1.008	NR				
Total							2.2452

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1315 to 1330. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.010ft and velocity = 0.31*fps which were recorded at 1315.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1325 and were completed at approximately 1330.
Manual measurements were not taken at an exact fifteen minute intervals.
NR = Not Recorded

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
12/14/2001	1215	1.042	0.5	0.00	0.80	-0.02	-0.016
12/14/2001	1230	1.042	0.5	2.00	1.04	0.11	0.2288
12/14/2001	1245	1.043	0.51	4.00	1.28	0.28	0.7168
				6.00	1.60	0.26	0.832
				8.00	1.66	0.28	0.9296
				10.00	1.65	0.10	0.33
				12.00	1.44	0.19	0.5472
				14.00	1.10	0.29	0.55825
				15.50	0.85	0.20	0.1275
Average		1.042	0.50				
Total							4.25415

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1215 to 1245. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.12ft and velocity = 0.37fps which were recorded at 1229.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1225 and were completed at approximately 1232.
Manual measurements were not taken at an exact fifteen minute intervals.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
12/18/2001	1430	1.49	2.47	0.00	1.52	0.89	1.3528
12/18/2001	1445	1.506	2.38	2.00	1.79	1.59	5.6922
12/18/2001	1500	1.499	2.49	4.00	1.95	1.57	6.123
				6.00	2.30	2.16	9.936
				8.00	1.96	1.20	4.704
				10.00	1.64	1.19	3.9032
				12.00	1.12	0.79	1.7696
				14.00	1.18	0.78	0.9204
Average		1.498	2.45				
Total							34.4012

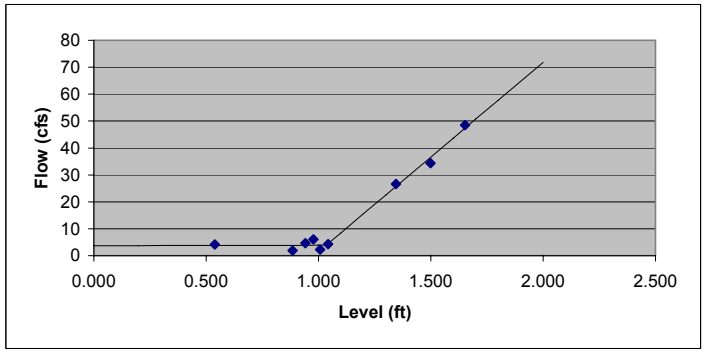
Note: 1. ISCO velocity and depth is taken for the downloaded data for 1430 to 1500. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.482ft and velocity = 2.09fps which were recorded at 1417.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1430 and were completed at approximately 1446. Manual measurements were not taken at an exact fifteen minute intervals.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
3/21/2002	1445	1.645	2.57	0.00	1.35	0.88	1.188
3/21/2002	1500	1.659	3.03	2.00	1.51	0.77	2.3254
				4.00	1.92	1.52	5.8368
				6.00	1.13	1.26	2.8476
				8.00	2.40	2.54	12.192
				10.00	2.31	2.66	12.2892
				12.00	2.08	1.52	6.3232
				14.00	1.67	1.55	4.529875
				15.50	1.53	0.84	0.9639
Average		1.652	2.80				
Total							48.495975

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1445 to 1500. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.632ft and velocity = 2.92fps which were recorded at 1436.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1445 and were completed at approximately 1500. Manual measurements were not taken at an exact fifteen minute intervals.

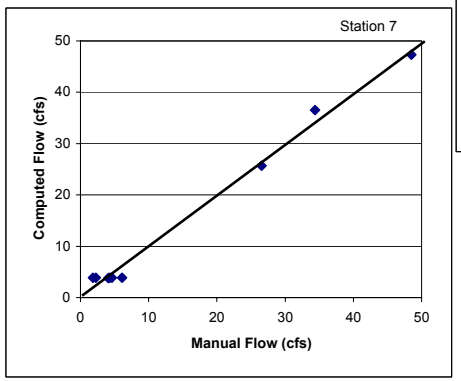
Level (ft)	Manual Flo	Computed Flow, cfs
0.539	4.102975	3.794
0.884	1.8514	3.856
0.942	4.577	3.866
0.977	6.11785	3.872
1.008	2.2452	3.877
1.042	4.25415	3.884
1.345	26.5683	25.704
1.498	34.4012	36.516
1.652	48.49598	47.327

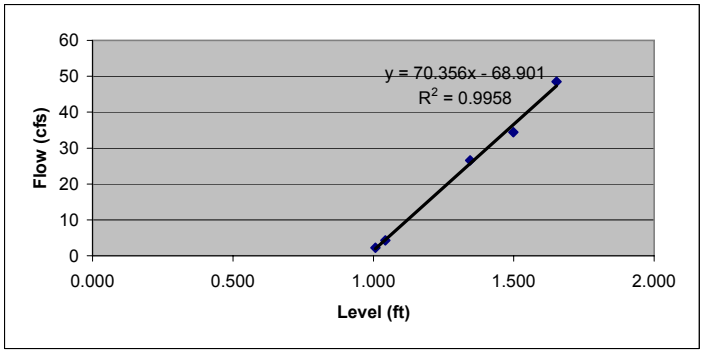
Level	Flow from Rating Curve
0	3.6984
0.1	3.71617
0.2	3.73394
0.3	3.75171
0.4	3.76948
0.5	3.78725
0.6	3.80502
0.7	3.82279
0.8	3.84056
0.9	3.85833
1	3.8761
1.0345	3.882231
1.0346	3.889318
1.1	8.4906
1.2	15.5262
1.3	22.5618
1.4	29.5974
1.5	36.633
1.6	43.6686
1.7	50.7042
1.8	57.7398
1.9	64.7754
2	71.811

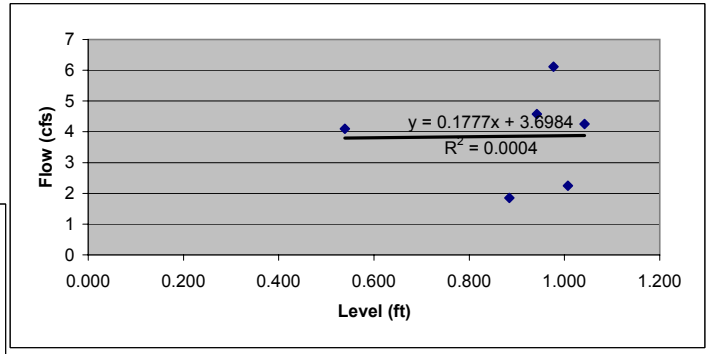


For Level, ft, <= 1.0345
Flow = 0.1777 (Level) +3.6984

For Level, ft, > 1.0345
Flow = 70.356 (Level) - 68.901





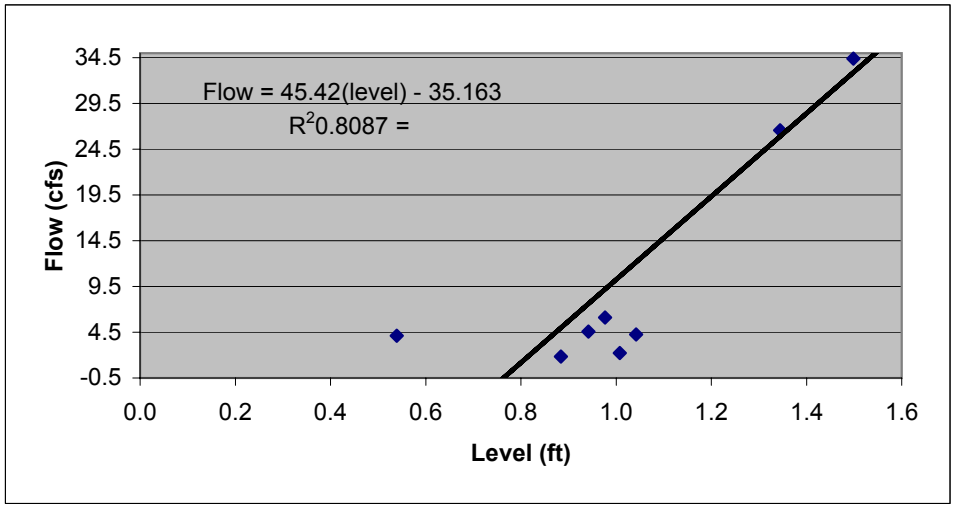


Date	Time of Calibration	ISCO Download Level (ft)	ISCO Download Velocity (fps)	ISCO Display Lvel (ft)	ISCO Display Velocity (fps)	Manual Flow (cfs)
8/27/2001	1415-1445	0.942	0.44	0.966	0.43	4.577
9/17/2001	1110-1130	0.884	0.33	NR	0.32	1.8514
9/27/2001	1335-1350	NR	NR	0.539	0.64	4.102975
10/15/2001	1221-1252	0.977	0.52	0.966	0.44	6.11785
10/17/2001	1458-1507	1.345	1.19	1.346	0.94	26.5683
11/29/2001	1325-1330	1.008	NR	1.01	0.31*	2.2452
12/14/2001	1215-1245	1.042	0.50	1.12	0.37	4.25415
12/18/2001	1430-1446	1.498	2.446666667	1.482	2.09	34.4012
3/21/2002	1445-1500	1.652	2.8	1.632	2.92	48.495975

Note: * = Invalid reading from ISCO

Values Used

Date	Time of Calibration	Level (ft)		Manual Flow (cfs)
8/27/2001	1415-1445	0.942	ISCO Download Level	4.577
9/17/2001	1110-1130	0.884	ISCO Download Level	1.8514
9/27/2001	1335-1350	0.539	ISCO Display Level	4.102975
10/15/2001	1221-1252	0.977	ISCO Download Level	6.11785
10/17/2001	1458-1507	1.345	ISCO Download Level	26.5683
11/29/2001	1325-1330	1.008	ISCO Download Level	2.2452
12/14/2001	1215-1245	1.042	ISCO Download Level	4.25415
12/18/2001	1430-1446	1.498	ISCO Download Level	34.4012
3/21/2002	1445-1500	1.652	ISCO Download Level	48.495975



Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
8/27/2001	1230	0	-0.14	0.00	0.00	0.00	0
8/27/2001	1245	0	-0.14	2.00	0.40	-0.06	-0.048
8/27/2001	1300	0	-0.14	4.00	0.70	0.05	0.07
8/27/2001	1315	0	-0.14	6.00	0.70	0.06	0.084
				8.00	0.80	0.01	0.016
				10.00	1.00	0.18	0.36
				12.00	1.10	0.26	0.572
				14.00	1.20	0.17	0.408
				16.00	1.20	0.26	0.624
				18.00	1.10	0.35	0.77
				20.00	1.20	0.37	0.888
				22.00	1.20	0.39	0.936
				24.00	1.10	0.15	0.33
				26.00	1.00	0.23	0.46
				28.00	1.10	0.18	0.396
				30.00	0.80	0.08	0.128
				32.00	0.50	-0.07	-0.07
				34.00	0.60	0.05	0.06
				36.00	0.40	-0.04	-0.036
				38.50	0.00	0.00	0
Average		0	-0.14				
Total							5.948

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1230 through 1315. The flow transducer was not functioning properly at this time. The depth and velocity measurements were not recorded in the field from the Isco display.

2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1230 and were completed at approximately 1315 each manual reading. was not recorded at an exact fifteen minute interval.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
9/19/2001	1115	1.035	0.23	0.00	0.02	NR	NR
9/19/2001	1130	1.028	0.1	2.00	0.01	NR	NR
9/19/2001	1145	1.017	0.19	4.00	0.43	-0.08	-0.0688
9/19/2001	1200	1.009	0.19	6.00	0.44	0.06	0.0528
9/19/2001	1215	1.005	0.18	8.00	0.52	0.24	0.2496
9/19/2001	1230	1.001	0.1	10.00	0.76	0.46	0.6992
				12.00	0.83	0.28	0.4648
				14.00	0.94	0.21	0.3948
				16.00	0.98	0.21	0.4116
				18.00	1.04	0.51	1.0608
				20.00	1.09	0.33	0.7194
				22.00	1.21	0.36	0.8712
				24.00	1.13	0.26	0.5876
				26.00	1.08	0.11	0.2376
				28.00	0.89	0.23	0.4094
				30.00	0.84	0.24	0.4032
				32.00	0.75	0.09	0.135
				34.00	0.70	0.07	0.098
				36.00	0.70	0.09	0.2205
				38.00	0.56	0.01	0.0112
				40.00	0.43	0.03	0.01935
				41.00	0.02	NR	NR
Average		1.016	0.17				
Total							6.97725

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1115 through 1230. The velocity measurement that was recorded in the field from the Isco display was **velocity = 0.22fps**, the exact time of these readings were not recorded. **The depth was not recorded**.

2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1120 and were completed at approximately 1225 each manual . reading was not recorded at an exact fifteen minute interval.

3. NR = no reading. Water level was too shallow to measure velocity with the Flow Mate velocity meter.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
9/27/2001	1300	NR	NR	0.00	0.00	0.00	0
9/27/2001	1315			2.00	0.00	0.00	0
9/27/2001	1330			4.00	0.00	0.00	0
				6.00	0.38	0.10	0.076
				8.00	0.45	-0.03	-0.027
				10.00	0.54	0.01	0.0108
				12.00	0.68	0.12	0.1632
				14.00	0.77	0.12	0.1848
				16.00	0.90	0.29	0.522
				18.00	1.01	0.28	0.5656
				20.00	0.90	0.26	0.468
				22.00	1.08	0.34	0.7344
				24.00	1.10	0.30	0.66
				26.00	1.12	0.35	0.784
				28.00	1.00	0.25	0.5
				30.00	0.80	0.18	0.288
				32.00	0.76	0.21	0.3192
				34.00	0.77	0.16	0.2464
				36.00	0.45	0.04	0.0675
				38.00	0.41	0.01	0.0082
				40.00	0.32	NR	NR
				41.50	0.00	0.00	0
Total							5.5711

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1300 to 1330. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.002ft and velocity = 0.12fps which were recorded at 1246.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1300 and were completed at approximately 1316, each manual manual measurement was not measured at an exact fifteen minute interval.
3. NR = no reading. Water level was too shallow to measure velocity with the Flow Mate velocity meter.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
10/15/2001	1100	0.952	0.14	0.00	0.00	0.00	0
10/15/2001	1115	0.949	0.11	2.00	0.34	0.00	0
10/15/2001	1130	0.947	0.12	4.00	0.35	0.05	0.00675
				6.00	0.27	NR	NR
				8.00	0.77	0.14	0.2156
				10.00	0.78	0.05	0.078
				12.00	0.83	0.10	0.166
				14.00	0.82	0.30	0.492
				16.00	0.74	0.25	0.37
				18.00	0.98	0.29	0.5684
				20.00	1.07	0.21	0.4494
				22.00	1.06	0.12	0.2544
				24.00	0.94	0.09	0.1692
				26.00	0.71	0.10	0.142
				28.00	0.78	0.04	0.0624
				30.00	0.67	0.02	0.0268
				32.00	0.46	0.02	0.0184
				34.00	0.40	0.00	0
				36.00	0.21	NR	NR
				37.10	0.00	0.00	0
Average		0.949	0.12				
Total							3.01935

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1100 to 1130. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.957ft and velocity = 0.13fps which were recorded at 1036.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1107 and were completed at approximately 1125, each manual manual measurement was not measured at an exact fifteen minute interval.
3. NR = no reading. Water level was too shallow to measure velocity with the Flow Mate velocity meter.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance Form Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
10/17/2001	1200	1.58	0.66	0.00	0.00	0.00	0
10/17/2001	1215	1.575	0.23	2.00	0.59	-0.01	-0.00285
10/17/2001	1230	1.568	0.69	4.00	0.57	0.05	0.0255
10/17/2001	1245	1.56	0.63	6.00	1.02	0.04	0.0816
				8.00	1.06	0.34	0.7208
				10.00	1.15	0.71	1.633
				12.00	1.33	0.90	2.394
				14.00	1.46	0.88	2.5696
				16.00	1.56	1.15	3.588
				18.00	1.58	1.29	4.0764
				20.00	1.62	1.05	3.402
				22.00	1.70	1.03	3.502
				24.00	1.29	1.03	2.6574
				26.00	1.71	0.87	2.9754
				28.00	1.62	0.78	2.5272
				30.00	1.57	0.74	2.3236
				32.00	1.42	0.63	1.7892
				34.00	1.56	0.35	1.092
				36.00	1.31	0.34	0.8908
				38.00	1.22	0.28	0.6832
				40.00	1.06	0.23	0.4876
				42.00	0.68	0.04	0.0544
				44.00	0.00	0.00	0
Average		1.571	0.55				
Total							37.47085

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1200 to 1245. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.582ft and velocity = 0.62 fps which were recorded at 1151.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1212 and were completed at approximately 1236, each manual manual measurement was not measured at an exact fifteen minute interval.
3. NR = no reading. Water level was too shallow to measure velocity with the Flow Mate velocity meter.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance Form Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
11/29/2001	1130	1.073	0.14	0.00	0.00	0.00	0
11/29/2001	1145	1.073	0.26	2.00	0.53	-0.05	-0.015
11/29/2001	1200	1.07	-0.14	4.00	0.60	0.02	0.006
				6.00	0.60	0.03	0.036
				8.00	0.81	0.07	0.1134
				10.00	0.83	0.12	0.1992
				12.00	1.00	0.24	0.48
				14.00	1.00	0.41	0.82
				16.00	1.00	0.33	0.66
				18.00	1.18	0.44	1.0384
				20.00	0.98	0.43	0.8428
				22.00	1.21	0.37	0.8954
				24.00	1.19	0.21	0.4998
				26.00	1.04	0.16	0.3328
				28.00	1.02	0.19	0.3876
				30.00	1.02	0.17	0.3468
				32.00	0.78	0.19	0.2964
				34.00	0.70	0.03	0.042
				36.00	0.28	NR	NR
				37.20	0.00	0.00	0
Average		1.072	0.09				
Total							6.9816

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1130 to 1200. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.075ft and velocity = 0.24* fps which were recorded at 1125.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1140 and were completed at approximately 1155, each manual manual measurement was not measured at an exact fifteen minute interval.
3. NR = no reading. Water level was too shallow to measure velocity with the Flow Mate velocity meter.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance Form Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
12/14/2001	900	1.152	-0.01	0.00	0.00	0.00	0
12/14/2001	915	1.151	0.01	2.00	0.34	0.03	0.01125
12/14/2001	930	1.151	0.17	4.00	0.75	0.08	0.0304
				6.00	0.76	0.14	0.2128
				8.00	1.15	0.05	0.115
				10.00	1.28	0.41	1.0496
				12.00	1.30	0.15	0.39
				14.00	1.30	0.22	0.572
				16.00	1.35	0.45	1.215
				18.00	1.34	0.24	0.6432
				20.00	1.20	0.51	1.224
				22.00	1.20	0.57	1.368
				24.00	1.22	0.44	1.0736
				26.00	1.10	0.22	0.484
				28.00	0.94	0.33	0.6204
				30.00	0.98	0.18	0.3528
				32.00	0.60	0.01	0.012
				34.00	0.42	0.04	0.0336
				36.00	0.50	0.05	0.05
				38.00	0.35	0.02	0.0105
				39.00	0.00	0.00	0
Average		1.151	0.06				
Total							9.46815

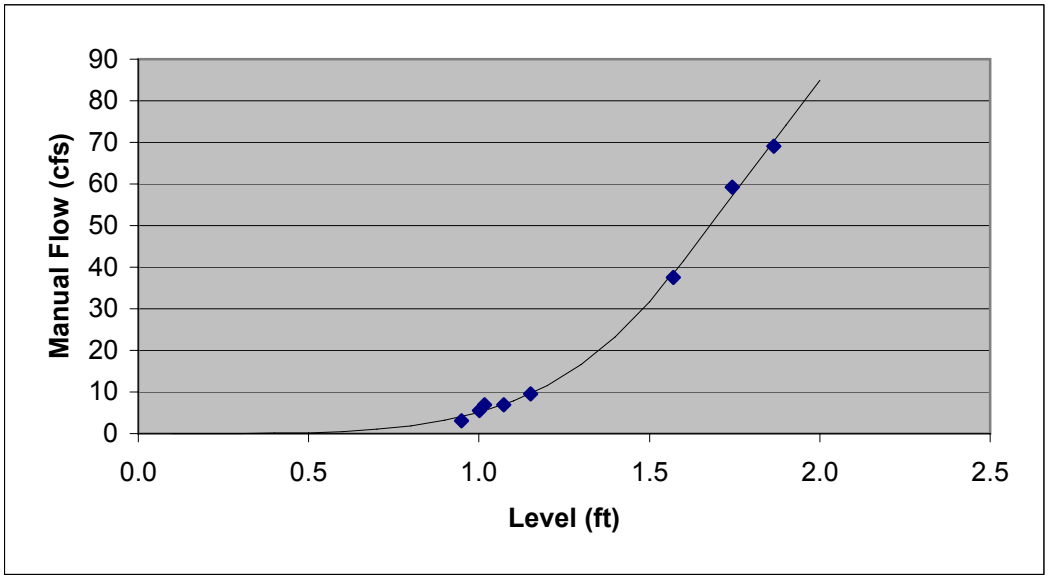
Note: 1. ISCO velocity and depth is taken for the downloaded data for 0900 to 0930. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.150ft and velocity = 0.17* fps which were recorded at 0900.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 0912 and were completed at approximately 0923, each manual manual measurement was not measured at an exact fifteen minute interval.
3. NR = no reading. Water level was too shallow to measure velocity with the Flow Mate velocity meter.

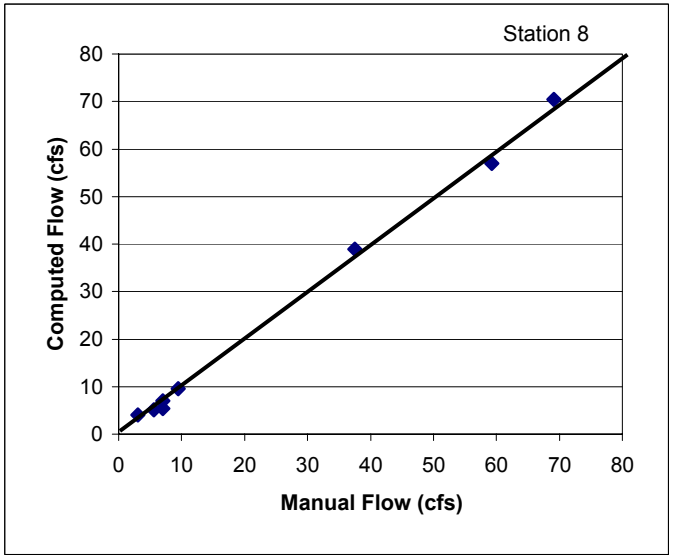
Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance Form Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
12/18/2001	1515	1.742	NR[4]	0.00	0.00	0.00	0
12/18/2001	1530	1.743	NR[4]	2.00	0.88	0.31	0.186
12/18/2001	1545	1.742	NR[4]	4.00	1.20	0.66	0.429
				6.00	1.30	0.90	2.34
				8.00	1.55	0.67	2.077
				10.00	1.63	0.96	3.1296
				12.00	1.60	1.08	3.456
				14.00	1.75	1.16	4.06
				16.00	1.68	1.45	4.872
				18.00	1.85	0.84	3.108
				20.00	1.70	1.83	6.222
				22.00	1.71	1.53	5.2326
				24.00	1.74	1.01	3.5148
				26.00	1.70	1.76	5.984
				28.00	1.50	1.30	3.9
				30.00	1.45	1.27	3.683
				32.00	1.30	1.28	3.328
				34.00	1.05	0.76	1.596
				36.00	1.03	0.73	1.5038
				38.00	0.90	0.18	0.324
				40.00	0.75	0.21	0.315
				42.00	0.00	0.00	0
Average		1.742	NR[4]				
Total							59.2608

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1515 to 1545. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.743ft and velocity = 1.02* fps which were recorded at 1500.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1515 and were completed at approximately 1531, each manual manual measurement was not measured at an exact fifteen minute interval.
3. NR = no reading. Water level was too shallow to measure velocity with the Flow Mate velocity meter.
4. NR = not recorded by ISCO.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance Form Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
3/21/2002	1245	1.859	-0.18	0.00	0.00	0.00	0
3/21/2002	1300	1.867	-0.18	2.00	0.92	0.18	0.1224
3/21/2002	1315	1.873	0.96	4.00	1.36	0.27	0.2079
				6.00	1.54	0.73	2.2484
				8.00	1.57	1.01	3.1714
				10.00	1.52	1.08	3.2832
				12.00	1.84	1.14	4.1952
				14.00	2.01	1.34	5.3868
				16.00	2.03	1.34	5.4404
				18.00	1.59	1.33	4.2294
				20.00	2.04	1.50	6.12
				22.00	1.90	1.72	6.536
				24.00	1.91	1.70	6.494
				26.00	1.81	1.54	5.5748
				28.00	1.65	1.32	4.356
				30.00	1.72	1.14	3.9216
				32.00	1.30	1.10	2.86
				34.00	1.31	0.97	2.5414
				36.00	1.24	0.64	1.5872
				38.00	0.89	0.32	0.5696
				40.00	0.83	0.23	0.28635
				41.00	0.00	0.00	0
Average		1.866	0.200				
Total							69.13205

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1245 to 1315. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.852ft and velocity = 0.99* fps which were recorded at 1500.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1251 and were completed at approximately 1309, each manual manual measurement was not measured at an exact fifteen minute interval.
3. NR = no reading. Water level was too shallow to measure velocity with the Flow Mate velocity meter.





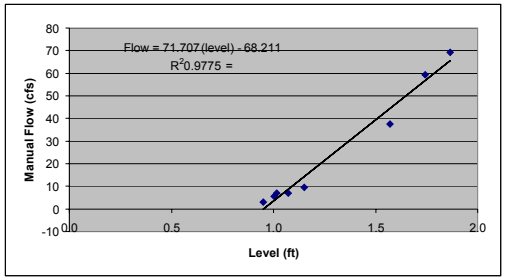
y = 5.0764(x^4.5124)
R2 = 0.9572
for x<=1.57

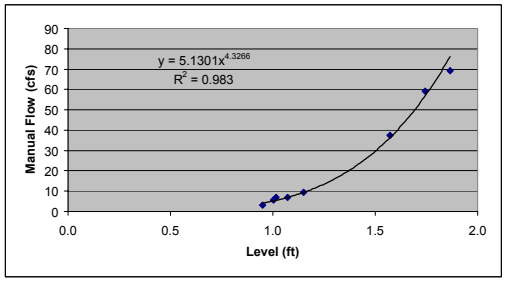
y = 108.47x - 131.96
R2 = 0.9855
for x > 1.57

Date	Time of Calibration	ISCO Download Level (ft)	ISCO Download Velocity (fps)	ISCO Display Level (ft)	ISCO Display Velocity (fps)	Manual Flow (cfs)
8/27/2001	1230-1315	0.000	-0.14	NR	NR	5.948
9/19/2001	1120-1225	1.016	0.17	NR	0.22	6.97725
9/27/2001	1300-1316	NR	NR	1.002	0.12	5.5711
10/15/2001	1107-1125	0.949	0.12	0.957	0.13	3.01935
10/17/2001	1212-1236	1.571	0.55	1.582	0.62	37.47085
11/29/2001	1140-1155	1.072	0.09	1.075	0.24*	6.9816
12/14/2001	0912-0923	1.151	0.06	1.15	0.17*	9.46815
12/18/2001	1515-1531	1.74	NR	1.743	1.02*	59.2608
3/21/2002	1251-1309	1.866	0.200	1.852	0.99	69.13205

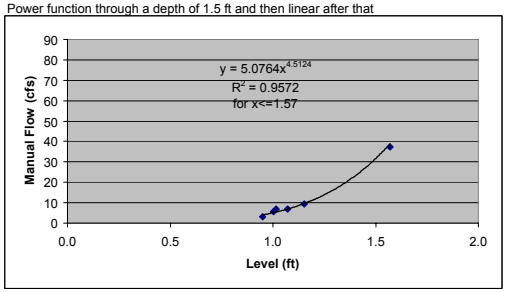
Note: On 8/24/01 ISCO Flow Transducer malfunctioning, and * = Invalid reading from ISCO

Date	Time of Calibration	ISCO Download Level (ft)		Manual Flow (cfs)	Computed Flow (cfs)\	y = 5.0764(x^4.5124)
8/27/2001	1230-1315		ISCO Download Level (ft)	5.948		R2 = 0.9572
9/19/2001	1120-1225	1.016	ISCO Download Level (ft)	6.97725	5.449	for x<=1.57
9/27/2001	1300-1316	1.002	ISCO Display Level (ft)	5.5711	5.122	
10/15/2001	1107-1125	0.949	ISCO Download Level (ft)	3.01935	4.015	y = 108.47x - 131.96
10/17/2001	1212-1236	1.571	ISCO Download Level (ft)	37.47085	38.947	R2 = 0.9855
11/29/2001	1140-1155	1.072	ISCO Download Level (ft)	6.9816	6.947	for x > 1.57
12/14/2001	0912-0923	1.151	ISCO Download Level (ft)	9.46815	9.588	
12/18/2001	1515-1531	1.74	ISCO Download Level (ft)	59.2608	57.03	
3/21/2002	1251-1309	1.866	ISCO Download Level (ft)	69.13205	70.45	

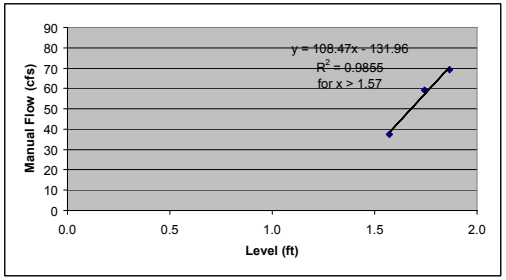




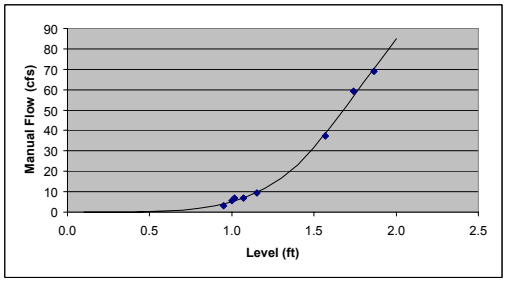
Power function through a depth of 1.5 ft and then linear after that



ISCO Download Level	Manual Flow (cfs)
	5.948
1.016	6.97725
1.002	5.5711
0.949	3.01935
1.571	37.47085
1.072	6.9816
1.151	9.46815



ISCO Download Level	Manual Flow (cfs)
	5.948
1.571	37.47085
1.74	59.2608
1.866	69.13205



Curve level	flow			
0		Power function		
0.1	0.000156	multiplier	exponent	
0.2	0.003561	5.0764	4.5124	
0.3	0.022188			
0.4	0.081263			
0.5	0.222427			
0.6	0.50639			
0.7	1.015258			
0.8	1.854638			
0.9	3.155584			
1	5.0764			
1.1	7.80434			
1.2	11.55722			
1.3	16.58494			
1.4	23.17096			
1.5	31.6337	Linear Portion		
1.571	38.97456	slope	intercept	
1.571001	38.44648	108.47	-131.96	
1.6	41.592			
1.7	52.439			
1.8	63.286			
1.9	74.133			
2	84.98			

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
8/28/2001	1030	2.642	0.01	0.00	2.10	0.23	0.483
8/28/2001	1045	2.645	0.01	2.00	2.40	0.23	1.104
8/28/2001	1100	2.669	0.01	4.00	2.70	0.24	1.296
8/28/2001	1115	2.674	0.01	6.00	3.10	0.26	1.612
8/28/2001	1130	2.678	0.01	8.00	2.70	0.29	1.566
				10.00	4.50	0.26	2.34
				12.00	4.50	0.26	2.34
				14.00	4.60	0.27	2.484
				16.00	4.90	0.28	2.744
				18.00	5.20	0.23	2.392
				20.00	5.10	0.28	2.856
				22.00	5.40	0.30	3.24
				24.00	5.40	0.27	2.916
				26.00	5.40	0.24	2.592
				28.00	5.40	0.28	3.024
				30.00	5.20	0.28	2.912
				32.00	5.20	0.20	2.08
				34.00	5.10	0.28	2.856
				36.00	4.70	0.25	2.35
				38.00	4.60	0.24	2.208
				40.00	4.20	0.24	2.016
				42.00	4.00	0.28	2.24
				44.00	3.50	0.26	1.82
				46.00	2.90	0.24	1.392
				48.00	2.80	0.20	1.12
				50.00	2.60	0.24	0.168
Average		2.662	0.01				
Total							54.151

Note: 1. ISCO velocity and depth is taken from the downloaded data for 1030 through 1130. The depth and velocity measurements were not recorded in the field from the Isco display.

2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1030 and were completed at approximately 1130 each manual reading. was not recorded at an exact fifteen minute interval.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
9/17/2001	930	2.711	NR	0.00	1.90	-0.04	-0.076
9/17/2001	945	2.715	NR	2.00	2.25	-0.06	-0.27
9/17/2001	1000	2.718	NR	4.00	2.68	-0.09	-0.4824
9/17/2001	1015	2.72	0.17	6.00	3.38	-0.08	-0.5408
9/17/2001	1030	2.721	0.17	8.00	3.74	-0.07	-0.5236
				10.00	4.10	-0.11	-0.902
				12.00	4.40	-0.11	-0.968
				14.00	4.42	-0.10	-0.884
				16.00	4.80	-0.09	-0.864
				18.00	5.12	-0.13	-1.3312
				20.00	5.08	-0.10	-1.016
				22.00	5.22	-0.11	-1.1484
				24.00	5.36	-0.10	-1.072
				26.00	5.20	-0.11	-1.144
				28.00	5.10	-0.10	-1.02
				30.00	4.88	-0.12	-1.1712
				32.00	5.00	-0.10	-1
				34.00	4.68	-0.08	-0.7488
				36.00	4.52	-0.09	-0.774
				38.00	4.30	-0.09	-0.702
				40.00	3.90	-0.07	-0.497
				42.00	3.55	-0.07	-0.448
				44.00	3.20	-0.05	-0.27
				46.00	2.70	-0.05	-0.25
				48.00	2.50	-0.04	-0.1744
				50.00	2.18	-0.07	-0.03815
Average		2.717	0.17				
Total							-18.31595

Note: 1. ISCO velocity and depth is taken from the downloaded data for 0930 through 1030. The velocity measurement that was recorded in the field from the Isco display was **velocity = 0.10fps, the exact time of these readings were not recorded. The depth was not recorded.**

2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 0930 and were completed at approximately 1025 each manual . reading was not recorded at an exact fifteen minute interval.

3. NR = Not recorded by ISCO.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
9/27/2001	0940-1025	NR	NR	0.00	0.00	0.00	0
				2.00	1.10	0.05	0.11
				4.00	1.66	0.03	0.0996
				6.00	2.07	0.03	0.1242
				8.00	2.45	0.04	0.196
				10.00	3.28	0.08	0.5248
				12.00	3.27	0.03	0.1962
				14.00	3.59	0.02	0.1436
				16.00	3.85	0.03	0.231
				18.00	3.86	0.04	0.3088
				20.00	4.10	0.02	0.164
				22.00	4.12	0.03	0.2472
				24.00	4.64	0.01	0.0928
				26.00	4.60	0.03	0.276
				28.00	4.31	0.00	0
				30.00	4.32	0.02	0.1728
				32.00	4.42	0.01	0.0884
				34.00	4.39	0.01	0.0878
				36.00	4.40	0.00	0
				38.00	4.41	0.01	0.0882
				40.00	3.51	0.03	0.2106
				42.00	3.14	0.01	0.0628
				44.00	2.75	0.03	0.165
				46.00	2.43	0.00	0
				48.00	1.85	-0.02	-0.074
				50.00	1.20	0.03	0.013875
Average		NR	NR				
Total							3.529675

Note: 1. ISCO velocity and depth was not stored by the ISCO due to problems with the instrument. Velocity and depth measurements that were recorded in the field from the Isco display were **depth = 2.092ft and velocity = 0.09fps which were recorded at 0919**.
2. Manual measurements began at 0940 and were completed at approximately 1025.
3. NR = not recorded by ISCO

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
10/16/2001	900	2.777	NR	0.00	1.15	0.08	0.092
10/16/2001	915	2.775	NR	2.00	1.87	0.08	0.2992
10/16/2001	930	2.777	NR	4.00	2.51	0.09	0.4518
10/16/2001	945	2.776	NR	6.00	3.07	0.08	0.4912
10/16/2001	1000	2.777	NR	8.00	3.15	0.09	0.567
				10.00	3.81	0.07	0.5334
				12.00	4.30	0.07	0.602
				14.00	4.47	0.04	0.3576
				16.00	4.71	0.05	0.471
				18.00	4.68	0.07	0.6552
				20.00	5.02	0.03	0.3012
				22.00	5.10	0.03	0.306
				24.00	5.21	0.00	0
				26.00	4.88	-0.03	-0.2928
				28.00	5.16	0.05	0.516
				30.00	4.98	0.03	0.2988
				32.00	5.11	0.02	0.2044
				34.00	5.07	0.02	0.2028
				36.00	4.67	0.00	0
				38.00	4.51	0.00	0
				40.00	4.14	0.00	0
				42.00	3.56	0.01	0.0712
				44.00	3.30	0.01	0.066
				46.00	2.69	0.01	0.0538
				48.00	2.48	0.00	0
				50.00	2.37	0.01	0.0237
Average		2.776	NR				
Total							6.2715

Note: 1. ISCO velocity and depth is taken for the downloaded data for 0900 to 1000. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 2.781 ft and velocity = 0.86*fps which were recorded at 0841**.
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 0905 and were completed at approximately 0955.
3. NR = not recorded by ISCO
4. * = not a valid ISCO reading

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
10/17/2001	1315	2.678	-0.12	0.00	1.01	0.00	0
10/17/2001	1330	2.696	-0.12	2.00	1.90	0.00	0
10/17/2001	1345	2.702	-0.12	4.00	2.57	0.03	0.1542
10/17/2001	1400	2.701	-0.12	6.00	2.68	0.00	0
10/17/2001	1415	2.695	-0.12	8.00	3.68	0.02	0.1472
				10.00	3.85	0.05	0.385
				12.00	4.20	0.00	0
				14.00	4.52	-0.02	-0.1808
				16.00	4.59	0.00	0
				18.00	4.96	0.00	0
				20.00	5.08	0.00	0
				22.00	5.02	0.05	0.502
				24.00	5.11	0.00	0
				26.00	5.21	-0.01	-0.1042
				28.00	5.10	0.04	0.408
				30.00	5.10	0.02	0.204
				32.00	55.12	0.02	2.2048
				34.00	4.90	-0.01	-0.098
				36.00	4.63	0.06	0.5556
				38.00	4.36	-0.02	-0.1744
				40.00	3.93	0.01	0.0786
				42.00	3.50	0.02	0.14
				44.00	3.15	-0.03	-0.189
				46.00	2.59	0.02	0.1036
				48.00	2.36	0.03	0.1416
				50.00	2.35	0.00	0
Average		2.694	-0.12				
Total							4.2782

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1315 to 1415. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 2.93 ft and velocity = -0.10 fps which were recorded at 1300**.
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1324 and were completed at approximately 1409.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
12/14/2001	1000	2.342	NR	0.00	0.63	0.02	0.0126
12/14/2001	1015	2.349	NR	2.00	1.57	0.04	0.1256
12/14/2001	1030	2.339	NR	4.00	1.78	0.06	0.2136
12/14/2001	1045	2.337	NR	6.00	2.36	0.08	0.3776
12/14/2001	1100	2.336	NR	8.00	2.90	0.06	0.348
				10.00	3.21	0.06	0.3852
				12.00	3.42	0.11	0.7524
				14.00	3.51	0.10	0.702
				16.00	3.79	0.17	1.2886
				18.00	4.21	0.12	1.0104
				20.00	4.50	0.17	1.53
				22.00	4.73	0.14	1.3244
				24.00	4.65	0.13	1.209
				26.00	4.70	0.16	1.504
				28.00	4.57	0.10	0.914
				30.00	4.68	0.13	1.2168
				32.00	4.61	0.16	1.4752
				34.00	4.61	0.16	1.4752
				36.00	4.60	0.16	1.472
				38.00	4.12	0.14	1.1536
				40.00	3.96	0.14	1.1088
				42.00	3.48	0.11	0.7656
				44.00	3.12	0.10	0.624
				46.00	2.69	0.10	0.538
				48.00	2.28	0.12	0.5472
				50.00	2.13	0.07	0.1491
Average		2.341	NR				
Total							22.2229

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1000 to 1100. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 2.341ft and velocity = 0.56*fps which were recorded at 0954.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1014 and were completed at approximately 1050.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
12/18/2001	1000	2.46	NR	0.00	0.86	0.00	0
12/18/2001	1015	2.437	NR	2.00	1.45	0.29	0.841
12/18/2001	1030	2.423	NR	4.00	1.88	0.21	0.7896
12/18/2001	1045	2.404	NR	6.00	2.01	0.57	2.2914
12/18/2001	1100	2.389	NR	8.00	2.89	0.69	3.9882
				10.00	2.85	0.71	4.047
				12.00	3.41	0.69	4.7058
				14.00	3.88	0.63	4.8888
				16.00	3.92	0.92	7.2128
				18.00	4.16	0.63	5.2416
				20.00	4.38	0.66	5.7816
				22.00	4.79	0.80	7.664
				24.00	4.61	0.76	7.0072
				26.00	4.89	0.76	7.4328
				28.00	4.97	0.71	7.0574
				30.00	5.03	0.61	6.1366
				32.00	4.92	0.80	7.872
				34.00	4.91	0.74	7.2668
				36.00	4.93	0.90	8.874
				38.00	5.50	0.81	8.91
				40.00	3.52	0.73	5.1392
				42.00	3.47	0.83	5.7602
				44.00	3.01	0.80	4.816
				46.00	2.74	0.76	4.1648
				48.00	2.18	0.43	1.8748
				50.00	2.15	0.37	0.7955
Average		2.423	NR				
Total							130.5591

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1000 to 1100. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 2.490 ft and velocity = 0.10* fps which were recorded at 0939.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1324 and were completed at approximately 1409.

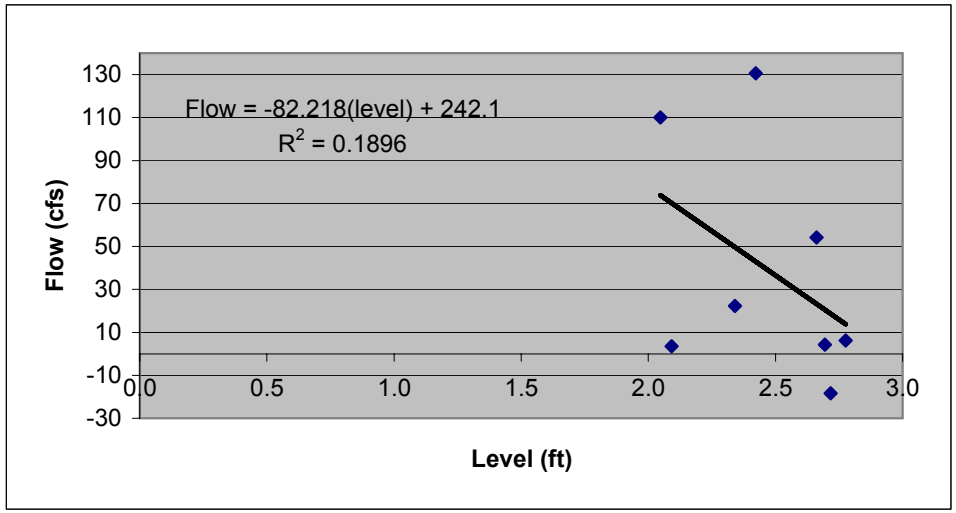
Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
3/21/2002	1315	2.054	NR	0.00	0.75	0.13	0.0975
3/21/2002	1330	2.049	NR	2.00	1.54	0.26	0.8008
3/21/2002	1345	2.052	NR	4.00	2.18	0.21	0.9156
3/21/2002	1400	2.045	NR	6.00	2.60	0.52	2.704
3/21/2002	1415	2.036	-0.1	8.00	3.16	0.47	2.9704
3/21/2002	1430	2.04	-0.1	10.00	3.62	0.62	4.4888
				12.00	3.65	0.62	4.526
				14.00	4.25	0.79	6.715
				16.00	4.00	0.75	6
				18.00	4.25	0.82	6.97
				20.00	4.63	0.51	4.7226
				22.00	4.67	0.56	5.2304
				24.00	4.72	0.50	4.72
				26.00	4.78	0.52	4.9712
				28.00	4.82	0.55	5.302
				30.00	4.73	0.40	3.784
				32.00	4.68	0.58	5.4288
				34.00	4.41	0.58	5.1156
				36.00	4.40	0.89	7.832
				38.00	3.61	0.84	6.0648
				40.00	3.40	0.82	5.576
				42.00	3.31	0.85	5.627
				44.00	2.85	0.73	4.161
				46.00	2.33	0.60	2.796
				48.00	2.25	0.45	2.025
				50.00	2.09	0.27	0.5643
Average		2.047	-0.100				
Total							110.1088

Note: 1. ISCO velocity and depth is taken for the downloaded data for 1315 to 1430. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 2.049 ft and velocity = 0.42 fps which were recorded at 1325.**
2. The fifteen minute time interval directly relates to the downloaded data from the ISCO, where depth and velocity measurements were stored every fifteen minutes. Manual measurements began at 1328 and were completed at approximately 1420.

Date	Time of Calibration	ISCO Download Level (ft)	ISCO Download Velocity (fps)	ISCO Diplay Level (ft)	ISCO Display Velocity (fps)	Manual Flow (cfs)
8/24/2001	1030-1130	2.662	0.01	NR	NR	54.151
9/17/2001	0930-1025	2.717	0.17	NR	0.10	-18.31595
9/27/2001	0940-1025	NR	NR	2.092	0.09	3.529675
10/16/2001	0905-0955	2.776	NR	2.781	0.86*	6.2715
10/17/2001	1324-1409	2.694	-0.12	2.93	-0.1	4.2782
12/14/2001	1014-1050	2.341	NR	2.341	-0.56	22.2229
12/19/2001	1001-1048	2.423	NR	2.49	0.10*	130.5591
3/21/2002	1328-1420	2.047	-0.100	2.049	0.42	110.1088

Note: * = invalid reading from ISCO.

Date	Time of Calibration	Level (ft)		Manual Flow (cfs)
8/24/2001	1030-1130	2.662	ISCO Download Level	54.151
9/17/2001	0930-1025	2.717	ISCO Download Level	-18.31595
9/27/2001	0940-1025	2.092	ISCO Display Level	3.529675
10/16/2001	0905-0955	2.776	ISCO Download Level	6.2715
10/17/2001	1324-1409	2.694	ISCO Download Level	4.2782
12/14/2001	1014-1050	2.341	ISCO Download Level	22.2229
12/19/2001	1001-1048	2.423	ISCO Download Level	130.5591
3/21/2002	1328-1420	2.047	ISCO Download Level	110.1088



Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
8/24/2001	1030 - 1050	0.450	NR	0.00	0.15	0.00	0
				2.00	0.68	0.10	0.136
				4.00	0.85	0.03	0.051
				6.00	1.10	0.60	1.32
				8.00	1.20	0.15	0.36
				10.00	1.15	0.08	0.184
				12.00	1.15	0.11	0.253
				14.00	0.90	0.06	0.0945
				15.50	0.00	0.00	0
Total							2.3985

Note: 1. ISCO velocity and depth is taken from the display on flow meter. Data is not downloaded from this site. The depth measurement that was recorded in the field from the Isco display; depth = 0.45ft. The flow was alos recorded: flow = 4.21cfs, velocity was not recorded and the exact time of the readings was not recorded.

2. Manual measurements began at 1030 and were completed at approximately 1050 each manual reading.

3. NR = not recorded

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
9/19/2001	0945-0955	1.09	0.17	0.00	0.05	NR	NR
				2.00	0.54	-0.30	-0.324
				4.00	0.95	-0.26	-0.494
				6.00	1.32	-0.29	-0.7656
				8.00	1.23	-0.25	-0.615
				10.00	0.99	-0.30	-0.594
				12.00	1.00	-0.29	-0.58
				14.00	0.60	-0.34	-0.561
				16.00	0.38	-0.34	-0.2261
				17.50	0.04	NR	NR
Total							-4.1597

Note: 1. ISCO velocity and depth is taken from the ISCO flow meter display.. The velocity measurement that were recorded in the field from the Isco display were; depth = 1.09ft and velocity = 0.17fps, the exact time of these readings were not recorded.

2. Manual measurements began at 0945 and were completed at approximately 0955.

3. NR = no reading. Water level was too shallow to measure velocity with the Flow Mate velocity meter.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
9/27/2001	1112 - 1120	0.963	0.16	2.00	0.00	0.00	0
				4.00	0.54	0.00	0
				6.00	1.05	0.01	0.021
				8.00	1.36	0.13	0.3536
				10.00	1.25	0.12	0.3
				12.00	1.01	0.05	0.101
				14.00	1.09	0.13	0.2834
				16.00	0.67	0.04	0.06968
				17.20	0.52	-0.03	-0.02496
					0.00	0.00	0
Total							1.10372

Note: 1. ISCO velocity and depth is taken from the ISCO flow meter display. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.963ft and velocity = 0.16fps which were recorded at 1055**. Data is not downloaded from this ISCO.

2. Manual measurements began at 1112 and were completed at approximately 1120.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
10/16/2001	1025 - 1036	0.922	0.10*	0.00	0.00	0.00	0
				2.00	0.45	0.02	0.018
				4.00	0.93	0.04	0.0744
				6.00	1.22	0.06	0.1464
				8.00	1.20	0.04	0.096
				10.00	0.98	0.05	0.098
				12.00	1.02	0.08	0.1632
				14.00	0.62	0.03	0.05115
				16.00	0.41	0.01	0.007175
				17.50	0.00	0.00	0
Total							0.654325

Note: 1. ISCO velocity and depth is taken from the ISCO flow meter display. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.922ft and velocity = 0.10*fps which were recorded at 1025.** Data is not downloaded from this ISCO.

2. Manual measurements began at 1025 and were completed at approximately 1036.

3. * = invalid reading from ISCO.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
10/17/2001	1426 -1431	0.970	0.19	0.00	0.00	0.00	0
				2.00	0.51	0.08	0.0816
				4.00	0.93	0.17	0.3162
				6.00	1.34	0.21	0.5628
				8.00	1.29	0.24	0.6192
				10.00	1.05	0.18	0.378
				12.00	1.08	0.19	0.4104
				14.00	0.68	0.10	0.1938
				16.00	0.52	0.14	0.13468
				17.70	0.00	0.00	0
Total							2.69668

Note: 1. ISCO velocity and depth is taken from the ISCO flow meter display. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.970ft and velocity = 0.19fps which were recorded at 1419.** Data is not downloaded from this ISCO.

2. Manual measurements began at 1426 and were completed at approximately 1431.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
11/29/2001	1238 -1241	0.902	0.1	0.00	0.00	0.00	0
				2.00	0.45	-0.02	-0.018
				4.00	0.89	0.02	0.0356
				6.00	0.99	0.08	0.1584
				8.00	0.98	0.04	0.0784
				10.00	0.75	0.01	0.015
				12.00	0.49	-0.01	-0.00931
				13.80	0.00	0.00	0
Total							0.26009

Note: 1. ISCO velocity and depth is taken from the ISCO flow meter display. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 0.902ft and velocity = 0.10*fps which were recorded at 1419.** Data is not downloaded from this ISCO.

2. Manual measurements began at 1238 and were completed at approximately 1241.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
12/14/2001	1149 - 1200	1.100	-0.13	0.00	0.35	-0.03	-0.0105
				2.00	0.60	-0.02	-0.024
				4.00	0.83	-0.02	-0.0332
				6.00	0.98	0.07	0.1372
				8.00	1.00	0.04	0.08
				10.00	1.33	0.09	0.2394
				12.00	1.19	0.06	0.1428
				14.00	0.98	-0.01	-0.0196
				16.00	0.50	-0.04	-0.039
				17.90	0.08	0.00	0
Total							0.4731

Note: 1. ISCO velocity and depth is taken from the ISCO flow meter display. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.10ft and velocity = 0.13fps which were recorded at 1145.** Data is not downloaded from this ISCO.

2. Manual measurements began at 1149 and were completed at approximately 1200.

Date	Time (2)	ISCO Depth(ft) (1)	ISCO Velocity(fps) (1)	Distance From Initial Point (ft)	Manual Depth (ft)	Manual Velocity(fps)	Manual Flow Calculated
12/18/2001	1149 - 1200	1.008	0.23	0.00	0.00	0.00	0
				2.00	0.55	0.05	0.055
				4.00	0.96	0.16	0.3072
				6.00	1.20	0.28	0.672
				8.00	1.45	0.36	1.044
				10.00	1.16	0.36	0.8352
				12.00	1.14	0.30	0.684
				14.00	0.86	0.03	0.0516
				16.00	0.67	0.12	0.1608
				18.00	0.28	0.00	0
Total							3.8098

Note: 1. ISCO velocity and depth is taken from the ISCO flow meter display. The depth and velocity measurements that were recorded in the field from the Isco display were **depth = 1.008ft and velocity = 0.23fps which were recorded at 0900.** Data is not downloaded from this ISCO.

2. Manual measurements began at 0923 and were completed at approximately 0928.

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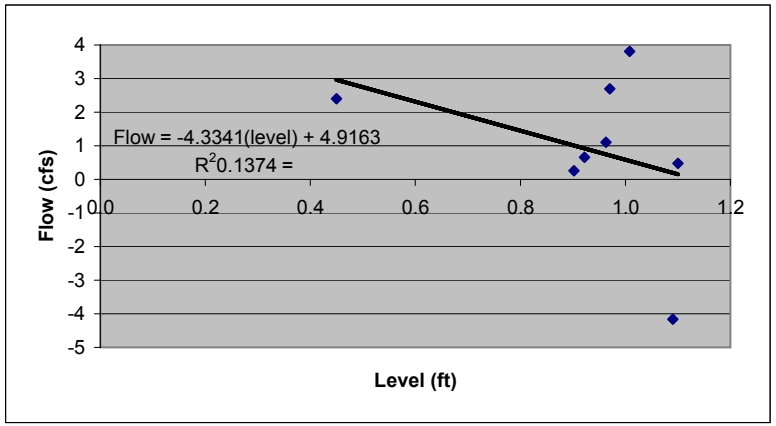
Date	Time of Calibration	Isco Display Level (ft)	ISCO Display Velocity (fps)	Manual Flow (cfs)
8/24/2001	1030 - 1050	0.450	NR	2.3985
9/19/2001	0945-0955	1.090	0.17	-4.1597
9/27/2001	1112 - 1120	0.963	0.16	1.10372
10/16/2001	1025 - 1036	0.922	0.10*	0.654325
10/17/2001	1426 -1431	0.970	0.19	2.69668
11/29/2001	1238-1241	0.902	0.10*	0.26009
12/14/2001	1149-1200	1.1	-0.13	0.4731
12/19/2001	0923-0928	1.008	0.23	3.8098

Note: * = invalid reading from ISCO

Date	Time of Calibration	Level (ft)		Manual Flow (cfs)
8/24/2001	1030 - 1050	0.450	ISCO Display Level	2.3985
9/19/2001	0945-0955	1.090	ISCO Display Level	-4.1597
9/27/2001	1112 - 1120	0.963	ISCO Display Level	1.10372
10/16/2001	1025 - 1036	0.922	ISCO Display Level	0.654325
10/17/2001	1426 -1431	0.970	ISCO Display Level	2.69668
11/29/2001	1238-1241	0.902	ISCO Display Level	0.26009
12/14/2001	1149-1200	1.1	ISCO Display Level	0.4731
12/19/2001	0923-0928	1.008	ISCO Display Level	3.8098